



Thai Solar Energy Public Company Limited

Annual Report 2020

รายงานประจำปี 2563



www.thaisolarenergy.com

Vision

To become a world-class regional leader in providing renewable energy through reliable technologies to serve both commercial and social societies

Mission

To establish a solid footprint in Thailand in the solar power industry and expand into other renewable energies as well as developing an international solar power business focusing in Asia & Oceania regions



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Message from **the Chairman**

In light of the ongoing Coronavirus Disease 2019 (COVID-19) pandemic in 2020 spreading into 2021 that has adversely affected all parties' livelihoods, well-being, society, including various businesses through the world, the Management team and all employees of the Group would like to encourage all of you to compete against this crisis and hope that the situation will improve soon.

The Group has plans to serve various circumstances such as the urgent and discreet Business Continuity Plan (BCP), the shift of employees in commuting to work, also known

as Work from Home (WFH), and collaborations with the public and strict adherence to the government's measures. Nevertheless, the team has continued to run the business and carry out electricity generation so as to generate consistent revenues to the Group.

With our persistent resolutions and management styles of the Group in making efforts to grow the business continuously and steadily for utmost benefits of shareholders, on behalf of the Board of Directors, I would like to thank you to all shareholders, executives, employees and stakeholders for your continuing support to the Company's business. Hence, the Company is committed to business operations under the corporate governance principle and will take into consideration benefits of all stakeholders at most for achieving strong and sustainable growth in the future.

Cathleen Maleenont, Ed.D.
Chairman of the Board

Message from **the Vice Chairman**



To Shareholders

The Coronavirus Disease 2019 (“COVID-19”) pandemic emerged in 2020 was regarded as the unexpected crisis with a dramatic impact on both nationally and globally. This has not only led to major changes in social and economic aspects, but also created new challenges to the whole businesses and sectors.

The Group has realized the health and safety of all employees through doing surveillance and closely monitoring the COVID-19 situation. To this, measures have been imposed to prevent the spread of COVID-19 such as checking body temperatures every time before entering the workplace, reducing touching sources of infection, distributing face masks and alcohol gel at various points, and regularly spraying disinfectants inside the office. Moreover, under this situation, the Group has contributed to the society through sharing food, beverage and some stuffs to help alleviate the suffering of the communities surrounding the Group’s power plants adversely affected by COVID-19.

Finally, I would like to take this opportunity to express my gratitude to shareholders and all stakeholders for trust and continuing support to the Company’s business and also thank the executives and all employees for their hard work and dedication in line with the Company’s plan and enabling to get through this crisis smoothly. In addition, I would like to provide encouragement and concern to all related parties impacted by the COVID-19 pandemic.

A handwritten signature in black ink, appearing to read 'Prommin Lertsuridej'.

Mr. Prommin Lertsuridej

Vice Chairman

Report of the Audit Committee

The Audit Committee has been delegated by the Board of Directors to perform duties pursuant to the regulations of the Office of Securities and Exchange Commission and the notifications of the Stock Exchange of Thailand identified in the Audit Committee Charter as prescribed the Board of Directors.

The Audit Committee consists of the members who possess knowledge, abilities and are independent, namely Mrs. Siripen Sitasuwan, Mr. Prasan Chuapanich, and Mr. Pala Sukawesh. The Audit Committee regularly reports its performances to the Board of Directors for acknowledgement and consideration at least once in each quarter. In this regard, the Audit Committee discussed with the Management, the internal auditor, and the auditors to acknowledge, concur and share opinions in various matters which can be summarized as follows:

1. Reviewed the quarterly and yearly 2020 financial information of the Group to ensure that financial statements were prepared in accordance with the financial reporting standards and were adequate, complete and reliable as well as reviewed the Key Audit Matters or “KAMs” with respect to First-time adoption of TFRS 16 Leases becomes effective for financial reporting beginning on or after 1 January 2020. As at 31 December 2020, the application of the new standard gives rise to a right-of-use asset of Baht 325.65 million and a corresponding increase in lease liabilities of Baht 338.42 million, representing 1.70% of total assets and 2.55% of total liabilities. The Group decided to apply the modified retrospective approach for the transition accounting in which the restatement of comparative financial statements is not required.

In addition, the Audit Committee had discussed with the auditors without the presence of the Company's Management in relation to independence in performing duties and expressing an opinion of the auditors.

2. Reviewed the appropriateness of procedures for the entry into connected transactions and the disclosure of such information which was accurate, complete and in compliance with the notifications, regulations and guidelines relating to the Stock Exchange of Thailand and laws relevant to the business of the Company's group.



3. Reviewed the report on the audit results conducted by the internal audit function and the auditors regarding assessment of the internal control system of the group of Company, provided necessary recommendations for monitoring and improving the performance of the Management as commented in relevant reports.
4. Considered, selected and compared the auditor's remuneration proposed it to the Board of Directors for requesting the shareholders' meeting to approve the appointment of the auditors of Pricewaterhouse Coopers Co., Ltd. as the Company's auditor for the year 2021 for another term.

In conclusion, the Audit Committee is of the opinion that the Board of Directors and the Management of the Company have ethics and endeavor to carry out the duties to achieve the Company's goals, and realize the importance of doing business under the corporate governance with effectiveness, transparency and reliability.

(Mrs. Siripen Sitasuwan)

Chairman of the Audit Committee



Report of the Nomination and Remuneration Committee

The Nomination and Remuneration Committee comprises 3 members and is chaired by Mr. Prasan Chuaphanich, an independent director. In 2020, the Nomination and Remuneration Committee convened 2 meetings and reported the Board on the results of the meetings regularly. Followings are some of important businesses conducted by the Nomination and Remuneration Committee.

1. Qualified persons to be appointed as director and subcommittees to replace those retired by rotation, based on the regulations of the Board of Directors and good corporate governance, considering the proportion and composition of directors. It also includes a variety of expertise and expertise related to the company's business, to drive the business strategy to the most effective and effective.
2. Considered and set remuneration for members of the Board of Directors and committees, based on suitability, duties and responsibilities, performance, business environment, economic conditions and by comparing with the remuneration of other companies in the same or similar business. The shareholders' meeting approved the remuneration as proposed.
3. Considered the remuneration for top management, based on suitability company performance, individual performance, and inflation.

In realizing the importance of corporate good governance principle, the Nomination and Remuneration Committee has reviewed and monitored the operational progress of the management on regular basis and perform the duties with full ability, carefulness, transparency and independence, based on adequate and appropriate level of corporate good governance that should provide utmost benefit to all stakeholders.

(Mr. Prasan Chuaphanich)
Chairman of the Nomination and
Remuneration Committee

The Board of Directors and Management



**MR. PALA
SOOKAWESH**
Independent Director
Audit Committee

**MS. SIRIPEN
SITASUWAN**
Independent Director
Chairman of Audit
Committee

**CATHLEEN
MALEENONT, ED.D.**
Chairman of Board of
Directors
Chairman of the Board of
Executive Directors
Chief Executive Officer
Nomination and
Remuneration Committee
Acting Chief Financial
Officer
Authorized Director

**MR. PROMMIN
LERTSURIDEJ**
Vice Chairman
Independent Director

**MR. PRASAN
CHUAPHANICH**
Independent Director
Audit Committee
Chairman of Nomination
and Remuneration
Committee



**MR. MASTHAWIN
CHARNVIRAKUL**
Director

**MR. ARAN
APICHARI**
Independent Director

**MR. SOMPHOP
PROMPANAPITAK**
Director
Board of Executive
Directors
Nomination and
Remuneration Committee
Chief Operation Officer
Company Secretary
Authorized Director

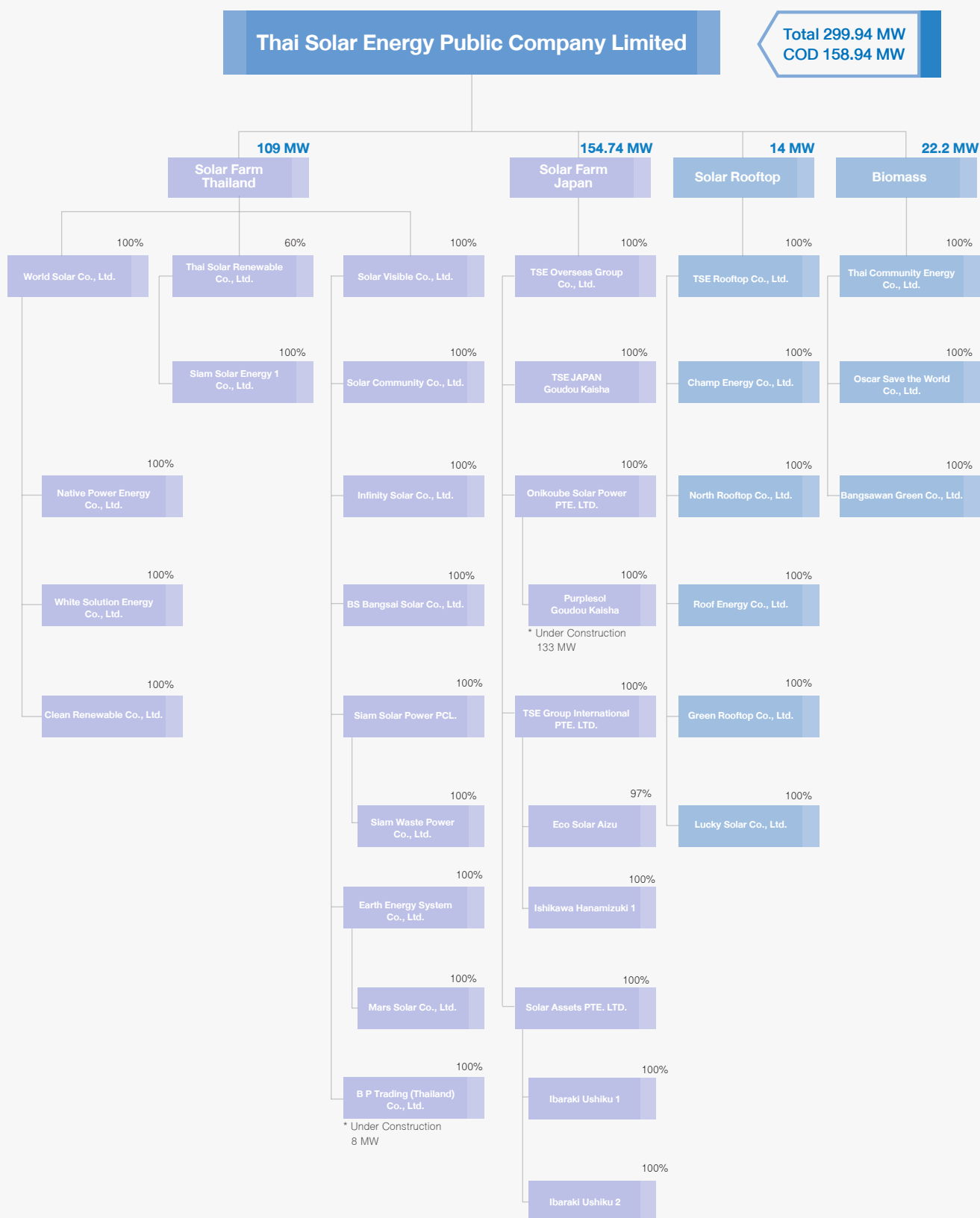
**MRS. ANGKANE
RERKSIRISUK**
Director
Authorized
Director

**MR. KITIPHONG
THUNNOM**
Chief Technical Officer

**MR. NIVEJ
BOONWICHAI**
Vice President Engineering
and Construction



Group Structure



Key Milestones and Development

The Company transformed into a public limited company under the name of Thai Solar Energy Public Company Limited on 18 February 2014 and is listed securities. Which started trading on the MAI on 30 October 2014, classified as medium-sized businesses Resource Industry Group, with the following significant changes and developments and has to be traded on SET since 14 May 2019 in the energy and utilities business category resources industry group, with the company having significant changes and developments as follows :

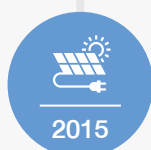


2014

Transform and prepare to be a listed company

- On 30 October 2014, the ordinary shares of the company became listed securities and traded on the MAI market under the medium-sized business category Industry Group "Resources"

As of 31 December 2014, the Company Group had 1 Solar Thermal at total selling capacity of 4.5 MW, 10 Solar PV at total selling capacity of 80 MW and 5 Solar Rooftop at total selling capacity of 5 MW that distributed electricity as Commercial Operation Date (COD) for the Provincial Electricity Authority at a total selling capacity of 89.5 MW



2015

Expansion of Business to Asian Region

- Established a subsidiary, the TSE Group International PTE., LTD. (TSI) and Solar Assets PTE., LTD. in Singapore to support the Group's plan to expand business operation to other countries in Asian region. The Company holds 100% of shares in these companies.
- The company expanded the solar power plant business in Japan.

As of 31 December 2015, the Company Group had 1 Solar Thermal at total selling capacity of 4.5 MW, 11 Solar PV at total selling capacity of 80.5 MW and 14 Solar Rooftop at total selling capacity of 14 MW that distributed electricity as Commercial Operation Date (COD) for the Provincial Electricity Authority at a total selling capacity of 99 MW



2016

Recognition of additional income

- The Group began to recognize additional incomes from a project in Japan whose power distribution on Commercial Operation Date (COD) of 3 projects have begun in succession. The total production was 4.5 MW.
- The Group had power distribution on Commercial Operation Date (COD) of 1 project, which are projects for government agencies and agricultural cooperatives in 2015, Bang Saphan District of Prachuap Khiri Khan province, totalling 1 MW.
- The Group has invested in 3 biomass power plant business projects with total selling capacity of 22.2 MW in Nakhon Si Thammarat and Surat Thani Provinces.

As of 31 December 2016, the Group has a total of 36 projects under its operation in Thailand and Japan that comprise 1 solar thermal project, 18 solar PV projects (11 in Thailand and 7 in Japan), 14 solar rooftop and 3 biomass power plants with a total selling capacity of 143.68 MW. Of these, 30 projects have distributed electricity commercially, including the selling capacity in Thailand and Japan at the total capacity of 104.50 MW.



2017

Additional Expansion of Business Operation in Japan

- The Group recognized additional revenues from 1 more project in Japan. Total production capacity in Japan is now 6.99 MW.
- The Group made 1 additional investment in Onikoube project with production capacity of 154.98 MW.

As of 31 December 2017, the Group has a total of 37 projects under its operation in Thailand and Japan that comprise 1 solar thermal project, 19 solar PV projects (11 in Thailand and 8 in Japan), 14 solar rooftop and 3 biomass power plants with a total selling capacity of 298.42 MW. Of these, 31 projects have distributed electricity commercially, including the selling capacity in Thailand and Japan at the total capacity of 106.49 MW.



2018

Recognition of additional income and Adjust the structure according to the main business operations by holding shares

- The Group began to recognize additional incomes from a project in Japan whose power distribution on Commercial Operation Date (COD) of 1 project have begun in succession. The total production was 1.25 MW including the selling capacity in Japan 6 projects at the total capacity of 8.24 MW.
- Thai Solar Energy Public Company Limited has received the honorary award of "Asia's Best Performing Companies" at "ACES AWARDS 2018" (The Asia Corporate Excellence & Sustainability Awards) organized by MORS GROUP in Singapore.



2019

- TSE has implemented restructuring according to the holding company operation to support the operations of the subsidiary by focusing on participation in order to participate in management.
- The Group has invested in solar power plant project in Ang Thong Province 1 Project, operated by Infinite Solar Co., Ltd., which has distributed electricity commercially since 2015 with total selling capacity of 2 MW
- The Group has started Commercial Operation Distribution (COD) 3 biomass power plant business projects, with total selling capacity of 22.2 MW.

As of 31 December 2018, the Group has a total of 38 projects under its operation in Thailand and Japan that comprise 1 solar thermal project, 20 solar PV projects (12 in Thailand and 8 in Japan), 14 solar rooftop and 3 biomass power plants with a total selling capacity of 300.42 MW. Of these, 36 projects have distributed electricity commercially, including the selling capacity in Thailand and Japan at the total capacity of 131.94 MW.

