



TTCL PUBLIC COMPANY LIMITED

2019

ANNUAL REPORT



JOY OF ENGINEERING AND ACHIEVEMENT
WITH ALL OUR MIGHT



VISION

TTCL is to be
“First Class International
Engineering Company” with
“Build up warmth and trust”...
“Stay young”...
“Unite in Harmony”...
“Speak our mind”

MISSION

**JOY OF ENGINEERING AND
ACHIEVEMENT WITH ALL OUR MIGHT**

TTCL aims to be a company
where everybody works with joy
of engineering and achievement

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Overall Policy and Business Operations

Vision, Goals, Objectives, and Operations Strategies

Vision

TTCL is to be
a “First Class International
Engineering Company”

with

“Build up warmth and trust”...

”Stay young”...

“Unite in Harmony”...

“Speak our mind”



The business goal of the Company is as follows.

- 1. To maintain leadership in Integrated EPC business in Thailand.**

The Company aims to provide Integrated EPC business as its core business and maintains leadership in Integrated EPC business in Thailand. The Company will focus on developing the capability of its personnel continually as well as maintaining the quality of service in terms of design and construction to meet international standards while completing and delivering the work on time. This is to ensure its ability to compete with International EPC Contractors.

2. To become one of the international provider of Integrated EPC.

The Company commits to design and do the construction works for customers' satisfaction in quality of the projects. The ability to control project is evident from the repeatedly awards from customers. The Company aims to become one of the international providers of Integrated EPC. This will be achieved by expanding into international markets to work on large scale projects with value from 200 - 500 million US dollars to create opportunity for the business growth in the future.

3. Seeking for business opportunities by investing in potential projects which will be returned a good benefit.

The Company plans to co-develop or co-invest in Power & Energy Related Projects through joint venture entities of which JV partners could be the client or the technology license's owner. Besides nomination as exclusive EPC and O&M Contractor of the project, the dividend payment from investment can be expected over the project's lifetime.

4. To achieve the vision, goals and objectives, the Company has defined the following key strategies.

1. To Strengthen the core to raise the status of the Company as a Regional EPC Contractor and increase its services abroad.

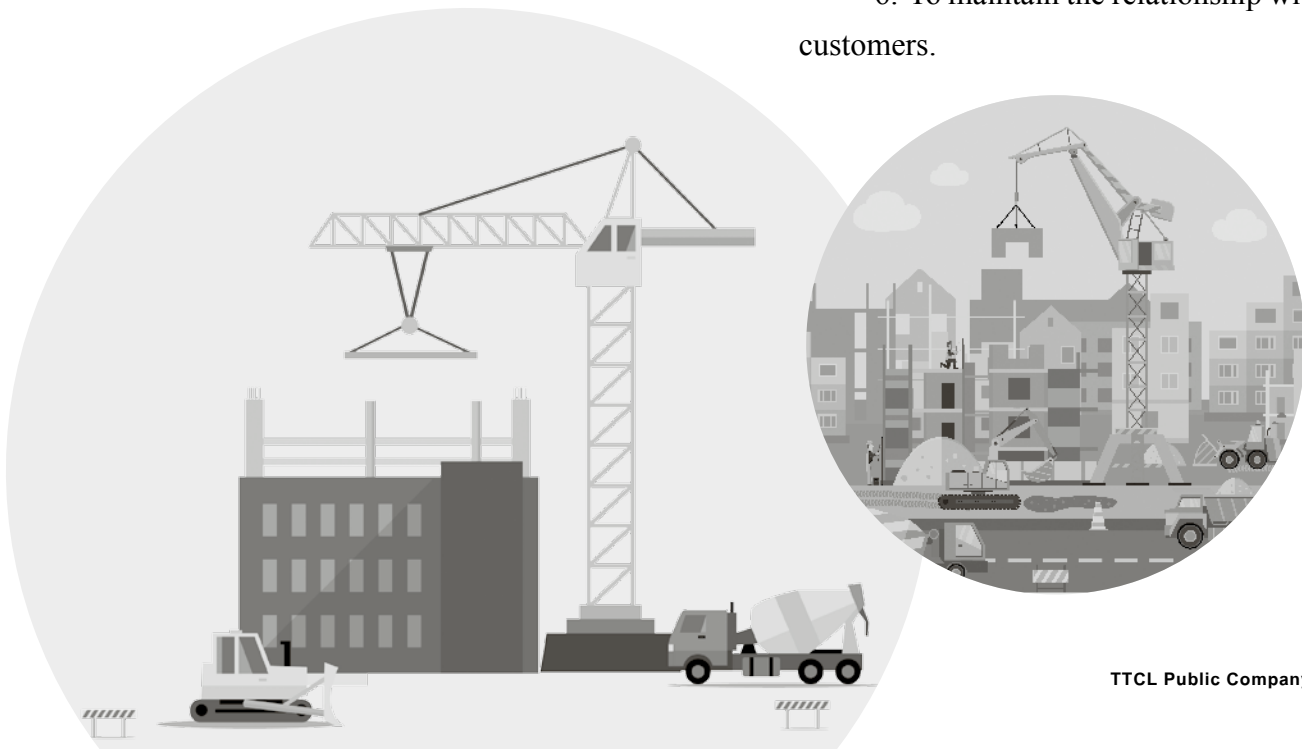
2. To retain existing partners by quality delivering and providing the engineering services up to standard for partners satisfaction.

3. Strategic of maintsining a good relationship with the manufacturers, supplier of machinery, equipment, and construction materials with the selection of outsourcing quality and responsible subcontractors in relation with the Company performance and delivering quality works to the customers on time.

4. Utilization of advanced engineering design programs to enable the Company to produce accurate designs and reduce errors.

5. The Company has complied with the international standard for the safety of all parties and the Company has been certified ISO 9001 ISO 14001 and ISO 45001 from Intertek Industry and Certification Services (Thailand) Ltd.

6. To maintain the relationship with target customers.



Company Profile



TTCL Public Company Limited (TTCL), the first integrated Engineering, Procurement and Construction (Integrated EPC) company in Thailand, was incorporated on 24 April, 1985 with a startup capital of THB 20 million. TTCL was formed by the joint venture of 2 leading international engineering and construction companies from Japan and Thailand, Toyo Engineering Corporation (TEC) and Italian-Thai Development Public Company Limited (ITD), with the shareholder stake of 49% and 51% respectively. TTCL has experiences and expertises in providing integrated design and engineering, procurement of machinery & equipment, and construction (Integrated EPC) of turnkey projects for industrial and process plants, mainly in energy, petrochemical, chemical and power industries.

“

The Company has succeeded in the design and construction of more than 200 projects, demonstrating the Company's reputation and trust among customers in terms of quality design and construction, scheduled delivery of work, and safety in operations.

”



The Company has observed an increasing and continual growth in demand of Integrated EPC services from both domestic and overseas customers, especially for energy, petrochemical and power industries. The Company's competitive advantage in terms of cost and specialized engineering teams for operating mega projects and complex technologies enable TTCL to expand its international businesses to overseas markets, particularly Asia Economics Community Countries (AEC), United Arab Emirates and Qatar. In June 2009, TTCL issued an initial public offering and became a listed Company in the Stock Exchange of Thailand, thereby enhancing the Company's financial strength and credibility to international investors.



As a leading provider of Integrated EPC for more than 30 years, the Company has succeeded in the design and construction of more than 200 projects, demonstrating the Company's reputation and trust among customers in terms of quality design and construction, scheduled delivery of work, and safety in operations. Besides, the Company increased its paid-up capital to THB 560 million with the objective to support the working capital requirements and investment in power plants.

In 27 April 2018, the Annual General Meeting of Shareholders of the Company resolved to approve the increase of the Company's registered capital of THB 336 million from the existing registered capital of THB 560 million to THB 896 million by issuing 336 newly issued ordinary shares with a par value 1 Baht to support the exercise of TTCL-W1 of 112 million shares, the issuance and allocation to the existing shareholders (Right Offering) of 168 million shares and the allocation to the specific persons (Private Placement) of 56 million shares.

In August 2018, the Company has issued and offered of 56 million newly issued ordinary shares to specific persons (Private Placement) to Sojitz Corporation ("Sojitz"), in which Sojitz has become a major shareholder instead of TEC as they sold the Company's shares since the beginning of the year 2018. The objective of increase capital is for enhancing the business collaboration in the future. Thus, at present, the Company's paid-up capital was changed to THB 616 million.





Financial Highlights

Year Ended Result	2017	2018	2019
Profit (Unit : Million Baht)			
Construction and service revenues	9,692.95	7,353.97	10,043.46
Revenues from operating the power plant	754.16	973.91	453.50
Total Revenues	10,447.11	8,327.89	10,496.96
Gross Profit	851.84	(101.52)	1,333.17
Net Profit	95.03	(2,009.76)	(188.77)
Financial Ratio			
Gross Profit Margin (%)	8.15	(1.22)	12.70
Net Profit Margin (%)	0.91	(24.13)	(1.80)
Return on Assets (%)	0.40	(10.38)	(1.16)
Return on Equity (%)	2.32	(67.06)	(8.11)
Earnings Per Share (Baht per Share)	0.09	(3.41)	(0.41)



Message from President & CEO

Dear Shareholders,

2019 was another challenging year for TTCL. The declining in new EPC contract due to economic slowdown and a provision for doubtful debt to the construction project in Qatar were the main cause of net loss for the period. Under this extraordinary circumstance, the Board of Directors proposed the shareholder to consider and approve non-payment of dividend for the 2nd half of year 2019.

On the other hand, 2019 was the year we have divested many of our investments in order to pave the way for 388 MW Gas-Fired Power Plant in Yangon. I am aware that the process taking to complete the Power Purchase Agreement was longer than the management initially expected. However, I would like to reassure you that everything is still in place and we are still optimistic about the project.

For the outlook for the year 2020, the volatile global economic due to the Corona virus and the weakening oil price have created the economic turmoil which we rarely seen before. In order to maximize our resources, in addition to the Third-Party EPC and Power Investment, we plan to enter into the Bio-Energy business which we will be partnered with a prominent Japanese company. The focus will be mainly in the private sector for the expediency in project implementation.

Finally, I would like to express my sincere gratitude to our shareholders and employees for your continued support throughout this difficult time. We will continue to enhance our business competencies by improving work efficiency, project management as well as focusing on high-value services and identifying new business opportunities.



Mr. Hironobu Iriya

President and Chief Executive Officer

Report of the Audit Committee

Dear Shareholders,

The Audit Committee, who composed of three independent directors, was appointed by a resolution of the Board of Directors. Pol. Lt. Sivaraks Phinicharomna was appointed as the chairman. Mr. Gumthorn Utarnwuthipong and Mr. Ryuzo Nagaoka were appointed as committee members. Mr. Boonyakrit Saowan, Deputy General Manager (Investor Relations) - Finance & Accounting Division was the secretary to the Committee.

In 2019, the Audit Committee conducted 9 meetings to consider and provide opinions on the following issues:

1. Reviewed quarterly and yearly financial statements to ensure conformity with generally accepted accounting principles as well as disclosure properly on related parties and connected transactions, which attended by The Company's Chairman, the management and the external auditor. Note that there was one formal meeting between Audit Committee and the auditor without an attendance of the management in 2019.

2. Reviewed internal control systems and followed up corrective actions by the internal audit department through creating a risk-based audit plan for every three years covering all risks and all activities of the Company. Note that a high-risk related activity must be scrutinized on a yearly basis while monitoring and assuring that the Company had sufficiently internal control systems performing in according with a risk-based audit plan. Human resources development was upgraded with a more effective and efficient controlling method.

3. Reviewed the result of risk management to confirm that the process was sufficiently and constantly improved including extending to a newly established subsidiary, associated and related company.

Pol. Lt. Sivaraks Phinicharomna

Chairman of Audit Committee



4. Reviewed whether the Company had followed and complied with the best practice on corporate governance issued by the Stock Exchange of Thailand including any regulations related to the Company's business.

5. Reviewed and provided opinions on connected transactions and those that may cause the conflict of interest including the acquisition or disposal on assets. The responsible management must report with adequate disclosure.

6. Reviewed the independence of auditor, screened, and recommended appointment as well as audit fee to the Board of Directors.

7. Conducted a meeting with the internal audit head on a regular basis in order to seek advices including considered performance and gave credit to the internal audit head.

8. The Audit Committee had conducted self-evaluation on performance as required by Audit Committee Charter for the year 2019. They were satisfied with the result and reported it to the Board of Directors.

The Audit Committee had unlimited access to the Company information by requesting advices and discuss matters with management, internal and external auditor including external consultant without restriction. The Audit Committee received report from related management along with internal audit and auditor reports in addition with upholding on corporate governance and anti-corruption policies. The Audit Committee therefore had opinions that the financial statements for the year ended 31 December 2019 were accurate and completed per principle of materiality compliant with the generally accepted accounting

principles and adequately information disclosure. Risk management was effectively complied with the Company's policy. The internal control systems of the Company were in place with no major deficiency. The rules and regulations of Security Exchange Commission and Stock Exchange of Thailand were properly conformed including other related rules and regulations. Connected transactions that may cause conflict of interest were normal business transactions with general commercial terms and to the best benefit of the Company. The Company engaged financial and legal advisors in order to provide opinions on significant asset acquisition and disposal as well.

In 2019, Audit Committee had satisfied with the result of independent evaluation and qualification of PricewaterhouseCooper ABAS Ltd. However, due to economic downturn, the Committee recommended Board of Directors to consider Grant Thornton to be the Company's auditor for year 2020 due to the quality is in line with the big 4 accounting firms and the audit fee is much more competitive. The appointment has been preceded to the general shareholders' meeting for approval.

On behalf of Audit Committee



Pol. Lt. Sivaraks Phinicharomna
Chairman of Audit Committee

Report of the Nomination and Remuneration Committee

The Nomination and Remuneration Committee (NRC) has been proposed and appointed by the President and CEO since November 12, 2010. The committee consists of 3 members of TTCL Board of Directors of which 2 members are from TTCL Independent Director.

Roles and responsibilities specified in the Nomination and Remuneration Committee Charter are accessible on the Company's website at http://www.ttcl.com/sustainability/corporate_governance/charters. The Charter defines recruitment, screening and nomination of the candidates in the position of directors and high executive level as well as proposal for remuneration policies and other benefits for the company's board of directors and the committee.

In 2019, the NRC held four meetings to consider important matters and reported the meeting results including comments and recommendations regularly to the Board of Directors for acknowledgement and consideration which are summarized as follows:



Dr. Ryuzo Nagaoka

Chairman of the Nomination
and Remuneration Committee

1. To consider on 2019 fixed remuneration for Board of Directors, Audit Committee and Board of Management based on previously practiced criteria suitable for their responsibility and linked the remuneration to TTCL overall performance against listed companies of the same industry and comparable business size.

2. No special bonus for 2018 Company operation to Board of Directors, Audit Committee and Board of Management.

3. No 2019 fixed remuneration for committee members except Audit Committee.

4. Nomination and re-appointment of 3 directors, Ms. Kantika Tanthuvanit, Dr. Seiichi Itakura and Pol. Lt. Sivaraks Phinicharomna who retired by rotation in December 2018 to hold their directorship for another term to the Board's consideration before nominating their names to the shareholders' meeting for approval.

5. Recruit and nomination of qualified persons to the Board for appointment in place of members who resigned before completion of their terms.

6. Encouraged TTCL to allow shareholders to propose agenda items and to nominate candidates with qualifications required by Securities and Exchange Commission (SEC) to be elected as 2020 director at least three months ahead of the Shareholders' meeting through Company's Website.

7. Setting CEO performance appraisal criteria for evaluation in year 2019 and report to the Board of Directors.

8. Providing Self-Assessment for individual director and committee member and report to the Board of Directors.

9. Providing Group Assessment for Board of Directors and Committees and report to the Board of Directors.

10. To review Charter of Nomination and Remuneration Committee to comply with the principle of good corporate governance.

11. To recommend the development program for the Board of Directors, Sub-Committee and Executives with a substantial understanding on fiduciary duties and good governance practices.

On behalf of Nomination and Remuneration Committee



Dr. Ryuzo Nagaoka

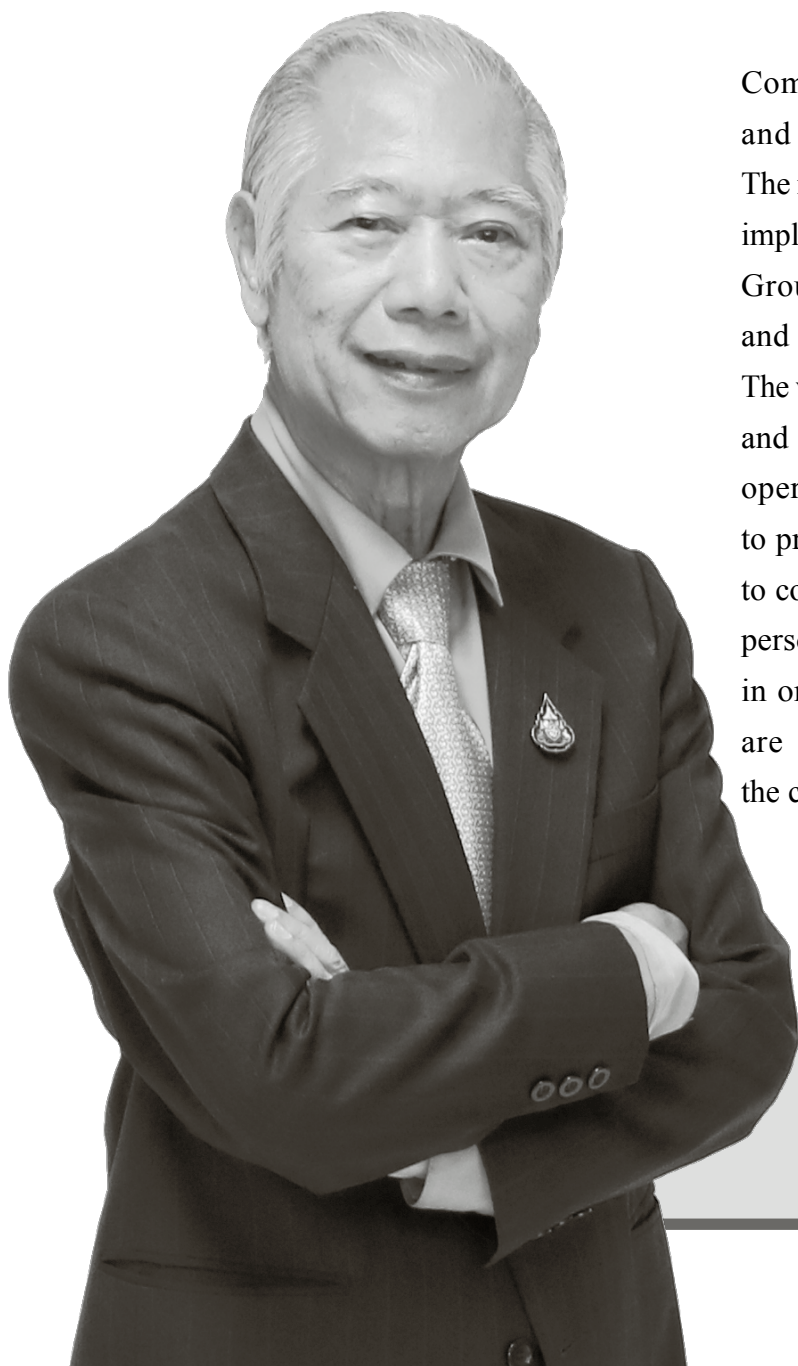
Chairman of the Nomination
and Remuneration Committee

The Report of Risk Management Committee

Dear Shareholders,

Risk Management Committee (RMC) has been appointed by the President and CEO which approved by the resolution of the Board of Director since November 12, 2010. The committee consists of 5 members which are 1 Independent Director and 4 Senior Executives and Management.

In the year 2019, the Risk Management Committee conducted four meetings to monitor and review the results of risk management. The risk management process has been systematically implemented through the Risk Management Working Group which consists of relevant managements and led by one of risk management committee. The working group continually monitored both internal and external factors that may affect to company's operation and determined appropriate measures to prevent and control significant risks with the aim to contain that risks at acceptable level. Responsible person and monitoring method are also determined in order to ensure that risk management processes are efficient and effective in accordance with the company's policies and objectives.



Mr. Gumthorn Utarnwuthipong

Chairman of Risk Management Committee

According to the resolution of Risk Management Committee No. 3/2562, the Investment Risk Management working group has been established to assess and manage investment risk, both domestic and overseas projects.

Risk Assessment and Control Measures

The risk management working group and committee have identified and assessed company risks, covering 4 risk categories which are Strategic Risks, Operational Risks, Financial Risks and Compliance Risks. Risk assessment process also includes review of identified risks for any change and identify new risks. In addition, risk control measures have been determined by considering current circumstance and company's direction. The risk management committee has considered and reported significant risks to the Board of Director through audit committee as follows; Risk of revenue from EPC Business and Risk from foreign political instability.

The Risk Management Committee encourages the adoption of risk management at all levels of the organization. Then the project risk management working group has been assigned to assess and monitor risk factors of the projects which may affect to project schedule, cost, compliance, occupational health and safety of concerned parties, environment, communities and company's reputation.

As a certified member of Thailand's Private Sector Collective Action Coalition Against Corruption (CAC), the committee has assigned working group to assess corruption risk and review adequacy of anti-corruption measures by cooperated with relevant managements and managers every 6 months.

On behalf of Risk Management Committee



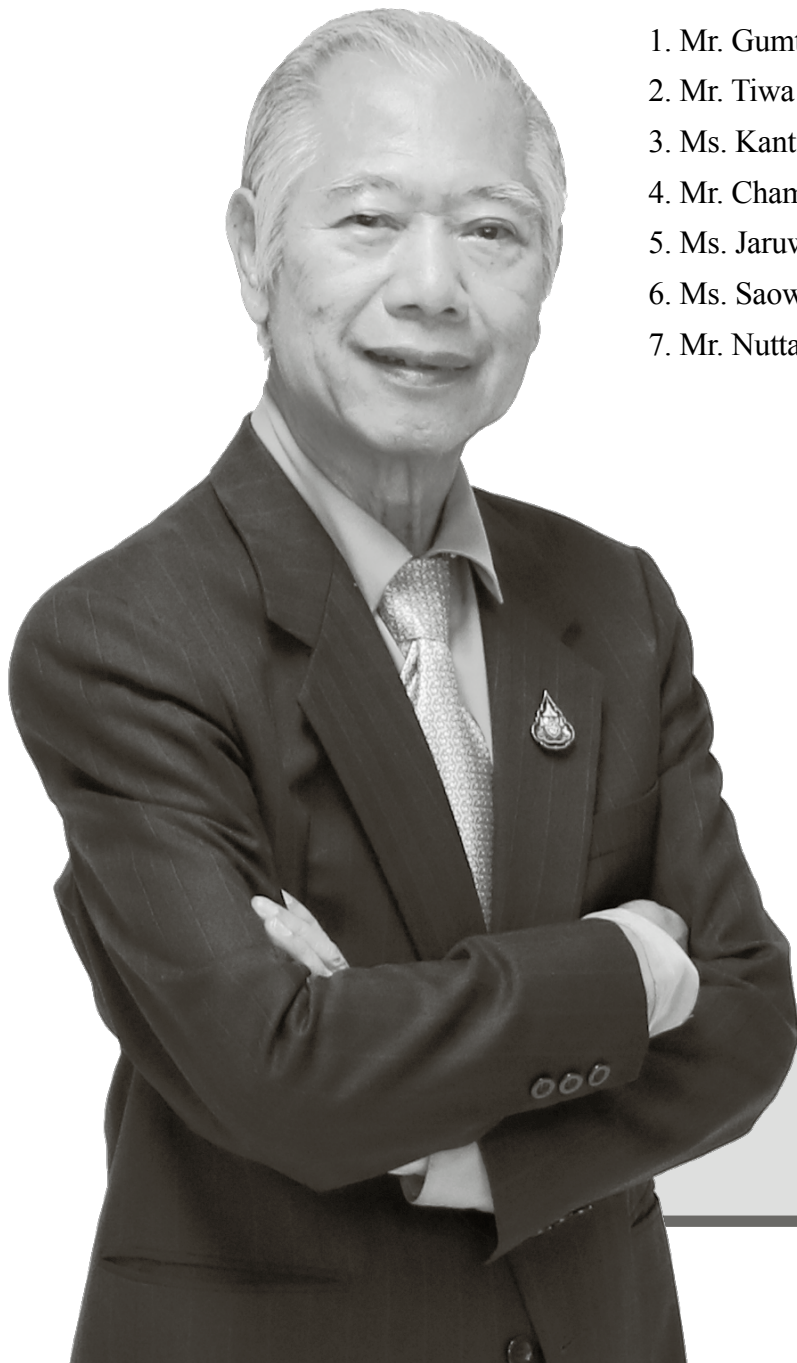
Mr. Gumthorn Utarnwuthipong
Chairman of Risk Management Committee

Report of the Corporate Governance Committee

To : Shareholders

To align with corporate governance guidelines for listed companies, the President & CEO has nominated and appointed the Corporate Governance Committee to the Board of Directors through the Nomination & Remuneration Committee for approval since November 14, 2014. The present Corporate Governance Committee consists of 7 persons as follows:

1. Mr. Gumthorn	Utarnwuthipong	Chairman
2. Mr. Tiwa	Jaruke	Committee Member
3. Ms. Kantika	Tanthuvanit	Committee Member
4. Mr. Chamnarn	Atsanatam	Committee Member
5. Ms. Jaruwan	Sookthauyart	Committee Member
6. Ms. Saowaluck	Ngamdutsadee-Apirom	Committee Member
7. Mr. Nuttapol	Sinkajohn	Committee Member



Mr. Gumthorn Utarnwuthipong

Chairman of the Corporate Governance Committee

In 2019, the Committee held 4 meetings altogether, with attendance by most members. The results of the Committee's meetings are approved by President & CEO and reported regularly to the Board of Directors. The summaries of these meetings are as follows:

1. Reviewed the Corporate Governance Policy to be consistent with the principal of Good Corporate Governance.

2. Reviewed the Corporate Social Responsibility and Sustainable Development Policy in order to achieve the sustainable development and have the explicit regulation.

3. Participated in the evaluation quality of Annual General Meeting 2019 organized by Thai Investors Association (TIA).

4. Participated in the Corporate Governance Assessment in the CGR 2019 survey organized by Thai Institute of Directors Association (IOD). TTCL has been rated as "Excellent" for 4 consecutive years.

5. Participated in SET Sustainability Awards by submitting the Sustainability Assessment Questionnaire. TTCL was selected to pass the SET Assessment criteria as one (1) of ninety-eight (98) companies in the Thailand Sustainability Investment (THSI) for the year 2019.

6. Submitted Self-Evaluation Form to the Collective Action Coalition Against Corruption (CAC) since May 21, 2019 and obtained the certification from CAC in Quarter 4 of year 2019 for second term.

7. Conducted a self-assessment to review the performance of both individual and the Corporate Governance Committee as whole.

On behalf of Corporate Governance Committee.



Mr. Gumthorn Utarnwuthipong

Chairman of the Corporate
Governance Committee

The Nature of Business and Services



Provided services can be classified into 2 main areas:

1. Construction and Service business
2. Power-Generation business

1. Construction and Service business

Construction and service business can be categorized into

- 1.1 Integrated Engineering, Procurement and Construction (Integrated EPC) and
- 1.2 Engineering, Procurement and Construction Management (EPCm) in which the nature and characteristics of works can be explained in full details as follows:

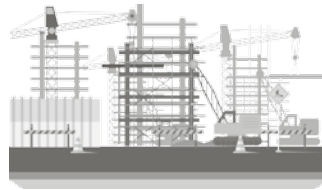
1.1. Integrated Engineering, Procurement and Construction (Integrated EPC)

Integrated EPC refers to a type of construction services in which contractor bears full responsibility to perform all duties starting from project's engineering design, procurement of machinery & equipment, and construction in order to meet clients' requirements. It represents the majority type of construction since as clients can enjoy benefits and efficiencies in quality and project costs control.

The Company is the first Thai engineering contractor who is capable of providing Integrated EPC services to conglomerate engaging in petrochemical, petroleum-related, and energy

Our Services

TTCL

Public Company
Limited**01 Engineering Design****02 Plant Construction****03 Procurement of Machinery and Equipment****04 Power Business and Energy**

industries both domestic and overseas. The Company would act as the main contractor or, as the case may be, jointly co-operate with other contractors, either Thai or foreign partners, in form of joint-venture or consortium.

Large scale construction and yet complexity like Integrated EPC can be divided into 3 scopes i.e. Engineering, Procurement and Construction. With the capacity of an Integrated EPC contractor, this adds competitive advantage to the Company in the continuation of works among the areas. Details of each are described as follows:

1.1.1. Engineering Design

In providing the engineering design services, the Company's engineering team, consisting of all necessary engineering fields such as civil, mechanical, electrical and chemical, is capable of designing the whole industrial plant both in civil structures and utility systems, such as electricity, water, air conditioning, solid and

wastewater treatment system, storage tanks, production processes, especially for petroleum, petrochemical and chemical plants, including measurement and control system required for the plant. The Company is equipped with eight disciplines of engineering fields that provide competitive advantage. This allows the Company to perform integrated services to the clients, costs-saving for additional design works and, yet, closely cooperate between design team and construction one. This advantage will enable the Company to control overall cost of the project for highest effectiveness.

1. The engineering design steps will commence with the client's objective and requirement analysis in every dimension before performing design works in full details. Key factors that need to be taken into consideration are:

- Plant's Safety both in Overall Scope and each Separate Units.
- Environmental Issues.
- Quality Output from Production Processes.
- Efficiency of production steps both in terms of Heat Balance and Material Balance.
- Manufacturing System, Machines and Equipment.
- Cost for Maintenance or Future Renovation.
- Foreseeable Obstacles during Construction Processes and Adjustment Plan for Risk Mitigation.
- Optimal Point of Technology Applied and Project's Costs.

1.1.2. Procurement of Machinery and Equipment

In providing the procurement services, the Company sources all necessary machines and equipment for the project from both domestic and overseas vendors/ manufacturers. The Company also negotiates for price, purchase and delivery conditions, inspecting quality and specification of machines and equipment to be conformed to the engineering design and project schedule as a whole.

From the Company's experiences, most clients are in the petroleum and petrochemical business which obtained promotion privileges from the Board of Investment ("BOI"). This leads the Company to be acquainted with the process of procurement and import of the equipment from overseas for clients to comply with the requirements of BOI.

1.1.3. Plant Construction

In providing the construction services, the Company will assign an appropriate engineering team that best-fit with each project for an operation. Each project team will consist of a project manager, project engineers and lead engineers from various fields. All engineers in project team will work together and be jointly responsible in executing the project since the beginning of planning, performing and coordinating with client or client's representative, subcontractors, manufacturers and vendors of equipment and materials along with the design engineers. Project team will control and inspect the construction work, assuring that quality and timeline are met with the project schedule including budgetary and safety control.



Throughout the process of engineering design, procurement and construction execution, the Company has set up Quality Control Department in its organization consisting of expert in specific fields to inspect and follow up quality of work in every stage to ensure that the work in each detail has been completed and aligned with the required quality. For this stage, the Company will coordinate with client's representative to conduct the inspection together.

1.2. Engineering, Procurement and Construction Management (EPCm)

In providing engineering, procurement, construction project management (EPCm), the Company will act as the project manager assigned to the client. The Company is responsible for managing the appropriate budget of the project and ensuring the project is on schedule. The Company aids customers to select contractors and oversees the work of contractors, advises on the selection of the production and delivery of equipment and materials, and controls the delivery coordination of machinery and equipment according to schedule. In addition, the engineering, procurement and construction project management services may include feasibility studies for basic engineering as well.

In providing services as per contract signed the Company will assign a project manager and support team for each project. The support team will be selected from appropriate levels of personnel, type of project and work under the supervision of the project manager to ensure that the project is on schedule and according to budget provided. Project managers and support teams comply with the most important principle of project management i.e. to maintain the safety and quality of work.

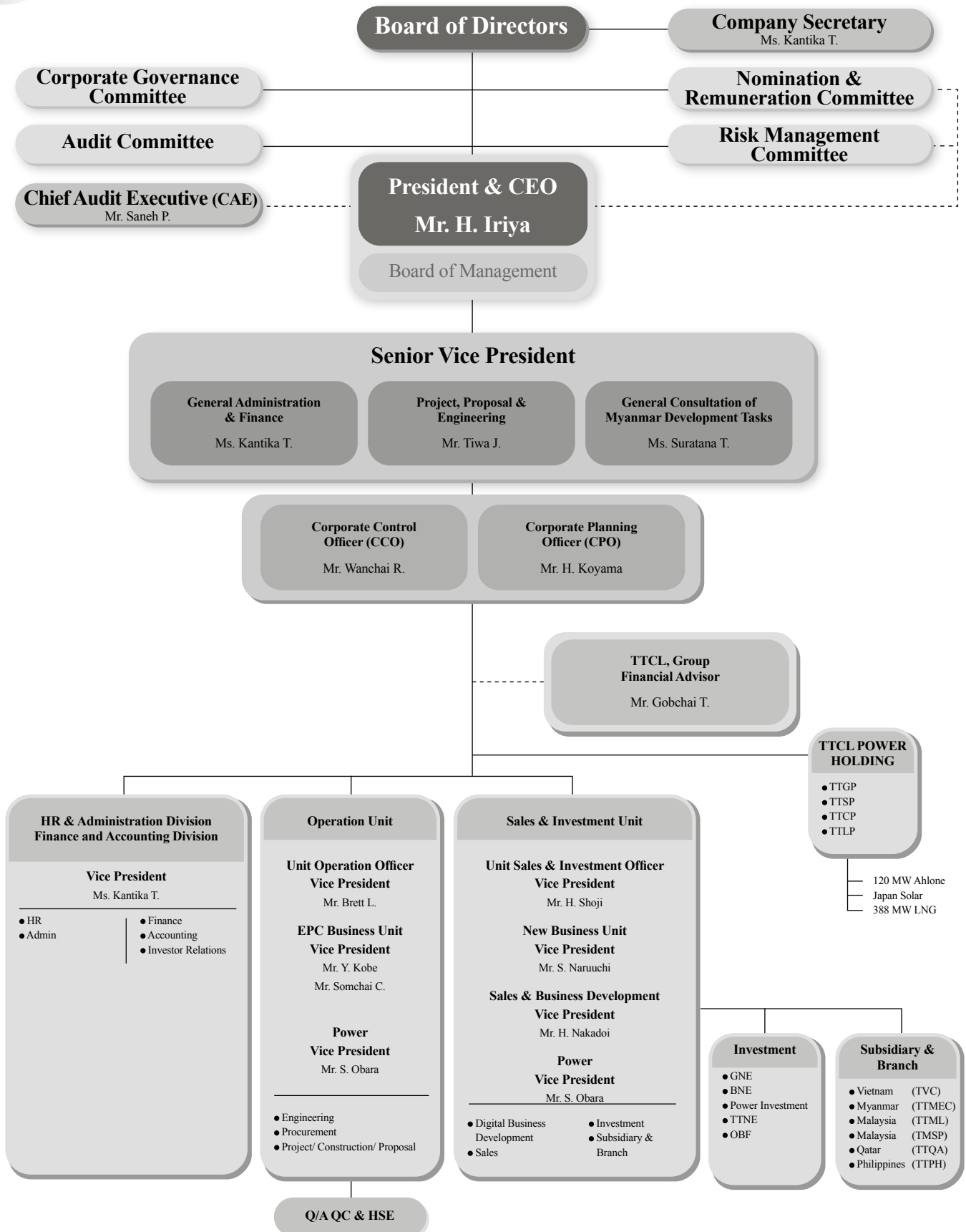
2. Power-Generation Business

The Company maximizes its knowledge and experiences in engineering with an aim to stabilize its long-term income by investing in power and energy businesses. The Company believes in the industries potentialities and being consistent with its investment policy.

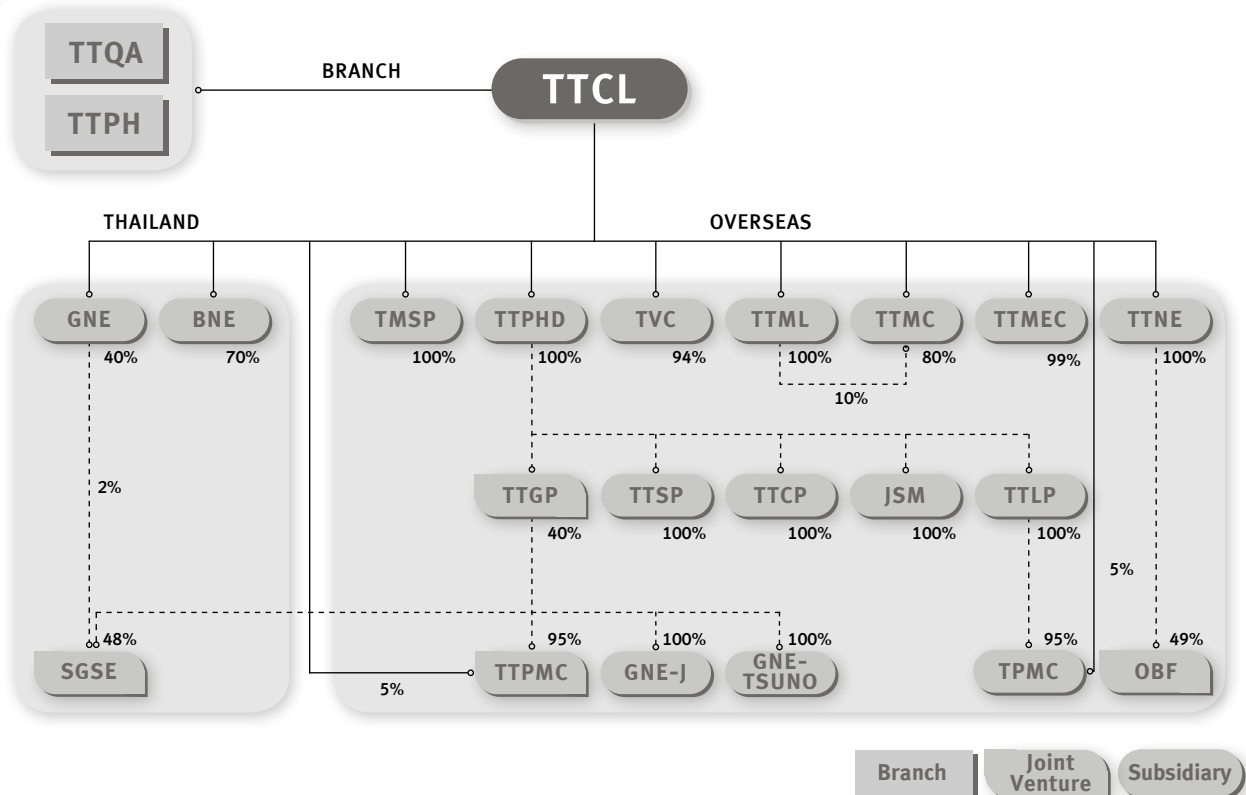
Mostly, the Company is also assigned as the main contractor for the above Projects, both developed by the Company or joint venture. To date, these projects include:

- 1.2 MW Biogas Power Plant, operated by Bio Natural Energy Co., Ltd. ("BNE")
- 120 MW Gas-Fired Power Plant, operated by Toyo Thai Power Myanmar Co., Ltd. ("TTPMC")
- 100,000 cbm Ethanol plant, operated by Orient Bio-Fuels Co., Ltd. ("OBF")
- 743.4 kW Solar Roof-Top, operated by Siam GNE Solar Energy Co., Ltd. ("SGNE")

Organization



Subsidiary Companies and Affiliates

As of 31st December 2019

Company Name	Abbreviation	Type of Business	Head Office	Paid-up Capital			Proportion of holding share (%) Direct + Indirect
				Amount		%	
1. TTCL Plc. - Qatar Branch	TTQA	Construction and Engineering Service	Qatar	Baht	616,000,000.00	68.75	100.00
2. TTCL Plc. - Philippines Branch	TTPH	Construction and Engineering Service	Philippines	Baht	616,000,000.00	68.75	100.00
3. Global New Energy Co., Ltd.	GNE	Renewable Energy Development	Thai	Baht	60,000,000.00	100.00	40.00
4. Bio Natural Energy Co., Ltd.	BNE	Renewable Energy Development	Thai	Baht	5,000,000.00	100.00	70.00
5. Siam GNE Solar Energy Co., Ltd.	SGSE	Electricity Generation	Thai	Baht	16,000,000.00	100.00	48.80
6. TTCL Power Holdings Pte. Ltd.	TTPHD	Investing in Energy Business	Singapore	USD	69,500,000.00	100.00	100.00
7. TTCL Vietnam Corporation Limited	TVC	Construction and Engineering Service	Vietnam	USD	1,500,000.00	100.00	93.34
8. TTCL Malaysia Sdn. Bhd.	TTML	Construction and Engineering Service	Malaysia	MYR	750,000.00	75.00	100.00
9. TMSP Sdn. Bhd.	TMSP	Construction and Engineering Service	Malaysia	MYR	100.00	100.00	100.00
10. ToyoThai - Myanmar Corporation Co., Ltd.	TTMC	Construction and Engineering Service	Myanmar	USD	300,000.00	100.00	90.00
11. TTCL Myanmar Engineering & Construction Co., Ltd.	TTMEC	Construction and Engineering Service	Myanmar	USD	50,000.00	100.00	99.00
12. TTCL New Energy Pte. Ltd.	TTNE	Investing in Renewable Energy Business	Singapore	USD	4,200,000.00	100.00	100.00
13. TTCL Gas Power Pte. Ltd.	TTGP	Investing in Energy Business	Singapore	USD	49,500,000.00	100.00	40.00
14. TTCL Solar Power Pte. Ltd.	TTSP	Investing in Energy Business	Singapore	USD	4,000,000.00	100.00	100.00
15. TTCL Coal Power Pte. Ltd.	TTCP	Investing in Energy Business	Singapore	USD	5,000,000.00	100.00	100.00
16. TTCL LNG Power Pte. Ltd.	TTLP	Investing in Energy Business	Singapore	USD	1.00	100.00	100.00
17. JSM Power Pte. Ltd.	JSM	Investing in Energy Business	Singapore	USD	1.00	100.00	100.00
18. Toyo Thai Power Myanmar Co., Ltd.	TTPMC	Electricity Generation	Myanmar	USD	51,587,300.00	100.00	43.00
19. TTCL Power Myanmar Co., Ltd.	TPMC	Electricity Generation	Myanmar	USD	78,700.00	0.015	100.00
20. Global New Energy Japan Co., Ltd.	GNE-Japan	Operating and maintenance Solar Power Plant	Japan	JPY	200,500,000.00	100.00	100.00
21. Global New Energy Tsuno Co., Ltd.	GNE-Tsuno	Electricity Generation from Solar Power	Japan	JPY	100,000.00	100.00	100.00
22. Orient Bio-Fuels Co., Ltd.	OBF	Renewable Energy Business	Vietnam	USD	10,473,969.39	100.00	49.00

Board of Directors

Mr. Hironobu Iriya

Chairman of Board of Directors

Mr. Tiwa Jaruke

Vice Chairman of
Board of Directors

Mrs. Nijaporn Charanachitta

Director

Ms. Kantika Tanthuvanit

Director



Dr. Seiichi Itakura

Director



Mr. Hiroshi Nakata

Director



Pol. Lt. Sivaraks Phinicharomna

Independent Director



Mr. Gumthorn Utarnwuthipong

Independent Director



Dr. Ryuzo Nagaoka

Independent Director



Audit Committee/ Nomination and Remuneration Committee/ Risk Management Committee/ Corporate Governance Committee

Audit Committee

1. **Pol. Lt. Sivaraks Phinicharomna**
Chairman
2. **Mr. Gumthorn Utarnwuthipong**
Committee Member
3. **Dr. Ryuzo Nagaoka**
Committee Member

Nomination and Remuneration Committee

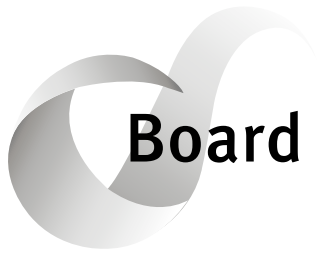
1. **Dr. Ryuzo Nagaoka**
Chairman
2. **Mr. Gumthorn Utarnwuthipong**
Committee Member
3. **Mr. Tiwa Jaruke**
Committee Member

Risk Management Committee

1. **Mr. Gumthorn Utarnwuthipong**
Chairman
2. **Mr. Saneh Poorisat**
Committee Member
3. **Ms. Suratana Trinratana**
Committee Member
4. **Mr. Wanchai Ratinthorn**
Committee Member
5. **Ms. Kantika Tanthuvanit**
Committee Member

Corporate Governance Committee

1. **Mr. Gumthorn Utarnwuthipong**
Chairman
2. **Mr. Tiwa Jaruke**
Committee Member
3. **Ms. Kantika Tanthuvanit**
Committee Member
4. **Mr. Chamnarn Atsanatam**
Committee Member
5. **Jaruwan Sookthauyart**
Committee Member
6. **Ms. Saowaluck Ngamdutsadee-Apirom**
Committee Member
7. **Mr. Nuttapol Sinkajohn**
Committee Member



Board of Management

1. Mr. Hironobu Iriya

President & CEO

2. Mr. Tiwa Jaruke

Senior Vice President
Project, Proposal and Engineering

3. Ms. Kantika Tanthuvanit

Senior Vice President
General Administration & Finance

4. Ms. Suratana Trinratana

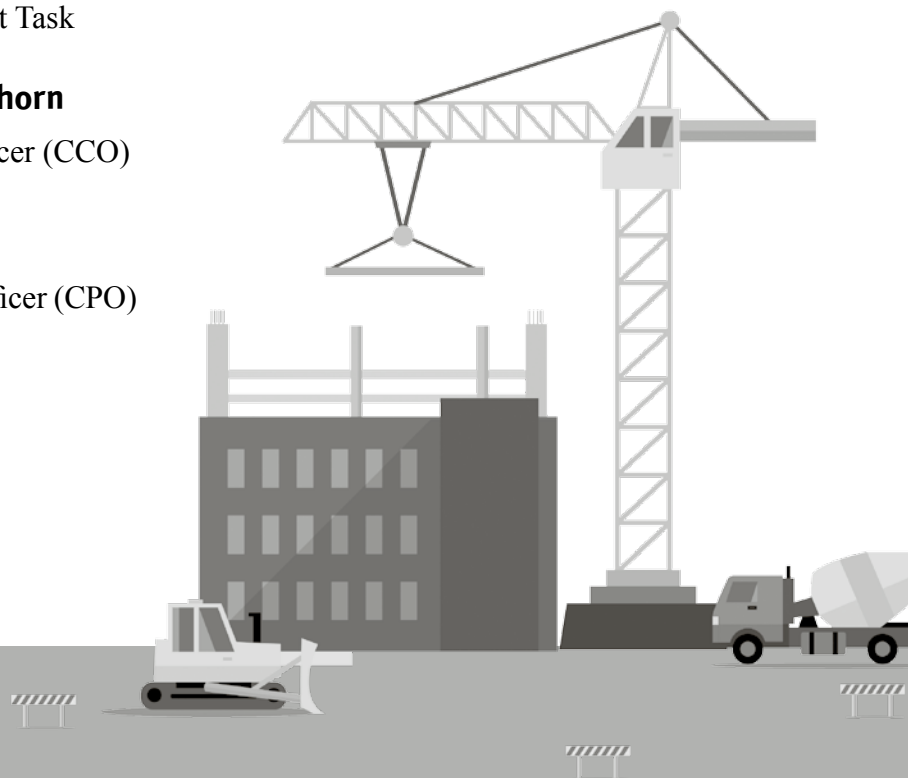
Senior Vice President
General Consultation of
Myanmar Development Task

5. Mr. Wanchai Ratinthorn

Corporate Control Officer (CCO)

6. Mr. Hideto Koyama

Corporate Planning Officer (CPO)



Board of Directors & Board of Management

Name - Surname	: Mr. Hironobu Iriya
Current Position	: Chairman of the Board of Directors, President & CEO (Authorized to Bind the Company)
Years of Age	: 65 years
Nationality	: Japanese
Education	: Bachelor's Degree Faculty of Engineering (Civil Engineering) Waseda University, Japan
Director Training	
20 August 2008	: Director Accreditation Program (DAP) by Thai Institute of Directors Association (IOD)
Years of being Board of Directors	: 12 years (2008 - Present)
Working Experience	
19 December 2019 - Present	: Director, TMSP Sdn.Bhd.
27 September 2018 - Present	: Chairman & Director, TTCL Power Myanmar Company Limited
18 May 2018 - Present	: Director, TTCL LNG Power Pte. Ltd.
2015 - Present	: Chairman of the Board of Directors TTCL Myanmar Engineering & Construction Company Limited
2014 - Present	: Chairman of the Board of Directors, TTCL New Energy Pte. Ltd.
2013 - Present	: Chairman of the Board of Directors, TTCL Solar Power Pte. Ltd. Chairman of the Board of Directors, TTCL Coal Power Pte. Ltd. Chairman of the Board of Directors, TTCL Power Holdings Pte. Ltd.
2012 - Present	: Chairman of the Board of Directors, Toyo Thai Power Myanmar Co., Ltd. Chairman of the Board of Directors, TTCL Gas Power Pte. Ltd. Chairman of the Board of Directors, ToyoThai-Myanmar Corporation Co., Ltd.
2011 - Present	: Chairman of the Board of Directors and Managing Director, TTCL Malaysia Sdn. Bhd.
2009 - Present	: Chairman of the Board of Directors and President, Global New Energy Company Limited
2008 - Present	: Chairman of the Board of Directors and President & CEO, TTCL Public Company Limited
2007 - Present	: Chairman of the Board of Directors and Managing Director Global Business Management Company Limited
2006 - Present	: Chairman of the Board of Directors, Bio Natural Energy Company Limited Chairman of the Board of Directors, TTCL Vietnam Corporation Limited
1997 - 2005	: Director, TTCL Vietnam Corporation Limited
Positions in other listed companies	: None
Positions in non-listed companies	: 16
Positions in competing / Involving Business Person	: None
No. of Shareholding in TTCL (as of 2nd January 2020)	: 35,211,134 shares equivalent to 5.72% of total shares
Legal dispute in criminal cases (other than criminal case with petty offences)	: None
Restrict Qualification by the Public Act. B.E. 2535	: None
Meeting Attendance in 2019	
The Board of Directors' Meeting	: 9 meetings from total of 9 meetings (100%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)



Board of Directors

Name - Surname	: Mr. Tiwa Jaruke
Current Position	: Vice Chairman of the Board of Directors (Authorized to Bind the Company) : Senior Vice President Project, Proposal & Engineering : Nomination and Remuneration Committee : Corporate Governance Committee
Years of Age	: 66 years
Nationality	: Thai
Education	: Bachelor's Degree Faculty of Engineering (Civil Engineering) Chiang Mai University
Director Training	
20 June 2016	: Ethical Leadership Program (ELP)
15-16 March 2016	: Financial Statements for Directors (FSD)
22 February 2008	: Director Accreditation Program (DAP)
24 July 2007	: Finance for Non-Finance Director (FND)
10 July 2007	: Understanding the Fundamental of Financial Statements (UFS) by Thai Institute of Directors Association (IOD)
Knowledge and Skills Development	
1 March 2019	: Management Accounting for Planning and Decision Making by Federation of Accounting Profession
Years of being Board of Directors	: 12 years (2008 - Present)
Working Experience	
October 2018 - Present	: Vice Chairman of the Board of Directors, TTCL Public Company Limited
2014 - Present	: Corporate Governance Committee, TTCL Public Company Limited
2013 - Present	: Director, TTCL Power Holdings Pte. Ltd.
2013	: Director, Senior Vice President Project & Proposal Petrochemical & Refinery Unit and Task Force, TTCL Public Company Limited
2011 - Present	: Director, Deputy Managing Director, TTCL Malaysia Sdn. Bhd. : Senior Vice President Project, Proposal & Engineering Division TTCL Public Company Limited
2010 - Present	: Nomination and Remuneration Committee, TTCL Public Company Limited
2009 - Present	: Director, Global New Energy Company Limited : Director and Managing Director, Bio Natural Energy Company Limited
2009 - 2010	: Senior Vice President, Proposal, Engineering and General Admin., TTCL Public Company Limited
2008 - September 2018	: Director, TTCL Public Company Limited
2006 - Present	: Director, TTCL Vietnam Corporation Limited
Positions in other listed companies	: None
Positions in non-listed companies	: 5
Positions in competing / Involving Business Person	: None
No. of Shareholding in TTCL (as of 2nd January 2020)	: 7,194,300 shares equivalent to 1.17% of total shares
Legal dispute in criminal cases (other than criminal case with	: None

petty offences)

Restrict Qualification by the Public : None

Act. B.E. 2535

Meeting Attendance in 2019

The Board of Directors' Meeting	: 9 meetings from total of 9 meetings (100%)
The Nomination and Remuneration Committee Meeting	: 4 meetings from total of 4 meetings (100%)
The Corporate Governance Committee Meeting	: 4 meetings from total of 4 meetings (100%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)

Board of Directors

Name - Surname	: Mrs. Nijaporn Charanachitta
Current Position	: Director (Authorized to Bind the Company)
Years of Age	: 69 years
Nationality	: Thai
Education	: Master's Degree Faculty of Business Administration (Finance) University of Wisconsin, USA : Bachelor's Degree Faculty of Arts, Chulalongkorn University
Director Training	
2-22 March 2005	: Director Certification Program (DCP) by Thai Institute of Directors Association (IOD)
Years of being Board of Directors	: 12 years (2008 - Present)
Working Experience	
2007 - Present	: Director, TTCL Public Company Limited : Chairman of the Board of Directors, OHTL Public Company Limited : Chairman of the Board of Directors, Amari Company Limited : Chairman of the Board of Directors, Amari Hotel and Resort Company Limited : Director and Nomination and Remuneration Committee Charoong Thai Wire & Cable Public Company Limited
1994 - Present	: Director and Senior Executive Vice President Italian-Thai Development Public Company Limited
1983 - 1994	: Vice President, Italian-Thai Development Public Company Limited
1979 - 1983	: Manager of Finance, Italian-Thai Development Public Company Limited
Positions in other listed companies	: 3 - Chairman of the Board of Directors, OHTL Public Company Limited - Director and Nomination and Remuneration Committee Charoong Thai Wire & Cable Public Company Limited - Director and Senior Executive Vice President Italian-Thai Development Public Company Limited
Positions in non-listed companies	: 2
Positions in competing / Involving Business Person	: 1 - Director and Senior Executive Vice President Italian-Thai Development Public Company Limited
No. of Shareholding in TTCL (as of 2nd January 2020)	: 5,297,207 shares equivalent to 0.86% of total shares
Legal dispute in criminal cases (other than criminal case with petty offences)	: None
Restrict Qualification by the Public Act. B.E. 2535	: None
Meeting Attendance in 2019	
The Board of Directors' Meeting	: 9 meetings from total of 9 meetings (100%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: None

Board of Directors

Name - Surname	: Ms. Kantika Tanthuvanit
Current Position	: Director (Authorized to Bind the Company) : Senior Vice President General Administration & Finance : Corporate Governance Committee : Risk Management Committee : Company Secretary
Years of Age	: 65 years
Nationality	: Thai
Education	: Bachelor's Degree Faculty of Business Administration Chiang Mai University : Postgraduate Faculty of Business Administration Center for Marketing and Management Studies, London, United Kingdom
Director Training	
20 June 2016	: Ethical Leadership Program (ELP)
16 - 17 June 2016	: Company Secretary Program (CSP)
15 - 16 March 2016	: Financial Statements for Directors (FSD)
4 - 5 September 2008	: Effective Minute Taking (EMT)
7 - 8 August 2008	: Company Secretary Program (CSP)
22 February 2008	: Director Accreditation Program (DAP)
24 July 2007	: Finance for Non-Finance Director (FND)
10 July 2007	: Understanding the Fundamental of Financial Statement (UFS) by Thai Institute of Directors Association (IOD)
Knowledge and Skills Development	
1 March 2019	: Management Accounting for Planning and Decision Making by Federation of Accounting Profession
Years of being Board of Directors	: 4 years (2016 - Present)
Working Experience	
January 2019 - Present	: Risk Management Committee
2018 - Present	: Senior Vice President General Administration & Finance, TTCL Public Company Limited
2016 - Present	: Director, TTCL Public Company Limited
2014 - Present	: Director, TTCL New Energy Pte. Ltd. : Corporate Governance Committee, TTCL Public Company Limited
2014 - June 2018	: Senior Vice President General Administration, TTCL Public Company Limited
2013 - Present	: Director, TTCL Power Holdings Pte. Ltd.
2011 - Present	: Director and General Manager Administration Division, TTCL Malaysia Sdn. Bhd.
2011 - 2013	: Senior Vice President, General Administration & Finance, TTCL Public Company Limited
2008 - Present	: Company Secretary, TTCL Public Company Limited
2007 - Present	: Director, Global Business Management Company Limited
1997 - Present	: Director, TTCL Vietnam Corporation Limited
Positions in other listed companies	: None
Positions in non-listed companies	: 5
Positions in competing / Involving Business Person	: None
No. of Shareholding in TTCL (as of 2 nd January 2020)	: 9,558,041 shares equivalent to 1.55% of total shares

Legal dispute in criminal cases : None
**(other than criminal case with
petty offences)**

Restrict Qualification by the Public : None

Act. B.E. 2535

Meeting Attendance in 2019

The Board of Directors' Meeting	: 9 meetings from total of 9 meetings (100%)
The Risk Management Committee Meeting	: 4 meetings from total of 4 meetings (100%)
The Corporate Governance Committee Meeting	: 4 meetings from total of 4 meetings (100%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)

Board of Directors

Name - Surname	: Dr. Seiichi Itakura
Current Position	: Director (Authorized to Bind the Company)
Years of Age	: 70 years
Nationality	: Japanese
Education	: Ph.D. of Environment and Energy Engineering, Waseda University : Master of Electrical Engineering, Waseda University : Bachelor of Electrical Engineering, Waseda University
Director Training	
11 March 2019	: Director Accreditation Program (DAP) by Thai Institute of Directors Association (IOD)
Knowledge and Skills Development	
1 March 2019	: Management Accounting for Planning and Decision Making by Federation of Accounting Profession
Years of being Board of Directors	: 2 years (2018 - Present)
Working Experience	
March 2018 - Present	: Director, TTCL Public Company Limited.
2015 - Present	: Consultant the technical study & investigation of Large Solar Power System & International Transmission Line (Super Grid) Softbank Group
2014 - Present	: Chief Technical Advisor Environment and Energy Technology Research Institute, Inc.
2014 - 2017	: Consultant the Quality Management of Refinery and Petrochemical Integrated Development (RAPID) Steam Cracker Complex Malaysian Project Toyo Engineering Corp.
2014 - 2016	: Consultant the technical study & investigation of Large Solar Power Station Japan Toyo Engineering Corp.
2011 - Present	: Invited Researcher, Waseda University Graduate School of Environment and Energy Engineering Environmental Research Institute
2009 - 2014	: Executive Officer (General Manager of Safety, Quality and Environment Management Unit, and General Manager of Audit Unit) Toyo Engineering Corp.
Positions in other listed companies	: -
Positions in non-listed companies	: 3
Positions in competing	: -
/ Involving Business Person	
No. of Shareholding in TTCL (as of 2 nd January 2020)	: 110,000 Shares (NVDR) equivalent to 0.02% of total shares
Legal dispute in criminal cases (other than criminal case with petty offences)	: None
Restrict Qualification by the Public	: None
Act. B.E. 2535	
Meeting Attendance in 2019	
The Board of Directors' Meeting	: 7 meetings from total of 9 meetings (77.78%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)

Board of Directors

Name - Surname	: Mr. Hiroshi Nakata
Current Position	: Director (Authorized to Bind the Company)
Years of Age	: 58 years
Nationality	: Japanese
Education	: Bachelor of Civil Engineering, Hokkaido University
Director Training	
18 November 2019	: Director Accreditation Program (DAP 116/ 2019) by Thai Institute of Directors Association (IOD)
Years of being Board of Directors	: 1 Year (March 2019 - Present)
Working Experience	
March 2019 - Present	: Director, TTCL Public Company Limited
November 2018 - Present	: Deputy Chief Operation Officer (COO), Machinery & Medical Infrastructure Division Sojitz Corporation
October 2014 - October 2018	: General Manager, Machinery Department 2 & 3 Sojitz Europe plc.
April 2010 - September 2014	: Manager, Business Development Section, New Energy & Environmental Business Department, Sojitz Corporation
January 2007 - March 2010	: Deputy General Manager, Project Development Department LNG Japan Corporation
April 2004 - December 2006	: General Manager, Sojitz Corp. (Iran) Ltd.
March 2000 - March 2004	: Managing Director, Nissho Iwai Corp. (Iran) Ltd.
April 1988	: Joined Nissho Iwai Corporation
Positions in other listed companies	: None
Positions in non-listed companies	: 1
Positions in competing / Involving Business Person	: None
No. of Shareholding in TTCL (as of 2 nd January 2020)	: None
Legal dispute in criminal cases (other than criminal case with petty offences)	: None
Restrict Qualification by the Public Act. B.E. 2535	: None
Meeting Attendance in 2019	
The Board of Directors' Meeting	: 6 meetings from total of 7 meetings (85.71%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)

Board of Directors

Name - Surname	: Pol. Lt. Sivaraks Phinicharomna
Current Position	: Independent Director : Chairman of Audit Committee
Years of Age	: 69 years
Nationality	: Thai
Education	: Master's Degree in Public Administration, Minnesota State University, USA : Certificate of Accountancy, University of California, Los Angeles, USA : California Certified Public Accountant (CPA) California Board of Accountancy, USA : Enrolled Agent (EA), Internal Revenue Service, USA : Certified Internal Auditor (CIA), Institution of Internal Auditors : Certified Fraud Examiner (CFE), Association of Certified Fraud Examiners : IOD Chartered Director, Thai Institute of Directors Association
Director Training	
10 - 11 June 2015	: Chartered Director Class (CDC)
24 - 25 April 2014	: How to Measure the Success of Corporate Strategy (HMS)
3 - 4 March 2014	: Successful Formulation and Execution of Strategy (SFE)
14 - 15 October 2009	: Role of the Chairman Program (RCP)
14 - 15 February 2007	: Audit Committee Program (ACP)
21 May - 18 June 2004	: Director Certificate Program (DCP)
17 May 2004	: Directors Accreditation Program (DAP) by Thai Institute of Directors Association (IOD)
Years of being Board of Directors	: 12 years (2008 - Present)
Working Experience	
2019 - Present	: Audit Committee, efinX Co., Ltd.
2010 - Present	: Independent Director, Audit Committee Ini3 Digital Plc.
2009 - Present	: Independent Director, Chairman of Audit Committee UA Withya Public Company Limited
2008 - Present	: Independent Director, Chairman of Audit Committee TTCL Public Company Limited
2013 - 2018	: Independent Director, Chairman of Audit Committee SRK Multimedia, Plc.
2003 - 2005	: Independent Director, Audit Committee Prinsiri Plc.
2002 - 2014	: Vice President - Internal Auditing THAICOM Plc.
1999 - 2001	: Deputy Chief Financial Officers DIGITAL PHONE CO., LTD.
1996 - 1999	: Assistant Vice President - Finance & Accounting Shinawatra International, Plc.
1994 - 1996	: Vice President of Internal Auditing and System Development, STA, Plc.