Recognition of additional income, Additional investment and Moving TSE from MAI to be traded on SET

- Hanamizuki Project in Japan selling capacity of 13.50 MW. Has been Commercial Operation Distribution (COD). Causing the group of companies Recognized revenue from 7 projects in Japan, totalling 21.74 MW. The selling capacity of 37 projects in Thailand and Japan at the total capacity of 145.44 MW.
- Stop operating the business of solar thermal power plants in the solar thermal system (Solar Thermal), with a selling capacity of 4.5 MW. because it is a project that cannot produce electricity to generate revenue for the company at full efficiency
- The Company's ordinary shares have moved into the SET for trading under the Energy and Utilities Sector, Industry group "Resources"
- Thai Community Energy Company Limited (TCE) which is a subsidiary owned 100% enter into the additional investment in Oscar Save The World Company Limited ("OSW") which currently operates biomass power plants, resulting in an increase in the investment proportion of the Group in that subsidiary from 75% to 100%.
- Solar Visible Company Limited (SV) which is a subsidiary owned 100% investment in BS Bangsai Solar Company Limited (BSS) which 1 operates the solar power plant projects in category of ground mounting with the installed capacity of 5 MW located at Phra Nakhon Si Ayutthaya Province
- Solar Visible Company Limited which is a subsidiary owned 100% investment in BS Solar Energy Company Limited (BSE) which operates 1 solar power plant projects in category of ground mounting for government agencies and agricultural cooperatives with the installed capacity of 5 MW located at Udonthani Province
- Solar Visible Company Limited which is a subsidiary owned 100% investment in Siam Solar Power Public Company Limited (SSP) which operates 1 solar power plant projects in category of ground mounting with the installed capacity of 8 MW located at Angthong Province,

As of 31 December 2019, the Group has a total of 40 projects under its operation in Thailand and Japan that comprise 23 solar PV projects (15 in Thailand and 8 in Japan), 14 solar rooftop and 3 biomass power plants with a total selling capacity of 313.92 MW. Of these, 39 projects have distributed electricity commercially, including the selling capacity in Thailand and Japan at the total capacity of 158.94 MW.



2020

Additional investment

- Solar Visible Company Limited which is a subsidiary owned 100% investment in B P Trading (Thailand) Company Limited (BPT) which Holding company manufacturing and distribute electricity including businesses of all types of electrical and energy systems, which BPT is the developer and invest in electrical and energy systems project from floating solar energy (Solar Floating Project) in Kabin Buri Industrial Zone with the installed capacity of 8 MW
- Solar Visible Company Limited which is a subsidiary owned 100% investment in Earth Energy System Company Limited (EES), EES is a 100% shareholder of Mars Solar Company Limited (MARS) which operates 1 solar power plant projects in category of ground mounting for government agencies and agricultural cooperatives with the installed capacity of 5 MW located at Krabi Province
- Solar Visible Company Limited which is a subsidiary owned 100% to enter into the asset disposal transaction by disposing of all shares BS Solar Energy Company Limited (BSE) which operates 1 solar power plant projects in category of ground mounting for government agencies and agricultural cooperatives with the installed capacity of 5 MW located at Udonthani

As of 31 December 2020, the Group has a total of 41 projects under its operation in Thailand and Japan that comprise 23 solar PV projects (15 in Thailand and 8 in Japan), 14 solar rooftop and 3 biomass power plants with a total selling capacity of 299.94 MW. Of these, 39 projects have distributed electricity commercially, including the selling capacity in Thailand and Japan at the total capacity of 158.94 MW.



Current the Group operates 2 types of solar energy generation and distribution business: Solar PV power plants and Biomass power plants and developing a floating solar system.

1) Solar PV Power Plants

Group's PV power plants generate and sell electricity using photovoltaic systems which can be categorized as follows :

1.1 Solar PV Farm

Domestic : TSE Group has 15 solar farm PV power plant projects with a total selling capacity of 101 MW and sale of electricity output to the Provincial Electricity Authority (PEA) with the capacity of 101 MW.

Overseas : TSE Group has 8 solar power plants in Japan with total selling production capacity of 154.74 MW. So far, 7 of the projects have already and sale of electricity output to the Provincial Electricity Authority (PEA) with the capacity of 21.74 MW.

1.2 Solar Rooftop

TSE Group has 14 Solar Commercial Rooftop projects, the highest number in Thailand with a total selling capacity of 14 MW, all of which has been sale of electricity output to the Provincial Electricity Authority (PEA) and Metropolitan Electricity Authority (MEA) with the capacity of 14 MW.

1.3 Solar Floating

TSE Group has 1 Solar floating project with a total selling capacity of 8 MW. Currently, it is under construction.

2) BIOMASS POWER PLANTS

TSE Group has invested in 3 biomass power plants through subsidiaries, Bang Sawan Green (BSW) in Surat Thani Provinces and Oscar Save the World (OSW) project 1 and project 2 in Nakhon Si Thammarat Provinces with total selling capacity of 22.2 MW. All three plants have been licensed to engage in biomass power plant business and have already entered into a contract to sell power supply to the Provincial Electricity Authority (PEA)

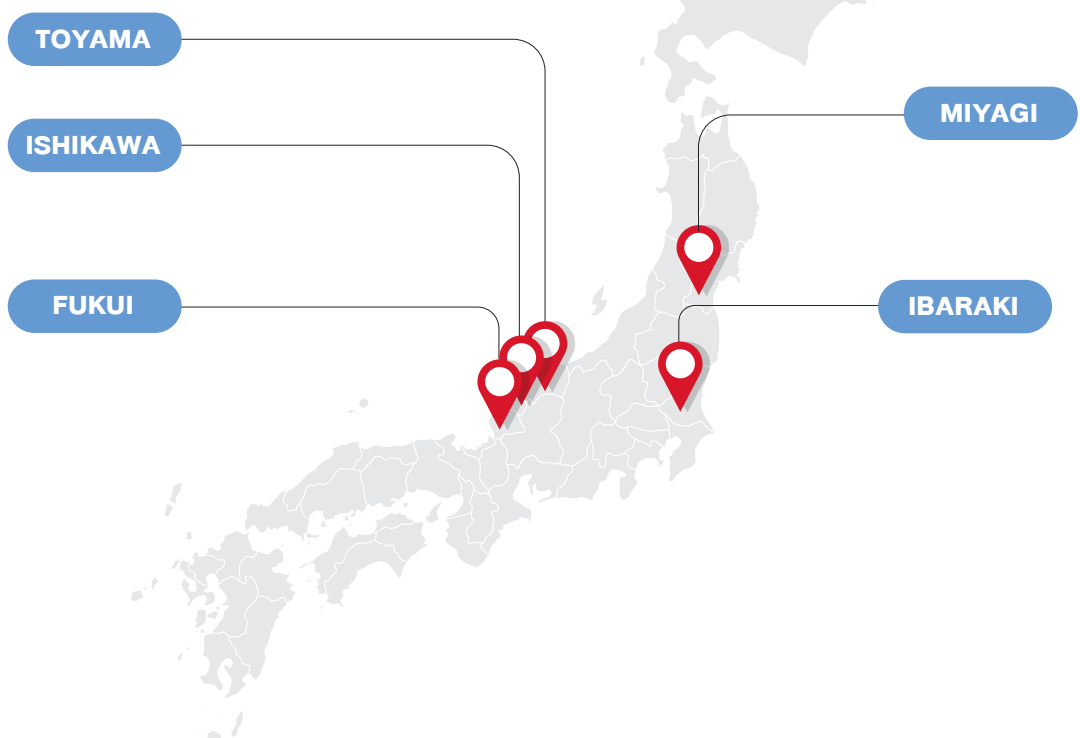


TSE Group's solar farm locations in Thailand

- Solar Farm
- Solar Rooftop
- Solar Floating
- Biomass



TSE Group's solar farm locations in Japan



Commercial power distribution projects

As of the end of 2020, TSE Group engages in the administration of and investments in local and international renewable-energy businesses has 41 projects. Divided into 33 projects in Thailand with a total capacity of 145.2 MW and 7 projects in Japan, with a total capacity of 154.74 MW, representing a total production capacity of 299.94 MW.

A total of 39 commercial power distribution projects are divided into 32 projects in Thailand, 7 projects in Japan, representing a total production capacity of 158.94 MW. Details are as follows:

Thailand				Japan			
types	number	Capacity	COD	types	number	Capacity	COD
Solar Farm				Solar Farm			
SSE1	10	80 MW	2014	Kuno	1	0.50 MW	2015
INS	1	2 MW	2015	Shima	1	1.25 MW	2016
SSP	1	8 MW	2013	Hikeme	1	1.50 MW	2016
Solar Farm (Co-Op)				Ryugasaki	1	1.75 MW	2016
SLC	1	1 MW	2016	Sakura	1	1.99 MW	2017
BSS	1	5 MW	2016	Jyoso	1	1.25 MW	2018
MARS	1	5 MW	2018	Hanamizuki	1	13.50 MW	2019
Solar Rooftop				Onikoube	1	133 MW	Under Construction
CE	4	4 MW	2015				
NR	3	3 MW	2015				
RE	3	3 MW	2015				
GR	2	2 MW	2015				
LS	2	2 MW	2015				
Biomass							
BSW	1	4.6 MW	2018				
OSW 1	1	8.8 MW	2018				
OSW 2	1	8.8 MW	2018				
Floating Solar							
BPT	1	8 MW	Under Construction				
SOU	33	145.2 MW		SOU	8	154.74 MW	
COD	32	137.2 MW		COD	7	21.74 MW	
Under Construction	1	8 MW		Under Construction	1	133 MW	

Projects in Thailand

A total of 33 projects for power supply to the commercial system, totaling 137.2 MW, can be divided into categories as follows:

1. Solar Farm Operated by

1.1 Siam Solar Energy 1 Co., Ltd. (or “SSE1”)

10 projects with a capacity of 8 MW for each project, totaling 80 MW



SSE1 PV 01

Capacity : 8 MW

Location : Bo Phloi District, Kanchanaburi

COD : September 2013



SSE1 PV 02

Capacity : 8 MW

Location : Don Chedi District, Suphan Buri

COD : July 2013



SSE1 PV 03

Capacity : 8 MW

Location : Nong Ya Sai District, Suphanburi

COD : October 2013



SSE1 PV 04

Capacity : 8 MW

Location : Doem Bang Nang Buat District, Suphanburi

COD : November 2013



SSE1 PV 05

Capacity : 8 MW

Location : Doem Bang Nang Buat District, Suphanburi

COD : November 2013



SSE1 PV 06

Capacity : 8 MW

Location : Dan Makham Tia District, Kanchanaburi

COD : June 2014



SSE1 PV 07

Capacity : 8 MW
Location: Tha Muang District, Kanchanaburi
COD : March 2014



SSE1 PV 08

Capacity : 8 MW
Location : Phanom Tuan District, Kanchanaburi
COD : June 2014



SSE1 PV 09

Capacity : 8 MW
Location: U Thong District, Suphanburi
COD : April 2014



SSE1 PV 10

Capacity : 8 MW
Location : Sam Chuk District, Suphanburi
COD : May 2014

1.2 Infinity Solar Co., Ltd. (or “INS”)



INS

Capacity : 2 MW **Location :** Wiset Chai Chan District, Ang Thong **COD :** December 2015



1.3 Siam Solar Power Public Company Limited (or “SSP”)



SSP

Capacity : 8 MW **Location :** Pho Thong District, Ang Thong **COD :** March 2013



2. Solar Farm (Co-Op) Operated by

2.1 Solar Community Co., Ltd. (or “ SLC ”)



SLC

Capacity : 1 MW **Location** : Bang Saphan District, Prachuap Khiri Khan **COD** : December 2015

2.2 BS Bangsai Solar Co., Ltd. (or “ BSS ”)



BSS

Capacity : 5 MW **Location** : Bangsai District, Phra Nakhon Si Ayutthaya **COD** : December 2016

2.3 Mars Solar Co., Ltd (or “ MARS ”)



MARS

Capacity : 5 MW **Location** : Klong Thom District, Krabi **COD** : December 2018

3. Solar Rooftop Operated by

3.1 Champ Energy Co., Ltd. (or “CE”)

4 projects with a capacity of 1 MW for each project, totaling 4 MW



CE 01

Capacity : 1 MW

Location : Homepro Chumphon

COD : September 2014



CE 02

Capacity : 1 MW

Location : Homepro Nakorn Sri Thammarat

COD : July 2015



CE 03

Capacity : 1 MW

Location : Homepro Surat thani

COD : December 2014



CE 04

Capacity : 1 MW

Location : Homepro Songkhla

COD : October 2015

3.2 North Rooftop Cp., Ltd. (or “NR”)

3 projects with a capacity of 1 MW for each project, totaling 3 MW



NR 01

Capacity : 1 MW

Location : Homepro Lopburi

COD : September 2014



NR 02

Capacity : 1 MW

Location : Homepro Phrae

COD : February 2015



NR 03

Capacity : 1 MW

Location : Homepro Nakhon Sawan

COD : June 2015

3.3 Roof Energy Co., Ltd. (or “ RE ”)

3 projects with a capacity of 1 MW for each project, totaling 3 MW



RE 01

Capacity : 1 MW
Location : The Mall Thapra, Bangkok
COD : July 2015



RE 02

Capacity : 1 MW
Location : The Mall Bangkapi, Bangkok
COD : August 2015

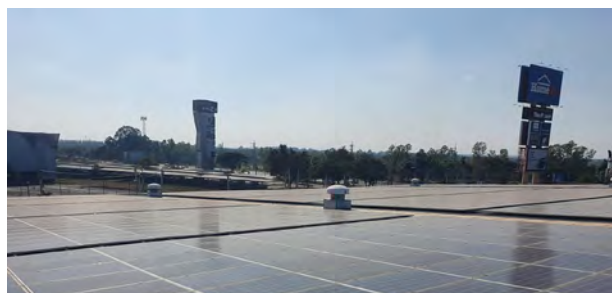


RE 03

Capacity : 1 MW
Location : The Mall Ngamwongwan, Bangkok
COD : August 2015

3.4 Green Rooftop Co., Ltd. (or “ GR ”)

2 projects with a capacity of 1 MW for each project, totaling 2 MW



GR 01

Capacity : 1 MW
Location : Homepro Ubon Ratchathani
COD : March 2015



GR 02

Capacity : 1 MW
Location : Homepro Nakhon Ratchasima
COD : November 2014

3.5 Lucky Solar Co., Ltd. (or “ LS ”)

2 projects with a capacity of 1 MW for each project, totaling 2 MW



LS 01

Capacity : 1 MW
Location : Homepro Ratchaphruek, Bangkok
COD : November 2014



LS 02

Capacity : 1 MW
Location : Homepro Ekamai-Raminthra, Bangkok
COD : February 2015

4. Solar Floating

Floating Solar Operated by B P Trading (Thailand) Co., Ltd. (or “BPT”)

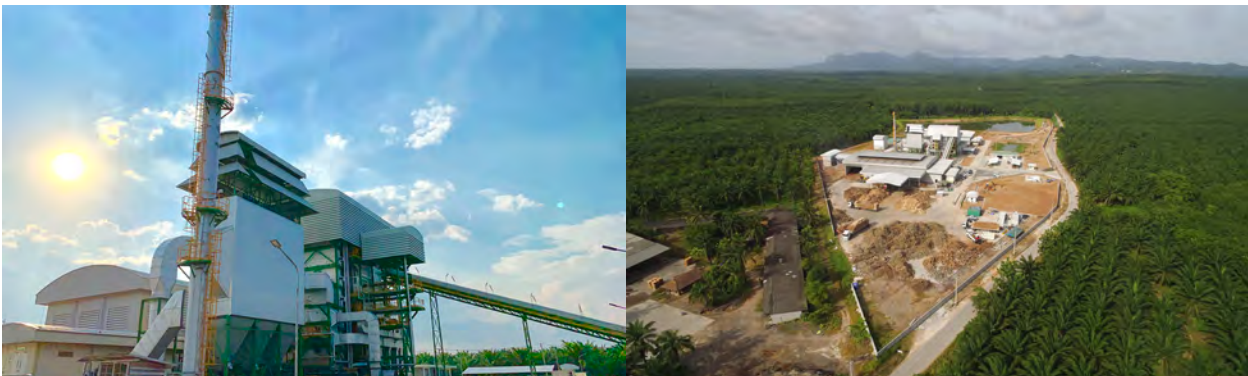


BPT

Capacity : 8 MW **Location :** Kabin Buri Industrial Zone, Prachinburi **COD :** Under Construction

5. Biomass Operated by

5.1 Bangsawan Green CO., LTD. (OR “BSW”)



BSW

Capacity : 4.6 MW **Location :** Phrasaeng District, Surat Thani **COD :** March 2018

5.2 Oscar Save the World Co., Ltd. (or “OSW”)

2 projects with a capacity of 8.8 MW for each project, a total of 17.6 MW



OSW 01

Capacity : 8.8 MW
Location : Chawang District, Surat Thani
COD : August 2018



OSW 02

Capacity : 8.8 MW
Location : Chawang District, Surat Thani
COD : October 2018

Projects in Japan

8 projects, operated by TSE Overseas Group Co., Ltd. (or "TSEO"), divided into 7 projects that have electricity into the commercial system, total 21.74 MW and are in the process of 1 project 133 MW, with the following details



Kuno

Capacity : 0.50 MW
Location : Ibaraki, Japan
COD : August 2015



Shima

Capacity : 1.25 MW
Location : Toyama, Japan
COD : March 2016



Hikeme

Capacity : 1.50 MW
Location : Fukui, Japan
COD : April 2016



Ryugasaki

Capacity : 1.75 MW
Location : Ibaraki, Japan
COD : September 2016



Sakura

Capacity : 1.99 MW
Location : Toyama, Japan
COD : November 2017



Jyoso

Capacity : 1.25 MW
Location : Ibaraki, Japan
COD : May 2018



Hanamizuki

Capacity : 13.50 MW
Location : Ishikawa, Japan
COD : January 2019



Onikoube

Capacity : 133 MW
Location : Miyaki, Japan
COD : Under Construction



Competitive Strategy

Efficient management by a team that has expertise in engineering and a long experience in energy and electricity generating, including knowledge and skills in all areas of cost management such as construction cost, administrative cost, and financial costs etc.

1. Strict process of EPC Contractors selection. The selected EPC Contractors must be trustworthy and have internationally-accepted professional record to ensure that each power plant is able to produce enough electricity according to the supply contracts that the Group has entered with the MEA and the PEA or private institution under the Power Purchase Agreement.
2. The EPC Contractors, hired by the Group shall have a world-class team of experts with experience and expertise in the field of civil engineering and installation of solar power plants, including the technical consultant to help in the process of checking and evaluating the projects during the construction process. This is to ensure that the efficiency and consistency of the Group's electricity generation capability is in high level.
3. Focusing on quality control of electricity generation process in order to ensure maximum efficiency in generating and delivering electricity supply as agreed upon in the contracts.
4. Earning stable and consistent revenue from electricity generation.
5. Establishing business relationship with allies that have good reputation, stable financial status and expertise in energy and related businesses.
6. Acquiring support in the form of loans for the projects from financial institutions.

Target Customers and Distribution Channels

Domestic

The Group's solar power plant projects are categorized as very small power producer or VSPP that provides electricity supply to Metropolitan Electricity Authority (MEA) and the Provincial Electricity Authority (PEA) or private institution according to the contracts, totaling 33 projects. Therefore, the Group's distribution channels are the electricity connection points from each project to the supply stations and electricity

system of the MEA and PEA. The amount of power supply, distributed to MEA and PEA is calculated from the electricity units, passing through the meter at the power distribution point of each project. The MEA and PEA then distribute the electricity to the general public as for the distribution to the private sector, it will connect to the PEA's station. And pay to customers

Overseas

The Group now has solar power plant projects in Japan that generate electricity supply for regional utility Group who oversees public utilities in each region in Japan according to the power supply contract. Therefore, the Group's distribution channels are the electricity connection points from each project to the supply stations and electricity system of each region. From there, the electricity supply is distributed to the general public.

Products and Services

1. Procurement of Project Location

As the production of electricity from solar energy will rely on solar radiation as the choice location of the power plant, so it is very important. Topography and climate as well as to contribute to the intensity of the light varies, the Group has studied the intensity of light from four primary sources is MeteoNorm, NASA, NEDO (New Energy and Industrial Technology Development Organization, Japan), and JMA (Japan Meteorological Agency) before choosing the location of the power plant. In addition, the intensity of solar radiation which affects the capacity and revenue, and the company also has to consider other factors. That affect the cost of the Group. And payback period of the project.

The supply of PV Solar Farm project The main factors considered include company.

1. The distance from the main road. Distance from the associated electrical system of the PEA, which affects the cost of power lines. And the rate of loss of power from the distance used in electrical connection with the PEA.
2. The height of land which affect the likelihood of flooding.
3. Soil characteristics that are suitable for the construction of solar power plants, such as the hardness of the soil, which affects the structure and so on.

4. The shape and size of the land suitable for the construction of the power plant
5. Price and ownership rights of land ownership or ownership of such a company is a leasehold on the land, which will affect the stability and duration of the payback of the project.

The supply of roof space for the installation of Solar Rooftop PV projects key to the company are considered.

1. The lifetime of the roof The roof should last for not more than 10 years to reduce future risks to the roof to deteriorate before the end of the Power Purchase Agreement for 25 years The roof must have the appropriate engineering, the company is not required. additional investment to improve or enhance the strength of the roof.
2. The strength of the building structure Due to the weight of the solar panels.
3. The size and shape of the roof. The total area of the inverter device. To ensure that adequate measures for all projects put on hold.
4. The nature of the business and stability in the business of building owners. The roof is made for long-term lease of 25 years, the company is looking for partners who are strong in the business. The Company A partnership with two partners Mall and the HomePro, the business is expanding steadily. Without a plan to come into power generation business is not a core business.
5. Rental rates which will affect the duration of the payback of the project.
6. The duration of the rent roof, which shall not be less than the duration of the PPA contracts to ensure that the company will be able to implement the project until the term of the PPAs.

The supply of roof space for the installation of Solar Floating projects key to the company are considered.

1. There are water sources that are suitable for floating solar, including the appropriate water level. Good water quality And have adequate water supply all year
2. Distance from well and system connection

The supply of roof space for the installation of Biomass projects key to the company are considered.

1. The distance from the main road The distance from the PEA electrical system interconnection which affects the cost of electric wire. And the rate of electricity loss from distances used in connecting electricity to PEA system.
2. The height of the land which affects the likelihood of flooding
3. Soil characteristics suitable for the construction of a biomass power plant
4. The shape and size of the land suitable for the construction of a biomass power plant.
5. Water source for use in production processes
6. The fuel source is sufficient to meet the needs at a reasonable distance.

2. Procurement of contractors

Domestic

● SOLAR PV

Solar energy is unlimited and depending on the weather and the terrain is. The main equipment used in power plants, the Group had discussions with contractors a comprehensive selection of core equipment critical.

● SOLAR ROOFTOP

The Group procured essential supplies such as solar cells and power converters, etc., directly from suppliers by itself. The Group also hires sub-contractors with experience, skills and potential, appropriate for each location of the projects. Moreover, the Group hired a technical consultant, the Excellence Engineer International to provide the Group with consultancy on contractor's engineering construction design and quality control for the construction from the beginning until completion. This is to ensure that contractors deliver quality work according to the contracts.

● SOLAR FLOATING

The company selects and purchases the main equipment such as solar panels. Power inverter And buoyancy In this regard, we have hired a technical consultant, GGE, a professional and experienced company.

● BIOMASS POWER PLANT

The Group has a strict process of EPC Contractors selection to ensure that its power plants will be able to produce

electricity efficiently, safely and cost-effectively. For the 3 biomass power plant projects to be implemented at the same time in the country, the Group has hired the Engineering Evolution, JERA Power (Thailand), and Tractable as technical consultants to provide consulting services that ranges from the process of hiring sub-contractors to the construction of the projects until the completion. This is to ensure that the scope of work, investment fund and conditions in the contract are in consistent with the objectives of each project and the project will be completed according to the time frame, specified in the contract. The Group also hired the EPC Contractor who has expertise in designing and construction.

Overseas

● SOLAR PV

For overseas projects, the Group has hired Mott MacDonald and VectorCautro to provide the technical consults. The Group also has legal and business consultants to provide consults since the process of applying for license and hiring the contractor and an ally, Prospec Holding Inc., who has expertise and experience in construction of solar power plant.

3. Procurement of Raw Materials Solar Power Plant Projects

Main raw material

● SOLAR PV

The main raw material for power generation is the solar energy whose supply is unlimited, depending on geography and climate. For procurement of main equipment, the Group joins hands with its EPC contractors to select all main equipment used in the Group's power plant projects.

● SOLAR ROOFTOP

As for Commercial Rooftop PV power plant projects, the Group procures the main equipment by itself by purchasing directly from manufacturers using experience gained from the construction of Solar Farm PV power plants.

● SOLAR FLOATING

The main equipment is supplied by the company by purchasing directly from the manufacturer. This is based on information and experience from the Group's past solar farm PV plant construction. The buoys for the construction of the company are selected from reliable suppliers.

Biomass Power Plant Projects

The main raw material for biomass power plant project is rubber wood slaps which are abundant in the South. In the case of a shortage in the supply of rubber wood slaps or an increase of their costs, the alternative raw material is the empty palm bunches which are also abundant in the southern regions. The price of rubber wood slaps is relative to the price of raw rubber latex. In the past few years, the price of raw rubber latex was low and thus, causing the price of rubber wood slaps to be low as well. Rubber planters would cut down the rubber trees when they provide lesser rubber latex which is when the trees are 20-25 years old. The price of rubber wood also varies according to the seasons. The price in summer would be relatively lower because it is easier for the planters to cut the tree and make delivery to the buyers than in rainy season. The important equipment, required for the power plant project was jointly selected by the group and the EPS Contractor.

4. Hiring of O&M Contractors

Solar Power Plant Projects

● SOLAR PV

In order to ensure the smooth and integrated operations, the Group hired O&M contractors and EPC contractors for the power plants at the same time. For big projects, the EPC contractors are also acting as O&M contractors for that particular project which allows easier management for the projects because they will have the expertise with their own technology. The scope of work operations and the contractors' qualifications are defined in the TOR which is part of the EPC contract.

● SOLAR ROOFTOP

As for Commercial Rooftop PV Power Plants, the Group shall take responsibility in the operations and maintenance management by itself, using experienced employees who undergone training for the said management from the EPC contractors.

● SOLAR FLOATING

The Company Group will manage and maintain the said power plant by experienced employees. Knowledge of management and maintenance is passed on from a turnkey contractor team.

Biomass Power Plant Projects

Since the production process of biomass project is much more complicated than the solar power project, the Group has, therefore, planned to contract out the management and maintenance works to a third party as a comprehensive package. The hiring will be made through a selection process whose detail has been included in the Term of Reference (TOR). The company to be selected must have expertise and experience in biomass project management.

Environment Impacts

The Group has adopted the standard of education about preventive measures. And the impact on the environment and safety. ("Environmental Safety Assessment" or "ESA"), which is the one that plays a role in controlling the impact on the environment from the operation, and must be completed before the start of construction of power plants, solar and standard operation. and control the environmental impact (Code of Practice) of biomass power plants. The strict implementation of measures to reduce the environmental impact. And measures to monitor environmental quality, and then report the results to the relevant authorities continues.

Moreover, the Group has been certified by the ISO certification agency in the world. For the preparation of the quality management system (ISO 9001: 2015) and environmental management (ISO 14001: 2015) standards. Regulations and practices in the field of the environment that is appropriate to the law and can be checked. And to ensure that the production of electricity from solar energy by the Group. Will not cause noise pollution, heat and air, which makes the overall environmental impact of both local and international. In addition to preparing for the development of a management system for occupational health and safety. (ISO45001: 2018) for biomass power plants as well.



Risk factors related to the Group's operation that may have a significant impact on the Group, and its risks prevention guidelines are as follows:

1. RISK RELATED TO BUSINESS OPERATION

1.1 RISK FROM THE LOWER-THAN-EXPECTED ELECTRICITY OUTPUT

Usually the electricity output of solar power plants may be affected by both external and internal factors. Significant internal factors include, for example, the efficiency and useful life span of equipment that ranges from solar collectors trough, solar modules, wind turbines, to transformers. Moreover, there are also the loss of output and the technical problems that could occur during the electricity generating process. The significant external factors include solar intensity, changes in climate, and natural disasters such as floods, storms and fire etc. These risk factors can cause the Group to be unable to generate electricity output that is less than expected and may pose a direct effect on the

revenue and business performance of the Group and other operators in the industry.

Before commencing the construction of the solar PV power plant, the Group hired Owl Energy Limited ("OWL"), a technical consulting firm with extensive experience in solar power to conduct the feasibility study and to be a consultant for the process of selecting the EPC Contractor including the controlling and overseeing of the construction of the power plant to be in accordance with the construction drawings, time frame and agreement. In addition, the EPC Contractor provides an output performance guarantee to the Group for the period of 10 operating years and also provides warranty to major equipment to minimize this risk.

1.2 RISK FROM RELIANCE OF ON EPC CONTRACTOR

In accordance with the construction of a power plant requires expertise both in technology. Construction experience Supply ability and operating personnel Which requires the work process to be coordinated to all parts. The company therefore hires a comprehensive contractor to be able to control the work efficiently. And allow the contractor to be flexible in achieving the goals

Thai Solar Energy Public Company Limited At present, the Group has an internal team that can handle basic repair and maintenance of the equipment. As for backup/replacement equipment, the Group is able to procure enough of them to maintain normal and uninterrupted operation.

The Group has put in place a stringent selection process for EPC Contractor and engages technical consultants with solar power plant experience to act as advisors in the selection and hiring of EPC contractor, including the monitoring and supervising of the construction of power plants to ensure that it is in accordance with the drawing plan and the agreement. In selecting the contractor, the Group initially focuses on each contractor's technical information such as qualifications (experience, expertise, technology know how, and financial status), efficiency and effectiveness of the equipment, warranty (electricity output and equipment), and services. After all of those factors have been considered, the Group, then, concentrates on pricing to ensure that it has hired a contractor of high quality at reasonable price.

1.3 RISK FROM CHANGES IN POLICY OF THE GOVERNMENT OR RELEVANT AGENCIES

If the government and government agencies have changed policies related to energy affairs of Thailand or Japan, including the terms and procedures Regarding the request for permission to buy or sell electricity or revise the conditions for purchasing electricity Such changes will affect the power purchase agreement of the Company. Which will affect the operating results and financial position.

The management team and the team with the knowledge, competence and experience have been following news about government policies and related agencies. Change in advance and use the information to create a business plan in the future. In addition, the company There is an internal meeting between the management. To analyze the operating policy always and can adjust business strategies and policies To be consistent with the situation of business and industry

2. FINANCIAL RISK

2.1 RISKS OF NOT BEING ABLE TO MEET THE TERMS OF RIGHTS AND LOAN AGREEMENTS

As of December 31, 2020, the Company has a net debt to equity ratio (Net Debt to Equity Ratio) required to maintain the rights requirement. And the loan agreement between the bank and the company is 1.95 times with the ratio of net debt to equity. Increased compared to as of December 31, 2019, mainly due to additional investment in new projects, the issuer must maintain the net debt to equity ratio (Net Debt to Equity Ratio). Not more than 3 : 1 (three to one) calculated based on the information in the consolidated financial statements for the fiscal year audited by the auditor.

Due to the current investment in the Onikoube project in Japan, The project is a large solar power plant with a capacity of 133 MW, the construction value of approximately 11,500 million baht, which is under construction and operations in various fields The company still needs to gradually draw out loans to invest in such projects, which may result in the company having higher net debt to equity ratio (Net Debt to Equity Ratio)

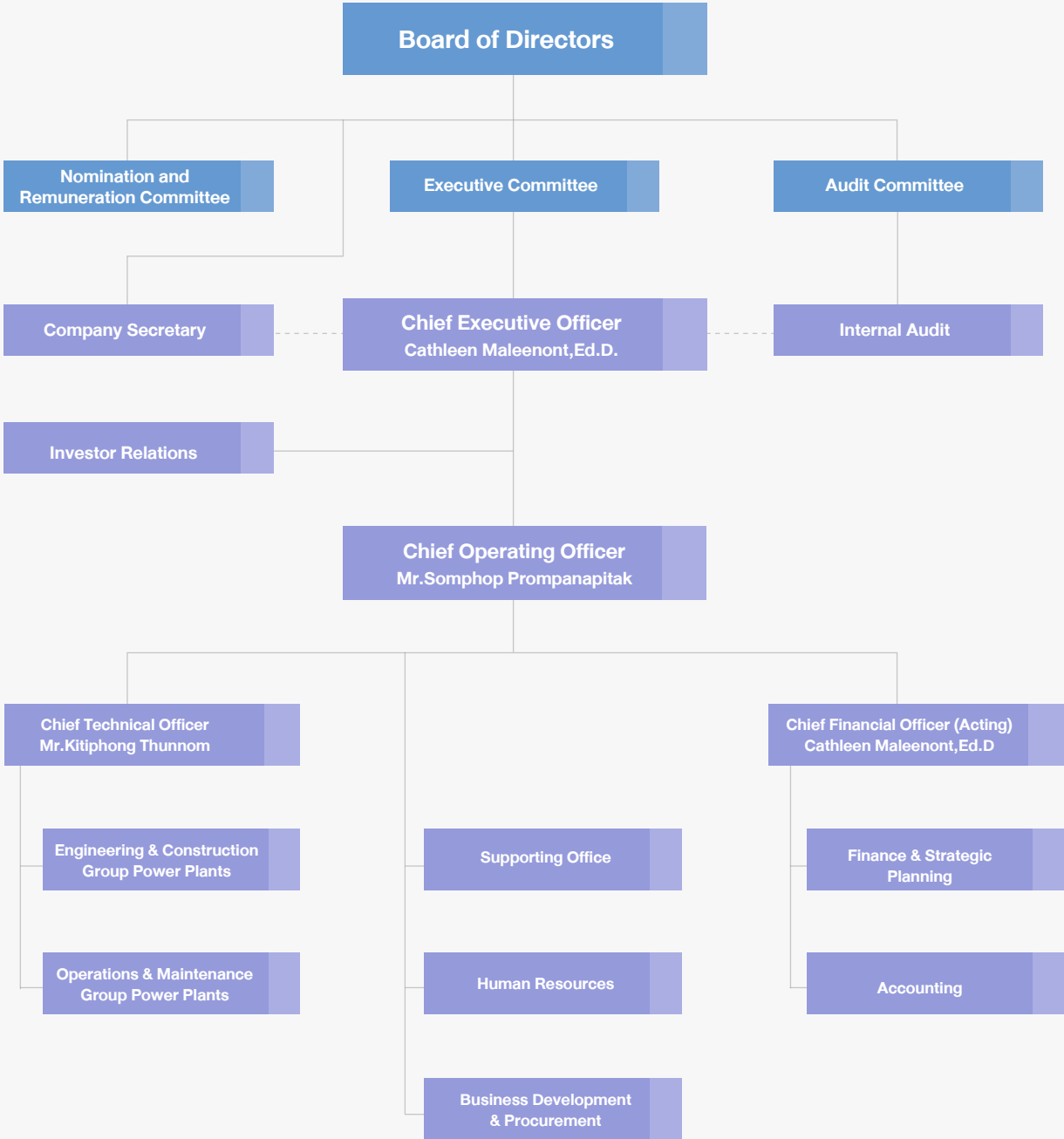
In addition, the company There is still a condition of cross-default ("Cross-default") stipulated that the debenture issuer or the issuer is in default on any debt. In an aggregate amount exceeding 250,000,000 (two hundred and fifty million) baht or other currency equivalent Will be considered an event of default

However, if the company is unable to maintain the Net Debt to Equity Ratio (s) required to maintain the right requirement not exceeding 3: 1 (three to one) and other liabilities. In addition to the debt under the debenture And other liabilities That exceeds the value set forth in the terms of rights This may cause the company to enter into an event of default according to the rights terms and may cause all debentures to be due for immediate repayment.