1985 - 1994	: Assistant Financial Controller Los Angeles Region, BORG WERNER Inc., New Jersey, USA
1975 - 1980	: Deputy Inspector, Central Investigation Department, Royal Thai Police, Ministry of Interior
Specialization	: Accounting & Finance, Auditing : Risk Management, Internal Auditing Fraud Examination : Consultant of Accounting System Committee and regular speaker of Federation of Accounting Profession of Thailand : Regular speaker of the Institute of Internal Auditors Thailand : Visiting Professors in Thammasat University, University of the Thai Chamber of Commerce, and in various universities
Positions in other listed companies	: 1 - Independent Director, Chairman of Audit Committee UA WITHYA PUBLIC COMPANY LIMITED
Positions in non-listed companies	: 2
Positions in competing / Involving Business Person	: None
No. of Shareholding in TTCL (as of 2nd January, 2020)	: 104,670 shares equivalent to 0.02% of total shares
Legal dispute in criminal cases (other than criminal case with petty offences)	: None
Restrict Qualification by the Public Act. B.E. 2535	: None
Meeting Attendance in 2019	
The Board of Directors' Meeting	: 8 meetings from total of 9 meetings (88.88%)
The Audit Committee Meeting	: 9 meetings from total of 9 meetings (100%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)

Board of Directors

Name - Surname	: Mr. Gumthorn Utarnwuthipong
Current Position	: Independent Director : Audit Committee : Nomination and Remuneration Committee : Chairman of Risk Management Committee : Chairman of Corporate Governance Committee
Years of Age	: 79 years
Nationality	: Thai
Education	: Master's Degree Faculty of Engineering (Plant Engineering) Darmstadt Institute for Hesse, Germany : Bachelor's Degree Faculty of Science (Chemical Engineering) Chulalongkorn University
Professional Training	: Certificate in Fertilizer Production from USA : Certificate in Fertilizer Production from USSR (UNIDO scholarship) : Certificate in Fertilizer Production from China : Certificate in Business Public Relations (Executive) from Thailand Public Relations Institute : Certificate in Agro-Economy (1 st and 2 nd workshop)
Director Training	
4-5 July 2019	: Corporate Governance for Executives (CGE 14/ 2019)
16 - 17 October 2018	: IT Governance and Cyber Resilience (ITG 9/ 2018)
6 - 7 June 2017	: Board Matters and Trends (BMT 3/ 2017)
2, 9, 16, 23 November 2016	: Advanced Audit Committee Program (AACP)
20 June 2016	: Ethical Leadership Program (ELP)
27 - 28 April 2016	: Driving Company Success with IT Governance (ITG)
8 - 9 March 2016	: Boards that Make a Difference (BMD)
27 November 2015	: Ethical Leadership Program (ELP)
17, 24 September 2015	: Risk Management Program for Corporate Leaders (RCL)
17 - 18 March 2015	: Director Certification Program Update (DCPU)
29 October 2014	: Anti-Corruption for Executive Program (ACEP)
13 January- 10 March 2014	: Directors Certification Program (DCP)
13 - 14 June 2013	: Role of the Compensation Committee (RCC)
25 June 2009	: Monitoring of the Quality of Financial Reporting (MFR)
21 November 2008	: Monitoring the Internal Audit Function (MIA)
27 October 2008	: Monitoring the System of Internal Control and Risk Management (MIR)
26 September 2008	: Director Accreditation Program (DAP)
21 - 22 August 2008	: Audit Committee Program (ACP)
	by Thai Institute of Directors Association (IOD)
Knowledge and Skills Development	
1 March 2019	: Management Accounting for Planning and Decision Making by Federation of Accounting Profession

Years of being Board of Directors	: 12 years (2008 - Present)
Working Experience	
2010 - Present	: Nomination and Remuneration Committee Chairman of Risk Management Committee Chairman of Corporate Governance Committee TTCL Public Company Limited
2008 - Present	: Independent Director, Audit Committee, TTCL Public Company Limited
1974 - 2005	: Thai Central Chemical PLC. - Project leader and Coordinator between the Thai Government and Central Glass of Japan on the Construction of the first factory of TCCC - Senior Vice President in Production - Member of Board of Director and Board of Executive Director
1964 - 1973	: Chemical Fertilizer Company (State Enterprise) - Plant Manager of Sulfuric Acid Plant - Plant Manager of Ammonium Sulfate Plant - Plant Manager of Liquid Ammonia Synthesis Plant - Plant Manager of Air Separation Plant - Secretary of Board of Director
Positions in other listed companies	: None
Positions in non-listed companies	: None
Positions in competing	: None
/ Involving Business Person	
No. of Shareholding in TTCL (as of 2 nd January, 2020)	: 114,700 shares equivalent to 0.02% of total shares
Legal dispute in criminal cases (other than criminal case with petty offences)	: None
Restrict Qualification by the Public Act. B.E. 2535	: None
Meeting Attendance in 2019	
The Board of Directors' Meeting	: 9 meetings from total of 9 meetings (100%)
The Audit Committee Meeting	: 9 meetings from total of 9 meetings (100%)
The Nomination and Remuneration Committee Meeting	: 4 meetings from total of 4 meetings (100%)
The Risk Management Committee Meeting	: 4 meetings from total of 4 meetings (100%)
The Corporate Governance Committee Meeting	: 4 meetings from total of 4 meetings (100%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)

Board of Directors

Name - Surname	: Dr. Ryuzo Nagaoka
Current Position	: Independent Director, Audit Committee : Chairman of Nomination and Remuneration Committee
Years of Age	: 84 years
Nationality	: Japanese
Education	: Doctorate's Degree Faculty of Engineering (Civil Engineering) University of Tokyo, Japan : Master's Degree Faculty of Engineering (Mechanical Engineering) University of Wisconsin, USA : Bachelor's Degree Faculty of Engineering (Mechanical Engineering) Keio University, Japan
Director Training	
11 - 12 September 2017	: Infrastructure Project Financing & Public Private Partnership (IPF) by OMEGAWORLDCLASS
5 - 6 July 2016	: Boards that Make a Difference (BMD)
1 - 7 November 2015	: Director Certification Program (DCP)
20 August 2008	: Director Accreditation Program (DAP) by Thai Institute of Directors Association (IOD)
Knowledge and Skills Development	
1 March 2019	: Management Accounting for Planning and Decision Making by Federation of Accounting Profession
Years of being Board of Directors	: 12 years (2008 - Present)
Working Experience	
2010 - Present	: Chairman of Nomination and Remuneration Committee, TTCL Public Company Limited
2008 - Present	: Independent Director and Audit Committee, TTCL Public Company Limited
2004 - Present	: Managing Director, Nagaoka & Associates Inc.
Positions in other listed companies	: None
Positions in non-listed companies	: 1
Positions in competing / Involving Business Person	: None
No. of Shareholding in TTCL (as of 2 nd January 2020)	: 100,000 shares equivalent to 0.02% of total shares
Legal dispute in criminal cases (other than criminal case with petty offences)	: None
Restrict Qualification by the Public Act. B.E. 2535	: None
Meeting Attendance in 2019	
The Board of Directors' Meeting	: 7 meetings from total of 9 meetings (77.77%)
The Audit Committee Meeting	: 9 meetings from total of 9 meetings (100%)
The Nomination and Remuneration Committee Meeting	: 4 meetings from total of 4 meetings (100%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)



Board of Management

Name - Surname	: Ms. Suratana Trinratana
Current Position	: Senior Vice President, General Consultation of Myanmar Development Task : Risk Management Committee
Years of Age	: 55 years
Nationality	: Thai
Education	: Bachelor's Degree Faculty of Engineering (Mechanical Engineering) Prince of Songkla University
Director Training	
August - December 2017	: The Executive Training Course version 25 (ETC) by Capital Market Academy (CMA)
25 - 26 October 2016	: Risk Management Program for Corporate Leaders (RCL)
20 June 2016	: Ethical Leadership Program (ELP) by Thai Institute of Directors Association (IOD)
Years of being Board of Directors	: None
Working Experience	
27 September 2018 - Present	: Director and Managing Director, TTCL Power Myanmar Co., Ltd.
18 May 2018 - Present	: Director, TTCL LNG Power Pte. Ltd.
2017 - Present	: Senior Vice President, General Consultation of Myanmar Development Task TTCL Public Company Limited
15 May 2017 - Present	: Director, Toyo Thai Power Myanmar Co., Ltd.
2015 - Present	: Director, TTCL Myanmar Engineering & Construction Co., Ltd.
2015 - August 2018	: Managing Director, TTCL Myanmar Engineering & Construction Co., Ltd.
2014 - Present	: Director, TTCL New Energy Pte. Ltd.
2014 - 2016	: Chief Operation Officer (COO), Vice President Operation Division TTCL Public Company Limited
2013 - Present	: Director, TTCL Coal Power Pte. Ltd. : Director, TTCL Solar Power Pte. Ltd. : Director, TTCL Power Holdings Pte. Ltd.
2013	: Chief Operation Officer (COO), Vice President Operation Division Unit President Power Unit, TTCL Public Company Limited
2013 - 14 May 2017	: Managing Director, Toyo Thai Power Myanmar Co., Ltd.
2012 - Present	: Director, TTCL Gas Power Pte. Ltd. : Director and Managing Director, ToyoThai - Myanmar Corporation Co., Ltd.
2012	: Vice President, Operation Officer Sales and Procurement Division TTCL Public Company Limited
2011 - Present	: Director and General Manager, Sales & Procurement Division, TTCL Malaysia Sdn. Bhd. : Director, Global New Energy Co., Ltd.
2010 - Present	: Risk Management Committee, TTCL Public Company Limited
Positions in other listed companies	: None
Positions in non-listed companies	: 12
Positions in competing	: None
/ Involving Business Person	
No. of Shareholding in TTCL (as of 2 nd January 2020)	: 16,179,448 shares equivalent to 2.63% of total shares

Legal dispute in criminal cases : None
**(other than criminal case with
petty offences)**

Restrict Qualification by the Public : None

Act. B.E. 2535

Meeting Attendance in 2019

The Risk Management Committee Meeting	: 4 meetings from total of 4 meetings (100%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)

Board of Management

Name - Surname	: Mr. Wanchai Ratinthorn
Current Position	: Corporate Control Officer (CCO) : Risk Management Committee
Years of Age	: 54 years
Nationality	: Thai
Education	: Bachelor's Degree Faculty of Engineering (Mechanical Engineering) King's Mongkut University of Technology Thonburi
Director Training	
20 June 2016	: Ethical Leadership Program (ELP) by Thai Institute of Directors Association (IOD)
Knowledge and Skills Development	
1 March 2019	: Management Accounting for Planning and Decision Making by Federation of Accounting Profession
Years of being Board of Directors	: None
Working Experience	
19 December 2019 - Present	: Director, TMSP Sdn. Bhd.
August 2018 - Present	: Director, TTCL Solar Power Pte. Ltd.
1 July 2018 - Present	: Corporate Control Officer (CCO), TTCL Public Company Limited
2017	: Chief Project Officer (CPO), TTCL Public Company Limited
2014 - 30 June 2018	: Vice President Project Execution Division, TTCL Public Company Limited
2013	: Vice President Construction and Commissioning Division Unit President Petrochemical and Refinery Unit, TTCL Public Company Limited
2012	: Vice President, Execution Officer, Construction and Commissioning Project Division, TTCL Public Company Limited
2012 - 31 May 2019	: Director, TTCL Gas Power Pte. Ltd.
2011 - Present	: Director and General Manager, Project and Proposal Division TTCL Malaysia Sdn. Bhd.
2011	: Vice President Project and Proposal Division, TTCL Public Company Limited
2010 - Present	: Risk Management Committee, TTCL Public Company Limited
Positions in other listed companies	: None
Positions in non-listed companies	: 3
Positions in competing	: None
/ Involving Business Person	
No. of Shareholding in TTCL (as of 2 nd January 2020)	: 4,500,000 shares equivalent to 0.73% of total shares
Legal dispute in criminal cases (other than criminal case with petty offences)	: None
Restrict Qualification by the Public	: None
Act. B.E. 2535	
Meeting Attendance in 2019	
The Risk Management Committee Meeting	: 4 meetings from total of 4 meetings (100%)
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)

Board of Management

Name - Surname	: Mr. Hideto Koyama
Current Position	: Corporate Planning Officer (CPO)
Years of Age	: 54 years
Nationality	: Japanese
Education	: Master's Degree Faculty of Engineering (Architectural Engineering) Tokyo University of Science, Japan : Bachelor's Degree Faculty of Engineering Tokyo University of Science, Japan
Director Training	: None
Years of being Board of Directors	: None
Working Experience	
1 July 2018 - Present	: Corporate Planning Officer (CPO), TTCL Public Company Limited
2015 - Present	: Director, Global New Energy Tsuno Co., Ltd.
2015 - 2018	: Director, Global New Energy Togo Co., Ltd.
2015 - 31 August 2016	: Director, Hi-Grade Energy Co., Ltd.
2014 - 30 June 2018	: Vice President Sales and Business Development Division TTCL Public Company Limited
2013 - Present	: Director, TTCL Coal Power Pte. Ltd. : Director, TTCL Solar Power Pte. Ltd. : Director, Siam GNE Solar Energy Co., Ltd. : Director, Global New Energy Japan Co., Ltd.
2010 - Present	: Director, Global New Energy Co., Ltd.
Positions in other listed companies	: None
Positions in non-listed companies	: 6
Positions in competing	: None
/ Involving Business Person	
No. of Shareholding in TTCL (as of 2 nd January 2020)	: 4,337,360 shares equivalent to 0.70% of total shares
Legal dispute in criminal cases (other than criminal case with petty offences)	: None
Restrict Qualification by the Public Act. B.E. 2535	: None
Meeting Attendance in 2019	
The Annual General Shareholders' Meeting	: 1 meeting from total of 1 meeting (100%)
The Extraordinary General Meeting of Shareholders	: 1 meeting from total of 1 meeting (100%)

Roles & Responsibilities

List of Directors

As of December 31, 2019, the Board of Directors consists of:

Name	Position
1. Mr. Hironobu Iriya	Chairman of the Board of Directors
2. Mr. Tiwa Jaruke	Vice Chairman of the Board of Directors
3. Mrs. Nijaporn Charanachitta	Director
4. Ms. Kantika Tanthuvanit	Director
5. Dr. Seiichi Itakura	Director
6. Mr. Hiroshi Nakata	Director
7. Pol. Lt. Sivaraks Phinicharomna	Independent Director
8. Mr. Gumthorn Utarnwuthipong	Independent Director
9. Dr. Ryuzo Nagaoka	Independent Director

Ms. Kantika Tanthuvanit served as Company Secretary.

Directors Authorized to sign and bind for the Company

Mr. Hironobu Iriya, Mr. Tiwa Jaruke, Mrs. Nijaporn Charanachitta, Ms. Kantika Tanthuvanit, Dr. Seiichi Itakura, Mr. Hiroshi Nakata, any two of these six directors jointly and affix the company seal.

Roles and Responsibilities of the Board of Directors

1. To supervise and manage the Company under applicable laws, Company objectives, Article of Association, and shareholders' meeting resolutions with honesty and integrity while remaining vigilant of the Company's best interests.
2. To determine the business direction and the overall strategic goal for the Company which includes the consideration to approve policies and operational directions proposed by the management. Also to govern and ensure that the management implement the approved policies with efficiency and productivity such as to maximize the benefits to the Company and its shareholders.
3. To approve in the general operation such as asset purchasing, investment, and loans in excess of the Board of Management authority.
4. To constantly monitor the Company's operation to ensure that the Board of Management manage the Company in accordance with laws and approved policies.
5. To arrange for TTCL to have standardized accounting system, financial reporting, and audit as well as internal control and internal audit systems that are both efficient and effective.
6. To appoint Board of Management, audit committee and/ or other committees, company secretary as appropriate for the best interest of the Company and to monitor the management system in accordance with the approved policies.
7. To appoint a director or a group of directors to act on behalf of the board of directors.
8. To approve the roles and responsibilities of all subcommittees as well as to materially amend the composition of the sub-committees.

9. To arrange to have an appropriate balance of authorities of management and/ or major shareholders, by considering the proportion or number of independent directors in the company's Board of Directors.
10. To arrange for appropriate information system that shall assure the Board of Directors of receiving sufficient information from the management in order to operate according to their authorities and responsibilities perfectly.
11. To attend the board meetings at least half of the total number of meetings arranged in each year.
12. To determine and amend names of authorized directors.
13. To consider the remuneration of the directors within the guidelines approved by shareholders.
14. To determine the business direction and overall for Anti-Corruption of the Company and consideration to approve Anti-Corruption Policy proposed by Corporate Governance Committee. Also to govern and forming an effective system supporting Anti-Corruption act in order to affirm that the Management Team intensively concerns, emphasizes, and cultivates Anti-Corruption mindset as the Company's culture.

The following issues shall require shareholders' approval before proceeding, directors with conflict of interests to the Company and/ or its subsidiaries are not permitted to vote:

- (a) Issues that the Law require shareholder's approval.
- (b) Connected transactions or acquisition/ disposition of assets in accordance to the SET or any other regulatory bodies' stipulation.

Roles and Responsibilities of Chairman of the Board

1. Chairman of the Board of Directors or an assignee is assigned to convoke a meeting by sending the invitation letter at least 14 days before the meeting date for the basis of sufficient notice and information.
2. To determine the agenda of the Board of Directors meeting and annual general meeting.
3. To manage effective meeting and allocate adequate time for presentation, as well as giving the opportunity for directors to question and comment freely, also control issues in the debate and conclusion of the resolution of the meeting.
4. To encourage the directors to comply with corporate governance such as proposed abstention of votes, and leaving the meeting when considering the agenda that have conflict of interest.
5. To communicate the significant information to the Board of Directors for acknowledgement.
6. To encourage the Board of Directors to attend in the shareholders meeting and officiate as the chairman of the meeting to meet the highest effectiveness and answer the shareholders inquiries.
7. To encourage the Board of Directors to execute their roles according to roles and responsibilities of the Board of Directors, applicable laws and corporate governance.
8. In case of equality vote, the chairman has a casting vote in addition to his/ her voting rights as a director.

Board of Management

Board of Directors appoints member of Board of Management to relieve work of Board of Directors to manage the normal business. Therefore, Board of Directors can focus on key policy and assessment of Management.

List of Members of Board of Management

As of December 31, 2019 Board of Management consists of:

Name	Position
1. Mr. Hironobu Iriya	Chairman of the Board of Management
2. Mr. Tiwa Jaruke	Board of Management
3. Ms. Kantika Tanthuvanit	Board of Management
4. Ms. Suratana Trinratana	Board of Management
5. Mr. Wanchai Ratinthorn	Board of Management
6. Mr. Hideto Koyama	Board of Management

Roles and Responsibilities of the Board of Management

1. To determine and roll-out policies, directions, strategies, organizational structure, and management structure such that they resonate with the current economic condition and competitive landscape for approval by the Board of Directors.
2. To determine the strategy and annual budget and to manage the operations in all divisions of the Company for the Board of Directors' approval including the ability to approve, amend, change, add to the annual expense budget (if required as matter of urgency) before the Board of Director's approval.
3. To determine Anti-Corruption system, promoting and encouraging Anti-Corruption manner conveyed to all staff and related parties.
4. To monitor the Company's operation in accordance with the Company's policy and to ensure maximum efficiency under any given circumstances.
5. To ensure that results from operation are in line with the approved expectations.
6. To consider sizeable capital investments for approval by the Board of Directors.
7. To have the authority to appoint/ layoff all employees ranked below that of the CEO.
8. To approve and execute bidding and contracting with third parties.
9. To perform other duties appointed by the Board of Directors on a case by case basis and have the power to approve the following financial transactions.
 - (a) In case that the business plan or the annual budget has already been approved by Board of Directors, the Board of Management may execute such matters without financial constraints.
 - (b) In case that the financial transaction is in the condition other than a), Board of Management has an executable limit of Baht 20 million. The financial authorization shall cover day to day operational expenditures, capital expenditures, permanent asset, loans, other debt instruments, and insurance (excluding bidding and contracting which have no limit).

The Board of Management may delegate the authority to execute financial transactions to other employees at the management level as see fit.

The authority delegation from the Board of Directors to the Board of Management stated

above excludes the case of possible conflict of interest (according to the SEC's regulations) except for the transaction on arm-length basis (the transaction is already approved by the Board of Directors and is the Company's normal business with fair price and terms).

The first four top-ranking executives as well as all other 4th ranking equivalent, and accounting or finance executives of department head level and up.

As of December 31, 2019, Member of Management, total 8 persons, consists of:

Name	Position
1. Mr. Hironobu Iriya	President & CEO
2. Mr. Tiwa Jaruke	Senior Vice President Project, Proposal and Engineering
3. Ms. Kantika Tanthuvanit	Senior Vice President General Administration & Finance
4. Ms. Suratana Trinratana	Senior Vice President General Consultation of Myanmar Development Task
5. Mr. Wanchai Ratinthorn	Corporate Control Officer (CCO)
6. Mr. Hideto Koyama	Corporate Planning Officer (CPO)
7. Ms. Saowaluck Ngamdutsadee-apirom	Deputy General Manager (Accounting) Finance and Accounting Division
8. Mr. Paibun Sribanphai	Specialist – Accounting

Roles and Responsibilities of the President & CEO

1. To operate and manage the Company's normal course of business.
2. To operate and manage in accordance with business policy, business plan, and business strategy approved by the Board of Directors.
3. To employ, appoint, transfer, layoff, severance, to determine the appropriate salary structure and changes therewith including bonuses of all employees and to appoint employer representative to sit in the Company's provident fund committee.
4. For administration of the Company, President & CEO engages into business contract within the limit that a board of management could

- approve, pre-approved by Board of Directors and has the authority to approve within the limit up to 5 (five) million Baht for the transaction that the Board of Directors or the Board of Management did not specifically approve.
5. To give instruction notification, announcement such that the operation could proceed according to the approved policy and to keep discipline within the organization.
6. To be the Company's authorized person for the benefit of the Company.
7. To appoint advisors as deem appropriate for the benefit and operation of the Company.
8. To undertake any other action as authorized by the Board of Directors.

9. To determine Anti-Corruption system, promoting and encouraging Anti-Corruption manner conveyed to all staff and related parties.

Nevertheless, the delegation to President & CEO in case of potential conflict of interest, President & CEO does not have the authority to such approval and he has to instead propose to the Board of Directors and/ or shareholders for approval in accordance to applicable laws and Company's regulations except the approval under specific normal business transactions.

Nominating for Directors and Member of Board of Management Directors

The Company has appointed a Nomination and Remuneration Committee to select qualified candidates who have knowledge, skills, qualifications, work experience and relevant qualifications for Directors in accordance with Section 68 of Public Company Limited Act B.E. 2535 and related Notifications of the Securities and Exchange Commission (SEC). To contribute Company's operation efficiently, the Company has determined criterion for appointment and dismissal of Directors as follows:

- 1) The Company shall have a Board of Directors consisting of at least five (5) directors but not exceeding twenty (20) persons. All of the directors shall have qualification as prescribed by applicable law and not less than a half of them shall have place of residences in the Kingdom of Thailand.
- 2) The Directors shall be elected at the general meeting of the shareholders in accordance with the following rules and procedures:
 - 2.1 Each shareholder shall have number of vote equal to the number of shares held.

- 2.2 Each shareholder may cast all of his/ her votes in accordance with (1) above to elect one or more persons to be Director or Directors but the vote shall be indivisible.

- 2.3 The persons who obtain the highest number of votes shall be elected as the Directors in respective order of votes higher to lower according to the required number of directors, but if two or more persons obtain equal votes, the Chairman shall exercise a casting vote.

- 3) At every annual general meeting of shareholders, one-third (1/3) of the Director, or if it is not a multiple of three, then the number nearest to one-third (1/3) must retire from office.

There must be a drawing by lots to determine the Directors retiring on the first and second years following the registration of the Company. In each subsequent year, the Directors who occupy the position for longest period shall retire. A retiring is eligible for re-election.

4. In case where there is any vacancy among Directors other than the retirement by rotation, the Board of Directors shall at its next meeting elect a person who is qualified and is not subject to any restriction imposed by applicable law to fill the vacancy, except where the remaining term of the vacant Director is less than two (2) months. The term of the new Director replacing the vacant Director shall be equal to the remaining term of the vacant Director.

The resolution of the Board of Director as specified in the first paragraph shall be passed by three-quarter (3/4) or more of the votes cast by the remaining Director.

5. A meeting of shareholders may resolve any Director before the expiration of his/ her term by passing a resolution with the vote of three-quarter (3/4) or more of the total number of shareholders attending and eligible to vote

at the meeting and holding in aggregate fifty (50) percent or more of total number of shares held by the shareholders attending and eligible to vote at the meeting.

The Audit Committee

List of Member of Audit Committee

As of December 31, 2019, Audit Committee consists of:

Name	Position
1. Pol. Lt. Sivaraks Phinicharomna	Chairman of Audit Committee
2. Mr. Gumthorn Utarnwuthipong	Audit Committee Member
3. Dr. Ryuzo Nagaoka	Audit Committee Member

Mr. Boonyakrit Saowan served as secretary of Audit Committee.

Remarks : Audit Committee has appointed Mr. Boonyakrit Saowan, Deputy General Manager Investor Relations & Finance, as Audit Committee Secretary instead of Mr. Ryutaro Nishio on May 15th, 2019.

Roles and Responsibilities of the Audit Committee

1. To ensure accuracy and sufficiency of the financial reports.
2. To ensure that the Company has appropriated and effective internal control systems as well as internal auditing activities and consider the independence of the internal audit department, including consent to the appointment, rotation, promotion, and termination of the head of internal audit department and others who are responsible for internal audit activities.
3. To ensure that the Company is complied with laws of the Stock Exchange of Thailand (SET) and the Securities and Exchange Commission (SEC) as well as other rules and regulations related to the Company's business.
4. To select and propose independent person who will be the Company's auditor and propose his or her compensation, including join meeting with the auditor without management attending at least once a year.

5. To consider compliance of connected or conflict of interest transactions to the rules and regulations of the SET and SEC and assure the transactions are appropriate and provide the best interest to the Company.
6. To Review preventive and detective processes of fraud and corruption.
7. To assure the risk management has appropriate and effective process.
8. To prepare an Audit Committee's report to be disclosed in the Company's annual report. The report must be signed by the Chairman of the Audit Committee and composed of at least the following information:
 - 8.1 Opinion regarding completeness and reliability of the Financial Report.
 - 8.2 Opinion regarding the sufficiency of the internal control systems.
 - 8.3 Opinion regarding compliance with laws of SEC, rules and regulations of SET and other related laws to the Company's business.

- 8.4 Opinion regarding appropriation of auditor.
- 8.5 Opinion regarding conflict of interest transaction.
- 8.6 Number of Audit Committee meeting and participation.
- 8.7 Overall opinion or observation regarding practices of the Audit Committee.
- 8.8 Other issues that should be disclosed to the shareholders which fall within scope, authority, and responsibility as assigned by the Board of Directors.
9. To report activities of the Audit Committee to the Board of Directors at least 4 times a year.
10. To have authority for hiring independent consultant or professional when needed.
11. To carry out audit committee activities, the Committee shall have authority to invite executive, manager or employee to attend meetings for discussion or answer the Audit Committee's questions.
12. To review scope, authority and responsibility and conduct self-evaluation on the annual basis.
13. To perform any assignment by the Board of Directors that agreed upon by the Audit Committee.
14. During the Audit Committee practice, if they find or suspect transaction or the following activities which may have material impact to the financial position and operation result of the Company, the Audit Committee must report to the Board of Director to take corrective action within a reasonable period of time.
 - 14.1 Conflict of interest transaction.
 - 14.2 Fraud or unusual transaction or significant deficiency in the internal control systems.

- 14.3 Violation under the laws of SET, SEC, rules and regulations of SET or other related laws of the company's business.

In case where director or manager fails to take corrective action within a reasonable period of time, any Audit Committee member may report such transaction or activity to the SET and SEC.

15. In case the auditor discovers any suspicious circumstance that the director, manager or any person responsible for the operation of such juristic person commit an offense under the law, and informed such circumstance to the Audit Committee to continue the inspection without delay and the Audit Committee shall report the preliminary inspection to the SEC office and the auditor within 30 days from the notification date of the auditor. The circumstance that shall be informed and the procedures for acquiring the fact related to such circumstance shall be complied with the notification of the Capital Market Supervisory Board.

Committee and Qualification

1. The Audit Committee shall consist of not less than one third of directors and every one must be independent director and possesses qualification in accordance with the rules and regulations of the SET and SEC. At least one member must have sufficient knowledge and experience to review reliability of financial report.
2. The Board of Directors shall select and appoint the Chairman of Audit Committee.

Term of the Appointment

A member of the Audit Committee shall be appointed for a term of three (3) years. A member who vacates his office at the end of the term may be re-elected no more than 2 times unless the Board of Directors shall have other opinions. Apart from vacating office at the end of the term, a member shall vacate office upon:

1. death
2. resignation
3. disqualify under this charter or rules and regulations promulgated SET or SEC.
4. terminate by the Board of Directors.

In case the member resigned before completing his or her term, he or she should notify and provide reason to the Company one month in advance. So that, the Board of Directors or the Shareholders shall consider appointing another director who has appropriate qualification to fill in vacancy. And, the Company must notify SET with enclosed resignation letter of the member as well.

In case the members vacate office at the same time, the vacated members shall hold the office until the new members have been appointed.

In case the member vacates office due to other reasons during the term of appointment, the Board of Directors shall appoint new member within 90 days to hold the office only for the remaining term.

Meeting

1. The Audit Committee shall hold meetings at least 5 times a year.
2. In calling the meetings, the Chairman of Audit Committee or Secretary of the Audit Committee who is instructed by the Chairman

shall send invitation letter to all members 7 days in advance. Except in an emergency case, the invitation letter may be notified by other procedures or the timing may be less than 7 days.

Quorum

1. At least one-half of the members must present in the meeting to form a quorum. In case of the Chairman of Audit committee is absent or cannot perform his or her duties, the attending members shall elect one member to be seated as chairman of the meeting.
2. Consent in the meeting shall be made by majority vote.
3. Each member shall have one vote. Member who has conflict of interest shall be prohibited from voting on such matter. In case there is a tie vote, the Chairman can vote in the affirmative to adopt the motion.
4. Consent of the Audit Committee can be made without the meeting and shall have complete process as conducted the meeting when the consent was ratified by signatories of all members.

Remuneration

The President & CEO through the Nomination & Remuneration Committee proposed the remuneration of Audit Committee to the Board of Directors for approval as deemed appropriate.

Management Responsibilities

The manager or department and executive shall be responsible for document preparing, data gathering, activity monitoring, and reporting matters to the Audit Committee.

Nomination & Remuneration Committee

The President & CEO is responsible to appoint Nomination and Remuneration Committee and report the Board of Directors for acknowledgement. The Board of Directors has resolved the appointment of Nomination &

Remuneration Committee since November 12, 2010. As at December 31, 2019 the Nomination & Remuneration Committee consists of 3 persons as follows;

Name	Position
1. Dr. Ryuzo Nagaoka	Chairman of Nomination and Remuneration Committee
2. Mr. Gumthorn Utarnwuthipong	Nomination and Remuneration Committee Member
3. Mr. Tiwa Jaruke	Nomination and Remuneration Committee Member

Ms. Kantika Tanthuvanit served as secretary of Nomination & Remuneration Committee.

Roles and Responsibilities of Nomination & Remuneration Committee

Authority and Responsibility of Nomination Committee

1. To recommend the structure and composition of the Board of Directors together with the qualification of Independent Director, Audit Committee and Corporate Governance Committee.
2. To recommend the list of qualified persons to the Board of Directors for consideration and propose to the shareholders for approval in case of vacancies by rotation and other causes.
3. To encourage the Company to allow shareholders to propose agenda items and to nominate candidates with qualifications required by Securities and Exchange Commission (SEC) to be elected as director at least three months ahead of the shareholders' meeting.
4. To recommend the development program for the Board of Directors, Sub-Committee and Executives with a substantial understanding on fiduciary duties and good governance practices.

5. Determine the criteria to evaluate the performance and annually conduct Self-Assessment of the Board of Directors, Sub-Committee on an individual basis and as a whole and the President & CEO and report the result to the Board of Directors.
6. Other assignments relating to nominating for directors and executives as deemed appropriate by the President & CEO or the Board of Directors.

Authority and Responsibility of Remuneration Committee

1. Review and propose structure of remuneration for Directors and Executives, e.g. bonus or other kinds of remuneration of monetary or non-monetary nature.
2. To consider the Remuneration of the Directors and Executives that should take into the fact of suitable type, size, and performance of the Company in consistency with the general market norm and the same industry, both in and out SET for further submission to the Board of Directors' meeting and/ or the Shareholders' meeting for approval.

3. Disclose the remuneration policy and the various types of remunerations in the Annual Report of the Company.
4. Report on progress and results of its work to the Board of Directors after every meeting of the Nomination and Remuneration Committee.
5. Review and propose for further submission to the Board of Directors any changes in the regulations concerning the Nomination and Remuneration Committee that would make its work more appropriate and up to date.
6. Other assignments relating to remunerating for directors and executives as deemed appropriate by the President & CEO or the Board of Directors.

Committee and Qualification

1. Being a Company Director.
2. The Nomination and Remuneration Committee shall be appointed by President & CEO and consist of at least 3 members.
3. The Nomination and Remuneration Committee shall have independent directors as a majority members of the committee.
4. The Nomination and Remuneration Committee shall elect one independent director to be the Chairman.
5. For the Independent Director who chairs the Nomination and Remuneration Committee possessing all qualifications of Independent Director as per the Notification of Capital Market Supervisory Board.

Term of the Appointment

A member of the Nomination and Remuneration Committee shall be appointed for a term of three (3) years ended at 31st December. A member who vacates his office at the end of the term may be re-elected no more than 2 times consecutively unless the President & CEO or Board of Directors shall have other opinions.

Apart from vacating office at the end of the term, a member shall vacate office upon:

1. death
2. resignation
3. disqualify under this charter or rules and regulations promulgated the Stock Exchange of Thailand (SET).
4. terminate by the President & CEO or Board of Directors.

In case the member resigned before completing his or her term, he or she should notify and provide reason to the Company one month in advance. So that, the President & CEO shall consider appointing another director who has appropriate qualification to fill in vacancy and to be reported to the Board of Directors.

In case all members vacate office at the same time, the vacated members shall hold the office until the new members have been appointed.

In case the member vacates office due to other reasons during the term of appointment, the President & CEO shall appoint new member within 90 days to fill in the vacancy and to complete requirement of Nomination and Remuneration Committee. The new member shall hold the office only for the remaining term.

Meeting

1. The Nomination and Remuneration Committee shall hold meetings at least 2 times a year.
2. In calling the meetings, the Chairman of Nomination and Remuneration Committee or Secretary of the Nomination and Remuneration Committee who is instructed by the Chairman shall send invitation letter to all members 7 days in advance. Except in an emergency case, the invitation letter may be notified by other procedures or the timing may be less than 7 days.

Quorum

1. At least one-half of the members must present in the meeting to form a quorum. In case of the Chairman of Nomination and Remuneration Committee is absent or cannot perform his or her duties, the attending members shall elect one member to be seated as chairman of the meeting.
2. Consent in the meeting shall be made by majority vote.
3. Each member shall have one vote. Member who has conflict of interest shall be prohibited from voting on such matter. In case there is a tie vote, the Chairman can vote in the affirmative to adopt the motion.

4. Consent of the Nomination and Remuneration Committee can be made without the meeting and shall have complete process as conducted the meeting when the consent was ratified by signatories of all members.

Remuneration

The President & CEO through the Nomination & Remuneration Committee proposed the remuneration of Nomination & Remuneration Committee and reports to the Board of Directors for acknowledgement.

Management Responsibilities

The Board of Management shall be responsible for document preparing, data gathering, activity monitoring, and reporting matters to the Nomination and Remuneration Committee.

Risk Management Committee

The President & CEO is responsible to appoint Risk Management Committee and reports the Board of Directors for acknowledgement. The Board of Directors has resolved the appointment of the Risk Management Committee since November 12, 2010. As of December 31, 2019 the Risk Management Committee consists of 5 persons as follows:

Name	Position
1. Mr. Gumthorn Utarnwuthipong	Chairman of Risk Management Committee
2. Mr. Saneh Poorisat	Risk Management Committee Member
3. Ms. Suratana Trinratana	Risk Management Committee Member
4. Mr. Wanchai Ratinthorn	Risk Management Committee Member
5. Ms. Kantika Tanthuvanit	Risk Management Committee Member

Mr. Nuttapol Sinkajohn served as secretary of Risk Management Committee

Roles and Responsibilities of Risk Management Committee

1. To determine specific business direction and to define, analyze and examine significant risk factors including the determination of those strategic risk management.
2. To determine the standard of risk management in order to be the guidelines of each responsible task.
3. To supervise and ensure that the measurements are widely communicated and the staff has implemented as prescribed in the measurement.
4. To systematically and continuously evaluate and analyze the damage that may occur in order to ensure that the risk survey is covered all business process.
5. To support and develop risk management to be continuously implemented in whole organization and to be applicable to the international standard.

Committee and Qualification

The President & CEO shall appoint the Risk Management Committee by selection from a number of committee and executives and/ or specialists. There shall be a selection of chairman of risk management committee from the selected committee.

Term of the Appointment

The term of position of Risk Management Committee shall be complied three (3) years and ended at 31st December of the completed year. The Risk Management Committee who complete their term can be re-elected only 2 consecutive term unless the President & CEO or Board of Directors shall have any other resolution.

Apart from vacating office at the end of the term, a member shall vacate office upon:

1. death
2. resignation
3. disqualify under this charter or rules and regulations promulgated SET or SEC.
4. terminate by the President & CEO or Board of Directors.

In case the member resigned before completing his or her term, he or she should notify and provide reason to the Company one month in advance. So, that the President & CEO shall consider appointing another director who has appropriate qualification to fill in vacancy and to be reported to the Board of Directors.

In case the members vacate office at the same time, the vacated members shall hold the office until the new members have been appointed.

In case the member vacates office due to other reasons during the term of appointment, the President & CEO shall appoint new member within 90 days to hold the office only for the remaining term.

Meeting

1. The Risk Management Committee has to hold the meetings at least four (4) times a year as necessary and appropriate manner.
2. In calling the meetings, the Secretary of the Risk Management Committee who is instructed by the Chairman shall send invitation letter to all members 7 days in advance. Except in an emergency case, the invitation letter may be notified by other procedures or the timing may be less than 7 days.

Quorum

1. At least one-half of the members must present in the meeting to form a quorum. In case of the Chairman of Risk Management Committee is absent or cannot perform his or her duties, the attending members shall elect one member to be seated as Chairman of the meeting.
2. Consent in the meeting shall be made by majority vote.
3. Each member shall have one vote. Member who has conflict of interest shall be prohibited from voting on such matter. In case there is a tie vote, the Chairman can vote in the affirmative to adopt the motion.
4. Consent of the Risk Management Committee can be made without the meeting and shall have complete process as conducted the meeting when the consent was ratified by signatories of all members.

Remuneration

The President & CEO through the Nomination & Remuneration Committee proposed the remuneration of Risk Management Committee and reports to the Board of Directors for acknowledgement.

Responsibility Unit

The chief of unit or unit and executive shall be responsible for document preparing, data gathering, activity monitoring, and report matters to Risk Management Committee.

Corporate Governance Committee

The President & CEO through the Nomination & Remuneration Committee proposed the qualified persons for being the Corporate Governance Committee to the Board of Directors for approval since November 14, 2014. As at December 31, 2019, the Corporate Governance Committee consists of 7 persons as follows;

Name	Position
1. Mr. Gumthorn Utarnwuthipong	Chairman of Corporate Governance Committee
2. Mr. Tiwa Jaruke	Corporate Governance Committee Member
3. Ms. Kantika Tanthuvanit	Corporate Governance Committee Member
4. Mr. Chamnarn Atsanatam	Corporate Governance Committee Member
5. Ms. Jaruwan Sookthauyart	Corporate Governance Committee Member
6. Ms. Saowaluck Ngamdutsadee-apirom	Corporate Governance Committee Member
7. Mr. Nuttapol Sinkajohn	Corporate Governance Committee Member

Ms. Mallika Charoensap served as secretary of Corporate Governance Committee

Roles and Responsibilities of Corporate Governance Committee

1. Governing and monitoring business operation of the committees' operation to strictly comply with law and related regulations.
2. Ensure that good corporate governance is being conducted at all level in accordance to legal requirements & Company's policies.
3. Provide suggestions relevant to ethical practices to the Board, management and employees.
4. Provide recommendations for improvement on the Corporate Governance of the Company.
5. To review, revise and improve corporate governance policy continually at least once a year to keep the Company's corporate governance policy up to date and well

adjusted to the international standards, laws, criteria, rules and regulations as well as recommendations from internal units that involve the corporate governance.

6. To conduct self evaluation for sufficiency of Anti-corruption practices as it is one of the Anti-corruption progress indicators of Thailand Private Sector Collective Action Coalition Against Corruption.
7. Reporting its performances to the Board of Directors and provide annual report to shareholders in the Annual Report.

Committee and Qualification

1. Being a Company Director or Management.
2. The Corporate Governance Committee shall be appointed by the Board of Directors and consist of Director and Management total seven (7) persons.
3. The Corporate Governance Committee shall consist of one member who must be Independent Director.
4. For the Independent Director who chairs the Corporate Governance Committee must be experienced and fully qualified as per the specifications of the Capital Market Supervisory Board.

Term of the Appointment

A member of the Corporate Governance Committee shall be appointed for a term of three (3) years ended at 31st December.

A member who vacates his office at the end of the term may be re-elected no more than 2 times consecutively unless the President & CEO or Board of Directors shall have other opinions.

Apart from vacating office at the end of the term, a member shall vacate office upon:

1. death
2. resignation
3. disqualify under this charter or rules and regulations promulgated SEC or SET.
4. terminate by the President & CEO or Board of Directors.

In case the member resigned before completing his or her term, he or she should notify and provide reason to the Company one month in advance. So that, the President & CEO shall consider appointing another director who has appropriate qualification to fill in vacancy and to be reported to the Board of Directors.

In case the members vacate office at the same time, the vacated members shall hold the office until the new members have been appointed.

In case the member vacates office due to other reasons during the term of appointment, the President & CEO shall appoint new member within 90 days to hold the office only for the remaining term.

Meeting

1. The Corporate Governance Committee shall hold meetings at least 2 times a year.
2. In calling the meetings, the Chairman of Corporate Governance Committee or Secretary of the Corporate Governance Committee who is instructed by the Chairman shall send invitation letter to all members 7 days in advance. Except in an emergency case, the invitation letter may be notified by other procedures or the timing may be less than 7 days.

Quorum

1. At least one-half of the members must present in the meeting to form a quorum. In case of the Chairman of Corporate Governance committee is absent or cannot perform his or her duties, the attending members shall elect one member to be seated as chairman of the meeting.
2. Consent in the meeting shall be made by majority vote.
3. Each member shall have one vote. Member who has conflict of interest shall be prohibited from voting on such matter. In case there is a tie vote, the Chairman can vote in the affirmative to adopt the motion.
4. Consent of the Corporate Governance Committee can be made without the meeting and shall have complete process as conducted the meeting when the consent was ratified by signatories of all members.

Remuneration

The President & CEO through the Nomination & Remuneration Committee proposed the remuneration of the Corporate Governance Committee to the Board of Directors for approval as deemed appropriate.

Management Responsibilities

The manager or department and executive shall be responsible for document preparing, data gathering, activity monitoring, and reporting matters to the Corporate Governance Committee.

Company Secretary

The Board of Directors has appointed Ms. Kantika Tanthuvanit as the Company Secretary, whose duties and responsibilities are as stipulated in

the Securities and Exchange Act (No. 4), B.E. 2551, an amendment of the Securities and Exchange Act B.E. 2535. The Company Secretary is responsible for organizing meetings for the Board of Directors and shareholders, ensuring compliance with the meetings' resolutions, and advising the Board on rules and regulations to which it must comply. Additionally, the Company Secretary is responsible for preparing and keeping the register of directors, Board meeting invitation letters, Board meeting minutes, Annual Report, invitation letters to attend the shareholders' meeting and records of its minutes, the report on conflict of interests of directors or executive officers and other duties as required by the Capital Market Supervisory Board.

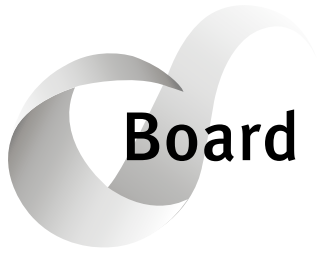
Ms. Kantika Tanthuvanit was graduated in Postgraduate, Business Administration Faculty, Center for Marketing and Management Studies, London, United Kingdom and Bachelor's Degree, Business Administration Faculty, Chiang Mai University. Ms. Kantika Tanthuvanit was trained in Company Secretary Program (CSP) and related program from Thai Institute of Directors (IOD) by serving as Company Secretary since 2008 to the present.

Definition of Independent Directors

The Company defines the Company's independent director which is in line with the minimum requirements of the SEC or the SET in respect of shareholding in the Company, namely, the Company's independent directors shall hold not more than 1 percent of the total number of shares with voting rights.

Nature of Relationship of Independent Directors

1. Holding shares of not exceeding one percent of the number of voting shares of the Company, its parent company, subsidiaries, associated companies or legal entities which may have conflict of interest, including shares held by related persons.
2. Having no involvement in the management, and not being employee, staff, advisor receiving regular salary or controller of the Company, its parent company, subsidiaries, associated companies, subsidiaries at the same level or legal entities which may have conflict of interest at present and during the past two years prior to appointment.
3. Having neither relationship by blood or by legal registration in the capacity as parent, spouse, sibling and offspring, including spouse of the offspring, with any executive, major shareholder, controller or person to be nominated as executive or controller of the Company or its subsidiaries.
4. Having neither business relationship with the company, its parent company, subsidiaries, associated companies, or legal entities which may have conflict of interest at present and during the past two years prior to appointment in the following manners:
 - (1) Provision of professional services, i.e. auditor, other professional service provider receiving fee more than Baht 2 Million per year, such as, legal advisor, financial advisor, property appraiser, etc.
 - (2) Trading/ business with a transaction value of Baht 20 Million or more or at least 3 percent of the Company's net tangible asset value, whichever is lower, and in considering the transaction value, and transactions executed during the past six months prior to the date of this transaction execution shall be included.
5. Not being appointed as representative of the Company's director, major shareholder or shareholder who is a related person of the Company's major shareholder.
6. Not having any other characteristics preventing provision of independent opinions.



Board Meeting Attendance

For the year 2019, the directors attended the meetings are as follow:

Name	Position	Meeting in the year 2019						
		Board of Directors	Board of Management	Audit Committee	Risk Management Committee	Nomination & Remuneration Committee	Corporate Governance Committee	Shareholders Meeting
		Total 9 times	Total 21 times	Total 9 times	Total 4 times	Total 4 times	Total 4 times	Total 2 times
1. Mr. Hironobu Iriya	Chairman of Board of Directors President & CEO	9/9	21/21	-	-	-	-	2/2
2. Mr. Tiwa Jaruke	Vice Chairman of Board of Directors Board of Management Nomination & Remuneration Committee Corporate Governance Committee	9/9	20/21	-	-	4/4	4/4	2/2
3. Mrs. Nijaporn Charanachitta	Director	9/9	-	-	-	-	-	1/2
4. Ms. Kantika Tanthuvanit	Director Board of Management Risk Management Committee Corporate Governance Committee	9/9	21/21	-	4/4	-	4/4	2/2
5. Dr. Seiichi Itakura	Director	7/9	-	-	-	-	-	2/2
6. Mr. Kenichi Omine The period of being Director for the year 2019 (1 Jan 19 – 21 Mar 19)	Director	1/2	-	-	-	-	-	-
7. Mr. Hiroshi Nakata The period of being Director for the year 2019 (22 Mar 1 - 31 Dec 19.)	Director	6/7	-	-	-	-	-	2/2
8. Pol. Lt. Sivaraks Pinicharomna	Independent Director Chairman of Audit Committee	8/9	-	9/9	-	-	-	2/2
9. Mr. Gumthorn Utarnwuthipong	Independent Director Audit Committee Chairman of Risk Management Committee Nomination & Remuneration Committee Chairman of Corporate Governance Committee	9/9	-	9/9	4/4	4/4	4/4	2/2
10. Dr. Ryuzo Nagaoka	Independent Director Audit Committee Chairman of Nomination & Remuneration Committee	7/9	-	9/9	-	4/4	-	2/2

Shareholders and Number of Shares

20 Major shareholders as of January 2nd, 2020

Name of Major Shareholders	Holding as of January 2 nd , 2020	
	Number of shares	% of shares
1. SOJITZ CORPORATION	56,000,000	9.09
2. MR. SAKCHAI SAKCHAICHAROENKUL	50,334,900	8.17
3. GLOBAL BUSINESS MANAGEMENT CO., LTD.	38,634,900	6.27
4. MR. HIRONOBU IRIYA	35,211,134	5.72
5. THAI NVDR COMPANY LIMITED	25,877,807	4.20
6. MR. JARANAI LERTRATCHKUL	16,993,100	2.76
7. MS. SURATANA TRINRATANA	16,179,448	2.63
8. MS. KANTIKA TANTHUVANIT	9,558,041	1.55
9. KRUNGSRI DYNAMIC FUND	8,054,129	1.31
10. MR. TIWA JARUKE	7,194,300	1.17
11. KRUNGSRI ACTIVE SET50 DIVIDEND LTF	6,710,600	1.09
12. KRUNGSRI FINANCIAL FOCUS DIVIDEND FUND	6,389,600	1.04
13. MR. THANARAT RAKARIYAPONG	6,355,000	1.03
14. MS. BENJAMAS NUNTAWEERAWAT	5,962,600	0.97
15. MR. SUTHEP PATTANASIN	5,800,000	0.94
16. KRUNGSRI EQUITY LTF	5,476,795	0.89
17. MRS. NIJAPORN CHARANACHITTA	5,297,207	0.86
18. KRUNGSRI STAR EQUITY DIVIDEND FUND	4,700,262	0.76
19. VALUE PLUS - DIVIDEND LONG TERM EQUITY FUND	4,617,200	0.75
20. MR. WORAPONG RAWIRAT	4,577,000	0.74

Securities Holding Report of Board of Directors and Management as of 2 January 2020

Name	Position	Number of Shares Holding as of 31 December 2018	Percentage (%)	Number of Shares Holding as of 2 January 2020	Percentage (%)	Number of Shares Change Increase/ (Decrease) During 2019
1. Mr. Hironobu Iriya	Chairman of Board of Directors President & CEO	34,161,134	5.55	35,211,134	5.72	1,050,000
Mr. Hironobu Iriya (NVDR)		-	-	890,000	0.14	890,000
Spouse/ Immature Children		-	-	-	-	-
Related Juristic Person		-	-	-	-	-
2. Mr. Tiwa Jaruke	Vice Chairman of Board of Directors Senior Vice President Project, Proposal and Engineering Nomination & Remuneration Committee Corporate Governance Committee	6,924,300	1.12	7,194,300	1.17	270,000
Spouse/ Immature Children		1,170,000	0.19	1,170,000	0.19	-
Related Juristic Person		-	-	-	-	-
3. Mrs. Nijaporn Charanachitta	Director	5,297,207	0.86	5,297,207	0.86	-
Spouse/ Immature Children		-	-	-	-	-
Related Juristic Person		-	-	-	-	-
4. Ms. Kantika Tanthuvanit	Director Senior Vice President General Administration & Finance Risk Management Committee Corporate Governance Committee Company Secretary	9,458,041	1.54	9,558,041	1.55	100,000
Spouse/ Immature Children		-	-	-	-	-
Related Juristic Person		-	-	-	-	-
5. Dr. Seichi Itakura (NVDR)	Director	110,000	0.02	110,000	0.02	-
Spouse/ Immature Children		-	-	-	-	-
Related Juristic Person		-	-	-	-	-
6. Mr. Kenichi Omine	Director	-	-	-	-	-
The period of being Director for the year 2019 (1 Jan - 21 Mar 19)		-	-	-	-	-
Spouse/ Immature Children		-	-	-	-	-
Related Juristic Person		-	-	-	-	-
7. Mr. Hiroshi Nakata	Director	-	-	-	-	-
The period of being Director for the year 2019 (22 Mar - 31 Dec 19)		-	-	-	-	-
Spouse/ Immature Children		-	-	-	-	-
Related Juristic Person		-	-	-	-	-
8. Pol. Lt. Sivaraks Pinicharomna	Independent Director Chairman of Audit Committee	104,670	0.02	104,670	0.02	-
Spouse/ Immature Children		-	-	-	-	-
Related Juristic Person		-	-	-	-	-

Securities Holding Report of Board of Directors and Management as of 2 January 2020

Name	Position	Number of Shares Holding as of 31 December 2018	Percentage (%)	Number of Shares Holding as of 2 January 2020	Percentage (%)	Number of Shares Change Increase/ (Decrease) During 2019
9. Mr. Gumthorn Utarnwuthipong	Independent Director Chairman of Risk Management Committee Chairman of Corporate Governance Committee Audit Committee Nomination & Remuneration Committee	114,700	0.02	114,700	0.02	-
Spouse/ Immature Children Related Juristic Person		- -	- -	- -	- -	- -
10. Dr. Ryuzo Nagaoka	Independent Director Chairman of Nomination & Remuneration Committee Audit Committee	100,000	0.02	100,000	0.02	-
Spouse/ Immature Children Related Juristic Person		- -	- -	- -	- -	- -
11. Ms. Suratana Trinratana	Senior Vice President General Consultation of Myanmar Development Task Risk Management Committee	15,835,948	2.57	16,179,448	2.63	343,500
Spouse/ Immature Children Related Juristic Person		- -	- -	- -	- -	- -
12. Mr. Wanchai Ratinthorn	Corporate Control Officer (CCO) Risk Management Committee	4,300,000	0.70	4,500,000	0.73	200,000
Spouse/ Immature Children Related Juristic Person		- -	- -	- -	- -	- -
13. Mr. Hideto Koyama	Corporate Planning Officer (CPO)	4,337,360	0.70	4,337,360	0.70	-
Spouse/ Immature Children Related Juristic Person		- -	- -	- -	- -	- -
14. Ms. Saowaluck Ngamdutsadee-apirom	General Manager Finance and Accounting Division	6,500	0.001	6,500	0.001	-
Spouse/ Immature Children Related Juristic Person		10,000 -	0.002 -	10,000 -	0.002 -	- -
14. Mr. Paibun Sribanphai	Department Manager (Domestic Subsidiary) Finance and Accounting Division	10,000	0.02	100,000	0.02	-
Spouse/ Immature Children Related Juristic Person		- -	- -	10,000 -	0.002 -	10,000 -

Remuneration of Board of Directors/ Sub-Committee/ Managements

Remuneration in Cash for the year ended 31 December 2019

The remuneration of the Board of Directors in forms of annual remuneration amounted to THB 6,710,000

Directors' Name List	Position	Board of Directors	Directors' Remuneration in Board of Management and Sub-Committee					Total Remuneration (THB)
			Board of Management	Audit Committee	Nomination & Remuneration Committee	Risk Management Committee	CG Committee	
1. Mr. Hironobu Iriya	Chairman of Board of Directors / President & CEO	600,000.00	630,000.00	-	-	-	-	1,230,000.00
2. Mr. Tiwa Jaruke	Vice Chairman of Board of Directors / Member of Board of Management / Member of Nomination & Remuneration Committee / Member of CG Committee	500,000.00	540,000.00	-	-	-	-	1,040,000.00
3. Mrs. Nijaporn Charanachitta	Director	500,000.00	-	-	-	-	-	500,000.00
4. Ms. Kantika Tanthuvanit	Director / Member of Board of Management / Member of CG Committee / Risk Management Committee	500,000.00	540,000.00	-	-	-	-	1,040,000.00
5. Dr. Seichi Itakura	Director	500,000.00	-	-	-	-	-	500,000.00
6. Mr. Kenichi Omine The period of being Director for the year 2019 (1 Jan - 21 Mar 19)	Director	111,559.00	-	-	-	-	-	111,559.00
7. Mr. Hiroshi Nakata The period of being Director for the year 2019 (22 Mar - 31 Dec 19)	Director	388,441.00	-	-	-	-	-	388,441.00
8. Pol. Lt. Sivaraks Pinicharomna	Independent Director Chairman of Audit Committee	500,000.00	-	200,000.00	-	-	-	700,000.00
9. Mr. Gumthorn Utarnwuthipong	Independent Director / Member of Audit Committee / Member of Nomination & Remuneration Committee / Chairman of Risk Management Committee / Chairman of CG Committee	500,000.00	-	100,000.00	-	-	-	600,000.00
10. Dr. Ryuzo Nagaoka	Independent Director / Member of Audit Committee / Chairman of Nomination & Remuneration Committee	500,000.00	-	100,000.00	-	-	-	600,000.00
Total Remuneration of year 2019		4,600,000.00	1,710,000.00	400,000	-	-	-	6,710,000.00

- Remarks :**
- In the year 2019 the company paid only fixed remuneration to directors per annual and it conforms to the policies.
 - The remuneration has been considered by Nomination & Remuneration Committee taken into account of the facts of suitable type, size and performance of the Board of Directors in the same industry with their duties and responsibilities referring to Thai Directors Compensation Survey 2018 from Thai Institute of Director (IOD). It has been approved by Board of Directors and passed the resolution of Shareholders Meeting respectively.
 - Furthermore, the Company has paid for the training course of IOD including others related organization.

Details of cash remuneration of Company's executives in forms of salary, bonus and benefit after retirement as follows:

Remuneration	Year 2019		Year 2018	
	Number of Executives	Amount (Baht)	Number of Executives	Amount (Baht)
Salary	8	37,588,800.00	8	36,543,000.00
Bonus	8	784,600.00	8	-
Benefit after retirement	8	1,901,848.00	8	1,497,768.00
Total	8	40,275,248.00	8	38,040,768.00

Other Remunerations for the year ended 31 December 2019

Remuneration	Year 2019		Year 2018	
	Number of Executives	Amount (Baht)	Number of Executives	Amount (Baht)
Contribution to Provident Fund	8	2,070,720.00	8	1,562,546.00
Total	8	2,070,720.00	8	1,562,546.00

Remarks : - "Executives" means the first four top-ranking executives after the President and CEO level as well as other 4th ranking equivalent, and accounting or finance executives of department head level and up.

- Year 2018 There were eight (8) executives, namely, Mr. Hironobu Iriya, Mr. Tiwa Jaruke, Ms. Kantika Tanthuvanit, Ms. Suratana Trinratana, Mr. Wanchai Ratinthorn, Mr. Hideto Koyama, Mr. Paibun Sribanpai and Ms. Saowaluck Ngamdutsadee-apirom
- Year 2019 There were eight (8) executives, namely, Mr. Hironobu Iriya, Mr. Tiwa Jaruke, Ms. Kantika Tanthuvanit, Ms. Suratana Trinratana, Mr. Wanchai Ratinthorn, Mr. Hideto Koyama, Mr. Paibun Sribanpai and Ms. Saowaluck Ngamdutsadee-apirom

Achievements in 2019

- In May, TTCL Myanmar Engineering & Construction Co., Ltd. (“TTMEC”), a subsidiary of TTCL, signed EPC contract for the construction of Factory in Thilawa industrial estate in the Republic of the Union of Myanmar with the project value approximately THB 120 million.
- During 2019, the Company has been awarded for expansion of petrochemical plant construction projects in Rayong with the project value approximately THB 400 million.



Marketing & Competition

1. Competitive Strategies

The Company has established a competitive strategy and business operation policy to strengthen its competitiveness for sustainable long term growth as follows:

Strengthening the Company's status as a Regional EPC Contractor and increasing its overseas market share

Contractor's reliability is a key factor because customers will generally select contractor based on past experiences and performances, as the investment in each project requires substantial funds. Therefore, an Integrated EPC Provider must ensure the delivery of quality work on time to fortify customers' confidence in the contractors' ability to meet required schedule and price.

In addition, TTCL has expanded its operations to other countries to capture high potential markets in the regional level. Such a strategy will not only increase the customer base for the Company, but also reduce the risk of relying solely on construction projects in the domestic market. To support such a strategy, the Company has established subsidiaries in key target countries such as Vietnam, Malaysia and the Republic of the Union of Myanmar.

The transitioning of the Company from a small EPC contractor to a Regional EPC Contractor enhances the Company's customer base and provides alternatives for taking on more diverse construction projects. Additionally, this move will offer the Company advantages in terms of operating costs, benefiting from economy of scale.

Moreover, the company and Sojitz Corporation ("Sojitz") are business alliance to joint consortium for bidding in EPC project in

countries where Sojitz has abundant EPC experience and business know-how e.g. Russia and NIS Countries (Newly Independent State).

Satisfactory proven track record

The Company exercises strategy to maintain long term relationships with clients by providing high quality of work, standard engineering services and continual after sales services that satisfy the clients' requirements. The Company has succeeded in this strategy, visible from trust and reliance given by recurring clients, for example, PTT Group, SCG Chemicals Group, Bayer Thai Co., Ltd., AGC Chemical (Thailand) Co., Ltd. (former name: THASCO Chemical Co., Ltd.), Thai Central Chemical Public Company Limited, Bayer Polyurethane (Shanghai) Co., Ltd. (China), Shin-Etsu Engineering Co., Ltd. (Japan) and Solvay SA (Belgium).

Relationship with manufacturers, suppliers of equipment and materials and subcontractors

The Company has maintained a long term sustainable relationship with the manufacturers, suppliers of equipment and construction materials as well as qualified, expert and responsible subcontractors in order for the Company to perform and deliver quality work to clients within the stipulated time schedule. Maintaining fine relationships with these service providers will help the Company to sustain its ability to compete with others and mitigate risks that may arise from being unable to procure equipment and material and skilled subcontractors for new projects in the future.

Utilizing advanced technology to perform engineering design

Since the construction of petrochemical, petroleum and power plants require very complex designs, the Company therefore, brings forward

advanced technology using 3D design programs such as the Plant Design System (PDS) and PDMS (Plant Design Management System) which help create accurate designs, minimize errors, and able to examine the simulation of a real plant model design in 3D. Moreover, these programs also aid the customers' employees in conducting proper plant operation and maintenance safely.

Safety in the execution of operations

Safety is considered an important policy of the Company towards the employees and the subcontractors. The Company deems that any accident occur will be a loss, impacting the cost and increasing time spent, not to mention the impact on the morale of the related parties. Therefore, the Company has complied with the standard to ensure the safety in every function and is proud to be certified with ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 by Intertek Industry and Certification Services (Thailand) Limited. In each project, the Company has arranged the accident protection equipment for the employees. Moreover, the Company has analyzed any possible accidents that might occur in every aspect in order to design the protection of loss and to contain the wide spread to nearby vicinity. In addition, the Company has a good safety track record recognized by clients, evident by various certificates received throughout more than 30 years of the business operation.

Ability to meet customers' needs and requirements

The Company's customers can be divided into 3 main industries; petrochemical and chemical industries, power industry and other industries.

The Company has flexibility to accept projects, i.e. in addition to being a fully integrated engineering design, procurement of machinery and equipment and construction, the Company can undertake projects that require management in the fields of engineering, services and construction project (EPCm), as for some cases

project owners only wish to receive the management service alone, which the Company takes into account the maximum needs and satisfaction of the project owner.

2. Petroleum and Petrochemical Industries Outlooks

From the Office of the National Economic and Social Development Board Report in 18 November 2019, The Thai economy in 2020 is forecasted to expand by 2.7 - 3.7 percent mainly contributed by (1) a favorable growth momentum of domestic demand both private consumption and private investment; (2) a gradual recovery of export following expected global recovery together with an adjustment of export to the trade measures; (3) key government stimulus measures; and (4) a continued improvement of tourism sector. In all, it is expected that export value will grow by 2.3 percent while private consumption and total investment will increase by 3.7 and 4.8 percent respectively. Headline inflation will lie in the range of 0.5 - 1.5 percent and the current account will record a surplus of 5.6 percent of GDP.

The world economy, and trade volume in 2020 is expected to grow at a slow pace due to the gradually slowdown of major economies including the US, China and Japan, and impacts from intensifying trade protection measures in last 2 years. Nonetheless, in the base case projection, the trade dispute is likely to be diminished which will foster the global trade to be normalized. Together with the accommodative monetary policy implemented in 2019, these conditions will support the economic recovery particularly India, NIEs, ASEAN, and other emerging and developing economies which partly will be able to gain the potential benefits from the international trade diversion and supply chain redirections owing to the trade protection measures. Moreover, the Eurozone economy is likely to recover gradually. Under all circumstance,

the global economy and trade volume tends to gradually improve. Under the baseline scenario that there are no additional trade protection measures and new developments of the key risks, it is expected that in 2020 the world economy and global trade volume will expand by 3.3 and 2.8 percent, compared with 3.1 and 1.5 percent in 2019, respectively.

For 2020, the Dubai crude oil price is expected to be in the range of 57.0 - 67.0 US dollar per barrel, close to the average level of 2019, since the upward pressure on oil price will be moderated due to (i) the slowdown of major economies particularly the US, China, and Japan which will impact oil demand; (ii) the US's oil production that is likely

to increase due to the enhancing efficiency of oil drilling facility; and (iii) a new limit of sulfur in fuel of the International Maritime Organization (IMO), aiming to reduce harmful impacts of shipping on the environment, which will be effective on January 1st, 2020. This new standard will reduce the demand for Dubai crude oil that has the high sulfur contain. Nevertheless, there remain the supporting factors for the higher price are included: (i) the possibility that both OPEC and non-OPEC countries will extend production reduction, which originally will conclude in March 2020; (ii) the US sanctions on Iran and Venezuela which affect the production and export of both countries. In fact, Iran and Venezuela were contributed around 6.8 percent of global export; and (iii) The geo-political conflict in the Middle East region that can affect oil production especially if it has an impact on the transportation through the Strait of Hormuz, and the domestic turmoil in OPEC members.

Key Assumptions for Economic Forecast 2019 - 2020


	Actual		Forecasted as of Nov. 2019	
	2017	2018	2019	2020
World Economic Growth (%)	4.1	3.9	3.1	3.3
USA	2.4	2.9	2.4	2.1
EU	2.5	1.9	1.1	1.3
Japan	1.9	0.8	0.9	0.6
China	6.8	6.6	6.1	5.9
World Trade Volume Growth (%)	5.1	4.0	1.5	2.8
Exchange Rate	33.9	32.3	31.0	30.5 - 31.5
Crude Oil (USD/ Barrel)	53.0	69.3	63.2	57.0 - 67.0
Export (%)	3.6	3.4	0.3	(-0.6) - 0.4
Import (%)	5.5	5.6	0.0	(-0.6) - 0.4
Tourism (Trillion THB)	1.78	1.82	2.04	2.20

Source: The Office of the National Economic and Social Development Board, 18 November 2019

3. Status of Competition

As previously mentioned the Company is currently in transition into a Regional EPC contractor and undertaking larger size projects in overseas market. Therefore, business environment and competition have significantly changed over the course. The global economy is still in a recovery stage and, therefore, the intensity of competition remains high.

Nevertheless, the Company found that project owners continue to value the quality of work, as well as the reliability and capability of EPC contractors as the most important factor. In addition, the Company's major competitors are large international EPC contractors in which the Company has been familiar with. This in turn has allowed the Company to continue to be at advantages in many aspects, including the emphasis of doing business in ASEAN countries; The Company and its subsidiaries have high experience and expertise in the area or better yet, a strong business network.



Sales Structure

Industry	Operated by	2017		2018		2019	
		Amount	%	Amount	%	Amount	%
Petrochemical	TTCL Pubic Company Limited	5,005.71	47.91	4,230.66	50.80	8,182.17	77.95
	TTCL Vietnam Corporation Limited	253.27	2.42	1,601.06	19.23	1,523.61	14.51
	TTCL Malaysia Sdn. Bhd.	3,279.07	31.39	1,017.68	12.22	-	-
	TTCL Myanmar Engineering & Construction Co., Ltd.	-	-	-	-	52.26	0.50
	Total Revenue from Petrochemical Construction	8,538.05	81.73	6,849.40	82.25	9,758.04	92.96
Power	TTCL Pubic Company Limited	315.30	3.02	309.99	3.72	206.84	1.97
Total Revenue from Power Construction		315.30	3.02	309.99	3.72	206.84	1.97
Other	TTCL Pubic Company Limited	839.60	8.04	194.59	2.34	67.75	0.65
	TTCL Power Holdings Pte. Ltd.	-	-	-	-	10.82	0.10
Total Revenue from Other Construction		839.60	8.04	194.59	2.34	78.57	0.75
Electricity	Toyo Thai Power Myanmar Co., Ltd.	753.16	7.21	970.18	11.65	449.40	4.28
Generation	Bio Natural Energy Company Limited	1.00	0.01	3.73	0.04	4.10	0.04
Total Revenue from Electricity Generation		754.16	7.22	973.91	11.69	453.50	4.32
Grand Total		10,447.11	100.00	8,327.89	100.00	10,496.96	100.00

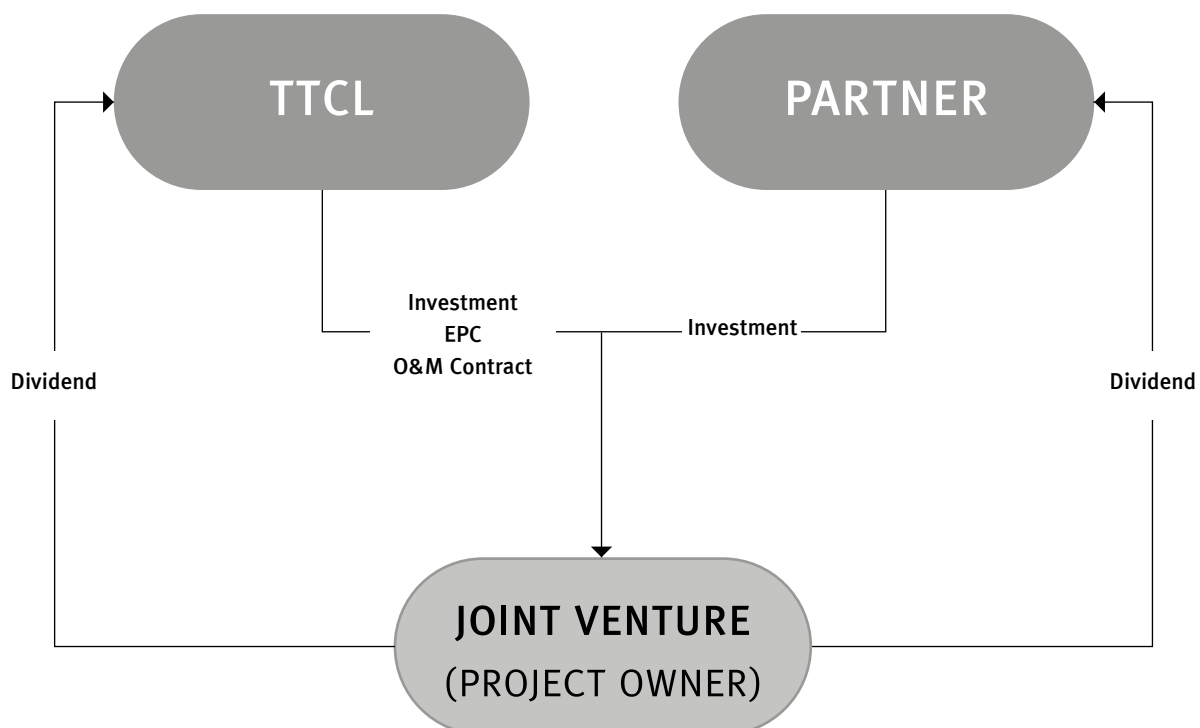
New Business Development Plan

New Business Model: The 2-Prong Strategy

Since 2010, TTCL has set the Strategic Business Direction to expand its businesses beyond its core business i.e. Integrated Engineering, Procurement and Construction (EPC) which TTCL has specialized for more than 30 years. Moreover, TTCL is to seek a new

opportunities over than EPC business, so that TTCL has stable incomes in the future. In other word, TTCL makes parallel joint-investment upon a mutual agreement with the project owner and justifies the return on investment. TTCL is on a prompted-stand to seek these opportunities for optimization of its assets, as shown in the diagram below.

Parallel Investment Strategy





Risk Management

TTCL Public Company Limited has realized the importance of risk management as an essential tool to enable the Company to achieve its objectives and goals, adding value to the Company, shareholders and stakeholders. The Board of Directors has stipulated that the effective risk management process shall be implemented to manage risks.

The risk management process has been systematically and continually executed through the Risk Management Working Group under the oversight of Risk Management Committee. Risk Management Working Group monitored and assessed main risk categories which are Strategic Risk, Operational Risk, Financial Risk and Compliance Risk. The assessment shall be included reviewed identified risks for any change and identified new risks which can be develop from change in social, economic and technological environments (Emerging Risk) by considering both internal and external risk factors that may affect the Company's objectives and goals. In addition, risk control measures have been determined by considering current circumstance and company's direction in order to control the risk at acceptable level. Responsible person and monitoring activities are also determined to ensure that risk management processes are efficiently and effectively implemented.

The Company also encourages the adoption of risk management at all levels of the organization. Then "the project risk management working group" has been assigned to assess and monitor risk factors of the projects which may affect to project schedule, cost, occupational health and safety of concerned parties, environment, communities, company's reputation and compliance.

For the conclusion of 2019, there are significant risks identified as follows:

1. Risk of revenue from EPC Business

In present, a slowdown in global economic expansion and the current concerns in environmental impact affected the investment in petroleum and petrochemical industry. The launch of EPC projects for new plant construction or existing plant expansion in petroleum and petrochemical industries, which is one of the company's main customers, are uncertain and the competition intensity in both domestic and overseas market remains high.

The Company has determined the policy and market plan to increase proportion of service in other industries such as chemical, energy or renewable energy industries, provide only Engineering service and/ or Project management service by considering customer needs and satisfaction including investment in potential projects to increase the business opportunities of the Company in the future.

2. Risk of foreign political instability

Political instability in foreign country which may affect to project execution, especially for project with high valued and long execution period. However, the Company has regularly monitored political situation of each country and determined appropriate risk treatment to response with the situation timely.

Emerging Risk

Besides the main risks, the Company also considered Emerging Risk by assessing risk items annually to monitor and provide appropriate management plan. There are emerging risks which have been considered to relate with the Company operation in year 2019 as follow:

- 1) Risk from Natural Disaster
- 2) Risk from Data Fraud or Theft
- 3) Risk from Cyber Attacks
- 4) Risk from Fiscal Crisis

However, these risks have already considered in Company Risk Profile and at low risk level.





Good Corporate Governance

TTCL Public Company Limited has realized the Good Corporate Governance. The Company has established the good corporate governance policy and devised a clear policy for strict conformance and complied with regulations to the principles of good corporate governance for listed companies 2012 of The Stock Exchange of Thailand (SET) and the Corporate Governance Report of Thai Listed Companies (CGR) of Thai Institute of Directors (IOD), ASEAN Corporate Governance Scorecard (ASEAN CG Scorecard) and The Office of Securities and Exchange Commission (SEC). The Governance Committee takes charge of considering and proposing to the Board of Directors the establishment and implementation of the policy and guidelines for their approval. For issues that have not yet been covered or implemented, the Management is to report to the Corporate Governance Committee for review on an annual basis.

Corporate Governance Policy:

The Company aims to operating under the principles of Good Corporate Governance which reflects the management with efficiency, transparency, and examinable, leading to the creating of the confidence and creditability to the shareholders, investors, the stakeholders, and all related parties. It directs to encourage the company's competitiveness, growth and long term shareholder value, taking into account the interests of Company stakeholders. The principles and practices of Good Corporate Governance are presented in 5 categories, namely;

1. Rights of Shareholders
2. Equitable Treatment of Shareholders
3. Roles of Stakeholders
4. Disclosure and Transparency
5. Board of Director Responsibilities

The principles through the organizational communication to director, management and employees and can be found on the Company's website (www.ttcl.com).

Compliance with the Principles of Good Corporate Governance

The Company is committed to ensuring that the Company will strictly comply with corporate governance policies and best practice guidelines. The Company will continue to focus on developing and improving corporate governance. In 2019, the Company also received assessments by the various organizations and agencies, as follows:

☛ Scored full 99 points for the 2019 annual general meeting of shareholders (AGM Checklist) by Thai Investors Association (TIA).

☛ Rated "Excellent" according to Corporate Governance Report of Thai Listed Companies (CGR 2019) by the Thai Institute of Directors (IOD).

☛ Pass the SET Assessment criteria of the Thailand Sustainability Investment (THSI) for 2019.

TTCL's 2019 activities report of good corporate governance can be summarized as follows:

Section 1 Rights of Shareholders

The Company recognizes the importance of good corporate governance and values the shareholders' right by encouraging the shareholders to exercise their rights including legal fundamental rights such as the right to attend and vote in the shareholders' meeting, the appointment or removal of directors, the remuneration of directors, the right to share in the profit (Dividend), the right to receive adequate information, etc. Beyond such fundamental rights, the company endeavors to provide essential information to shareholders via website, to arrange the Company's site visits, etc.

The Company has a policy to support and facilitate the shareholders, including institutional investors, to attend the general meetings of shareholders by selecting the meeting venues where the mass transit system are available and sufficient for the shareholders to conveniently commute to attend the meetings. The Company provides opportunities for the shareholders to submit registration documents for attending the meeting in advance of the meeting date in order to minimize the time for documents verification on the meeting date. The Company also provides registration channels at the meeting venue specifically for individual shareholders and institutional investors and also arranges for a barcode system for registration and vote counting to expedite the registration and vote computation process. To facilitate the shareholders, the Company also provides stamp duty for the appointment of proxies.

Shareholders Meeting:

The Company held the Annual General Meeting of Shareholders (AGM) every year

within four months after the end of each fiscal year. If there is an urgent need to consider any special matter that may or in connection with the interests of shareholders, which need shareholders' approval, the Board of Directors can call an extraordinary meeting of shareholders on case by case.

In 2019, the Company organized the Annual General Meeting of Shareholders (AGM) on April 10, 2019 and there was the Extraordinary General Meeting of Shareholder (EGM) on May 22, 2019 at Head Office 27th Floor Sermmit Tower Sukhumvit 21 (Asoke) Road, Bangkok with the following:

1. The Annual General Meeting of Shareholders (AGM) was organized on April 10, 2019 with a total attendance of 325 shareholders comprising of 159 shareholders and 166 representatives by proxy, representing 340,660,027 shares or 55.30 percent of the total issued share capital of the Company.

2. The Extraordinary General Meeting of Shareholder (EGM) was called on May 22, 2019 with a total attendance of 304 shareholders comprising of 142 shareholders and 162 representatives by proxy, representing 354,805,156 shares or 57.60 percent of the total issued share capital of the Company

The Annual General Meeting of Shareholders (AGM) was organized in accordance with the processes and procedures of the AGM Checklist, which prepared by Thai Investors Association (TIA) as follows:

Before the AGM:

- 1) Provide minority shareholders the opportunity to raise items for inclusion on the meeting agenda and nominate qualified

director candidates to be elected individually at least three months ahead of the shareholders' meeting. The shareholders who wish to propose agenda must be one single shareholder or several shareholders together hold the Company's shares at least 5 percent of total voting rights of the Company. Invitations and notifications with guidelines and procedures will be delivered to shareholders through the Stock Exchange of Thailand's news portal and a posting on Company's website (www.ttcl.com)

2) The Company shall disseminate invitation notice, meeting agenda with the opinion of the Board of Directors and minutes of the previous AGM along with proxy forms, comprised of form A, B, and C (for foreign shareholders that have appointed custodians in Thailand), in accordance with the Ministry of Commerce, meeting map in both Thai and English via the Company's website at least 30 days in advance of the AGM and prior to the delivery of the meeting notice.

3) Disseminate the AGM meeting and other relevant documents notices to shareholders not less than 14 days prior to the meeting. This is to ensure that the information related to voting decision received by the shareholders is sufficient, accurate, complete and transparent. The information must also be announced in the newspapers in Thai for three consecutive days and at least three days prior to the AGM for the shareholders to prepare themselves in joining the meeting.

On the Date of the AGM:

1) Arranged each shareholder's meeting at a venue that is convenient, easy to access, and adequate size in Bangkok.

2) The Company's policy is to facilitate all shareholders, including major shareholders,

minor shareholders, and institutional shareholders at the meeting date. The Company will make registration process available two hours prior to the meeting, by using barcode system to shorten the registration process. Furthermore, after this registration period has lapsed, shareholders who wish to attend the meeting can register to attend without losing their rights and assign adequate number of officers shall be assigned to welcome and check registration documents.

3) The barcode system was implemented to facilitate each shareholder's registration process and counting of vote for accuracy and more convenience.

4) The Company must not deprive the rights of shareholders to attend their meetings. All shareholders can exercise their rights to attend the entire meetings, provide opportunity for shareholders to raise questions as well as express their opinion independently within suitable time limit.

5) The Company's directors, subcommittee, management, auditors and legal representatives should attend the meeting. Before the meeting, the Chairman of the Board will clarify rules and criteria in relation to the meeting, such as the opening of the meetings, voting procedures and counting of shareholders' vote for each session, in accordance to the company's Article of Association.

6) A legal advisor from IPCT Associates Law Office Co., Ltd. was assigned by the Company to review and inspect the validity of the proxy appointments, adequacy of quorum, and tabulation and reporting of votes. Therefore, the voting results for each agenda item were reported to the meeting in a timely, accurate and transparent manner.

7) The Company has specified director's interest in the invitation letter and in the AGM. If any directors have particular interest or involved in any agenda, chairman of the meeting must notify the participants prior to the meeting. The directors involved in the interests must not participate in the meeting and must abstain from voting on such matter.

8) The Meeting was convened according to the order of the agenda, no other agenda were proposed than those already specified in the invitation. The Company shall support the shareholders to exercise their rights in protecting their own interests by asking questions, expressing opinions, and making recommendations at the AGM. The shareholders also have rights to participate in the decision of important issues, which may affect the Company, for instance, the appointment or removal of directors, the selection of nominees to become independent directors, the approval of auditors, the dividend payment, the reduction or addition of capital funds, set or revises rules and regulations, and the approval of memorandum items, etc.

After the AGM:

1) The Company discloses the resolutions of the AGM along with the voting results on the following working day after the meeting to the Stock Exchange of Thailand (SET) and on the Company's website (www.ttcl.com).

2) The Company must prepare the minutes of the shareholder's meeting in Thai and English and shall notify the Stock Exchange of Thailand (SET) within 14 days after the meeting, in accordance with the SET regulations, and disseminate full details of the meeting.

This includes complete and appropriate records of the meeting, the resolutions reached together with the number of approval, disapproval and abstain votes, questioning process of the shareholders in each session, along with the allocation of video recordings of the AGM for their acknowledgment in the Company's website (www.ttcl.com).

3) The Company considers the recommendations and opinions received from the shareholders in the quality assessment of the AGM to make improvement plan for the future AGM.

Section 2 Equitable Treatment of Shareholders

As stipulated in the Company's Corporate Governance Policy, all shareholders are entitled to shareholder's right and to be treated on an equitable and fair basis as follows;

2.1 The Company provides an opportunity for shareholders to propose agenda and to nominate director candidates to be elected in Annual General Meeting at least 3 months prior to the year ended. The Company also posted the criteria and procedures in relation thereto in the form of a newsletter to the Stock Exchange of Thailand and on the Company's website (www.ttcl.com).

2.2 The Company provides flexibilities to shareholders who cannot attend the meeting in person to assign proxies to the meeting and vote for them. The Company prepared proxy forms as prescribed by the Ministry of Commerce (Form A, B and C), whereby the shareholders may give their proxies voting instruction. The proxy forms were delivered (Form A and B) to the shareholders together with the invitation

notice to the meeting. Additionally, the shareholders could download the proxy forms (Form A, B and C) from the Company's website.

2.3 The AGM shall be conducted according to the agenda notified in the notice and it is our policy not to add items to the agenda without advance notice to shareholders and to provide equal opportunities for shareholders to express their opinions, ask questions and exercise the rights to elect individual directors.

2.4 The Company issued only one class of shares, for which one share was equal to one vote. Shareholders vote on every item using the polling card distributed at the meeting. The Company would use a computer system to count the voting by deducting the abstaining votes or disapproving votes from the total shares represented in the Meeting.

2.5 Current information shall be published at the Company's website to inform shareholders of major Company's data and information which have changed, including information sheets disclosed in accordance with various regulations. After disclosure to SET, the information shall be published at the Company's website both in Thai and English.

2.6 The Company clearly discloses shareholding structure of the Company and its subsidiaries to ensure shareholders that organization structure is transparent, verifiable, and does not constitute any forms of cross or pyramidal-shareholding structure.

2.7 The Company established ethical codes on maintaining confidential information and the use of inside information in the corporate governance manual. The corporate set policy on conflict of interest of Committee, Management and Employee, as part of code of business ethics

and of code of conduct. Generally the corporate policy is set to avoid conflict of interest when corporate members focus on their private interest against corporate objectives and execution.

2.8 The Directors, Management and Management who related to finance and accounting, including Employee who possess the internal confidential information must avoid trading TTCL's shares with advantage of such information and refrain from the security trading within 30 days before disclosure of financial statement.

However, in special circumstances, the person designated by the company may sell shares of the group of companies during the prohibited trading period if the company is in the situation such as having severe financial difficulties or falling under court orders.

For these situations, the person have to prepare a record, specify the reason of selling share and propose for the approval of:

- (1) Chairman of the Board (In case the seller is a director or company secretary)
- (2) Chairman of the Audit Committee (In case the seller is the Chairman)
- (3) Chief Executive Officer (In the case that the seller is a person designated by the company which is not a director and company secretary)

Investor Relations will inform the prohibited period of securities trading to the person designated by the company in advance.

2.9 The Company has set the policy for the Directors, first four level management and Management who related to finance and accounting, including their spouses and dependent children who intend to trade TTCL's

shares must report and disclose any change in the Company's shareholding to the Securities and Exchange Commission (SEC) within 3 days and reported these to the Board of Directors. In 2019, the Board of Directors together held no more than 25% of Company issued and paid-up shares.

2.10 In case of connected transactions, the Company has complied in accordance with the Stock Exchange of Thailand (SET)'s rules, regulations, instructions, and notifications as well as in compliance with the requirement in information disclosure regarding connected transactions or acquisition/ disposition of assets of the Company and its subsidiaries and also in compliance with the Thai Accounting Standard (TAS). The transaction shall be fair and at arm's length basis. The Company also disclosure details of the related transaction in the Annual Report with clarification of its reason and necessity.

2.11 In 2019, the Company has never been any case that the Company's directors and management abuse insider information to seek personal interests or others' interests. Including, the Company did not execute any transactions on acquisition or disposition of assets in violation of or not in compliance with the rules of the Stock Exchange of Thailand (SET) and the Office of the Securities and Exchange Commission (SEC).

Section 3 Right of Stakeholders

The corporate realizes the legitimate right of all groups of stakeholders, whether inside or outside the Company, such as shareholder, customer, business partners, business competitors, creditors, the public sector, employees, society, communities and the environment and compiled policies and

principles with in the Corporate Governance manual and Code of Conduct handbook, in order to create confidence and stability for the Company and its stakeholders and increase the ability of the Company to compete in the long term as detailed below:

3.1 Shareholder

The Company is determined to represent all shareholders efficiently through generating maximum long term returns on investment and is committed to conducting business with transparency, to put in place reliable financial and accounting systems, and to deliver optimum shareholder satisfaction with regular and sustainable strong operational performance and continued growth. The Board of Director, Management and all employees shall perform duties with integrity and make decisions in good faith and in fairness to major and minor shareholders alike, as well as for the good of relevant parties. They shall refrain from any activities that could cause conflicts of interest and serve self-interest. Confidential information shall not be divulged to outside parties while simultaneously paying attention to accurate, complete and punctual disclosure of material information to all shareholders in response to their unwavering trust and support given to the Company and provide the investment returns that satisfy the shareholders the most.

3.2 Customer

The Company has a qualitative assurance policy and qualitative management system of ISO 9001:2015 that aims to build customer satisfactions shall be achieved by deliver quality products which meet their agreement, including to disclose complete, correct, sufficient and undistorted information on the products and

services, provide a communication channel for customers to submit any complaint. Also, contracts and conditions mutually agreed upon shall be complied with the Code of Conduct, Good Corporate Governance and law in a strict manner, safekeeping client information and confidentiality by not using the information for their own benefit.

3.3 Business Partners

The company adheres to business operations on mutual benefits and complies with systematic operation, fair, transparent and supporting business partners as follows:

- Comply with agreed commercial terms, to notify business partners. Notify business partners on any point that cannot be fulfilled, in order to seek and obtain mutual solution.
- Select suppliers/ contractors following company procedure unless specifying in the contract.
- The company has set up purchasing procedure, business partners should have their permanent establishment. Successful partners will be evaluated on the basis of price, quality of goods and services, satisfactory performance records, etc.
- The Company refrains from demanding, accepting or engaging in bribery to business partners. Keep business partners confidential information according to secrecy agreement.

3.4 Business Competitors

The Company has a policy to operate in an upright and transparent manner in dealings with its business competitors. The framework of this policy has been shaped by related laws and regulations, as well as concepts related to Business Code of Conduct. It does not seek to find information about Competitors through

dishonest or inappropriate means. The company does not engage in slander or discrediting its competitors.

3.5 Creditors

The Company makes sure to strictly comply with all terms of any loan agreement it enters into a responsible and transparent manner especially guarantee condition, capital management and payment. The Company will not conceal any information or hide any facts that might possibly result in the realization of losses for its creditors. In the event that the Company unable to meet any of the criteria it agreed to, it will make immediate notification to that particular creditor to allow for a course of action to be taken to rectify the situation.

3.6 The Government Sector

The Company strictly complies with the laws, rules and regulations of the government sectors both in Thailand and abroad based on transparency and honesty which prevents Company and the nation from gaining bad reputations. The Company is prompted to provide its information and to participate in activities arranged by the authorities.

3.7 Employees

The Company has always regarded its employees as valuable resources, whose roles are fundamental to the success of the Company. Accordingly, the Company places importance on the welfare and safety of its employees, as well as providing every employee with an opportunity to improve their, his/her career path on an equitable basis. The following are guidelines to achieving this:

- Recruitment, selection and hiring are to be based on fairness and equal opportunities to

all applicants, with priority given to knowledgeable, competent, experienced and righteous persons for a given position and attitude compatible with the Company's corporate values.

- The Company establishes offering appropriate compensation and welfare to its employees as fitting their knowledge, responsibilities. The Company measures the performances of its personnel and regularly reviews its compensation and welfare in line with its short term and long term performances.

- Short-term compensation, the Company has defined comparable rates to those in the same industry. Its also provides bonuses in line with the company's performance.
- Long term compensation, the Company emphasizes sustainable welfare for the staff such as provident fund to enhance the security of lives after the end of employment or retirement. Employee contributes 2% - 6% and the Company contributes 2% - 9% from the employee monthly salary subject to company's regulations.

- The Company provides fundamental welfare and benefits as required by law, as well as social security, compensation fund and constantly communicates all benefits to its employees.

- In addition to those as prescribed by law, the Company also provides other welfare to its employees, such as health insurance, which covers outpatient and inpatient treatment and dental care, life insurance, personal accident insurance, annual health check-up, and in-house medical and nursing treatment with doctors and nurses standing by at the Company's office during working hours, as well as providing

healthcare measure. Furthermore, the Company encourages its employees to exercise for good health by providing facilities, sport equipment and other sport activities, such as yoga and aerobics, etc. The Company also promotes good family relationship by providing kids' room, breastfeeding room and activities to encourage the employees's children in learning to support employees who have the necessity to bring their children to the work place. In addition, the Company also provides financial aid to its employees in various cases, such as wedding, childbirth, ordination, death of close relatives and natural disasters, etc.

- Giving priority and promoting staff's development of their knowledge and capacities by encouraging them to attend training curriculum in the short and long terms, academic and technical to enhance their skills and competency. In 2019, the Company has 2,169 employees and attended courses and trainings for an average of 6.45 hours/ person/ year.

- The company considers an importance of employees occupational health and safety by organizing and maintaining safe working conditions, providing training and knowledge before commencing of works including specialty training for specific work to enable workers and supervisors to identify prevent and control exposed hazards appropriately and achieve in work safety target.

- In 2019, the Company had 8,515,742 total working man hours with the Total Recordable Injury Frequency Rate (TRIR) at 0 case per 200,000 working hours and Lost Time Injury Frequency Rate (LTIFR) at 0 case per 200,000 working hours. (Reference Incidence rates of nonfatal occupational injuries and illnesses by

case type and ownership, selected industries, 2017 (Construction), Bureau of Labor Statistics, U.S. Department of Labor : BLS, TRIR = 3.1 / LTIFR = 1.2).

3.8 Respect for Human Rights

The Company has policy and practices towards the respect of human rights. It is the responsibility of every director, management, and employee of the Company to fully respect the human rights that specified in Code of Conduct such as;

- We realize and respect the history, culture and customs of each country in which we operate.
- We respect human rights and refrain from discrimination by race, religion, creed, gender, social status, nationality, age, disability, not associating with forced labor, child labor and human trafficking.
- We maintain a work environment that is free from discrimination and harassment. Great care is taken not to cause recourse to legal proceeding as a consequence of discrimination, harassment, abuse of power, etc.

3.9 Respect intellectual properties, patented

The Company also emphasizes on respect intellectual properties, patented or otherwise, of customers, partners and others and protects those of TTCL Policy and Guidelines as follows;

- Recognize the value of confidential and proprietary information of TTCL. We protect such information in accordance with our Information Security Policy.
- Not divulge confidential information of TTCL to any third parties. We shall not use confidential and proprietary information for personal interests or any purposes against the interests of TTCL.

- Treat the intellectual property as well as confidential and proprietary information of our customers, partners and others with the greatest care in accordance with applicable laws and regulations.

3.10 Community and Society

The Company realizes the importance of Corporate Social Responsibility (CSR), by creating the sustainable development and having the explicit regulation. The Company has adjusted and arranged Corporate Social Responsibility and Sustainable Development Policy for the comprehensiveness in sustainability issues of the Company operation and subsidiaries as follows:

1. Compliance with Code of Conduct and Code of Business Ethics
2. Human Rights and Labor Practices
3. Responsibility for Stakeholders and Other Concerned Person
4. Social Responsibility Activity
5. Responsibility for Environment and Safety Standards
6. Company Innovation Concerning with Corporate Social Responsibility

3.11 Responsibility towards Environment and Resources

The Company conducts business activities by adopting the Occupational Health, Safety and Environment system requirements (ISO 45001:2018 and ISO 14001:2015) with HSE policy to promote employees awareness in their duties and responsibility toward social, community and environment by providing knowledge and training, encouraging and supporting environmental protection and energy conservation activities. We issue campaign to

promote economical and efficient usage of resources such as environmental saving box project (reduce paper usage), campaigns for electric energy conservation and disposal of garbage and waste from both head office and project site.

3.12 Anti-Corruption

TTCL Public Company Limited is aware of the importance of Anti-Corruption and emphasizes the management of business ethics; fairness, transparency and accountability; specifically in related processes or risk of corruption in all forms, either directly or indirectly according to good corporate governance in order to enhance stakeholders' trust and indoctrinate good awareness and establish good value for directors, managements and employees in all levels of the company.

Anti-Corruption Policy: The Company established the Anti-Corruption policy and has been reviewed and approved by the Board of Directors; *"Director, Management and employee are prohibited from operating or accepting every type of corruption both direct or indirect manner covering every business including subsidiaries, associated companies, or any other companies under its control and company representative in every country including people relating to its business operations to comply with Anti-Corruption Policy. The Anti-Corruption Policy is needed to be reviewed regularly, including with a possible revision of such policy and implementation provision shall comply with business transformation, rules, regulations and laws"* Apart from the policy, the Company provides definitions of the Anti-Corruption policy, roles and responsibilities, Anti-Corruption guidelines and measures/ operational.

The Company provides the Anti-Corruption guidelines concerning with political contributions, corporate philanthropy or public charity, sponsorship, giving and receiving gifts, hospitality and other benefits. The Director, Management and employees are required to comply with this guideline.

In the year 2019, the Company has followed the guidelines for giving or receiving gifts, hospitality and other benefits. Furthermore, the Company communicates to the executive and all employees in order to be a good standard.

Corruption Risk Assessment:

The Company conducts meeting among relevant units whose transactions may create corruption risks, such as Project, Procurement, HR & Administration, Sales, Finance & Accounting, etc., to assess corruption risk. Cause and chances of the corruption risks in the entire business process are identified while practice guidelines, regulations and rules used for control such risks are prepared.

The Corporate Governance Committee assigned Corruption Risk Assessment Working Group which consists of representatives from related divisions to regularly review and assess the corruption risk in order to be consistent with new principles of the Private Sector Collective Action Coalition with the Against Corruption (CAC). Corruption risk is considered by likelihood and impact on business operations which relate to bribery, business relationship, conflict of interest, facilitation payments, donations for charity, public benefit activities, sponsorships including tax evasion for avoidance. The committee also determines guideline, rules, regulations and criteria in risk control. Accordingly, the Company determines to reassess corruption risk at least twice a year.

Monitoring and review: the Corporate Governance Committee shall review the Anti-Corruption policy on an annual basis and propose the amendment to the board for approval. The Corporate Governance Committee will also monitor the implementation of the policy and make recommendations accordingly.

The Company has the internal control system and risk management that is appropriate, including the internal control measures are adequate to prevent fraudulent risks.

Details of the internal control and risk management in 2019 are referred to “The Internal Control and Risk Management”.

Dissemination and Promotion of the Anti-Corruption policy: In 2019, the Company has implemented the Anti-Corruption policy related as below.

- Promote the Anti-Corruption policy and practice them both inside and outside the Company. The Company announces the policy to the Director, Management and employees. For external communication, the Company publishes the policy via its website (www.ttcl.com).

- Provide knowledge of anti-corruption policies and practices for new employee orientation as well as management and employees for understanding and implementing of the policy.

- New directors and management are informed of policies, rules, regulations and practices of the Company and the scope of authority of the executives and directors. The new directors and management also participate the training courses for directors i.e Director Accreditation Program (DAP), arranged by Thai Institute of Directors as the course

provides the directors fundamental knowledge of director duties and legal liabilities to increase their confidence in directorships.

Committed to Countering Corruption:

In addition to the above activities, the Company has participated with external agencies in the following activities.

- The Company signed on declaration to join the Thailand’s Private Sector Collective Action Coalition Against Corruption (CAC) Project and has been accepted on December 26th, 2014.

- The company developed a self-assessment form for Anti-Corruption measures, which accompanies supporting evidence related to business policy, measures and procedures and its internal control system. In addition, the Audit Committee has also reviewed the Company’s completeness and adequacy of Anti-Corruption practice to meet requirements of Collective Action Coalition’s certification process. All documents were submitted to the CAC panel as part of the Company’s application for CAC membership at the end of Quarter 3/2016. The Company was certified by Thailand’s Private Sector Collective Action Coalition Against Corruption (CAC) Project in October 14th, 2016.

- In year 2019, the Company submitted the Self-Evaluation Form for recertification to the Thai Private Sector Collective Action Coalition Against Corruption (CAC) on May 21, 2019 and obtained the certification from CAC in the 4th quarter of 2019 for the second term.


- In year 2019, the Company has issued a letter to the vendors and business partners for the purpose of prevention of exploitation and conflict of interests, which is consistent with good corporate governance.

- On September 6th, 2019, the Company joined “Anti-Corruption Day 2019” with more than 5,000 representatives from public sector, private sector, and independent entity at Bangkok International Centre (BITEC). The event is organized by Anti-Corruption Organization of Thailand (ACT) for the attendees to become Active Citizen and take action on Anti-Corruption for the sustainability of society and economy in Thailand.


- The Company encourages Director, Management and employees to attend trainings and seminars on Anti-Corruption held by external organizations.

3.13 Reporting and Whistleblowing Channel

The Company arranges for whistleblowing channels, complaint-filing of any behavior which may indicate corruption or misconduct. Employees and stakeholders who detect or have reasonable grounds for suspecting misconduct should report to one of the following channels;

 **channel 1 by E-mail:** To: *Internal Audit*
or *Company Secretary*

E-mail: ir@ttcl.com

 **channel 2 by Letter:** To: *Internal Audit* or
Company Secretary

Address: TTCL Public Company Limited,
159/41-44, Sermit Tower 27th - 30th Floor,
Soi Sukhumvit 21 (Asoke), North Klongtoey,
Wattana, Bangkok 10110, Thailand.

3.14 Whistleblowing Measures and Protection

The Company stipulates measures to protect and maintain confidentiality including actions taken upon receipt of complaint as follows:

Measurement of protecting the violation’s reporters and appellants:

The Company shall provide appropriate protection to the persons who report misconduct and other related persons in good faith. Including report-related information shall be kept confidential and shall not be disclosed to unrelated person except the disclosure is required by law. In the event where there is clear evidence that whistleblowers make a false report, the Company shall undertake as applicable to protect the reputation of subject of a report.

Procedure after receiving complaint:

Upon receipt of complaint, the Company will complaint verification on the line of command (An Investigator must not possess any conflict of interest with regards to a complaint under investigation), then, the Company will appoint an investigation committee as appropriate and reported to the Whistleblower, Subject of a complaint, Investigation Participant and any other relevant persons. Disciplinary action shall be in line with the Employee’s Disciplinary Action Regulations issued by the Company and/or relevant laws.

In 2019, the Company did not receive any complaints regarding bribery and corruption, as well as no legal dispute concerning, human rights and the environment.

Section 4 Disclosure and Transparency

The policy on correct, complete and punctual disclosure of material financial and non-financial information through dissemination channels of the Stock Exchange of Thailand and investor relations section on corporate website in both English and Thai languages so as to provide equitable and credible access opportunity

for shareholders, institution investors and any persons interested in obtaining such information, as follows;

4.1 Information Disclosure in the Company's Website

To ensure that the shareholders, investors, and interested persons can quickly search and retrieve the Company's public information, the Company provided the following information in both Thai and English via Company's website (www.ttcl.com).

1) **About TTCL Public Company Limited** comprises of visions, missions, business structure, organization charts, nature of business and competition, financial and operation information, risk factors etc.

2) **Good Corporate Governance (CG)** comprises of Code of Business Ethics, Code of Conduct, Corporate Governance Policy, Anti-Corruption Policy, Role and Responsibilities of Board of Directors, Management and Sub-Committees etc.

3) **Investor Relations (IR)** comprises of financial information, stock information, shareholder information, annual general meeting of shareholders, minutes of the latest annual general meeting of shareholders and publish notice annual report within 120 days after each financial year-end etc.

4) **Corporate Social Responsibility (CSR)** comprises of CSR activities, for example, Educational Support Project, Environmental Development Project, Social Support Project, Human Resources Development Program and etc.

5) **Corporate News** comprises of executives news, Chief Executive Officer's (CEO) articles, etc.

4.2 Disclosed Information of Board of Directors and Executive Management Remuneration Fee and Shareholding

Information of the Board of Directors and executive management remuneration fee and shareholding must be reported in the annual registration statement (Form 56-1), annual report (Form 56-2), and also published at the Company's website. Under Article 59 of the Securities and Securities Exchange Act, directors and management must report their share portfolios with each purchase, sale, or transfer of shares to SEC.

The Company establishes policy regarding report of interested of directors and management which required them to report the Company, or their related persons' interest, which is related to the business operation and management of the Company or its subsidiaries, in accordance with the criteria, conditions and methods as required by the Capital Market Supervisory Board.

4.3 Financial Reports Preparation

The Company provides report of financial statements together with report of auditor in annual report and using appropriate and consistent accounting policy, and with reasonable and circumspect considering to enhance the stakeholders' confidence to the financial reports. The Board of Directors has appointed the Audit Committee to assume key duties and responsibilities of reviewing the Company's financial statements and operation reports to ensure its correctness and completeness. In addition, the Board of Directors provides Report of the Board of Directors' Responsibilities for Financial Statements and the Company establishes the internal control policy within each department or section to prevent confidential

information from being disclosed to the public prior to formal announcement.

In 2019, the auditors from PricewaterhouseCoopers ABAS Limited, the Company's external auditors had knowledge, competence, independency, and was approved by the Office of the SEC. The Company's financial statements were approved with unqualified opinion and accurate in accordance with the generally accepted accounting principles, and assented by the Audit Committee/ the Board of Directors before disclosing to shareholders.

The Company has to prevent confidential information from being disclosed to the public prior to formal announcement. Employees must not apply the Company's confidential information for personal or others' gains. They should maintain inside information and sensitive documents that could lead to undue exploitation for themselves, their families, or their associates, including any information influencing stock prices and the Company's proprietary commercial secrets, formula, and inventions. Those who disclose important information and news to outsiders without approval from the Chief Executive Officer shall be subject to disciplinary action according to Company procedures and may face legal action.

4.4 Disclosed Information of the Company

The Company shall disclose information on material matters regarding the Company, including financial reports, non-financial information and other information as stipulated by SET and SEC that are accurate, clear, complete, easy to understand, transparent, adequate, reliable and timely, and which

have been screened according to prescribed procedures. The Company disclosed information to ensure equitable access by shareholders in the following channels:

- 1) SET's Community Portal system and SEC
- 2) Annual Registration Statement (Form 56-1) and Annual Report (Form 56-2)
- 3) Company's website at www.ttcl.com in both Thai and English
- 4) Company's visit and analysts meetings
- 5) Road shows for both domestic and overseas investors
- 6) Invitation to the AGM via post.

4.5 Customer Satisfaction Evaluation

The Company is committed to operate its business by considering to the most benefit of the customers. The Company has therefore prepared a customer satisfaction evaluation form. Each customer assesses the performance of the Company including recommendation after the project has been completed. The Company sets the following topics for evaluation:

1. Engineering;
2. Procurement;
3. Construction.

The customer satisfaction level is divided into 4 levels:

- | | |
|-------------|-------------------|
| 4.01 - 5.00 | highly satisfied; |
| 3.51 - 4.00 | satisfied; |
| 2.51 - 3.50 | less satisfied; |
| 1.00 - 2.50 | not satisfied. |

In year 2019, the Company has been evaluated from customers, which the customer satisfaction result is at 'highly satisfied' level with average score of 4.33 of 5. The results of customer satisfaction evaluation are applied to improve the Company's performance being more efficient and sustainable.

Furthermore, the Company has been trusted by the existing customers who are satisfied and confident in the Company's work performance. In 2019, the Company received the opportunity from its existing customers to participate in 11 bidding projects.

4.6 Investor Relations (IR)

TTCL Public Company Limited attaches great importance to investor relations. The Company has set up the Investor Relations Department as a focal point in conducting proactive investor relations activities, according to the best practices of leading international organizations, to promote effective communication channels with investors, analysts and other related parties. Opportunities are also provided for investors to raise questions and receive Company information through various channels such as the Company's Website report on the operations of Investor Relations to the Board of Directors quarterly, publish the results of the operation in webcast on the Company's website, provide shareholders and institutional investors to visit and meeting management in order to generate understandings in the business of the Company.

To conduct the above activities, the Company adheres to the basic principles and practices of "Investor Relations Code of conduct" published by Good governance development & Alliance department, the stock exchange of Thailand, 2014, as a framework. When confronting difficult situations, Investor Relations Officers should select the best alternative that does not violate the four principles which are;

1) Disclosing material information accurately, sufficiently and in timely fashion.

2) Not using inside information for their own or their related parties' benefit.

3) Disclosing material information fairly and equitably. All stakeholders must be able to access to the information and conveniently contact Investor Relations Officers for clarification.

4) Performing their duties with professionalism, integrity and equitability. Preferential treatment that may undermine the benefits of the Company and all stakeholders is not acceptable.

Investor or the others who may interest could make inquiries to investor relations department via the following channels;

Investor Relations (IR)

Mr. Boonyakrit Saowan

Deputy General Manager,

Investor Relations & Finance

Address: TTCL Public Company Limited
159/41-44 Sermit Tower
27th - 30th Floor, Soi Sukhumvit 21
(Asoke), North Klongtoey, Wattana,
Bangkok 10110, Thailand.

Telephone: 0 2260 8505

Fax: 0 2260 8525-6

E-mail: ir@ttcl.com

In 2019, there was no action taken against the Company by the relevant regulators on the basis of any non-disclosure of any material information within the requisite timeframe.

Section 5 Board Responsibilities

The Corporate Board consists of qualified and experienced in development and stipulation business trends, policy and corporate strategy with corporate objective to internal control system, internal audit, risk management and revision procedure to ensure that operation is

compliance with applicable laws and reasonable decision.

5.1 The Board of Directors

1) The Board of Directors represent variety from a range of perspectives including gender, age, well knowledge, ability and experienced in fields such as engineer, petroleum, petrochemicals, energy, accounting and finance, management, law and support strategic plans that are beneficial to the Company's business. The Board of Directors understands its responsibilities in upholding the law and adhering to all regulations and rules, as well as principles of Good Corporate Governance. It must avoid any actions which would be against the best interests of the Company and avoid conflicts of interest with the Company that would decrease efficiencies.

2) The Company shall have a Board of Directors consisting of executive directors, non-executive directors and independent directors at least five (5) directors but not exceeding twenty (20) persons (At least one-third must be independent directors of the total number of Board members and must be equivalent or more than 3 members). Half of the directors shall have place of residences in the Kingdom of Thailand.

As of December 31st, 2019. Board of Directors consists of 9 Directors;

- 3 members of Executive directors (33%)
- 6 members of non-executive directors (67%)

(there were totally 3 independent directors to be at one-third of the total number of Board members or the proportion accounts for 33.33%).

3) The Board of Directors has the duty determining the Company's vision, mission, the business direction and the overall strategy for the Company, with an annual revision and approval, including overseeing and monitoring the implementation of the Company's strategies by quarterly reporting the Company's performance to the Board of Directors. In 2019, the Board of Directors meeting no. 1/2019 considers and reviews business strategies plan to keep pace with the current economic and social conditions and also shapes the company's management to ensure that the executives and employees are working towards to same goal.

Details of Roles and Responsibilities of the subcommittees are referred to "Roles and Responsibilities".

5.2 Subcommittee

The Board of Directors nominates the following subcommittees;

1) Audit Committee: The Board of Directors has appointed the Audit Committee since December 9th, 2008. Consists of three (3) Independent Directors, at least one (1) of whom has knowledge and understanding or experience in accounting or finance. The committee has the duty in monitoring the Company's operations. To reviewing of the financial reports, the internal control system and internal audit system. Considering and selecting or removal of the Company's auditor and inclusive propose compensation.

2) Nomination and Remuneration Committee: The Board of Directors has appointed the Nomination and Remuneration Committee since November 12th, 2010 which consists of three (3) Directors, being two (2) Independent Directors and one (1) Board of

Director (Executive). The committee has the duty in considering rules and procedures for recruiting qualified personnel to take position as directors and management, in accordance with the required recruiting process, and consider the criteria and forms of remuneration of directors and management, and offer opinions to the Board of Directors for further consideration.

3) Risk Management Committee:

The Board of Directors has appointed the Risk Management Committee since November 12th, 2010 which consists of five (5) committee members are one (1) Independent Director, one (1) Board of Director (Executive) and two (2) Board of Managements and one (1) management. The committee has the duty in establishing and implementing a risk management framework that is suitable and practical for efficient business management, as well as meeting international standards throughout the organization (including the Company and its subsidiaries).

4) Corporate Governance Committee:

The Board of Directors has appointed the Corporate Governance Committee since November 14th, 2014 which consists of seven (7) committee members, being one (1) Independent Director, two (2) Board of Directors (Executive) and four (4) managements. The committee has the duty in reviewing Corporate Governance Policy and its Code of Conduct and to conduct self-evaluation for sufficiency of Anti-corruption practices as it is one of the Anti-corruption progress indicators of Thailand Private Sector Collective Action Coalition Against Corruption.

Details of Roles and Responsibilities of the subcommittees are referred to “Roles and Responsibilities”.

5.3 Chairman of the Board and President & CEO

The Principles of Good Corporate Governance require that the Chairman should act as an Independent Director, although this is not the case presently. However, the Chairman is a highly knowledgeable and experienced individual who is recognized both domestically and internationally for his ability to perform his duties independently, and this will help the Company to be more secure and progress in an efficient way.

Details of Roles and Responsibilities of the President & CEO are referred to “Roles and Responsibilities”.

5.4 Nomination of Board Members

1) Regarding the selection of qualified candidates for nomination as directors in replacement of those who are retired by rotation, the Company gives the opportunity to our shareholders to nominate candidates with qualifications required by Securities and Exchange laws and by the Company’s regulations to be elected as directors. Announcement has been posted on the Company’s website to invite nomination from shareholders.

2) The Nomination and Remuneration Committee will then select qualified candidates for variety and good mix of gender, age, knowledge, expertise, experience and skills necessary to support strategic plans and good corporate governance principle and propose to the Board of Directors for consideration.

3) After the Board’s agreement, the list of such candidates will be proposed to the Annual General Meeting of Shareholders to approve the election by majority votes.

Details of Nominating for Directors and Member of Board of Management are referred to “Roles and Responsibilities”.

5.5 The Directorship Term

1) Terms of Board of Directors has been definitely prescribed in articles of association of the Company that one-third of the directors who has longest term should be retired. If it is not a multiple of three, then the number nearest to one-third (1/3) must retire from office. In choosing those directors who retire, the length of service on the board should be considered the Directors who occupy the position for longest period shall retire. Nevertheless, a retiring director is eligible for re-election.

2) As for independent directors, the Company’s independent director shall be appointed for a term of 3 years and being re-election no more than 2 times continuously (9 years). At end of the term, the Board of Directors may nominate their names to be re-elected at the Annual General Meeting of Shareholders as deemed fit.

3) The Board of Directors has set stipulated the numbers of companies that a director shall possess the position of director in other listed companies of no more than 5 companies. In case the President & CEO is appointed as director of other listed company, the matter will be proposed to the Board of Directors for approval.

5.6 Control of Subsidiaries and Associated Companies’ Business Operations

The Company’s Board of Directors shall be responsible for business management and operation of the Company as well as

the operation of subsidiaries in compliance with our main business plan, with honesty and maximum benefits for the Company and its shareholders. Under the laws as well as objectives and Articles of Association of the Company and must control the operations of the Company and subsidiaries to comply with the regulations of the Stock Exchange of Thailand (SET), the operation of subsidiaries or associated companies are as follows:

1) The Board of Directors has delegated to the President and CEO the authority to appoint eligible persons for the director and/ or executive position of the Board of Directors of the subsidiaries and associates. Selection criteria of the director and/ or executive position is based on qualification, skill and working experiences.

2) The Board of Directors designs the organization structure including management of subsidiaries or associated companies to maximize their business operation efficiency and suit current business circumstances.

3) The Board of Directors monitor and control the business operation of subsidiaries or associated companies to meet the approved business policy, goals, operation plan, strategy and budget.

4) The Board of Directors shall consider approving the budget and spending for investment, operations, transactions of acquisition or disposition of assets, borrowing from financial institutions, lending, capital increase and decrease or Company dissolution that may significantly affect subsidiaries or associated companies’ operations.

5) The nominated director and/ or executive shall operate and oversee the activities of the subsidiaries and associates in accordance

with the Company's policies and report performance to the Board of Management or Board of Directors of the Company as deemed appropriate.

5.7 Board of Directors' meeting

1) Board meetings are scheduled in advance so that directors can schedule themselves to attend. The Company is responsible for setting agenda clearly and delivering relevant documents to all directors well in advance at least 14 days prior to meeting date to give them enough time to study, deliberate, make sound decisions on all agenda items. In emergency or necessary case for protecting the Company's right or benefit, a meeting may be called by other method and the meeting date may be arranged sooner.

2) According to the Company's article of association, the Board of Directors shall hold a meeting at least once in every three (3) months and a quorum of a meeting of the Board of Directors requires at least half (1/2) of total number of directors. As the Company is committed to comply with the principles of good corporate governance, the Board of Directors has determined the charter of the Board of Directors covering a quorum of a meeting which requires at least two-thirds (2/3) of all directors, including all resolutions of the meeting require at least two-thirds (2/3) of all directors. In the absence of the chairman, directors attending the meeting shall elect one of them to act as chairman of that meeting.

3) All resolutions of the meeting require a majority vote. Each Director has one vote but a Director who has any interest in any matter shall not cast a vote on that matter. In case of equal vote event, the chairman of the meeting will cast his vote to reach a resolution.

4) A clear agenda is set for each meeting and adequate supporting documents are distributed sufficiently in advance to allow directors to thoroughly review the details. Minutes of Board meetings, including its meeting outcomes must be made clear for future reference.

5) The Company nominates a secretary, organizer for the meeting arrangement, invitation letter sending, minutes of meeting record and other duties that are related to general responsibility as well as information filing of Committee and Management with their accomplices. Educational background, work experience, and training records of the Company secretary mentioned above are provided in company secretary.

6) In 2019, the Company held a total of nine (9) Board of Directors Meetings and one (1) Non-executive Directors Meeting.

7) In 2019, Audit Committee held one (1) meeting with Auditor without management attending.

5.8 Board Approval Authority

The Board of Directors: The Board of Directors has authority to approve in the general operation such as asset purchasing, investment, and loans in excess of the Board of Management authority, including determining and reviewing vision, mission, and strategy in operations, risk management policy, budget plan and annual business plan. Furthermore, determining objective, monitor and evaluate the performance according to the plan.

The Board of Management: the Board of Directors may appoint the Board of Management on a case by case basis and has

the power to approve the following financial transactions.

a) In case that the business plan or the annual budget has already been approved by BOD, the BOM may execute such matters without financial constraints.

b) In case that the financial transaction is in the condition other than a) BOM has an executable limit of Baht 20 million.

President & CEO: For administration of the company, he may engage into business contract within the limit that a board of management could approve, pre-approved by BOD and has the authority to approve within the limit up to 5 (five) million Baht for the transaction that the BOD or BOM did not specifically approve.

Details of Board approval authority, the Board of Management, President & CEO are referred to “Roles and Responsibilities”.

5.9 Remuneration for Directors and Management

Remuneration for Directors:

The Company has policy to compensate Directors at reasonable levels to motivate and retain qualified directors, or at levels comparable to industrial practices. The Nomination and Remuneration Committee shall consider remuneration of the directors before proposing to the Shareholders’ annual meeting for approval.

Remuneration for Management:

Remuneration for the management shall be in accordance with the principles and policies determined by the Board of Directors corresponding to the Company’s operational results and performance of the management.

Details of remuneration payments to Directors and management in 2019 are referred to “Remuneration of the Board of Director & Management”.

5.10 Board of Directors and Subcommittees Self-assessment

The Company organizes the self-assessment once a year to allow the directors, subcommittees and each individual to review the previous performance to improve the board performance. The evaluation criteria and process are as follows:

1) The Company uses the self-assessment form by the Stock Exchange of Thailand as a guideline. The self-assessment is annually reviewed by the Nomination and Remuneration Committee to cover all aspects of the Board’s performance and to fit the Company’s nature of business and environment. The self-assessment forms compose of (1) the self-assessment form of the Board of Directors (2) the self-assessment form of Subcommittee (3) the self-assessment form of individual.

2) The company secretary will gather all the self-assessment forms, score and present to the Nomination and Remuneration Committee.

3) The Nomination and Remuneration Committee will present the evaluation result to the board of directors for acknowledge and use as guidelines in improving the board management and potential for individual directors.

4) The criteria for the evaluation represent the percentage in each category are as follows:

Over 85% = Excellent

Over 75% = Very Good

Over 65% = Good

Over 50% = Satisfactory

Under 50% = Need Improvement

Self-assessment of the Board of Directors:

The self-assessment form of the Board of Directors consists of 4 main items i.e. 1) Board structure and qualifications 2) The board meeting 3) Roles, duties and responsibilities of the board of director 4) Others. *The assessment result for the year 2018 revealed that the Board of Directors has been rated “Excellent”.*

Self-assessment of Subcommittee:

The self-assessment form of subcommittee consists of 3 main items i.e. 1) Board structure and qualifications 2) The committee meeting 3) Roles, duties and responsibilities of particular committee. *The assessment result for the year 2019 revealed that the Subcommittee as follows;*

1) Audit Committee has been rated “Excellent”

2) Nomination & Remuneration Committee has been rated “Excellent”

3) Risk Management Committee has been rated “Excellent”

4) Corporate Governance Committee has been rated “Excellent”

Individual self-assessment:

The individual self-assessment form consists of 3 main items i.e. 1) Qualifications 2) Meeting 3) Roles, duties and responsibilities of the individual. *The individual self-assessment result for the year 2019 revealed that the board has been rated “Excellent”.*

5.11 The Chief Executive Officer’s Performance Assessment

The Nomination and Remuneration Committee, in charge of the annual performance assessment of the Chief Executive Officer, must forward the assessment outcome to the Board

for endorsement. The performance assessment for the Chief Executive Officer in the area which are leadership, strategy, implementation of strategy, financial planning and performance, relationship with the Board of Directors, relationship with external parties, management and relationship with staff, succession plan, knowledge about products and services and personal qualifications.

The performance assessment for the year 2019 of the Chief Executive Officer is accepted and appreciated to maintain the position to perform his duties and responsibilities for the success of the Company objectives as a whole.

5.12 Development of Directors and Management

The Company encourages directors, subcommittee, management, company secretary to join the training courses or activities arranged by Thai Institute of Directors Association (IOD), The Securities and Exchange Commission (SEC) or other independent organizations to enhance their knowledge and operational efficiency, realize their duties and responsibilities. Most directors have undergone training with the IOD courses and shown in each director’s profile.

In 2019, the following directors participated in training and seminars;

Name of Directors	Position	Course/ Seminar 2018
Mr. Tiwa Jaruke	Vice Chairman of Board of Director Nomination & Remuneration Committee Corporate Governance Committee	Training on "Management Accounting for Planning and Decision Making" by FAP
Ms. Kantika Tanthuvanit	Board of Directors Corporate Governance Committee Company Secretary	Training on "Management Accounting for Planning and Decision Making" by FAP
Dr. Seichi Itakura	Director	Training on "Director Accreditation Program (DAP 158/2019)" by IOD Training on "Management Accounting for Planning and Decision Making" by FAP
Mr. Hiroshi Nakata	Director	Training on "Director Accreditation Program (DAP 166/2019)" by IOD
Pol. Lt. Sivaraks Pinicharomna	Independent Director Chairman of Audit Committee	Seminar on "IOD Special Event : Board of the Year, Board of the Future" by IOD Seminar on "Forensics Seminar on Employee Fraud and the Labour Law in Action" by PwC Seminar on "Unleashing Blockchain in Finance and Beyond" by IOD Seminar on "Independent Director Club Networking - Treasury Stock" by IOD Seminar on "AGM 2019 & Networking Reception" by IOD Seminar on "IOD National Director Conference 2019" by IOD Seminar on "DCP Series:4/2019: How to Develop a Winning Digital Strategy" by IOD Seminar on "Thailand's 10 th National Conference on Collective Action against Corruption: Innovations in the Fight against Corruption" by IOD Seminar on "Thailand Responsible Business Network" : How can the private sector create economic, social and environmental sustainability for Thailand and what will the government support? by SET
Mr. Gumthorn Utarnwuthipong	Independent Director Audit Committee Nomination and Remuneration Committee Chairman of Risk Management Committee Chairman of Corporate Governance Committee	Seminar on "IOD Special Event : Board of the Year, Board of the Future" by IOD Seminar on "PwC Forensics Seminar on Employee Fraud and the Labour Law in Action" by PwC Seminar on "Unleashing Blockchain in Finance and Beyond" by IOD Training on "Management Accounting for Planning and Decision Making" by FAP Seminar on "AGM 2019 & Networking Reception" by IOD Training on "Corporate Governance for Executives" (CGE14/2019) by IOD Seminar on "Independent Director Forum - Tips and Tricks for Dealing with Questions in AGM" by IOD Seminar on "IOD National Director Conference 2019" by IOD Seminar on "Things that Directors need to know but don't dare to ask" by IOD Seminar on "DCP Series:4/2019: How to Develop a Winning Digital Strategy" by IOD Seminar on "Chairman Forum 2019 : Successful Corporate Culture Change: from Policy to Practices" by IOD Seminar on "Thailand's 10 th National Conference on Collective Action against Corruption: Innovations in the Fight against Corruption" by IOD Seminar on "Audit Committee Forum 2019: Strategic Audit Committee: Beyond Figure and Compliance" by IOD Seminar on "Thailand Responsible Business Network" : How can the private sector create economic, social and environmental sustainability for Thailand and what will the government support? by SET
Dr. Ryuzo Nagaoka	Independent Director Audit Committee Chairman of Nomination and Remuneration Committee	Training on "Management Accounting for Planning and Decision Making" by FAP
Mr. Wanchai Ratinthorn	Board of Management Risk Management Committee	Training on "Management Accounting for Planning and Decision Making" by FAP
Ms. Jaruwan Sookthauyart	Corporate Governance Committee Deputy Vice President (ADMIN.) HR & Administration Division	Training on "Management Accounting for Planning and Decision Making" by FAP Seminar on "Progress in system development of SET Link and Company secretary qualifications and importance of Contact Person" by SET Seminar on "Company Secretary Forum 2019: Role of the Company Secretary in Shaping Corporate Culture" by IOD Seminar on "COSO ERM 2017 Enterprise Risk Management Integrating with Strategy and Performance" by TLCA and TFAC
Mr. Yukio Kobe	Vice President EPC Business Unit	Training on "Director Accreditation Program (DAP 158/2019)" by IOD
Ms. Saowaluck Ngamdutsadee-apirorn	Corporate Governance Committee General Manager (Accounting)	Training on "CFO's Orientation Course for New IPO's" by SET Training on "Management Accounting for Planning and Decision Making" by FAP Training on "The Impact of New Financial Reporting Standards TFRS15 and TFRS16" by SET Training on "Focus on TFRS9, TFRS15 and TFRS16 base, essence, impact, practice guidelines and case studies" by SET Training on "Refreshment of Role and Expectation of A CEO" by FAP Seminar on "Adjustment of condensed items in the financial statements" by DBD

FAP = Federation of Accounting Profession / IOD = Thai Institute of Directors Association / SET = The Stock Exchange of Thailand / SEC = The Securities and Exchange Commission
 IIA = The Institute of Internal Auditors of Thailand / TSD = Thailand Securities Depository / PWC = PricewaterhouseCoopers Consulting (Thailand) Ltd. / CMA = Capital Market Academy /
 ACT = Anti-Corruption Organization of Thailand / CAC = Collective Action Coalition Against Corruption / FAP = Federation of Accounting Professions / TIA = Thai Investors Association /
 DBD = Department of Business Development

The Company arranges important information for new director, whereby Managing Director and Corporate Secretary shall present the information regarding shareholding structure, organization chart, nature of business, performance of the Company, subsidiaries, and other relevant information. In addition, the Company provided a manual of Company Operation Document, mission and duties of the Board to Directors.

The Company has prepared the succession plan for important positions, by specifying in the Company's strategic plan to be the benefit for the management's work succession and development, and to work in place of Managing Director and the managements when they cannot perform their duties.

5.13 Conflicts of Interest and Internal Information

It is very important to prevent its directors, management and staff from using their status for personal gain. The Good Corporate Governance Manual clearly states that directors, management and staff should avoid a connected transaction that may lead to circumstances where their personal interest conflicts with the Company's interest, particularly in the matters relating to government, suppliers, partners or competitors. The Conflict of interest includes the attempt to reveal the company's confidential information to outsiders during or after the employment period of employee or the office of director, regardless that such information is electronic information, financial information, business information, the company's future plans, etc. and prohibited to use internal information for their own or other's advantage.

5.14 Internal Control and Internal Audit System

Internal control is the process set up by the Board of Directors, managements in order to ensure that the Company shall carry out to achieve the following 4 goals;

1) To carry out the business to achieve its goals with efficiency and effectiveness.

2) To ensure reliable financial reports and other information may significantly affecting to the reliability of the financial reports.

3) To comply with laws and regulations both in domestic and abroad including other standards and rules such as rules of SET, accounting standards, and Company regulations.

4) To control and maintain the appropriate acquisition, usage, and disposal of the Company's properties.

The Company has implemented effective and appropriated internal control systems by adopting Internal Control-Integrated Framework of COSO (The Committee of Sponsoring Organization of the Treadway Commission) and guideline in evaluating internal control sufficiency by SEC (The Securities and Exchange Commission, Thailand). The Company supports internal auditing to adopt the International Standards for Professional Practices of the IIA (Internal Auditing of the Institute of Internal Auditors) as well.

5.15 Risk Management

The Board is responsible for assuring the risks management to cover situation that hinder the Company from its strategic goals is in place. In doing so, the Board has appointed the Risk Management Committee to determine risk management policy and framework, to monitor

and promote, and to ensure that the risk management of the Company is properly functioned and effective. The Risk Management Committee has also been assigned to assess risks which are of significance at the organization as well as project levels, to develop operational, monitoring and evaluation plans, to implement and continuously revise them to mitigate and reduce the risks down to the acceptable levels and to report the results to the Board periodically or immediately.

In year 2019, Risk Management Committee meeting No. 3/2562 on 23rd September, 2019 had a resolution approving the appointment of Investment Risk Management Working Group in order to monitor and evaluate the risk from investment activities in both domestic and international projects.

The details are set out in “Risk Management”.

5.16 Compliance

Compliance aligns with good corporate governance principles is under monitoring of the company secretary.

Complete Compliance with the Good Corporate Governance Principles in Other Matters in 2019:

1. Audit Committee Charter

Audit Committee Meeting No. 9/2562 on 20th December 2019 had reviewed the Audit Committee Charter. The resolution approved that the existing audit committee charter is appropriate and consistent with Corporate Governance Code (CG Code) 2017.

2. Nomination and Remuneration Committee Charter

Nomination and Remuneration Committee meeting No. 3/2562 on 12th November 2019 had reviewed the Nomination and Remuneration Committee Charter. The resolution approved that the existing Nomination and Remuneration Committee Charter is appropriate and consistent with Corporate Governance Code (CG Code) 2017 and purposed to the Board of Director for acknowledgement in Board of Director Meeting No. 8/2562 on 14th November 2019.

3. Risk Management Policy

The Risk Management Committee Meeting No. 1/2562 on February 20, 2019 had the resolution to determine Risk Management Policy in order to be consistent with the principle of Corporate Governance Code 2017. The Risk Management policy has been approved by President and CEO and reported to the Board of Directors for acknowledgement in Board of Director Meeting No. 1/2562 on 28th February 2019.

4. Corporate Governance Policy

Corporate Governance Committee Meeting No. 1/2562 on February 20th 2019 had considered and reviewed Corporate Governance Policy in order to comply with the principles and practices of Good Corporate Governance and to be consistent with Guideline of Corporate Governance Manual. Corporate Governance Policy was presented to the Board of Director for acknowledgement in Board of Director Meeting No. 1/2562 on 28th February 2019.

5. Corporate Social Responsibility and Sustainable Development Policy

The Corporate Governance Committee meeting No. 1/2562 on February 20th 2019 had reviewed Corporate Social Responsibility and Sustainable Development Policy in order to achieve the sustainable development and have the explicit regulation. Corporate Social Responsibility and Sustainable Development Policy was presented to President and CEO for approval together with reporting to the Board of Director for acknowledgement in the Board of Director Meeting No. 1/2562 on 28th February 2019.

6. In 2019, the Company submitted the Self-Evaluation Form for recertification to the Thai Private Sector Collective Action Coalition Against Corruption (CAC) on May 21, 2019 and obtained the certification from CAC in the 4th quarter of 2019 for the second term.

7. The nomination and appointment of the new Director, he or she has completed the form of Preliminary qualification examination of the nominated person for being a director according to the Notification of the Securities and Exchange Commission No. Kor Jor. 3/2560 Re: Determination of Untrustworthy Characteristics of Company Directors and Executives. The Nomination and Remuneration Committee considered the qualification of the new director and proposed to the Board of Directors for approval.

Good Corporate Governance in Other Matters which is in the Process of operation in 2019

Since the year 2019, the Company has been making progress on reviewing the Board of Director Charter and various policies in order to be consistent with Corporate Governance Code for listed companies 2017 (CG Code 2017) and applying CG Code 2017 to the Company operation properly.

Internal Control and Risk Management

The Board of Directors entrusts the Audit Committee for reviewing the effectiveness of internal control, risk management and corporate governance of the company and its subsidiaries including compliance with applicable laws and regulations, deterring conflict of interest or any fraud and reviews reasonable and beneficial of connected transaction. The Company adopted COSO's Internal Control and Enterprise Risk Management Integrated Framework to ensure that the internal control and risk management to be appropriated with good corporate governance.

Control Environment

The Company establishes proper organizational structure, determines duties and responsibilities as well as power of authority, enabling clear reporting lines for oversight and control in order to achieve objective and targets. In addition, necessary instruction, procedures and guidelines were also established for Company's execution.

The Company encouraged good corporate governance awareness for managements and employees of the Company and subsidiaries by determined Code of Conduct and Ethics for Directors, Executives and Employees as the guidelines for integrity, transparency and fairness to all stakeholders.

The Company has certified into the Thailand's Private Sector Collective Action Coalition Against Corruption (CAC) since 14th October, 2016. Also, in 2019, the Company has already submitted documents and evidences to CAC for re-certification.

In 2019, the Company continues to utilize self-assessment form which issued by SEC in accordance with COSO 2013 to use as guidance for evaluating the adequacy of internal control system, raising understanding to all levels of management and clearly identifying the areas for improvement.

Risk Management

The Company has realized the importance of risk management as an essential tool to enable the Company to achieve its objectives and goals, adding value to the Company, shareholders and stakeholders. The Board of Directors has stipulated the continual and effective risk management process to manage risks and entrusted the Risk Management Committee for oversight risk management activities. Risk Management was systematically and practically performed by considering both internal and external factors which may affect Company's operation. In addition, risk control measures have been determined to control the risks at acceptable level.

In 2019, the Risk Management Committee reviewed company risk profile including reported significant risks to the Audit Committee and the Board of Directors on quarterly basis.

Control Activities

The Company establishes efficient and effective control activities to control risks and increase confidence in achievement of desired objectives. The policies and procedures including determination of authority, segregation of duties, safeguarding of assets and auditing has been determined. In case of control deficiency existed, appropriate corrective and protective measures shall be employed to prevent the recurrence of detected deficiency in the future.

Information & Communication

The Company recognizes the importance of information and communication by encouraging continuous development to ensure that all information is accurate and up to date. Besides, the Company also focuses on data security, storage, processing, usage and monitoring in order to support decision making of managements and employees with completeness, accuracy and timely manner. The Company communicates necessary information such as policies, regulations, commands and procedures through intranet and other channels.

Furthermore, the Company established whistleblowing or complaint channels for any illegal, misconduct or behavior which may indicate corruption. Employees or stakeholders can report or complain via E-mail or letter as well.

Monitoring Activities

The Company establishes monitoring activities for Company's operation to ensure that the internal control system is appropriately implemented. In order to evaluate the effectiveness of internal control, internal auditor performed risk-based audited as annual planned. In case of control deficiencies, it would be reported to the responsible person in order to determine root cause including appropriate corrective and preventive measures, and for significant control deficiencies, it would be reported to the Audit Committee and the Board of Directors in order to take appropriate corrective and preventive measures in timely manner.

Occupational Health, Safety and Environmental System

(GRI 403-1: Occupational health and safety management system)

TTCL emphasizes the importance of Occupational Health and Safety of employees, partners and concerned parties including environmental impact prevention. Therefore, company aims to establish and maintain safe working conditions with no injuries or illnesses including prevent environmental impacts by adopted the Occupational Health, Safety and Environmental Management System as part of company's execution.

TTCL continually improves the Occupational Health, Safety and Environmental Management System. In 2019, The HSE Management System has been modified and migration into ISO 45001:2018, the new ISO standard for Occupational Health and Safety management systems which issued to replace OHSAS 18001:2007 by Intertek Industry and Certification Services (Thailand) Limited. Moreover, company has been certified for the Green Industry Level 3 by Ministry of Industry, Thailand.



Occupational Health and Safety
Management System Certificate
(ISO 45001: 2018)



Environmental Management
System Certificate
(ISO 14001: 2015)



Green Industry Level 3
(Green System) Certificate

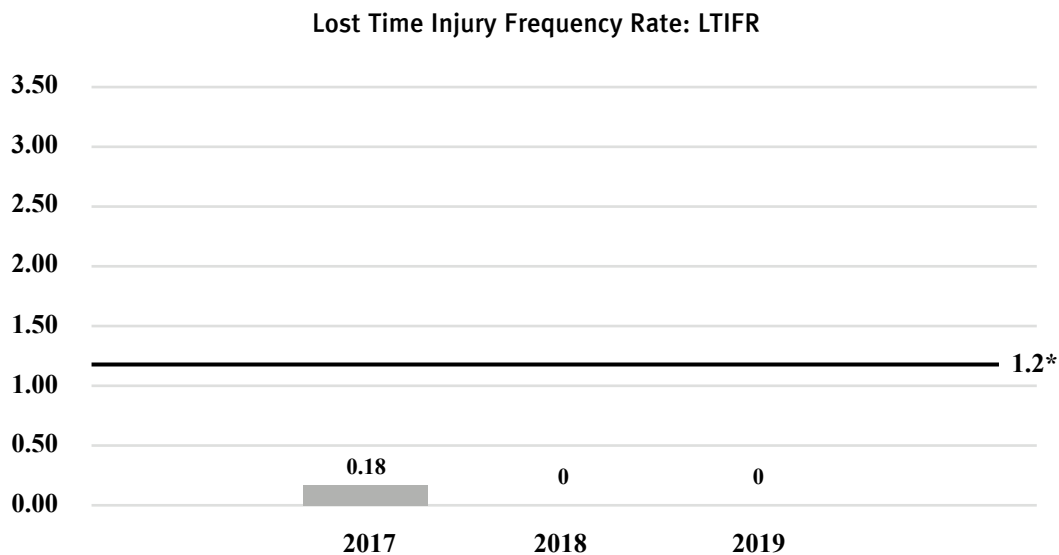
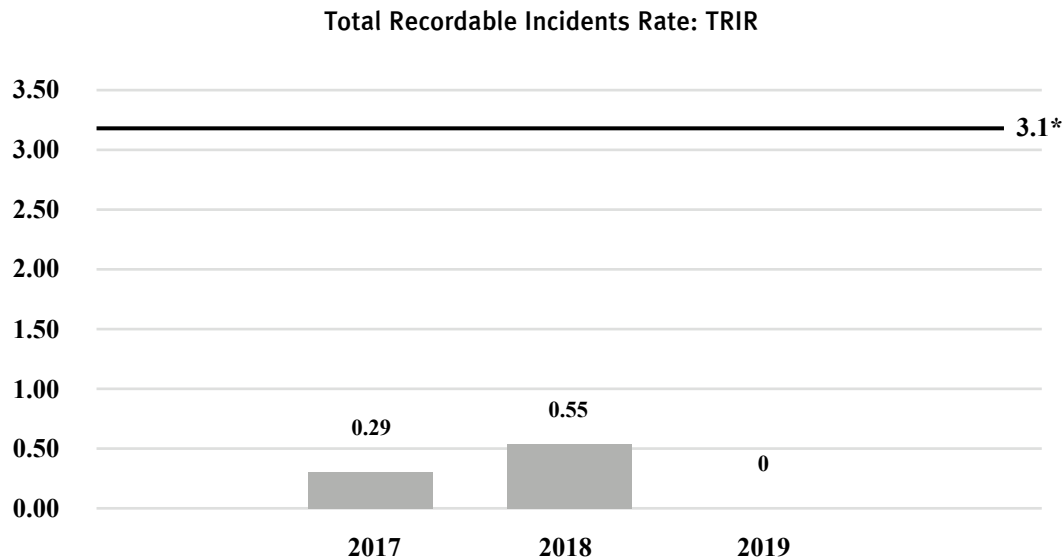
Occupational Health, Safety and Environmental Implementation (GRI 403-1: Occupational health and safety management system)

The company determines “TTCL’S RULES” to establish and maintain safe working conditions for construction projects as follows:



Incidence Rates 2017 - 2019

(GRI 403-9: Work-related injuries)



* Reference: Incidence rates of nonfatal occupational injuries and illnesses by case type and ownership, selected industries, 2017 (Construction), U.S. Bureau of Labor Statistics, U.S. Department of Labor.

Environmental Management

The objective and goal of environmental management in project execution is that the company will carry out project by considering environmental impact prevention and construction activities will be complied with the applicable laws and project's requirements including no environmental complaint from nearby community. Therefore, TTCL has developed environmental plan to control environmental aspects and reporting result to concern parties continuously.

Air Quality Control

(GRI 403-7: Prevention and mitigation of occupational health and safety impacts directly linked by business relationships)

TTCL provided water spray on transportation route within the project and surrounding areas included cleaning vehicle wheels before departure from project site to prevent and minimize dust emission from construction and transportation activities.

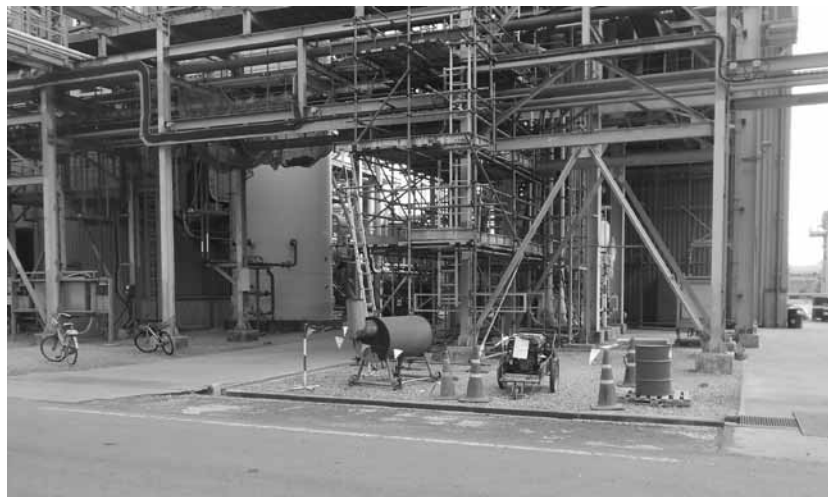


TTCL provided water spray on transportation route within the project and surrounding areas included cleaning vehicle wheels before departure from project site

Noise Control

(GRI 403-7: Prevention and mitigation of occupational health and safety impacts directly linked by business relationships)

In construction activities, noise from piling and flushing activities may be affected to nearby communities. The company has determined mitigation and control measures to prevent and minimize the impact by considering using bored pile and fitting a silencer during flushing activity including limited work time and informing nearby communities in advance.



Fitting a silencer during flushing activity

Waste Management

(GRI 306-2: Waste by type and disposal method)

TTCL has implemented waste management guideline according to 3R principle; Reduce, Reuse and Recycle. The various activities such as hazard communication & waste management awareness training and waste separation program are conducted to properly manage waste.

Discharge Water Control

(GRI 306-1: Water discharge by quality and destination)

The discharge water from construction activities which generated from runoff water, surface water, hydrotest water and flushing water has been monitored water quality parameters such as pH and turbidity before drain to gutter in order to ensure that discharge water quality will be complied with applicable standard.

Emergency Response

(GRI 403-5: Worker training on occupational health and safety)

TTCL has conducted Emergency Drill at least once a year, both head office and project sites.



TTCL cooperated with Sermit tower juristic person to conduct emergency drill at head office



Emergency Drill at Project Site

At head office, TTCL also established Emergency Rescue Team (ERT) in order to assist employee who stay for observation at nurse room, children in child care room and persons who need assistance to evacuate from building in emergency situations such as fire and earthquake.



Emergency Rescue Team Meeting at Head Office

Resources Utilization Awareness Program

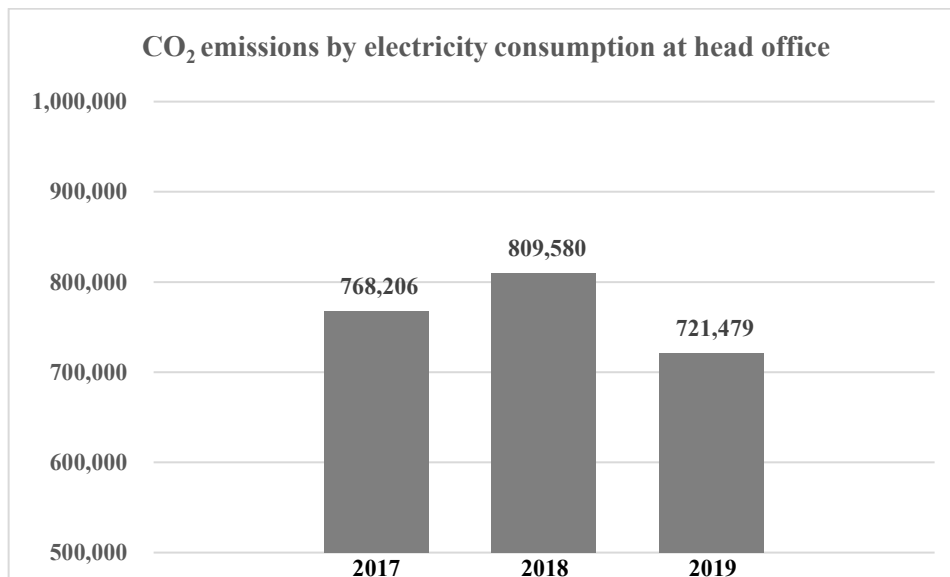
(GRI 302-4: Reduction of energy consumption)

TTCL emphasizes the importance of energy conservation. Accordingly, electricity conservation campaign was organized in order to raise employee's awareness to use electricity efficiently, reduce greenhouse gas emissions and global warming. Therefore, company aims to reduce 5% of electricity consumption and greenhouse gas emissions.

Electricity consumption at head office 2017 - 2019

Month \ Year	Electricity consumption (kWh)		
	2017	2018	2019
January	109,347	95,233	82,304
February	109,903	112,320	100,305
March	104,696	101,135	90,298
April	84,581	103,302	86,259
May	83,087	92,059	84,992
June	93,133	105,995	101,630
July	88,494	101,295	85,738
August	83,966	91,657	90,139
September	97,795	95,504	89,687
October	89,113	85,335	74,904
November	81,939	92,972	83,214
December	81,988	90,912	71,175
Total	1,108,042	1,167,719	1,040,645
greenhouse gas emissions (EF) = 0.6933/kWh	768,206 kgCO ₂ e	809,580 kgCO ₂ e	721,479 kgCO ₂ e

Emission factor reference: www.tgo.or.th



TTCL recognizes the global climate change problem. Activities and campaigns were organized in order to raise employee's awareness and recognize value of limited resources. There are many activities have been conducted such as paper saving program to utilize used paper, encourage to review and read document in electronic file to reduce amount of printed paper, the campaign for water and electricity consumption saving including replacing fluorescent lamp by LED lamp. As the result, the amount of utilized resources has been reduced.



Paper saving program



Electricity and water consumption saving campaign

Reduce plastic waste and foam waste campaign

TTCL recognizes the impacts of environmental problem. The campaigns were organized for cultivation, TTCL's employee and sub-contractors to recognize the environmental problem and participate to reduce the plastic waste and foam waste.

The Olefins Reconfiguration Project (D-189) has organized a campaign to encourage employees to use personnel glass to reduce plastic waste, and the MOCD2 Project (D-192) has organized a campaign to reduce foam waste from project's canteen and encourage employees to use food container instead of single use-foam box for reduce foam waste.