However, the company has measures to maintain the net debt to equity ratio (Net Debt to Equity Ratio) within the company to be lower than the financial ratio required to maintain rights and loan agreements.



Organization Chart





The Corporate Governance Policy

The Group operates the business under ethical principles and legal compliance and standard and code of good practices that the Group has laid out as policies for the Board members, executives and employees to comply with according to the corporate good governance and code of good practice guidance. The Group also posts these policies on its web site: www.thaisolarenergy.com under the topic: Investment Relation—Corporate Governance. Except for some of the principles that the Company has chosen, it is different from the SET's guidelines.

SET Guideline	The company' explanation
The Chairman of the Board should be an Independent director	Chairman of the Board is not an independent director <ul style="list-style-type: none"> The Chairman of the Board is a visionary, experienced, Knowledgeable in business and can provide independent Opinions.
The Chairman of the Board and the Chief Executive Officer should not be the same person	The Company has the same person who serves as the Chairman of the Board and the Chief Executive Officer <ul style="list-style-type: none"> Under the Board structure, more than half of the Board members are independent directors and the company has set a clear scope of authority, duties and responsibilities of the Board members and the Chief Executive Officer. Moreover, the approval process and operation of business are in accordance with the rules and regulations on approval process, reviewed and approved by the Board of Directors
The members of Nomination and Remuneration Committee should all be independent directors	The members of Nomination and Remuneration Committee are independent directors and members of Executive Director <ul style="list-style-type: none"> The Chairman of the Nomination and Remuneration is an independent director who is able to provide independent opinion

The Company's Corporate Governance

Shareholder Rights

Putting the rights of shareholders as the first priority, the Group conducts the business to assure the shareholders that they can fully exercise the following basic rights. Every shareholder is entitled to the rights and equitable treatment detailed below

- Right to purchase, sell, or transfer stocks and to be sufficiently informed
- The right to an equitable dividend
- Right to receive sufficient information via the Company website or SET website or other channels indicated by the Company
- The right to propose meeting agenda in advance so that it can be included in the meeting agenda and the right to nominate a person to be member of the board at the annual general meeting of the shareholders.

In order to comply with the aforementioned guidelines, the Company has determined the policies related to the rights of shareholders as follows.

1) The Rights of Shareholders

- The Company respects the rights of shareholders and refrains from any action that limits shareholders' rights i.e. the right to trade or transfer shares, the right to receive profit sharing of the Company, the right to receive adequate news, the right to attend shareholders' meeting in order for determining the direction of the Company's operations through the board of directors or the right to make decisions on any matter that has a significant impact on the Company i.e. the appointment or withdrawal of directors, the appointment of auditors, appropriation of dividends, formulation of or amendments to the Company's Articles of Association or Memorandum of Association, capital decrease or capital increase and approval of special transactions, etc.
- The Company will encourage shareholders to exercise their rights at an annual general meeting of shareholders i.e. the right to propose meeting agenda for the shareholders' meeting in advance prior to the meeting, the right to nominate persons to be selected as the Company's directors in advance, the right to submit questions in advance prior to the meeting, the right to express opinions and ask questions at the shareholders' meeting, etc.

- The Company will refrain from any action which shall be considered wrongful acts or restriction of rights or eviction of shareholders to access the Company's information to be disclosed in compliance with related laws, regulations, provisions and notifications of supervisory authorities. In addition, the Company will abstain from any action which shall be wrongful acts or limitation of rights or eviction of shareholders to attend the shareholders' meeting, e.g. the Company does not present additional important materials promptly or not provide additional agenda items or change vital information without prior notice to shareholders except in case of urgent necessity and being undertaken for the Company's benefit.
- The Company has a duty to support and facilitate shareholders to exercise their rights i.e. providing up-to-date important information through the Company's website, etc.

2) Information Disclosure on Shareholders' Meeting

- The Company has a policy to provide information about date, time and place, agenda items of the shareholders' meeting, the board of directors' opinions and supporting information used for consideration of each agenda item, as well as all information relating to matters for shareholders' consideration of votes at the shareholders' meeting through the Company's website in advance adequately and in due course.
- For every shareholders meeting, the Company has a policy to provide shareholders the opportunity to study information in advance prior to the meeting through the Company's website. Such information shall be the same as materials submitted to the shareholders.
- Upon the end of the shareholders' meeting, "the minutes of the shareholders' meeting" shall be prepared accordingly with all information included details of each agenda items, resolutions, votes, questions and opinions of shareholders. Such minutes shall be publicized on the Company's website and submitted to the Stock Exchange of Thailand within 14 days from the meeting date pursuant to the notifications of the Office of Securities and Exchange Commission and the Stock Exchange of Thailand, whereas such minutes shall be delivered to the Department of Business Development as specified by laws.

- The Company promotes the exercise of shareholders' rights and abstains from restriction of their rights by disclosing information through the Company's website in advance.
- The Company provides shareholders the opportunity to regularly receive the Company's up-to-date news and information through the Company's website in advance.

3) Conduct of Meeting

- The Company has a policy to support and facilitate shareholders to fully exercise their rights to attend the shareholders' meeting and votes at the meeting.
- The Company will provide shareholders guidance and methods for attending the meeting in the notice of the shareholders' meeting. At the meeting, a moderator will again inform such guidance and voting procedures to shareholders. Furthermore, the guidance and voting procedures shall be contained in the minutes of each shareholders meeting.
- The Company will provide shareholders the opportunity to ask questions about the agenda items or relating to the Company and to express their opinions to the shareholders' meeting according to agenda items and proposed matters. The chairman of the meeting will be responsible for inquiring the meeting in each agenda item and ensuring all questions pertaining to agenda items or the Company and shareholders' opinions, as well as the board of directors and/or executives' clarifications to be noted in the minutes of each shareholders' meeting.
- The Company encourages all directors and executives of the Company to attend the shareholders' meeting in order to answer questions and listen to shareholders' opinions unless the Company's directors and executives are engaged.

Rights and Equitable Treatment of Shareholders

The Company shall equally and fairly treat all shareholders, including managerial, non-managerial, foreign and individual shareholders under the following principles:

1. The Company shall arrange to timely provide the information on date, time, venue and agenda of shareholders' meetings, opinions of the board and detail to support the review of each agenda, including all

of the information related to the businesses that the shareholders must review and make a decision in the shareholders' meeting in the Company's website in advance with adequate preparation time. The information is the same as the documents sent to the shareholders who are entitled to attend the meeting and vote.

2. The Company shall grant the shareholders the right to propose agenda for the shareholders' meeting in advance of the meeting and to nominate a person to be selected as member of the Board and to submit any question to be responded by the meeting through the Company's website before the meeting.
3. The Company shall conduct the meeting according to the agenda, provided in the letter of invitation. The member of management team who are also the shareholders may not propose any unnecessary additional business to the meeting, especially the type of business that requires the shareholders to spend a lot of time to review it before making a decision.
4. Company shall facilitate small shareholders who want to nominate member of the Board of Directors by setting up a convenient channel to submit the nominee's background or letter of consent to the Selection and Remuneration Committee, according to the rules and procedures and steps, prescribed by the Company.
5. The company will encourage shareholders to use proxy forms in the form that shareholders can determine the direction of voting, agree, disagree and abstain. By appointing proxy forms A, B and C (proxy forms only for custodian) to shareholders.
6. Company shall facilitate the shareholders who cannot attend the shareholders meeting in person but want to cast the vote through a proxy. For this purpose, Company shall have at least 1 independent director available as proxy to attend the meeting and cast the vote on behalf of the shareholder.
7. Company shall require that the voting on all agenda shall use the ballot and shall notify the meeting of how the ballots would be collected, especially on an important agenda such as the appointment of individual.
8. The company has a policy to encourage shareholders to exercise the right to appoint directors of the company on an individual basis.

Shareholders Meetings

The company's board convenes the ordinary shareholders' annual general meeting once within 4 months after the end of the accounting period and may call an extraordinary shareholders' meeting if it is necessary to propose urgent agenda on a special case basis. Such agenda must be one that affects the shareholders' interest or related to legal enforcement.

The Chairman of the Board, executives and auditor shall be present at the meeting to provide information and responses to inquiries related to the agenda. Before the meeting, the company shall inform the shareholders of their rights according to the company's Articles of Association, meeting procedures, voting method and the rights to express opinions or to raise questions in the meeting according to the agenda and proposed businesses.

After the meeting, the Group shall complete the minutes of the shareholders meeting within 14 days. The minutes shall include adequate information, including the questions and answers during the meeting. The shareholders who did not attend the meeting may read the minutes from the company's web site.

Role to Stakeholders

The Group realizes the importance roles of stakeholder and equally treats all stakeholders including internal stakeholders such as employees, and external stakeholders such as customers, trading partners, creditors, competitors and the public. The group establishes policies and guidelines for dealing with each group of stakeholders as part of its corporate governance policy and ethics. The details are as follow;

● Shareholders

The Group shall equally treat all shareholders and shall provide related information that significantly benefits the shareholders. Moreover, the Group also realizes the importance of the shareholders' benefits and be responsible for them by operating the business with integrity, transparency and fairness.

● Employees

In realizing that the employees are the key factor that drives target achievement, the Company formulates the policies to fairly treat the employees in many aspects, including opportunity, remuneration, appointment, transfer, and capacity development. The Company offers the compensation, based on a fair and measurable assessment of performance under the regulations, prescribed by the

Company. The remuneration and benefits of employees are examined and reviewed to ensure that they are in line with the industry's standard. The Company also promotes and develops its employees to be knowledgeable and capable on a regular basis by sending them to attend training in related work units.

The Group announces policies on remuneration and welfare in the working rules and regulations, including the provision of additional welfare during the year.

● Customers

The Group adheres to the principles of good faith, credibility and mutual trust, focuses on the problems and needs of the customers, be responsible and cares for their maximum satisfaction and emphasizes a long-term relationship and cooperation with the customers.

● Creditors

The Group shall make an utmost effort to honor all the conditions that it has agreed with the creditors, based on good faith and strict compliance to contractual obligations. It also follows up on the related financial ratio in order to protect mutual benefits and success. In a case that the Group is unable to comply with any of the obligations, it shall inform the creditor in advance in order to jointly find a solution.

● Business Partners

The Group treats business partner in good faith and equal manner in order to ensure appropriate and fair business transaction, sustainable development and long-term partnership. The selection of our partner is based on conditions such as pricing, quality, environmental protection and prevention, technical and legal expertise, trustworthiness, adherence on correctness and not detrimental to our company's reputation.

● Business Competitors

The Company treats the competitors under fair rules and refrains from violating secret or dishonestly or improperly seeking competitors' confidential information or slandering them.

● Communities and Society

The Company and employees adhere to the principle of conducting the business responsibly and for the benefits the society and communities. The Company also has the duty to cordially treat and support the local communities to improve their quality of life as well as to be responsible for a fair and equitable operation of its business. Moreover,



the Company also uses green technology to promote sustainable development.

● Related Government Agencies

It is the Company's duty to comply with the related and enacted law and regulations and to support activities of the government agencies on appropriate occasions. The Company also adheres to conducting the business that is fair and in compliant with the related laws, rules, regulations and notifications in countries where the Company operates the business.

Responsibility towards Environment and Resources

The company has set policies regarding the environment and safety. And has been certified for the environmental management system (ISO 14001: 2015) since 2015, in the year 2020, the Group started to prepare for the certification of occupational Health and safety management system (ISO 45001: 2018), along with training to provide knowledge on the environment, safety so that employees are aware of look after the environment And efficient use of resources Like the project systematic waste management and participation in the green factory project of the department of factory including operations under various projects to be responsible for conducting business that is environmentally friendly. and achieve sustainable development

Disclosure of information and transparency

The Company has a policy to fully, accurately, promptly and transparently disclose the related and important information, either financial or non-financial information, and other information that may affect the stock prices or the investor's or stakeholders' decision in compliance with the standard of The Stock Exchange of Thailand or the Security and Exchange Commission. Therefore, all parties will equally receive the information through various channels, such as the report to The Stock Exchange of Thailand or the Security and Exchange Commission and the Company's website. The Company also has the investor relations officers to communicate with the investors or shareholders, including institutional and individual investors.

The Company has the policy to prevent and eliminate any potential conflicts of interest that may occur in the future and to review the connected transactions between the Company and/or subsidiaries and any potential conflicting individuals to ensure compliance with related laws, regulations and declarations.

In a case that board members, executives and/or major shareholders of the Group in a manner that may cause a conflict of interest with the Group and/or its subsidiaries, it must be reported to the Board.

The Group has a policy to restrain board members, executives and/or major shareholders from engaging in similar or competing business that may affect the competitiveness of the Group.

In a case that the board member, executive and/or major shareholder holds shares in other company whose business is similar to that of the Group or its subsidiaries, it must be reported to the audit committee to provide opinions and propose the case for a review by the Board.

Communication with Shareholders and Potential Investors

The Group has set up a channel to accept complaint cases and/or opinions and provided a direct access to senior executive through email address: info@thaisolarenergy.com The Group also set up the informant protection program that prevents

disclosure of personal information of the informant and keeps them confidential. The internal control department of the Group is responsible for collection the complaint cases and submit them to the Audit Committee for further investigation. If the case affects the company, it shall be further submitted for review by the board.

Responsibilities of the Board

The Board of Directors is responsible for the shareholders by conducting and supervising the operation of the business to ensure that it is in compliance with the objectives, and guideline to maximize the benefits for the shareholders, by taking into account the benefits of all stakeholders, including compliance with the laws, objectives, articles of association of the Company and resolution of the shareholders meeting in good faith. The Board shall also protect the short-term and long-term interest of the stakeholders.

The Board of Directors

As of 26 February 2021, Board of Directors consisted of the following 9 directors:

Name – Surname		Position	Date First Appointed
1. Cathleen	Maleenont,Ed.D	Chairman of the Board of Directors Chairman of the Executive Committee Member of Nomination and Remuneration Committee	18 February 2014
2. Mr. Prommin	Lertsuridej	Independent Director Vice Chairman of the Board of Directors	18 February 2014
3. Mr. Pala	Sookawesh	Independent Director Member of the Audit Committee	18 February 2014 22 April 2019
4. Mr. Prasert	Patradhilok ¹	Independent Director Chairman of the Audit Committee	26 February 2021
5. Mr. Prasan	Chuaphanich	Independent Director Member of the Audit Committee Chairman of Nomination and Remuneration Committee	18 February 2014
6. Mr. Somphop	Prompanapitak	Director Member of the Executive Committee Member of Nomination and Remuneration Committee Company Secretary	18 February 2014
7. Mrs. Angkanee	Rerksirisuk	Director	23 May 2017
8. Mr. Masthawin	Charnvirakul	Director	27 February 2019
9. Mr. Aran	Apichari	Independent Director	22 April 2019

¹ To replace Mrs.Siripen Sitasuwan resigned on 26 February 2021

Authorized Signatories

Ms. Cathleen Maleenont and Mr. Somphop Prompanapitak or Mrs. Angkanee Rerksirisuk have been designated as the Company's authorized signatories.

Role of the Board and

Authority of the Board shall comply with specified laws, objectives and articles of association as well as the shareholders meeting's resolution. The Board authority shall also include:

1. Appointing a chief executive officer, the Board Committees and a company secretary, whereas determining the Board Committees' remuneration (not exceeding the total amount approved by shareholders).
2. Considering and approving actions taken by the Company and its subsidiaries in accordance with the Company's Articles of Association of each company that cover the following matters:
 - 2.1 Vision, mission, policy and strategic plan
 - 2.2 Annual business plan
 - 2.3 Annual budget plan
 - 2.4 Quarterly and yearly financial statements
 - 2.5 Interim dividend payment
 - 2.7 Significant acquisition, disposition / transfer or suppression of assets or any business of the Company
 - 2.8 Changes in any Board authority which assign other persons to act
3. Considering authorizing a sub-committee to perform some matters occasionally
4. Ensuring that the Company and its subsidiaries have proper and efficient accounting systems and provide reliable financial reports and auditing, adequate and suitable internal control and audit system.

The roles and responsibilities of the Board

The Board's duties and responsibilities shall comply with specified laws, memorandum of association, articles of association and the shareholders meeting's resolution, including the following actions:

1. Define vision, mission, policy, strategy and financial goals of the Company and consider and approve policies and operational directions proposed by the management. Oversee and control the management to perform in accordance with vision, mission, policy, strategy and financial goals with the aim of increasing

an economic value to the shareholders and all related stakeholders.

2. Set up the Company's structure and procedures to ensure compliance with those procedures, articles of association, the Board's resolution, the shareholders' resolution with honesty and caution.
3. Set up the Company's structure and procedures to ensure proper risk management, compliance and audit and internal control systems.
4. Oversee to ensure preparation of accounting and keeping accounting and related documents as well as proper information disclosure to the shareholders and general public.
5. Oversee to ensure that the Company shall comply with ethics as specified by the Board and define the Company's policy on good corporate governance and social responsibility.
6. Have the authority to appoint persons to be directors or executives of subsidiaries according to a proportion of shareholding in subsidiaries, at least. Clearly determine a scope of duties and responsibilities of appointed directors and executives. Control management to comply with the Company's policy and various transactions made correctly in accordance with laws, and disclose financial positions, operating results, related party transactions and significant acquisition and disposition of assets completely and accurately.

However, the delegation of authority and responsibilities shall not be made in the manner that the Board or other persons delegated or sub-delegated by the Board enable to approve transactions, which they or others may have stake in, or receive benefit, or have conflicts of interest (as defined in the notifications of the Securities and Exchange Commission ("SEC") or the Capital Market Supervisory Board) with the Company or subsidiaries, except for approval of transactions according to the policy and criteria approved by the shareholders meeting or the Board.

Board Composition

The Board consists of the number of directors determined by the shareholders meeting, but not less than five people. In addition, at least three Board members or one-third of the total number of directors (whichever it is higher) shall be independent directors.

Board Membership Criteria

1. All directors must have qualifications and possess no prohibited characteristics under the Public Limited Company Act. and the Securities and Exchange Commission Act. and have qualifications as prescribed in the Company's Articles of Association.
2. Having knowledge of the Company's businesses, devoting the sufficient time and using knowledge and ability to perform duties for the Company's benefits.
3. Directors shall be able to hold directorship in other companies listed in the Stock Exchange of Thailand ("SET"), but it shall not obstruct performing duties of the Company's director. Every director must not hold directorship of more than five listed companies. In the case that any director is necessary to hold directorship over the specified number, the Board shall be able to consider and approve on a case-by-case basis along with clarification of reasons and necessity and performances of such director in the checklist form (Form 56-1) and the annual report (Form 56-2) of the Company for the shareholders' acknowledgement.
4. Having qualifications as specified in the SET Notification and the Office of the Securities and Exchange Commission's Notification and notifications to be amended in the future.
 - The Company has determined the scope of authority and duties of the Board of Directors And the Chief Executive Officer clearly
 - The company requires the directors and top executives of the company Has a duty to report information on being a director, an executive, a controlling person in a limited company or other public company Being a managing partner in an ordinary partnership or being a limited liability partner in a limited partnership for the company to know in accordance with the criteria and methods set by the board of directors
 - Each director is able to perform duties and use independent discretion in making decisions on various matters. Can ask questions Comment or objecting in the event of a conflict of interest that affects the interests of shareholders or stakeholders Without being under the influence of any group of people
 - The company has a policy to appoint a company secretary. To perform various functions As required by law And perform other duties as assigned by the Board of Directors

Board Selection

1. The Board shall select a qualified person pursuant to related procedures and laws as the Company's director replacing a vacant director seat, then propose such a nominated person for the shareholders' election.
2. Voting of shareholders for election of directors is as follows:
 - 2.1 Each shareholder shall have one vote for each share he/she holds.
 - 2.2 In the event that nominated persons to be directors exceed a required number of directors at that time, vote for each director individually shall be applied. Thus, in voting, each nominated person shall receive votes equal to the number of shares held by each shareholder. Such shareholder cannot allot his/her votes to each unequally. The persons receiving the highest votes in their respective order of the votes shall be eligible as directors at the number equal to the number of directors required at that time. In case of an equality of votes among the persons elected in order of respective high numbers of votes, which number exceeds the required number of directors of the Company at that time, the chairman of the meeting shall be entitled to a casting vote.

Term of Office for Directors

At every annual ordinary meeting of shareholders, one-third of directors shall vacate office. If the number of directors cannot be divided exactly into three parts, directors in a number closest to one-third shall vacate office. However, directors vacating office may be re-elected. Except for independent directors, each of them shall hold a position of not more than nine consecutive years. In case for the existence of reasons and necessity and maximum benefits of the Company, the Board shall be able to consider extending term lengths for the independent director on an individual basis by proposing reasons and necessity for the shareholders meeting's approval.

The selection of new director must be screened and approved by the Nomination and Remuneration Committee.

Re-appointment of Directors

The Nomination and Remuneration Committee shall consider many factors such as experience, expertise, time to devote to the duty, meeting attendance, etc. In the 2020 Annual General Meeting of shareholders, Cathleen Maleenont, Ed.D, Mrs. Siripen Sitasuwan and Mr. Masthawin Charnvirakul reappointed to the serve one more term according to the opinions and reviewing process of the Nomination and Remuneration Committee.

Board Meetings

The Company sets the rules and regulations for the Board meetings as follows:

1. At a meeting of the Board, the presence of not less than one half of the total number of directors is required to constitute a quorum.
2. The Board meetings shall be held at least four times in a year and at least once every three months. Directors must thus attend every Board meeting and an annual general meeting of shareholders, except in case of necessity.
3. The materials for the Board meeting shall be submitted to directors at least five days in advance prior to the meeting so that the directors have the sufficient time to study information, except in case of urgency.
4. The decisions at the meeting shall be by a majority of votes. Each director shall have one vote. In case of an equality of votes, the chairman of the meeting shall give a casting vote.

The reserve key matters for the Board

- Annual Business Plan and Investment
- Review the Company's investment project
- The spending of management spending budget
- Entering into important contract that contain general trading conditions.
- Borrowing and guarantee agreement with the bank
- Organizational structure and appointment of Chief Executive Officer and senior management
- Dividend and interim dividend payment

Enhancing the Directors' knowledge and business outlook

The Board focuses its endeavour on enhancing the directors' knowledge. Each director shall have a chance to attend

training courses, hosted by various agencies to increase the knowledge and expand point of view.

Board Performance Evaluations

The Company shall arrange self- evaluation for the Board members every year in order to allow them to evaluate their performance in the past year and to find a way to improve their efficiency for the following years.

Code of Conduct

The Board of Directors operates the business under ethical principle and complies with standard laws and code of good practice as follows;

1. Operate the business by adhering to the principle of good faith, transparency and equity under the law, rules and regulations related to the business operation.
2. Perform duties with knowledge, skills, determination and cautiousness and strive to improve knowledge and fully apply the knowledge and skills to the management.
3. Disclose data and information completely, correctly and transparently according to the law, rules and regulations of corporate governance.
4. Treat the stakeholders such as shareholders, customers, competitors, partners, creditors, employees and the general public fairly and equally and correctly and completely disclose information to related parties.
5. Respect and adhere to the practices under the basic principle of human right and dignity without depriving or discriminating against the right of any individual.
6. Arrange to set up adequate and proper internal control system and develop a clear and effective system and mechanism for auditing, controlling and balancing the use of authority.
7. Adhere to business practices that are in compliance with the laws related to safety and health in the work place.
8. Promote and support activities that are beneficial to society, culture and tradition.
9. Set the rules to ensure that all employees have the duties and responsibilities to comply with the working rules and regulations of the Company and related laws.

** The company discloses detail on Business Ethics in the website: www.thesisolarenergy.com under the topic of "Investors Relations- Corporate Good Governance".*

Meeting Attendance

In 2020, the Board of Directors held 7 meetings.

Name	Surname	AGM 2020	BOD Meeting
1. Cathleen	Maleenont,Ed.D	attend	7/7
2. Mr. Prommin	Lertsuridej	attend	6/7
3. Mr .Pala	Sookawesh	attend	6/7
4. Mrs. Siripen	Sitasuwan	absent	7/7
5. Mr. Prasan	Chuaphanich	absent	7/7
6. Mr. Somphop	Prompanapitak	attend	7/7
7. Mrs. Angkanee	Rerksirisuk	attend	7/7
8. Mr. Masthawin	Charnvirakul	attend	7/7
9. Mr. Aran	Apichari	attend	5/7

The Audit Committees

Review the Group's financial reporting, the Group's internal control system, risk management system, compliance, select a person to be the Group's auditor, the connected transactions or the transactions that are required in the laws and regulations of the stock exchange or capital market in order to ensure that the disclosure of information by the Group and the report, prepared by the Audit Committee is correct and transparent.

As of 31 December 2020, the Audit Committee consists of 3 directors as follows:

Name	Surname	Position	Meeting Attended
1. Mrs. Siripen	Sitasuwan	Chairman of the Audit Committee	6/6
2. Mr. Prasan	Chuaphanich	Member of the Audit Committee	5/6
3. Mr. Pala	Sookawesh	Member of the Audit Committee	6/6

Ms. Nittaya Tuaksa as Secretary of Audit Committee

All three members of Audit Committee possess sufficient accounting and financial knowledge and experience to review the accuracy of the Company's financial statement.

1. Mrs. Siripen Sitasuwan is currently a Chairman of Audit Committee and Independent Director for other leading companies in Thailand and overseas. She received the Best CFO Award in 2002 from the Asia Best CFO survey conducted by Finance Asia magazine.
2. Mr. Prasan Chuapanich is currently the President of the Federation of Accounting Professions. He also serves as a member of Audit Committee and Independent Director for leading listed companies. He holds many key positions in various organizations in insurance business, education sector and associations. In addition, he used to serve as an Executive Chairman of Price Waterhouse Coopers, Thailand and Co-Executive Chairman of Price Waterhouse Coopers, Southeast Asia Peninsula Region.
3. Mr. Pala Sookawesh currently, he is the president of an important foundation in promoting resources and energy management in Thailand. Including independent directors and used to hold important positions in various departments in the famous energy industry group, such as the chairman and committee.

4. Consider, select, and nominate an independent person to be the auditor, and to propose remuneration for the auditor.
5. Review the connected transactions or the transactions that may cause conflicts of interest to ensure that they are in compliance with the laws and regulations of the Stock Exchange of Thailand and that the transactions are reasonable and for the utmost benefit.
6. Perform other action, assigned by the Board of Directors with the consent of the Audit Committee.
7. In performing the duty, if it is found or suspected that the following transaction or action have been made and may pose significant impact on the financial and operational standing of the Group, the Audit Committee shall report to the Board of Directors to improve or make correction within a time frame, deemed appropriate by the Audit Committee.
 - Transactions that may cause conflict of interest
 - Corruption or irregularity or key weaknesses in the internal control
 - Breach of the regulations of the securities and exchange law and regulations of the Stock Exchange of Thailand or other regulations related to its business operation

Authority, Duties and Responsibilities

1. Review the financial reporting and ensure that it is accurate and adequate.
2. Review the internal control system, internal audit system and enterprise risk to ensure that they are suitable and effective. Ensure the independence of internal audit unit as well as to approve the appointment, transfer and dismissal of the chief of an internal audit unit or any other units in charge of an internal audit
3. Review the Company's compliance with the securities and exchange law, the regulations of the Stock Exchange of Thailand, and laws relating to the Company's business

If the Board of Directors or management does not improve or rectify the situations within the above-specified period, one of the Audit Committee's members may report the matters to the Securities and Exchange Commission or the Stock Exchange of Thailand. In performing duties, the Audit Committee may seek advice from independent advisor or specialist of other professions as deemed appropriate under the expense of the Group and will be used as an input for the Audit Committee to make decision.

Nomination and Remuneration Committee

Consider and select a qualified person to be nominated as a new member of the Board or chief of staff, based on the selection criteria or methods that are appropriate and transparent to the board meeting or the shareholders meeting for approval. The committee also has a duty to review the direction and set the remuneration for members of the Board and chief executive officer, based on remuneration criteria and methods that are just, reasonable and approved by the board or shareholders meeting.

As of 31 December 2020, the Nomination and Remuneration Committee consisted of 3 members as follows:

Name	Surname	Position	Meeting Attended
1. Mr. Prasan	Chupanich	Chairman of Nomination and Remuneration Committee	2/2
2. Cathleen	Maleenont,Ed.D	Member of Nomination and Remuneration Committee	2/2
3. Mr. Somphop	Prompanapitak	Member of Nomination and Remuneration Committee	2/2

Ms. Wannaporn Srinives as Secretary of Nomination and Remuneration Committee

Authority, Duties and Responsibilities

1. Selection

- 1.1 Consider the organization structure, qualifications of directors, chief executive officer and members of sub-committees appropriate to the Company's business.
- 1.2 Determine reliable and transparent criteria or methods for a selection and nomination of qualified persons to be new directors or chief executive officer of the Company and proposed for the Board of Directors and/or the shareholders meeting's further approval.

2. Remuneration

- 2.1 Consider a guideline on determination of remuneration and other benefits both cash and noncash to the Board of Directors, Executive Committee and Chief Executive Officer by setting up fair and reasonable criteria or methods for remuneration payments in accordance with operating results of the Company and other companies in the same industry and proposed for the Board of Directors and/or the shareholders meeting's approval.
- 2.2 Consider and approve the Company and its subsidiaries' overall annual remuneration policy.
- 2.3 Consider and approve the determination of rewards, salary increase, remuneration and special bonus other than annual bonus to the Company's top executives.

3. Others

Perform other tasks, as assigned by the Board of Directors, which are relevant to a selection and consideration of remuneration of the directors, executive committee and the chief executive officer of the Company.

The Executive Committee

Oversee the management and day-to-day business operation for the benefit of the Group and to ensure that they are in line with the policies, vision, mission, objectives, business plan, business strategies and budget agreed and approved by Board of Directors. In addition, Executive Committee is in charge of screening all the businesses before proposing them to Board of Directors for approval or consent.

As of 31 December 2020, the Executive Committee consisted of 3 directors as follows:

Name	Surname	Position	Meetings Attended
1. Cathleen	Maleenont,Ed.Da	Chairman of The Executive Committee	5/5
2. Mr. Somphop	Prompanapitak	Member of Executive Committee	5/5
3. Mr. Kitiphong	Thunnom	Member of Executive Committee	5/5

Ms. Nottaporn Thiengprathes as Secretary of Executive Committee

Authority, Duties and Responsibilities

1. Oversee the management and day-to-day business operation for the benefit of the Company and to ensure that they are in line with the policies, vision, mission, objectives, business plan, business strategies and budget agreed and approved by Board of Directors. In addition, Executive Committee is in charge of screening all the businesses before proposing them to Board of Directors for approval or consent
2. Oversee to ensure that there is internal control system and appropriate and careful risk control and management system which align with recommendations of Audit Committee.
3. Review business plan, budget, annual expenditure, investment plan, and corporate social responsibility (CSR) plan of the Group to be in line with the laid out policies and strategies and propose to Board of Directors for approval
4. Review the Company's operating performance summary report and present it to Board of Directors quarterly
5. Employ, appoint, transfer or dismiss top executive management
6. Determine overall annual remuneration policy of the Group in order to propose to Nomination and Remuneration Committee for approval
7. Determine reward, salary adjustment, remuneration and special bonus other than annual bonus for top executive management level in order to propose to Nomination and Remuneration Committee for approval
8. Negotiate and enter into the contract and/or any transactions, which are regarded as the normal business operation, within the budget limit per transaction and per year as authorized by the Board of Directors
9. Approve loan/ loan between Group and subsidiaries within credit limit per transaction and per year as authorized by Board of Directors
10. Approve the entering into loan contract between the Company and any commercial banks within credit limit per transaction and per year as authorized by Board of Directors
11. Order, issue rules, criteria, notification and internal memorandum concerning business operation to ensure that it is in line with the Company's policies and to the benefit as well as to maintain the well- regarded rules of the organization
12. The meeting of the Executive Committee to consider any operations under the scope of power, as prescribed in this order must consist of at least half of the Executive members to be considered as a quorum that can undertake any aforesaid businesses.
13. In casting the voting at Executive Committee meeting, each director has the right to give 1 vote. If the number of votes is equal, the Chairman of Executive Committee will exercise the right to give 1 vote and that will determine the final result.