The Achievement in Occupational Health, Safety and Environment

(GRI 403-9: Work-related injuries)

TTCL has achieved in Occupational Health, Safety and Environmental implementation in 2019 as follows::



MOCD2 PROJECT

Owner (Client) : Map Ta Phut Olefins Co., Ltd.
Project Site Location : R.I.L. Industrial Estate, Rayong Province, Thailand
Project's Description : Expansion capacity of Ethylene Plant
Achievement : Accumulated 3,000,000 Safe Man-Hours without Lost Time Accident
Award Date : 3rd December 2019

Corporate Social Responsibility and Sustainable Development

TTCL Public Company Limited has a policy to conduct a business with Corporate Social Responsibility (CSR) with the intention of working with stakeholders, including supporting ongoing social activities in order to achieve sustainable development and have clear guidelines. The company has improved and created the Corporate Social Responsibility and Sustainable Development Policy in order to cover sustainability issues that run the business of the company and subsidiaries.

Commitment

The company is committed to create and improve the quality of life, society and the environment for a sustainable society. By creating a trust for stakeholders with responsibilities towards society and the environment to associate with success in business.

Goal

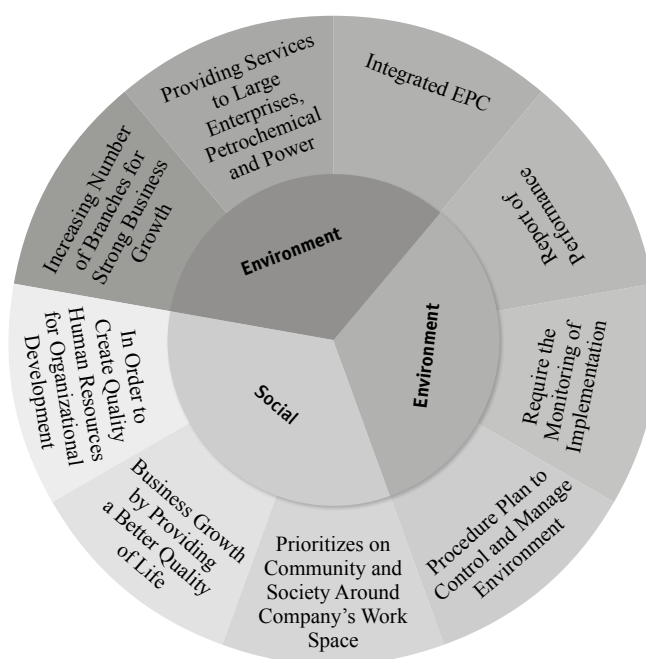
The company aims to establish and carry out a project on corporate social responsibility values shared between companies, community and society by developing from the existing corporate social responsibility project of the company to develop the project to achieve a maximum value to society and economy.

Challenges and Business Opportunities

Company's social responsibility through business activities and stakeholder participation is as approach for creating mutual benefit between the company, communities and society.

To enhance the business competitiveness to associate with promoting the economic, society and environment and the activities to sustainable society and growth, leads to the development and enhance the economy for the better that it appropriates with United Nations Sustainable Development Goals such as better employee potentiality development, promoting health and well-being of the community around the project and promoting continuing education, etc.

In year 2019 the company has conducted to operating business along with corporate social responsibility, which consist of 3 topics such as economics, social and environment as follows:



Economics

The company is the first and only Integrated EPC company in Thailand by providing services to large enterprises, mainly focusing on the industry

of petrochemicals, chemicals, energy businesses and also in other similar industry. Currently, The company is increasing number of branches in both local and abroad for strong business growth.

Social

The company prioritizes and cares in order to create quality human resources for organizational development and business growth by providing a better quality of life within corporate and family. Moreover, the company always prioritizes on the community and the society around the company's work space.

Environment

The company has a procedure plan to control and manage environment to prevent and reduce environmental impact by the plan must comply along with the environmental impact study project (Environmental Impact Assessment; EIA) and require the monitoring of the implementation regularly with report of performance to inform those who are involved constantly. Management is divided into three points; Management of air pollution, Management of noise pollution and Management of garbage and hazardous waste.

TTCL strives the operation for steadily growth business in domestic and abroad in building to be reliability for stakeholders of corporate social responsibility to concern with economic, social and environment. The management considers the company's corporate social responsibility operation and development successively. The management appreciates and adjusts the sustainable corporate social responsibility operation, so the company arranges the Corporate Social Responsibility and Sustainable Development Policy to concern with

economic, social and environment in according with Sustainable Development Goals (SDGs) and Global Reporting Initiative Standards (GRI).

Master Business: TTCL has experiences and expertise in providing integrated engineering design procurement of machinery & equipment, and construction (Integrated EPC). The company's business consists of 2 master leading as follows: 1) Construction & Service and 2) Power Plant Businesses and Energy.

Sustainable Business Operation Strategy

TTCL emphasizes business operation of corporate social responsibility. In consideration of business operation impact to community, social and environment along with driving the organization to sustainable goals and encouraging the management and employees in company to avouch the concerned stakeholders for cooperation and mutual benefit. The company proceeds under the corporate social responsibility, which consist of 3 master issues as follows: 1) **Economic (Corporate Governance):** To defend service leadership Integrated EPC and continue to expand the branch in domestic and abroad for continuing business growth. 2) **Social:** Creating the quality employees in company development and to be faithful the business operation policy by corporate social responsibility in emphasizing with community and social around the construction project of company. 3) **Environment:** To emphasize the standard environmental management of environmental management quality (ISO 14001) for environmental operation of company effectively and in accordance with the law.

Corporate Governance

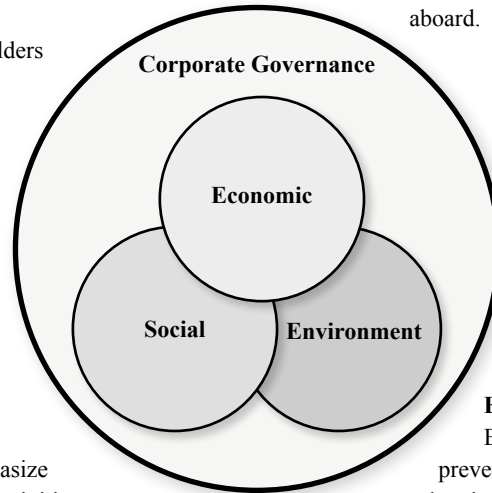
Corporate Governance represents effective management system, transparent, verifiable and building trust and confidence to stakeholders.

- Rights of shareholders.
- Equitable treatment of shareholders
- Consideration of the role of stakeholders
- Disclosure and transparency
- Responsibilities of Board

Economic

Building sustainable growth business by keeping leadership and building mutual benefit to stakeholders.

- Keep leadership in service Integrated EPC.
- Continue to expand the branch in domestic and abroad.



Social

Creating and continuing good relations caused by acceptance and trust, to emphasize caring and supporting continued social activities.

- Compliance with Code of Conduct and Code of Business Ethics
- Human Rights and Labour Practices
- Responsibilities to Stakeholders
- Social Responsibility Activity
- Responsibility for Environment and Safety
- Standards
- Company Innovation related to CSR

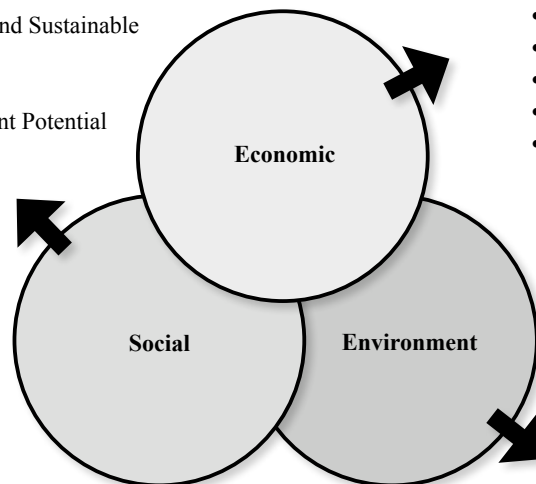
Environment

Emphasizes safety and health by impact prevention to environment in building and maintains healthy work.

- Prevent accidents and incidents
- Operation in according law and provision
- Prevent impact to environment
- Control quality and safety of service
- Environmental conservation and energy

Framework of TTCL

- Corporate Social Responsibility
- Social Activity
- Corporate Social Responsibility and Sustainable Development Policy
- Human Resource Management
- Activity of Personnel Development Potential



- Corporate Governance
- Code of Conduct
- Code of Business Ethics
- Corporate Governance Policy
- Anti-Corruption Policy
- Charters
- Whistleblower Channel

- Quality Management System
- Health and Safety Management System
- Environmental Management System

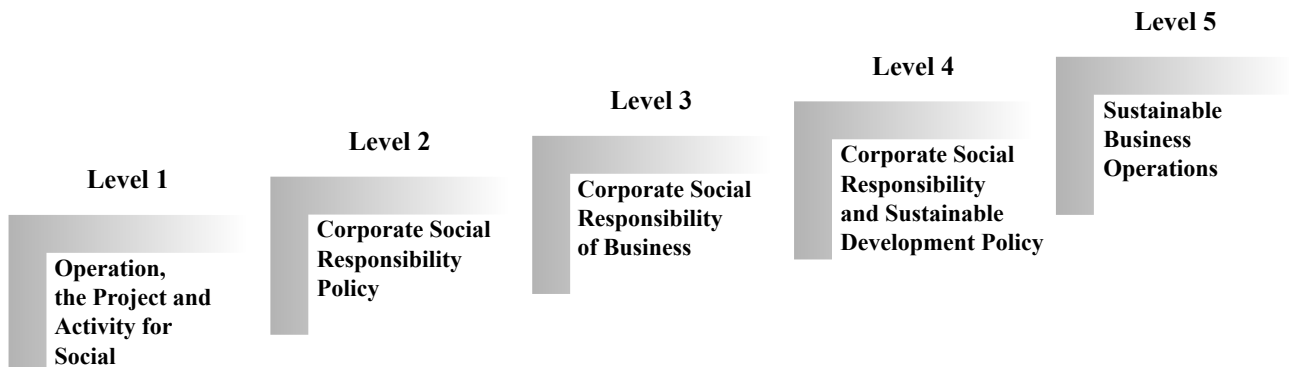
The Company has guides to adhere of good business policy according to the principle of disclosure and clean information. The operation policy has been state to strengthen knowledge and understanding of the business operations

of stakeholders, director, management and employees to understand and follow company's policy to comply with the policies which are as follows:

Policy	Essential Main		Goals (SDGs)
1. Code of Conduct	<ul style="list-style-type: none"> Customers Trust Compliance with Laws and Regulations Compliance with Corporation 	<ul style="list-style-type: none"> Operation Policies and Regulations Respect for Humanity. 	8, 16
2. Code of Business Ethics	<ul style="list-style-type: none"> Compliance with Code of Conduct Guideline of Business Operation Conflict of Interest Rewards and Entertainment Responsibility for Shareholders 	<ul style="list-style-type: none"> Relationship with Suppliers and Contractors Safety and Health in Workplace Security of the Company's Properties Computer System Responsible for Environment 	8, 16
3. Corporate Governance Policy	<ul style="list-style-type: none"> Rights of Shareholders Equitable Treatment of Shareholders Roles of Stakeholders 	<ul style="list-style-type: none"> Disclosure and Transparency Board of Director Responsibilities 	8
4. Anti-Corruption Policy	<ul style="list-style-type: none"> Definition of the Anti-Corruption Policy Anti-Corruption Policy Roles and Responsibilities 	<ul style="list-style-type: none"> Anti-Corruption Guidelines Measures/ Operational 	8
5. Corporate Social Responsibility Policy	<ul style="list-style-type: none"> Code of Conduct and Business Ethics Human Rights and Labour Practices Responsibility for Customers, Investors, Partners, Employees and Other Stakeholders 	<ul style="list-style-type: none"> Social Responsibility Activity Responsibility for Environment and Safety Standards Company Innovation Related to CSR 	3, 4, 9, 16
6. HSE Policy	<ul style="list-style-type: none"> Operations of the Company must comply with the laws and regulations on occupational health, safety and environment. Information must be communicated to stakeholders properly. Monitor effectiveness of operations 	<ul style="list-style-type: none"> Operation to Regulation. Significant resources will be sufficient to support operations. Review the improvement and development of management system. 	11
7. Investor Relations Policy	<ul style="list-style-type: none"> Disclosure is important and necessary correctly adequate and timely. The care and treatment of internal information 	<ul style="list-style-type: none"> Disclosures equally and fairly Duties with integrity 	8, 16
8. The company's dividend Policy	<ul style="list-style-type: none"> Dividend is not less than 50 percent of net profit after tax and legal reserve. The Board of Directors is authorized to exclude the implementation of such policies, or change the policy from time to time. It is under such conditions that the operation would have caused interest of the shareholders. 		16
9. Dividend policy of the subsidiary	<ul style="list-style-type: none"> Considering from the cash flow from the investment of the subsidiary Has not specified the exact payout ratio 	<ul style="list-style-type: none"> When cash flow is enough and has set up a legal case to be considered as a dividend 	8
10. The remuneration policy for directors and management	<ul style="list-style-type: none"> Considering the duties and responsibilities of directors. The overall performance of the company. 	<ul style="list-style-type: none"> Payment of Compensation Committee Comparable listed companies in the industry and the business is of similar size 	16

Policy	Essential Main		Goals (SDGs)
11. Risk Management	<ul style="list-style-type: none"> • Factors will help to promote the company achieving prescribed objectives and goals. • Leading to creating value-added for the company and stakeholders 	<ul style="list-style-type: none"> • Follow up an important risk assessment. • Follow up and efficiency an effectiveness assessment. 	8
12. Company Quality Management Policy	<ul style="list-style-type: none"> • Management and personnel shall understand and meet the customer requirements and satisfaction. • Management and personnel shall maintain a good relationship to all vendors, suppliers and subcontractors and shall enhance ability to create the added value with them for mutual benefits. • Management shall recognize of all personnel as the essence of the company and encourage their full involvement to utilize their ability for the company benefits. 	<ul style="list-style-type: none"> • Management shall manage the company activities and resource as a process in order to efficiently achieve the company quality objectives. • Management and personnel shall implement and continually improve the company quality management base on the concept of Plan-Do-Check-Action (PDCA) cycle. 	16
13. Risk Management Policy	<ul style="list-style-type: none"> • The process and instruction for risk management shall be established as the guideline for implementation at all levels of the company and covered strategic risks, operations risks, financial risks, compliance risks and corruption risks. • Risk management process shall consider both internal and external factors which can be affect to the company operational and consist of the steps for identifying, analyzing, evaluation risks. The necessary control measure shall be determined to control risks within an acceptable level. Risks shall be continually monitored, reviewed and re-evaluated according to change in situation or when significant change occurred. 	<ul style="list-style-type: none"> • All employees and managements shall support and comply with the Risk Management Policy and should give their recommendation for improving the effectiveness of risk management process. • TTCL shall encourage risk management as part of organizational culture which leads to the business sustainability development. 	8

Ranking of Operations from Corporate Social Responsibility to Corporate Social Responsibility and Sustainable Development

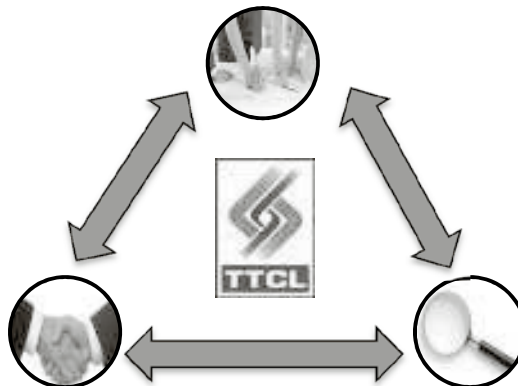


Value Proposition

TTCL has experiences and expertise in providing integrated engineering design procurement of machinery & equipment, and construction (Integrated EPC)

Stakeholders of TTCL

- Stakeholder
- Investor Relations
- Employee
- Customer
- Vendor/ Suppliers
- Business Partners
- Business Competitors
- Creditors
- Community and Social
- Government Authorities
- Media
- Joint Ventures



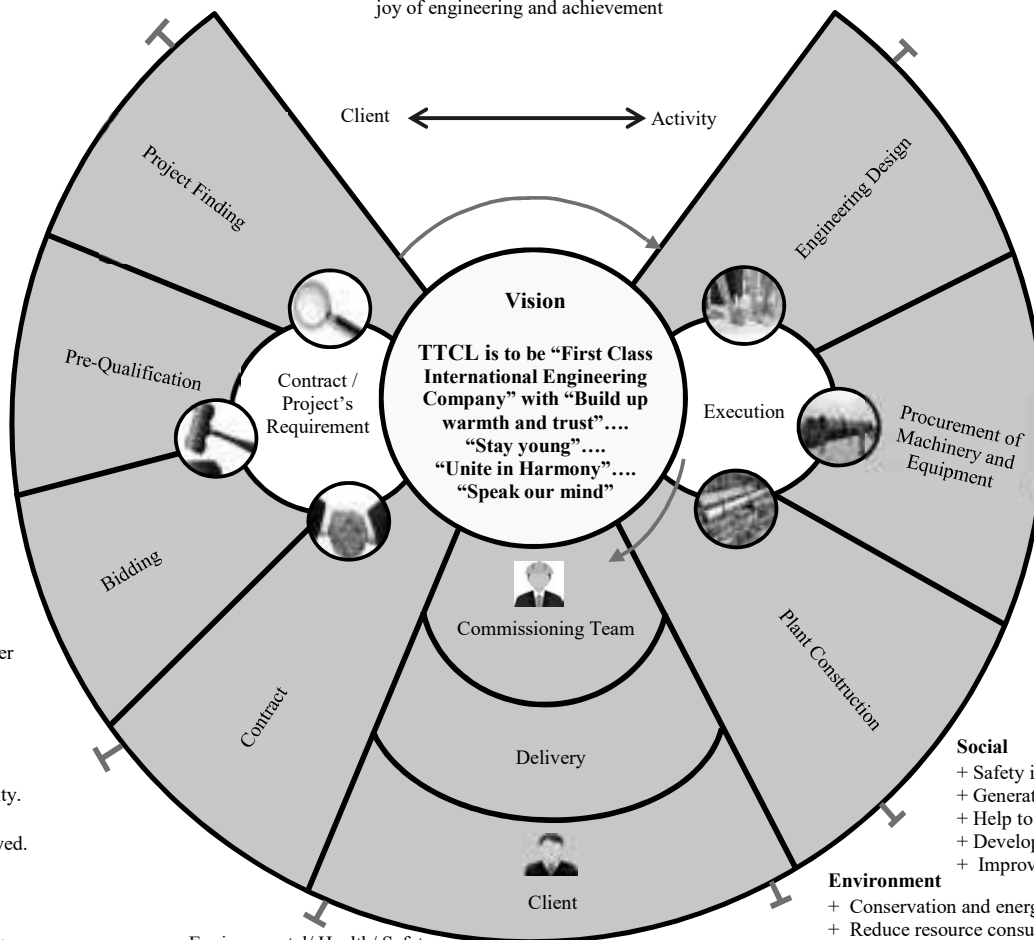
Requirement from Customer

- Customer Satisfaction
- Good Quality
- Project was completed on schedule.
- Trust
- Standard contract
- Control design cost, purchase and construction effectively
- Reduce waste arising from construction and manufacturing.

TTCL, the first integrated Engineering, Procurement and Construction (Integrated EPC) company in Thailand for industrial and process plants, mainly in energy, petrochemical, chemical and power industries in both domestic and abroad for sustainable business growth.

TTCL'S BUSINESS MODEL

Joy of Engineering and Achievement with All Our Might
TTCL aims to be a company where everybody works with joy of engineering and achievement



Resources

- Corporate
- Employees
- Client
- Sub-contractors
- Vendors/ Suppliers
- Licensors
- Environmental/ Health/ Safety
- Social
- Cost
- Engineering Tools
- Tools & Equipment
- Concerned Laws and Regulation
- QA / QC
- Policy
- Finance

Results

Employees

- + Training
- + Cost
- + Valued Engineering
- + Information designed to customers
- + Response client's requirement.
- + Work Procedure
- + Schedule Management
- + Contract Compliance

Client

- + Client Requirement
- + Business Relationship
- + Client Satisfaction
- + Trust
- + Result of the ne
- + Repeat Order

Business Partner

- + Information Exchange
- + Trust
- + Cooperation
- + Development

Social

- + Safety in the work environment
- + Generate employment in the area
- + Help to improve quality of life
- + Development in community
- + Improve technology

Environment

- + Conservation and energy efficiency
- + Reduce resource consumption and environmental impact
- + Reduce waste arising from construction and manufacturing

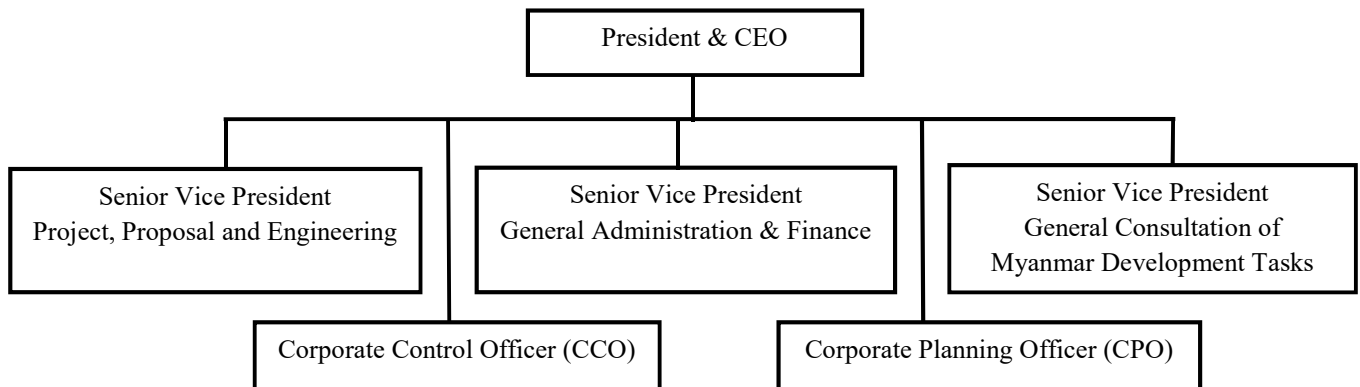
Results

- + Project was completed on schedule.
- + Quality
- + Trust
- + Customer Satisfaction
- + Standard contract
- + Advise other clients

Resources

- Corporate
- Business Partners
- Client
- Government Authorities
- Employees
- Cost
- Vendors/ Suppliers
- Environmental/ Health/ Safety
- Concerned Law and Regulation
- Consultants (Project Management Consultant)
- Code and Standards
- Sub-contractors
- Licensors
- Social

TTCL Public Company Limited, by the resolution of Board of Directors' Meeting No. 6/2561 dated June 22, 2018, authorized the Board of Management consists of;



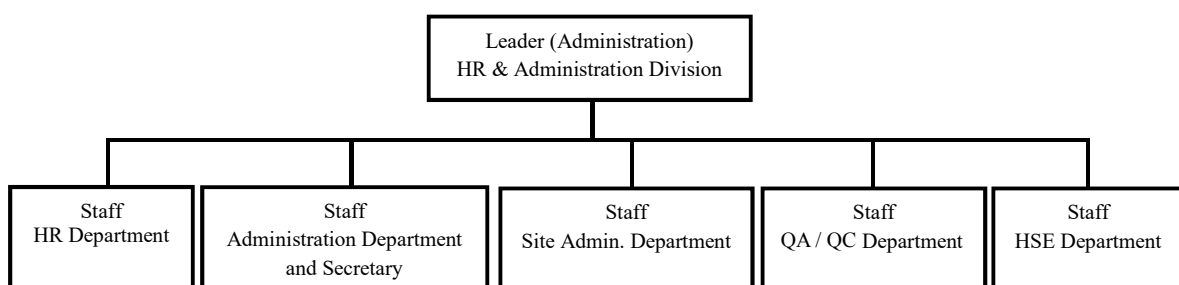
As practitioners the Corporate Social Responsibility of company for effectively and maximum benefit to company. The Board of Management's duties on Corporate Social Responsibility and Sustainable Development are as follows:

- Determine and roll-out the company's Corporate Social Responsibility and Sustainable Development Policy.
- Propose the working group name lists to communicate with all levels of employees, partners, and stakeholders to understand and realize in Corporate Social Responsibility and Sustainable Development.
- Determine appropriate plan in line with the company operation policy.

- Determine the suitable budget, follow up, evaluate and review the performance in relation with the planed policy.
- Encourage the exchange of knowledge, success, and experience on Corporate Social Responsibility and Sustainable Development between internal and external units.
- Continuously report Corporate Social Responsibility and Sustainable Development activities to the Board of Directors.

To support CSR activities and to achieve its objectives, the following persons are appointed as Corporate Social Responsibility and Sustainable Development working group;

Corporate Social Responsibility and Sustainable Development Working Group



Roles and Responsibilities of Corporate Social Responsibility and Sustainable Development Working Group are as follows:

1. To follow up and act according to the Corporate Social Responsibility and Sustainable Development Policy.
2. To propose action plan in order to achieve the specified objectives.
3. To report the operational progress to Board of Management and to coordinate with other related units to achieve the objectives under Corporate Social Responsibility and Sustainable Development Policy.
4. To consider the company's activities for communities and environment to be proposed to the Board of Management.
5. To Undertake any other actions concerning Corporate Social Responsibility and Sustainable Development activities as authorized by the Board of Management.

Corporate Social Responsibility and Sustainable Development Policy

TTCL Public Company Limited is doing the business together with concern about Corporate Social Responsibility (CSR). We aim to create and maintain good relationship based on trust and mutual respect and be aware of any possible impact on the company's stakeholders such as shareholders, employees, clients, partners, and government. We have also placed high priority on environmental conservation and continuously supported Corporate Social Responsibility activities.

However, in order to create the sustainable development and have the explicit regulation, the company has adjusted and arranged Corporate Social Responsibility and Sustainable

Development Policy for the comprehensiveness in sustainability issues of the company operation and subsidiaries as follows:

1. Compliance with Code of Conduct and Code of Business Ethics
2. Human Rights and Labor Practices
3. Responsibility for Stakeholders and Other Concerned Persons
4. Social Responsibility Activity
5. Responsibility for Environment and Safety Standards
6. Company Innovation Concerning with Corporate Social Responsibility

1. Compliance with Code of Conduct and Code of Business Ethics

Since the company complies work with Code of Conduct and Code of Business Ethics, all employees are encouraged to understand Code of Business Ethics of the company in order to maintain integrity and transparency of economy, society and environment under the Corporate Governance framework.

In order that the company has published the details of Code of Conduct and Code of Business Ethics for Management, Employees and Stakeholders is accessible on the company's website at http://www.ttcl.com/sustainability/corporate_governance/code_of_conduct_and_business_ethics

2. Human Rights and Labor Practices

The company prioritizes Human Rights and advocates non-discrimination in gender and social class. The company is also against child labor and manages the compensation for employees to be at the same level with other business in the same industry. Moreover, the improvement, structural change, and

organization management of the company are strictly operated under the company Regulation and Thai and International law.

Human Resource Management

A success key of the company is paying attention to employees and all labor groups as employees are valuable resources and important stakeholders in the business. Moreover human resource also is a key to drive the organization to achieve sustainable development. Therefore, the company focuses on human resource planning and employee development to have the potential to support future business expansion which starts from the process of recruitment of each department by considering the suitability of knowledge capacity to support business operations and able to develop new business in long term for the company to be an effective and sustainable organization.

Recruitment

The company provides opportunities to person that has potential to become a key force in the development of the organization to grow steadily and sustainably through a systematic recruitment in the same standards of position and same career, and also focuses on the equality in race, religion, sex and education institutions including the disabled and other disadvantaged groups by advertising the job opportunities through various channels to get a variety of applicants. In addition, the company has joined fair project where held in educational institutions continuously every year. Thus, The project cooperates with the department of Human Resources and others such as Engineering Department, Project Operation Department, etc., in order prepare a recruitment plan to recruit

and select potential candidates to meet the needs of the business.

Internal Recruitment

The company transfers and rotates employees within the organization by considering from staff knowledge and ability that match with each work field. In addition, the company also provides the opportunity to the 3rd and 4th year's students from various universities both within country and abroad to intern with the company, in order to prepare to join the company after graduation. The company have seek and select new generation staff that have the ability and potential which suit to the organization's culture by learning and practical work under the instruction and suggestions from senior employees. In the year of 2019, there are total 67 internships and 5 employees for job rotation.

External Recruitment

The company provides an opportunity to person whom is interested in being a part of the company through various channels such as mail delivery, company's website or an online website and walk-in at the Head-Office.

In 2019, the company has recruiting employee by attending in the job fair project that held by the educational institutions in order to provide opportunities to student who is going to graduate or graduated in a bachelor's degree to apply the job directly to the company. The company seeks for the personnel that have knowledge, ability, attitude and appropriate experience which cause to company diversity.

Participation in Job Fair with the University as follows:

1. Engineering Job Fair, academic year 2018 at Prince of Songkla University.

2. Employment Exhibition Project and Presentation of Cooperative Education, academic year 2018 at Khon Kaen University.

3. Engineering Job Fair, academic year 2018 at Naresuan University.

4. KMUTT Job Fair 2019 at King Mongkut's University of Technology Thonburi.

5. Student Meeting Project, academic year 2018 at King Mongkut's Institute of Technology Ladkrabang.

6. SUT Graduate Job Fair & Co-op Fair, academic year 2018 at Suranaree University of Technology.

7. MFU Internship and Job Fair 2019 at Mae Fah Luang University.

8. Engineering Career Day 2019 at Chiang Mai University.

Booth Off-Site Recruitment Exhibition

1. Central Store of TTCL Public Company Limited at Rayong province.

2. Department of Employment at Krabi province.

3. Department of Employment at Khon Kaen province.

4. Department of Employment at Udon Thani province.

5. Department of Employment at Roi Et province.

6. Department of Employment at Pathum Thani province.

7. Department of Employment at Chachoengsao province.

Applicant Selection

The company fairly selects and seeks for the candidates who are interested to join with us from every channel by interviewing and testing knowledge and skills that match with

the position which the candidates have to pay attention and have a positive thinking. It is a factor for the company's achievement and goals. Human Resources Department will inspect the education background, work experiences and criminal records in order to evaluate the candidate's ability and skills appropriately to assign and hire staff with the right position, including preventing the use of illegal labor, forced labor and child labor strictly.

Employment

Company focuses on employment process and compensation payment fairly with same standard to all employees regardless of gender or nationality. Moreover the company have launched the policy that can be guide operate performance of employee. All employees will be provided the benefits and welfare under Thailand labor laws, and be taken care for the quality of life, safety and hygiene in workplace as required by laws.

Attraction and Retention

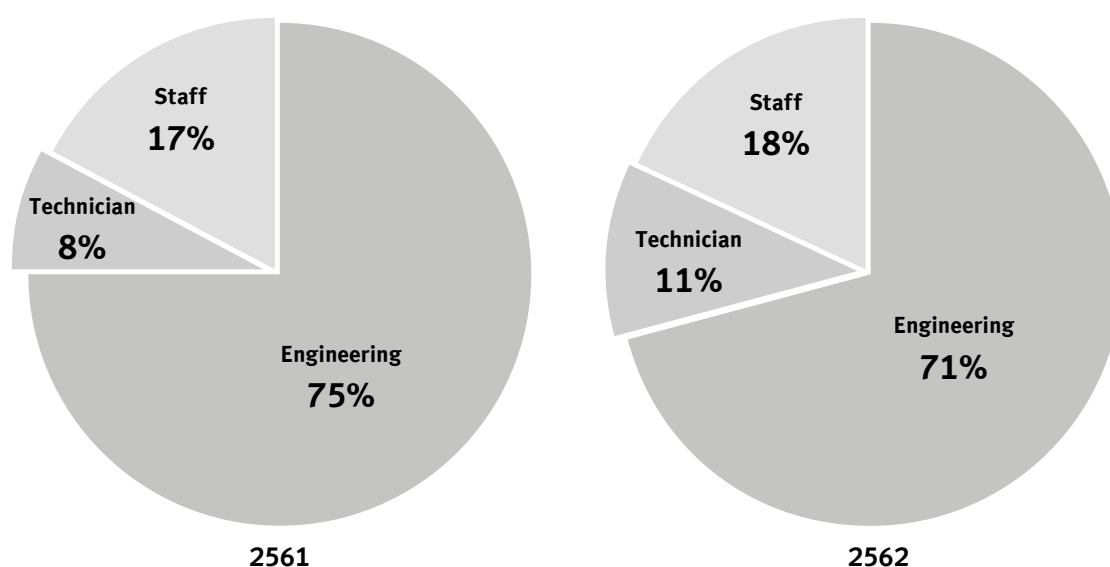
The company has a policy to create motivation for employees both in the form of monetary and non-monetary. The company pays compensation to employees considered by performance for the annual compensation adjustment which compensation is assessed and compared with other company in the same fields including promotion according to the ability.

The company encourages and supports employee's skills and knowledge to motivate talent employees and to be good employees staying with the company. The structure of remuneration and welfare management for employees are assessed by the performance of each employee with annual compensation adjustments, including promotion by the ability

to work in the field. The company has the criteria for evaluating the performance of employees to assess knowledge, ability, and responsibility in the operation, in order to encourage employees to work effectively. The results of the assessment

are to be presented to the Executive Board for final consideration which makes assessment straight forward and righteous caused the turnover rate in 2018 from 21% to 12% in 2019.

A Graph of Employee Resignation Ratio



*304 employees in 2019

**Information on 31st December 2019

Number of employees and Type of employment

2 years historical statistics of staff number as of December 31st, 2018 is 1,932 persons and December 31st, 2019 is 2,457 persons by divided as follows:

Employment Ratio

Description Amount (person)	Y2018		Y2019	
	Amount (person)	Percent	Amount (person)	Percent
Gender				
Male	1,375	71%	1,777	72%
Female	557	29%	680	28%
Types of employment				
Permanent Employee	1,191	62%	1,064	43%
Contract employee	359	18%	520	21%
Daily-employee	382	20%	873	36%
Level				
Top management	39	2%	39	2%
Middle management	271	14%	258	10%
Operational	1,622	84%	2160	88%

Description Amount (person)	Y2018		Y2019	
	Amount (person)	Percent	Amount (person)	Percent
Age				
30 years old	639	33%	766	31%
31 - 50 years old	1,141	59%	1,456	59%
Above 51 years old	152	8%	235	10%
Workplace				
Head office	1,241	64%	1,035	42%
Domestic sites	648	34%	1,403	57%
International sites	43	2%	19	1%

New attendance and termination/ termination*

Description Amount (person)	Y2017		Y2018	
	Amount (person)	Percent	Amount (person)	Percent
New employees classified by gender				
Male	578	30%	1,124	46%
Female	271	14%	348	14%
New employee classified by age				
Under 30 years old	378	20%	657	27%
31 - 50 years old	432	22%	714	29%
Above 51 years old	39	2%	101	4%
Termination classified by Gender				
Male	1,681	87%	834	34%
Female	515	27%	266	11%
Termination classified by Age				
30 years old	758	39%	460	19%
31 - 50 years old	1,245	64%	560	23%
Above 51 years old	193	10%	80	3%

*Termination means employee who resigned, dismissed, retired or deceased. The number of female employees took maternity leave and resume work.

Description	Y2018	Y2019
On maternity leave	15	12
Resume work	13	10

The company has annually reviewed and planned personnel rates to prepare personnel to be consistent and adequate with the amount of work and the number of institutions that are expected to occur each year; in order to acquire personnel with appropriated qualifications and potential in the amount and the suitable time.

Employment and Compensation Description

Employment Description

Company focuses on employment process and compensation payment fairly with same standards to all staff, And also gives the precedent to human rights equally by experiences with no gender or nationality classification.

Covering women, disabled and underprivileged people with equality, to have the same standard throughout the company including consideration of human right and respect for children right. The company has a policy to against child labor; therefore, the employment is divided by experience and field of work into 3 types which are:

1. Permanent Employee. An employee who is employed without predetermined date by getting paid monthly and able to work until retirement as long as rules and regulations is compiled and not violated, including no intention to do harm with the company.

2. Contract Employee. An employee who is employed with predetermined end date and gets paid monthly.

3. Daily Staff. An employee who is employed with daily/ hourly or piece of work rate with the nature of work that may works shifts.

Compensation

The company pays attention to the remuneration of employees because the company recognizes the importance of work compensation which is an important factor that gives employees well-being and stability in their career which results in employees work with pride and are ready to create work for the company. The company has a guideline for

determining employee compensation in a level not lower than the minimum wage of the country as required by law. Determined by the company to have a standard of remuneration for employees and personnel appropriately. According to duties and responsibilities equal wage determination. There is equal wage determination, no separation of religion, ethnicity and covering women groups. People with disabilities or disadvantaged groups by having a job announcement wages and compensation including various welfare preliminary before the start of work and each year, the company has arranged for performance evaluation to adjust the remuneration for employees according to past work results by dividing the assessment criteria into 2 parts as follows:

1. Employee level

2. Assistant level, supervisor or higher supervisor

The evaluation results are summarized to present to the Executive Committee that considers the wage determination Compensation or special remuneration (bonus). The remuneration will be set in accordance with the company's performance by considering both short and long term including in accordance with the compensation of the same industry as well as providing various benefits to enhance the quality of life of employees.

In addition, the company pays attention to the payment of wages, salaries and welfare to employees in a complete and timely manner. The company has carefully and effectively planned the compensation and welfare management of employees.

Proportion of Salary Rate and Remuneration by Gender

Wage Payment	2561 (THB)	2562 (THB)
Salary Rate and Remuneration by Gender		
Male	65,345,517	85,777,287
Female	22,052,105	24,357,771

Policy for Special Incentive (Bonus)

The Special incentives (bonus) will be paid based on the performance of the organization indicates that reflects the achievement of employee efforts dedicated to the organization and pay bonuses to this format. Encourages employees to attempt to make the company to have good performance, which will affect his bonus and also attract to people who are interested in joining the organization including maintaining employee relations within the organization.

Provident Fund

The Provident Fund is voluntarily established by the employer to the employees that being a provident fund membership besides providing employees having money upon retirement and financial guarantee to families including other benefits such as tax incentive.

Empowerment and Human Resources Development

The company aims to develop employee's potential, knowledge and skills in an appropriate way continuously in line with business growth and employee needs in each job description focusing on enhancing skills for new employees and increase employee proficiency. Training program focuses on developing the skills and capabilities and communication skills complied with company business plan.

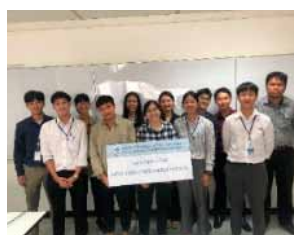
Apart from training, company also has outing activities to enhance professional skills and expertise in jobs. Encourage employee to be creative and have a better understanding towards the work procedure. In year 2019, there are 4 types of training as follows:

1. Company General Training

1.1 New Employees Course

It is a preliminary course that new employees will receive training as follows:

- Company regulations
- Policy and practice on anti-corruption
- Knowledge and understanding of IT policies on maintaining confidentiality of the company in the year 2019, there were 196 trainees.



Picture of New Employee Course

1.2 Basic Safety Training

For employees to reduce health hazards and promote work safety, such as the “Basic Safety for General Employee and New Employee” program in 2019, with a total of 120 trainees.



Picture of Basic Safety Course

1.3 Quality, Occupational Health, Safety and Environmental Management Systems Awareness Training

This course is to create awareness in the management system of quality, occupational health, safety and the company’s environment for new employees for creating an understanding of the overall quality management system of occupational health. The safety and environment of the company in the year 2019 has already trained a total of 122 people.



Picture of Quality, Occupational Health, Safety and Environmental Management Systems Awareness Training

1.4 Basic Firefighting Training

The company conducted the basic fire training for employees at Klong Toey Fire Station with a disaster prevention and mitigation officer as a lecturer for knowledge of both the impression and practice. In order to provide employees with knowledge and understanding about fire protection and initial firefighting in the year 2019, there were 116 trainees.



Picture of Basic Firefighting Training

1.5 Training and Seminar for Executives Level

- IOD Special Event 1/2019 Board of Future
- Investment Myanmar Summit 2019
- The 1st seminar to disseminate project information and public participation
- PWC Forensics Seminar on Employee Fraud and the Labour Law in Action
- The effect of new financial reporting standards about the revenue recognition from contract made with customers TFRS15 and contract of rent TFRS16
- Management Accounting for Planning and Decision Making
- Director Accreditation Program DAP
- Unleashing Blockchain in Finance and Beyond
- AGM 2019 & Networking Reception
- Tips and Tricks for Dealing with Question in AGM
- Corporate Governance for Executives
- IOD National Director Conference 2019
- Things about IT that board wants to know but not dare to ask
- DCP Series 4/2019: How to develop a winning Digital Strategy
- Chairman Forum 2019: Successful Corporate Culture Change: from Policy to practices
- Audit Committee Forum “Strategic Audit Committee: Beyond Figure and Compliance”
- Thailand’s 10th National Conference on Collective Action against Corruption titled “Innovations in the Fight against corruption”
- TFRS no. 9 Financial tools effective in 2020

2. On the Job Training

In 2019, there were 2,169 employees who have received training while performing work.

3. Special Training

The company has organized a training and development program for systematic learning for employees within the organization. To develop personnel to recognize attitudes and learn other people’s behaviors, including being able to analyze problems with a system, making work more efficient by focusing on learning and practicing real practice.

3.1 Course of Communication and Systematic learning

- There are a total of 4 training courses, 12 groups, including 490 participants.
- Course of High Impact Presentation
- Course of Better Mindset
- Course of Team work Powerful Game Coaching
- Course of Leadership Mindset



Picture of Course Systematic Learning

4. Engineering and Project Execution Training

It is a training that is held to educate understanding of the work of employees in each department. The training will be divided into 2 types: training for new employees and training for experienced employees which will be training in specific engineering tasks and will enable employees to have better knowledge and ability in the assigned job.



Picture of Engineering and Project Execution Training

Budget for Developing Potential Staff in Year 2019

Type	Cost (Baht)	Average per person (Baht)
Training courses for both in-house	890,154.37	425.71
Training courses for both Public	762,836.75	9,779.95

Achievement

Type	Particulars	Cost (Baht)	Total
(In-House Training)	- (Company General Training)	803,654.37	370 courses
	- (On the Job Training)	-	
	- (Special Training)	6,500	
	- (Engineering and Project Execution Training)	80,000	
(Public Training)	- Sending staff to train by external academy	762,836.75	82 courses

Hours of Annual Training 2019

Statistics from 2,169 people categorize as follows:

Description	Amount (Hour)	Average per person (Hour)
Classified by Job function		
Management (31 persons)	238	7.67
Project (1,345 persons)	9,048	6.72
Engineering (699 persons)	4,143.55	5.92
Support (94 persons)	580	6.17

Classified by gender		
Female (590 persons)	3,634.50	6.16
Male (1,579 persons)	10,375.05	6.57
Classified by type		
Internal Training (2,091 persons)	13,328.55	6.37
External Training (78 persons)	681	8.73
Total of training hour	14,009.55	6.45

After training and developing personnel, we have surveyed staff contentment for training course improvement and guidelines for enhancing knowledge. The ability of personnel drives the organization to the goal and fully demonstrates the potential of work.

Employee Welfare

Apart from the minimum welfare according to the labor law, we also provide the additional welfare to employee by establishing the welfare committees which come from the election in every 2 years. Moreover, employees at all level have the right to apply to be a welfare committee performs as representative in negotiating with the company about welfare, procedure or agreement that affect employees. In order to receive a comment and suggestion from employee, this encourages cooperation between company and employee for employee benefit. In addition we also arrange activities to create harmony among staff such as Company's Sport Day and New Year party.

The Company has registered the employees with the Social Security Office and contribution to Social Security Fund for both employer and employee, in year 2019, TTCL has registered and contributed with Social Security Fund as details below:

Employer part is	18,983,354	Baht
Employee part is	18,983,354	Baht

Summary Welfares;

Description	Y2018 (Person)	Y2019 (Person)
Annual Health Checkup	2,419	1,681
Health Insurance	1,282	1,041
Vaccination for Influenza	652	768
Welfare for Employee Retirement	3	4
Provident Fund	1,040	856
Others		
- Get Well Soon Basket	46	56
- Wreath	17	33
- Staff Funeral	-	5
- Direct Relative's Staff Funeral	48	48
- Marriage Welfare	68	51
- Medical Care for Foreign Staff	30	22
- Medical Care for Daily Employee	9	2

Sustainable Development Goals of TTCL (SDGs)

TTCL is committed to contribute to the achievements of both national and global sustainable goals by prioritizing and integrating selected SDGs into the operational activities of the organization, which is conducted by leading global organizations to serve as operational guidance for the business sector to achieve Sustainable Development Goals. TTCL has focused to be integrated into the operational activities and projects of the company to promote sustainable development on the international level. TTCL has followed the Sustainable Development Goals as follows:

- | | |
|---------------------------------------|--|
| 1. No poverty | 10. Reduced inequalities |
| 2. Zero hunger | 11. Sustainable cities and communities |
| 3. Good health and well-being | 12. Responsible consumption production |
| 4. Quality education | 13. Climate action, Goal |
| 5. Gender equality | 14. Life below water |
| 6. Clean water and sanitation | 15. Life on land |
| 7. Affordable and clean energy | 16. Peace, justice and strong institutions |
| 8. Decent work and economic growth | 17. Partnerships for the goals |
| 9. Industry innovation infrastructure | |



Source : <http://www.un.or.th/globalgoals/th/the-goals/>

TTCL supported direct and indirect sustainable development goals in accordance with a business operation. The operation's results of TTCL in promoting the sustainable development goals are appeared in this report as follows;

The table shows the operations and goals to respond to sustainable development goals.





Management and Responsible Operations	1 People	2 Climate	3 Energy	4 Innovation	5 Society	6 Community	7 Environment	8 Economic	9 Innovation	10 Society	11 Environment	12 Society	13 Environment	14 Society	15 Climate	16 Society	17 Environment
Economic																	
Directly supervise TTCL business activities, followed by the human rights					*					*							
Support the supply chain operations in construction project services to relate with the human rights					*					*							
Reinforce the business growth by concerning about the environmental effect and stakeholders engagement						*						*					
Management the organization by corporate governance										*						*	
Code of conduct and code of business ethics and regulation to management, employees and business partners										*						*	
Supervisory the operations to be related TTCL's policies and regulation										*						*	
Encourage the knowledge and understanding in the principle of corporate governance for every employee										*						*	
Manage the effective valued supply chain										*						*	
Adhere the business operations fairly and transparently										*						*	
Social																	
Social and community assistance	*	*	*	*													
Participation in community relation and common value creation		*			*												
Improve services to approach the customer need			*	*					*								
Hiring the locality around to have a good occupation for their family			*	*							*						
Social responsibility around the working area			*	*							*						
Forming the participation with the community and stakeholders			*	*								*			*		*
Environment / Safety																	
Reduce garbage and waste			*	*													
Build the sustainable innovations and services			*	*					*								
Create the standard of security in working and providing services			*	*					*								
Security standard is created for employees and partners			*	*					*								
Reduce the accident from the high working place			*	*						*							
Enhance the security standard with the new operation system			*	*						*							
Occupation safety and health			*	*					*								
Environmental management						*						*		*			
Reduce the import of fuel and fossil							*					*	*				
Electrical generating from the renewable energy							*					*	*				
Reduce the carbon dioxide							*					*	*				
Innovation in organization level									*			*					
Solar energy safe environment									*			*					
Develop the locality from operating the power plant									*			*					
Recycle material substitutes using natural resources									*			*			*		
Provide the working and services security standard									*			*					
Saving energy for the construction project									*			*					
Education / Knowledge Development																	
Reinforce potential and quality of life by employee participation	*	*	*	*	*												
Creating an inspiration and retaining potential employees																	

	1 People	2 Energy	3 Health	4 Education	5 Environment	6 Society	7 Innovation	8 Economic	9 Social	10 Cultural	11 Political	12 Environmental	13 Economic	14 Social	15 Cultural	16 Political	17 Environmental
Management and Responsible Operations																	
Encourage the education and employee development																	
Acknowledge about the energy for employees																	
Improve services to approach the customer need																	
Health																	
Encourage employee for good health																	
Annual health check for employees																	
Vaccination to protect sickness																	
Check on the accommodation of the subcontractor for a good living and to perform rules regularly																	
Build up the personnel and quality of life in working to lead to the highest effective organization and having good health																	
Long-Term Social Responsibility Project (Continuing)																	
Education / Knowledge Development																	
The Basic Fire and Emergency Drill																	
Development of Potential Employees																	
Training for regulations, rule and welfare of company																	
Social																	
TTCL Platelets Donation																	
TTCL Blood Donation																	
Medical Treatment																	
Reusable Aluminium and Equipments																	
Reward for good model in the workplace																	
Job Fair & Cooperative Education																	
Environment																	
Dust and soil scrap reduction project																	
Clean Canal for Environment																	
Renewable Energy Business Development Project in Biomass Fuel																	
Ink Cartridge Reduction Project																	
Recycle Plastics Project for Society and Environment																	

Pride of TTCL

The company encourages 17 goals (Sustainable Development Goals), but we have prioritized by considering the impact on stakeholders and company's operation in accordance with strategy for goals as follows:

Pride

Technology Wealth Creating & National Valued Creating 	Business Transparency 	Promoting Shared Value Creation for Society and Demonstrating Environmental Responsibility 	Expanding Growth and Investment Management of All Business Groups 
Performance <ul style="list-style-type: none"> • Apply of latest 3D computer aid design to design, review and check prior to procurement, construction and installation in order to improve the construction. • Apply of Solar PV specific design and engineering software for optimum efficiency. • Entered a Procurement and Construction Contract for MOCD2 Project with Map Ta Phut Olefins Company Limited, Rayong Province. The contract value investment is Approx. USD 140 - 150 million (Equivalent THB 4,480 - 4,800 million). • Entered into an Engineering, Procurement and Construction Contract for Package D (LLDPE Plant) of Long Son Petrochemicals Project with Long Son Petrochemicals Company Limited at Ba Ria Vung Tau Province, Vietnam. The total investment worth Approx. USD 200 - 220 million (THB 6,400 - 7,040 million in equivalent). 	Performance <ul style="list-style-type: none"> • Determine rules and regulations of anti-corruption laws roles, duties and responsibilities. • Signed the announcement to join the Thai private sector collective action coalition against corruption. 	Performance <ul style="list-style-type: none"> • Collaborate with Skyonic Corporation Inc. in USA as EPC Contractor and equity investor successfully built the commercial scale carbon capture plant from cement factory to convert into carbonate compound and useful chemical. • Collaborate with Siam Solar Power Plc., JV Company and Tokyo Electron in Japan, testing the commercial prototype to collect and analyze of Dust Collection Effect to Production Yield, Degradation Monitoring and Calculation of suitable panel cleaning timing for cleaning cost reduction. • Collaborate with Pornvilai Co., Ltd. Develop Biogas Project to generate biogas as fuel for electricity generation. • Collaborate with domestic and overseas alliances for development of biomass quality for the purpose of co-firing in coal-fired power plant, target to increase of carbon dioxide. 	Performance <ul style="list-style-type: none"> • Expand the opportunity by raising the level of service to become a Regional EPC Contractor in order to receive high value projects in abroad such as Vietnam, China, USA, Malaysia, Myanmar, Philippines and Middle East countries. • Selected to pass the assessment criteria of "List of Sustainable Stocks", a listed company with outstanding environmental, social and governance (ESG) performance from the Stock Exchange of Thailand.

TTCL has assessed corporate actions against all 17 of the UN SDGs. TTCL is working toward all 10 goals although in varying degrees. As a result, we have selected 10 SDGs that are in line with our sustainability development strategy and our stakeholders' expectations for further actions. TTCL has established plans to achieve these goal by continuously improve on existing plans and expand on existing plans/projects.

Responsible Management and Operation

Goals (SDGs)	Plan	Value to Company	Plan 2018	Plan 2019	Goal 2020
Economic					
3	Service development to approach the requirement of customer	<ul style="list-style-type: none"> Retain old customers Gained trust and confidence from customers 	<ul style="list-style-type: none"> Job service according to customer's requirement Retain old customers Provide consult or recommend good works to customers Offer modern innovation to customers Fairly operating such as recruitment with no gender discrimination and with equal rights for stakeholders 	<ul style="list-style-type: none"> There are more customers from both domestic and international. Offer new innovation to customers 	<ul style="list-style-type: none"> There are more customers from both domestic and international. Offer new innovation to customers
5	Corporate Governance in the business activity operation to direct of TTCL in according human rights	<ul style="list-style-type: none"> Be fair for stakeholders. 	<ul style="list-style-type: none"> Create supply chain structure of business Separate supply chain operations Create a guideline for good corporate governance Inform Management and employees to acknowledge the various operations to concern with good corporate governance principles Follow up the operation result and report to Board of Directors in meeting 	<ul style="list-style-type: none"> External organizations accept the company operation 	<ul style="list-style-type: none"> External organizations accept the company operation
10	Encourage the operation in Supply Chain of construction project service in accordance with human rights. Management by adhering to Good Corporate Governance.	<ul style="list-style-type: none"> Clear performance of the business operation structure Create operational principles. 	<ul style="list-style-type: none"> Upload the information on company's website for stakeholders to acknowledge the company's practices 	<ul style="list-style-type: none"> The operation is in accordance with the defined supply chain Build trust for stakeholders Improvement and development of information in accordance with the good corporate governance principle set by the Securities and Exchange Commission (SEC) 	<ul style="list-style-type: none"> The operation is in accordance with the defined supply chain Build trust for stakeholders Improvement and development of information in accordance with the good corporate governance principle set by the Securities and Exchange Commission (SEC)
	Code of Conduct and Code of Business Ethics and regulation for management employees and business partners.	<ul style="list-style-type: none"> Create operational principles 	<ul style="list-style-type: none"> Upload the information on company's website for stakeholders to acknowledge the company's practices 	<ul style="list-style-type: none"> Improvement and development of information in accordance with the company's practices successfully Stakeholders acknowledge the the company's practices 	<ul style="list-style-type: none"> Improvement and development of information in accordance with the company's practices successfully Stakeholders acknowledge the the company's practices
	Good Corporate Governance operates in accordance with policy and regulation of TTCL	<ul style="list-style-type: none"> Create operational principles 	<ul style="list-style-type: none"> Upload the information on company's website for stakeholders to acknowledge the company's policy and practices 	<ul style="list-style-type: none"> Improvement and development of information in accordance with the company's policy and practices successfully. Stakeholders acknowledge the the company's policy and practices Permanent employees, new employees and trainees can understand the information successfully 	<ul style="list-style-type: none"> Improvement and development of information in accordance with the company's policy and practices successfully. Stakeholders acknowledge the the company's policy and practices Permanent employees, new employees and trainees can understand the information successfully
16	Encourage knowledge and understanding in Corporate Governance to all employees	<ul style="list-style-type: none"> Create operational principles 	<ul style="list-style-type: none"> Provide orientation for permanent employees to acknowledge the information Provide orientation for new employees and trainees before working Inform the stakeholders, employees and related persons to acknowledge the transparent operations on company's website 	<ul style="list-style-type: none"> Permanent employees, new employees and trainees can understand the information successfully 	<ul style="list-style-type: none"> Permanent employees, new employees and trainees can understand the information successfully
	Adhering to conduction business fairly and transparently	<ul style="list-style-type: none"> Create trust with stakeholders 		<ul style="list-style-type: none"> Every type of business is strictly adhered to be fair and transparent. 	<ul style="list-style-type: none"> Every type of business is strictly adhered to be fair and transparent.

Goals (SDGs)	Plan	Value to Company	Plan 2018	Plan 2019	Goal 2020
1, 2	Strengthen potential and life quality by cooperating with employees	<ul style="list-style-type: none"> Create more potential employees in working Retain good employees in developing the company 	<ul style="list-style-type: none"> Organize various knowledge training for employees 	<ul style="list-style-type: none"> Create knowledge and skills for employees to be used in the working The employees help to develop the company's business 	<ul style="list-style-type: none"> Create knowledge and skills for employees to be used in the working The employees help to develop the company's business
	Helping social and community	<ul style="list-style-type: none"> Take care of the community for well-being Encourage good communities around construction project Strengthen good relationships and confidence for the community 	<ul style="list-style-type: none"> The development of the livelihood of the community in the profession, environment and safety 	<ul style="list-style-type: none"> Build a strong community and believe in housing 	<ul style="list-style-type: none"> Build a strong community and believe in housing
	Encourage good health to employees	<ul style="list-style-type: none"> Keep employees to work with the company Employees have good health 	<ul style="list-style-type: none"> Encourage employees to exercise and have good health 	<ul style="list-style-type: none"> Reduce employee illness Employees have good health in working 	<ul style="list-style-type: none"> Reduce employee illness Employees have good health in working
	Annual medical examination for employees	<ul style="list-style-type: none"> Pay attention to the health of employees Employees have good health 	<ul style="list-style-type: none"> Arrange Medical Examination plan for employees Good welfare for employees 	<ul style="list-style-type: none"> The company cares about the employees' health. Employees pay attention to health care. 	<ul style="list-style-type: none"> The company cares about the employees' health. Employees pay attention to health care.
3	Influenza Vaccination	<ul style="list-style-type: none"> Prevent disease for employees. Employees have good health. 	<ul style="list-style-type: none"> Arrange annual influenza vaccination Check employees' health annually 	<ul style="list-style-type: none"> Fewer sick leaving of employees Reduce transmission in the company 	<ul style="list-style-type: none"> Fewer sick leaving of employees Reduce transmission in the company
	Hiring community around construction project to have good career for family	<ul style="list-style-type: none"> Helping communities around construction project The communities know more company 	<ul style="list-style-type: none"> Hire the communities to sell food in area construction project Encourage food selling of communities For convenience in serving food to employees. 	<ul style="list-style-type: none"> Build a community to have a good career Employees reduce more costs. Generate income for the community 	<ul style="list-style-type: none"> Build a community to have a good career Employees reduce more costs. Generate income for the community
	Building schools for children in community around construction to good education	<ul style="list-style-type: none"> Helping Children around the construction project to have access to education 	<ul style="list-style-type: none"> Society has quality workforce according to need of labor market Youth have more opportunities to work. Reduce unemployment rate 	<ul style="list-style-type: none"> Students use their knowledge to study at a higher level. Use knowledge to a career in the future 	<ul style="list-style-type: none"> Students use their knowledge to study at a higher level. Use knowledge to a career in the future
	Attraction and retention	<ul style="list-style-type: none"> Keep quality employees in the company Cultivate employees to love the organization Employees are conscious of their work. 	<ul style="list-style-type: none"> Provide good courses training for employees 	<ul style="list-style-type: none"> Encourage employees to participate in company activities. Establish good curriculum plans for employees 	<ul style="list-style-type: none"> Encourage employees to participate in company activities Establish good curriculum plans for employees
4	Encourage learning and employees development incessantly	<ul style="list-style-type: none"> Employees use the knowledge gained to develop relevant work. Employees show confidence to visitors. 	<ul style="list-style-type: none"> Provide good courses training for employees 	<ul style="list-style-type: none"> Employees are more experts in the job. Create new designs to offer customers 	<ul style="list-style-type: none"> Employees are more experts in the job. Create new designs to offer customers
	Creating cooperation with community and stakeholders	<ul style="list-style-type: none"> Build a good relationship Help the community around construction projects 	<ul style="list-style-type: none"> Organize CSR project plans to join with stakeholders Participate in helping the stakeholders in urgent cases 	<ul style="list-style-type: none"> Build helping communities around project The communities know more construction project. 	<ul style="list-style-type: none"> Build helping communities around project The communities know more construction project.
	Environment				
	3	Reduce garbage and waste	<ul style="list-style-type: none"> Classify garbage and waste Public relations campaign to reduce garbage 	<ul style="list-style-type: none"> Reduce smell spread Proportional storage of garbage and waste. Regularly check the storage area Develop projects to invest Seek and develop new innovations and knowledge Develop and improve the engineering design system to be up to date. 	<ul style="list-style-type: none"> Reduce smell spread Proportional storage of garbage and waste Regularly check the storage area Develop projects to invest Seek and develop new innovations and knowledge Develop and improve the engineering design system to be up to date.
3	Reduce garbage and waste	<ul style="list-style-type: none"> Reduce pollution and reduce smell of garbage around construction project Storing garbage by sorting waste on a weekly basis 	<ul style="list-style-type: none"> Classify garbage and waste Public relations campaign to reduce garbage 	<ul style="list-style-type: none"> Reduce smell spread Proportional storage of garbage and waste. Regularly check the storage area Develop projects to invest Seek and develop new innovations and knowledge Develop and improve the engineering design system to be up to date. 	<ul style="list-style-type: none"> Reduce smell spread Proportional storage of garbage and waste Regularly check the storage area Develop projects to invest Seek and develop new innovations and knowledge Develop and improve the engineering design system to be up to date.
	Creating innovation and sustainable service	<ul style="list-style-type: none"> Offer new innovations to customers New customers increase Reduce construction time faster. 	<ul style="list-style-type: none"> Seek business partners 	<ul style="list-style-type: none"> Develop projects to invest Seek and develop new innovations and knowledge Develop and improve the engineering design system to be up to date. 	<ul style="list-style-type: none"> Develop projects to invest Seek and develop new innovations and knowledge Develop and improve the engineering design system to be up to date.

Goals (SDGs)	Plan	Value to Company	Plan 2018	Plan 2019	Goal 2020
7, 12	Creating work and service safety standard	<ul style="list-style-type: none"> Reduce accidents while working Reduce the death of employees Be confidence in the operation 	<ul style="list-style-type: none"> Arrange safety standard training for employees 	<ul style="list-style-type: none"> Employees and vendors follow more standards. Reduce accidents at work Can apply standards to work Build confidence for employees and vendors 	<ul style="list-style-type: none"> Employees and vendors follow more standards. Reduce accidents at work Can apply standards to work Build confidence for employees and vendors
	Checking subcontractor's accommodation regularly to comply with the rules	<ul style="list-style-type: none"> Protect safety Do not cause drug abuse Not to cause controversy Stakeholders strictly follow rules and regulations. 	<ul style="list-style-type: none"> Regularity check accommodation for safety Stakeholders must follow the rules Maintain the well-being of stakeholders 	<ul style="list-style-type: none"> Free from contamination or alcohol Stakeholders must strictly follow the rules. 	<ul style="list-style-type: none"> Free from contamination or alcohol Stakeholders must strictly follow the rules.
	Checking the effectiveness of safety operations	<ul style="list-style-type: none"> Comply with the standards Check safety after working every time 	<ul style="list-style-type: none"> Provide safety training in various functions for employees to become familiar Perform an evaluation after safety operation every time Safety standard training for employees 	<ul style="list-style-type: none"> Reduce accidents Employees are confident and have full operational skills. The company has a reputation for operational standards. 	<ul style="list-style-type: none"> Reduce accidents Employees are confident and have full operational skills. The company has a reputation for operational standards.
	Creating safety standard to employees and vendors for complying	<ul style="list-style-type: none"> Reduce accidents Comply with company policy Establish safety standards in operations in the organization 	<ul style="list-style-type: none"> Safety standard training for employees 	<ul style="list-style-type: none"> Employees and vendors follow more standards. Reduce accidents Can apply standards to work Build confidence for employees and vendors 	<ul style="list-style-type: none"> Employees and vendors follow more standards. Reduce accidents Can apply standards to work Build confidence for employees and vendors
	Reduce accident from high work	<ul style="list-style-type: none"> Keep employees in the company Reduce accidents in operation 	<ul style="list-style-type: none"> Organize training to knowledge and practice of safety before entering work in high places 	<ul style="list-style-type: none"> Reduce accidents Employees are confident in working 	<ul style="list-style-type: none"> Reduce accidents Employees are confident in working
	Raise the safety standard with a new system	<ul style="list-style-type: none"> Create safety standard in working in company 	<ul style="list-style-type: none"> Arrange safety standard training for employees 	<ul style="list-style-type: none"> Employees follow more standards. Reduce accidents Can apply standards to work 	<ul style="list-style-type: none"> Employees follow more standards. Reduce accidents Can apply standards to work
	Safety and Health	<ul style="list-style-type: none"> Reduce accidents Comply with company policy 	<ul style="list-style-type: none"> Provide training to educate employees 	<ul style="list-style-type: none"> Improve and develop work systems to control the environment and work safety. 	<ul style="list-style-type: none"> Improve and develop work systems to control the environment and work safety.
	Reduce fossil fuel import	<ul style="list-style-type: none"> Reduce resource usage Reduce greenhouse gas emissions Reduce resource costs and waste management 	<ul style="list-style-type: none"> Develop a plan to improve the quality improvement project 	<ul style="list-style-type: none"> Reduce fuel emissions Reduce transportation and storage costs 	<ul style="list-style-type: none"> Reduce fuel emissions Reduce transportation and storage costs
	Electricity production from renewable energy	<ul style="list-style-type: none"> Reduce resource usage Reduce greenhouse gas emissions Reduce resource costs and waste management 	<ul style="list-style-type: none"> Develop production processes 	<ul style="list-style-type: none"> Use clean energy Not affecting the environment Effective for stakeholders 	<ul style="list-style-type: none"> Use clean energy Not affecting the environment Effective for stakeholders
	Reduce carbon dioxide emissions	<ul style="list-style-type: none"> Reduce resource usage Reduce greenhouse gas emissions Reduce resource costs and waste management 	<ul style="list-style-type: none"> Provide training to knowledge in using resource worthily 	<ul style="list-style-type: none"> Reduce carbon dioxide and greenhouse gases Prepare carbon dioxide capture project 	<ul style="list-style-type: none"> Reduce carbon dioxide and greenhouse gases Prepare carbon dioxide capture project
	Increase knowledge and energy awareness for employees	<ul style="list-style-type: none"> Employees help save energy, costs and resources Reduce energy consumption. 	<ul style="list-style-type: none"> Reduce costs in using energy 	<ul style="list-style-type: none"> More cost savings in the organization Reduce energy consumption each time 	<ul style="list-style-type: none"> More cost savings in the organization Reduce energy consumption each time
13	Save energy at construction projects	<ul style="list-style-type: none"> Save cost Reduce energy consumption 	<ul style="list-style-type: none"> Save cost Reduce energy consumption 	<ul style="list-style-type: none"> More cost savings in the organization Reduce energy consumption each time. 	<ul style="list-style-type: none"> More cost savings in the organization Reduce energy consumption each time.

Supply Chain Management

The company is committed to focus on supply chain management to ensure quality and efficiency by operating with transparency and fairness while also considering the impact on society and environment which have divided the supply chain operations into 3 types ; Operation of Construction Project Services, Sustainable Supplier Management and Principle of “Children’s Rights and Business Principles - CRBP” to consider and analyze the sustainable corporate social responsibility issues in all economic, social and environment dimensions.

Operation of Construction Project Services

Stakeholders Analysis for Construction Project Services

	Process					Stakeholders				
	Contract & Status Control	Engineering	Procurement	Construction	System Test	Delivery	Customer			
Workplace	<ul style="list-style-type: none"> Company Customer Employee Business Partners Sub-contractors Government Authorities Licensors Business Competitors Consultants (Project Management Consultant) 	<ul style="list-style-type: none"> Company Customer Employee Vendors/ Suppliers Licensors Government Authorities Consultants (Project Management Consultant) 	<ul style="list-style-type: none"> Company Customer Employee Vendors/ Suppliers Sub-contractors Contractors 	<ul style="list-style-type: none"> Company Customer Employee Vendors/ Suppliers Sub-contractors Community 	<ul style="list-style-type: none"> Company Customer Employee Vendors/ Suppliers Sub-contractors 	<ul style="list-style-type: none"> Company Customer Employee 	<ul style="list-style-type: none"> Company Customer Employee 			
Marketplace	<ul style="list-style-type: none"> Company Customer Employee 	<ul style="list-style-type: none"> Company Customer Employee Vendors/ Suppliers 	<ul style="list-style-type: none"> Company Customer Employee Vendors/ Suppliers Contractors 	<ul style="list-style-type: none"> Company Customer Employee Sub-contractors 	<ul style="list-style-type: none"> Company Customer Employee Contractors 	<ul style="list-style-type: none"> Company Customer Employee 	<ul style="list-style-type: none"> Company Customer Employee 			
Community & Environment				<ul style="list-style-type: none"> Community 						
Impact/ Risk	<ul style="list-style-type: none"> Time to find new small contractors Lower profit There are options for equipment, purchase or stakeholders to find quality equipment. 	<ul style="list-style-type: none"> Delaying information from customers will affect the project delivery schedule. No specific work experience will have to spend more time studying and designs that are slower than work previously done. Control of design plans that take a long time may cause more errors. 	<ul style="list-style-type: none"> Limited cost and makes recruiting difficult equipment. 	<ul style="list-style-type: none"> Construction causes environmental and community impacts such as noise, dust, waste water. In the case of a community complaint, causing the construction project to be interrupted and resulting in increased costs 	<ul style="list-style-type: none"> No operational experience. Performance that is not up to standard, causing work to be delayed 	<ul style="list-style-type: none"> Delay operations resulting in fines being called Lack of trust and trust in getting new construction work in the future Delayed delivery that did not meet the deadline 	<ul style="list-style-type: none"> Customers are dissatisfied with the service after project delivery. An error occurred after delivering the job. 			
Results	<ul style="list-style-type: none"> Get new small contractors according to specified criteria Competitive and fair bidding Proposing short-term construction periods but receiving construction quality Design cost control procurement and construction to be effective 	<ul style="list-style-type: none"> Control of design operations and resource allocation in the design to be efficient 	<ul style="list-style-type: none"> Control of operational planning and costs of procurement and efficiency The device can be delivered on time. Good quality work Good management experience Closely supervised 	<ul style="list-style-type: none"> Construction planning control to be effective Control of the construction process and the allocation of construction resources to be effective Construction quality control for efficiency Effective safety control during construction 	<ul style="list-style-type: none"> Construction planning control to be effective Control of the construction process and the allocation of construction resources to be effective Construction quality control for efficiency Effective safety control during construction 	<ul style="list-style-type: none"> Gain trust and reputation Reduce costs Save time Receive new construction projects 	<ul style="list-style-type: none"> Effective control of service operations after project delivery Monitoring services after project delivery for efficiency Assessment of service satisfaction after project delivery from customers Gain trust and reputation Reduce the cost of after-sales service Receive additional work and praise from customers Gain profits from the construction process 			

Sustainable Supplier Management

Procurement Services for Suppliers

Company has operated under the company quality purchasing control procedure. The company has realized the importance of social and environment issue in the procurement process by determining the social and environment issue in company quality purchasing control procedure and General Terms and Conditions of company. In addition, the company has included these criteria in the selection of suppliers.