14. Any resolution of Executive Committee requires a supporting vote of at least half of all the eligible voters in that particular meeting.
15. An Executive Committee Meeting should be called only when needed and deemed appropriate. Any of directors may call for special meeting other than regular one provided that he informs the agenda of the meeting well in advance to allow enough time for other directors to review the agenda
16. Executive Committee may appoint a working committee and/or any individuals to take charge of screening matters to be presented to Executive Committee or undertaking any tasks beneficial to the working of Executive Committee or to act on behalf as delegated by Executive Committee under its scope of authority and duties
17. Perform other tasks, assigned and authorized by Board of Directors
18. Issue sub-power of attorney and/or authorize other individual to undertake the tasks on behalf of Executive Committee. Such sub-power of attorney and/or authorization must be under the scope authority, stated in the Group's power of attorney and/or regulations, rules or resolution of Board of Directors.

However, such authorization under the scope of authority of the Executive Committee must not be a granting of sub-power of attorney to any director or attorney who may have conflict of interest with the Group in any forms to approve the transactions. In such case, the Executive Committee shall not have the authority to approve the transactions. Instead, the committee needs to propose the transactions to Board of Directors meeting and /or shareholders meeting to evaluate and give consent except if that transaction is regarded as normal businesses of the Company and have the same criteria as when dealing with outside parties (arm's length transactions)

Management Committee

As of 31 December 2020, The Company has 4 executives according to the definition of the “management” of the Office of the Securities as follows:

Name	Surname	Position
1. Cathleen	Maleenont,Ed.D	Chief Executive Officer Acting Chief Financial Officer
2. Mr. Somphop	Prompanapitak	Chief Operating Officer
3. Mr. Kitiphong	Thunnom	Chief Technical Officer
4. Mr. Nivej	Boonwichai	Vice President Engineering and Construction



Authority, Duties and Responsibilities

1. Manage overall business, finance, marketing, human resources and other operations in pursuance to the policies and business plan as agreed and authorized by Executive Committee and/or Board of Directors
2. Consider to set up a working committee to assist in business operation or problem solving in pursuance to the policies of the Company
3. Approve all the expenses incurred in the plans which have been approved by Board of Directors and/or Executive Committee
4. Arrange to ensure that the Group has a suitable internal control system in pursuance to the directions given of the Audit Committee
5. Arrange to ensure that there is suitable risk management and control system that comply with the direction given by Executive Committee and/or Audit Committee
6. Carry out overall Management of human resource, oversee the tasks undertaken by the employees to ensure that they are in compliance with the policies and rules including the principle of corporate good governance and encourage the employees to acquire more knowledge, competency and capability in order to increase capability of the organization
7. Appoint and dismiss employee or staff in the position below Chief Executive Officer and to dismiss employees or staff, approved by Board of Directors or Executive Committee
8. Negotiate and enter into a contract and/or any transaction, regarded as normal business operation, within the budget limit per transaction and per year as authorized by Board of Directors
9. Approve the opening of the branch and/or new representative office and establish new subsidiary under relevant laws/rules and regulations
10. Approve a borrowing/ loan between Group and subsidiaries within credit limit per transaction and per year as authorized by Board of Directors
11. Approve the entering into a loan contract between Group and any commercial bank within credit limit per transaction and per year as authorized by Board of Directors
12. Approve the opening of bank account with any commercial bank
13. Making order, issue rules, criteria, notification and memorandum concerning business operation in pursuance to the policies and for the benefit of the Company
14. Summarize and report important transactions, undertaken within the scope of authority of Chief Executive Officer to Executive Committee and/or Board of Directors respectively.
15. Approve the connected transactions that are under normal business conditions, e.g., trading goods at market price and with the same conditions as general customers, under policies approved by Board of Directors and in pursuance with the regulations of Stock Exchange of Thailand
16. Perform other tasks as delegated and authorized by Executive Committee and/or the Board of Directors.
17. Issue sub-power of attorney and/or authorize other individual to undertake the tasks on behalf of Executive Committee. Such sub-power of attorney and/or authorization must be under the scope authority, stated in the Company's power of attorney and/ or regulations, rules or resolution of Board of Directors.

However, such authorization under the scope of authority of the Executive Committee must not be a granting of sub-power of attorney to any director or attorney who may have conflict of interest with the Group in any forms to approve the transactions. In such case, the Executive Committee shall not have the authority to approve the transactions. Instead, the committee needs to propose the transactions to Board of Directors meeting and/or shareholders meeting to evaluate and give consent except if that transaction is regarded as normal businesses of the Group and have the same criteria as when dealing with outside parties (arm's length transactions)

Company Secretary

Mr. Sompop Prompapitak, Chief Operating Officer, acting as a company secretary, with the requirement of the Securities and Exchange Act, B.E. 2535 (and its amendment). Mr. Sompop Prompanapitak graduated with an MBA in Management from Kasetsart University, Master Business Administration (Finance) from California State University and a Bachelor Degree in Economics (English program) from Thammasat University. And has completed the 31/2009 Company Secretary Program, organized by the Institute of Directors (IOD).

Duties and Responsibilities

1. report of the Company, notices of meeting appointment of shareholders, minutes of shareholders meeting
2. Keep the report relating to stakes holding, submitted by the directors or the management
3. Perform other businesses as prescribed by Capital Market Supervisory Board
4. Submit copy of stakes holding report as prescribed in Section 89/14 of the Securities and Exchange Commission Act B.E. 2535 (amended), prepared by directors, to Chairman of Audit Committee within 7 business days from the day the Company has received the report
5. Perform any other duties and responsibilities specified in the Securities and Exchange Commission Act B.E. 2535 (amended)

Related-party transactions

The Company realizes the importance of conducting business transaction transparently and in a manner that is beneficial to the company. It, therefore, strives to prevent transaction that may cause a conflict of interest, connected transaction or inter-transaction by setting the following policies.

1. The management and employees shall comply with the Company's Ethical Guidelines which must be strictly adhered to so that the operation shall be credible and trustful by all stakeholders. The Company also publish the information to ensure that all employees comply with the guideline.
2. The directors and the management shall informed of the relations and connected transactions related to activities that may cause a conflict of interest.
3. The connected transactions shall be presented to be reviewed by the Audit Committee before further submitting to be approved by the Board of Directors in pursuance to the corporate good governance policy and the rules and regulations on supervision on corporate governance, prescribed by the Stock Exchange of Thailand and the Office of the Securities and Exchange Commission.

Internal Controls

The Audit Committee, at its meeting on 14 November 2019, reviewed the adequacy of the Group's internal control system in pursuance to the concept of COSO1 (The Committee of Sponsoring Organization of the Treadway Commission) and

the internal control adequacy assessment form, prepared by the Office of the Securities and Exchange Commission which comprises 5 components and 17 sub-principles. This has enabled the Group to lay out practical guidelines that are appropriate with the operation of the Group. The Group's Board of Directors viewed that the Group's internal control system is adequate and efficient and found no significant weakness in the internal control system. The Board also arranged to set up adequate and efficient monitoring system to follow up and control the operation of the Group and its subsidiaries.

The key elements of the internal control system include:

1. Control Environment

The Board of Directors is independent from the management team and has set a clear and appropriate scope of approval authority of board members, chief executive officer and the Group's personnel. The Board also developed organizational structure that includes a clear line of command and responsibility.

2. Risk Assessment

The Group operates its business under acceptable risk appetite in order to achieve the objectives and to respond to the expectation of all stakeholders.

3. Control Activities

The Group includes control activities in policies and operational steps at all level of operation in the organization and under the control environment that includes approval authority, reviewing and allocation of responsibilities.

4. Information & Communication

The Group supports the use of quality information and adequate disclosure of information to the connected parties both inside and outside of the organization.

5. Monitoring Activities

Monitoring and assessment activities are implemented on a regular basis in the Group by manager of each department. The Group has internal audit work unit that provides support to the Internal Audit Committee in the area of internal control supervision to ensure that the Group's internal control is adequately efficient and effective.

Selection and Appointment to Directors and Executives

The Nomination and Remuneration Committee has a duty to

review the expertise and qualifications of the director to be appointed by preferring person who has ability, experience, good career record, outstanding leadership, vision, good moral, ethics and positive attitude towards the organization and can contribute enough time to the operation of the business.

Criteria for the Nomination

1. Director

The Nomination and Remuneration Committee considers candidates for the position of director from the business-related knowledge or considers from among the major shareholders, whose experience can benefit the Group or from the shareholder who holds voting shares at a total of not less than 5% of the total number of voting shares of the Group on the date that the agenda is submitted or nominates a person who is qualified to be appointed as a director in advance. The person must be fully qualified as specified in the Public Limited Group Act, B. E. 2535, the Securities and Exchange Act, the notifications of the Securities and Exchange Commission, the notice of Capital Market Supervisory Board, and the related notifications, rules and/or regulations. However, the appointment of new director must be approved by the Board and/or the shareholders' meeting according to the Company's articles of associations.

2. Independent Director

The Nomination and Remuneration Committee shall select a person to serve as an independent director by considering his/her qualifications, stipulated in the Public Limited Companies Act B.E. 2535, the Securities and Exchange Act, the Notifications of the Securities and Exchange Commission, the notifications of the Capital Market Supervisory Board, and other related notifications, rules and/or regulations. The number of independent directors should be more than three or at least one third of total directors, depending on which one is higher.

The qualifications of independent directors

Independent directors must not own, take part in managing, or have benefit in the Group that may affect their independent decision. The Independent directors should have the following qualifications:

1. Holdings share not more than 1% of the total number of voting shares of the Company, its parent company, subsidiary, affiliate, major shareholder or controlling person including shares held by related persons of the independent director
2. Not be nor have been an executive director, officer, employee, controlling person or advisor who receives a salary, of the Company, subsidiary, affiliate, major shareholder or controlling person, unless the foregoing status ended not less than two years prior to the date of appointment. This restriction shall not apply to an independent director who has been a government officer or an advisor to a government authority that is a major shareholder or controlling person of the Company.
3. Not be a person related by blood or registration under law, such as a father, mother, spouse, sibling, or child, including spouses of children, executives, major shareholders, controlling persons, or persons to be nominated as executives or controlling persons of the Company or its subsidiaries
4. Not have nor have had a business relationship with the Company, subsidiary, affiliate, major shareholder or controlling person, in a manner which may interfere with his or her independent judgment, and neither being nor having been a substantial shareholder or controlling person of any entity having business relationship with the Company, subsidiary, affiliate, major shareholder or controlling person who may have a conflict of interest unless the foregoing status ended not less than two years prior to the date of appointment. The term "business relationship" mentioned above includes any normal business transaction, rental or lease of immovable property, transaction relating to assets or services or grant or receipt of financial assistance through receiving or extending loans, guarantee, providing assets as collateral, including any other similar actions, which result in the Company or its counterparty being subject to indebtedness payable to the other party in the amount of three percent or more of the net tangible assets of the Company or twenty million baht or more, whichever is lower. The amount of such indebtedness shall be calculated according to the calculation method for the value of connected transactions under the Notification of the Capital Market Supervising Committee Re: Rules on Connected Transactions mutatis mutandis. The combination of such indebtedness shall include indebtedness occurring during the course of one year prior to the date on which the business relationship with the person commences.
5. Neither be nor have been an auditor of the Company, subsidiary, affiliate, major shareholder or controlling person nor be a substantial shareholder, controlling

person or partner of an audit firm which employs auditors of the Company, subsidiary, affiliate, major shareholder or controlling person, unless the foregoing relationship ended not less than two years from the date of appointment.

6. Neither be nor have been any kind of professional advisor including a legal advisor or financial advisor who receives an annual service fee exceeding two million baht from the Company, subsidiary, affiliate, major shareholder or controlling person, and neither be nor have been a substantial shareholder, controlling person or partner of the professional advisor unless the foregoing relationship ended not less than two years from the date of appointment.
7. Not be appointed as a representative of the Company's directors, the major shareholder or any other shareholder who is a related person to the major shareholder.
8. Not conduct any business which of the same nature as the Company's or its subsidiaries' businesses and is in competition with them in any material respect, nor be a substantial partner, shareholder holding more than one percent of the voting shares, director, employee, officer or advisor of any company whose business is of the same nature as the Company's or its subsidiaries' businesses, and is in competition with them in any material respect.
9. Not have any characteristics which make him or her incapable of expressing independent opinions with regard to the Company's business affairs. The independent directors may be appointed by the Board to make a decision on the operation as the collective decision.

In case that the appointed independent directors have/had the business relations or provide/provided professional service whose fee is higher than that, specified in No 4 or No 6, the Board may provide leniency if it deems that the appointment does not affect the performance or independent judgment and the Company discloses the following information in the invitation letter to the shareholders' meetings under the agenda for appointing the independent directors.

- A. The nature of business relations or professional service that disqualifies the nominees
- B. The reason and necessity for appointing that nominee as an independent director
- C. The Board's opinion in nominating that particular person as an independent director

3. Audit Committee

The Audit Committee must be appointed by the Board of Directors and must be the Company's directors. The Committee consists of at least three independent committee members and the Board appoints one Audit Committee member as the Chairman of Audit Committee. At least one member must know and have experience in accounting or finance to review the credibility of the financial report.

The Audit Committee's qualifications must meet the criteria of the Securities and Exchange Commission, the Office of the Securities and Exchange Commission, the Stock Exchange of Thailand, and other related laws.

The qualifications of the Audit Committee Members:

1. Appointed by the Board or shareholders' meetings as Audit Committee members
2. All of them must be the independent directors
3. Not being the director assigned by the Board to make a decision on the operation of the Company, subsidiary, affiliate, same-level subsidiary, major shareholder or person with management power.
4. Not being a director in the holding company, subsidiary, affiliate, same-level subsidiary (only listed company)
5. Having the same duties as prescribed in the notification of the stock exchange of Thailand, under the rule of Audit Committee's qualifications and scope of work
6. Having enough knowledge and experience to work as an Audit Committee members. However, at least one knowledgeable and experienced Audit Committee member must be able to review the credibility of financial report.
7. The Board appoints the Chairman of Audit Committee or allows all appointed Audit Committees members to elect the Chairman.

4. Executive Committee

The Board of Directors appoints the Executive Committee, based on knowledge, ability and experience related to the business.

5. Top executive

The Executive Committee shall consider and select persons to serve as top management, based on their knowledge, ability and experience related to the business.

Corporate Governance of Subsidiaries, Joint-Ventured and Affiliates

The Company supervises the operation of Subsidiaries, Joint-Ventured and Affiliates as follows:

1. Assigning the qualified or experienced director or the management, approved by the Board, to serve as a representing director in a subsidiary, affiliate and joint-ventured in order to set the key policy in management and control the operation of those companies.
2. Supervising the subsidiary, affiliate and joint-ventured to formulate the connected transaction policy with the potential stakeholders or the parties with potential conflicts of interest. The policy must be in line and in compliance with the related laws, rules, regulations, notices and memos.
3. Supervising the subsidiary, affiliate and joint-ventured to prepare financial report that reflects the financial status and actual business performance, based on the accurate, comprehensive and sufficient accounting information that meets the generally accepted accounting standard. Also, the report on connected transactions between those companies and the potential stakeholders or the parties with potential conflicts of interest as well as report on acquisition and disposition assets should be prepared and presented to the Board of Directors for their acknowledgement at least twice a year.
4. Arranging for the subsidiary, affiliate and joint-ventured to request the internal audit unit or outsourced auditors to formulate and monitor the annual internal audit plan, approved by the Audit Committee and the report on audit outcome and suggestions on internal audit system to see how effective the Group's internal control is and how well the employees, management and directors comply with the internal control system. These findings are, then, submitted to the Board of subsidiary and affiliate on a case-by-case basis and in proper timeline.

Supervising on the Usage of Internal Information

To ensure the company's corporate good governance system, the Board considers and approves the good governance policy on the usage of inside information, as follows:

1. To educate the Board and the management, including

the manager of accounting or finance department or equivalent and higher level, about the preparation and submission of the reports on securities holding and the change of securities holding to the Securities and Exchange Commission based on Section 59 and Penalty Section 257 of the Securities and Exchange Act B.E. 2535 (as amended). The company secretary must be informed every time in order to further inform the related parties.

2. To ensure that the directors, management, internal auditors and the management-level staff who are accounting or finance manager or higher prepare and submit the reports on their and their spouse's holding of the company's security, including the holding by their children under legal age, starting from the date they are appointed as the director and/or management. They must also report any changes in security holding to The Securities and Exchange Commission. Everything must be done within the indicated timeline or within 30 days after they are appointed as the director and/or management. The report on changing security holding must be made within three days, starting from the date of purchasing, selling, transferring, and receiving the stocks. The company's secretary must summarize and report the security holding and any changes to the Board Meeting within the proper time.
3. To ensure that the executive directors and the management-level staff who are accounting or finance manager or higher and related operators should be informed of the significant inside information that affects the change in stock price. They must suspend the company's stock trade before publicizing the financial report or status until the company discloses the information to the public. The company will inform the director and management in writing, including the management-level staff who are accounting or finance manager or higher, to stop trading the stocks at least 30 days before disclosing the information to the public and another 24 hours at least after the disclosure. Furthermore, they are not allowed to disclose the significant information to other parties.
4. To ensure that the Board, management, employees and workers shall maintain internal information confidential unless when using that information for managing the company's business or for complying with the related law.

5. The Board, management, employees and workers will neither directly or indirectly disclose the inside information nor use its title to bring inside information or significant information that they have learned during the operation but has not been publicly disclosed to illegally seek the benefits or disclose the information to outside parties for their own benefits and the related parties'. They must do it without any regards for the return or their own benefits.
6. To ensure that the Board, management, employees and workers will not sell, purchase, transfer or receive the company's stocks by using its confidential and/or inside information and/or will not do any transactions by using the confidential and/or inside information in the way that may either directly or indirectly damage the company. This includes the spouse and children under legal age of the Board, management, employees and workers. Anyone who violates this rule is considered serious misconduct.
7. To lay down the guideline on ethics in using the company's information technology and internal communication are set to control and maintain the information safety in the information technology system and/or prevent the outsiders from accessing the information. In additional, the access level is set for each level of employees and workers to suit their titles, roles and responsibilities
8. Set the penalty measures according to the company's regulations when the management, employees, workers or related parties use the internal information to act in the way that may damage the company. The penalty is based on the intention and severity of that misconduct

Compliance Unit

The Company has established a Compliance Department headed by Ms. Nottaporn Thiengprathes. Her main responsibility is to ensure that the Company complies with the Securities & Exchange Act and all related regulations

Corporate Social Responsibility

Policy overview

The Company Group have the policy to operate the business under the principle Corporate Social Responsibility (CSR) with an awareness and realization on the importance of promoting activities for the benefits of surrounding communities and for protection of environment on a continuing basis. It is our intention to collaborate with those

concerned and to foster good relationship that is the result of mutual acceptance and trust, including the realization on the impacts on those stakeholders such as shareholders, employees, local community, customers, partners, government agencies, general public and the country. We also strive to promote attitude and organizational culture so that our employees have social responsibility with the ultimate goal of happy co-existence between the business, community and society and to make a sustainable progress towards the future together.

Operation and Preparation of Report

In realizing the Company Group's emphasis on responsibility, the Board of Director has adopted policy guideline on social responsibility for the management to implement as follows.

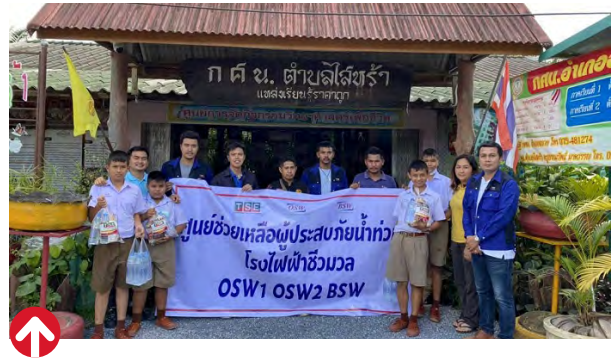
1. Manage the business operation of the Group honestly with transparency and accountability aiming for business growth and the quality of life of employees, community, social and environment protection, including the protection of interest of all stakeholders.
2. Give priority to basic human rights to promote the respect of rights and freedom without discrimination, promote equality, no unfair treatment, based on gender and class. Not employing child labor and opposing all kinds of corruptions.
3. Promote and educate all employees on social and environment responsibility to be used as guideline to jointly develop social and environmental responsibility throughout the organization.
4. Promote a two-way communication and public relations on project or social and environment activities between community and stakeholders by giving them the opportunity to participate in such activities as deemed appropriate, e.g., the public hearings in surrounding community to find the initial environmental effect (IEE) and to inform and create awareness among the people in the community on the impacts of the construction of power plant and energy production process on people who live in the community and on environment.
5. Publicize the innovation in generating electricity from renewable energy of the Company group for those who are interested in developing it for the benefit of society and environment. Presently, people who are interested in learning about solar energy generation technology are attending the classes.

CSR and Environment Promotion Activities

Thai Solar Energy Group has operated the business that includes the participation in social, community and environmental activities as part of our goal to develop a sustainable organization. Moreover, the Group also recognize the importance of creating and providing happiness to school-age children and youth who would be an important force in taking care of the society and the country in the future.



Thai Solar Energy Public Company Limited donated 500 pieces of Personal Protective Equipment (PPE) for the Ministry of Public Health to fight the COVID-19, at the Ministry of Public Health



Thai Solar Energy Public Company Limited and Subsidiaries together donated relief supplies bag and drink water to neighbors of Saira Subdistrict, Chawang District, Nakhon Si Thammarat Province



Thai Solar Energy Public Company Limited and Subsidiaries together donated the cabinet to share happiness to help people affected by COVID-19 at Sai Ra Subdistrict Administrative Organization, Chawang District, NakhonSi Thammarat Province



Thai Solar Energy Public Company Limited and Subsidiaries together donated of food to help people affected by COVID-19 at the Village Headman 's office, Moo 12, Tha Muang District, Kanchanaburi Province



Thai Solar Energy Public Company Limited and Subsidiaries together donated scholarships to students in the National Children's Day activities at Wangluek Subdistrict Administrative Organization, Suphanburi Province



Thai Solar Energy Public Company Limited and Subsidiaries together donated prizes and snacks to participate in the National Children's Day activities at Sakrachom Municipality, Amphoe Don Chedi district, Suphanburi Province

Awards and Recognition



Siam Solar Energy 1 Co., Ltd. (SSE1) received the KM Award (Knowledge Management) from the project AME-3L (Asset Management Excellent) of GPSC Group from 7 companies submitted for the contest

Anti-Corruption Policy

The Company manages the business by adhering on the principle of corporate food governance with transparency, fairness and accountability. The places a priority on social and environmental responsibilities and all of stakeholders regularly reviews compliance with its anti-corruption policy as well as improving the guidelines and regulations in doing its business in accordance with changes in

business environment, rules, regulations and laws. The Group requires the directors, management team, and all employees of the Company / subsidiaries/ jointly controlled entities/ and affiliates to strictly follow the anti-corruption policy in order to create a clear practical guideline and to develop the Company as a sustainable organization.

Roles and Responsibilities

1. The Board of Directors has duty and responsibility to lay out policies and to ensure that an effective system is set up to support anti-corruption policies, including the reviewing of the appropriateness of the systems and other measures in accordance with changes in business, rules, regulations and laws.
2. The audit committee has the responsibility to review the financial and accounting reporting system, internal control and internal auditing to ensure that the business operation is up to international standard of high precision, appropriateness, modern and efficient.
3. 3.CEO and the management team have the duties and responsibilities to promote and support the anti-corruption policy in order to ensure that the management realizes and communicates with all staffs and relevant parties on the importance of anti-corruption policy.

Practical Guidelines

1. The Board of Directors, management team, and employees at all levels must comply with the anti - corruption policy and are prohibited to be involved with corruption either directly or indirectly.
2. Employees shall not ignore or neglect when witnessing any act which can be considered as a corruption. If such incidents occur, the employees must report those suspicious acts to their supervisors or responsible party, including giving full cooperation in the investigation of the case.
3. The Company will protect and provide a fair treatment to employees who refuse to participate in corruption and employees who inform the corruption cases.
4. The Company will keep confidential and protect informants from harassment both during the process of investigation and afterwards.
5. The person who committed a corruption act is also considered as violating the code of ethics which is subject to disciplinary action, prescribed in the rules and regulations. In addition, if such conduct is against the laws, the offender shall also be subject to legal penalty.
6. The Board of Directors, the management team, and employees at all level must beware and proceed with careful discretion of the following issues:



- 6.1 The giving of gifts and entertaining the clients.
Giving or receiving of gifts and entertaining the clients must be arranged in accordance with the Company's rules and regulations.
- 6.2 Charity donations or supporting funds.
Giving or receiving a charity donation or supporting fund must be made transparently and accordance with the laws

the Group has signed the Declaration of the Collective Action Coalition of Thai Private Sector Against Corruption with a view to provide cooperation to the social sector, the press and international organization in creating a standard for transparent business practice. At present, the Group is in the process of preparing and improving the anti-corruption policies to cover all the related criteria, based on discretion and appropriate consideration.

Dividend Policy

The Company's dividend policy

The dividend policy is to pay dividends at a rate of not less than 40% of the net profit on the Company's financial statement after deduction of corporate income tax, and all reserves required by law and the Company's articles of association. However, the dividend payment is subject to change depending on cash flow, financial performance, future business plans, terms and conditions for business expansion, the needs for capital spending each year, and any other terms and conditions in relevant agreements or contracts for which the Company has contractual obligations, as well as other necessity and appropriateness, deemed by Board of Directors.

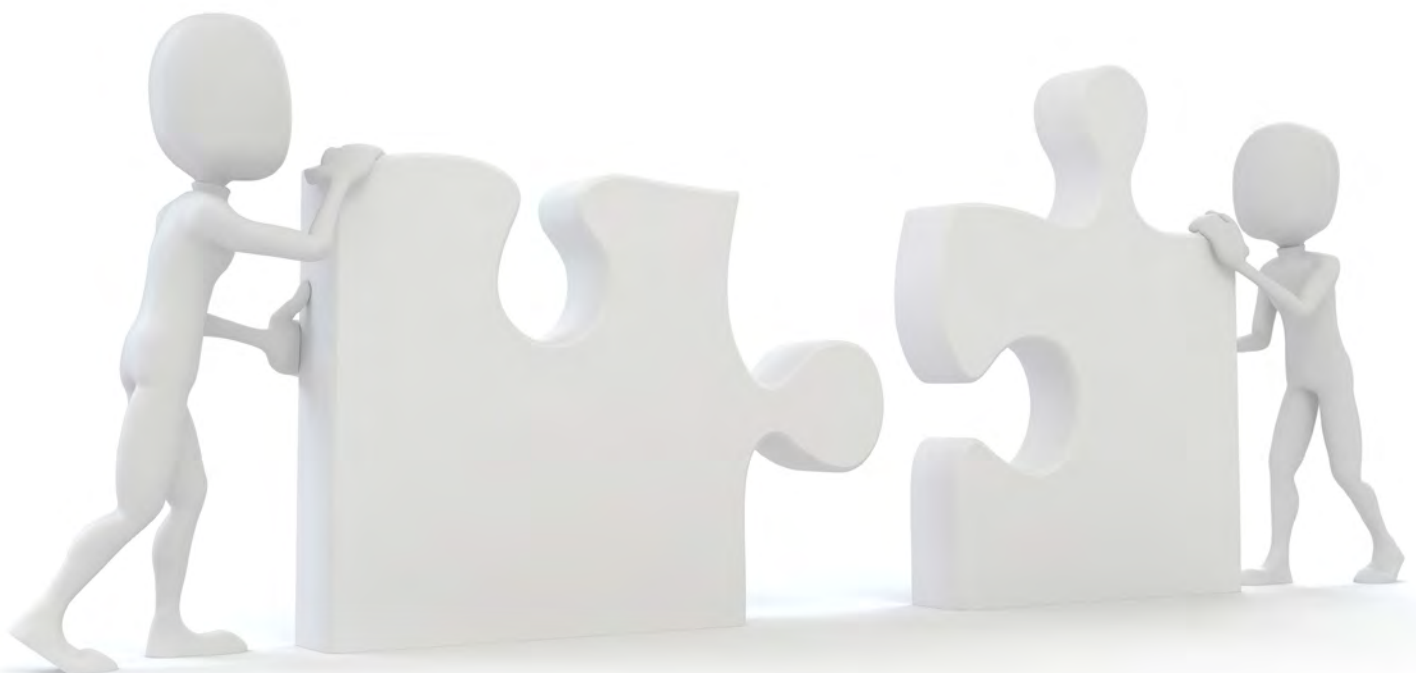
The dividend payment mentioned above must be approved by the shareholders meeting, except in the case of an interim dividend payment which the Board of Directors may consider paying from time to time if the Board deems that the Company has earned reasonable profit and can afford to do so.

The subsidiaries dividend policy

The dividend payment policy for subsidiaries and jointly controlled entities is based on cash flow, financial performance, future business plan, terms and conditions for business expansion, funding needs, and financial

position of each subsidiary and jointly controlled entity, and any other dividend restriction stipulated in loan agreements, debentures or other relevant agreements each subsidiary or jointly controlled entity obliges, as well as, the necessity and appropriateness that may be deemed by the Board of Directors of each entity.

The dividend payment mentioned above must get approval from shareholders at the general meeting of shareholders based on each subsidiary's/ jointly controlled entity's Board of Directors' proposal.



Securities Holding of Director & Executive

Name	Surname	Position	Shareholding (%)	Changes during 2020		Shareholding (%)
			31 Dec 2019	Increase	Decrease	31 Dec 2020
Cathleen	Maleenont,Ed.D.	Chairman of the Board of Directors Chairman of the Executive Committee Member of Nomination and Remuneration Committee	8.72	--	---	8.72
Mr.Prommin	Lertsuridej	Independent Director Vice Chairman of the Board of Directors	---	---	---	---
Mr.Pala	Sookawesh	Independent Director Member of the Audit Committee	---	---	---	---
Mrs.Siripen	Sitasuwan	Independent Director Chairman of the Audit Committee	---	---	---	---
Mr. Prasan	Chuapanich	Independent Director Member of the Audit Committee Chairman of Nomination and Remuneration Committee	---	---	---	---
Mr. Aran	Apichari	Independent Director	---	---	---	---
Mr. Somphop	Prompanapitak	Director Member of the Executive Committee Member of Nomination and Remuneration Committee	---	---	---	---
Mrs. Angkanee	Rerksirisuk	Director	---	---	---	---
Mr. Masthawin	Charnvirakul	Director	---	---	---	---
Mr. Kitiphong	Thunnom	Member of the Executive Committee Chief Technical Officer	---	---	---	---
Mr. Nivej	Boonwichai	Vice President Engineering and Construction	---	---	---	---

Note: Information on shareholding of the first 4 directors and the management is in accordance with the definition of the Securities and Exchange Commission, including the shareholding of spouse and children who have not reached legal age.

Remuneration for Directors and Executives



The Board of Directors assigns the Nomination and Remuneration Committee to determine and set the remuneration and other benefits both monetary and non-monetary remuneration for the directors, members of the Executive Committee and chief executive officer by determining the criteria and payment methods that are fair and reasonable and in consistent with the business operational performance of the Group and other companies in the industry. The recommendations of the Nomination and Remuneration Committee are submitted for a review and decision by the Board of Directors or the shareholders meeting.

Value-sharing Cash

Director's Compensation

At the Annual General Meeting of Shareholders for 2020, held on 24 July 2020, the shareholders approved total remuneration for members of the Board and its board committees in the forms of monthly remuneration and meeting allowance according to the number of meeting actually attended. Which is the same rate since 2015. Followings are the detail of the remuneration.

Position	Monthly Retainer	Meeting Fee
Board of Directors		
Chairman	35,000	35,000
Vice Chairman	30,000	25,000
Directors	20,000	20,000
Audit Committee		
Chairman	25,000	35,000
Directors	20,000	20,000
Nomination and Remuneration Committee		
Chairman	--	30,000
Directors	--	15,000

During 2020, the total compensation paid to monthly retainers and meeting fees for the Board and board committee members was 5.11 million baht. The payments to each individual are shown below.