Operating Guidelines

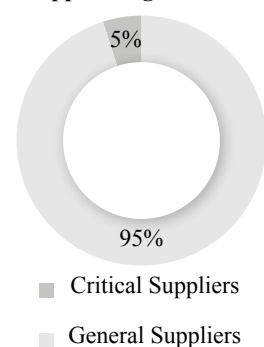
The company has a role in the development and continuously encouraging business suppliers throughout the value of chain to conduct sustainable business.

Risk Assessment and Segmentation Suppliers

In the year 2019, the company manages the risk assessment and organizes business groups in supply chain management by having more than 700 companies which are divided into business groups as follows:

Business Group	Company (amount)	Calculate (%)
Critical Supplier (Analyzed from Trade Value)	42	5%
General Supplier (Manufacturer, Product Distributor and Directly Services for Company)	Over 650	95%

Supplier Segmentation



Risk Assessment of Suppliers.

The company has guidelines and methods to clearly identify the economic risks causing by suppliers of company. In addition, the company also has criteria for managing risks in controlling the economic social and environment causing by suppliers for employees to control and monitor contractors and suppliers.

The risk assessment committee will continually review and assess the risk causing by suppliers. The assessment results in the year 2019, the company has low level of risk.

The company has guidelines and methods for identifying the risks causing by suppliers of company covering social and environmental issue. The company prepared Company Supportive Procedure for Subcontractors /Vendors Evaluation which specifies social and environment evaluation criteria.

Supply Chain for Child Rights with Connection to the Company's Operation

The company provides engineering design services that conduct business with corporate social responsibility and the importance of child labor prevention in the corporate social responsibility and sustainable development policy that is related to the business supply chain. The company has therefore adopted 10 principles (Children's Rights and Business Principles - CRBP) of the UNICEF to review the corporate social responsibility and sustainable development policy related to various projects, these are Framework of Child Rights Integration, Child Rights Integration, Mapping the CRBP in Business Areas, Impact Assessment for Children's Rights, Materiality Assessment for Children's Rights and Operation of Projects which have the following details;

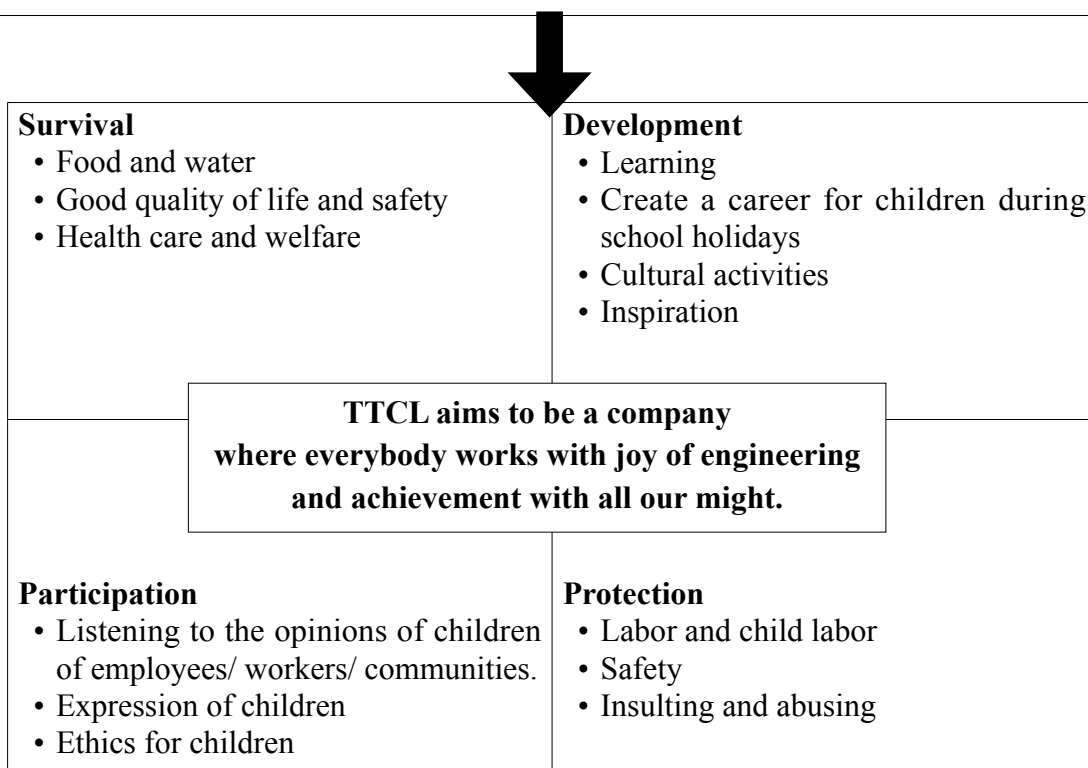
Framework of Child Rights Integration

Side 1 Survival : Children have a good quality of life because parents have good income from work and welfare, so they can use the money to buy food for their children while also looking after their health safely at home and office.

Side 2 Development : Children learn and develop from the prototype of the parents/ the workplace because this is an inspiration for children to create income for themselves and parents.

Side 3 Participation : Listen to opinions or expressions which the information is updated or modified for improvement.

Side 4 Protection : No employment or child labor in the workplace, but there is care and safety for employees' children while the parents work.



Child Rights Integration

CRBP Framework			
Protection			<ul style="list-style-type: none"> • Labor and child labor • Safety • Insulting and abusing
Participation	<ul style="list-style-type: none"> • Listening to the opinions of children of employee/ workers/ communities • Expression of children • Ethics for children 	<ul style="list-style-type: none"> • Listening to the opinions of children of employee/ workers/ communities • Expression of children • Ethics for children 	<ul style="list-style-type: none"> • Listening to the opinions of children of employee/ workers/ communities • Expression of children • Ethics for children
Development	<ul style="list-style-type: none"> • Learning • A part-time job for children during school holidays • Cultural activities • Inspiration 		<ul style="list-style-type: none"> • Learning • A part-time job for children during school holidays • Cultural activities • Inspiration
Survival	<ul style="list-style-type: none"> • Food and water • Good quality of life and safety • Health care and welfare 		<ul style="list-style-type: none"> • Food and water • Good quality of life and safety • Health care and welfare
Workplace Principle 2, 3, 4		Marketplace Principle 5, 6	Community & Environment Principle 7, 8, 9, 10
			Areas of CRBP in Business

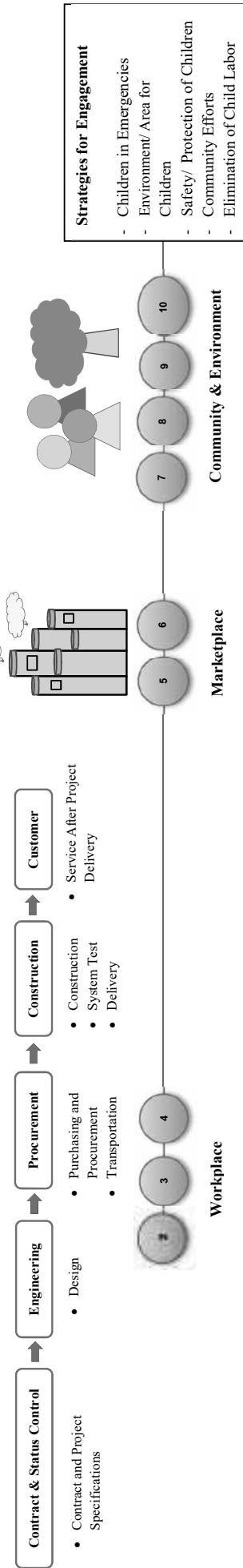
The Children's Rights and Business Principles - CRBP call on businesses to:

- | | | | |
|-------------|---|--------------|--|
| Principle 1 | Meet their responsibility to respect children's rights and commit to supporting the human rights of children | Principle 6 | Use marketing and advertising that respect and support children's rights |
| Principle 2 | Contribute towards the elimination of child labour, including in all business activities and business relationships | Principle 7 | Respect and support children's rights in relation to the environment and to land acquisition and use |
| Principle 3 | Provide decent work for young workers, parents and caregivers | Principle 8 | Respect and support children's rights in security arrangements |
| Principle 4 | Ensure the protection and safety of children in all business activities and facilities | Principle 9 | Help protect children affected by emergencies |
| Principle 5 | Ensure that products and services are safe, and seek to support children's rights through them | Principle 10 | Reinforce community and government efforts to protect and fulfil children's rights |

Child Rights Integration

Process	Contract & Status Control	Engineering	Procurement		Construction		Customer
			Purchasing and Procurement	Transportation	Construction	System Test	
Stakeholders	<ul style="list-style-type: none"> Company Customer 	<ul style="list-style-type: none"> Employee Workforce agility Health of pregnant mothers Government Authorities 	<ul style="list-style-type: none"> Employee Supplier Financial Institutions 	<ul style="list-style-type: none"> Government Authorities Logistics Companies Safety of children accompany with the vehicles 	<ul style="list-style-type: none"> Government Authorities Employee/ Worker Health of pregnant employees who work in the construction sites Safety Welfare 	<ul style="list-style-type: none"> Food vendors (Canteen) Safety Customer Supplier Child Labor 	<ul style="list-style-type: none"> Customer
	Workplace Principle 2, 3, 4						
	Marketplace Principle 5, 6						
Community and Environment	Principle 7, 8, 9, 10				<ul style="list-style-type: none"> People in the community Safety Environmental Impact 		
							<ul style="list-style-type: none"> Customer

Mapping the CRBP in Business Area



Areas	Stakeholders	Relation	Aspect/ issue	Impact to Business					
				Financial	Operation	Strategy	Reputation	Law & Reg.	Sum
Workplace	Employees	Employers/ workers' children	• (-) Child safety		x			x	1
			• (-) Job description of pregnant employees	x	x		x	x	4
			• (-) Child health		x				1
			• (-) Time for childcare		x				1
			• (-) Work efficiency of mothers	x	x				2
			• (+) Area for mothers and newborn babies		x	x	x		3
			• (+) Area for children	x	x	x	x		4
			• (+) Paternity leave/ maternity leave	x	x			x	3
			• (+) Employee welfare		x	x	x	x	4
			• (+) Provide appropriate work for youth (employees' children/ part-time)						
Suppliers/ Vendor (Contractors)	Vendors	Employers/ workers' children	• (-) Child labor	x	x		x	x	4
			• (-) Child safety (in living area and in parents' workplace)				x	1	
			• (-) Living conditions of children in case of accident				x	1	
			• (-) Child safety (come with parents)			x		1	
			• (-) Child safety						
Community and Environment	People in the community	Children in the community	• (-) Child safety				x	1	
			• (-) Child health				x	1	
			• (+) Community earns income			x	x	2	

Materiality Assessment for Children's Rights

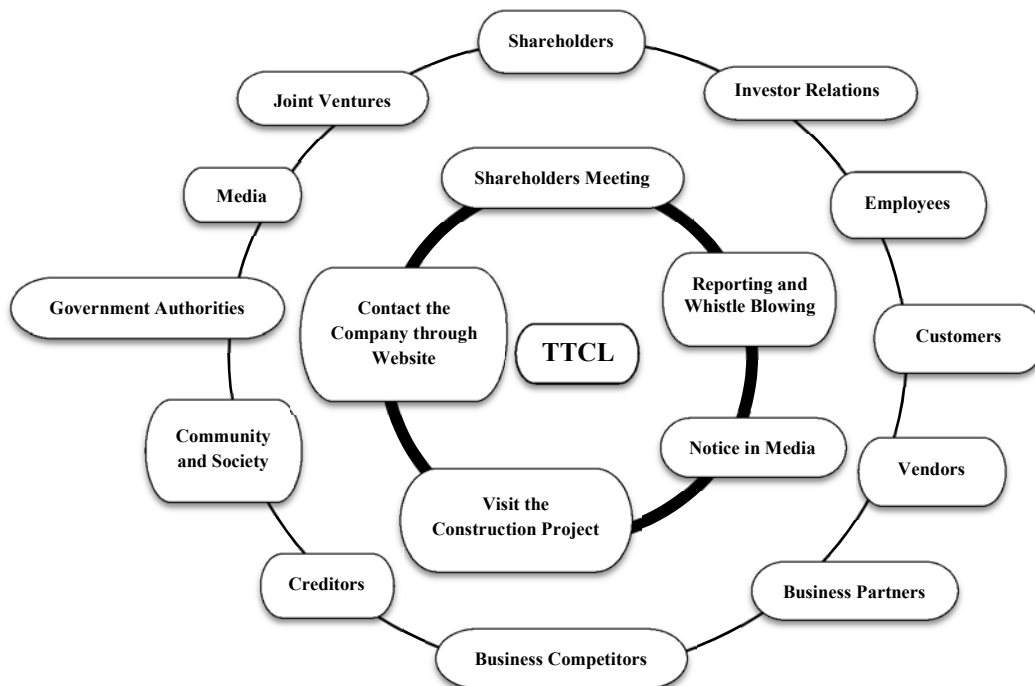
Areas	Stakeholders	Relation	Aspect/ issue	Response & Mitigation (Initiatives)	Measurement	CRBP	GRI	UNSDG
Workplace	Employees	Employers/ workers' children	<ul style="list-style-type: none"> • (-) Child safety • (-) Job description of pregnant employees • (-) Child health • (-) Time for childcare • (-) Work efficiency of mothers • (+) Area for mothers and newborn babies • (+) Area for children • (+) Paternity leave / maternity leave • (+) Employee welfare • (+) Provide appropriate work for youth (employees' children / part-time) 	Childcare Room + Breastfeeding Room <ul style="list-style-type: none"> - Hospital staffs are available in the room - Breastfeeding corner - Access control system - Rescue team in case of emergency First Aid Room/ Medical Room <ul style="list-style-type: none"> - Service for employees and their children - A doctor available on Thursdays - Influenza vaccine available (50% salespersons, 100% families, special corporate rate) Leaves <ul style="list-style-type: none"> - Maternity/ Paternity leave. - Special leave (parent-teacher meeting, 	Number of mothers and children using childcare center and breastfeeding corner	1, 3, 4		
			<ul style="list-style-type: none"> • (-) Child labor • (-) Child safety (in living area and in parents' workplace) • (-) Living conditions of children in case of accident 	<ul style="list-style-type: none"> - Company's rules and regulation – children under 18 years old are not allowed to work. - Children are not allowed to enter the area. - Accident insurance for employees 	0% Child labor	2, 4		
			<ul style="list-style-type: none"> • (-) Child safety (come with parents) 					
			<ul style="list-style-type: none"> • (-) Child safety • (-) Child health • (+) Community earns income 	<ul style="list-style-type: none"> - Children are not allowed to enter the area (safety). - Provide water trucks for spraying to reduce the amount of dust from construction - Provide the location for people in the community to work in the estate. - Measurement of illumination, noise and others that caused from construction - Construct school building/ donate school supplies to the community. 	Zero complaint from the	2, 3, 4, 7, 8, 10		
Community and Environment	People in the community	Children in the community						

3. Responsibility for Stakeholders and Other Concerned Persons

The Company prioritizes stakeholders and other concerned persons with the business operation concerning the least impact on both direct and indirect way. We aim to manage the risk management with the international standard and create the sustainable benefit to all stakeholders.

Responsibility for the Stakeholders Engagement

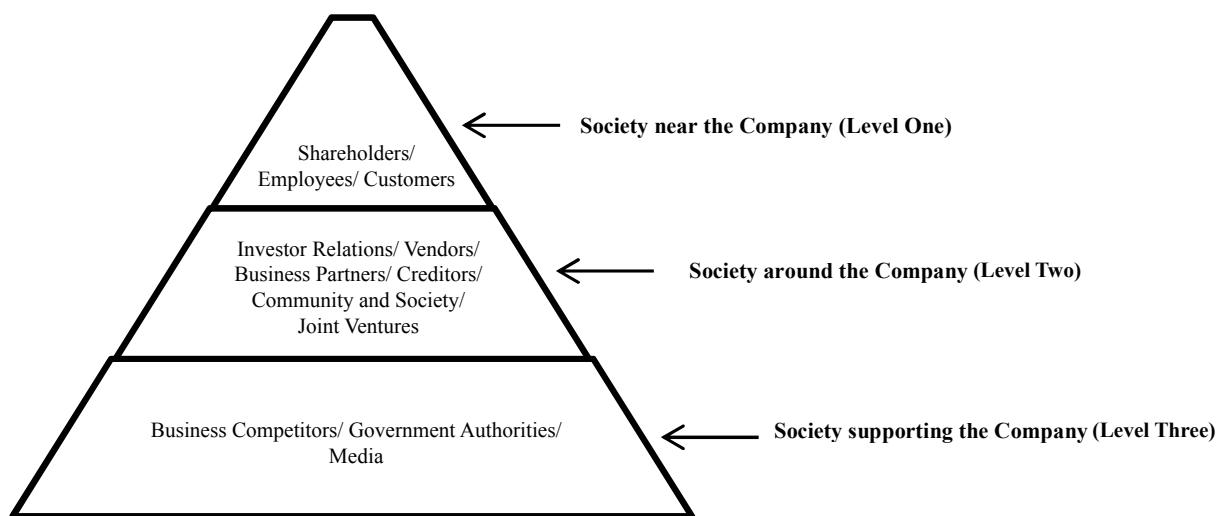
Building relationship with Stakeholders, TTCL divides Stakeholders into 12 groups as Shareholders, Investor Relations, Employees, Customers, Vendors, Business Partners, Business Competitors, Creditors, Community and Society, Government Authorities, Media and Joint Ventures.



— Information Channels with Stakeholders
 ■ Stakeholders

The table of the stakeholder engagement is one of important processes in TTCL operations. Along to be realized that the opinions and suggestions from partners would be the inspiration to lead to the success of TTCL. To be committed to improve for the better services is to meet the customer and partner need. TTCL has prepared for the participation in the different way by considering about the proper partners in different group to communicate about the goals and the result of operations including to recognize the opinions and suggestions such as shareholder meeting, notification of clues and complaints, revealing information for the society, also visiting the construction project and contact the company by website, and so on. TTCL has gathered, analyzed, and brought the result to be improved the company in the future.

Otherwise, the company also gives importance to all 12 groups of stakeholders, with the priorities of the stakeholders divided into 3 levels as follows:



Society Near Company (Level One)

Stakeholders	Stakeholders Engagement Methods	Key Concerns	Response to Each Group of Stakeholder	Report to Stakeholders	Risk to Stakeholders	Communication Channels	Outcomes
Shareholder	<ul style="list-style-type: none"> - Annual Report - Minutes of Annual General Meeting of Shareholders - Complaint receipt via complaint channel - Proposal of Annual General Meeting's agendas and to nominate a candidate to be appointed as a director 	<ul style="list-style-type: none"> - To be determined to represent all shareholders - To be committed to conducting business with transparency - To put in place reliable financial and accounting systems, and to deliver optimum shareholder satisfaction 	<ul style="list-style-type: none"> - Sustainability within an Organization - Corporate Governance Chapter 	<ul style="list-style-type: none"> - Financial performance throughout the year 	<ul style="list-style-type: none"> - Lack of confidence 	<ul style="list-style-type: none"> - To arrange AGM meeting - Minutes of Annual General Meeting of Shareholders through Stock Exchange of Thailand 	<ul style="list-style-type: none"> - To be efficiently through generating maximum long-term returns on investment - The regular and sustainable strong operational performance and continued growth - To perform duties with integrity and make decisions in good faith and in fairness to major and minor shareholders alike, as well as for the good of relevant parties - To refrain from any activities that could cause conflicts of interest and serve self-interest. - Confidential information shall not be divulged to outside parties - To be simultaneously paying attention to accurate, complete and punctual disclosure of material information to all shareholders - In response to their unwavering trust and support given to the Company and provide the investment returns that satisfy the shareholders the most
Employees	<ul style="list-style-type: none"> - Orientation for employees. - Complaint receipt via complaint channel of employees. 	<ul style="list-style-type: none"> - The Company has always regarded its employees as valuable resources, whose roles are fundamental to the success of the Company. - The Company places importance on the welfare and safety of its employees. - To support and develop the potential of employees - To be strengthening the culture and good working 	<ul style="list-style-type: none"> - Corporate Social Responsibility to employees - Corporate Governance Chapter 	<ul style="list-style-type: none"> - Results of Operation for each quarter - Financial performance throughout the year 	<ul style="list-style-type: none"> - Lack of confidence 	<ul style="list-style-type: none"> - Announcement on Board - Inform on E-Mail - Announcement on company's intranet 	<ul style="list-style-type: none"> - To provide every employee with an opportunity to improve is career path on an equitable basis

Stakeholders	Stakeholders Engagement Methods	Key Concerns	Response to Each Group of Stakeholder	Report to Stakeholders	Risk to Stakeholders	Communication Channels	Outcomes
Customer	<ul style="list-style-type: none"> - Documentary, Newsletter - Complaint receipt via complaint channel 	<ul style="list-style-type: none"> - To deliver quality products which meet their requirements - To be complied with according to the Code of Conduct, Good Corporate Governance and law in a strict manner - To keep and safekeeping client information and confidentiality by not using the information in a negative way 	<ul style="list-style-type: none"> - Customers Responsibility Chapter 	<ul style="list-style-type: none"> - Results of operation for each quarter - Financial performance throughout the year 	<ul style="list-style-type: none"> - Lack of trust - Received fewer construction projects - Lower income 	<ul style="list-style-type: none"> - To disclose complete, correct, sufficient and undistorted information on the products and services - To provide a communication channel for customers to submit any complaint 	<ul style="list-style-type: none"> - To build customer satisfactions - The quality policy and quality management system of ISO 9001:2008 - Do not stipulate unfair trade per customer - Comply with the terms or conditions, towards customer transparently and equally

Society Around Company (Level Two)

Stakeholders	Stakeholders Engagement Methods	Key Concerns	Response to Each Group of Stakeholder	Report to Stakeholders	Risk to Stakeholders	Communication Channels	Outcomes
Investor Relations	<ul style="list-style-type: none"> - Minutes of Annual General Meeting of Shareholders - Complaint receipt via complaint channel - Via electronic media of company 	<ul style="list-style-type: none"> - The great importance to investor relations - Disclosing material information accurately, sufficiently and in timely fashion - Not using inside information for their own or their related parties' benefit - Disclosing material information fairly and equitably. All stakeholders must be able to access to the information and conveniently contact Investor Relations Officers for clarification. 	<ul style="list-style-type: none"> - Arranged operating details of company for shareholders, investor through interested persons and the results for the quarter transparency and accountability in their operations - Dividend ongoing and in line with earnings the business operations of the company 	<ul style="list-style-type: none"> - Notify bidding for new jobs - Build investor confidence 	<ul style="list-style-type: none"> - Lack of Publicity 	<ul style="list-style-type: none"> - Company's website - Company's road shows are participated in with domestic and international investors. - To publish the results of the operation in webcast on the Company's website - To provide shareholders and institutional investors to visit and meet business executives in order to generate understandings in the business of the company 	<ul style="list-style-type: none"> - To adhere to the basic principles and practices of "Investor Relations Code of conduct" published by Good governance development & Alliance department, the stock exchange of Thailand, 2014, as a framework. - Performing their duties with professionalism, integrity and equitability. - Preferential treatment that may undermine the benefits of the company and all stakeholders is not acceptable

Stakeholders	Stakeholders Engagement Methods	Key Concerns	Response to Each Group of Stakeholder	Report to Stakeholders	Risk to Stakeholders	Communication Channels	Outcomes
Vendors	<ul style="list-style-type: none"> - Communicate via e-mail and telephone - Complaint receipt via complaint channel 	<ul style="list-style-type: none"> - The criteria exist in the evaluation and selection of business partners. - To be transparently and equally observe contracts, agreements and conditions given to business partners - To refrain from demanding from accepting and paying improper commercial benefits to business partners - To be attention to their commercial confidentiality and seeks to notify suppliers and contractors as soon as possible in the case that one or more of the agreements cannot be fulfilled 	<ul style="list-style-type: none"> - Corporate Governance Chapter - Supply Chain 	<ul style="list-style-type: none"> - Fair responsibility to supplier 	<ul style="list-style-type: none"> - Lack of income. - Not receiving new construction projects. 	<ul style="list-style-type: none"> - To disclose complete, correct, sufficient and undistorted information on the products and services - To provide a communication channel for customers to submit any complaint 	<ul style="list-style-type: none"> - In compliance with corporate governance principles, based on good governance, transparency, and accountability
Business Partners	<ul style="list-style-type: none"> - Registration business partners - Registration subcontractors - Follow up system quality guarantee 	<ul style="list-style-type: none"> - Equitable Competition with Business Competitors under law framework and Code of Business Ethics - Do not seek confidential information from Business Competitors with dishonest or inappropriate implement 	<ul style="list-style-type: none"> - Corporate Social Responsibility to Business Partners - Corporate Governance. - Supply Chain 	<ul style="list-style-type: none"> - Responsibility to fair competitors 	<ul style="list-style-type: none"> - Lack of confidence and trust - More competitive 	<ul style="list-style-type: none"> - Annual Report - News on Media - Meeting with Business Competitors 	<ul style="list-style-type: none"> - Ethical and Transparent Business Policy
Creditors	<ul style="list-style-type: none"> - Communicate via e-mail and telephone. - Complaint receipt via complaint channel - Investor Relations Activity 	<ul style="list-style-type: none"> - To strictly comply with all terms of any loan agreement it enters into in a responsible and transparent manner especially guarantee condition, capital management and payment 	<ul style="list-style-type: none"> - Corporate Governance Chapter - Supply Chain 	<ul style="list-style-type: none"> - Summary of accounts payable and creditor all the company complies with the conditions. 	<ul style="list-style-type: none"> - Lack of confidence and trust - Decrease in creditors 	<ul style="list-style-type: none"> - To arrange AGM meeting - Minutes of Annual General Meeting of Shareholders through Stock Exchange of Thailand 	<ul style="list-style-type: none"> - Not conceal any information or hide any facts that might possibly result in the realization of losses for its creditors. - The company unable to meet any of the criteria it agreed to, it will make immediate notification to that particular creditor to allow for a course of action to be taken to rectify the situation
Community and Society	<ul style="list-style-type: none"> - Project and activity for Community and Society 	<ul style="list-style-type: none"> - Activity for supporting the Corporate Social Responsibility. - Activity is concerned with community development. 	<ul style="list-style-type: none"> - Community and Social Responsibility - Corporate Governance 	<ul style="list-style-type: none"> - Provide assistance in any area related to community development in many activities 	<ul style="list-style-type: none"> - Lack of confidence - Lack of support for helping 	<ul style="list-style-type: none"> - Assisting community and social, environmental conservation and sharing knowledge the education 	<ul style="list-style-type: none"> - Emphasizing with Corporate Social Responsibility - Corporate Social

Stakeholders	Stakeholders Engagement Methods	Key Concerns	Response to Each Group of Stakeholder	Report to Stakeholders	Risk to Stakeholders	Communication Channels	Outcomes
	<ul style="list-style-type: none"> - Meeting with community and local government 						
Joint Venture	<ul style="list-style-type: none"> - Minutes of Annual General Meeting of Shareholders - Meeting with Board of Directors 	<ul style="list-style-type: none"> - High relation to the related management with investors - Important information disclosure and necessary to decision in the business of the joint venture company to be infallibly, sufficient and timely 	<ul style="list-style-type: none"> - Corporate Governance. - Continuous dividend payment and according with the operating results of the company's business 	<ul style="list-style-type: none"> - Inform the name list of Joint Venture 	<ul style="list-style-type: none"> - Lack of confidence - Decrease income 	<ul style="list-style-type: none"> - Regular meeting with Board of Management and Board of Directors as law 	<ul style="list-style-type: none"> - Ethical and Transparent Business Policy - Business Performance Policy for the best benefit of shareholders on basic transparent and cod of business ethics

Society Support Company (Level Three)

Stakeholders	Stakeholders Engagement Methods	Key Concerns	Response to Each Group of Stakeholder	Report to Stakeholders	Risk to Stakeholders	Communication Channels	Outcomes
Business Competitors	<ul style="list-style-type: none"> - Annual Report. - Minutes of Annual General Meeting of Shareholders - Complaint receipt via complaint channel 	<ul style="list-style-type: none"> - The related laws and regulations, as well as concepts related to Business Code of Conduct - Not seek to find information about competitors through dishonest or inappropriate means. The Company does not engage in slander or discrediting its competitors 	<ul style="list-style-type: none"> - Corporate Social Responsibility to Business Competitors. - Corporate Governance Chapter 	<ul style="list-style-type: none"> - Participate in the competition 	<ul style="list-style-type: none"> - Lack of business competitors 	<ul style="list-style-type: none"> - Annual Report on Company's website - News on Media 	<ul style="list-style-type: none"> - A policy to operate in an upright and transparent manner in dealings with its business competitors
Government Authorities	<ul style="list-style-type: none"> - Communicate via telephone - Direct contact with officer via telephone, letter and e-mail - Complaint receipt via complaint channel 	<ul style="list-style-type: none"> - Strict compliance with the laws governing the conduct of business 	<ul style="list-style-type: none"> - Corporate Governance 	<ul style="list-style-type: none"> - Strictly abide by the law 	<ul style="list-style-type: none"> - Contact delayed 	<ul style="list-style-type: none"> - Annual Report - Minutes of Annual General Meeting of Shareholders 	<ul style="list-style-type: none"> - Ethical and Transparent Business Policy - Strictly legal compliance policy
Media	<ul style="list-style-type: none"> - Public Relations and Newsletter - Direct contact with media via telephone and e-mail 	<ul style="list-style-type: none"> - The timely and accurate public relations 	<ul style="list-style-type: none"> - The timely and accurate public relations 	<ul style="list-style-type: none"> - Providing accurate information to publicize in time 	<ul style="list-style-type: none"> - Miss publicity - Publicity may not be as specified 	<ul style="list-style-type: none"> - Newsletter - News on Website - Public Relations - Press conference. 	<ul style="list-style-type: none"> - Responsibility and Transparency not conceal information or the fact is advantage and disadvantage result with shareholders, vendors and employees

Materiality Assessment for Sustainable

The Company takes the important factors to sustainable business operations and in accordance with the expectations of both direct and indirect stakeholders by applying the principles of Global Reporting Initiative (GRI) to assess the sustainability issues which consists of the main steps in the following.

Materiality Assessment Procedure

1. Identification of Material Aspects and Establishment of Report Boundaries
2. Prioritization of Material Aspects
3. Validation of Material Aspect and Continuous Report Development

Step 1 Identification of Material Aspects and Establishment of Report Boundaries

The Company permits stakeholders to share opinions via channels of the Company, and the concerned sections who will collect recommendation from stakeholders of company regularly and report to the management. The Company also reviews sustainable materiality assessment process in 2018 to ensure that communication channel and materiality definition method of company are able to respond expectation of stakeholders efficiently.

Analysis of Sustainability Operations

Area	Operations					
	Economic		Social		Enviroment	
Workplace	<ul style="list-style-type: none">• Shareholders• Investor Relations• Employees• Customers• Vendors• Business Partners	<ul style="list-style-type: none">• Creditors• Community and Society• Government Authorities• Media• Joint Ventures	<ul style="list-style-type: none">• Shareholders• Investor Relations• Employees• Customers• Vendors• Business Partners	<ul style="list-style-type: none">• Business Competitors• Creditors• Community and Society• Government Authorities• Media• Joint Ventures	<ul style="list-style-type: none">• Employees• Customers• Vendors	<ul style="list-style-type: none">• Business Partners• Community and Society• Government Authorities
Marketplace	<ul style="list-style-type: none">• Shareholders• Customers	<ul style="list-style-type: none">• Employees	<ul style="list-style-type: none">• Employees• Customers	<ul style="list-style-type: none">• Vendors	<ul style="list-style-type: none">• Community and Society• Employees	<ul style="list-style-type: none">• Customers
Community and Environment					<ul style="list-style-type: none">• Community and Society	

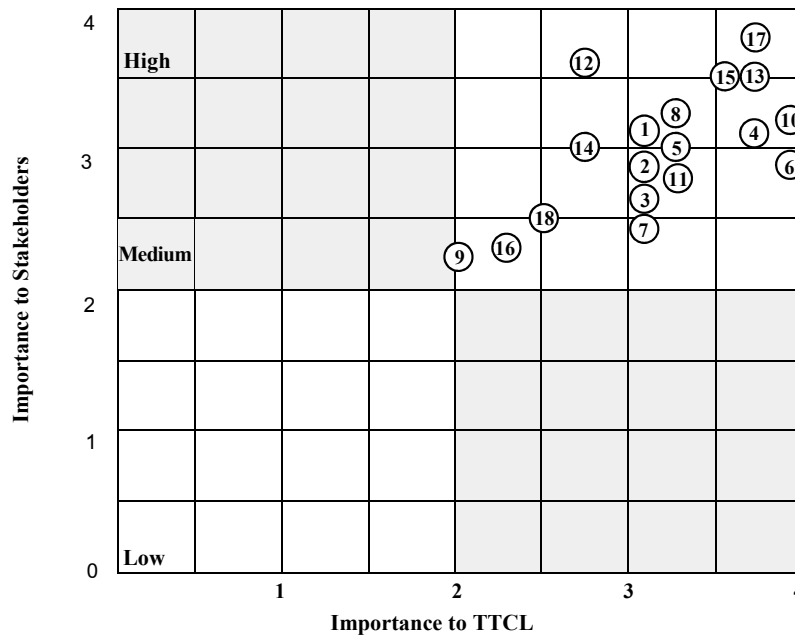
Step 2 Prioritization of Material Aspects

Prioritize and evaluate the level of importance for each aspect, based on consideration of two sustainability dimensions: 1) Consider the stakeholders' concerned issues by gathering information from the concerned section, the Company's channels for feedback or direct survey. 2) Significantly environmental and social impact in areas that are effected by TTCL's business operations. Then, each material aspect is ranked from one to four according to the criteria of risk evaluation and opportunity for business operations and the degree of stakeholder's interest.

Identifying Important Sustainability Issues

Identifying Important Sustainability Issues	Expense	Income	Risk	Create Business Opportunities	Result to Business
Economic					
1. Supply Chain Management	<ul style="list-style-type: none"> - Equipment Order - Equipment Delivery - After-Sales Services 	<ul style="list-style-type: none"> - After delivering the project 	<ul style="list-style-type: none"> - The products are delayed. - The product is damaged during transportation. - Not receive the product as ordered - The products specs are not - Take time in experiment 	<ul style="list-style-type: none"> - Build confidence in business - Trust from the existing customers 	<ul style="list-style-type: none"> - Continuous improving business operations - Emphasize stakeholders' trusts
2. Innovation	<ul style="list-style-type: none"> - Equipment order for new innovation demonstration - Waste cost in project examination 			<ul style="list-style-type: none"> - New innovations in business - Have customers interested 	<ul style="list-style-type: none"> - Initiate and apply new innovations in business operations. - Be able to purpose new innovations to the stakeholders for acknowledgment.
Social					
1. Health and Safety			<ul style="list-style-type: none"> - To protect safety in working life - Reduce accidents in work - Lack of good understanding 	<ul style="list-style-type: none"> - Reduce accidents in working life - Build confidence among stakeholders 	<ul style="list-style-type: none"> - Follow the rules and regulations established by the company - Build trust and confidence with customers
2. Employee Development	<ul style="list-style-type: none"> - Employees attending both internal and external training of the Company - Trainer costs for external training 		<ul style="list-style-type: none"> - Employees resign after training 	<ul style="list-style-type: none"> - Apply new knowledge to work - Build good potential in employees 	<ul style="list-style-type: none"> - Have productive employee - Perform operations to further development
Environment					
1. Air Pollution Management	<ul style="list-style-type: none"> - Hire an external organization for pollution measurement - Order measurement equipment 		<ul style="list-style-type: none"> - Air Pollution spreading throughout the surrounding community of construction project 	<ul style="list-style-type: none"> - Build confidence in the communities around construction project - Have a good image for the company 	<ul style="list-style-type: none"> - Being responsible the communities around Construction project - Have a good image for the company
2. Sound Pollution Management	<ul style="list-style-type: none"> - Hire an external organization for pollution measurement - Order measurement equipment 		<ul style="list-style-type: none"> - Noise Pollution spreading throughout the surrounding community of construction project 	<ul style="list-style-type: none"> - Build confidence in the communities around construction project - Have a good image for the company 	<ul style="list-style-type: none"> - Being responsible to the communities around Construction project - Have a good image for the company

Materiality Assessment



Economic

1. Anti-Corruption
2. Good Corporate Governance
3. Code of Conduct and Code of Business Ethics
4. Risk Management
5. Supply Chain Management
6. Innovation

Social

7. Health and Safety
8. Stakeholder Engagement
9. Human Rights
10. Employee Development
11. Corporate Social Responsibility

Environment

12. Risk and Adaptation to Change the Climate
13. Reduce Electricity Consumption
14. Environment Management
15. Garbage and Waste Management
16. Controlling Chemical
17. Air Pollution Management
18. Sound Pollution Management

Step 3 Validation of Material Aspect and Continuous Report Development

Compile results from the assessment of material aspects and identify relationship between material aspects and the GRI Aspect in order to prepare a summary of material aspects to TTCL and the reporting scope on each specific area. Thenceforth, present these findings to the Board of Management/ Committees respectively. And perform an ongoing review of information released to related stakeholders for consideration the gathering of suggestions and recommendations for improvement and report development to ensure that the disclosed content is appropriate and according to communication issues.

The company gives importance to operations related to the business which has the main topic that the company has operated by establishing important sustainability issues to comply with the sustainability reporting standards which divided into 3 dimensions; economic, social and environment. The company has identified the main issues in each dimension and separated them into the main topics related to each dimension and target as follows:

Determining Important Sustainability Issues

Determining Important Sustainability Issues	Global Reporting Initiative : GRI	Concerned Stakeholders and Scope of Impact	Goals (SDGs)
Economic			
Anti-Corruption	<ul style="list-style-type: none"> Anti-corruption (205-2) Anti-competitive behavior (206-1) 	<ul style="list-style-type: none"> Shareholder Investor Relations Government Authorities Joint Venture Creditor Employee Customer Vendor Business Partner 	16
Good Corporate Governance	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Governance (102-18, 102-19, 102-20, 102-21, 102-22, 102-27, 102-28) 	<ul style="list-style-type: none"> Shareholder Investor Relations Government Authorities Joint Venture Creditor Community and Social Employee Customer Vendor Business Partner Media 	16
Code of Conduct and Code of Business Ethics	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Ethics and Integrity (102-16, 102-17, 102-25) Economic Performance (201-4) Public Policy (415-1) 	<ul style="list-style-type: none"> Shareholder Investor Relations Government Authorities Joint Venture Creditor Community and Social Employee Customer Vendor Business Partner Media 	16
Risk Management	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Strategy (102-15) Economic Performance (201-2) 	<ul style="list-style-type: none"> Shareholder Investor Relations Community and Social Customer 	16
Supply Chain Management	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Health and Safety for Contractor and Subcontractor Employees (EU-17, EU-18) 	<ul style="list-style-type: none"> Employee Customer Community and Social Vendor Business Partner 	8
Innovation	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) 	<ul style="list-style-type: none"> Employee Customer Vendor Business Partner 	9
Social			
Health and Safety	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Occupational Health and Safety (403-1, 403-2, EU-25) 	<ul style="list-style-type: none"> Employee Customer Government Authorities Vendor Community and Social 	11
Stakeholder Engagement	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Economic Performance (201-1) Indirect Economic Impacts (203-1, 203-2) Local Communities (413-1) Socioeconomic Compliance (419-1) 	<ul style="list-style-type: none"> Shareholder Investor Relations Government Authorities Joint Venture Business Competition Community and Social Employee Customer Vendor Business Partner Media Creditor 	9, 11
Human Rights	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Human Rights Assessment (412-2) 	<ul style="list-style-type: none"> Shareholder Government Authorities Joint Venture Creditor Community and Social Business Competition Employee Customer Vendor Business Partner Media 	5
Employee Development	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Employment (401-1, 401-2, 401-3, EU-15) Labor and Management Approach (402-1) Training and Education (404-2, 404-3) 	<ul style="list-style-type: none"> Employee 	8
Corporate Social Responsibility	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Local Communities (413-1) 	<ul style="list-style-type: none"> Shareholder Government Authorities Joint Venture Creditor Community and Social Business Competition Employee Customer Vendor Business Partner Media 	16
Environment			
Risk and Adaptation to Change the Climate	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Emissions (305-1, 305-2, 305-3, 305-4, 305-5) 	<ul style="list-style-type: none"> Employee Community and Social Government Authorities Customer Vendor 	13
Reduce Electricity Consumption	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Energy Intensity (302-3) 	<ul style="list-style-type: none"> Government Authorities Community and Social Business Partner Employee Vendor 	11
Environment Management	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Negative environmental impacts in the supply chain and actions taken (308-2) 	<ul style="list-style-type: none"> Government Authorities Community and Social Business Partner Employee Vendor 	11
Garbage and Waste Management	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Negative environmental impacts in the supply chain and actions taken (308-2) 	<ul style="list-style-type: none"> Government Authorities Community and Social Business Partner Employee Vendor 	11
Controlling Chemical	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Negative environmental impacts in the supply chain and actions taken (308-2) 	<ul style="list-style-type: none"> Government Authorities Community and Social Business Partner Employee Vendor 	11
Air Pollution Management	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Negative environmental impacts in the supply chain and actions taken (308-2) 	<ul style="list-style-type: none"> Government Authorities Community and Social Business Partner Employee Vendor 	11
Sound Pollution Management	<ul style="list-style-type: none"> Management Approach (103-1, 103-2, 103-3) Negative environmental impacts in the supply chain and actions taken (308-2) 	<ul style="list-style-type: none"> Government Community and Social Business Partner Employee Vendor 	11

4. Social Responsibility Activity.

To the society and community, the Company has continuously supported activity and project which thoroughly covers economy, society, and environment.

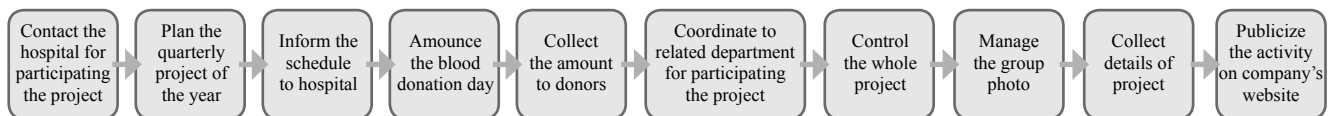
Operation of Corporate Social Responsibility and Sustainable Development Project

The Company sees the importance of continuously helping the community and society. Therefore, a corporate social responsibility and sustainable development project has been organized that engages with both internal and external stakeholders by dividing into social and environmental aspects, has the operating procedures in the following:

Social

TTCL Blood Donation Project

Operation Details



Results from Quantitative Operations

Title	2014	2015	2016	2017	2018	2019
Blood Quantity (milliliters: cc)	99,250	173,550	223,350	185,550	164,650	107,550
Blood Donation of Employees (persons)	225	417	502	424	375	288
Blood for Patients (persons)	200	410	495	421	350	268

* Economic and Social Value (2014 - 2019) in the amount of 1,561,700 baht.
(Calculated from the total number of employees x cumulative blood price 700 baht per bag)

Results from Qualitative Operation

- The patients get healthier, a stronger body and return to live with their families happily.
- The patients gain trusts in hospital.
- Reduce the rate of death and injury from accidents.
- Reduce the cost of blood purchasing costs of of 1,561,700 baht (2014 - 2019) from Thai Red Cross.
- Staffs spend their working time for blood donation.

The Children's Rights and Business Principles - CRBP, Global Reporting Initiative (GRI) and Sustainable Development Goals (SDGs) points under this project are as follows:

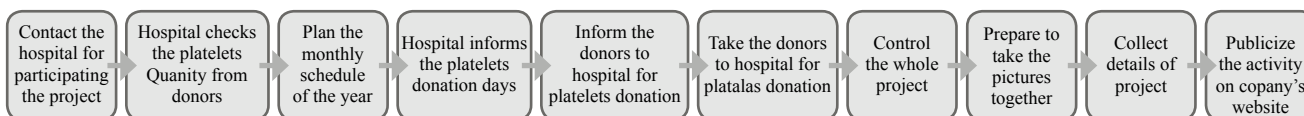
CRBP : 1, 3, 4

GRI : 102-2, 102-8, 403-3, 403-6, 403-10

SDGs : 3

TTCL Platelets Donation Project

Operation Details



Results from Quantitative Operations

Title	2016	2017	2018	2019
Platelets Quantity (per microliter)	870	15,950	26,390	21,460
Platelets Donation of Employees (persons)	3	55	91	74
Platelets for Patients (persons)	3	48	87	70

* Economic and Social Value (2016 - 2019) in the amount of 1,962,400 baht

(Calculated from the total number of employees x cumulative platelets price 8,800 baht per bag)

Results from Qualitative Operation

- The patients get healthier, a stronger body and return to live with their families happily.
- The patients gain trusts in hospital.
- Reduce the rate of death and injury from accidents.
- Reduce the cost of blood purchasing costs of 1,962,400 baht (2016 - 2019) from Thai Red Cross.
- Staffs spend their working time for blood donation.

The Children's Rights and Business Principles – CRBP, Global Reporting Initiative (GRI) and Sustainable Development Goals (SDGs) points under this project are as follows:

CRBP : 1, 3, 4

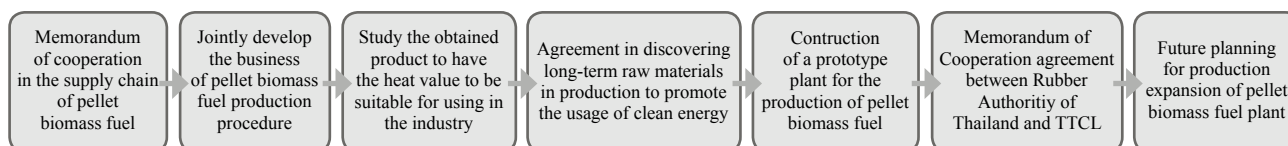
GRI : 102-2, 102-8, 403-3, 403-6, 403-10

SDGs : 3

Environment

Renewable Energy Business Development Project in Biomass Fuel

Operation Details



Results from Quantitative Operations

Title	2016	2017	2018	2019
Quantity of carbon dioxide reduction	-	-	4,956	4,956
Quantity of rubber wood usage	-	-	45,000	45,000

* Economic and Social Value (2016 - 2019) in the amount of 63,000,000 baht

(Calculated from the quantity of used rubber woods x amount of year x cumulative price 700 baht per ton)

Results from Qualitative Operation

- Reduce the quantity of air pollution such as carbon dioxide with more usage of biomass instead of the usage of fossil fuels in the electricity generating industry.
- To promote more wood industry in the market for raising the value of market expanding
- Supporting farmers in order to emphasize the importance of sustainable forest management which results the appropriate and sustainable income
- Promote the conservation, restore forest degradation and increase the amount of forested land.

The project under Global Reporting Initiative (GRI) and Sustainable Development Goals (SDGs) as follows:

GRI : 102-2, 102-8, 102-15, 102-29, 401-1 **SDGs** : 8, 9, 15

Ink Cartridge Reduction Project

Operation Details



Results from Quantitative Operations

Category	2018		2019	
	Return (Quantity)	Total (Weight)	Return (Quantity)	Total (Weight)
Laser Jet Cartridge	342	415.62	214	292.80

Results from Qualitative Operation

- Reducing oil consumption by more than 42,000 barrels.
- Save water up to 99 million households per day.
- Able to support the usage of cars 1,455 cars for 1 year.

The Global Reporting Initiative (GRI) and Sustainable Development Goals (SDGs) points under this project are as follows:

GRI : 102-2, 102-15, 102-20, 301-1, 301-2 **SDGs** : 6, 7, 13, 15

Recycle Plastics Project for Society and Environment

Operation Details



Results from Quantitative Operations

Type	2018	2019
	Bottle (Quantity)	Bottle (Quantity)
Plastic Bottles	762	1,525
Bottle labels		
Bottle Caps and Bottle Cap Rings		

Calculated from Quantity

Big Plastic Bottles	amount 15 bottles	To produce 1 yellow robe
Small Plastic Bottles	amount 30 bottles	

Results from Qualitative Operation

- Reduce the amount of waste in Bangkachao area.
- Solve the garbage problem in the community.
- Reduce waste and waste separation for recycling.
- Able to produce yellow robes from recycled plastic for monks

The Global Reporting Initiative (GRI) and Sustainable Development Goals (SDGs) points under this project are as follows:

GRI : 102-2, 102-15, 102-20, 301-1, 301-2 **SDGs** : 6, 7, 13, 15

As the Company built 3 school buildings near the Company's construction project in Rayong province together with providing educational equipment, computers study desks and books, the Company continuously monitors usage of school buildings in all 3 schools with the pragmatic use of corporate social responsibility and sustainable development. The principles for monitoring are divided into 3 major principles; social and community, education and environment which demonstrate the performance of long term (continuous) social responsibility projects and short term social responsibility projects. The details are as follows:

Baan Klongsai School, Rayong

The Company built "Toyo-Thai Upatham 2553" building, which was delivered to Baan Klongsai School on 19th June 2010. Since the building has been delivered, there are the students register and graduate from school as the following details;

Student (persons)	2015	2016	2017	2018	2019
	127	162	167	163	151
Building	There are classrooms for grade 1 - 6, computer room, and library.	Proceed the school building roof maintenance.	There are classrooms for grade 1-6, computer room, and library.	There are classrooms for grade 1 - 6, computer room, and library.	Proceed maintenance of door bolts, window bolts and doorknobs etc.

Computer	The computer is for computer subject of student grade 4 - 6	Deliver more computers for computer subject of student grade 4 - 6.	The computer is for computer subject of student grade 5 - 6	The computer is for computer subject of student grade 5 - 6	The computer is for students from grade 5 - 6 studying computer subject.
Study Desk	The study desk is still in good condition.	Delivered office equipment to school.	The study desk is still in good condition.	The study desk is still in good condition.	The study desk is still in good condition.

Wat Bankhai School, Rayong

The Company built “Toyo-Thai Upatham 2554” building, which was delivered to Wat Bankhai School on 24th September 2011. Since the building has been delivered, there are the students register and graduate from school as the following details;

Student (persons)	2015	2016	2017	2018	2019
	168	127	188	174	163
Building	There are classrooms for grade 1 - 6, computer room, library, and school director room.	There are classrooms for grade 1 - 6, computer room, library, and school director room.	There are classrooms for grade 1 - 6, computer room, library, and school director room.	There are classrooms for grade 1 - 6, computer room, library, and school director room.	There are classrooms for grade 1 - 6, computer room, library, and school director room.
Computer	The computer is for computer subject of student grade 4 - 6	The computer is for computer subject of student grade 4 - 6	The computer is for computer subject of student grade 4 - 6	The computer is for computer subject of student grade 4 - 6	There are not enough computers.
Study Desk	The study desk is still in good condition.	The study desk is still in good condition.	The study desk is still in good condition.	The study desk is still in good condition.	The study desk is still in good condition.

Wat Lahanrai School, Rayong

The Company built “Toyo-Thai Upatham 2555” building, which was delivered to Wat Lahanrai School on 18th November 2012. Since the building has been delivered, there are the students register and graduate from school as the following details;

Student (persons)	2015	2016	2017	2018	2019
	135	155	155	140	150
Building	There are classrooms for the early years, grade 1 - 6, computer room, library, and school director room.	There are classrooms for the early years, grade 1 - 6, computer room, library, and school director room.	There are classrooms for the early years, grade 1 - 6, computer room, library, and school director room.	There are classrooms for the early years, grade 1 - 6, computer room, library, and school director room.	There are classrooms for the early years, grade 1 - 6, computer room, library, and school director room.
Computer	The computer is for computer subject of student grade 4 - 6.	The computer is for computer subject of student grade 4 - 6.	The computer is for computer subject of student grade 4 - 6.	The computer is for computer subject of student grade 4 - 6.	The computer is for computer subject of student grade 4 - 6.
Study Desk	The study desks are for the student grade 4-6.	The study desks are for the student grade 4-6.	The study desk is still in good condition.	The study desk is still in good condition.	The school desk is still in good condition.

Long-Term Social Responsibility Project (Continuing)

The Company operates the business with the social responsibility and encourages the stakeholder engagement through the activities for the benefit of the company, community, local community, and society by the company operations which focus on reinforcement and quality-of-life improvement under SDGs measurements. The Company has conducted several projects leading to the maximum success for society and business, to be strength, valuable, and make a good relationship with stakeholders.

Activity/ Goals	Description	Value to Social	Plan 2018 - 2020
Social			
TTCL Blood Donation	Cooperated with Rajavithi Hospital in “TTCL Blood Donation Project” at Head Office	Help the patients to live a good life with their family.	Employees participate the activities amount 663 donors and 272,200 cc. collected blood. Expected to have more employees to join the activity
TTCL Platelets Donation	Cooperated with Rajavithi Hospital in “TTCL Platelets Donation Project” to help patients survive major surgeries or serious injuries at rajavithi Hospital	Help the patients to live a good life with their family.	Employees participate the activities amount 170 donors. Expected to have more employees to join the activity
Unusable Electric Appliances and Office Equipment	Donated the unusable electric appliances and office equipment to Kanlayano Suankaew Foundation. The handover activity was held at Head Office	Create a career and income for foundation employees to feed their family.	There were 1,171 unusable electric appliances and office equipment. The unusable electric appliances and office equipment will be increased.
Reusable Aluminium and Equipments	Donated Reusable Aluminium and Equipments under the project “TTCL Valuable Aluminium for Disabled” to Prosthetics Factory at Don Tum Hospital, Nakhon Pathom	Help people with disabilities without organs such as arms or legs.	The hospital brought aluminum materials and donated equipment. To create artificial legs or arms to give to the disabled
Engineering - Job Fair	Provide the Company information for the fourth-year engineering student to apply for TTCL job vacancy.	Create a new generation of students to advance in their careers.	To give applicants the opportunity to apply for jobs in each province, Join to apply for a job with the company
Orientation for new employees and trainees	Provide the Company’s profile, regulation and policy to new employees and trainees.	There are more qualified employees.	Need to understand and comply with regulations Company information and policies to be according in the same direction
Welfares for Employees	Provided the welfares for employees such as gift sets for wedding, flower baskets for maternities & patients and to be funeral of employee’s family for employees’ compensation and morale	Create morale and motivation for employees.	There are employees using the benefits to their fullest satisfaction.
Controlled “Traffic”	Arranged “Traffic Management and Control” for staffs in crossing the road in order to be safety and convenient. The process is monitored by policemen and security guards in the community area in vicinity of the construction site.	Organize in crossing roads to make the community travel safely without accident.	Create safety for the community.

Activity/ Goals	Description	Value to Social	Plan 2018 - 2020
Education			
Training for Employees	Arranged “Training” in order to develop and strengthen the knowledge, understanding and capacity in working as procedure correctly. The Training was arranged at Fabrication Shop, Rayong as follows: - Confined Space - Basic Lifting	Increase skills and knowledge for employees to create good potential.	Employees use the knowledge, to have adapted to work.
Textbooks & Diaries	Donated Textbooks and Fiction to Library and Diaries for taking notes in any related work to instructors of University.	Promote education for students	Provide books on a variety of subjects and institutions.
Environment			
Checked the Light Intensity	Checked the Light Intensity for reducing light safety to optimum working condition	For the safety of the eyes of the stakeholders in the building and outside.	Measure the average of light and measure the average intensity of the light according to the standard.
Dust and Soils Protection	Controlled the trucks to go out from the construction project in using the canvas to prevent dust and soils fall on the community area in vicinity of the site	Preventing the respiratory system of stakeholders in vicinity of the site.	Reduce accident and prevent the respiratory system.
HSE Delivery	Arranged the HSE Delivery activity for employees to participate in inquiring about Health, Safety and Environment	Create engagement with employees.	Employees are interested in participating more activities.
Occupational Health and Safety Award	Gave the occupational health and safety award to the outstanding staffs in order to build up the consciousness of occupational safety and be the good model in the workplace	Occupational Health and Safety Award	Creating encouragement for employees in performing
Monthly Talk	Arranged “Monthly Talk” about the project operation, HSE information and HSE campaign regarding Safety in the Confined Space in order to raise awareness of understanding correctly	Monthly Talk	Need employees to understand information before accurate working
Pre-Work Health Check	Arranged “Pre-Work Health Check” about drug, alcohol and blood pressure from TTCL’s staffs and subcontractors for safety in working	Pre-Work Health Check	Accident protection in working
Cleaning Public Road	Made a clean-up campaign by cleaning the dust and soil up in the workplace and the community area in vicinity of the site	Prevent spreading dust	Prevent spreading dust
Safety & Environment Protection	Conducted the activities for Safety & Environment Protection to employees in construction area and subcontractor’s camps for dengue prevention by spraying and sanding to eliminate the sources of mosquito breeding	Eliminate the sources of animal - borne diseases.	Eliminate the sources of animalborne diseases.
Sound Measurement	Checked the Sound Measurement for reducing sound to appropriate with working place and to comply with Environmental Impact Assessment	In order not to disturb the community and surrounding areas of the project.	Sound Measurement in standard.

Activity/ Goals	Description	Value to Social	Plan 2018 - 2020
Used Ink and Toner Cartridges Return and Recycling	Company emphasizes on the environmental impact prevention in every step of work, in order to reduce hazardous waste from office activities, the company has participated in the HP Planet Partners Program to return used ink and toner cartridges to manufacturer, these returned cartridges will be recycled by digest and transform in to raw material for reproduction (close loop). In 2018, 313 Units of used ink and toner cartridges were returned to manufacturer for recycling.	Reduce global warming and reduce greenhouse gases that affect the environment.	Reduce global warming and reduce greenhouse gases that affect the environment.
Electronic Waste	Supported the electronic waste to Vadhana District Office in taking to destroy properly	Reduce the amount of various electronic waste that affects health and the environment.	<ul style="list-style-type: none"> - Reduce the impact on the environment and health. - Reduce the risk and impact of waste.

Short-Term Social Responsibility Project

The company proceeds the business with the social responsibility and encourages in both internal and external stakeholders to participate in company activities for participation to stakeholders by considering about the community and society, education, and environment.

Activity / Goals	Description	Value to Social	Plan 2018 - 2020
Economic			
Received the certificate	Received the certificate of working 3,000,000 man-hours without LTA.	Creating pride in delivering work to customers without accidents in work and build good relationships with the community	Creating satisfaction for customers efficiently
Social			
Children's Day	Arranged Children's Day for students to offer lunch and donated computers, books, toys, dolls, snacks in Rayong and in order to make a good relationship with the Head Office and communities around the project site	Creating happiness and joy for students and parents	Creating happiness and joy for students and parents
Repaired Appliances	Repaired the appliances of Toyo-Thai Upatham Building such as door bolts, window bolts and doorknobs, etc., for Baan Klongsai School in Rayong province	Reduce accident with students and teachers.	Reduce accident and create security.
Drug Examination	Arranged "Drug Examination Program" such as drug and alcohol to TTCL staffs in order to safe in working.	Reduce accident during the work.	Reduce accident during the work.
Education			
Donated Computer	Donated the computer to schools in Bangkok and Province for supporting the education to students.	Encourage the knowledge and skill development for students.	Encourage the knowledge to students.

Activity / Goals	Description	Value to Social	Plan 2018 - 2020
Environment			
Emergency Drill	Cooperated with Thai MMA Co., Ltd (TMMA) arranged “Emergency Drill” in order to enlighten for employees to understanding the principles of fire, emergency procedures and using fire extinguishers	Need employees to have helping skills when an emergency occurs	Need employees to have helping skills when an emergency occurs
Big Cleaning	Made a clean-up campaign by cleaning in the construction site to go out the community area in vicinity. The activities were arranged as follows: - Project Cleaning: To deduct the accident risk of working - Drain Cleaning: To avoid clogging of drainage gutters and to eliminate the sources of animal-borne diseases - Road Cleaning at Construction Site: To deduct the dust and soil in the construction site - Cleaning the Wheels: To prevent the environmental impact by cleaning the wheels before leaving the construction site	Eliminate the sources of animal-borne diseases.	Eliminate the sources of animalborne diseases.
Weed Prevention and Respiratory Diseases	Conducted the activities to improve the landscape and to prevent diseases from pigeons in construction area. The activities were arranged as follows: - Mowing and Weeding: To improve the landscape and to eliminate the habitat of poisonous animals. - Bird Netting Installation : To prevent birds for building the nests and preventing disease from pigeons such as Bird Flu and Respiratory Diseases, etc.	Improve the landscape to reduce the spread of germs.	Improve the landscape to reduce the spread of germs.
Basic Safety and Basic Fire Fighting	Participated the topic of training “Basic Safety and Basic Fire Fighting” in order to enlighten the staffs the knowledge of Occupational Health, Safety and Environment. This training was arranged by the Federation of Thai Industries and IRPC Public Company Limited in Rayong.	Enhance skills in using knowledge on a daily life.	Enhance skills in using knowledge on a daily life.

Social and Community

TTCL aims to create and maintain good relationship based on trust and mutual respect and be aware of any possible impact on Social and Community. We have also placed high priority on environmental conservation and continuously supported Corporate Social Responsibility activities. However, in order to create the sustainable development and have the explicit regulations. In 2019, TTCL has conducted the activities with Social and Community which around TTCL’s Project as follows:



Katin Ceremony 2562 at Nernkraprok Temple, Rayong



*Provided New Year gift to municipality for
thanking about disposal garbage service*



*Donate rice and dried food with Luongpootim
& Siam Rarong Foundations to people
who faced with water flood crisis
at Ubon Ratchathani province*

5. Responsibility for Environment and Safety Standards.

The Company operates business by adopting the provisions of Occupational Health and Safety Management System (ISO 45001 and ISO 14001) and also advocates activity concerning the environmental conservation and efficient resource usage for enhancing the quality and environmental capabilities.

Responsibility for Environment and Safety

(GRI 403-1: Occupational health and safety management system)

TTCL has responsible for environment and safety by determining Occupational Health, Safety and Environmental Policy in order to ensure that employees and concerned parties can execute in the workplace with safely and prevent the impact to environment, social and community.

Occupational Health, Safety and Environmental Policy

TTCL has established the Occupational Health, Safety and Environmental Policy Statement. This policy states:

1. TTCL committed to establish and maintain safe and healthy working conditions in order to prevent injury or ill health of employees and concerned parties including environmental protection.

(GRI 403-7: Prevention and mitigation of occupational health and safety impacts directly linked by business relationships)

2. TTCL shall execute project and construction management activities in compliance with applicable legal and other HSE requirements including company and project's procedures.

(GRI 403-1: Occupational health and safety management system)

3. TTCL regards that the compliance with company and project's procedures to establish and maintain safe and healthy working conditions including environmental protection are duty and responsibility of employees and concerned parties which included subcontractors and business partners. Supervisor and manager at all levels have to act as role models by leading, supporting and encouraging their subordinates to be aware of working safely and environmentally conscious.

(GRI 403-1: Occupational health and safety management system, 403-4: Worker participation, consultation and communication on occupational health and safety)

4. TTCL shall provide the necessary resources to support the implementation of the Occupational Health, Safety and Environmental Management Systems including hazard elimination and hazards and HSE risks reduction.

(GRI 403-1: Occupational health and safety management system, 403-2: Hazard identification, risk assessment and incident investigation)

5. TTCL shall support and promote employees' participation and consultation in the implementation of the Occupational Health, Safety and Environmental Management.

(GRI 403-4: Worker participation, consultation and communication on occupational health and safety)

6. HSE Policy, Objectives and its effectiveness shall be reviewed annually by Top management for their suitability and determine the opportunity for continual improvement of the Occupational Health, Safety and Environmental Management Systems.

(GRI 403-2: Hazard identification, risk assessment and incident investigation)

Occupational Health, Safety and Working Environment Committee

(GRI 403-4: Worker participation, consultation and communication on occupational health and safety)

TTCL has established the Occupational health, safety and working environment committee in compliance with the Ministerial regulation set standard in administration and management of safety, occupational health, and work environment B.E. 2549 to support and encourage the occupational health, safety and environment activities to ensure that all activities are effectively complied with HSE's Policy. The committee has a two-year term from 6th August 2019 to 5th August 2021.

Occupational Health, Safety and Working Environment Committee Consist of;

1. Mr. Taworn	Suksrisaranjitr	Chairman (Employer's representative in management level)
2. Ms. Jaruwan	Sookthauyart	Committee (Employer's representative in commanding level)
3. Mr. San	Jaisong	Committee (Employer's representative in commanding level)
4. Mr. Somboon	Tachasevarakul	Committee (Employer's representative in commanding level)
5. Mr. Anuchit	Piyamanit	Committee (Employer's representative in commanding level)
6. Mr. Sanchai	Tangvanichkapong	Committee (Employee's representative)
7. Mr. Ronnapoom	Chanmon	Committee (Employee's representative)
8. Mr. Pitak	Sukwan	Committee (Employee's representative)
9. Ms. Thanatchaporn	Swatdee	Committee (Employee's representative)
10. Ms. Papawee	Inseechun	Committee (Employee's representative)
11. Mr. Nuttapol	Sinkajohn	Committee and Secretary (Safety officer in professional level)

Corporate Social Responsibility Activities of QA/QC Department

(GRI 403-5: Worker training on occupational health and safety, 403-6: Promotion of worker health, 403-4: Worker participation, consultation and communication on occupational health and safety)

TTCL recognizes that employees are valuable and essential resources in driving to achieve business goals. Therefore, the company conducted programs and activities to develop knowledge and skills of employees. Programs and activities were organized by QA/QC department as table below;

Programs and Activities	Participants
1. New Employee Training Course	
1.1 Basic safety training course	120
1.2 Quality, occupational health, safety and environmental management systems awareness training course	122
2. Employee Potential Development	
2.1 Basic fire fighting training course	116
2.2 First aid and rescue training course	40
3. Programs and Activities	
3.1 Healthy TTCL	74
3.2 HSE Delivery	223

Programs and Activities

1. New Employee Training Course

1.1 Basic safety training course

(GRI 403-5: Worker training on occupational health and safety)

TTCL conducted basic safety training course for new employees in order to provide knowledge and raise awareness of Occupational health, safety and environment.



Basic Safety Training Course

1.2 Quality, Occupational Health, Safety and Environmental Management Systems Awareness Training Course

(GRI 403-5: Worker training on occupational health and safety)

TTCL conducted quality, occupational health, safety and environmental management systems awareness training course for new employees to make understanding of the company management system.



*Quality, occupational health, safety and environmental management systems
awareness training course*

2. Employee Potential Development

2.1 Basic Fire Fighting Training Course

(GRI 403-5: Worker training on occupational health and safety)

TTCL conducted basic firefighting training course at Klong Toey fire station in order to provide knowledge and understanding about fire prevention and basic fire fighting to employees. The course was instructed by Disaster prevention and mitigation officers.



Basic Firefighting Training Course

2.2 First Aid and Basic Rescue Training Course

(GRI 403-5: Worker training on occupational health and safety)

TTCL conducted first aid and basic rescue training course in order to provide knowledge and understanding about first aid and basic rescue principles to employees. These principles could be applied in an occurrence of emergency situation appropriately. The course was instructed by Kluaynumthai hospital.



First Aid and Basic Rescue Training Course

3. Programs and Activities

3.1 Healthy TTCL

(GRI 403-6: Promotion of worker health)

TTCL conducted healthy program to provide knowledge about nutrition to reduce cholesterol for employees which could be properly applied in daily life.



Nutrition to Reduce Cholesterol Training Program

3.2 HSE Delivery

(GRI 403-4: Worker participation, consultation and communication on occupational health and safety)

TTCL published HSE Delivery program to communicate Occupational health, safety and environmental articles to employees. Furthermore, TTCL also encouraged employees to participate in this program to raise awareness in Occupational health, safety and environmental protection.



Reward for Participation in HSE Delivery Activity

Compliance with Occupational Health, Safety and Environmental Laws, Regulations and Requirements.

(GRI 403-1: Occupational health and safety management system)

TTCL determined that all construction projects shall conduct compliance assessment with occupational health, safety and environmental laws, regulations and other requirements that applicable to the project. Furthermore, an internal audit was performed for monitoring to ensure that project's execution complied with that laws, regulations and requirements.

6. Company Innovation Concerning with Corporate Social Responsibility.

The Company aims to encourage any innovation and research and to develop any business operation that creates value to the organization and stakeholders. The company also concerns the possible impact in the operation under Corporate Social Responsibility and environment.

Innovation and Corporate Knowledge Management

TTCL's Innovation and Technology Development

To achieve and in line the United Nation's Sustainable Development Goals, TTCL has vision to bring innovations and new technologies for improve work efficiency by reduce time, quality control, reduce mistake, cost reduction in design and construction process in both engineering service, integrated

EPC and energy business included enhancement of new business opportunities and sustainable competencies development in consideration of safety, social and environmental responsibility.

In order to achieve the innovation goals, the organization need to have systematic management plan for instant, context consideration, innovation management plan, innovation driving factors consideration, innovation management process determination, evaluation of innovation management system and registration of innovation following national and international level for leverage to commercial values.


Company is now preparing the policy, strategies, management system and innovation development infrastructure in order Innovation and Knowledge Management System to be in line with the sustainable development goals (SDG).

However, the company currently has directives and innovation development plan that in line with the company business development plan included cooperation with external organization i.e. clients, subsidiary/ affiliated companies in the country and overseas as well as government organization, education institute which focus in 5 different areas of technologies


1. Design and Construction Technologies
2. Energy Efficient Technology
3. Alternatives Energy related manufacturing and services technologies
4. Supply-Chain Management Technologies
5. Artificial, Robotic and Internet of Things Technologies

TTCL's past achievements in applications, researches and technologies development (In the past - 2019)

1. Design and Construction Technologies

 Apply of modern technologies in engineering design.

- Apply of most advance 3D design in plant design for verification of constructability and correctiveness of construction drawing prior to purchase of equipment and material and construction.
- Apply of 3D Visualization Presentation for clients and stakeholders.
- Apply of 3D printer for plastic modelling for presentation to clients and stakeholders.
- Apply of specific software for solar PV design which can help to determine best efficient location with optimum construction cost.
- In-house development of process engineering software for internal use
 - Calculation of boil-off gasses in storage tank
 - Sea water intake calculation
 - Knock-out drum calculation
 - 2-Phase Flow pattern calculation
 - Emergency hatch sizing
 - Pressure safety valve calculation
 - Software development for piping material take-off for procurement and material management

 Construction cost data collection, analysis and estimation for future project for past purchasing data with Big Data and AI technologies

Introduce of waste water treatment innovation for chemical plant having Tetrahydro Furan in waste water which rarely found in conventional process plant as it the first of a kind in Thailand.

Knowledge Management System to collect and analyses of knowledge, experiences and mistakes in execution of the past projects included searching system for internal study and avoid repeating mistake for present and future projects (Lesson Learn System)

Apply of modern inspection techniques as following.

- Inspection of welding works and materials with PAUT (Phase Array Ultrasonic Test) to reduce inspection difficulty which normal found in X-RAY welding work inspection

2. Energy Efficient, Energy Conversion and Energy Recovery Technologies

Software development project for supporting optimum efficiency of co-generation plant by Machine Learning and Deep Learning Technology with AI software development company, Skydisc Inc. of Japan

LNG Tri-Generation project for promoting of LNG as a fuel for replacement of Heavy Oil and Coal in industrial plants who not accessible to natural gas pipelines by produce combination of electricity, steam and cold energy as result of efficient fossil fuel usage to reach ultimate goal of greenhouse gas release reduction and total energy cost reduction

3. Manufacturing and Service Technologies related to Alternative Energy

Torrefied Biomass Manufacturing Project for co-firing in Coal-Fired Power Plant using rubber wood, fast growing tree, enery crops

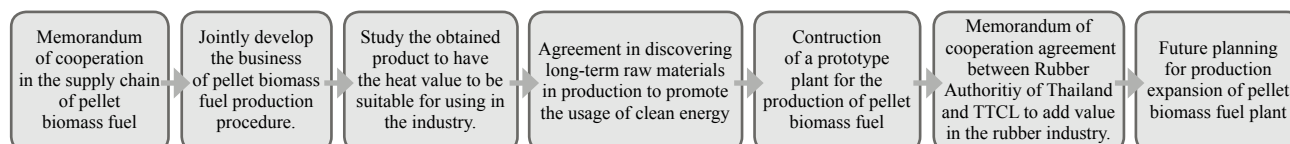
Feasibility Study of woody biomass and energy crops productivity for particular fast growing tree and energy crops in community forest with KAPI and Forest Department of Myanmar

The operation of alternative energy in biomass fuel, the company has created a project with data showing according to GRI and SDGs in the following details and procedures:

Renewable Energy Business Development Project in Biomass Fuel

Operation Details

Results from Quantitative Operations



Title	2016 - 2019
Quantity of lower carbon dioxide (t-CO2/ year)	4,956
Quantity of used rubber wood (tons/ year)	45,000

* Economic and Social Value (2016 - 2019) in the amount of 63,000,000 baht

(Calculated from the quantity of used rubber woods x amount of year x cumulative price 700 baht per ton)

Results from Qualitative Operation

- Reduce the quantity of carbon dioxide emissions, is air pollution with the method of using biomass to replace the usage of fossil fuels in even more the electricity generating industry.
- To promote the market for more wood industry for additional value to expand the market
- Supporting farmers' career in order to see the benefits of sustainable forest management in resulting in an appropriate and sustainable income
- Promote the conservation restore forest degradation and add forests.

The project in accordance with Global Reporting Initiative (GRI) and Sustainable Development Goals (SDGs) as follows:

GRI : 102-2, 102-8, 102-15, 102-29, 401-1 SDGs : 8, 9, 15

4. Supply-Chain Management Technology.

- Development of forest management digital platform and chain of custody according to FSC standard under MoU with Rubber Authority of Thailand

5. Artificial, Robotic Technology and Internet of Things

- In-house large scale 3D printer building for plastic plant model for presentation to clients and stakeholders
- Applied of Unmanned-Autonomous Vehicle (UAV) or Drone for inspection in order to risk-reduction of inspector and quick analysis, processing and reporting by Cloud-Based AI software as result on losses reduction of equipment damages and loss of production time

Knowledge Management

TTCL is focusing in 3-dimension knowledge management as Collective, Exchange and Apply of Knowledge

Company is promoting their employee to understand in directives and manage the knowledge in correct and effective way and hope that employee will learnt, exchange experienced knowledge, adapt to improve current and in future jobs every time to reduce mistakes and increase their problem solving capability limit included initiate of new working standard /procedures and extend to be innovation.

Company arrange to have events and projects to support knowledge management process, board of management establish and assign Lesson Learned Working Group Committee who has duty to vision communication, collect, analysis, archiving, publish and develop of work prototype and develop of knowledge management standard included inviting of internal and external lecturer for sharing of knowledge periodically.

A decorative graphic consisting of two overlapping, curved, light gray shapes that resemble a stylized 'C' or a partial circle.

Auditor Remuneration

Audit fee

The Company and its subsidiaries paid annual audit fee for the year amounting to THB 10,548,993.00 comprising of

- The Company's audit fee amounting to THB 4,000,000
- Branches and Subsidiary Companies' audit fee amounting to THB 6,548,993.00

Non-Audit Fee

The Company and its subsidiaries paid tax advisory fee to the Auditor amounting to THB 6,291,654.00

Connected Transactions

Value and Outstanding Amount of Connected Transactions that might lead to Conflict of Interest

For 2018 - 2019, the Company has connected transactions with the related parties as follows:

Unit: Thousand Baht

Name / Business	Relationship	Type	Value of Transactions		Outstanding as of		Audit Committee Comments for Transaction Rationality
			2018	2019	31 Dec 2018	31 Dec 2019	
1. Toyo - Engineering & Construction. Sdn. Bhd. (Malaysia) (TEC - Malaysia)	TEC - Malaysia is Subsidiaries of TEC - Japan (who is main shareholder in TTCL) (On Feb 6, 2018, TEC had disposal all share hold in TTCL to Third Party)	Construction and Service income	142,784	-			In 2018, TTCL - Malaysia Sdn. Bhd who is Subsidiaries of The Company had generated from TEC - Malaysia were amounting THB 142.78 million respectively. The Audit Committee considered the transaction was done in a normal course of business practice.

Name / Business	Relationship	Type	Value of Transactions		Outstanding as of		Audit Committee Comments for Transaction Rationality
			2018	2019	31 Dec 2018	31 Dec 2019	
2. Global New Energy Company Limited	TTCL is shareholder at 40% and the Company owned by TTCL's Management is shareholder at 60%	Rental Service and Service Fee	124	197			In 2018 and 2019 TTCL's revenue generated from Global New Energy Co., Ltd., were amounting THB 0.12 million and 0.20 million respectively Account Receivable in 2018 and 2019 as amounting THB 0.02 and 0.02 million The Company had provided Rental services and Service fee to Global New Energy Co., Ltd. TTCL's Interest expenses generated from working Capital Loan from Global New Energy Company Limited Accrued Interest expenses in 2018 and 2019 as amounting THB 1.95 and 9.69 million The Audit Committee considered the transaction was done in a normal course of business practice.
		Accrued Income			18	15	
		Interest Expenses	6,548	7,735			
		Accrued Interest Expenses			1,950	9,685	

Name / Business	Relationship	Type	Value of Transactions		Outstanding as of		Audit Committee Comments for Transaction Rationality
			2018	2019	31 Dec 2018	31 Dec 2019	
4. Italian-Thai Development Plc. (“ITD”) / Construction, Contractor	Y 2019 ITD held 0.86% in TTCL’s paid-up registered capital. In 2018 and 2019, one of ITD’s major shareholders, Mrs. Nijaporn Charanachitta, represented one seat of TTCL’s board of directors.	Cost of Construction and Service	53	-	-	-	In 2018 TTCL’s expenses generated from Italian-Thai Development Plc. was amounting THB 0.05 million.
5. Global Business Management Co., Ltd. (Investment in Security)	TTCL’s board of Directors is major board Directors of Global Business Management Co., Ltd.	Interest Expenses	1,760	-	-	-	TTCL’s Interest expenses generated from working Capital Loan from Global New Energy Company Limited.
6. Mr. Hinorobu Iriya	He is shareholder and TTCL’s President.	Interest Expenses	3,727	-	-	-	TTCL’s Interest expenses generated from working Capital Loan from Mr. Hinorobu Iriya.
7. Mr. Yamane Hisanori	He is board Directors of TTCL Power Holding Pte. Ltd., (TTPHD) which is Subsidiaries of TTCL (TTCL hold 100% in TTPHD)	Interest Expenses	8,830	-	-	-	TTPHD’s Interest expenses generated from working Capital Loan from Mr. Yamane Hisanori.

Connected Transactions with Related Parties

Measure and procedure of approval for making connected transaction

The Company will arrange to have a department responsible for transaction verification in relation to reasonableness, general trading terms and conditions, and other details of the transaction to be in the normal course of business. The Company shall proceed as following.

- 1) In case of general trading terms and conditions as well as normal course of business, the board of directors or the person assigned by the board of directors shall proceed with the transactions and shall report those transactions to the Audit Committee quarterly
- 2) In any case other than 1) above, the transaction shall be reviewed and provided with opinions by the audit committee prior to the submission for approval by the board of directors and/ or shareholders

After the initial public offering, the board of directors shall manage the Company in accordance with the Stock Exchange of Thailand (SET)'s rules, regulations, instructions, and notifications as well as in compliance with the requirement in information disclosure regarding connected transactions or acquisition/ disposition of assets of the Company and its subsidiaries and also in compliance with the Thai Accounting Standard (TAS).

In case of connected transactions, the audit committee shall review and provide opinions in terms of its necessity and reasonableness by considering the conditions to be in line with normal course of business and general trading terms and conditions of the Company. The Company may appoint a professional or the Company's auditor to provide opinions regarding the connected transactions to the audit committee and/or the board of directors and/or shareholders as necessary for the best interest of the Company and transparency of the transactions. The Company shall disclose the connected transactions in the notes to its audited financial statements.

The Company has set up the scope of normal trade transaction for the Company and its subsidiaries, the transaction shall have the nature of normal trade terms and conditions per the following details:

Normal Course of Business shall refer to:

The provision of integrated engineering, procurement and construction services including consultancy to industrial clients or other project's contractors, both individual and juristic person.

The purchase of raw material, construction material, consumable goods, machine and equipment, as well as the engagement of a sub contractor, which is required in the Company's business operation including other expenses normally incurred in the business course such as warehouse rental fee, transportation charge, etc. from an individual or a juristic person.

Fair Price shall refer to:

The price in which the buyer and the supplier agree to exchange goods or services when both parties have knowledge and willingness to enter into an agreement and the price is independently negotiable. The price shall be specified based on a market price, resulting from an independent negotiation on the same basis for all parties.

Policy or tendency of further connected transactions

There may be a doing connected transactions by the Company in the future that need to comply with the law concerning securities and exchanges, regulations, notification, orders or rules of the Stock Exchange of Thailand including the Accounting Standard the Disclosure of information concerning Related Persons or Activities, required by the Institute of Certified Accountants and Auditors of Thailand.

Measure for conflict of interest with third party who has other types of conflict of interest

In addition to connected transaction, the company has connected transaction with the other party who may have conflict of interest i.e. collaboration as consortium or compete in business. The company has measurement as follows:

Work together with other company as consortium

In case of jointly bid or work together as consortium, the company and its consortium member will jointly consider scope of work and responsibility in each section of such project base on its specialized and competitiveness. The consortium will have chance to win if there is suitable scope of work and responsibility of each members. Each consortium member will prepare proposal on its scope and combined each party proposal to be consortium proposal.

To prepare proposal, the company considers that the proposal shall be benefit to the company. The proposal is prepared based on accurate actual cost plus appropriate profit with approval from the Board of Directors and Board of Management. Audit Committee will review scope of work and benefit sharing amount consortium to ensure that such division of scope of work is reasonable and maximize benefit of the company.

In Consortium Operation, the Company and consortium members will separately be responsible for income and expenses in accordance with each party's scope of works.

Competition between the Company and the third party which is defined as Conflict of Interest Transaction

In competition, the Company has never practiced a conflict of interest transaction. Competition with any third party. ITD, for example, engages in Civil Engineering for large scale infrastructure projects and essentially differs from the Company's core businesses, integrated EPC. Competition, if any, will not be

directly effect to the Company. In terms of transparency and fair competition, ITD might be involved as subcontractor provided that it has conformed to the Company's criteria and procedures in subcontractor selection and its offering is best for the Company's benefit compared to others.

For TEC who appears to be in the same business, relationship seems to be more on supportive to the Company rather than competition. In bidding for a project, factors that bar competition between TEC and the Company are as follow:

- TEC emphasizes its efforts to project size over USD 1,000 million while the Company is focusing on USD 300 - 500 million project.
- Technological complexity and past experiences (Track Record) required for a specific project.
- Relationship and Customer's Preferences
- Fixed cost differences between TEC and the Company. This also holds true for competitors from other developing country like Korea. Entry for low scale competition is impossible due to their high fixed costs.

For other companies within in TEC group and located in other countries, some of them concentrate only in a specific area or scope of EPC, therefore, their engagement differ from the Company's nature of businesses, integrated EPC contractor. For this reason, from the Company's point of view, theses companies act as global network and risk mitigation rather than competitors whenever overseas assistance from

overseas is required, local subcontractor dealing, suppliers negotiation, etc.

For Sojitz Group is engaged in a wide range of business globally, including buying, selling, importing, and exporting goods, manufacturing and selling products, Providing services, and planning coordinating projects, in Japan and oversea. The Group also invests in various sectors and conducts financing activities The board range of sectors in which Sojitz operates includes those related to automobiles, plants, aerospace, medical infrastructure, energy, mineral resources, chemicals, foodstuff resources, agricultural and forestry resources, consumer goods, and industrial parks.

Besides, considering the balance of the Company's shareholders structure and board of directors, the shareholders can be categorized into 4 groups, (1) Sojitz 9.09%, (2) ITD 0.93%, (3) direct holding by the Company's management 12.23%, and indirectly holding by the Company's management through Global Business Management Co., Ltd., 6.27%, (4) the Company's employees 3.14%, and (5) other investor 68.34%.

In addition, the management structure is designed independently apart from any group of shareholders' influence. The Board of Directors consists of 9 seats, Independent Directors (3), Sojitz Corporation Representative (1), ITD (1), and Executive Directors (4). None of these shareholders represents in the Board of Management, therefore, decision being made will be carried out under business norm and free of any shareholders' interference.

The Audit Committee's Comments on Related Party Transactions

The Company's related transactions are considered and addressed by its Audit Committee to ensure that they are normal business transactions with no special conditions and no transfer of interest among the Company, subsidiaries, associate companies, related companies or shareholders. In addition, regarding pricing, the policy for related transactions between the Company and related business is similar to the policy between the Company and non-related persons/ businesses and carried out in the Company's interests.

The Company's Dividend Policy

The Company has a policy to pay dividend at the rate of not less than 50% of the net profit after tax and reservation required by law. However, the Board of Directors of the Company has the authority to consider the exception of compliance to this policy or change the policy from time to time but subject to the conditions that in all aspect it shall be proceeded for the best benefit of the shareholders for example to maintain the reserved fund to repay the loan, to invest in expansion of Company's business or to use as working capital in case of there is any change in the market situation which effecting the company's cash flow in the future.

Dividend Policy of the Subsidiary

Dividend Policy of the subsidiary shall be considered by the Board of Directors of the subsidiary by taking into the remaining cash flows to compare with the investment of the subsidiary without having to pay any fixed rates of dividend. In case the cash flows has sufficient amount after satisfaction to the reservation law, the Board of Directors of such subsidiary has the right to consider for payment of dividend in each case.



The Board of Director's Report on their Responsibilities for Financial Reports for the Year

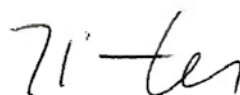
The Financial Statements for TTCL Public Company Limited and its subsidiaries have been prepared in accordance with generally accepted accounting principles by choosing a proper accounting policy which has been regularly observed. Due circumspection of estimation has also been given in the preparation of the financial statements to adequately reflect substantial performance for the interest of the shareholders and investors.

In this regard, the Board of Directors has appointed the Audit Committee comprising independent members of the Board to oversee the quality of the financial statements and internal control system. The Committee's comments have already been shown in this annual report.

The Board is of an opinion that the overall picture of Company's internal control system is at a satisfactory level which can reasonably create confidence upon the reliability of the financial statements of the Company and its subsidiaries as of 31 December 2019.



(Mr. Hironobu Iriya)
Chairman of Board
of Directors



(Mr. Tiwa Jaruke)
Director

Management Discussion and Analysis

1. Operating Performance for the period ended December 31, 2019

For 12 months ended 31th December 2019, the Company reported its Gross Profit at THB 1,333 million, increasing when compared with the previous year mainly caused by improvement in Construction and service revenue (EPC) from domestic and overseas projects and increasing in engineering design services which yield better profit margin.

The foreign exchange difference on translation financial statement was recorded at

THB -271 million caused by stronger Thai Baths, while Re-measurements of employee benefits obligation was recorded at THB -17 million. Therefore, the total comprehensive income for the period was THB -477 million. The above net profit, THB -188 million, was attributed to the Company at THB -206 million and the basic earnings per share were calculated at THB -0.41 per share.

2. Management Discussion and Analysis Report according to consolidated financial statements

For the twelve-month period ended

(Unit: Million Baht)

	31-Dec-19		31-Dec-18		Change
Construction and service revenue (EPC)	10,043.46	96%	7,353.97	88%	37%
Revenue from operation power plant	453.50	4%	973.91	12%	(53%)
Total revenues	10,496.96	100%	8,327.89	100%	26%
<u>Less</u> Cost of construction and services (EPC)	(9,018.06)	86%	(7,904.61)	95%	14%
<u>Less</u> Costs of operation power plant	(145.72)	1%	(524.79)	6%	(72%)
Total Costs	(9,163.79)	87%	(8,429.40)	101%	9%
Gross profit	1,333.17	13%	(101.52)	(1.22%)	1,413%
<u>Add</u> Other income	1,056.67	10%	704.31	8%	50%
<u>Less</u> Gain (Loss) on exchange rate, net	(2.38)	0%	(66.31)	1%	(96%)
<u>Less</u> Administrative Expenses	(2,320.87)	22%	(2,261.75)	27%	3%
<u>Add</u> Share of Profit/ (Loss) of Associate	17.51	0%	22.57	0%	(22%)
<u>Add</u> Share of Profit/ (Loss) of Joint venture	82.66	1%	0.67	0%	12,168%
Profit before Financial Cost and Income Tax	166.77	2%	(1,702.01)	(20%)	110%
<u>Less</u> Financial Costs	(304.39)	3%	(461.84)	6%	(34%)
Profit before Income Tax	(137.62)	1%	(2,163.85)	26%	94%
<u>Less</u> Income Tax	(51.15)	0%	154.09	2%	(133%)
Net Profit for this period	(188.77)	(1.80%)	(2,009.76)	(24%)	91%
Other comprehensive income (expense)					
- Remeasurements of employee benefits obligation	(17.38)	0%	26.11	0%	(167%)
- Share of other comprehensive income of associate from equity method	0.00	0%	0.28	0%	(100%)
Add/ (Less) Exchange differences on translating - financial statements	(271.13)	3%	(50.48)	1%	437%
Total comprehensive income for the period	(477.28)	5%	(2,033.84)	24%	77%

Profit attributable to:					
Owners of the parent	(206.31)		(1,979.73)		90%
Non-controlling interests	17.54		(30.03)		158%
Basic earnings per share (THB)	(0.41)		(3.41)		88%

2.1 Analysis of Revenues, Costs and Expenses

2.1.1 Revenues

Total Revenues recorded at THB 10,497 million, increase 26% when compared to the same period last year.

Revenues	31-Dec-19	31-Dec-18	Change
Construction and service revenues (EPC)	10,043.46	7,353.97	37%
Revenue from operation power plant	453.50	973.91	(53%)
Total Revenues	10,496.96	8,327.89	26%

• EPC Businesses

Revenue from construction and service (EPC) increased 37% to THB 10,043 million which was improved from last year due to the large projects have progress in the construction for both domestic and overseas projects.

• Power Plant Businesses

Revenue from operation of power plant decreased -53% to THB 454 million which was due to the divestment of 60% of the total shares in TTCL Gas Power Pte. Ltd. (TTGP) in the beginning of June 2019.

2.1.2 Costs & Gross Profit

Gross Profit Comparison

31-Dec-19	Revenue	Cost	Gross profit
EPC construction	10,043.46	(9,018.06)	1,025.39
Operation of Power Plan	453.50	(145.72)	307.78
Total	10,496.96	(9,163.79)	1,333.17

2.1.3 Other income & Gain from disposal/ Gain (Loss) on Exchange Rate

• Other Income & Gain from disposal was increased 50% to THB 1,057 million mainly due to the Capital Gain from divestment of TTGP, NNE, and SSPC. While last year the other income of THB 704 million mainly came from interest income of TTPMC and the Gain from disposal of investment in GNE-Togo.

• The Company also recorded Loss on Exchange Rate at THB -2.38 million as a result of stronger Thai Bath during the period.

2.1.4 Administrative Expenses

The Administration Expenses increased 3% to THB 2,320 million due to increase in Provision Expense, Employee Benefit Obligation Expenses, Proposal Expenses and Cost Associated to TTGP Divestment.

2.1.5 Share of Profit of Associate and Joint Venture

Share of Profit of Associate and Joint Venture increased significantly to THB 83 million, which came from share of profit from Joint Venture in TTGP.

2.1.6 Finance Cost and Income Tax

The financial cost for the period was decreased 34% to THB 304 million due to loan repayment and discharged in loan obligation with Exim bank when the company divested TTGP and Income Tax increased to THB 51 million.

3. Analysis of Financial Status

3.1 Analysis of Assets

Figures in THB Million	31-Dec-19	31-Dec-18	Increase/ (Decrease)	% Change
Current assets	13,572.70	12,095.58	1,477.12	12.21%
Non-current assets	2,695.11	7,264.75	(4,569.64)	(62.90%)
Total assets	16,267.81	19,360.33	(3,092.52)	(15.97%)

As of 31 December 2019, Total Assets were recorded at THB 16,268 million, dropped by 16% from the end of last year.

Total Current Assets were recorded at THB 13,573 million or increased by 12%, major movement as the following items:

- Cash and cash equivalent increased by THB 3,972 million, primarily due to the receiving fund from TTGP NNE and SSPC divestments
- Accounts receivable from operation power plant and Financial assets under concession arrangement due within one year decreased by THB 216 million and THB 163 million respectively, primarily due to TTGP divestment
- Contract assets - third parties increased by THB 2,107 million and Construction in progress -Third parties decreased by THB 4,042 million, primarily due to the Company has adopted the new Thai Financial Reporting Standards (TFRS) no.15 Revenue from contracts with customers which affects the accounting treatment on revenue recognition of construction.

Total Non-current Assets were recorded at THB 2,695 million or dropped by 63%, major movement as the following items:

- Loan to third parties increased by 186 million due to re-classify the period of loan from the current portion to the non-current portion.
- Financial assets under concession arrangement due over one year decreased by THB 4,733 million due to TTGP divestment.
- Investment in an associate decreased by 244 million due to SSPC divestment.
- Investment in joint venture increased by THB 1,411 million due to re-classify of the remaining shareholding of 40% in TTGP

3.2 Analysis of Liabilities and Shareholders' Equity

Figures in THB Million	31-Dec-19	31-Dec-18	Increase/ (Decrease)	% Change
Current Liabilities	11,430.51	9,534.27	1,896.24	19.89%
Non-Current Liabilities	2,509.74	6,829.22	(4,319.48)	(63.25%)
Total Liabilities	13,940.25	16,363.49	(2,423.24)	(14.81%)
Shareholders' equity	2,327.56	2,996.85	(669.29)	(22.33%)
Total Liabilities and shareholders' equity	16,267.81	19,360.33	(3,092.52)	(15.97%)

As of 31 December 2019, Total Liabilities were recorded at THB 13,940 million, dropped by 15% from the end of last year.

Total Current Liabilities were recorded at THB 11,431 million or increased by 20%, major movement as the following items:

- Short-term loans from financial institutions decreased by THB 449 million from loan repayment.
- Long-term loan from financial institution – current portion decreased by THB 363 million due to TTGP divestment.
- Debenture due within one year increased by THB 2,399 million due to the debentures issued since 2015 and 2017 will be due in May 2020.
- Accrued construction cost increased by THB 1,250 million and Advance received from customers under construction contracts decreased by THB 864 million, primarily due to the large projects have progress in the construction.

Total Non-current Liabilities were recorded at THB 2,510 million or dropped by 63%, major movement as the followings items;

- Long-term loan from financial institution decreased by THB 1,882 million, due to TTGP divestment.
- Debenture decreased by THB 2,396 million which was moved to Debenture due within one year.

Shareholder's equity were THB 2,328 million or decreased by 22%. The Shareholders' Equity Opening balance as at the beginning of the year was THB 2,997 million, effect from change in accounting policy of THB -37 million, hence Opening balance as restated was THB 2,960 million. Changing in equity of the year consist of total Comprehensive expense for the period of THB -477 million, dividends paid of THB -111 million and interest paid for the period of subordinated perpetual debentures of THB -44 million and. Therefore, the Closing Balance of Shareholders' Equity as of 31 December 2019 were THB 2,328 million.

4. Major Financial Measures

4.1. Profitability Measures	31-Dec-19	31-Dec-18	Favorable/ Unfavorable
4.1.1. Gross profit margin	12.70%	(1.22%)	Favorable
4.1.2. Net profit margin	(1.80%)	(24.13%)	Favorable
4.1.3. Times Interest Earned ratio	0.55	(3.69)	Favorable
4.1.4. Earnings per share	(0.41)	(3.41)	Favorable

4.2. Leverage Measures	31-Dec-19	31-Dec-18	Favorable/Unfavorable
4.2.1. Current ratio	1.19	1.27	Unfavorable
4.2.2. Debt/ Equity ratio	5.99	5.46	Unfavorable
4.2.3. Interest-Bearing Debt/ Equity ratio	2.51	2.85	Favorable

4.3. Shareholders Value Measures	31-Dec-19	31-Dec-18	Favorable/Unfavorable
4.3.1. Net Book Value/ Share	3.78	4.87	Unfavorable
4.3.2. Return on total assets	(1.16%)	(10.38%)	Favorable
4.3.3. Return on equity	(8.11%)	(67.06%)	Favorable

5. Analysis of Cash Flows

Figures in THB Million	31-Dec-19	31-Dec-18	Increase/(Decrease)
Net cash generated from (used in) operating activities	987.22	(180.07)	1,167.29
Net cash receipts from (used in) investing activities	3,794.68	765.18	3,029.50
Net cash payment for financing activities	(780.06)	(1,831.45)	1,051.39
Net increase (decrease) in cash and cash equivalents	4,001.85	(1,246.34)	5,248.18
Beginning balance	987.21	2,235.90	(1,248.69)
Exchange rate gain/(loss) on cash and cash equivalents	(29.40)	(2.35)	(27.04)
Ending Balance	4,959.66	987.21	3,972.45

As of 31 December 2019, the ending balance of cash and cash equivalents was THB 4,960 million, increased THB 3,972 million compared to the same period last year. Such change was caused by a combination of the Net cash generated from operating activities THB 987 million and the Net cash receipts from investing activities THB 3,795 million and the Net cash payment for financing activities THB 780 million. All of which were detailed in the following.

5.1 Net cash generated from operating activities, THB 987 million. The significant changes were:

- + Cash flows before changes in operating assets and liabilities THB 283 million
- + Accrued construction costs THB 1,638 million
- Advance received from customers under construction contracts THB 863 million

5.2 Net cash receipts from investing activities, THB 3,795 million. The significant changes were:

- + Cash receipt from disposals of an indirect subsidiary THB 2,604 million
- + Cash receipt from disposals of associate THB 233 million
- + Cash receipt from disposals of general investment THB 838 million

5.3 Net cash payment for financing activities, THB 780 million. The significant changes were:

- Cash payment for long-term loan from financial institution THB 179 million
- Cash payment for short-term loan from financial institutions THB 446 million
- Dividend payment THB 111 million

5.4 Exchange rate losses on cash and cash equivalents THB 29 million.

TTCL Public Company Limited

Consolidated and Separate Financial Statements

31 December 2019





Independent Auditor's Report

To the shareholders of TTCL Public Company Limited

My opinion

In my opinion, the consolidated financial statements of TTCL Public Company Limited (the Company) and its subsidiaries (the Group) and the separate financial statements of the Company present fairly, in all material respects, the consolidated and separate financial position of the Group and of the Company as at 31 December 2019, 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 (TFRS).

What I have audited

The consolidated financial statements and separate financial statement comprise:

- the consolidated and separate statements of financial position as at 31 December 2019;
- the consolidated and separate statements of comprehensive income for the year then ended;
- the consolidated and separate statements of changes in equity for the year then ended;
- the consolidated and separate statements of cash flows for the year then ended; and
- the notes to the consolidated and separate financial statements, which include a summary of significant accounting policies.

Basis for opinion

I conducted my audit in accordance with Thai Standards on Auditing (TSAs). My responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated and separate financial statements section of my report. I am independent of the Group and the Company in accordance with the 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 my audit of the consolidated and separate financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Emphasis of matter

I draw attention to Notes 8 and 9 of the financial statements, which describe the estimation of allowance for doubtful accounts for an account receivable and unbilled contract revenue overdue more than 12 months of the construction Rock Salt project in Laos People's Democratic Republic engaged by the state enterprise in an oversea. The Group's management used the assumptions and significant judgment to estimate the allowance for doubtful accounts for this account receivable and unbilled contract revenue to ensure that the estimation is adequate and appropriate with the current situation. My opinion is not modified in respect to this matter.

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Key audit matters

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

Key audit matter	How my audit addressed the key audit matter
<p>Revenue recognition on construction contracts and construction costs</p> <p>Refer to Note 2.2.1 'Accounting policy - Thai Financial Reporting Standard no.15 (TFRS15), Revenue from contracts with customers', Note 2.21 a) 'Accounting policies - Revenue recognition on construction contracts', Note 4.1 'Accrued construction costs' and Note 4.2 'Construction revenue', to the financial statements.</p> <p><i>Revenue recognition on construction contracts</i></p> <p>The Group recognises the revenue from a construction contract by using the over time method, and they used the output method to measure progress referencing the physical proportion of contract work completed as per the conditions agreed with customers. The Group satisfies a performance obligation by transferring such services and control of those services to customers over time.</p> <p>Construction service revenue for changes in the scope of work, e.g. additional work and contract modification price changes, is recognised as if it were a part of the existing contract. The effect that the contract modification has on the transaction price, and on the entity's measure of progress towards satisfactory completion of the performance obligation, is recognised as an increase in or a reduction of revenue at the date of the contract modification.</p> <p><i>Construction costs</i></p> <p>Construction costs are actual costs incurred and estimations based on Group's management's experience in appropriately considering work progress and the updated budget project cost estimations incurred.</p> <p>I focussed on these areas because of their material impact on the financial statements in recognising revenue using the percentage of completion method. These areas also involved Group's management's judgement in determining the percentage of completion and estimated budget projects costs.</p>	<p>I assessed and tested the design and operating effectiveness of the key controls related to the budgeting process and the process to record contract revenue and construction costs.</p> <p>For the budgeting process and change in the scope of work, I tested the details used in the preparation of the budget as follows:</p> <ul style="list-style-type: none"> • inquiring Group's management on the significant difference between the percentage of completion based on the proportion of the contract work completed, as assessed by the project engineers, and the percentage of completion determined by the actual costs including the change in the scope of work incurred at the reporting period as well as the estimated total construction costs • assessing the construction costs including the change in the scope of work based on the budget by examining the supporting documents. These included the detailed breakdown of budget costs compared to actual costs incurred. I also inquired Group's management whether the budget was updated to reflect the current situation • testing the actual costs including the change in the scope of work incurred to underlying documents, e.g. goods received, invoices and matching equipment and machinery with shipping documents. I also compared the working hours incurred to the status of the project and documents relating to the change in the scope of work • testing the calculation of the percentage of completion in the monthly progress report. This report was previously reviewed by the Group's project managers and the owner's project managers, and • performing site visits and observing the method used for measuring the percentage of completion. <p>Based on my procedures, I found Group's management's judgements and estimates associated with revenue recognition on construction contracts and construction costs to be appropriately supported by the available evidence.</p>

Key audit matter	How my audit addressed the key audit matter
<p>Disposal investment in subsidiary</p> <p>Refer to Note 2.3 e) 'Accounting policy on disposal investment in subsidiary' and Note 16 'Investment in joint venture', to the financial statements.</p> <p>During the year 2019, TTCL Power Holdings Pte. Ltd. (TTPHD), a subsidiary, disposed its investment in TTCL Gas Power Pte. Ltd. (TTGP) for 29,700,000 shares of Baht 932.49 million which held shares in Toyo-Thai Power Myanmar Co., Ltd. (TTPMC) at the amount of 49,007,900 shares worth Baht 1,538.70 million.</p> <p>The disposal of such an investment effectively changes this investment in a subsidiary to an investment in a joint venture. The Group's management is required to determine fair value of the remaining net identifiable assets and recognise the changes in profit or loss. For the purposes of subsequent accounting, the fair value is the initial carrying amount for the retained interest as a joint venture.</p> <p>The Group's management measured the fair value of net identified assets at Baht 1,379.99 million, which mainly comprised Baht 2,006.74 million relating to financial assets under the concession arrangement and Baht 101.83 million relating to accounts receivable from power plant operation. The fair value of the liabilities assumed was Baht 980.07 million.</p> <p>I focussed on this area because the fair value determination of the financial assets under the concession arrangement and the accounts receivable from the power plant operation arising from the subsidiary investment disposal required Group's management judgement. Key assumption used to determine the fair value included revenue growth rates and discount rates applied for the future cashflow projection.</p>	<p>I performed the following procedures to obtain evidence of the Group's management's fair value determination of the net identifiable assets as at the date of the subsidiary investment disposal.</p> <ul style="list-style-type: none"> • assessing that the classification of investments in TTGP and TTPMC should be accounted for as an investment in the joint venture after disposal • assessing the appropriateness of the identifiable assets acquired and the liabilities assumed at the date of disposal, and evaluating the Group's management's procedures for determining the fair values of the net identifiable assets acquired • testing the calculation of fair values of the financial assets under the concession arrangement and accounts receivable from power plant operation, and challenging Group's management in relation to the following assumption: <ul style="list-style-type: none"> - the revenue growth rates by considering the electricity generation plan and maintenance plan, and - the discount rate used to discount the estimates of the cashflow projection and find if it was consistent with the cost of capital. <p>Based on the procedures above, I found Group's management's assumptions used to identify the fair values of financial assets under the concession arrangement and accounts receivable from power plant operation were reasonable based on available evidence.</p>

Key audit matter	How my audit addressed the key audit matter
<p>Impairment of property, plant and equipment</p> <p>Refer to Note 18 'Impairment of Property, plant and equipment' to the financial statements.</p> <p>During 2019, the Group's management reviewed the adequacy of the allowance for impairment of property, plant and equipment recorded in 2018 of Baht 101.80 million for Bio Natural Energy Co., Ltd, a subsidiary, which operates a renewable energy power plant. The Group's management prepared an estimation of the value-in-use of the power plant by discounting the estimated cash flow generated and estimating the future performance of the plant, considering the waste volume, selling price and operation and maintenance costs.</p> <p>From the impairment review of the power plant, the Group's management considered that additional allowance wasn't required to be set up from previous year.</p> <p>I focussed on this area due to its material impact on the consolidated financial statement and the subjectivity of the Group's management's judgement on the reasonableness of the key assumptions used in the cash flow projection. The key assumptions were the future performance, growth rate and discount rate.</p>	<p>My procedures in relation to Group's management's impairment assessment included:</p> <ul style="list-style-type: none"> • assessing the Group's management's valuation method (value-in-use) and considering if it was appropriate according to Thai Financial Reporting Standards • challenging the Group's management on the reasonableness of key assumptions by <ul style="list-style-type: none"> - evaluating the future performance and growth rates used in calculating the cash flow projection derived from the assets by testing them with internal and external factors. The internal factor was the generated waste volume and external factors were peak and off-peak periods identified in the off-peak calendar and the adjusted float time rate announced by Provincial Electricity Authority (PEA) - assessing the appropriateness of the discount rate used to discount the cashflow projection estimates to find if it was consistent with the subsidiary's cost of capital - sample testing the accuracy and relevance of the input data that the Group's management used in estimating the value-in-use of the power plant, e.g. the waste volume, selling price and operation and maintenance costs • testing the sensitivity analysis of the key assumptions, such as waste volume, to assess the factors impacting the sensitivity analysis and any impact from changes of the assumptions. <p>Based on the procedures above, I found the Group's management's assumptions and the factors used in assessing the power plant's value-in-use to be reasonable and based on available evidence.</p>

Other information

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

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

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

When I read the annual report, if I conclude that there is a material misstatement therein, I am required to communicate the matter to the audit committee.

Responsibilities of the directors for the consolidated and separate financial statements

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

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

The audit committee assists the directors in discharging their responsibilities for overseeing the Group and Company's financial reporting process.

Auditor's responsibilities for the audit of the consolidated and separate financial statements

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

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

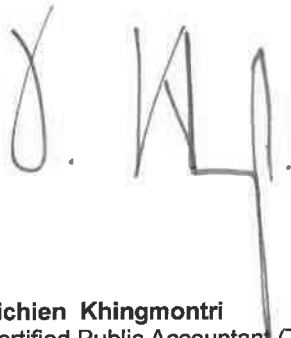
- Identify and assess the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion.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

I communicate with the audit committee 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 the audit committee 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 the audit committee, I determine those matters that were of most significance in the audit of the consolidated 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.

PricewaterhouseCoopers ABAS Ltd.



Vichien Khingmontri
Certified Public Accountant (Thailand) No. 3977
Bangkok
2 March 2020

TTCL Public Company Limited
Statement of Financial Position
As at 31 December 2019

	Notes	Consolidated financial statements		Separate financial statements	
		31 December	31 December	31 December	31 December
		2019	2018	2019	2018
		Baht	Baht	Baht	Baht
Assets					
Current assets					
Cash and cash equivalents	7	4,959,660,507	987,208,371	3,371,945,409	436,835,872
Temporary investments		5,278,000	84,000	-	-
Trade accounts receivable, net					
- related parties	8, 11	23,445,956	-	39,918,538	44,693,147
- third parties	8	1,735,760,943	1,634,051,296	1,295,813,194	1,020,223,649
Accounts receivable from operation power plant		-	215,813,260	-	-
Financial assets under concession arrangement					
due within one year	10	-	162,983,997	-	-
Contract assets, net					
- related parties	9.1, 11	54,294	1,507,859	705,182,082	644,222,329
- third parties	9.2	4,275,577,284	2,168,446,758	4,161,482,632	1,754,712,871
Other accounts receivable					
- related parties	11	7,869,844	-	14,441,982	115,095,128
- third parties		20,969,995	9,992,348	38,532	2,733,173
Construction in progress					
- related parties	11	-	-	2,370,658	2,370,658
- third parties		1,356,986,643	5,398,743,256	578,638,636	4,712,314,681
Advance payments to sub-contractors					
- related parties	11	430,948	-	30,767,314	39,925,145
- third parties		109,942,372	204,419,149	81,632,089	58,918,972
Loans to related parties - due within one year	11	1,526,316	1,526,316	-	-
Loans to third party - due within one year	12	253,982,194	535,746,904	253,982,194	535,746,904
Interest receivable from loan					
to related parties	11	137,922	174,909	6,495,807	6,301,509
Withholding income tax		701,016,016	500,160,570	700,868,897	492,175,782
Input tax refundable		91,804,352	192,541,597	31,697,441	12,798,693
Other current assets		28,256,075	82,180,670	17,696,774	17,576,812
Total current assets		13,572,699,661	12,095,581,260	11,292,972,179	9,896,645,325

The accompanying notes are an integral part of these consolidated and separate financial statements.

TTCL Public Company Limited
Statement of Financial Position
As at 31 December 2019

	Notes	Consolidated financial statements		Separate financial statements	
		31 December	31 December	31 December	31 December
		2019	2018	2019	2018
		Baht	Baht	Baht	Baht
Assets (Cont'd)					
Non-current assets					
Trade accounts receivable, net					
- related party	11	-	-	23,689,320	22,762,065
- third parties		144,662,248	165,116,122	144,662,248	165,116,122
Deposit at bank used as collateral	13	-	129,858,312	-	-
Retention		3,105,536	3,852,685	3,105,536	3,852,685
Held-to-maturity investments		62,482	-	62,482	-
Loan to related parties, net	11	4,578,946	6,105,262	13,266,039	13,266,039
Loan to third party	12	464,770,259	278,763,468	464,770,259	278,763,468
Financial assets under concession arrangement due over one year	10	-	4,733,203,746	-	-
Investments in subsidiaries, net	14	-	-	3,854,082,975	3,937,876,138
Investments in associate, net	15	-	244,355,488	-	-
Investments in joint ventures, net	16	1,423,672,869	12,252,904	83,793,909	-
General investment, net	17	-	726,379,900	-	726,379,900
Spare parts		-	181,011,436	-	-
Property, plant and equipment, net	18	256,246,352	353,124,076	40,398,856	37,276,194
Intangible assets, net	19	20,378,427	26,357,756	19,969,147	24,309,364
Deferred tax assets, net	24	349,459,156	360,165,137	291,236,258	283,839,848
Other non-current assets		28,174,734	44,206,140	15,367,899	17,117,293
Total non-current assets		2,695,111,009	7,264,752,432	4,954,404,928	5,510,559,116
Total assets		16,267,810,670	19,360,333,692	16,247,377,107	15,407,204,441

The accompanying notes are an integral part of these consolidated and separate financial statements.

TTCL Public Company Limited
Statement of Financial Position
As at 31 December 2019

	Notes	Consolidated financial statements		Separate financial statements	
		31 December	31 December	31 December	31 December
		2019	2018	2019	2018
		Baht	Baht	Baht	Baht
Liabilities and equity					
Current liabilities					
Short-term loans from financial institutions	20	1,270,000,000	1,718,939,760	1,270,000,000	1,680,000,000
Trade accounts payable					
- related parties	11	1,379,390	-	962,113,324	1,393,759,165
- third parties		1,070,800,952	1,076,144,037	873,632,159	492,932,967
Other accounts payable					
- related parties	11	149,413	-	-	-
- third parties		51,851,604	40,063,457	25,358,621	25,254,042
Long-term loan from financial institution, net					
- current portion	21	-	363,437,760	-	-
Debentures due within one year, net	22	2,399,155,860	-	2,399,155,860	-
Short-term loans from related parties	11	-	-	170,000,000	434,483,880
Interest payable from related parties	11	-	-	9,684,644	2,045,912
Retention payable to sub-contractors		199,048,645	204,882,997	98,056,115	108,545,977
Provision for warranty		52,987,061	44,922,217	40,606,620	33,638,018
Accrued construction costs		5,232,086,552	3,982,476,788	4,325,523,259	2,408,856,167
Advances received from customers under construction contracts					
- related parties	11	-	-	21,231,910	29,353,320
- third parties		841,568,419	1,705,481,440	473,078,268	1,205,969,089
Deferred construction revenue					
- third parties	9.3	64,561,398	10,800,081	8,543,657	10,800,081
Corporate income tax payable		16,092,371	3,881,697	597,268	-
Accrued expenses		116,861,462	184,545,261	90,719,874	86,689,280
Other current liabilities		113,964,681	198,692,535	96,124,479	65,782,504
Total current liabilities		11,430,507,808	9,534,268,030	10,864,426,058	7,978,110,402
Non-current liabilities					
Long-term loan from financial institution, net	21	-	1,882,088,400	-	-
Debentures, net	22	2,172,584,611	4,568,098,919	2,172,584,611	4,568,098,919
Deferred income	23	126,587,182	133,035,106	-	-
Deferred tax liabilities, net	24	1,385,102	108,433,247	-	114,982
Employee benefits obligation	25	209,184,998	137,562,905	207,148,655	135,576,218
Total non-current liabilities		2,509,741,893	6,829,218,577	2,379,733,266	4,703,790,119
Total liabilities		13,940,249,701	16,363,486,607	13,244,159,324	12,681,900,521

The accompanying notes are an integral part of these consolidated and separate financial statements.

TTCL Public Company Limited
Statement of Financial Position
As at 31 December 2019

	Notes	Consolidated financial statements		Separate financial statements	
		31 December	31 December	31 December	31 December
		2019	2018	2019	2018
		Baht	Baht	Baht	Baht
Liabilities and equity (Cont'd)					
Equity					
Share capital					
Authorised share capital					
Ordinary shares 896,000,000 shares					
of par 1 Baht each					
(2018 : Ordinary shares 896,000,000 shares					
of par 1 Baht each)	26	896,000,000	896,000,000	896,000,000	896,000,000
Issued and paid-up share capital					
Ordinary shares 616,000,000 shares					
of par 1 Baht each					
(2018 : Ordinary shares 616,000,000 shares					
of par 1 Baht each)		616,000,000	616,000,000	616,000,000	616,000,000
Premium on share capital	26	3,285,759,197	3,285,759,197	3,285,759,197	3,285,759,197
Retained earnings (Deficits)					
Appropriated - legal reserve	28	56,000,000	56,000,000	56,000,000	56,000,000
Unappropriated		(402,715,082)	13,310,264	(1,270,331,408)	(1,597,006,892)
Premium on share capital from					
share-based payment		23,188,454	23,188,454	23,188,454	23,188,454
Discount from dilution of investment in subsidiaries		(1,214,269,245)	(1,214,269,245)	-	-
Other components of equity		(535,440,045)	(265,555,701)	(206,921,601)	(158,159,980)
Total		1,828,523,279	2,514,432,969	2,503,694,642	2,225,780,779
Subordinated perpetual debentures	29	499,523,141	499,523,141	499,523,141	499,523,141
Equity attributable to owners of the parent		2,328,046,420	3,013,956,110	3,003,217,783	2,725,303,920
Non-controlling interests		(485,451)	(17,109,025)	-	-
Total equity		2,327,560,969	2,996,847,085	3,003,217,783	2,725,303,920
Total liabilities and equity		16,267,810,670	19,360,333,692	16,247,377,107	15,407,204,441

The accompanying notes are an integral part of these consolidated and separate financial statements.

TTCL Public Company Limited
Statement of Comprehensive Income
For the year ended 31 December 2019

	Notes	Consolidated financial statements		Separate financial statements	
		2019 Baht	2018 Baht	2019 Baht	2018 Baht
Revenues					
Construction and service revenues		10,043,458,203	7,353,972,594	8,498,666,230	5,012,686,395
Revenues from operating the power plant		453,499,694	973,912,511	48,729,368	54,099,411
Total revenues	6	10,496,957,897	8,327,885,105	8,547,395,598	5,066,785,806
Costs					
Costs of construction and services	34	(9,018,064,861)	(7,904,614,835)	(7,595,842,445)	(5,761,728,710)
Costs of operating the power plant		(145,723,275)	(524,789,327)	(17,034,931)	(14,780,969)
Total costs		(9,163,788,136)	(8,429,404,162)	(7,612,877,376)	(5,776,509,679)
Gross profit (loss)		1,333,169,761	(101,519,057)	934,518,222	(709,723,873)
Other income	32	1,056,667,412	704,313,440	2,084,706,485	294,033,166
Administrative expenses	34	(2,320,865,709)	(2,261,745,010)	(2,148,254,550)	(2,175,790,542)
Loss on exchange rate, net		(2,381,043)	(66,310,216)	(86,984,017)	(42,446,390)
Finance costs	35	(304,385,448)	(461,839,036)	(258,934,567)	(301,973,948)
Share of profit of associate	15	17,514,815	22,574,316	-	-
Share of profit of joint ventures	16	82,660,278	673,797	-	-
Profit (loss) before income tax		(137,619,934)	(2,163,851,766)	525,051,573	(2,935,901,587)
Income tax expense	33	(51,150,476)	154,092,734	(4,192,062)	157,624,010
Profit (loss) for the year		(188,770,410)	(2,009,759,032)	520,859,511	(2,778,277,577)
Other comprehensive income (expense)					
Items that will not be reclassified subsequently to profit or loss, net of taxes					
Remeasurements of employee benefits obligation		(17,375,662)	26,114,269	(17,375,662)	26,114,269
Share of other comprehensive income of associate		-	280,356	-	-
Item that will be reclassified subsequently to profit or loss, net of taxes					
Currency translation differences		(271,134,404)	(50,475,224)	(48,761,621)	(14,181,877)
Other comprehensive income (expense) for the year, net of tax		(288,510,066)	(24,080,599)	(66,137,283)	11,932,392
Total comprehensive income (expense) for the year		(477,280,476)	(2,033,839,631)	454,722,228	(2,766,345,185)
Profit (loss) attributable to:					
Owners of the parent		(206,309,219)	(1,979,731,537)	520,859,511	(2,778,277,577)
Non-controlling interests		17,538,809	(30,027,495)	-	-
		(188,770,410)	(2,009,759,032)	520,859,511	(2,778,277,577)
Total comprehensive income (expense) attributable to :					
Owners of the parent		(493,732,410)	(2,003,806,900)	454,722,228	(2,766,345,185)
Non-controlling interests		16,451,934	(30,032,731)	-	-
		(477,280,476)	(2,033,839,631)	454,722,228	(2,766,345,185)
Earnings (loss) per share for the owners of the parent					
Basic earnings (loss) per share (Baht)	30.1	(0.41)	(3.41)	0.77	(4.79)
Diluted earnings (loss) per share (Baht)	30.2	(0.41)	(3.41)	0.77	(4.79)

The accompanying notes are an integral part of these consolidated and separate financial statements.

TTCL Public Company Limited
Statement of Changes in Equity
For the year ended 31 December 2019

Attributable to owners of the parent																									Consolidated financial statements			
												Other components of equity																
												Other comprehensive income (loss)																
Capital contributed				Retained earnings (deficits)		Premium on share capital from share-based payment		Discount from dilution of investment in subsidiary		Premium on dilution of investment		Remeasurements of employee benefits obligation		Currency translation differences		Share of other comprehensive loss of associate		Total other component of equity		Subordinated perpetual debentures		Total owners of the parent		Non-controlling interest		Total equity		
Notes	Issued and paid-up share capital	Premium on share capital	Appropriated-Legal reserve	Unappropriated	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	
Opening balance as at 1 January 2018																												
	560,000,000	2,905,496,747	56,000,000	1,966,927,532	23,188,454	(1,214,269,245)	9,410,796	(224,333,324)	(443,541)	(215,366,069)	-	4,081,977,419	12,923,706	4,094,901,125														
Change in equity for the year																												
26	55,000,000	380,262,450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-	-	-	(1,979,731,537)	-	-	-	(50,469,968)	280,356	(24,075,363)	26,114,269	(2,003,806,900)	(30,032,731)	(2,033,839,631)														
	-	-	-	26,114,269	-	-	-	-	-	(26,114,269)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29	-	-	-	-	-	-	-	-	-	-	-	499,523,141	-	499,523,141														
Closing balance as at 31 December 2018																												
	616,000,000	3,285,759,197	56,000,000	13,310,264	23,188,454	(1,214,269,245)	9,410,796	(274,803,312)	(163,185)	(265,555,701)	-	3,013,956,110	(17,109,025)	2,996,847,085														
Opening balance as at 1 January 2019																												
	616,000,000	3,285,759,197	56,000,000	13,310,264	23,188,454	(1,214,269,245)	9,410,796	(274,803,312)	(163,185)	(265,555,701)	-	3,013,956,110	(17,109,025)	2,996,847,085														
Effect from the adoption of new accounting policy																												
2	-	-	-	(37,547,802)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Opening balance as at 1 January 2019 - restated																												
	616,000,000	3,285,759,197	56,000,000	(24,237,538)	23,188,454	(1,214,269,245)	9,410,796	(274,803,312)	(163,185)	(265,555,701)	-	2,976,408,308	(16,937,385)	2,959,470,923														
Change in equity for the year																												
	-	-	-	(206,309,219)	-	-	-	(270,047,529)	-	(287,423,191)	(17,375,662)	(483,732,410)	16,451,934	(477,280,476)														
	-	-	-	(17,375,662)	-	-	-	-	-	17,375,662	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Transfer share of other comprehensive loss of associate to retained earnings (deficits)																												
	-	-	-	(163,185)	-	-	-	-	-	-	-	163,185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
31	-	-	-	(110,879,478)	-	-	-	-	-	-	-	(110,879,478)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Interest paid for subordinated perpetual debentures																												
29	-	-	-	(43,750,000)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Closing balance as at 31 December 2019																												
	616,000,000	3,285,759,197	56,000,000	(402,715,082)	23,188,454	(1,214,269,245)	9,410,796	(544,850,841)	-	(535,440,045)	-	2,328,046,420	(485,451)	2,327,560,969														

The accompanying notes are an integral part of these consolidated and separate financial statements.

TTCL Public Company Limited
Statement of Changes in Equity
For the year ended 31 December 2019

	Notes	Capital contributed			Retained earnings (deficits)		Premium on share capital from share-based payment		Other components of equity		Separate financial statements	
		Issued and paid-up share capital	Premium on share capital	Baht	Appropriated -Legal reserve	Unappropriated	Baht	Baht	Remeasurements of employee benefits obligation	Currency translation difference	Subordinated perpetual debentures	Total equity
Opening balance as at 1 January 2018		560,000,000	2,905,496,747		56,000,000	1,155,156,416		23,188,454	-	(143,978,103)	-	4,555,863,514
Change in equity for the year												
Increase in ordinary shares	26	56,000,000	380,262,450		-	-		-	-	-	-	436,262,450
Total comprehensive expense for the year		-	-		-	(2,778,277,577)		-	26,114,269	(14,181,877)	-	(2,766,345,185)
Transfer from actuarial gains		-	-		-	26,114,269		-	(26,114,269)	-	-	-
Issuance of subordinated perpetual debentures	29	-	-		-	-		-	-	-	499,523,141	499,523,141
Closing balance as at 31 December 2018		616,000,000	3,285,759,197		56,000,000	(1,597,006,892)		23,188,454	-	(158,159,980)	499,523,141	2,725,303,920
Opening balance as at 1 January 2019		616,000,000	3,285,759,197		56,000,000	(1,597,006,892)		23,188,454	-	(158,159,980)	499,523,141	2,725,303,920
Effect from the adoption of new accounting policy	2	-	-		-	(22,178,887)		-	-	-	-	(22,178,887)
Opening balance as at 1 January 2019 - restated		616,000,000	3,285,759,197		56,000,000	(1,619,185,779)		23,188,454	-	(158,159,980)	499,523,141	2,703,125,033
Change in equity for the year												
Total comprehensive income (loss) for the year		-	-		-	520,859,511		-	(17,375,662)	(48,761,621)	-	454,722,228
Transfer from actuarial gains		-	-		-	(17,375,662)		-	17,375,662	-	-	-
Dividends payment	31	-	-		-	(110,879,478)		-	-	-	-	(110,879,478)
Interest paid for subordinated perpetual debentures	29	-	-		-	(43,750,000)		-	-	-	-	(43,750,000)
Closing balance as at 31 December 2019		616,000,000	3,285,759,197		56,000,000	(1,270,331,408)		23,188,454	-	(206,921,601)	499,523,141	3,003,217,783

The accompanying notes are an integral part of these consolidated and separate financial statements.

TTCL Public Company Limited
Statement of Cash Flows
For the year ended 31 December 2019

	Notes	Consolidated financial statements		Separate financial statements	
		2019 Baht	2018 Baht	2019 Baht	2018 Baht
Cash flows from operating activities					
Profit (loss) before income tax		(137,619,934)	(2,163,851,766)	525,051,573	(2,935,901,587)
Adjustments					
- Depreciation and amortisation	18, 19	25,886,714	40,483,203	16,583,593	21,840,265
- Gains from disposals of equipment		(692,682)	(3,848,367)	(112,254)	(3,848,362)
- Gain from disposals of intangible assets		(882,709)	-	(882,709)	-
- Losses from write-off of equipment and intangible assets	18, 19	17,252	50	17,251	45
- Unrealised (gains) losses from exchange rate		(300,614,289)	(43,022,144)	251,788,161	65,278,938
- Dividend income	11	-	-	(1,915,995,936)	(238,602,711)
- Interest income	32	(119,804,552)	(159,624,305)	(47,051,839)	(46,149,781)
- Share of profit of associate	15	(17,514,815)	(22,574,316)	-	-
- Share of profit of joint venture	16	(82,660,278)	(673,797)	-	-
- Gain from disposals of subsidiary	32	(765,552,637)	(360,600,107)	-	-
- Gain from disposals of associate	32	(15,893,170)	-	-	-
- Gain from disposals of general investment	32	(112,091,450)	-	(112,091,450)	-
- Employee benefit expenses	25	55,812,221	21,574,281	55,620,659	21,535,089
- Reserve expense from lawsuit		-	805,490	-	805,490
- Allowance for doubtful debt		1,456,776,804	1,324,508,743	1,456,776,804	1,330,928,655
- Bad debt		-	118,611,939	-	118,611,939
- Allowance for impairment loss on investment in subsidiary	14	-	-	-	154,349,300
- Amortisation of deferred financing fee		3,641,552	4,825,013	3,641,552	4,077,097
- Amortisation of deferred income from government grant		(6,447,924)	(11,305,005)	-	-
- Interest expenses		300,743,896	457,014,023	255,293,015	297,346,851
Cash flows before changes in operating assets and liabilities		283,103,999	(797,677,065)	488,638,420	(1,209,728,772)
Changes in operating assets and liabilities					
- Trade accounts receivable		(188,789,763)	114,065,307	(357,904,845)	587,053,057
- Accounts receivable from operation of power plant		(20,992,356)	(94,815,868)	-	-
- Financial assets under concession arrangement		229,342,103	148,656,996	-	-
- Contract assets		254,756,722	296,176,807	100,990,147	487,067,813
- Other accounts receivable		(19,228,661)	44,917,750	105,842,659	(188,139,562)
- Construction in progress		(113,514,382)	742,457,937	(102,758,279)	748,194,072
- Advance payments to sub-contractors		94,009,939	258,010,620	(15,666,305)	(25,268,366)
- Withholding income tax		(200,855,446)	(173,956,512)	(208,729,639)	(169,058,080)
- Input tax refundable		100,737,245	(120,738,285)	(19,013,397)	2,002,245
- Other current assets		21,673,697	(264,968,663)	637,278	56,572,126
- Retention receivable		747,148	18,455,030	-	13,580,308
- Spare parts		(3,706,516)	2,309,419	-	-
- Other non-current assets		9,792,533	(67,447,681)	1,749,332	(531,878)
- Trade accounts payable		29,494,765	(2,688,332)	4,514,044	64,946,941
- Other accounts payable		17,078,907	(7,950,301)	3,869,723	(188,590,119)
- Retention payable to sub-contractors		(5,834,352)	(44,189,806)	(10,489,862)	(67,771,851)
- Provision for warranty		8,064,844	9,415,742	6,968,602	6,499,536
- Accrued construction costs		1,638,894,500	(19,705,532)	1,898,671,050	850,346,295
- Advance received from customers under construction contracts		(863,913,021)	601,354,963	(703,981,555)	694,079,471
- Deferred construction revenue		49,778,263	(315,124,844)	(5,909,376)	(15,339,932)
- Accrued expense		83,612,427	(78,930,521)	6,266,025	(10,922,030)
- Other current liabilities		(81,516,076)	42,285,386	31,379,515	28,201,868
- Employee benefit obligations	25	(5,767,800)	(7,724,336)	(5,767,800)	(7,113,500)
Cash generated from operations		1,316,968,719	282,188,211	1,219,305,737	1,656,079,642
- Interest paid		(309,238,526)	(456,825,151)	(249,472,606)	(302,510,542)
- Income tax paid		(20,509,112)	(5,435,344)	(8,029)	(209,297)
Net cash generated from (used in) operating activities		987,221,081	(180,072,284)	969,825,102	1,353,359,803

The accompanying notes are an integral part of these consolidated and separate financial statements.

TTCL Public Company Limited
Statement of Cash Flows
For the year ended 31 December 2019

	Notes	Consolidated financial statements		Separate financial statements	
		2019 Baht	2018 Baht	2019 Baht	2018 Baht
Cash flows from investing activities					
Payment for short-term investment to financial institutions		(5,255,931)	(84,000)	(61,931)	-
Payment for shares in subsidiary		-	-	(746)	(249,375)
Proceeds from disposals investments in maturities security		-	71,999	-	71,999
Cash receipts from refund of advance payments for share subscription		-	135,392,654	-	-
Payment for loan to related party		-	-	-	(38,261,067)
Proceeds from loan to related parties		1,526,316	1,526,316	-	234,745,386
Proceeds from loan to third parties		37,596,109	182,600,110	37,596,109	182,600,110
Proceeds from disposals of equipment		3,494,712	16,588,510	2,096,904	16,588,505
Proceeds from disposals of intangible assets		882,710	-	882,710	-
Cash receipts from interest income		119,166,861	179,827,025	46,120,908	82,194,686
Cash receipts from dividend income		70,037,383	-	1,915,995,936	238,602,711
Cash payment for purchases of equipment		(100,853,838)	(635,427,537)	(19,048,173)	(2,382,867)
Cash payment for borrowing cost capitalised in property, plant and equipment		(2,949,015)	(16,015,347)	-	-
Cash payment for purchases of intangible assets		(3,726,196)	(827,195)	(3,104,360)	(119,500)
Cash receipt from disposals of subsidiary		2,603,546,202	901,531,803	-	-
Cash receipt from disposals of associate		232,745,932	-	-	-
Cash receipt from disposals of general investment		838,471,350	-	838,471,350	-
Net cash receipts from investing activities		3,794,682,595	765,184,338	2,818,948,707	713,790,588
Cash flows from financing activities					
Cash payment for long-term loan from financial institution	21	(178,533,320)	(362,988,640)	-	-
Cash receipt for long-term loan from financial institution	21	-	889,149,500	-	-
Cash payment for deferred financing fee	21	-	(13,383,215)	-	-
Cash receipts from short-term loan from financial institutions	20	4,080,000,000	8,003,460,281	4,080,000,000	7,988,857,871
Cash payment for short-term loan from financial institutions	20	(4,526,893,160)	(9,784,095,805)	(4,490,000,000)	(9,784,095,805)
Cash repayment for debentures		-	(1,425,000,000)	-	(1,425,000,000)
Cash receipts from short-term loan from related party		-	490,444,683	-	705,267,614
Cash payment for short-term loan from related party	11	-	(564,701,034)	(252,660,773)	(270,000,000)
Interest payment for subordinated perpetual debentures	29	(43,750,000)	-	(43,750,000)	-
Cash receipts from issuing ordinary shares	26	-	436,262,450	-	436,262,450
Cash receipts from issuing perpetual bond		-	500,000,000	-	500,000,000
Cash payment for fee in issuing perpetual bond		-	(596,074)	-	(596,074)
Dividend payment	31	(110,879,478)	-	(110,879,478)	-
Net cash payments for financing activities		(780,055,958)	(1,831,447,854)	(817,290,251)	(1,849,303,944)
Net increase (decrease) in cash and cash equivalents		4,001,847,718	(1,246,335,800)	2,971,483,558	217,846,447
Cash and cash equivalents at the beginning of the year		987,208,371	2,235,896,443	436,835,872	218,599,272
Exchange rate gains (losses) on cash and cash equivalents		(29,395,582)	(2,352,272)	(36,374,021)	390,153
Cash and cash equivalents at the ending of the year	7	4,959,660,507	987,208,371	3,371,945,409	436,835,872

The accompanying notes are an integral part of these consolidated and separate financial statements.

TTCL Public Company Limited
Statement of Cash Flows
For the year ended 31 December 2019

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	Baht	Baht	Baht	Baht
Non-cash items				
Accounts payable for purchases of equipment	46,023,625	90,402,893	5,445,000	10,154,810
Classification accounts receivable				
- subsidiary to loan to subsidiary	-	-	-	100,122,450

The accompanying notes are an integral part of these consolidated and separate financial statements.

TTCL Public Company Limited

Notes to the Consolidated and Separate Financial Statements

For the year ended 31 December 2019

1 General information

TTCL Public Company Limited ("Company") is a public limited company incorporated in Thailand. The address of head office of the Company's registered office is at 159 Sermit Tower Floor 27-30, Soi Sukhumvit 21, Asoke Road, Klong-Toey, Wattana, Bangkok 10110.

Philippines Branch: Suite B, 5th Floor Builder's Center, 170 Salcedo Street, Legaspi Village, Makati City

Qatar Branch: Area No.90, Street No.720, Sheikh Abdulrahman Bin Jassim Street, Building No.24, Plot No.26, Flat No.90, P.O.Box 80364 A1 Wakra-Qatar

The Company is listed on the Stock Exchange of Thailand. For reporting purposes, the Company and its subsidiaries are referred to as the Group.

The principal business operations of the Group are engineering services including design, procurement and construction for integrated industrial factories and energy business.

These consolidated and separate financial statements were authorised by the Board of Directors on 2 March 2020.

2 Accounting policies

The principal accounting policies applied in the preparation of these consolidated and separate financial statements are set out below:

2.1 Basis of preparation

The consolidated and separate financial statements have been prepared in accordance with Thai Financial Reporting Standards ("TFRS") and the financial reporting requirements issued under the Securities and Exchange Act.

The consolidated and separate financial statements have been prepared under the historical cost convention.

The preparation of financial statements in conformity with TFRS requires management to use certain critical accounting estimates and to exercise its judgement in applying the Group's accounting policies. The areas involving a higher degree of judgement or complexity, or areas that are more likely to be materially adjusted due to changes in estimates and assumptions are disclosed in Note 4.

An English version of the consolidated and separate financial statements have been prepared from the statutory financial statements that are in the Thai language. In the event of a conflict or a difference in interpretation between the two languages, the Thai language statutory financial statements shall prevail.

Comparative figures have been reclassified to conform with the current year changes in presentation.

2.2 New and amended financial reporting standards that are relevant and have significant impacts to the Group

2.2.1 The Group has applied the following standard and amendments for the first time for their annual reporting commencing 1 January 2019

Thai Financial Reporting Standard no.15 (TFRS 15), Revenue from contracts with customers

The standard provides principle and approach of revenue recognition under five-step process. The underlying principle is that the Group will recognise revenue to depict the transfer of goods or services to customers at an amount that the entity expects to be entitled to in exchange for those goods or services. It replaces the principles of transferring the significant risks and rewards of ownership of the goods or services to the buyer in accordance with TAS 11, *Construction contracts*, TAS 18, *Revenue* and related interpretations.

The Group has adopted the new TFRS 15, Revenue from contracts with customers from 1 January 2019 by applying the modified retrospective approach and the comparative figures have not been restated.

TTCL Public Company Limited

Notes to the Consolidated and Separate Financial Statements

For the year ended 31 December 2019

Before 2019, the Group recognised contract revenue and contract costs by using the percentage of completion method. The stage of completion is measured by referencing to the completion of a physical proportion of the contract work performed as per the conditions agreed with customers. When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognised as an expense immediately. Costs incurred in the year in connection with future activity on a contract are excluded but shown as work in process.

The adoption of TFRS 15 mainly affects the Group's accounting treatment on revenue recognition of construction service revenue for change in the scope or price, for example, additional work and change in price for the contract modification as if it were a part of the existing contract if the remaining services are not distinct and, therefore, form part of a single performance obligation that is partially satisfied at the date of the contract modification. The effect that the contract modification has on the transaction price, and on the entity's measure of progress towards complete satisfaction of the performance obligation, is recognised as an adjustment to increase in or reduce of revenue at the date of the contract modification. Revenue is recognised when the Group satisfies a performance obligation by transferring such services to customers over time. The services are transferred when the customers obtain control of those services. If the Group receives consideration exceed the service rendering, a deferred construction revenue is recognised. On the other hand, if the Group receives consideration less than the service rendering, an unbilled contract revenue is recognised.

The following tables show the adjustments made to the amounts recognised in each line item in the statement of financial position upon the first time adoption of TFRS 15.

Consolidated financial statements			
	As at 31 December 2018		As at 1 January 2019
	Previously reported Baht	Adjustments Baht	Restated Baht
Trade and other receivables			
- third parties	1,634,051,296	(52,497,198)	1,581,554,098
Contract assets, net			
- third parties	2,168,446,758	3,781,574,319	5,950,021,077
Construction in progress			
- third parties	5,398,743,256	(4,076,504,655)	1,322,238,601
Property, plant and equipment, net	353,124,076	(1,609,726)	351,514,350
Deferred tax assets	360,165,137	6,849,179	367,014,316
Accrued construction costs	3,982,476,788	(308,794,972)	3,673,681,816
Deferred construction revenue			
- third parties	10,800,081	3,983,054	14,783,135
Retained earnings (Deficits) (unappropriated)	13,310,264	(37,547,802)	(24,237,538)
Non-controlling interests	(17,109,025)	171,640	(16,937,385)

Separate financial statements			
	As at 31 December 2018		As at 1 January 2019
	Previously reported Baht	Adjustments Baht	Restated Baht
Contract assets, net			
- related parties	644,222,329	167,141,424	811,363,753
- third parties	1,754,712,871	4,062,175,438	5,816,888,309
Construction in progress			
- third parties	4,712,314,681	(4,236,244,258)	476,070,423
Deferred tax assets	283,839,848	6,727,604	290,567,452
Accrued construction costs	2,408,856,167	17,996,041	2,426,852,208
Deferred construction revenue			
- third parties	10,800,081	3,983,054	14,783,135
Deficits (unappropriated)	(1,597,006,892)	(22,178,887)	(1,619,185,779)

TTCL Public Company Limited

Notes to the Consolidated and Separate Financial Statements

For the year ended 31 December 2019

The following tables show the amounts by each financial statements line item in the current year from the adoption of the new revenue standard compared to the previous revenue standards

	Consolidated financial statements		
	Amounts as reported Baht	Impacts from TFRS 15 Baht	Amounts under the previous revenue standards Baht
Statement of financial position as at 31 December 2019			
Trade account receivables - third parties	1,735,760,943	8,786,131	1,744,547,074
Contract assets, net - third parties	4,275,577,284	(2,246,212,952)	2,029,364,332
Construction in progress - third parties	1,356,986,643	2,282,176,734	3,639,163,377
Property, plant and equipment, net	256,246,352	1,609,727	257,856,079
Deferred tax assets	349,459,156	(3,534,040)	345,925,116
Accrued construction cost	5,232,086,552	40,239,054	5,272,325,606
Deferred construction revenue - third parties	64,561,398	(24,884,822)	39,676,576
Deficits (Unappropriated)	(478,592,875)	28,285,689	(450,307,186)
Non-controlling interests	(485,451)	(1,004,152)	(1,489,603)
Statement of comprehensive income for the year ended 31 December 2019			
Construction and service revenues	10,043,458,203	173,729,791	10,217,187,994
Costs of construction and services	(9,018,064,861)	(187,179,830)	(9,205,244,691)
Gross profit	1,333,169,761	(13,450,039)	1,319,719,722
Income tax expense	(51,150,476)	3,361,160	(47,789,316)
Net loss for the year	(188,770,410)	(10,088,879)	(198,859,289)
Basic loss per share (Baht)	(0.41)	(0.01)	(0.42)
Diluted loss per share (Baht)	(0.41)	(0.01)	(0.42)
Separate financial statements			
	Amounts as reported Baht	Impacts from TFRS 15 Baht	Amounts under the previous revenue standards Baht
Statement of financial position as at 31 December 2019			
Contract assets, net			
- related parties	705,182,082	(179,438,329)	525,743,753
- third parties	4,161,482,632	(2,246,607,634)	1,914,874,998
Construction in progress - third parties	578,638,636	2,433,529,925	3,012,168,561
Deferred tax assets	291,236,258	(6,779,707)	284,456,551
Accrued construction cost	4,325,523,259	(17,996,043)	4,307,527,216
Deferred construction revenue - third parties	8,543,657	(3,687,002)	4,856,655
Deficits (Unappropriated)	(1,270,331,408)	22,387,300	(1,247,944,108)
Statement of comprehensive income for the year ended 31 December 2019			
Construction and service revenues	8,498,666,230	440,359,833	8,939,026,063
Costs of construction and services	(7,595,842,445)	(440,099,317)	(8,035,941,762)
Gross profit	934,518,222	260,516	934,778,738
Income tax expenses	(4,192,062)	(52,103)	(4,244,165)
Profit for the year	520,859,511	208,413	521,067,924
Basic earnings per share (Baht)	0.77	-	0.77
Diluted earnings per share (Baht)	0.77	-	0.77

TTCL Public Company Limited
Notes to the Consolidated and Separate Financial Statements
For the year ended 31 December 2019

2.2.2 New and amended financial reporting standards that are effective for accounting period beginning or after 1 January 2020

The Group is currently assessing the impact of initial adoption of certain new and amended financial reporting standards that are effective for accounting period ending 31 December 2020.

a) Financial instruments

The new financial standards relate to financial instruments are:

TAS 32	Financial instruments: Presentation
TFRS 7	Financial Instruments: Disclosures
TFRS 9	Financial Instruments
TFRIC 16	Hedges of a Net Investment in a Foreign Operation
TFRIC 19	Extinguishing Financial Liabilities with Equity Instruments

These new standards address the classification, measurement, derecognition of financial assets and financial liabilities, impairment of financial assets, hedge accounting, and presentation and disclosure of financial instruments.

b) TFRS 16, Leases

Where the Group is a lessee, TFRS 16, Leases will result in almost all leases being recognised on the balance sheet as the distinction between operating and finance leases is removed. A right-of-use asset and a lease liability will be recognised, with exception on short-term and low-value leases.

c) Other new/amended standards

The new and amended financial reporting standards that will have significant impact on the Group are:

TAS 12	Income tax
TAS 19	Employee benefits
TAS 23	Borrowing cost
TAS 28	Investments in associates and joint ventures
TFRS 3	Business combinations
TFRS 11	Joint arrangements
TFRIC 23	Uncertainty over income tax treatments

Amendment to TAS 12, Income tax - clarified that the income tax consequences of dividends of financial instruments classified as equity should be recognised according to where the past transactions or events that generated distributable profits were recognised.

Amendment to TAS 19, Employee benefits (plan amendment, curtailment or settlement) - clarified accounting for defined benefit plan amendments, curtailments and settlements that the updated assumptions on the date of change are applied to determine current service cost and net interest for the remainder of the reporting period after the plan amendment, curtailment or settlement.

Amendment to TAS 23, Borrowing costs - clarified that if a specific borrowing remains outstanding after the related qualifying asset is ready for its intended use or sale, it becomes part of general borrowings.

Amendment to TAS 28, Investments in associates and joint ventures (long-term interests in associates and joint ventures) - clarified the accounting for long-term interests in an associate or joint venture, which is in substance form part of the net investment in the associate or joint venture, but to which equity accounting is not applied. Entities must account for such interests under TFRS 9, *Financial instruments* before applying the loss allocation and impairment requirements in TAS 28, *Investments in associates and joint ventures*.

Amendment to TFRS 3, Business combinations - clarified that obtaining control of a business that is a joint operation is a business combination achieved in stages. The previously held interest is therefore re-measured.

Amendment to TFRS 11, Joint arrangements - clarified that the party obtaining joint control of a business that is a joint operation should not measure its previously held interest in the joint operation.

TTCL Public Company Limited

Notes to the Consolidated and Separate Financial Statements

For the year ended 31 December 2019

TFRIC 23, Uncertainty over income tax treatments - explained how to recognise and measure deferred and current income tax assets and liabilities where there is uncertainty over a tax treatment. In particular, it discusses:

- that the Group should assume a tax authority will examine the uncertain tax treatments and have full knowledge of all related information, ie that detection risk should be ignored.
- that the Group should reflect the effect of the uncertainty in its income tax accounting when it is not probable that the tax authorities will accept the treatment.
- that the judgements and estimates made must be reassessed whenever circumstances have changed or there is new information that affects the judgements.

2.3 Principles of consolidation

a) Subsidiaries

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are consolidated from the date on which control is transferred to the Group until the date that control ceases.

In the separate financial statements, investments in subsidiaries are accounted for using cost. Cost are directly attributable to the acquisition of investment is recognised as part of initial cost of investment.

b) Associates

Associates are all entities over which the Group has significant influence but not control or joint control. Investments in associates are accounted for using the equity method of accounting.

In the separate financial statements, investments in associates are accounted for using cost.

c) Joint arrangements

Investments in joint arrangements are classified as either joint operations or joint ventures depending on the contractual rights and obligations of each investor, rather than the legal structure of the joint arrangements.

Joint operations

A joint operation is a joint arrangement whereby the Group has rights to the assets, and obligations for the liabilities relating to the arrangement. The Group recognises its direct right to the assets, liabilities, revenues and expenses of joint operations and its share of any jointly held or incurred assets, liabilities, revenues and expenses. These have been incorporated in the Group's financial statement line items.

Joint ventures

A joint venture is a joint arrangement whereby the Group has rights to the net assets of the arrangement. Interests in joint ventures are accounted for using the equity method.

In the separate financial statements, investments in joint ventures are accounted for using cost.

d) Equity method

The investment is initially recognised at cost which is consideration paid and directly attributable costs.

The Group's subsequently recognises shares of its associates and joint ventures' profits or losses and other comprehensive income in the profit or loss and other comprehensive income, respectively. The subsequent cumulative movements are adjusted against the carrying amount of the investment.

When the Group's share of losses in associates and joint ventures equals or exceeds its interest in the associates and joint ventures, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associates and joint ventures.

TTCL Public Company Limited**Notes to the Consolidated and Separate Financial Statements****For the year ended 31 December 2019****e) Changes in ownership interests**

The Group treats transactions with non-controlling interests that do not result in a loss of control as transactions with equity owners of the Group. A difference between the amount of the adjustment to non-controlling interests to reflect their relative interest in the subsidiary and any consideration paid or received is recognised within equity.

If the ownership interest in associates and joint ventures is reduced but significant influence and joint control is retained, only a proportionate share of the amounts previously recognised in other comprehensive income is reclassified to profit or loss where appropriate. Profit or loss from reduce of the ownership interest in associates and joint ventures is recognise in profit or loss.

When the Group losses control, joint control or significant influence over investments, any retained interest in the investment is remeasured to its fair value, with the change in carrying amount recognised in profit or loss. The fair value becomes the initial carrying amount of the retained interest which is reclassified to investment in an associate, or a joint venture or a financial asset accordingly.

f) Intercompany transactions on consolidation

Intra-group transactions, balances and unrealised gains on transactions are eliminated. Unrealised gains on transactions between the Group and its associates and joint ventures are eliminated to the extent of the Group's interest in the associates and joint ventures. Unrealised losses are also eliminated in the same manner unless the transaction provides evidence of an impairment of the asset transferred.

2.4 Foreign currency translation**a) Functional and presentation currency**

Items included in the financial statements of each of the group's entities are measured using the currency of the primary economic environment in which the entity operates (the functional currency). The financial statements are presented in Thai Baht, which is the Company's functional currency and the Group's presentation currency.

b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the profit or loss.

When a gain or loss on a non-monetary item is recognised in other comprehensive income, any exchange component of that gain or loss is recognised in other comprehensive income. Conversely, when a gain or loss on a non-monetary item is recognised in profit and loss, any exchange component of that gain or loss is recognised in profit and loss.

c) Group companies

The results and financial position of all the group entities (none of which has the currency of a hyper-inflationary economy) that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- Assets and liabilities for each statement of financial position presented are translated at the closing rate at the date of that statement of financial position;
- Income and expenses for each statement of comprehensive income are translated at average exchange rates; and
- All resulting exchange differences are recognised in other comprehensive income.

2.5 Cash and cash equivalents

In the statement of cash flow, cash and cash equivalents comprise cash on hand, deposits held with financial institutions and short-term highly liquid investments with original maturities of three months or less from the date of acquisition.

2.6 Trade accounts receivable

Trade receivables are amounts due from customers for goods sold or service performed in the ordinary course of business.

Trade receivables are recognised initially at the amount of consideration that is unconditionally unless they contain significant financing components, when they are recognised at its present value. The Group presented trade receivables at cost less allowance for doubtful accounts.

TTCL Public Company Limited**Notes to the Consolidated and Separate Financial Statements****For the year ended 31 December 2019**

2.7 Service concession arrangements

A service concession arrangement is an arrangement involving an operator constructing and/or upgrading, operating and maintaining infrastructure used to provide a public service for a specified period of time. The operator is paid for its services over the period of the arrangement. The arrangement is governed by a contract that sets out performance standards, mechanisms for adjusting prices and arrangements for arbitrating disputes. The grantor controls (through ownership, beneficial entitlement or otherwise) any significant residual interest in the infrastructure at the end of the term of the arrangement.

The Group, as the operator for constructing and operating infrastructure, recognises receivable arising from a service concession arrangement to the extent that it has an unconditional right to receive cash or another financial asset from or at the direction of the grantor, for the construction of concession assets. Receivable recognised as a result of the service concession arrangement are measured at fair value upon initial recognition. Revenue from construction services is recognised using the percentage of completion method. The stage of completion is measured by considering the physical inspection in accordance with the condition agreed with the customers. Revenue from service from operation power plant is recognised when the services have been rendered.

The contractual obligation in commitment repair and maintenance such infrastructure which are not performed in order to improve the condition of infrastructure are measured and recognized based on the best estimation of expending to pay for the commitment as at the end of accounting period.

2.8 Spare parts

Spare parts that do not meet definitions of property, plant and equipment are carried at cost less allowance for obsolescence. Cost of spare parts is determined by the weighted average method.

The cost of purchase comprises both the purchase price and costs directly attributable to the acquisition of spare parts such as import duties and transportation charges, less all attributable discounts, allowances or rebates. The Group reviews the allowance for obsolete, slow-moving and defective spare parts on a specific case.

2.9 Investments in debt and equity securities

Investments other than investments in subsidiaries, associates and joint ventures are initially recognised at fair value of consideration paid plus direct transaction cost.

Trading and available-for-sale investments

Trading investments and available-for-sale investments are subsequently measured at fair value. The unrealised gains and losses of trading investments are recognised in profit or loss. The unrealised gains and losses of available for sale investments are recognised in other comprehensive income and are subsequently reclassified to profit or loss when the investment is disposed.

Held-to-maturity investments

Held-to-maturity investments are carried at amortised cost using the effective interest method less impairment.

General investments

General investments are carried at cost less impairment.

Disposal of investments

On a disposal of an investment, the difference between the net disposal proceeds and the carrying amount (including cumulative changes in fair value recognised in equity) is recognised to the profit or loss. When the Group disposes an investment partially, the carrying amount of the disposed part is determined by the weighted average method.

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2.10 Property, plant and equipment

All other property, plant and equipment are stated at historical cost less accumulated depreciation and impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Subsequent costs are included in the asset's carrying amount, only when it is probable that future economic benefits associated with the item will flow to the Group, capitalised where there is future economic benefits. The carrying amount of the replaced part is derecognised.

All other repairs and maintenance are charged to profit or loss when incurred.

Land is not depreciated. Depreciation on other assets is calculated using the straight-line method to allocate their cost to their residual values over their estimated useful lives, as follows:

Power plant	20 years
Land improvement	20 years
Building	20 years
Furniture and fixtures	5 - 10 years
Office equipment	5 years
Motor vehicles	5 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

Gains or losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised in profit or loss.

Borrowing costs that are directly attributable to the acquisition or construction of qualifying assets are capitalised as part of the cost of the assets, during the period of time needed to complete and prepare the assets for their intended use. All other borrowing costs are recognised as expenses in the income statement.

2.11 Intangible assets

2.11.1 Computer software

Acquired computer software licenses are capitalised based on the costs incurred to acquire and for intended bring into use of the specific software acquired. These costs are amortised using straight-line method over their estimated useful lives of 10 years.

2.11.2 Golf membership

Expenditure associated with golf membership acquisition is capitalized at cost and amortised using the straight-line method over the useful life of 10 years.

2.12 Impairment of assets

Assets that have an indefinite useful life are tested annually for impairment, or more frequently if events or changes in circumstances indicate that it might be impaired. Assets that are subject to amortisation are reviewed for impairment whenever there is an indication of impairment. An impairment loss is recognised for the amount by which the carrying amount of the assets exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use.

Where the reasons for previously recognised impairments no longer exist, the impairment losses on the assets concerned other than goodwill is reversed.

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2.13 Leases*Leases - where the Group is the lessee*

Payments made under operating leases (net of any incentives received from the lessor) are charged to profit or loss on a straight-line basis over the period of the lease.

At the inception of finance lease, the lower of the fair value of the leased property and the present value of the minimum lease payments is capitalised. Each lease payment is allocated between the liability and finance charges to achieve a constant rate on the liabilities balance outstanding. The corresponding rental obligations is presented net of finance charges. Finance cost is charged to profit or loss over the lease period.

Leases - where the Group is the lessor

When assets are leased out under a finance lease, the present value of the lease payments is recognised as a receivable. The difference between the gross receivable and the present value of the receivable is recognised as unearned finance income. Lease income is recognised over the term of the lease which reflects a constant periodic rate of return. Initial direct costs are included in initial measurement of the finance lease receivable and reduce the amount of income recognised over the lease term.

Rental income under operating leases (net of any incentives given to lessees) is recognised on a straight-line basis over the lease term.

2.14 Provisions

Provisions are recognised 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 recognised as a separate asset but only when the reimbursement is virtually certain.

2.15 Government grants

Grants from the government are recognised at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions.

Government grant relating to assets

The Group initially recognise government grant relating to assets as deferred income and systematically recognise as revenue in the income statement in accordance with depreciation expense incurred from the related assets in each accounting period.

Government grant relating to revenue

The Group initially recognise government grant relating to revenue as deferred income and systematically recognise as revenue in the income statement in accordance with carbon credit portion delivered to the government in each accounting period compare to all carbon credit required to deliver.

2.16 Borrowings and debentures

Borrowings and debentures are recognised initially at the fair value, net of directly attributable transaction costs incurred. Borrowings are subsequently stated at amortised cost.

Fees paid on the establishment of loan facilities are recognised as transaction costs of the loan to the extent that it will be drawn down. The fee is deferred until the drawn down occurs and included in effective interest calculation. However, if it is probable that facility will not be drawn down, that portion of the fee paid is recognised as a prepayment and amortised over the period of related facility.

Borrowings and debentures are removed from the statement of financial position when the obligation specified in the contract is discharged, cancelled, or expired. The difference between the carrying amount of a financial liability that has been extinguished or transferred to another party and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognised in profit or loss as finance costs.

Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.

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2.17 Employee benefits

The Group operate post-employment benefits schemes, which are defined contribution and defined benefit plans.

2.17.1 Defined contribution plan

The Group pays contributions to a separate fund on a mandatory basis. The Group has no further payment obligations once the contributions have been paid. The contributions are recognised as employee benefit expense when they are due.

2.17.2 Defined benefit plans

Amount of retirement benefits is defined by the agreed benefits the employees will receive after the completion of employment. It usually depends on factors such as age, years of service and an employee's latest compensation at retirement.

The defined benefit obligation is calculated annually by an independent actuary using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using market yield of government bonds that matches the terms and currency of the expected cash outflows.

Remeasurement gains and losses are recognised directly to other comprehensive income in the period in which they arise. They are included in retained earnings in the statements of changes in equity and presented as a separate item in statements of changes in equity.

Past-service costs are recognised immediately in profit or loss.

2.18 Share-based payment

The Group operates a number of equity-settled, share-based compensation plans, under which the entity receives services from employees as consideration for equity instruments (options) of the Group. The fair value of the employee services received in exchange for the grant of the options is recognised as an expense. The total amount to be expensed is determined by reference to the fair value of the options granted excluding the impact of any non-vesting conditions.

Non-market vesting conditions are included in assumptions about the number of options that are expected to vest. The total expense is recognised over the vesting period, which is the period over which all of the specified vesting conditions are to be satisfied. At the end of each reporting period, the entity revises its estimates of the number of options that are expected to vest based on the non-marketing vesting conditions. It recognises the impact of the revision to original estimates, if any, in profit or loss, with a corresponding adjustment to equity.

When the options are exercised, the Company issues new shares. The proceeds received net of any directly attributable transaction costs are credited to share capital (nominal value) and share premium when the options are exercised.

The grant by the company of options over its equity instruments to the employees of subsidiary undertakings in the Group is treated as a capital contribution. The fair value of employee services received, measured by reference to the grant date fair value, is recognised over the vesting period as an increase to investment in subsidiary undertakings, with a corresponding credit to equity.

2.19 Share capital

Ordinary shares and non-redeemable preference shares with discretionary dividends are classified as equity. Other shares including mandatory redeemable preference shares are classified as liabilities.

Incremental costs directly attributable to the issue of new shares or options are shown in equity as a deduction, net of tax, from the proceeds.

TTCL Public Company Limited**Notes to the Consolidated and Separate Financial Statements****For the year ended 31 December 2019**

2.20 Subordinated perpetual debentures

Subordinated perpetual debentures which are payable upon dissolution are recognised as equity as the Group has the sole right and discretion to early redemption as stipulated in terms and conditions of subordinated perpetual debentures, and the interest and cumulative interest payment are unconditionally deferred without time and number limitation and payable at the Company's discretion. Accordingly, any interest payment are recognised similar as dividends and directly in equity when payment obligation arises. Interest payments are presented in the same way as dividends paid to ordinary shareholders.

Incremental costs directly attributable to issue of new subordinated perpetual debentures are shown in equity as a deduction, net of tax, from the proceeds.

2.21 Revenue recognition**a) Revenue from construction**

Revenue from construction includes contracts to provide construction services. Revenue is recognised over time and used the output method to measure progress referencing the physical proportion of contract work completed as per the conditions agreed with customers. The Group satisfies a performance obligation by transferring such services and control of those services to customer over time.

Construction service revenue for changes in the scope of work e.g. additional work and contract modification price changes, is recognised as if it were a part of the existing contract. The effect that the contract modification and measurement of progress toward satisfactory completion of the performance obligation, is recognised as an increase in or a reduction of revenue at the date of the contract modification.

Claims, variations and liquidated damages are accounted for as variable consideration and are included in contract revenue provided that it is highly probable that a significant reversal will not occur in the future.

Percentage of completion

Revenue from construction contracts or construction-type service contracts or service contracts where a defined output is promised, is recognised using the 'over time' method, and they used the output method to measure progress by referencing the physical proportion of the contract work completed as per the conditions agreed with customers. Where the stage of completion is not reliably measured, revenue is only recognised up to the amount of the contract costs expensed, provided it is recoverable.

b) Revenue from operating the power plant

Service income under finance lease agreements related to power purchase agreements and recognised as income when service have been rendered in according to the agreement. Service income comprises of other service income received from financial assets with respect to the leased assets.

c) Interest income

Interest income is recognised on an accrual basis based on the effective interest rate.

d) Dividends

Dividends are recognised when the right to receive the dividends is established.

e) Government grants

Grants from the government are recognised at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions.

The Group recognises government grants relating to the purchase of property, plant and equipment are included in non-current liabilities as other liabilities and are credited to the income statement when related conditions are met, on a straight line basis over the expected lives of the related assets.

The Group recognises government grants relating to revenue are included in deferred income and are credited to the income statement in accordance with the portion of carbon credit delivered to government in each accounting period compare to carbon credit required to deliver.

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2.22 Costs of construction

Costs of construction contracts comprise the costs of labour, subcontractors' charges, other services and overheads which are recognised on the percentage-of-completion method.

Accrued construction costs comprise the calculated costs of construction exceeding the incurred costs of construction and is shown as 'Accrued construction costs' under current liabilities in the statement of financial position.

2.23 Dividends

Dividends are recorded in the consolidated and separate financial statements in the period in which they are approved by the shareholders of the Group. Interim dividends are recorded in the consolidated and separate financial statements when they are approved by the Board of Directors of the Company.

2.24 Current and deferred income taxes

The tax expense for the period comprises current and deferred tax. Tax is recognised in profit or loss, except to the extent that it relates to items recognised in other comprehensive income or directly in equity.

Current tax

The current income tax is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax

Deferred income tax is recognised on temporary differences arising from differences between the tax base of assets and liabilities and their carrying amounts in the financial statements. However, deferred income tax is not recognised for temporary differences arise from:

- initial recognition of an asset or liability in a transaction other than a business combination that affects neither accounting nor taxable profit or loss is not recognised
- investments in subsidiaries, associates and joint arrangements where the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred income tax is measured using tax rates of the period in which temporary difference is expected to be reversed, based on tax rates and laws that have been enacted or substantially enacted by the end of the reporting period.

Deferred tax assets are recognised only to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset where the entity has a legally enforceable right to offset and intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

2.25 Segment reporting

Reporting segments are referred from the Group's internal report which is reviewed by the Chief Operating Decision Maker (CODM). CODM is the President and Chief Executive Officer who makes decisions about resource allocation and assesses the segment performance.

TTCL Public Company Limited**Notes to the Consolidated and Separate Financial Statements****For the year ended 31 December 2019****3 Financial risk management****3.1 Financial risk factors**

The Group's activities expose it to a variety of financial risks, including the effects of changes in debt and equity market prices, foreign currency exchange rates and interest rates. The Group's overall risk management programme focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the financial performance of the Group. The Group uses derivative financial instruments such as foreign currency forward contracts to hedge certain exposures.

Risk management is carried out by management in accordance with policies approved by the Board of Directors. The Board provides principles for overall risk management, as well as policies covering specific areas, such as foreign exchange risk, credit risk, use of derivative financial instruments and investing excess liquidity.

3.1.1 Foreign exchange risk

The Group operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to US Dollars. Entities in the Group use foreign currency forward contracts to hedge their exposure to foreign currency risk in connection with measurement currency.

3.1.2 Interest rate risk

The Group's income and operating cash flows are substantially independent of changes in market interest rates. All interest rate derivative transactions are subject to approval by the Finance Director before execution. The Group has no significant interest-bearing assets. The Group policy is to maintain approximately 70% of its borrowings in fixed rate instruments. At the year ended, 2.40% - 4.60% was the fixed rate. The Group sometimes borrows at variable rates and uses interest rate swaps as cash flow hedges of future interest payments, which has the economic effect of converting borrowings from floating rates to fixed rates. The interest rate swaps allow the Group to raise long-term borrowings at floating rates and swap them into fixed rates that are lower than those available if the Group borrowed at fixed rates directly. Under the interest rate swaps, the Group agrees with the other parties to exchange, at specified intervals (generally monthly), the difference between fixed contract rates and floating rate interest amounts calculated by reference to the agreed notional principal amounts. Any differential to be paid or received on an interest rate swap agreement is recognised as a component of interest revenue or expense over the period of the agreement. Gains and losses on early termination of interest rate swaps or on repayment of the borrowing are taken to profit or loss.

3.1.3 Credit risk

The Group has no significant concentrations of credit risks. The Group has policies in place to ensure that sales of products and services are made to customers with an appropriate credit history. Derivative counterparties and cash transactions are limited to high credit quality financial institutions. The Group has policies that limit the amount of credit exposure to any one financial institution.

3.1.4 Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding through an adequate amount of committed credit facilities and the ability to close out market positions.

3.2 Accounting for derivative financial instruments and hedging activities

The Group is party to derivative financial instruments, which mainly comprise foreign currency forward contracts. Such instruments are not recognised in the financial statements on inception.

Foreign currency forward contracts protect the Group from movements in exchange rates by establishing the rate at which a foreign currency asset will be realised or a foreign currency liability settled. Any increase or decrease in the amount required to realise the asset or settle the liability is offset by a corresponding movement in the value of the forward exchange contract. The gains and losses on the derivative instruments and the underlying financial asset or liability are therefore offset for financial reporting purposes and are not recognised in the financial statements. The fee incurred in establishing each agreement is amortised over the contract period.

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3.3 Fair value estimation

The different levels have been defined as follows:

- Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: Inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices).
- Level 3: Inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs).

The fair value of publicly traded derivatives and trading investments is based on quoted market prices at the statement of financial position date. The fair value of foreign currency forward contracts is determined using forward exchange market rates at the statement of financial position date. The fair value was disclosed in Note 36 (c).

The carrying amounts of financial assets and liabilities with a maturity of less than one year are assumed to approximate their fair values.

4 Significant accounting judgments and estimates

The Group makes estimations and assumptions concerning the future. The result of accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are set out below.

4.1 Accrued construction costs

Accrued construction costs are estimated based from management experience after taking into consideration of work progress and updated budget project costs incurred as part of the budget.

4.2 Construction revenue

Construction revenue is recognised by using the output method to measure progress referencing the physical proportion of contract work completed as per the conditions agreed with customers.

4.3 Leases

In determining whether a lease is to be classified as an operating lease or finance lease, the management is required to use judgment regarding whether significant risk and rewards of ownership of the leased asset has been transferred, taking into consideration terms and conditions of the arrangement.

4.4 Employee benefits

The present value of the pension obligations depends on a number of factors that are determined on an actuarial basis using a number of assumptions such as inflation rate, salary growth rate, gold price increase rate including assumption used for discount rate. Any changes in these assumptions will have an impact on the carrying amount of pension obligations. The Group determines the appropriate discount rate which is the interest rate that should be used to determine the present value of estimated future cash outflows expected to be required to settle the pension obligations. In determining the appropriate discount rate, the Group considers the market yield of government bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related pension liability.

The key assumptions for defined benefit obligations and other long-term benefits are based in part on current market conditions is disclosed in Note 25.

4.5 Provision and contingent liabilities

The Group has contractual obligations to maintain or restore infrastructure which be estimated from maintenance plan over concession period.

The Group has contingent liabilities as a regarding of litigation. The Group management has used judgment to assess of the results of the litigation and believes that no significant loss will result apart from provision for liabilities which already recorded at each reporting date.

4.6 Allowance for doubtful accounts

Estimation of allowance for doubtful accounts, the management has used judgment for the estimated losses that may occur in collection of receivables. The allowance is generally based on the risks or the possibility of the estimated losses will incur and the possibility of the estimated losses will not incur, time value of money, collection experiences, analysis of debtor aging, financial capabilities of debtor and economic conditions.

TTCL Public Company Limited**Notes to the Consolidated and Separate Financial Statements****For the year ended 31 December 2019**

5 Capital risk management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group will continue to pay the dividends in accordance to the policy which provided to shareholders, along with the issuance of new shares to shareholders, as well as finding a new business and strategic alliance to strengthen company's capital.

6 Segment information

The Group has two segments report which are comprised of energy business and construction business. Energy business is to provide service for generating and sell electricity to the government both in Thailand and overseas. Construction business is to provide construction service in Thailand and overseas.

Reporting segments are referred from the Group's internal report which is reviewed by the Chief Operating Decision Maker (CODM). CODM is the President and Chief Executive Officer who makes decisions about resource allocation and assesses the segment performance.

Revenue reported in segment information for the year ended 31 December 2018 was disaggregated under Thai Accounting Standard no. 11 and no. 18, Revenue. Consequently, disaggregated revenue for the current and comparative year cannot be comparable (Note 2.2.1)

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	Energy business					Construction business				Consolidated financial statements		
	Thailand	Myanmar	Japan	Singapore	Thailand	Malaysia	Vietnam	Qatar	Other	Total		
	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht			
For the year ended 31 December 2018												
Construction and service revenues	-	-	-	-	4,036,776,350	896,282,990	2,178,502,852	-	242,410,402	7,353,972,594		
Revenues from operating the power plant	3,728,316	970,184,195	-	-	-	-	-	-	-	973,912,511		
Costs of construction and services	-	-	-	-	(4,304,309,306)	(912,482,154)	(2,236,601,781)	(250,193,448)	(201,028,146)	(7,904,614,835)		
Costs of operating the power plant	(12,514,049)	(512,275,278)	-	-	-	-	-	-	-	(524,789,327)		
Gross profit (loss)	(8,785,733)	457,908,917	-	-	(267,532,956)	(16,199,164)	(58,098,929)	(250,193,448)	41,382,256	(101,519,057)		
Gross profit ratio	-	47%	-	-	-	-	-	-	-	17%		
Other income	11,309,063	265,239,766	4,478,663	360,614,375	45,035,582	17,241,245	272,234	102,304	20,208	704,313,440		
Profit from operation	2,523,330	723,148,683	4,478,663	360,614,375	(222,497,374)	1,042,081	(57,826,695)	(250,091,144)	41,402,464	602,794,383		
Financial costs										(461,839,036)		
Loss on exchange rate, net										(66,310,216)		
Administrative expenses										(2,261,745,010)		
Share of profit of associate										22,574,316		
Share of profit of joint ventures										673,797		
Income tax expense										154,092,734		
Net loss for the year										(2,009,759,032)		
Revenue recognition												
over time	-	-	-	-	4,036,776,350	896,282,990	2,178,502,852	-	242,410,402	7,353,972,594		
point in time	3,728,316	970,184,195	-	-	-	-	-	-	-	973,912,511		
Total revenues	3,728,316	970,184,195	-	-	4,036,776,350	896,282,990	2,178,502,852	-	242,410,402	8,327,885,105		
Segment fixed assets	36,030,172	172,811,940	103,847,395	610,659	34,963,395	913,623	1,634,085	2,312,807	-	353,124,076		
Total assets	1,025,506,843	7,037,672,139	264,815,861	16,169,623	5,236,226,201	349,472,519	3,046,371,934	784,489,714	1,599,662,858	19,360,333,692		

Chief Operating Decision Maker considers gross profit in monthly performance of reporting segments.

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Major customers of the Group

During the year 2019, the Group had revenues from 3 major customers who contributed 65.35% of the Group's total revenues, which was approximately Baht 6,859.50 million (2018: the Group had revenues from 4 major customers who contributed 59.70% of the Group's total revenues, which was approximately Baht 4,971.91 million).

7 Cash and cash equivalents

As at 31 December	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Cash on hand	1,019,940	1,043,770	673,375	686,179
Saving accounts	891,993,843	466,300,851	869,594,507	353,776,067
Current accounts	730,549,799	513,991,187	71,949,534	76,501,063
Fixed accounts not over 3 months	2,616,281,022	-	1,709,912,090	-
Investment in government bond not over 3 months	719,815,903	-	719,815,903	-
Cheque on hand	-	5,872,563	-	5,872,563
	4,959,660,507	987,208,371	3,371,945,409	436,835,872

Interest rate on deposits in saving accounts are 0.01% - 1.80% per annum (31 December 2018: 0.01% - 0.04% per annum).

Interest rate on deposits in short-term and investment in government bond are 1.17% - 2.32% per annum with a maturity of 31 days - 92 days.

8 Trade accounts receivable, net

As at 31 December	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Related parties				
Not yet due	4,070,292	-	20,072,353	15,765,756
Overdue				
- up to 3 months	19,259,020	-	19,004,265	14,896,136
- 3 - 6 months	116,644	-	277,543	13,742,040
- 6 - 12 months	-	-	272,437	289,215
- more than 12 months	-	-	291,940	-
	23,445,956	-	39,918,538	44,693,147

The Group's management assessed and considered the outstanding trade accounts receivable - related parties which over a period of 6 months in a separate financial statements amounted to Baht 0.56 million (31 December 2018: Baht 0.29 million) has the potential for cash collection. The management has not considered the allowance for doubtful debt.

As at 31 December	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Third parties				
Not yet due	1,064,747,019	804,082,192	870,960,700	465,528,263
Overdue				
- up to 3 months	19,762,038	67,651,907	19,762,038	27,307,597
- 3 - 6 months	6,244,885	137,086,313	6,101,033	-
- 6 - 12 months	31,600,834	139,463,508	-	102,532,478
- more than 12 months	979,957,612	822,501,483	721,794,535	716,069,585
	2,102,312,388	1,970,785,403	1,618,618,306	1,311,437,923
<u>Less</u> Allowance for doubtful debt	(366,551,445)	(336,734,107)	(322,805,112)	(291,214,274)
	1,735,760,943	1,634,051,296	1,295,813,194	1,020,223,649

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The Group's management considered setting up an allowance for doubtful debt for one outstanding debtor of more than 12 months in the consolidated and separate financial statements for Baht 334.96 million and Baht 291.21 million, respectively and contract assets in the consolidated and separate financial statements of Baht 950.27 million and Baht 922.22 million, respectively (Note 9.2). This debtor is an overseas state enterprise which engaged the Company to construct the Rock Salt project in Laos People's Democratic Republic. The Group started the construction in 2015 but during 2017, that construction project had to temporarily be suspended and business transactions relating to this project were stopped. The Group management negotiated with a person authorised by the customer to resume the project in the future and complete it within the contract period, including a collection plan for account receivables and contract assets. At the end of 2018, the Group management decided to stop operations for this project and begin legal arbitration to get back the debt and claims incurred from the project. As at 31 December 2019, the Group management used the assumptions and its significant judgement (e.g. the risks or the possibility of the estimated losses that will be or not be incurred), and the time value of money (Note 4.6) to estimate the allowance for doubtful debt for account receivable and contract assets to ensure that the estimation is adequate and appropriate with the current situation. However, the result from the arbitration process might be unlike from the estimation.

During 2019, the Group's management asked the court to freeze the debtor's properties and the court made an injunction to freeze withdrawals from the debtor's bank account and sales of the debtor's shares in subsidiaries. The result from the arbitral tribunal proceedings is pending. The value of the debtor's properties covers the carrying value of trade accounts receivable and contract assets.

For other debtors, the Group's management assessed and considered the outstanding balance over six months in the consolidated and separate financial statements of Baht 645.01 million and Baht 398.99 million, respectively (31 December 2018: Baht 625.23 million and Baht 527.39 million, respectively) has the potential for cash collection. Therefore, the Group's management hasn't considered setting up an allowance for doubtful debt for those debtors.

9 Assets and liabilities relating to contracts with customers

9.1 Contract assets - related parties, net

As at 31 December	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	Baht	Baht	Baht	Baht
Contract assets	336,914	1,790,479	705,464,702	644,504,949
<u>Less</u> Allowance for doubtful debt	(282,620)	(282,620)	(282,620)	(282,620)
Total contract assets	54,294	1,507,859	705,182,082	644,222,329

9.2 Contract assets - third parties, net

As at 31 December	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
	Baht	Baht	Baht	Baht
Contract assets	6,646,992,384	3,119,858,690	6,504,840,207	2,676,929,811
<u>Less</u> Allowance for doubtful debt	(2,371,415,100)	(951,411,932)	(2,343,357,575)	(922,216,940)
Total contract assets	4,275,577,284	2,168,446,758	4,161,482,632	1,754,712,871

The Group's management set up the allowance for doubtful debt for unbilled contract revenue for the construction in the Rock Salt project in the consolidated and separate financial statements amounted to Baht 950.27 million and Baht 922.22 million, respectively (Note 8).

Significant changes in contract assets

Contract assets under construction contracts which were presented in consolidated and separate financial statements increased from unbilled contract revenue of construction projects both in Thailand and overseas, and were affected by the reclassification of contract assets which was to comply with TFRS15 (Note 2.2.1).

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9.3 Deferred construction revenue - third parties

Deferred construction revenue is the contract liabilities in relation to construction contracts as follows;

As at 31 December	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Contract liabilities	(64,561,398)	(10,800,081)	(8,543,657)	(10,800,081)
Total contract liabilities	(64,561,398)	(10,800,081)	(8,543,657)	(10,800,081)

Significant changes in contract liabilities

Contract liabilities in relation to construction contracts increased from new construction projects in Myanmar that were in the starting phase.

Revenue recognised in relation to deferred construction revenue

Revenue recognised in the current reporting period relates to carried-forward contract liabilities and how much relates to performance obligations that were satisfied in a prior year.

	Consolidated financial statements	Separate financial statements
	2019 Baht	2019 Baht
Revenue recognised that was included in the contract liability balance at the beginning of the period	(9,884,608)	(9,884,608)

10 Financial assets under concession arrangement

	Consolidated financial statements			
	Minimum lease payments under concession arrangement		Present value of minimum lease payments	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Financial assets under concession arrangement				
- within one year	-	275,604,085	-	162,983,997
- later than one year but not later than five years	-	1,095,474,902	-	684,050,404
- after five years	-	5,044,013,152	-	4,049,153,342
	-	6,415,092,139	-	4,896,187,743
<u>Less</u> Unearned financial income	-	(1,518,904,396)	-	-
Present value of minimum lease payments receivable	-	4,896,187,743	-	4,896,187,743

Financial assets under concession arrangement can be analysed as follows:

- Financial assets under concession arrangement due within one year	-	162,983,997
- Financial assets due over one year	-	4,733,203,746
	-	4,896,187,743

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11 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 family members 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.

Related parties are those parties connected with the Group and the Company through shareholders, common shareholders or directors. The significant investments in subsidiaries, associates and joint ventures are set out in Notes 14, 15 and 16. As at 31 December 2019, Individual and related parties are as follows:

	Relationship
Sakchaicharoenkul family	10.79% of common shareholder, the major shareholder
Sojitz Corporation (incorporated in Japan)	9.09% of common shareholder, the major shareholder
Global Business Management Company Limited	6.27% of common shareholder, by having common director
Mr. Hironobu Iriya	5.55% of common shareholder, executive director
Lertratchkul family	3.09% of common shareholder, the major shareholder.

Transaction item	Pricing policy
Service income	The prices as agreed in the agreement
Revenue from operation and maintenance	The prices as agreed in the agreement
Other income	The prices as agreed in the agreement
Cost of service	The prices as agreed in the agreement
Administrative expense	The prices as agreed in the agreement
Interest expense	The prices as agreed in the agreement
Dividends income	From approval of shareholders of subsidiary
Dividends payment	From approval of shareholders and directors of the company
Director and management remuneration e.g. salary, bonus, meeting allowance and etc.	From approval of shareholders and directors of the company
Loans	Credit facility and interest as agreed in the contracts

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The significant trading transactions with subsidiaries and related parties are shown below. These transactions are considered to be in the normal course of business and are based on the prices as agreed in related contracts.

For the years ended 31 December	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Services income				
Subsidiaries	-	-	41,905,757	277,450,899
Joint ventures	12,141,927	-	551,064	-
Related parties - others	-	142,784,065	-	-
	12,141,927	142,784,065	42,456,821	277,450,899
Revenue from operation and maintenance				
Subsidiaries	-	-	22,964,513	54,099,411
Joint ventures	25,764,855	-	25,764,855	-
	25,764,855	-	48,729,368	54,099,411
Interest income				
Subsidiaries	-	-	3,681,870	10,652,217
Joint ventures	293,074	364,214	-	-
	293,074	364,214	3,681,870	10,652,217
Dividends income				
Subsidiary	-	-	1,911,470,706	238,602,711
Joint ventures	-	-	4,535,230	-
	-	-	1,915,995,936	238,602,711
Cost of services				
Subsidiaries	-	-	8,663,054	12,213,632
Joint ventures	8,371,878	-	8,371,878	-
	8,371,878	-	17,034,932	12,213,632
Administrative expenses				
Subsidiaries	-	-	6,336,366	3,995,579
	-	-	6,336,366	3,995,579
Interest expense				
Director	-	12,556,749	-	3,726,693
Subsidiaries	-	-	11,421,950	6,644,528
Related parties - shareholders	-	1,760,236	-	1,760,236
	-	14,316,985	11,421,950	12,131,457
Dividends paid				
Major shareholders	34,804,653	-	34,804,653	-
	34,804,653	-	34,804,653	-
Director and management remuneration				
Short-term employee benefits	48,430,656	44,126,678	44,375,400	39,636,489
Post-employee benefits	2,334,153	1,461,157	1,901,848	1,713,320
	50,764,809	45,587,835	46,277,248	41,349,809

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As at 31 December	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Trade accounts receivable - related parties, net				
Current assets				
Subsidiaries	-	-	16,991,955	44,693,147
Joint ventures	23,445,956	-	22,926,583	-
	23,445,956	-	39,918,538	44,693,147
Non-current asset				
Subsidiaries	-	-	86,168,748	85,241,493
<u>Less</u> Allowance for doubtful debt	-	-	(62,479,428)	(62,479,428)
	-	-	23,689,320	22,762,065
Contract assets - related parties, net				
Subsidiaries	-	-	705,127,788	644,222,329
Joint ventures	336,914	1,790,479	336,914	282,620
<u>Less</u> Allowance for doubtful debt	(282,620)	(282,620)	(282,620)	(282,620)
	54,294	1,507,859	705,182,082	644,222,329
Others receivable - related parties				
Major shareholders	4,000	-	4,000	-
Subsidiaries	-	-	11,717,164	115,095,128
Joint ventures	7,865,844	-	2,720,818	-
	7,869,844	-	14,441,982	115,095,128
Construction in progress - related parties				
Subsidiaries	-	-	2,370,658	2,370,658
	-	-	2,370,658	2,370,658
Advance payments to sub-contractors - related parties				
Subsidiaries	-	-	30,336,366	39,925,145
Joint ventures	430,948	-	430,948	-
	430,948	-	30,767,314	39,925,145
Interest receivable from loans to subsidiaries - related parties				
Subsidiaries	-	-	6,495,807	6,301,509
Joint ventures	137,922	174,909	-	-
	137,922	174,909	6,495,807	6,301,509

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As at 31 December	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Loans to related parties, net				
Current asset				
Joint ventures	1,526,316	1,526,316	-	-
	1,526,316	1,526,316	-	-
Non-current asset				
Subsidiaries	-	-	49,652,381	49,652,381
Joint ventures	4,578,946	6,105,262	-	-
<u>Less</u> Allowance for doubtful debt	-	-	(36,386,342)	(36,386,342)
	4,578,946	6,105,262	13,266,039	13,266,039

As at 31 December 2019, the fair value of loan to a related parties was disclosed in Note 36 (c).

Loans to related parties

Consolidated financial statements

As at 31 December 2019, the outstanding long-term loan granted that Global New Energy Co., Ltd., a subsidiary, granted to Siam GNE Solar Energy Co., Ltd., a joint venture, of Baht 6.11 million (31 December 2018: Baht 7.63 million). This loan bears interest at 4.5% per annum, with the interest payment due every six months and the principal instalment repayments specified in the loan agreement, with payment started in 2015 which is Baht 1.53 million due within one year and Baht 4.58 million due within 2024.

Separate financial statements

As at 31 December 2019, the outstanding loans to Bio Natural Energy Co., Ltd., a subsidiary, net of allowance for doubtful debt Baht 13.27 million (31 December 2018: Baht 13.27 million). The loan bears interest at 4.55 % per annum (2018: 5.06 % per annum) with quarterly interest repayment. The principal repayments are due within 45 days from the date on which the Company calls, including the conditions specified in the loan agreement. However, the Company classified this loan to long-term loan because this subsidiary has not had sufficient cash flow from operating activities to make loan repayment for more than one year.

The movements in loans to related parties can be analysed as follows:

For the year ended 31 December 2019	Consolidated financial statements	Separate financial statements
	Baht	Baht
Opening balance	7,631,578	13,266,039
Decrease from loan repayment	(1,526,316)	-
Ending balance	6,105,262	13,266,039

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As at 31 December	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Account payable - related parties				
Subsidiaries	1,379,390	-	962,078,652	1,393,759,165
Joint ventures	-	-	34,672	-
	1,379,390	-	962,113,324	1,393,759,165
Other payable - related parties				
Joint ventures	149,413	-	-	-
	149,413	-	-	-
Short-term loans - related parties				
Subsidiaries	-	-	170,000,000	434,483,880
	-	-	170,000,000	434,483,880

Short-term loans from related parties

Separate financial statements

During 2019, the Company had fully repaid the short-term loans from TTCL Power Holding Pte. Ltd. (TTPHD) and TTCL Solar Power Pte. Ltd. (TTSP), a subsidiary (31 December 2018: USD 8.03 million or equivalent Baht 264.48 million)

As at 31 December 2019, the outstanding short-term loans from related party of Baht 170 million (31 December 2018: Baht 170 million) was short-term loan from Global New Energy Co., Ltd., a subsidiary, was issue in form of promissory note call on demand and bears interest rate at 4.55% per annum (2018: interest rate at 4.55% per annum).

The movements in loans from related parties can be analysed as follows:

For the year ended 31 December 2019	Consolidated financial statements	Separate financial statements
	Baht	Baht
Opening balance	-	434,483,800
Decrease from repayment for short-term loans from related parties	-	(252,660,773)
Gain from exchange rate	-	(11,823,027)
Ending balance	-	170,000,000

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As at 31 December	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Interest payable from loan from related parties				
Subsidiaries	-	-	9,684,644	2,045,912
	-	-	9,684,644	2,045,912
Advance received from customers under construction contract - related parties				
Subsidiary	-	-	21,231,910	29,353,320
	-	-	21,231,910	29,353,320

12 Loan to third party

A long-term loan was granted to ToyoThai-USA Corporation (TTUS) of USD 23.98 million, equivalent to Baht 718.75 million. This loan bears interest at 4% per annum with the interest repayment and principal instalment repayments specified in the loan agreement, with payment starting in 2016 which is USD 8.47 million or equivalent to Baht 253.98 million due within one year and USD 15.51 million or equivalent to Baht 464.77 million, which is due in 2022.

The movements in loans to third party can be analysed as follows:

For the year ended 31 December 2019	Consolidated and Separate financial statements
	Baht
Beginning balance	814,510,372
Decrease from loan repayment	(37,596,109)
Loss from exchange rate	(58,161,810)
Ending balance	718,752,453

As at 31 December 2019, the fair value of loan to third party was disclosed in Note 36 (c).

13 Deposit at bank used as collateral

Toyo Thai Power Myanmar Co., Ltd. (TTPMC) has deposits in debt service accounts are mainly cash reserves maintained under the long-term loan agreement referred to Note 21, in order to repay the principal and payments of interest. These cash reserves (denominated in US Dollars) are provided from the proceeds of services. On 6 June 2019, however, the Group disposed of 29,700,000 ordinary shares of investment in TTGP representing 60% of the registered capital of TTGP. After the disposal of investment in TTGP, the Group lost control in TTPMC but still has joint control with effect from decrease shareholding proportion in TTPMC from 100% to 43% and decrease in deposit at bank used as collateral in full amount (Note 14) (31 December 2018: USD 4 million which is equivalent to Baht 129.86 million and bearing an interest rate of 0.01%).

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14 Investment in subsidiaries, net

As at 31 December	Type of business	Proportion of ordinary share held by parent				Proportion of ordinary share held by subsidiaries		Cost method		Dividend during the year	
		2019		2018		2019		2019		2018	
		%	%	%	%	%	%	Baht	Baht	Baht	Baht
TTCL Vietnam Corporation Limited	Constructions and engineering services	93.34	93.34	-	-	-	-	43,985,494	43,985,494	-	-
Bio Natural Energy Co., Ltd.	Renewable energy power plant	70.00	70.00	-	-	-	-	3,500,000	3,500,000	-	-
TTCL Malaysia SDN. BHD.	Constructions and engineering services	100.00	100.00	-	-	-	-	7,593,351	7,593,351	121,499,199	238,602,711
TMSP SDN. BHD.	Constructions and engineering services	100.00	-	-	-	-	-	746	-	-	-
Toyo-Thai Myanmar Corporation Co., Ltd.	Constructions and engineering services	80.00	80.00	10.00	10.00	10.00	10.00	7,526,661	7,526,661	-	-
Global New Energy Company Limited	Renewable energy development	40.00	40.00	-	-	-	-	24,000,000	24,000,000	-	-
TTCL New Energy Pte. Ltd.	Investing in renewable energy business	100.00	100.00	-	-	-	-	150,849,300	150,849,300	-	-
TTCL Myanmar Engineering & Construction Company Limited	Constructions and engineering services	99.00	99.00	-	-	-	-	1,751,666	1,751,666	-	-

Note - The Company has control over Global New Energy Company Limited, a subsidiary, with the ownership interest 40% because the management and directors of the Company and such subsidiaries, who have authorization in making decision, are the same persons.

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As at 31 December	Type of business	Proportion of ordinary share held by parent				Proportion of ordinary share held by subsidiaries				Cost method				Dividend during the year			
		2019		2018		2019		2018		2019		2018		2019		2018	
		%	%	%	%	%	%	%	%	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht
TTCL Power Holdings Pte. Ltd. (TTPHD)	Investing in energy business	100.00	100.00	100.00	-	-	-	-	-	3,768,975,682	3,768,975,682	1,780,164,990	-	-	-	-	-
Subsidiaries of TTPHD:																	
- TTCL Gas Power Pte. Ltd.	Investing in energy business	-	-	-	40.00	100.00	-	-	-	-	-	-	-	-	-	-	-
- Toyo Thai Power Myanmar Co., Ltd.	Electricity Generation	-	5.00	-	-	95.00	-	-	-	-	83,793,909	9,806,517	-	-	-	-	-
- TTCL Coal Power Pte. Ltd.	Investing in energy business	-	-	-	100.00	100.00	-	-	-	-	-	-	-	-	-	-	-
- TTCL Solar Power Pte. Ltd.	Investing in energy business	-	-	-	100.00	100.00	-	-	-	-	-	-	-	-	-	-	-
- Global New Energy Japan Co., Ltd.	Operating and maintenance solar power plant	-	-	-	100.00	100.00	-	-	-	-	-	-	-	-	-	-	-
- Global New Energy Tsuno Co., Ltd.	Electricity generating from solar power	-	-	-	100.00	100.00	-	-	-	-	-	-	-	-	-	-	-
- TTCL Power Myanmar Co., Ltd.	Electricity Generation	5.00	5.00	-	95.00	95.00	249,375	249,375	-	-	-	-	-	-	-	-	-
- TTCL LNG Power Pte. Ltd.	Investing in energy business	-	-	-	100.00	100.00	-	-	-	-	-	-	-	-	-	-	-
- JSM Power Pte. Ltd.	Investing in energy business	-	-	-	100.00	100.00	-	-	-	-	-	-	-	-	-	-	-
Less Allowance for impairment investment in subsidiaries										(154,349,300)	(154,349,300)	-	-	-	-	-	-
Investment in subsidiaries, net										3,845,082,975	3,937,876,138	1,911,470,706	238,602,711				

All subsidiary undertakings are included in the consolidation. The proportion of the voting rights in the subsidiary undertakings held directly by the parent company do not differ from the proportion of ordinary shares held. The parent company further does not have any shareholdings in the preference shares of subsidiary undertaking included in the Group.

As at 31 December 2019, total non-controlling interest for the year is Baht (0.54) million, of which Baht 45.18 million is for Global New Energy Co., Ltd, Baht (56.88) million is for Bio Natural Energy Co., Ltd, and Baht 10.78 million is for TTCL Vietnam Corporation Limited and Baht 0.38 million is for other companies which are not material.

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A summary of movements in investment in subsidiaries are as follows:

	Separate financial statements
For the year ended 31 December	2019 Baht
Opening net book value	3,937,876,138
Payment for shares in a subsidiary	746
Decrease from reclassifying investment in subsidiaries to investment in joint ventures (Note 16)	<u>(83,793,909)</u>
Closing net book value	<u>3,854,082,975</u>

Establishment of a subsidiary company

On 20 December 2019, the Board of Director's meeting of the Company approved the establishment of a new subsidiary company in Malaysia under the name TMSP SDN. BHD. (TMSP). TMSP registered capital with 100 shares at a par value of RM 1 to provide construction and engineering services. The Company holds 100% of the registered ordinary shares of TMSP.

Disposal of investment in subsidiaries

On 22 May 2019, the Extraordinary General Meeting of the Company's Shareholders approved the disposal of 29,700,000 ordinary shares representing 60% of the registered capital of TTCL Gas Power Pte. Ltd. (TTGP), an indirect subsidiary in which TTPHD, a subsidiary, had a 100% holding. The shares were sold to two investors at USD 85 million, or equivalents to Baht 2,667.33 million. TTPHD received this amount in full on 4 June 2019.

After the disposal of the investment in TTGP caused the Group's shareholding proportion to decrease from 100% to 40% of registered ordinary shares and caused the Group's shareholding proportion in Toyo Thai Power Myanmar Co., Ltd. (TTPMC), an indirect subsidiary of the Group, to decrease from 100% to 43% of registered ordinary shares. However, the Group considered that it still has joint control over TTGP and TTPMC and classified it as an investment in a joint venture.

Details of disposal of indirect subsidiaries are as follows:

	Consolidated financial statements
	Baht
Consideration received from disposal of subsidiaries	
Cash and cash equivalent	2,667,334,000
Fair value of investment in joint ventures (Note 16)	1,304,115,394
<u>Less</u> cash and cash equivalent of subsidiaries on disposal date	<u>(63,787,798)</u>
Consideration received from disposal of subsidiaries, net	3,907,661,596
<u>Less</u> carrying amount of net asset sold	<u>(3,145,498,682)</u>
Gain on disposal before tax and currency translation differences	762,162,914
Currency translation differences	<u>(72,488,069)</u>
Gain on disposal of subsidiaries	<u>689,674,845</u>

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The carrying amounts of assets and liabilities as at the date of disposal indirect subsidiaries are as follows:

	Baht
Financial assets under concession arrangement	4,666,845,640
Accounts receivable from operation power plant	236,805,616
Spare parts	184,717,953
Property, plant and equipment, net	170,583,564
Deposits at bank used as collateral	125,644,794
Other assets	40,126,808
Total assets	5,424,724,375
Long-term loan from financial institution, net	1,996,842,840
Accrued expenses	142,801,597
Deferred tax liabilities	102,479,478
Accounts payable	33,458,460
Other liabilities	3,643,318
Total liabilities	2,279,225,693
Net assets	3,145,498,682

Dividend income from subsidiaries

Toyo Thai Power Myanmar Co., Ltd. (TTPMC)

On 22 March 2019, the Board of Directors' meeting of Toyo Thai Power Myanmar Co., Ltd. (TTPMC), an indirect subsidiary of the group passed a resolution to pay interim dividends from operating results for the year 2019 at USD 9.6923 per share for 515,872 shares, totaling USD 5 million or equivalent to Baht 158.60 million to the Company and TTCL Gas Power Pte. Ltd. (TTGP), an indirect subsidiary of the group in proportion to their shareholding amounting to Baht 7.91 million and Baht 150.69 million respectively.

On 14 May 2019, the Board of Directors' meeting of TTPMC passed a resolution to pay interim dividends from operating results for the year 2019 of USD 2.3262 per share for 515,872 shares, totaling USD 1.20 million or equivalent to Baht 38.14 million to the Company and TTGP in proportion to their shareholding amounting to Baht 1.90 million and Baht 36.24 million respectively.

TTCL Power Holding Pte. Ltd. (TTPHD)

On 25 April 2019, the Board of Directors' meeting of TTCL Power Holding Pte. Ltd. (TTPHD), a subsidiary of the Company passed a resolution to pay interim dividends of USD 0.033 per share for 69,500,000 shares totaling USD 2.30 million or equivalent to Baht 73.25 million to the Company.

On 6 June 2019, the Board of Directors' meeting of TTPHD passed a resolution to pay interim dividends of USD 0.3022 per share for 69,500,000 shares totaling USD 21 million or equivalent to Baht 654.45 million to the Company.

On 19 December 2019, the Board of Directors' meeting of TTPHD passed a resolution to pay interim dividends of USD 0.5036 per share for 69,500,000 shares totaling USD 35 million or equivalent to Baht 1,052.46 million to the Company.

TTCL Malaysia Sdn. Bhd. (TTML)

On 6 September 2019, the Board of Directors' meeting of TTCL Malaysia Sdn. Bhd. (TTML), a subsidiary of the Company passed a resolution to pay interim dividends of MYR 22.50 per share for 750,000 shares totaling MYR 16.87 million or equivalent to Baht 121.50 million to the Company (For the year ended 31 December 2018: totaling MYR 30 million or equivalent to Baht 238.60 million).

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Summarised financial information on subsidiaries with material non-controlling interests

Set out below are the summarised financial information for each subsidiary that has non-controlling interests that are material to the Group.

Summarised statement of financial position

	TTCL Vietnam Corporation Limited		Bio Natural Energy Co., Ltd.		Global New Energy Co., Ltd.		Total	
	As at 31 December		As at 31 December		As at 31 December		As at 31 December	
	2019	2018	2019	2018	2019	2018	2019	2018
	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht
Current								
Assets	562,275,126	1,295,935,116	18,682,420	18,630,196	190,675,270	200,818,576	771,632,816	1,515,383,888
Liabilities	(359,307,469)	(1,148,654,735)	(240,841)	(369,914)	(289,064,000)	(321,475,256)	(648,612,310)	(1,470,499,905)
Total current net assets	202,967,657	147,280,381	18,441,579	18,260,282	(98,388,730)	(120,656,680)	123,020,506	44,883,983
Non-current								
Assets	12,058,326	12,616,092	38,589,776	41,687,418	176,425,269	177,951,586	227,073,371	232,255,096
Liabilities	(2,036,343)	(1,986,687)	(268,926,254)	(272,522,201)	-	-	(270,962,597)	(274,508,888)
Total non-current net assets	10,021,983	10,629,405	(230,336,478)	(230,834,783)	176,425,269	177,951,586	(43,889,226)	(42,253,792)
Net assets (liabilities)	212,989,640	157,909,786	(211,894,899)	(212,574,501)	78,036,539	57,294,906	79,131,280	2,630,191
Non-controlling interest	14,185,110	10,516,792	(63,568,469)	(63,772,350)	46,821,924	34,376,944	(2,561,435)	(18,878,614)

The information above is the amount before inter-company eliminations.

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Summarised statement of comprehensive income

	TTCL Vietnam Corporation Limited			Bio Natural Energy Co., Ltd.			Global New Energy Co., Ltd.			Total
	For the year ended 31 December			For the year ended 31 December			For the year ended 31 December			For the year ended 31 December
	2019 Baht	2018 Baht		2019 Baht	2018 Baht		2019 Baht	2018 Baht		2019 Baht
Revenue	1,527,842,059	1,601,061,036		4,097,398	3,728,315		-	-		1,531,939,457
Other income	816,842	272,234		6,447,923	11,309,063		8,054,499	6,928,121		15,319,264
Profit (loss) before income tax	79,637,333	(7,571,874)		679,601	(79,280,475)		21,705,972	(12,822,468)		102,022,906
Income tax expense	(11,727,626)	9,344,686		-	-		(964,339)	-		(12,691,965)
Total comprehensive income (expense)	67,909,707	1,772,812		679,601	(79,280,475)		20,741,633	(12,822,468)		89,330,941
Total profit (loss) allocated to non-controlling interests	4,522,786	118,069		203,880	(23,784,143)		12,444,980	(7,693,481)		17,171,646
Dividends paid to non-controlling interests	-	-		-	-		-	-		-

The information above is the amount before inter-company eliminations.

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Summarised statement of cash flows

	TTCL Vietnam Corporation Limited		Bio Natural Energy Co., Ltd		Global New Energy Co., Ltd.		Total	
	For the year ended		For the year ended		For the year ended		For the year ended	
	31 December	2018	31 December	2018	31 December	2018	31 December	2018
	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht
Cash flow from operating activities								
Cash generated from (used in) operations	(47,520,036)	247,815,378	791,352	(516,370)	27,610	(28,830,818)	(46,701,074)	218,468,190
Interest paid	(1,509,471)	(2,483,437)	(339,385)	(458,600)	-	-	(1,848,856)	(2,942,037)
Income tax paid	-	-	-	-	(576,727)	-	(576,727)	-
Net cash generated from (used in) operating activities	(49,029,507)	245,331,941	451,967	(974,970)	(549,117)	(28,830,818)	(49,126,657)	215,526,153
Net cash generated from (used in) investing activities	(5,835,653)	(1,978,618)	(233,645)	(15,025)	1,526,316	(168,473,684)	(4,542,982)	(170,467,327)
Net cash generated from (used in) financing activities	-	(71,287,938)	-	-	-	-	-	(71,287,938)
Net (decrease)/increase in cash and cash equivalents	(54,865,160)	172,065,385	218,322	(989,995)	977,199	(197,304,502)	(53,669,639)	(26,229,112)
Cash, cash equivalents at beginning of year	314,686,379	143,105,918	916,385	1,906,380	18,788,175	215,734,233	334,390,939	360,746,531
Exchange gains/(losses) on cash and cash equivalents	(23,090,561)	(484,924)	-	-	(6,744)	358,444	(23,097,305)	(126,480)
Cash and cash equivalents at end of year	236,730,658	314,686,379	1,134,707	916,385	19,758,630	18,788,175	257,623,995	334,390,939

The information above is the amount before inter-company eliminations.

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15 Investment in associate, net

Siam Solar Power Public Company Limited

The Group holds in Siam Solar Power Public Company Limited, an associate. The associate engages in electricity generation using solar power which has 400,000,000 registered ordinary shares which has paid-up capital of 300,000,000 ordinary shares with a par value of Baht 1 per share. TTCL Solar Power Pte. Ltd. (TTSP), a subsidiary of TTCL Power Holdings Pte. Ltd. (TTPHD) held 40% of Siam Solar Power's authorised share capital at 120,000,000 ordinary shares amounting to Baht 201.18 million, and fully paid-up capital.

On 14 November 2019, the Group's Board of Directors' meeting approved the disposal of investment in an associate of 120,000,000 ordinary shares to Solar Visible Co., Ltd. at a selling price of Baht 232.70 million. The Group partially received the payment of Baht 217.34 million on 18 November 2019 and Baht 15.36 million was recorded as other account receivable under current assets.

The movements in investment in associate can be analysed as follows

	Consolidated financial statements	Separate financial statements
	Baht	Baht
For the year ended 31 December 2019		
Opening book value	244,355,488	-
Share of profit of associate	17,514,815	-
Dividend income from associates	(31,057,591)	-
Disposal of investment in associates	(216,852,763)	-
Currency translation differences	(13,959,949)	-
Closing book value	-	-

The share of the associate's profit is calculated on the Company's 40% interest based on Siam Solar Power Public Company Limited's statement of income unaudited by its auditor from 1 January to 14 November 2019.

Dividend income from associate

On 29 April 2019, at the Annual General Shareholder's Meeting of Siam Solar Power Public Company Limited, an associate, the Shareholders approved a dividend payment for from the operating results 2018 at Baht 0.12 per share to TTCL Solar Power Pte. Ltd. (TTSP), a subsidiary, according to its shareholding portion of 120,000,000 shares, totalling Baht 14.43 million. The dividends were received by TTSP in full on 10 May 2019.

On 22 July 2019, the Board of Directors' meeting of Siam Solar Power Public Company Limited, an associate, passed a resolution to pay interim dividends from the operating results the six-month period ended 30 June 2019 at Baht 0.05 per share to TTSP, a subsidiary, according to its shareholding portion of 120,000,000 shares, totalling Baht 5.97 million. The dividends were received by TTSP in full on 31 July 2019.

On 28 October 2019, the Board of Directors' meeting of Siam Solar Power Public Company Limited, an associate, passed a resolution to pay interim dividends from the operating results of the nine-month period ended 30 September 2019 at Baht 0.089 per share to TTSP, a subsidiary, according to its shareholding portion of 120,000,000 shares, totalling Baht 10.66 million. The dividends were received by TTSP in full on 4 November 2019.

Nature of investment in associate for the year 2019 and 2018:

Name of entity	Place of business/ country of incorporation	% of ownership interest		Nature of the relationship
		2019	2018	
		%	%	
Siam Solar Power Public Company Limited	Thailand	-	40	Note 1

Note 1: Siam Solar Power Public Company Limited engaged in electricity generation using solar power. Siam Solar Power Public Company Limited is strategic for the group's growth in renewable energy business.

There are no contingent liabilities relating to the group's interest in the associate.

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16 Investments in joint ventures

As at 31 December 2019, the Group has 4 investments in interest in joint ventures as follows;

a) Siam GNE Solar Energy Co., Ltd

Siam GNE Solar Energy Co., Ltd, a joint venture of the Group, the joint venture engaged in a renewable energy business with a total of 160,000 registered ordinary shares at a par value of Baht 100 per share. TTCL Solar Power Pte. Ltd. (TTSP) and Global New Energy Company Limited (GNE), subsidiaries, hold 48% and 2% of its authorised share capital amounting to Baht 8.00 million and Baht 0.32 million, respectively and fully paid-up capital.

b) Orient Bio-Fuels Company Limited

As at 31 December 2019, TTCL New Energy Pte. Ltd (TTNE), a subsidiary, holds 49% of its total shares totalling USD 5.13 million or equivalent to Baht 154.76 million and fully paid-up capital in a joint venture named "Orient Bio-Fuels Company Limited (OBF)".

Classification from investment in subsidiary to investment in joint venture

c) TTCL Gas Power Pte. Ltd.

TTCL Gas Power Pte. Ltd. (TTGP) was established to invest in energy business with a total of 49,500,000 registered ordinary shares at a par value of USD 1 per share. Subsequently, TTCL Power Holdings Pte. Ltd. (TTPHD), a subsidiary, disposed of 29,700,000 shares representing 60% (as described in Note 14) of the registered capital of TTGP which caused its shareholding proportion decreased from 100% to 40%. However, the Group considers that it still has joint control over TTGP and classified as investment in joint venture.

d) Toyo Thai Power Myanmar Co., Ltd.

Toyo Thai Power Myanmar Co., Ltd. (TTPMC) engaged in electricity generating and distribution with a total of 515,873 registered ordinary shares at a par value of USD 100 per share. The Company and TTCL Gas Power Pte. Ltd. (TTGP), an indirect subsidiary of the Group, hold shares in TTPMC in the proportion of 5% and 95% respectively. Subsequently, TTCL Power Holdings Pte. Ltd. (TTPHD), a subsidiary, disposed of 29,700,000 shares representing 60% of registered capital of TTGP (as described in Note 14) which cause the Group's shareholding proportion decreased from 100% to 43%. However, the Group considers that it still has joint control over TTPMC and classified as investment in joint venture.

The Group has considered and classified the joint arrangement to be a joint venture in Note 2.3 (c).

Fair value of net assets of investment in joint ventures during the year ended 31 December 2019

On 22 May 2019, the Extraordinary General Meeting of the Company's Shareholders approved the disposal of 29,700,000 ordinary shares represent 60% of registered capital of TTCL Gas Power Pte. Ltd. (TTGP), an indirect subsidiary. Disposal of investment in TTGP cause the Group's shareholding proportion in Toyo Thai Power Myanmar Co., Ltd. (TTPMC), an indirect subsidiary of the Group decreased from 100% to 43% registered ordinary shares. However, the Group considered that it still has joint control over TTGP and TTPMC and classified as investment in joint venture.

Details of net assets obtained as at the loss control date are as follows:

	Baht
Fair value of investment in joint ventures (Note 14)	1,304,115,394
Fair value of investment in TTPMC and TTGP of shareholder portion	1,379,993,186
Gain from change in fair value in investment in joint ventures	75,877,792

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Fair value of assets and liabilities obtained from the changes of investment in TTGP and TTPMC as at the loss control date are as follows:

	Baht
Cash and cash equivalents	63,787,798
Deposit at bank used as collateral	125,644,794
Property, plant and equipment	170,583,564
Spare parts	184,717,953
Accounts receivable from operation power plant	236,805,616
Financial assets under concession arrangement	4,666,845,640
Other assets	40,126,808
Deferred tax liabilities	(102,479,478)
Accrued expenses	(142,801,598)
Long-term loan from financial institution	(1,996,842,840)
Other liabilities	(37,101,778)
Fair value of net assets	3,209,286,479
Shareholding portion by the Group	43%
Fair value of net assets	1,379,993,186

The movements in investments in joint ventures can be analysed as follows:

	Consolidated financial statements Baht	Separate financial statements Baht
For the year ended 31 December 2019		
Opening book value	12,252,904	-
Fair value of investment in joint ventures	1,304,115,394	83,793,909
Gain from measurement in fair value of investment in joint ventures	75,877,792	-
Share of profit from joint ventures	82,660,278	-
Dividend income from joint ventures	(38,979,792)	-
Currency translation differences	(12,253,707)	-
Closing book value	1,423,672,869	83,793,909

Share of profit from joint ventures

The share of the joint venture's profit is calculated on the Company's 48% and 2% interest based on Siam GNE Solar Energy Co., Ltd.'s statement of income for year ended 31 December 2019 but was not audited by its auditor and the share of the joint venture's loss is calculated on the Company's 49% interest based on OBF's statement of income unaudited by its auditor for the year ended 31 December 2019. Presently, OBF is in process of liquidation.

The share of the joint venture's loss in TTGP is calculated on the Company's 40% interest, based on TTGP's statement of income reviewed by its auditor from the date of loss of control until 31 December 2019. The share of the joint venture's profit in TTPMC is calculated on the Company's 43% interest, based on TTPMC's statement of income audited by its auditor from the date of loss of control until 31 December 2019.

Dividend income from joint ventures

On 11 December 2019, the Board of Directors' meeting of Toyo Thai Power Myanmar Co., Ltd. (TTPMC), a joint venture of the Group passed a resolution to pay interim dividends from retained earnings as at 30 September 2019 at USD 5.8154 per share for 25,794 shares totaling USD 0.15 million or equivalent to Baht 4.53 million to the Company.

On 12 December 2019, the Board of Directors' meeting of TTCL Gas Power Pte. Ltd. (TTGP), a joint venture of the Group passed a resolution to pay interim dividends from retained earnings as at 30 September 2019 at USD 0.0576 per share for 19,800,000 shares totaling USD 1.14 million or equivalent to Baht 34.35 million to TTCL Power Holdings Pte. Ltd. (TTPHD), a subsidiary of the Company.

The joint ventures listed below has share capital consisting solely of ordinary shares, which is held directly by the Group.

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Nature of investments in joint ventures for the year 2019 and 2018

Name of entities	Place of Business/country of incorporation	% of ownership interest		Nature of the relationship
		2019 %	2018 %	
Siam GNE Solar Energy Co., Ltd.	Thailand	50	50	Note 1
Orient Bio-Fuels Company Limited	Vietnam	49	49	Note 2
TTCL Gas Power Pte. Ltd.	Singapore	40	-	Note 3
Toyo Thai Power Myanmar Co., Ltd.	Myanmar	43	-	Note 4

Note 1: Siam GNE Solar Energy Co., Ltd.'s major business is to generate and transmit electricity from renewable energy. Siam GNE Solar Energy Co., Ltd is a strategic partnership for the group to invest in renewable energy.

Note 2: Orient Bio-Fuels Company Limited's major business is to engage in renewable energy in Vietnam. Orient Bio-Fuels Company Limited is a strategic partnership for the group to invest in renewable energy.

Note 3: TTCL Gas Power Pte. Ltd.'s major business is to invest in energy business.

Note 4: Toyo Thai Power Myanmar Co., Ltd.'s major business is to generate and transmit electricity from combined cycle gas turbine power plant. Toyo Thai Power Myanmar Co., Ltd. is a strategic partnership for the group to invest in electricity generation business.

Summarised financial information for joint ventures

Set out below are the summarised financial information for joint ventures that are material to the Group. The information disclosed reflects the amounting presented in the financial statements of the relevant joint ventures (not the Group's shares of those amounts). They have been amended to reflect adjustments made using the equity method, including fair value adjustments and modifications for differences in accounting policy.

Summarised statement of financial position

	Toyo Thai Power Myanmar Co., Ltd.
	As at 31 December 2019
	Baht
Current assets	
Cash and cash equivalents	215,883,442
Other current assets (excluding cash)	363,666,518
Total current assets	579,549,960
Non-current assets	4,760,335,894
	5,339,835,854
Current liabilities	
Financial liabilities (excluding trade payables)	334,101,348
Other current liabilities	230,333,691
Total current liabilities	564,435,039
Non-current liabilities	
Financial liabilities	1,396,066,345
Other liabilities	97,366,675
Total non-current liabilities	1,493,433,020
	2,057,868,059
Net assets	3,281,967,795

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Summarised statement of comprehensive income

	Toyo Thai Power Myanmar Co., Ltd.
	From the loss control date to 31 December 2019
	Baht
Revenue	417,142,738
Depreciation and amortisation	(4,870,088)
Interest income	62,266,251
Interest expense	(66,181,827)
Gain from continuing operations	190,513,248
Income tax expense	-
Post-tax loss from continuing operations	190,513,248
Other comprehensive income (expense)	-
Total comprehensive income	190,513,248
Dividends received from joint ventures	(38,979,792)

The information above reflects the amounts presented in the financial statements of the joint ventures adjusted for differences in accounting policies between the Group and the joint ventures (and not the Group's share of those amounts).

Reconciliation of summarised financial information

Reconciliation of the summarised financial information presented to the carrying amount of its investments in joint ventures;

	Toyo Thai Power Myanmar Co., Ltd.
	For the period ended 31 December 2019
	Baht
Net assets as at the loss control date	3,209,286,479
Net profit for the year	190,513,248
Dividends payment	(90,650,679)
Translation differences	(27,181,252)
Closing net assets	3,281,967,796
Investments in joint venture	43%
Closing net assets	1,411,246,152

Individually immaterial joint ventures

In addition to the interests in joint ventures disclosed above, the Group also has interests in a number of individually immaterial joint ventures that are accounted for using the equity method.

	2019 Baht	2018 Baht
Aggregate carrying amount of individually immaterial joint ventures	12,426,717	12,252,904
Aggregate amounts of the reporting entity's share of:		
Profit from continuing activities	1,477,683	1,349,051
Other comprehensive income	-	-
Total comprehensive income	1,477,683	1,349,051

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17 General investments

As at 31 December 2019, the Group has general investments as follows:

Navanakorn Electric Company Limited

The Company has investment in preferred shares of Navanakorn Electric Company Limited which has its authorised share capital of 16,500,000 shares at par value of Baht 100 per share. The Company hold 44.02% of its authorised share capital or 7,263,799 shares of Baht 726.38 million. The Company fully paid-up capital and represents less than 1% of total voting rights.

The investment in preferred shares limits the voting right of the Company to the maximum of 1% of the total voting rights in which the Company will receive its return on investment through accumulative dividends at a fixed rate. The overall objective of such investment transaction is to invest in a good prospective project in which the Company will not be involved in routine management as outlined in various terms and conditions in the Shareholders' agreement dated 26 January 2011.

On 20 August 2019, the Company's Board of Directors' meeting approved the disposal of general investment in 7,263,799 preferred shares of Navanakorn Electric Co., Ltd. to RATCH Group Public Company Limited at a selling price of Baht 838.47 million. The Company received the full payment on 1 October 2019.

ToyoThai-USA Corporation

The Company has investment in common shares of ToyoThai-USA Corporation (TTUS) which has its authorised share capital of 1,000,000 shares at par value of USD 1 per share. The Company hold 4% of its authorised share capital or 40,000 shares of USD 40,000 or equivalent to Baht 1.23 million. The Company fully paid-up capital. During 2017, the Company considered to set up allowance for impairment on general investment in TTUS in full amount.

The movements in general investments can be analysed as follows:

For the year ended 31 December 2019

	Consolidated and separate financial statements
	Baht
Beginning balance	727,613,100
Disposal of a general investments	(726,379,900)
	1,233,200
Allowance for impairment of general investments	(1,233,200)
Ending balance	-

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	Consolidated financial statements					
	Land and land improvement	Building	Furniture, fixtures and equipment	Motor vehicles	Power plant and construction	Assets under construction and installation
	Baht	Baht	Baht	Baht	Baht	Baht
For the year ended 31 December 2019						
Opening net book amount	23,875,764	4,019,580	35,472,409	5,416,070	184,367,036	99,973,217
Effect from the adoption of new accounting policy (Note 2)	-	-	-	-	-	(1,609,727)
Additions	-	-	20,169,964	-	-	80,304,019
Disposals, net	-	-	(1)	(2,802,029)	-	100,473,983
Write-off, net	-	-	(17,252)	-	-	(2,802,030)
Decrease from reclassifying investment in subsidiaries to joint ventures	(5,194,371)	(3,948,734)	(6,798,402)	(856,542)	(146,045,833)	(7,739,682)
Depreciation charge	(93,202)	(70,846)	(13,334,524)	(1,216,467)	(5,130,755)	-
Currency translation differences	(694,701)	-	(327,220)	(144,640)	(47,530)	(1,279,249)
Closing net book amount	17,893,490	-	35,164,974	396,392	33,142,918	169,648,578
						256,246,352
At 31 December 2019						
Cost	17,893,490	-	144,042,216	11,236,856	185,247,112	169,648,578
Less Accumulated depreciation	-	-	(108,877,242)	(10,840,464)	(50,306,271)	-
Less Allowance for impairment	-	-	-	-	(101,797,923)	-
Net book amount	17,893,490	-	35,164,974	396,392	33,142,918	169,648,578
						256,246,352

As at 31 December 2019, the Group had an allowance for impairment of the power plant 1.2 MW located in Ayutthaya province of Baht 101.80 million (31 December 2018: Baht 101.80 million) due to the power plant generation plan not being in line with the forecast plan. This was because there was no volume of wastewater from the ethanol plant used as fuel to operate the power plant, and the ethanol plant had temporarily stopped operations. The Company estimated the value in use using a cash flow projection covering the volume of wastewater from the ethanol plant and the period of the Power Purchase Agreement. The cash flow projection was based on the electricity volume to sell and the estimated tariff rate based on the power plant capacity and conditions specified in the Power Purchase Agreement. The discount rate used in the calculation was 10.63% per annum.

For the year ended of 31 December 2019, the borrowing cost capitalised to solar power plant in Japan of Baht 2.95 million represented the borrowing to finance the general objectives. The Group use a capitalisation rate of 3.95% - 4.01% per annum to compute the capitalised borrowing costs and are included as part of 'additions' during the year.

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	Separate financial statements			
	Land Baht	Furniture, fixtures and equipment Baht	Motor vehicles Baht	Total Baht
At 1 January 2018				
Cost	6,750,000	169,298,578	51,720,536	227,769,114
<u>Less</u> Accumulated depreciation	-	(137,263,964)	(32,409,091)	(169,673,055)
Net book amount	6,750,000	32,034,614	19,311,445	58,096,059
For the year ended 31 December 2018				
Opening net book amount	6,750,000	32,034,614	19,311,445	58,096,059
Additions	-	9,402,316	31,000	9,433,316
Write-off, net	-	(15)	-	(15)
Disposals, net	-	(77,700)	(12,967,443)	(13,045,143)
Depreciation charge	-	(14,018,843)	(3,139,089)	(17,157,932)
Currency translation differences	-	(567)	(49,524)	(50,091)
Closing net book amount	6,750,000	27,339,805	3,186,389	37,276,194
At 31 December 2018				
Cost	6,750,000	153,999,592	14,967,495	175,717,087
<u>Less</u> Accumulated depreciation	-	(126,659,787)	(11,781,106)	(138,440,893)
Net book amount	6,750,000	27,339,805	3,186,389	37,276,194
For the year ended 31 December 2019				
Opening net book amount	6,750,000	27,339,805	3,186,389	37,276,194
Additions	-	17,442,723	-	17,442,723
Disposals, net	-	(1)	(1,984,649)	(1,984,650)
Write-off, net	-	(17,251)	-	(17,251)
Depreciation charge	-	(11,507,003)	(736,374)	(12,243,377)
Currency translation differences	-	-	(74,783)	(74,783)
Closing net book amount	6,750,000	33,258,273	390,583	40,398,856
At 31 December 2019				
Cost	6,750,000	136,865,234	7,362,131	150,977,365
<u>Less</u> Accumulated depreciation	-	(103,606,961)	(6,971,548)	(110,578,509)
Net book amount	6,750,000	33,258,273	390,583	40,398,856

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19 Intangible assets, net

	Consolidated financial statements		
	Computer software Baht	Golf membership Baht	Total Baht
At 1 January 2018			
Cost	65,543,447	4,119,865	69,663,312
<u>Less</u> Accumulated amortisation	(38,063,197)	(2,778,307)	(40,841,504)
Net book amount	27,480,250	1,341,558	28,821,808
For the year ended 31 December 2018			
Opening net book amount	27,480,250	1,341,558	28,821,808
Additions	3,931,555	-	3,931,555
Write-off, net	(29)	(1)	(30)
Amortisation charge	(6,068,175)	(322,065)	(6,390,240)
Currency translation differences	(5,337)	-	(5,337)
Closing net book amount	25,338,264	1,019,492	26,357,756
At 31 December 2018			
Cost	63,575,342	3,337,865	66,913,207
<u>Less</u> Accumulated amortisation	(38,237,078)	(2,318,373)	(40,555,451)
Net book amount	25,338,264	1,019,492	26,357,756
For the year ended 31 December 2019			
Opening net book amount	25,338,264	1,019,492	26,357,756
Additions	621,836	-	621,836
Disposal, net	-	(1)	(1)
Decrease from disposal indirect subsidiary	(479,103)	-	(469,103)
Amortisation charge	(5,837,134)	(203,786)	(6,040,920)
Currency translation differences	(91,141)	-	(91,141)
Closing net book amount	19,562,722	815,705	20,378,427
At 31 December 2019			
Cost	61,766,894	2,037,865	63,804,759
<u>Less</u> Accumulated amortisation	(42,204,172)	(1,222,160)	(43,426,332)
Net book amount	19,562,722	815,705	20,378,427

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	Separate financial statements		
	Computer software Baht	Golf membership Baht	Total Baht
At 1 January 2018			
Cost	57,858,767	4,119,865	61,978,632
<u>Less</u> Accumulated amortisation	(33,432,458)	(2,778,307)	(36,210,765)
Net book amount	24,426,309	1,341,558	25,767,867
For the year ended 31 December 2018			
Opening net book amount	24,426,309	1,341,558	25,767,867
Additions	3,223,860	-	3,223,860
Write-off, net	(29)	(1)	(30)
Amortisation charge	(4,360,268)	(322,065)	(4,682,333)
Closing net book amount	23,289,872	1,019,492	24,309,364
At 31 December 2018			
Cost	55,190,317	3,337,865	58,528,182
<u>Less</u> Accumulated amortisation	(31,900,445)	(2,318,373)	(34,218,818)
Net book amount	23,289,872	1,019,492	24,309,364
For the year ended 31 December 2019			
Opening net book amount	23,289,872	1,019,492	24,309,364
Disposal, net	-	(1)	(1)
Amortisation charge	(4,136,430)	(203,786)	(4,340,216)
Closing net book amount	19,153,442	815,705	19,969,147
At 31 December 2019			
Cost	55,190,317	2,037,865	57,228,182
<u>Less</u> Accumulated amortisation	(36,036,875)	(1,222,160)	(37,259,035)
Net book amount	19,153,442	815,705	19,969,147

20 Short-term loans from financial institutions

As at 31 December	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Short-term loans from financial institutions				
- Promissory notes	1,270,000,000	1,718,939,760	1,270,000,000	1,680,000,000
Total	1,270,000,000	1,718,939,760	1,270,000,000	1,680,000,000

As at 31 December 2019, the Company had short-term loans from local financial institutions in the form of promissory notes and bearing interest of 2.48% - 4.04% per annum not over six months for working capital and purchases machinery and equipment. (31 December 2018: short-term loans in the form of promissory notes and bill of exchange bearing interest 2.10% - 4.25% per annum).

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Credit facilities

As at 31 December 2019, the Group has unused credit facilities amounting of Baht 14,449.52 million which is the Company's credit facilities of Baht 14,378.92 million (31 December 2018: Baht 12,581.75 million which is the Company's credit facilities of Baht 10,982.07 million).

The movements of the short-term loan from financial institution can be analysed as follows:

	Consolidated financial statements	Separate financial statements
	Baht	Baht
For the year ended 31 December 2019		
Opening net book value	1,718,939,760	1,680,000,000
Cash received from short-term loans	4,080,000,000	4,080,000,000
Repayment short-term loans	(4,526,893,160)	(4,490,000,000)
Currency translation differences	(2,046,600)	-
Closing net book value	1,270,000,000	1,270,000,000

21 Long-term loans from financial institution, net

21.1 Long-term loans from financial institution is as follows

	Consolidated financial statements	
	2019 Baht	2018 Baht
Long-term loans in US Dollars	-	2,245,526,160
<u>Less</u> Deferred financing fee, net	-	-
Total long-term loans from financial institution, net	-	2,245,526,160

Toyo Thai Power Myanmar Co., Ltd. (TTPMC), a subsidiary, entered into a facility agreement with the Export-Import Bank of Thailand (EXIM Bank) for USD 100 million, or equivalent to Baht 3,296 million, loan agreement date 28 May 2014, the annual interest at LIBOR plus a margin. The principal will be repaid in 36 quarterly instalments scheduled at 35 equal instalments and the remaining amount in the last instalment. The first repayment date was on 19 January 2016.

The loan is for the construction of the power plant in Myanmar and its operations. It's secured with the right to receive compensation under an investment insurance policy, the share charge, and the guarantee agreement with TTCL Gas Power Pte. Ltd. (TTGP). Under the facility agreement, the subsidiary is required to comply with certain terms and conditions, such as maintaining a debt-to-equity ratio, maintaining a debt coverage ratio and setting a reserve in the deposit accounts as a provision to cover loan and interest payments (Note 13) etc.

On 6 June 2019, the Group disposed 29,700,00 ordinary shares of investment in TTGP representing 60% of registered capital of TTGP. After the disposal of investment in TTGP, the Group lost control in TTPMC but still has joint control with effect from decrease shareholding proportion in TTPMC from 100% to 43%. The long-term loan from financial institutions of TTPMC is nil as a result of the partial disposal of investment. (Note 14) (31 December 2018: USD 69.20 million or equivalent to Baht 2,245.53 million).

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21.1 Long-term loans from financial institutions (Cont'd)

The movements of the long-term loan from financial institution can be analysed as follows:

	Consolidated financial statements	
	2019 Baht	2018 Baht
Opening net book value, net	2,245,526,160	2,627,544,337
Cash received from a long-term loan	-	889,149,500
Deferred financing fee	-	(13,383,215)
Repayment long-term loan	(178,533,320)	(362,988,640)
Amortisation of deferred financing fee	-	747,916
Decrease from disposal a subsidiary	-	(877,260,300)
Decrease from reclassifying investment in subsidiary to joint venture (Note 14)	(1,996,842,840)	-
Currency translation differences	(70,150,000)	(18,283,438)
Closing net book value, net	-	2,245,526,160

21.2 Maturity of long-term loan is as follows:

	Consolidated financial statements	
	2019 Baht	2018 Baht
Within 1 year	-	363,437,760
Later than 1 year and not later than 5 years	-	1,882,088,400
Later than 5 years	-	-
Total long-term loan, net	-	2,245,526,160

22 Debentures, net

The debentures are Thai Baht debentures as follows:

As at 31 December	Consolidated and separate financial statements	
	2019 Baht	2018 Baht
Debentures		
Unsubordinated and unsecured debentures	4,575,000,000	4,575,000,000
<u>Less</u> Deferred financing fee	(3,259,529)	(6,901,081)
Unsubordinated and unsecured debentures, net	4,571,740,471	4,568,098,919

The movements in debentures can be analysed as follows:

For the year ended 31 December 2019	Consolidated and separate financial statements
	Baht
Opening net book value, net	4,568,098,919
Amortisation of deferred financing fee	3,641,552
Closing net book value, net	4,571,740,471

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As at 31 December 2019, the Company had debentures which were unsubordinated and unsecured debentures, totalling Baht 4,575 million (31 December 2018: totalling Baht 4,575 million). The term of the debentures is 3 - 5 years maturity and the fixed interest rate is 3.90% - 4.55% per annum with a quarterly interest payment and maintain a debt to equity ratio of not more than 3:1 in the interim consolidated financial information reviewed by an auditor or consolidated financial statement certified by auditor throughout the debentures period which specified in the rights of debentures holders.

The objective of issuing debentures is to expand business and financial management. The issue was approved in the resolution of the Annual General Meeting on 8 April 2016, which granted the Company the right to issue unsubordinated and unsecured debenture including to subordinated perpetual debentures for up to Baht 6,000 million.

At 31 December 2019, the Company had a credit line for the issue of all types of debenture (secured and/or unsecured) for up to Baht 925 million (31 December 2018: The company had credit limit up to Baht 925 million) according to the approval in the resolution of the Annual General Meeting.

As at 31 December 2019, the fair value of debentures has been disclosed in Note 36 (c).

The maturities of debentures are as follows:

As at 31 December

- Within 1 year
Unsubordinated and unsecured debenture
- Later than 1 year and not later than 5 years
Unsubordinated and unsecured debentures

Total unsubordinated and unsecured debentures

Consolidated and separate financial statements	
2019	2018
Baht	Baht
2,399,155,860	-
2,172,584,611	4,568,098,919
4,571,740,471	4,568,098,919

The Group and the Company have the following undrawn committed for debentures:

- Fixed rate
- expiring within one year
- expiring not specified

Consolidated and separate financial statements	
2019	2018
Baht	Baht
-	-
925,000,000	925,000,000
925,000,000	925,000,000

23 Government grants

During the year ended 31 December 2010, Bio Natural Energy Co., Ltd., the subsidiary, entered into the government grant assistance agreement with the Energy Policy and Planning Office (EPPO) of Thailand. This government programme enabled Bio Natural Energy to receive subsidy with a total credit facility line of Baht 20 million from the Energy Conservation Promotion Fund support programme for industrial biogas technology. To receive the subsidy, the subsidiary has to operate the power plant using the biogas generated from the wastewater of Ethanol plants at the minimum volume specified in the agreement.

Bio Natural Energy received a subsidy from the Ministry of Environment of Japan (MOE) to construct the biogas power plant and to sell back the carbon credit generated from production to MOE at the volume stipulated in the agreement. The subsidy received will be based on the percentage of completion of the plant not to exceed Yen 350 million or Baht 129.16 million.

During the year ended 31 December 2019, the Group recorded government grants relating to assets of Baht 20 million and recognised revenue of Baht 0.31 million in statement of comprehensive income. The group recognised revenue from government grant relating to revenue of Baht 129.16 million within income statement for Baht 6.14 million since the Group started to deliver carbon credit to government.

As at 31 December 2019, the government grants of Baht 126.59 million were included in non-current liabilities as deferred revenue (31 December 2018: Baht 133.04 million).

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24 Deferred income taxes, net

The Group's corporate income tax for the year ended 31 December 2019 and 2018 are calculated based on the net profit (tax base). The rates are as follows:

	2019	2018
Thailand	20%	20%
Singapore	17%	17%
Philippines	30%	30%
Qatar	10%	10%
Japan	31%	31%
Vietnam	20%	20%
Malaysia	24%	24%
Myanmar	25%	25%

Deferred tax assets and liabilities can be summarised as follows:

	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Deferred tax assets				
Deferred tax assets to be recovered within 12 months	4,661,493	3,554,245	-	-
Deferred tax assets to be recovered after 12 months	344,797,663	356,610,892	291,236,258	283,839,848
Total deferred tax assets	349,459,156	360,165,137	291,236,258	283,839,848
Deferred tax liabilities				
Deferred tax liabilities to be recovered within 12 months	(536,548)	(3,189,713)	-	(114,982)
Deferred tax liabilities to be recovered after 12 months	(848,554)	(105,243,534)	-	-
Total deferred tax liabilities	(1,385,102)	(108,433,247)	-	(114,982)

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The movements in deferred tax assets and liabilities during the year are as follows:

Consolidated financial statements						
Baht						
	(Restated) At 1 January 2019	Charged to profit loss	Credit to other comprehensive income or expense	Decrease due to changing from subsidiary to joint venture	Currency translation differences	At 31 December 2019
Deferred income tax assets:						
Employee benefit obligation	28,097,481	10,052,642	4,343,916	-	(72,139)	42,421,900
Fixed asset	64,510,580	(12,487,442)	-	-	(6,952)	52,016,186
Loss carry forward	262,021,636	(21,619,155)	-	-	(419,594)	239,982,887
Provision for warranty	7,078,689	2,197,364	-	-	(441,797)	8,834,256
Work in progress	38,772	-	-	-	-	38,772
Contract assets	(22,267,685)	(3,762,657)	-	-	3,596,696	(22,433,646)
Subordinated perpetual debenture	119,215	-	-	-	-	119,215
Unrealized gain (loss) on exchange rate	83,919	1,576,730	-	-	(235,212)	1,425,437
Accrued construction costs	24,020,755	(10,440,950)	-	-	3,851,064	17,430,869
Trade accounts payable	721,877	-	-	-	(51,563)	670,314
Allowance for doubtful	-	16,212,676	-	-	(8,644,157)	7,568,519
Reserve for expenses from lawsuits	2,589,077	(1,204,630)	-	-	-	1,384,447
Total deferred income tax assets	367,014,316	(19,475,422)	4,343,916	-	(2,423,654)	349,459,156
Deferred income tax liabilities:						
Fixed asset	(104,394,980)	(132,215)	-	102,479,478	3,439,309	1,391,592
Construction in progress	(848,554)	-	-	-	-	(848,554)
Loss carry forward	-	125,446	-	-	(2,508)	122,938
Unrealized gain (loss) on exchange rate	(3,189,713)	1,051,500	-	-	87,135	(2,051,078)
Total deferred income tax liabilities	(108,433,247)	1,044,731	-	102,479,478	3,523,936	(1,385,102)
Deferred income taxes, net	258,581,069	(18,430,691)	4,343,916	102,479,478	1,100,282	348,074,054
Consolidated financial statements						
Baht						
	At 1 January 2018	Charged to profit loss	Credit to other comprehensive income or expense	Currency translation differences	Charged directly to equity	At 31 December 2018
Deferred income tax assets:						
Employee benefit obligation	31,344,392	3,281,656	(6,528,567)	-	-	28,097,481
Fixed asset	73,922,239	(10,176,828)	-	(700)	-	63,744,711
Loss carry forward	100,770,243	161,750,393	-	(499,000)	-	262,021,636
Work in progress	-	38,772	-	-	-	38,772
Contract assets	-	(88,887,348)	-	-	-	(88,887,348)
Accrued construction costs	-	91,635,797	-	-	-	91,635,797
Trade accounts payable	-	721,877	-	-	-	721,877
Subordinated perpetual debenture	-	-	-	-	119,215	119,215
Others	3,107,889	(433,578)	-	(1,315)	-	2,672,996
Total deferred income tax assets	209,144,763	157,930,741	(6,528,567)	(501,015)	119,215	360,165,137
Deferred income tax liabilities:						
Employee benefit obligation	511,666	(511,666)	-	-	-	-
Fixed asset	(105,149,290)	-	-	754,310	-	(104,394,980)
Construction in progress	(848,554)	-	-	-	-	(848,554)
Contract assets	(21,215,387)	21,215,387	-	-	-	-
Accrued construction costs	14,280,189	(14,280,189)	-	-	-	-
Trade accounts payable	1,559,565	(1,559,565)	-	-	-	-
Other	(3,453,097)	262,577	-	807	-	(3,189,713)
Total deferred income tax liabilities	(114,314,908)	5,126,544	-	755,117	-	(108,433,247)
Deferred income taxes, net	94,829,855	163,057,285	(6,528,567)	254,102	119,215	251,731,890

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	Separate financial statements					
	(Restated) At 1 January 2019	Charged to profit loss	Credit to other comprehensive income or expense	Currency translation differences	Charged directly to equity	At 31 December 2019 Baht
Deferred income tax assets:						
Employee benefit obligation	27,115,244	9,970,572	4,343,916	-	-	41,429,732
Fixed assets	98,258	-	-	(6,952)	-	91,306
Loss carry forward	253,918,055	(13,937,169)	-	-	-	239,980,886
Provision for warranty	6,727,604	1,415,780	-	-	-	8,143,384
Subordinated perpetual debentures	119,215	-	-	-	-	119,215
Loss from exchange rate	-	87,449	-	(160)	-	87,289
Reserve from expense of lawsuits	2,589,076	(1,204,630)	-	-	-	1,384,446
Total deferred income tax assets	290,567,452	(3,667,998)	4,343,916	(7,112)	-	291,236,258
Deferred income tax liabilities:						
Loss on exchange rate	(114,982)	111,221	-	3,761	-	-
Total deferred income tax liabilities	(114,982)	111,221	-	3,761	-	-
Deferred income taxes, net	290,452,470	(3,556,777)	4,343,916	(3,351)	-	291,236,258
	Separate financial statements					
	At 1 January 2018	Charged to profit loss	Credit to other comprehensive income or expense	Currency translation differences	Charged directly to equity	At 31 December 2018 Baht
Deferred income tax assets:						
Employee benefit obligation	30,759,493	2,884,318	(6,528,567)	-	-	27,115,244
Fixed assets	98,958	-	-	(700)	-	98,258
Loss carry forward	99,201,821	154,716,234	-	-	-	253,918,055
Subordinated perpetual debentures	-	-	-	-	119,215	119,215
Others	2,451,055	139,247	-	(1,226)	-	2,589,076
Total deferred income tax assets	132,511,327	157,739,799	(6,528,567)	(1,926)	119,215	283,839,848
Deferred income tax liabilities:						
Loss on exchange rate	-	(115,789)	-	807	-	(114,982)
Total deferred income tax liabilities	-	(115,789)	-	807	-	(114,982)
Deferred income taxes, net	132,511,327	157,624,010	(6,528,567)	(1,119)	119,215	283,724,866

25 Employee benefit obligations

	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Statement of financial position:				
Employee benefits obligation	209,184,998	137,562,905	207,148,655	135,576,218
Statement of income:				
Expenses of employee benefits for the year	55,812,221	21,574,281	55,620,659	21,535,089
Statement of comprehensive income:				
Currency translation differences	(141,906)	-	-	-
Remeasurement for:				
Gain (loss) from retirement benefits	(21,719,578)	32,642,836	(21,719,578)	32,642,836

The plans are final salary retirement plans, which provide benefits to members in the form of a guaranteed level of pension payable. The level of benefits provided depends on members' length of service and their salary in the final years leading up to retirement.

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The movements in the employee benefit obligation over the year are as follows:

	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
As at 1 January	137,562,905	156,355,795	135,576,218	153,797,465
Current service cost	49,471,650	15,989,578	49,280,088	15,950,385
Interest expense	6,340,571	5,584,704	6,340,571	5,584,704
Currency translation differences	(141,906)	-	-	-
	193,233,220	177,930,077	191,196,877	175,332,554
Remeasurements:				
Gain from change in demographic assumptions	(7,216,319)	(21,559,585)	(7,216,319)	(21,559,585)
(Gain) loss from change in financial assumptions	34,940,981	(7,403,069)	34,940,981	(7,403,069)
Experience gain	(6,005,084)	(3,680,182)	(6,005,084)	(3,680,182)
	214,952,798	145,287,241	212,916,455	142,689,718
Payment from plans:				
Benefit payment	(5,767,800)	(7,724,336)	(5,767,800)	(7,113,500)
As at 31 December	209,184,998	137,562,905	207,148,655	135,576,218

The principal actuarial assumptions used were as follows:

	2019	2018
Discount rate	1.55%	3.43%
Salary growth rate	4.99%	5.36%

	Impact on defined benefit obligation					
	Change in assumption		Increase in assumption		Decrease in assumption	
	2019	2018	2019	2018	2019	2018
Discount rate	0.5%	0.5%	Decrease by 5.53%	Decrease by 5.11%	Increase by 6.06%	Increase by 5.61%
Salary growth rate	0.5%	0.5%	Increase by 5.17%	Increase by 4.85%	Decrease by 4.75%	Decrease by 4.45%
Employee turnover	0.5%	0.5%	Decrease by 5.84%	Decrease by 5.45%	Increase by 6.40%	Increase by 5.98%

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions the same method (present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the pension liability recognised within the statement of financial position. The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to the previous period.

As at 31 December 2019, the weighted average duration of the defined benefit obligation of the group is between 5 years to 20 years, for the duration of company is 18 years (2018: benefit obligation of the group is between 5 years to 20 years, for the duration of company is 20 years).

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Expected maturity analysis of undiscounted retirement benefits:

	Consolidated financial statements				
	Less than a year Baht	Between 1-2 years Baht	Between 2-5 years Baht	Over 5 years Baht	Total Baht
As at 31 December 2019 Retirement benefit	-	43,830,679	22,169,547	168,206,684	234,206,910
Total	-	43,830,679	22,169,547	168,206,684	234,206,910

	Separate financial statements				
	Less than a year Baht	Between 1-2 years Baht	Between 2-5 years Baht	Over 5 years Baht	Total Baht
As at 31 December 2019 Retirement benefit	-	43,830,679	20,133,204	168,206,684	232,170,567
Total	-	43,830,679	20,133,204	168,206,684	232,170,567

On 5 April 2019, an amendment bill to the Labour Protection Act (No.7) B.E. 2562 was published in the Government Gazette. The main amendment is that the compensation for employees who have retired and have more than or equal to 20 years of service has changed to 400 day's pay. This change considered an amendment to post-employment benefits plan. The Group reflected the effect of such change by recognising past service cost as an expense in the consolidated and separate financial statements for the year ended 31 December 2019 of Baht 35.62 million.

26 Share capital and premium on share capital

Issue and allotment of new ordinary shares

	Authorised ordinary shares	Issued and paid-up shares	Issued and paid-up Baht	Premium on share capital Baht	Total Baht
At 1 January 2018	560,000,000	560,000,000	560,000,000	2,905,496,747	3,465,496,747
Issued of shares	336,000,000	56,000,000	56,000,000	380,262,450	436,262,450
At 31 December 2018	896,000,000	616,000,000	616,000,000	3,285,759,197	3,901,759,197
Issued of shares	-	-	-	-	-
At 31 December 2019	896,000,000	616,000,000	616,000,000	3,285,759,197	3,901,759,197

On 27 April 2018, the Annual Meeting of the Company's shareholders passed a resolution approving the increase of the Company's registered share capital by Baht 336 million from the existing registered capital of Baht 560 million to Baht 896 million by issuing 336 million new ordinary shares with a par value of Baht 1 per share and approved the allocation of 168 million new ordinary shares to be offered to the shareholders in accordance with their shareholding portion (Right Offering) and 56 million new ordinary shares to the private placement in the form of General Mandate. The offering of newly issued ordinary shares may be made in full or in part. However, in any case, the number of new ordinary shares offered to the existing shareholders (Right Offering) and private placement according to the General Authorization (General Mandate) must have a maximum of 168 million shares or not more than 30% of the Company's paid-up capital on the date the Board of Directors resolves to approve the capital increase in the form of General Mandate.

In addition, the Annual Meeting of the Company's shareholders approved the issuance and allotment of warrants to purchase ordinary shares of the Company No. 1 ("TTCL-W1") to the existing shareholders of the Company. Right Offering in the amount of not exceeding 112 million units, free of charge, at the ratio of 5 existing shares to 1 unit of warrant (Note 27).

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On 2 August 2018, the Board of Directors Meeting of TTCL approved the issue and allocation of new ordinary shares of 56,000,000 newly issued ordinary shares with a par value of Baht 1 per share to specific persons (Private Placement) under a General Mandate basis which had been approved by the 2018 Annual General Meeting of Shareholders of TTCL held on 27 April 2018, at an offering price of Baht 7.7950 per share, totalling Baht 436.52 million. The specific person who has been allocated with the newly issued share is Sojitz Corporation, a listed Company in the Tokyo Stock Exchange in Japan. The said offering price is not lower than 90% of the market price pursuant to the Notification of the Capital Market Supervisory Board No. TorChor. 72/2558, Permission for Listed Companies to Offer Newly Issued Shares to Specific Persons. The market price is calculated by using the weighted average price of the Company's ordinary shares traded on the Stock Exchange of Thailand for 15 consecutive business days before the Board of Directors set the offering price, which is between 10 July 2018 to 1 August 2018 and equal to 7.9673 per share. The 90% of weighted average price is equal to 7.1706 Baht per share. On 20 August 2018 the Company fully received the additional paid-up capital and registered the capital increased with the Ministry of Commerce at the same date. The direct expenses associated with the offering of shares of Baht 0.26 million are presented as a deduction from the premium on share capital and resulted in net of Baht 3,285.76 million. The increased capital section 51 of the Public Companies Act B.E. 2535, where the company offer shares for sale at a price higher than the registered par value. The company shall allocate the excess to a reserve account ('premium on share capital'). The premium on share capital is not available for dividend distribution.

As at 31 December 2019, the total authorised ordinary shares are 896 million shares which have been issued and paid-up 616 million shares at Baht 1 par value (31 December 2018: 896 million shares which have been issued and paid-up 616 million shares at Baht 1 par value).

27 Warrants to purchase ordinary shares

On 29 June 2018, the Company issued warrants to purchase ordinary share of the Company without charge to shareholders as follows:

Type of warrant	Issue to	Issuance date of warrant	Number of warrant issued (Units)	Period of warrant	Exercise price per share	Exercise ratio per 1 warrant
TTCL-W1	General shareholders	29 June 2018	111,995,682	3 years	18.00 Baht	1 ordinary share

The holders of TTCL-W1 can exercise warrant after one year from issuance date. The first exercise will be the last business day of June 2019. For the next exercise, TTCL-W1 can be exercised on the last business day of June and December of each calendar year throughout the remaining period of the TTCL-W1.

During the year ended 31 December 2019, there was no exercised warrant.

28 Legal reserve

	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Beginning balance	56,000,000	56,000,000	56,000,000	56,000,000
Appropriation during the year	-	-	-	-
Ending balance	56,000,000	56,000,000	56,000,000	56,000,000

Under the Public Limited Company Act., B.E. 2535, the Company is required to set aside as a legal reserve at least 5% of its net profit after the accumulated deficit is brought forward (if any) until the reserve is not less than 10% of the registered capital.

TTCL Public Company Limited**Notes to the Consolidated and Separate Financial Statements****For the year ended 31 December 2019****29 Subordinated perpetual debentures**

On 21 December 2018, the Board of Directors' meeting of the Company approved an additional principal amount of debenture (at a par value) of not more than Baht 500 million, which is the principle amount previously approved in the Annual General Meeting of the shareholders of the Company held on 8 April 2016 (Note 22), with the total aggregated amount of all outstanding debentures issued by the Company at any time not exceeding Baht 6,000 million (On a Revolving Principal Basis).

On 28 December 2018, the Company issued unsecured, unconvertible and subordinated perpetual debentures in registered name form of 500,000 shares with a par value of Baht 1,000 per share, with a total of Baht 500 million (debentures no.1/2018) which are payable upon the dissolution of the Company or upon the exercise of the Company's early redemption right per condition as stipulated in the terms and conditions of the debentures issuer and holder (terms and conditions). The first date of the redemption right is on 28 December 2023 and the interest rates are specific to each period as follow:

Subordinated perpetual debentures	Issued date	Periods	Interest rate (% per annum)
No. 1/2018	28 December 2018	From the issue date to (but not including) the first date of the redemption right	8.75% per annum
		From the first date of the redemption right to (but not including) the 10 th anniversary from the issue date	Sum of (a) 5-year government bond yields (b) Initial Credit Spread equals to 6.52% per annum (c) 0.25% per annum
		From the 11 th year from the issue date onwards	Sum of (a) 5-year government bond yields (b) Initial Credit Spread equals to 6.52% per annum (c) 0.50% per annum which the interest rate will be adjusted every 5 years based on the 5-year government bond yields at the second business day preceeding the adjustment date

The interest is paid quarterly basis. The Company has the sole right to unconditionally defer interest and cumulative interest payments without time and number limitation based on the Company's discretion.

If the Company defers interest and the cumulative interest payment, the Company shall not:

- (a) declare or pay any dividend; and
- (b) pay any interest or distribute any assets to any holder of Parity Securities or Junior Securities; and
- (c) redeem, reduce, cancel, acquire, or buy-back any securities issued by the Company which rank pari passu or junior to these debentures.

As at 31 December 2019, these subordinated perpetual debentures of totalling Baht 499.52 million, net of the issuance cost of Baht 0.48 million, were recognised as a part of equity in the consolidated and separate financial statements.

For the year ended 2019, the Company paid interest to the subordinated perpetual debentures holders amounting to Baht 43.75 million. Cumulative interest for the year ended 31 December 2019 which the debentures holders have the right to receive if the interest payment was announced amounting to Baht 0.48 million. As at 31 December 2019, the Company has not deferred any interest payments to the subordinated perpetual debentures holders.

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For the year ended 31 December 2019

30 Earnings (loss) per share

30.1 Basic earnings (loss) per share

Basic earnings (loss) per share attributable to equity holders of the parent is calculated by dividing the net profit (loss) attributable to owners of the parent less cumulative interest for the years on subordinated perpetual debentures by the weighted average number of ordinary shares issued during the year.

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Profit (loss) attributable to owners of the parent (Baht)	(206,309,219)	(1,979,731,537)	520,859,511	(2,778,277,577)
<u>Less</u> cumulative interest for the year on subordinated perpetual debentures	(44,229,452)	(479,452)	(44,229,452)	(479,452)
Profit (loss) used in calculation of basic earnings per share	(250,538,671)	(1,980,210,989)	476,630,059	(2,778,757,029)
Weighted average number of ordinary shares in issue (Shares)	616,000,000	580,558,904	616,000,000	580,558,904
Basic earnings (loss) per share (Baht)	(0.41)	(3.41)	0.77	(4.79)

30.2 Diluted earnings (loss) per share

Diluted earnings (loss) per share is calculated by adjustment the weighted average number of ordinary shares in issue to assume conversion of all dilutive potential ordinary shares to ordinary shares. The Company's dilutive potential ordinary shares is warrants. A calculation is done to determine the number of shares that could have been acquired at market price (determined as the average share price of the Company's shares during the period) based on the outstanding warrants to determine the number of potential ordinary shares would have been additionally issued. The potential shares are added to the ordinary shares outstanding but no adjustment is made to net profit (loss). However, the warrants has no dilutive effect to basic earnings (loss) per share because the exercise price of warrants are higher than the average market price of ordinary shares during the year.

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Diluted earnings (loss) per share				
Profit (loss) attributable to owners of the parent (Baht)	(206,309,219)	(1,979,731,537)	520,859,511	(2,778,277,577)
<u>Less</u> cumulative interest for the year on subordinated perpetual debentures	(44,229,452)	(479,452)	(44,229,452)	(479,452)
Profit (loss) used in calculation of basic earnings per share	(250,538,671)	(1,980,210,989)	476,630,059	(2,778,757,029)
Weighted average number of ordinary shares in issue (Shares)	616,000,000	580,558,904	616,000,000	580,558,904
Adjustment for warrant (Shares)	-	-	-	-
Weighted average number of ordinary shares diluted earnings per share (Shares)	616,000,000	580,558,904	616,000,000	580,558,904
Diluted earnings (loss) per share (Baht)	(0.41)	(3.41)	0.77	(4.79)

During the year ended 31 December 2019, the warrants to purchase the issued shares had no effect to diluted earnings (loss) per share.

31 Dividends

On 2 October 2019, the Company's Board of Directors' meeting approved the interim dividend payment from net profit and unappropriated retained earnings for the operating performance for the six-month period ended 30 June 2019 to shareholders at Baht 0.18 per share for 616 million shares, totaling Baht 110.88 million. The dividend was paid to shareholders on 1 November 2019.

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32 Other income

	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Interest income	119,804,552	159,624,305	47,051,839	46,149,781
Gain from disposal equipment and intangible assets	1,575,391	3,848,317	994,963	3,848,317
Gain from disposal a subsidiary	689,674,845	360,600,107	-	-
Gain from measurement fair value of investment in joint venture	75,877,792	-	-	-
Gain from disposal an associate	15,893,170	-	-	-
Gain from disposal a general investment	112,091,450	-	112,091,450	-
Compensation from insurance claim	-	148,588,128	-	293,634
Dividend income	-	-	1,915,995,936	238,602,711
Other income	41,750,212	31,652,583	8,572,297	5,138,723
Total	1,056,667,412	704,313,440	2,084,706,485	294,033,166

33 Income tax

	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Current tax	32,719,785	8,964,551	635,285	-
Deferred tax (Note 24)	18,430,691	(163,057,285)	3,556,777	(157,624,010)
Total tax expense	51,150,476	(154,092,734)	4,192,062	(157,624,010)

The tax on the Group's profit before tax differs from the theoretical amount that would arise using the basic tax rate of the home country of the Company as follows:

	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Profit (loss) before tax	(137,619,934)	(2,163,851,766)	525,051,573	(2,935,901,587)
Tax rate	20%	20%	20%	20%
Tax calculated at a tax rate	(27,523,987)	(432,770,353)	105,010,315	(587,180,317)
Tax effect of:				
Income not subject to tax	(50,585,545)*	(170,908,784)*	(384,418,829)	(47,720,542)
Profit from disposal of subsidiary	(113,330,741)	(70,164,712)	-	-
Profit from measurement fair value of investment in joint venture	(12,899,224)	-	-	-
Profit from disposal of associate	(2,875,649)	-	-	-
Expenses not deductible for tax purpose	320,912,877	496,983,065	302,693,866	479,950,897
Tax losses for which no deferred income tax asset was recognised	18,932,566	17,302,872	-	-
Share of profit of associate	(3,502,963)	(4,514,863)	-	-
Share of profit of joint venture	(16,532,056)	(134,759)	-	-
Employee benefit obligation	(9,970,572)	(2,884,318)	(9,970,572)	(2,884,318)
Interest payment for subordinated perpetual bond	(8,750,000)	-	(8,750,000)	-
Unrealised (gain) loss on exchange rate	(5,527,971)	16,151,512	(87,864)	129,635
Fixed assets and construction in progress	(1,740,374)	(540,523)	-	-
Utilisation of previously unrecognised tax losses	(8,886,490)	(8,132,541)	(1,474,235)	-
Tax effect from different tax rates of foreign entities	(26,569,385)	5,520,670	1,189,381	80,635
Tax charge	51,150,476	(154,092,734)	4,192,062	(157,624,010)

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- * As at 31 December 2019, result of the accounting profit multiplied by the tax rate of Baht 45.91 million is the profit under promotional privileges from the Board of Investment for period of 5 years after the Group issued the first sales invoice.
- * As at 31 December 2018, result of the accounting profit multiplied by the tax rate of Baht 88.45 million is calculated from the profit under tax exemption from foreign source income and Baht 80.42 million from the profit under promotional privileges from the Board of Investment for period of 5 years after the Group issued the first sales invoice.

On 17 June 2019, the Revenue Department approved the company's international business centre (IBC) application. Its IBC operations are management and administrative support services and technical support services. The tax privileges period is 15 accounting periods to the year ending 31 December 2033, starting from the first accounting period, which runs from 1 June 2019 to 31 December 2019. If the Company doesn't meet the privilege requirements in any accounting period, the tax privileges is suspended for only that accounting period.

The weighted average applicable tax rate for the Group and the Company was 24% and 0.80%, respectively (2018: 7% and 5%, respectively).

The tax (charge)/credit relating to component of other comprehensive income is as follows:

	Consolidated financial statements					
	2019			2018		
	Before tax Baht	Tax credit Baht	After tax Baht	Before tax Baht	Tax credit Baht	After tax Baht
Share of other comprehensive income of associate	-	-	-	280,356	-	280,356
Remeasurement on retirement benefit obligations	(21,719,578)	4,343,916	(17,375,662)	32,642,836	(6,528,567)	26,114,269
Currency translation differences	(271,134,404)	-	(271,134,404)	(50,475,224)	-	(50,475,224)
Other comprehensive income	(292,853,982)	4,343,916	(288,510,066)	(17,552,032)	(6,528,567)	(24,080,599)
Current tax		-			-	
Deferred tax (Note 24)		4,343,916			(6,528,567)	
		<u>4,343,916</u>			<u>(6,528,567)</u>	
	Separate financial statements					
	2019			2018		
	Before tax Baht	Tax credit Baht	After tax Baht	Before tax Baht	Tax credit Baht	After tax Baht
Remeasurement on retirement benefit obligations	(21,719,578)	4,343,916	(17,375,662)	32,642,836	(6,528,567)	26,114,269
Currency translation differences	(48,761,621)	-	(48,761,621)	(14,181,877)	-	(14,181,877)
Other comprehensive income	(70,481,199)	4,343,916	(66,137,283)	18,460,959	(6,528,567)	11,932,392
Current tax		-			-	
Deferred tax (Note 24)		4,343,916			(6,528,567)	
		<u>4,343,916</u>			<u>(6,528,567)</u>	

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34 Expenses by nature

	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Construction supplies and subcontractor charges	3,843,427,052	5,715,229,393	2,186,273,594	2,813,419,867
Salaries, wages and other employee benefits	1,584,326,214	1,835,511,543	1,491,351,394	1,363,958,568
Consultant expenses	61,372,846	86,877,135	27,969,795	92,042,279
Rental expenses	236,824,629	205,300,455	217,622,173	185,459,016
Depreciation and amortisation expenses	25,886,714	40,483,203	16,583,593	21,840,266
Bad debt	-	118,611,939	-	118,611,939
Allowance for doubtful debt	1,456,776,804	1,324,508,743	1,456,776,804	1,330,928,655

35 Finance costs

	Consolidated financial statements		Separate financial statements	
	2019 Baht	2018 Baht	2019 Baht	2018 Baht
Interest charges	300,743,896	457,014,023	255,293,015	297,346,851
Other finance costs	3,641,552	4,825,013	3,641,552	4,627,097
Total finance costs	304,385,448	461,839,036	258,934,567	301,973,948

36 Financial instruments

a) Financial assets and financial liabilities

As at 31 December, the Company and the subsidiary had outstanding balances of financial assets and financial liabilities denominated in foreign currencies as follows:

Currencies	Consolidated financial statements		Separate financial statements		(Unit: Baht/foreign currencies)	
	Financial assets	Financial liabilities	Financial assets	Financial liabilities	Exchange rate	
					31 December 2019 Buying	As at Selling
United State Dollar	4,504,339,806	526,975,935	4,293,060,748	1,390,257,200	29.9767	30.3313
Japanese Yen	82,207,862	42,720,504	82,477,775	42,720,504	0.2723	0.2796
Euro	452,883,175	46,407,357	425,541,563	45,141,601	33.3775	34.0846
Singapore Dollar	1,178,223	4,156,831	-	699,495	22.0554	22.5935
Swiss Franc	-	1,640,695	-	1,640,695	30.6267	31.2793
Swedish Krona	160,964,314	288,601,616	-	-	3.1926	3.2711
Malaysian Ringgit	182,732,059	238,310,930	-	-	7.2154	7.4290
Myanmar Kyat	12,112,540	26,425,764	-	-	0.0202	0.0204
Qatari Riyal	1,910,433	450,941	1,910,433	450,941	8.2331	8.3305
Vietnamese Dong	3,854,155	73,015,507	3,854,155	74,649,920	0.0013	0.0013
Lao Kip	778,903	170,700	768,287	-	0.0034	0.0034
Pound Sterling	-	106,473	-	106,473	39.0910	39.9523
Philippine Peso	839,255	42,240	839,255	42,240	0.5834	0.6058
Thai Baht	401,446	-	-	-	1.0000	1.0000

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Currencies	(Unit: Baht/foreign currencies)					
	Consolidated financial statements		Separate financial statements		Exchange rate	
	Financial assets	Financial liabilities	Financial assets	Financial liabilities	31 December 2018 Buying	As at Selling
United State Dollar	2,713,231,918	2,615,369,771	1,119,310,343	932,111,546	32.2848	32.6148
Japanese Yen	24,517,596	2,497,734	24,324,944	2,497,734	0.2892	0.2970
Euro	496,063,761	4,240,140	468,718,537	2,647,671	36.7620	37.4884
Singapore Dollar	3,550,752	8,958,870	1,199,355	4,134,625	23.4165	23.9720
Swiss Franc	-	16,270,272	-	16,270,272	32.5851	33.2639
Swedish Krona	179,785,331	321,395,851	-	-	3.5659	3.6428
Malaysian Ringgit	326,588,271	46,954,433	-	-	7.6965	7.9146
Myanmar Kyat	15,687,940	9,536,102	-	-	0.0208	0.0210
Qatari Riyal	4,761,381	1,707,870	4,761,381	1,707,870	8.8663	8.9569
Vietnamese Dong	69,882,611	78,045,838	69,882,611	78,045,838	0.0014	0.0014
Lao Kip	876,894	1,015,150	860,925	-	0.0038	0.0038
Thai Baht	3,384,036	14,193,230	6,700	-	1.0000	1.0000

b) Foreign currency risk

As at 31 December 2019, the Group had no forward foreign exchange contracts.

As at 31 December	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
US dollars :				
- Average exchange rate (Baht/US dollars)	-	32.4031-32.9538	-	32.4031-32.9538
- Foreign currency (US dollars)	-	1,000,000	-	1,000,000
- Local currency ('000 Baht)	-	32,614.80	-	32,614.80

c) Fair values

The carrying amount of cash and cash equivalents, deposits of financial institution pledged as collateral, accounts receivable, amounts due from related parties, accounts payable, amount due to related parties, short-term loans from financial institution and related parties approximates the fair value due to the short maturities.

Long-term loan to related party and amount due from related party

The fair values of certain long-term loan to related party and amount due from related party with fixed interest rates have been calculated from the net present value of future cash flows discounted by market interest rates using rates at the date of financial statements (This is a level 2 fair value measurement).

The fair values of certain long-term loan to related party and amount due from related party as at 31 December 2019 are as follows:

	Consolidated financial statements		Separate financial statements	
	Contract Baht	Fair value Baht	Contract Baht	Fair value Baht
Long-term loan - related party	4,578,946	3,280,620	13,266,039	6,588,226
Account receivable - related party	-	-	23,689,320	5,623,648

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Long-term loans and account receivable third parties

The net fair values of certain long-term loans and account receivable third parties with fixed interest rates have been calculated from the net present value of future cash flows discounted by market interest rates using rates at the statement of financial position date (This is a level 2 fair value measurement).

The net fair values of certain long-term loans and account receivable third parties as at 31 December 2019 are as follows:

	Consolidated financial statements		Separate financial statements	
	Contract Baht	Fair value Baht	Contract Baht	Fair value Baht
Long-term loans - third party	464,770,259	430,444,115	464,770,259	430,444,115
Account receivable - third parties	144,662,248	163,672,028	144,662,248	163,672,028

Unsubordinated and unsecured debentures

The net fair values of unsubordinated and unsecured debentures with fixed interest rates have been calculated from the net present value of future cash flows discounted by market interest rates using rates at the date of financial statements (This is a level 2 fair value measurement).

The net fair values of unsubordinated and unsecured debentures with fixed interest rates as at 31 December 2019 are as follows:

	Consolidated financial statements		Separate financial statements	
	Contract Baht	Fair value Baht	Contract Baht	Fair value Baht
Unsubordinated and unsecured debentures	4,575,000,000	4,554,041,906	4,575,000,000	4,554,041,906

37 Commitments and contingent liabilities

As at 31 December 2019, the Group had commitments and contingent liabilities including contracts as follows:

1) Operating leases and services commitments

The Group have entered into lease agreements in respect of the lease of office building space and services and the rental of vehicles. As at 31 December 2019 and 2018, the non-cancellable rental payable under these contractual obligations is as follows:

Paid within	2019	2018
	Million Baht	Million Baht
1 year	82.02	55.30
2 - 5 years	107.11	25.65
Later than 5 years	-	12.39
Total	189.13	93.34

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2) Guarantees

- 2.1) As at 31 December 2019, the Company has guaranteed bank credit facilities of its subsidiary up to USD 17 million or equivalent to Baht 515.63 million (2018: to USD 42 million or equivalent to Baht 1,369.82 million) and MYR 148 million or equivalent to Baht 1,099.49 million (2018: MYR 148 million or equivalent to Baht 1,171.36 million).
- 2.2) As at 31 December 2019, the Group had outstanding bank guarantees in respect of certain performance bond and contractual performance as follows:
- 2.2.1) Letter of guarantee for contractual performance as required in the normal course of the business of the Group amounting to USD 132.29 million (2018: USD 202.96 million) or equivalent to approximately Baht 4,008.09 million (2018: Baht 6,606.78 million) and Baht 2,046.20 million and SEK 153.07 million or equivalent to approximately Baht 483.69 million (2018: Baht 2,593.45 million and SEK 191.04 million or equivalent to approximately Baht 694 million and MYR 3.29 million or equivalent to approximately Baht 26.06 million) and JPY 1,330.69 million or equivalent to approximately Baht 367.19 million and VND 85,198 million or equivalent to approximately Baht 110.76 million.
- 2.2.2) Letter of guarantee for electricity use and others amounting to Baht 7.77 million (2018: Baht 7.05 million)

3) Litigations

As at 31 December 2019, the Group had litigations as follows:

3.1) Old case

- 3.1.1) The plaintiff as subcontractor has filed a claim claiming that the Company has defaulted on the agreement for payment of additional costs for a construction project, the Plaintiff claimed for Baht 18.79 million. On 23 April 2019, the Supreme Court had declared final judgment. The Company should pay for damage plus interest in the total amount of Baht 11.71 million to the subcontractor. The Company has recorded provision regarding to this lawsuit in full amount. On 3 May 2019, the Company placed money at the Court.
- 3.1.2) The product dealer, who sold the concrete to the Company for the construction project, has filed and claimed that the Company has not paid invoices. The Company had refused to pay those invoices due to the low quality of the concrete supplied which has caused damage to the Company. The product dealer filed this case and claimed damages of Baht 12.53 million plus interest of 7.50% per annum to the International Court of Arbitration (ICC) in accordance with ICC's terms and conditions. However, the Company has filed an answer and counter-claim of Baht 172.73 million plus interest of 7.50% per annum due to the damage from the low quality of the concrete supplied. The Company has also called the concrete's manufacturer and distributor as joinder with the product dealer to be jointly liable on the damage to the Company. ICC has appointed the sole arbitrator as the arbitral tribunal to decide the case.

Subsequently, the concrete's manufacturer and distributor has filed and claimed against the Company and the arbitrator for damages of Baht 1,275 million. The defense is that: a) the Company dishonestly filed to the concrete's manufacturer and distributor as joinder with the product dealer to be liable with the Company due to low quality concrete supplied to the Company and b) the ICC's officer has dishonestly filed by accepting the request which has caused the manufacturer and distributor damages. However, the Company and the ICC officer have filed a statement of defense against all accusations and affirmed that they have taken honest and fair action according to the law and regulations that are imposed.

As at 1 October 2018, ICC finalised the case between the Company and the product dealer and decided that the Company should pay the concrete price plus interest of Baht 16.83 million and legal cost of Baht 3.85 million to the product dealer. The Company recorded these expenses in during the year 2018.

For the case between the Company and the concrete's manufacturer and distributor, the Court has finished the trial proceedings of witnesses of both parties. On 28 February 2019, the Court had declared judgment to dismiss the complaint of the concrete's manufacturer and distributor at all. The concrete's manufacturer and distributor had been permitted to file appeal until 30 April 2019, but there was neither appeal filling nor extension. The case was then finalised.

TTCL Public Company Limited**Notes to the Consolidated and Separate Financial Statements****For the year ended 31 December 2019**

- 3.1.3) The claimant had provided services to the Company by dispatching technicians from Japan to Thailand to supervising for undertaking and inspection and start-up and commissioning for machines and dispatching technicians for electric support works. The Company also purchased Sight Glass from the claimant. However, the Company is in default of all payments incurred from above services and goods as appear in the invoice.

As a result, the claimant made the following claims against the Company arising from such breach; a) payment for outstanding service fees and purchase price in the amount of JPY 22,552,000 b) including defaulting interest at the rate of 7.50% per annum c) legal fees in connection with this arbitration proceeding in the amount of USD 45,000 d) costs and disbursement of this arbitration and e) other relief, which the arbitral tribunal deems fit. The Company filed the answer to request and counterclaims against the claimant, stating that the Company is not liable for such damages and have counter-claim for a total of Baht 0.53 million due to defects arising out of claimant's goods. The Company received a copy of Final Award on 2 January 2018 which the orders of the tribunal are as follows; 1) The Company is to pay the Claimant in the sum of JPY 17,917,000 (the overtime fees was dismissed) including the interest at the rate of 7.50% per annum from 28 November 2014 until fully paid within 30 days of this Final award 2) The Company's counterclaim on the claimant's liable for defects arising out of its goods was dismissed. The management has appropriately recorded the provision in 2017 for this lawsuit.

Due to the effective date of Final award was unclear, the Company submitted an application dated 24 January 2018 for the clarification of the award. Afterwards, the Tribunal rendered the Addendum of the Final Award dated 21 March 2018. On the same date, the Company filed a Motion for setting aside the Final Award with the Intellectual Property and International Trade Court. Afterwards, on 20 August 2018, the Court ordered to combine two cases together and scheduled hearing for the Claimant witness on 11 and 12 June 2019 and the Respondent witness on 13 and 14 June 2019. The Claimant and the Respondent had finished the witnesses' examination, the Court appointed both parties to hear the Court's judgment on 13 September 2019. On 7 September 2019, the Court posted its summon to postpone the Court's judgment hearing date from 13 September 2019 to 22 November 2019. On 22 November 2019, the court dismisses both the Claimant and the Respondent's petitions. At the moment, both parties have submitted their appeals to the court and afterwards both parties will have to prepare a reply to the appeal.

3.2) New case during the year 2019

- 3.2.1) On 11 September 2019, the plaintiff as subcontractor in Malaysia has filed a statement of claim to a subsidiary of the Group that the subsidiary of the Group has defaulted on the agreement and termination of the agreement has caused the plaintiff has damage. The plaintiff claimed are as follows: a) payment for outstanding milestone of MYR 142.43 million or such other amount determined by the arbitral b) general damages to be assessed because of the allegedly breaches by the subsidiary of the Group under the contract and the termination of the contract c) interest on the amount awarded and d) other costs.

However, the subsidiary of the Group has submitted a statement of defense and counter-claim in response to the statement of claims as follows: a) payment instead of subcontractor in amount of MYR 11.80 million b) damages for the repair works on the cooling basin leakage to be assessed c) interest on a) and b) and d) other costs.

The Arbitration Tribunal has called for a preliminary meeting on 12 December 2019 and has issued the Order for Directions No.1 in respect of procedures and directions to the parties. On 27 January 2020, the plaintiff has filed and served their statement of claim. And the subsidiary of the Group will be filing their statement of defense and counterclaim on 16 March 2020 as directed by the Tribunal.

TTCL Public Company Limited

Notes to the Consolidated and Separate Financial Statements

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- 3.2.2) On 25 December 2018, the Group (as claimant) submitted the statement of claim to the Thai Arbitration Institute, Office of Judiciary ("TAI"), relating to the breach of the turnkey contract for the onshore construction, onshore supply and offshore supply work for the Lat Krabang Power Plant Project against the project owner (as the respondent) for liable as follows: (a) outstanding milestone payments and the cost of variation, plus the default interest of 12 percent calculated up to the submission of this statement of claim in amount of Baht 340.09 million, SEK 21.94 million and USD 0.03 million (b) the default interest at the rate of 12 percent per annum for the outstanding payment in (a) from the date of submission of this statement of claim (c) return the advance payment bonds and the performance payment bonds, including pay the bonds fee paid by the Group to the issuing bank in amount of Baht 1.99 million, USD 0.05 million and SEK 0.55 million (d) damages on the loss of opportunity cost of Baht 500 million (e) issue the Provisional Acceptance Certificate ("PAC") specifying the date on which all conditions of the PAC were satisfied and issue the final PAC to the Group and state that the conditions of final acceptance have been fully satisfied and (f) pay in full the fees and expenses of the arbitrators, the Centre's administrative expenses and all costs incurred by the Group in connection with these arbitral proceedings, particularly without limitation to legal fees and expenses.

However, on 19 August 2019, the respondent has submitted the statement of defense and counter-claim to the TAI, denying the allegations set forth in the statement of claim, and demanded that the Group indemnify the respondent for debt arising from the breach of contract, for example: costs borne by the respondent for rectification or replacements of non-compliance assets, damages for delay, and damages due to the Group's failure to achieve the performance guarantee, additional expenses for the construction of the transmission lines, business interruption, as well as other damages and expenses in amount of Baht 1,611.56 million.

On 10 October 2019, the arbitration appointed by each Party appointed the Chairman of the arbitral tribunal. The Tribunal then granted the respondent's request to amend its statement of defense and counterclaim and ordered that the Group file an additional answer to counterclaim by 25 December 2019. The preliminary hearing for determining the issues in dispute for this case is scheduled on 6 February 2020. After the issues in dispute for the case is determined, the Tribunal appointed both parties shall submit the list of witnesses, witness statements and evidence by 24 August 2020. The next appointment for witness examination is scheduled for 25 September 2020 and both parties are to submit the closing statement to the TAI by 7 March 2021.

- 3.2.3) On 25 December 2018, the Group (as claimant) submitted the statement of claim to the TAI, relating to the breach of the Turnkey Contract for the onshore construction, onshore supply and offshore supply work for the Bangpoo Power Plant Project against project owner (as respondent) for liable as follows: (a) outstanding milestone payments, the cost of standby manpower and the cost of variation, plus the default interest of 12 percent calculated up to the submission of this statement of claim in amount of Baht 555.89 million, SEK 41.64 million and USD 0.05 million (b) the default interest at the rate of 12 percent per annum for the outstanding payment in (a) from the date of submission of this statement of claim (c) return the advance payment bonds and the performance payment bonds, including paying the bonds fee paid by the Group to the issuing bank in amount of Baht 3.69 million, USD 0.09 million and SEK 1.09 million (d) damages on loss of opportunity cost in the total amount of Baht 1,000 million (e) issue the Provisional Acceptance Certificate ("PAC") specifying the date on which all conditions of the PAC were satisfied and issue the final PAC to the Group and state that the conditions of final acceptance have been fully satisfied and (f) pay in full the fees and expenses of the arbitrators, the Centre's administrative expenses and all costs incurred by the Group in connection with these arbitral proceedings, particularly without limitation to legal fees and expenses.

However, on 13 August 2019, the respondent has submitted the statement of defense and counter-claim to the TAI, denying the allegations set forth in the statement of claim, and demanded that the Group indemnify the respondent for debt arising from the breach of contract, for example: costs borne by the respondent for rectification or replacements of non-compliance assets, damages for delay, and damages due to the Group's failure to achieve the performance guarantee, additional expenses for the construction of the transmission lines, business interruption, as well as other damages and expenses in amount of Baht 4,247.64 million.

On 10 October 2019, the arbitration appointed by each party appointed the Chairman of the arbitral tribunal. The Tribunal then granted the respondent's request to amend its statement of defense and counterclaim and ordered that the Group file an additional answer to counterclaim by 25 December 2019. After the issues in dispute for the case is determined, the Tribunal appointed both parties shall submit the list of witnesses, witness statements and evidence by 4 August 2021. The next appointment for witness examination is scheduled for 10 September 2021 and both parties are to submit the closing statement to the TAI by 10 February 2022.

TTCL Public Company Limited**Notes to the Consolidated and Separate Financial Statements****For the year ended 31 December 2019****38 Significant contracts****Interest rate swap contract**

On 30 December 2014, Toyo Thai Power Myanmar Co., Ltd. (TTPMC), a joint venture, entered into an Interest Rate Swap (IRS) contract to manage the exposure of its floating rate loan to interest rate risk from long-term loan amount of USD 10 million. With the IRS contract, the Company receives interest at a floating rate based on 3-month LIBOR plus certain margin per annum and pays interest at a fixed rate of 1.99 % per annum from 5 January 2015 to 17 December 2021.

On 21 January 2015, TTPMC entered into an Interest Rate Swap (IRS) contract to manage the exposure of its floating rate loan to interest rate risk from long-term loan amount of USD 10 million. Under the IRS contract, the Group received interest at a floating rate based on 3-month LIBOR plus certain margin per annum and paid interest at a fixed rate of 1.40 % per annum from 23 January 2015 to 17 January 2020.

Power purchase agreement

Bio Natural Energy Co., Ltd., a subsidiary, entered into power purchase agreement dated 9 February 2011 with Provincial of Electricity Authority. The term of this agreement began on the agreement date and will continue for 5 years and automatically continue 5 years and effective until terminated the agreement.

Service concession arrangements

Toyo Thai Power Myanmar Co., Ltd., a joint venture, agreed into Power Purchase Agreement dated 15 May 2013 with Ministry of Electric of Myanmar. The term of this agreement began on the agreement date and will continue for 30 years from the commercial operation date at the rate and formula specified in the agreement. The Group has obligations to supply minimum quantities of electricity and steam to customers in each contract year. If in any contract year, the customers have not taken the minimum quantities of electricity according to the Power Purchase Agreements, customers shall pay for quantities of electricity and steam not taken ("Take-or-Pay"). The quantities of electricity that the customers have paid for but have not taken in that year ("Make-up") can be taken free of charge in subsequent years. Under the concession arrangement, the Group must deliver the specified assets to the grantor at the end of concession period (Built-Operate-Transfer). In addition, the Group has obligation for major overhaul every three years.

Land rental contract

Toyo Thai Power Myanmar Co., Ltd., a joint venture, entered into land rental contract with Ministry of Electric of Myanmar. The term of this agreement began on the agreement date and will continue for 30 years from 15 May 2013 onwards.

39 Event occurring after the date of financial statements**1) Decrease ordinary shares**

On 2 March 2020, the Board of Director's meeting of the Company approved the decrease of the Company's registered capital by Baht 168,004,318 from the existing registered capital of Baht 896,000,000 to Baht 727,995,682 by decrease 168,004,318 ordinary shares at a par value of Baht 1. However, the decrease ordinary shares will be offered to approve in Annual General Meeting of the Shareholders of the Company.

2) The increase of the Company's registered capital

On 2 March 2020, the Board of Director's meeting of the Company approved the increase of the Company's registered capital by Baht 242,004,318 from the registered capital (after decrease ordinary shares) of Baht 727,995,682 to Baht 970,000,000. This was by issuing and offering 242,004,318 newly issued ordinary shares at a par value of Baht 1. However, the increase ordinary shares will be offered to approve in Annual General Meeting of the Shareholders of the Company.

3) The allocation of the Company's newly issued ordinary shares

On 2 March 2020, the Board of Director's meeting of the Company approved the allocation of 180,404,318 newly issued ordinary shares at a par value of Baht 1 to the existing shareholders (Rights Offering) and the allocation of 61,600,000 newly issued ordinary shares with a par value of Baht 1 per share to the specific persons (Private Placement basis) under a General Mandate basis. In this regard, the Company may either entirely or partially allocate the newly issued ordinary shares, whether in single or sequential allocation. In any case the aggregate number of the newly issued ordinary shares to be allocated to the existing shareholders (Rights Offering) and specific persons under Private Placement shall not be exceeding 184,800,000 shares or 30% of the paid-up capital of the Company as at the date of the Board of Directors approve the increase of registered capital under General Mandate basis. However, the allocation of the Company's newly issued ordinary shares will be offered to approve in Annual General Meeting of the Shareholders of the Company.

Form 56-2 Checklist

The list of contents published on Annual Report 2019 is consistent with the notification from The Securities and Exchange Commission, Thailand **No. Tor Jor. 44/2556 Re: Regulations, Conditions and Methods of Report on Information Disclosure about Financial Status and the Achievements of Issuing Company** effective since January 1st, 2014 as follows:

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Company Profile

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Home Page	: www.ttcl.com	
Type of Business	: Engineering Service and Construction (Integrated EPC)	
Registration No.	: 0107551000185	
Registered Capital	: 896,000,000.00 Baht	
Paid-up Capital	: 616,000,000.00 Baht	
Par Value	: 1.00 Baht	
Securities Registrar	: Thailand Securities Depository Co., Ltd. 62 The Stock Exchange of Thailand Building Rachadapisek Road, Klongtoey, Bangkok 10110, Thailand Tel. : (66) 2229 2800 Fax. : (66) 2359 1259	
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