Name	Surname	Position	Remuneration 2020
1. Cathleen	Maleenont,Ed.D.	Chairman of the Board of Directors Chairman of the Executive Committee Member of Nomination and Remuneration Committee	695,000
2. Mr. Prommin	Leartsuridej	Vice Chairman of the Board Independent Director	510,000
3. Mr. Pala	Sookwesh	Independent Director Member of the Executive Committee	720,000
4. Mrs. Siripen	Sitasuwan ^{/1}	Independent Director Chairman of the Audit Committee	890,000
5. Mr. Prasan	Chupanich	Independent Director Member of the Audit Committee Chairman of Nomination and Remuneration Committee	780,000
6. Mr. Somphop	Prompanapitak	Director Member of the Executive Committee Member of Nomination and Remuneration Committee	410,000
7. Mrs. Angkanee	Rerksirisuk	Director	380,000
8. Mr. Masthawin	Charnvirakul	Director	380,000
9. Mr. Aran	Apichari ^{/1}	Independent Director	340,000

^{/1} Resigned on 26 February 2021

Executives' Compensations

	Nature of Remuneration	Objective
Salary	Salary and other fringe benefits such as provident fund	To maintain knowledgeable and capable executives
Annual remuneration	Annual Bonus	enhance morale and encouragement in return for their diligence, industrious efforts and devotion to the success and performance of the Group

During 2020, the Company paid a monetary remuneration including salary, bonus and other remuneration to top management for a total of 23.72 million baht.

Remuneration	2020	
	Number (Person)	Remuneration (Million Baht)
Salary and Bonus	4	22.78
Other remuneration such as providence fund	4	0.94
Total	4	23.72

The Board of Directors' Responsibility for Financial Reporting

The Board of Directors is responsible for the preparation of consolidated and separate financial statements of Thai Solar Energy Public Company Limited and its subsidiaries and jointly controlled entity, including the financial information presented in this annual report. The aforementioned financial statements are prepared in accordance with Thai Financial Reporting Standards, using careful judgment and the best estimations. Important information is adequately and transparently disclosed in the notes to financial statements for the Company's shareholders and investors. The Board is also responsible for internal control activities that the Board deemed necessary for the preparation of overall and specific financial statements that do not contain any information that is significantly contradictory to the fact, either by fraudulent intention or by mistake.

The Board of Directors has appointed the Audit Committee to be responsible for reviewing the accounting policy, financial reports, risk management, internal controls, internal audit and disclosure of connected transactions. All the Audit Committee's opinions on these issues have been presented in the 2020 Audit Committee Report, included in this annual report.

The consolidated and separate financial statements of the Company and its subsidiaries and jointly controlled entity have been examined by an external auditor, Mr. Kajornkiet Aroonpirodkul (CPA No. 3445) of PricewaterhouseCoopers ABAS Limited. To facilitate the auditing process, the Group's Board of Directors provided information and documents so the auditor is able to audit and express an opinion in accordance with generally accepted auditing standards. The external auditor's opinion is presented in the auditor's report included in this annual report.

The Board of Directors believes that the Company's overall internal control system has functioned at a satisfactory level and rendered credibility and reliability to the financial statements of the consolidated and separate financial statements of the Company and its subsidiaries and jointly controlled entity for the year ended 31 December 2020. The Board of Directors also believes that all these financial statements have been prepared in accordance with the related Thai Financial Reporting Standards and related regulations.



(Cathleen Maleenont, Ed.D.)
Chairman of the Board

APPOINTMENT OF AUDITOR

The Audit Committee has the responsibility to screen and select the auditor and auditing fee by inviting auditing firms to submit their past works to be selected and proposed to the Board of Directors who would further submit the recommended auditor and auditor's fee to be approved by the ordinary shareholders meeting each year. The appointed audit firm and auditor must be able to work independently without any relation or stake with the Group, major shareholder or any party, related to these persons.

The 2020 Annual General Meeting of shareholders resolved to appoint the following persons on behalf of Pricewaterhouse Coopers ABAS Co., Ltd. as the Company's auditors:

AUDITORS

Name		CPA No.
1. Mr. Kajornkiet	Aroonpirodkul	3445
2. Miss Sakuna	Yaemsakul	4906
3. Mr. Pisit	Tangthanakul	4095

Any person is allowed to be an auditor and provide opinions toward the Company's financial statements. In the event that such certified public accountants cannot perform duties, Pricewaterhouse Coopers ABAS Co., Ltd. can replace with other certified public accountants of Pricewaterhouse Coopers ABAS Co., Ltd.

However, PwC has provided the Certified Public Accountant, Mr.Kajornkiet Aroonpirodkul CPA No. 3445 as an auditor, expressing an opinion on the Company's financial statements for the year 2020

AUDIT FEE

In 2020, the Company's Subsidiaries paid audit fees as follows.

	2020
Thai Solar Energy Public Company Limited	1,990,000
Subsidiaries	9,535,000
Total Audit Fee	11,525,000

NON – AUDIT FEE

The Group has paid a fee to the auditor from the Pricewaterhouse Coopers ABAS Ltd., to audit and prepare audit report related to the compliance audit of BOI certificate, issued by the Thailand Board of Investment at an amount of 1,120,000 Baht

Related Party Transaction

Persons which may have conflict of interest/ nature of business/ nature of relationship	Nature of Transactions	Transaction Value		Necessity and Reasonableness of the transaction
		2019	2020	
<p>1. P.M. Energy Company Limited ("PME")</p> <p>Nature of the business Investment in renewable energy with the Head Office located at 725 Metropolis, 19th floor, Sukhumvit Road, KlongtanNua, Wattana Bangkok</p> <p>Relationship with the Company</p> <ul style="list-style-type: none"> A major shareholder of the Company. As of 31 December 2020 PME held 37% share in TSE The director who is in the management team: <p>Cathleen Maleenont, Ed.D. (Director, Chairman of Executive Committee and Chief Executive Officer of TSE) is a director of PME.</p> <p>Mr. Somphop Prompanapitak (Director, Executive Committee and Chief Operating Officer of TSE) is a director of PME</p>	<p>Guarantee with compensation in the year 2019 of THB 3,000,000</p> <p>PME shares of the company Holding some 100,000,000 shares with a par value of THB 1 per share to be pledged with a commercial bank To be part of the loan guarantee for the company</p>	294	248*	<p>The Group had a loan from one commercial bank to be used for development of thermal power plant. Part of the loan was guaranteed by the company's shares, held by PME which was in consistent with the requirement of the commercial bank that provided the loan and there was no cost incurred from such guarantee.</p> <p>Opinions of the Audit Committee</p> <p>Such transaction is to receive assistance from major shareholders. For use in project development for the company Therefore, the transaction is necessary and reasonable and beneficial to the company.</p>

*The transaction value was based on the market value of shares as of 31 December 2020, i.e., 2.48 Baht/share

MEASURES OR PROCEDURES FOR APPROVING RELATED PARTY TRANSACTIONS AND POLICY FOR POTENTIAL RELATED PARTY TRANSACTIONS IN THE FUTURE

The Company established measures and procedures for approving related party transactions of the Company and/ or its subsidiaries with stakeholders or persons which may have a conflict of interest or a potential conflict of interest in the future. These measures and procedures are to ensure transparency and fairness and to prevent the transfer of interest from the Company and/ or its subsidiaries. They consist of following measures:

- The Company's/subsidiaries' related party transactions with stakeholders or persons who may have a conflict of interest with the Company and / or its subsidiaries are required to be processed according to laws, regulations, announcements or notifications, rules and requirements, and related circular letters as per the following:
 - Securities and Exchange Act B.E.2535
 - Notification of the Capital Market Supervisory Board, Tor Chor. 21/2551: Rules on Connected Transactions
 - Notification of the SEC on Disclosure of Information and Operation of Listed Company for Related Parties Transactions B.E., 2546

- 4) Regulations of SET on Guidelines, Conditions, and Practice Relating to Information and Operations Disclosure of Listed Companies
 - 5) Requirements related to disclosure of information of connected transactions in the note to financial statements which are prepared by a certified audit committee, and form of company's annual report (56-1 form), including related notifications from Capital Market Supervisory Board and SEC, circular letter and other related laws and regulations
2. Any related party transaction which may be considered as a transaction needing an approval from the Company's Board of Directors or resolution from a general shareholders meeting must be screened and considered by Audit Committee before presenting them to the Company's Board of Directors or general shareholders meeting for approval, depending on the cases. This is to ensure that the said related party transactions do not have an aim to transfer the Company's and/or its subsidiaries' assets. The Audit Committee's point of views must at least cover the following issue:
- 1) Whether the transaction reflects proper rationale and mutual benefit to the Company and/or subsidiaries.
 - 2) Whether the pricing and mutual conditions of transaction reflect fairness by comparing the price and other returns with the market price or price offered from external parties of price valuation by an independent appraiser.
 - 3) Whether conditions related to the transaction are appropriate by comparing conditions on payment and other returns to normal business conditions.
- In a case where the Audit Committee has no expertise in screening related party transactions, the committee may seek advice from an independent expert or the Company's auditor to use as supporting material for its consideration before presenting the transactions to the Company's Board of Directors or general meeting of shareholders, whichever case may be.
3. The Company and/or its subsidiaries must prevent directors and stakeholder who have interests in such transactions to participate in the meeting and/or vote on that agenda. The company shall disclose information on related party transactions in note to financial statements which are already reviewed or certified by the Company's auditor
4. For all of related party transactions, the management may have authority to approve such transactions if the transactions have business agreements and conditions as if a person of ordinary prudence may proceed with contractor counterpart within the same situation based on business bargaining power without using authority of director, management, or related person. The Company also needs to prepare a summary report on related party transactions which have a value of more than THB 10 million baht and report to the Company's Board of Directors within an appropriate timeframe.

The Company has established an approval procedure for related party transactions of the Company, jointly controlled entities and/or subsidiaries, directors, management, stakeholder or persons who may have a conflict of interest that have normal business conditions as follows:

1. In the case of minor connected or related transactions that have normal business conditions, the management is obliged to consider and give approval.
2. In the case of medium and large connected or related transactions that have normal business conditions, the Company's Board of Directors will be the one to consider and give approval.
 - Minor transaction refers to transactions with a value equal to or less than THB 1 million, or equal to or less than 0.03% of net tangible assets whichever is higher.
 - Medium transaction refers to transactions with a value of more than THB 1 million but less than THB 20 million, or more than 0.03% but less than 3% of net tangible assets whichever is higher.
 - Large transaction refers to transactions with a value equal to or more than THB 20 million or more than 3% of net tangible assets whichever is higher.

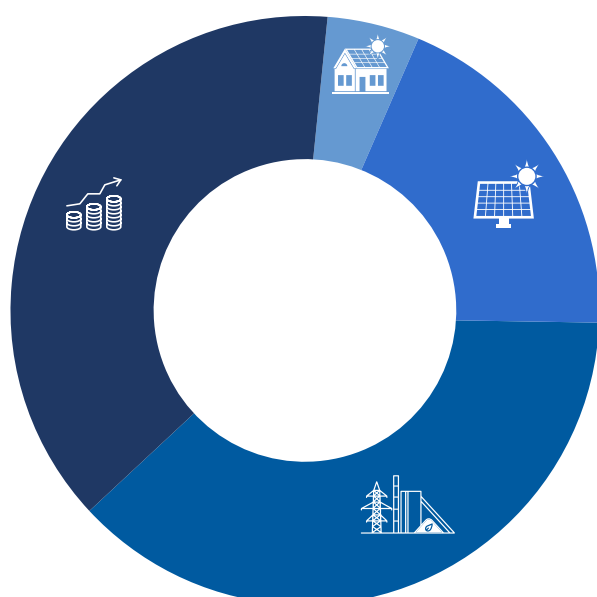
Financial Highlights

Consolidated

(Unit: M.Baht)

	2020	2019	2018
OPERATING RESULTS AND FINANCIAL POSITIONS			
Revenues from sales of goods and rendering of services	1,530.45	1,348.89	561.17
Share of profits of associates and joint ventures	643.33	659.52	610.19
Total revenues	2,186.29	2,101.13	1,327.75
Profit for the year attributed to owners of the Company	421.43	774.58	173.95
Total assets	19,176.78	15,869.98	14,689.24
Total liabilities	13,257.45	10,237.67	9,774.61
FINANCIAL RATIOS			
Return on equity (%)	7.30	14.90	3.71
Return on assets (%)	4.34	6.22	2.90
Debt-to-equity ratio (times)	2.24	1.82	2.05
Basic earning per share (Baht)	0.20	0.40	0.09
Net Profit Margin (%)	19.28	36.86	13.10

Revenue Structure



Year 2020
2,186.29 MB



Share of profit from jointly controlled entities and Other income

702.93 MB



SOLAR FARM

559.45 MB



SOLAR ROOFTOP

105.84 MB



BIOMASS

818.07 MB



Significant Events in the Year 2020 Affecting Financial Statements

In 2020, the Group had acquired the 8 MW of floating solar PV farms in Prachinburi province in June, and the 5 MW solar powers in Krabi province already commercial operation date (COD) in July with a total of 13 MW from the new acquired projects. The floating solar PV farm project is under construction and other relevant tasks are being carried out.

The Group fully recognized revenue from the 18 MW new acquired solar power since 2020, consisting of 5 MW in Ayudthaya, 5 MW in Udonthani, and 8 MW in Angthong province as acquired in March, August and November 2020, respectively.

Hence, the solar power project with the installed generation capacity of 147 MW in Japan has been constructed since April 2020.

Report on Analysis of Operating Results in Consolidated Financial Statements

1. Revenues from Sales and Services

The Group's revenues increased by Baht 160.97 million from a full-year recognition of the new acquired solar farms since 2020, totaling 18 MW in Ayudhaya, Udon Thani and Ang Thong provinces, and increased by Baht 15.28 million from the 3 biomass powers with the total selling capacity of 22.2 MW.

Consequently, the Company Group's revenue and services for 2020 were Baht 1,530.45 million, increased by Baht 181.56 million or 13.46% compared to Baht 1,348.89 million in the previous year.

(Such amounts excluded the revenue from 80 MW of the solar farms which was recognized the contribution through share of profit from investment in joint ventures of Baht 643.33 million)

The Group's other revenues decreased by Baht 80.21 million largely due to a decrease in profit from bargain purchase of subsidiaries of the Company in 2019 and the compensation for damages paid by insurance companies.

2. Cost of Sales and Services

The Group had total cost of sales and services for 2020 of Baht 1,023.35 million, increased by 111.99 million or 12.29% compared to Baht 911.36 million in the previous year due largely to the full-year recognition of cost of sales of the new acquired projects, the cost of biomass power generation increased in proportionate of revenues, and the write-off of the right in power purchase agreement (PPA) which was realized when the project started its commercial operation date (COD).

The Group's gross profit margin for 2020 increased to 33.13% from 32.44% in 2019. The increment was due to the number of the solar farms in 2019 and 2020 with gross profit margin higher than that of the biomass power projects.

3. Administrative Expenses

The Group's total administrative expenses for 2020 were Baht 305.29, increased by Baht 71.94 million or 30.83% compared to Baht 233.35 million in 2019 as a result of the increase in administrative expenses and other advisory expenses for the invested projects.

In 2020, the Group realized a loss on foreign exchanges of Baht 97.95 million, increased by Baht 92.54 million compared to Baht 5.41 million in 2019. This was due to the adjustment to foreign currency borrowings value in accounting. This item had no impact on operations and cash flows.

4. Finance Cost

The Group's finance cost for 2020 was Baht 340.73 million, increased by Baht 193.54 million or 131.49% compared to Baht 147.19 million in 2019 largely due to the finance cost for right of PPA of the project commencing construction, and interest on leases adjusted in accordance with the first-time adoption of financial reporting standards (TFRS16) in 2020.

5. Share of Profit from investments in Joint Ventures

According to the accounting policies on the accounting for the consolidated financial statements, the Group realized investments in Joint Ventures accounted for using the equity method. This concept was applied for the business which invested and operated the 80 MW ground-mounting solar farm projects with the details below:

Operating Results of Investments in Joint Ventures accounted for using Equity Method

(Unit: M.Baht)

Items	31 December		Increase (Decrease)	
	2020	2019	Amount	%
Revenues	1,500.35	1,546.28	(45.93)	(2.97)
Costs and Expenses	(428.13)	(447.08)	18.95	4.24
Net Profit	1,072.22	1,099.20	(26.98)	(2.45)
Share of profit from Investment in Join Ventures (60%)	643.33	659.52	(16.19)	(2.45)

Joint ventures generated a consistent profit. In 2020, joint ventures reported a net profit of Baht 1,072.22 million, decreased by Baht 26.98 million or 2.45% compared to Baht 1,099.20 million in 2019. Using the equity method, net profit from joint ventures was categorized as share of profit from investment in joint ventures which accounted for 60%. In 2020, share of profit from investment in joint ventures was Baht 643.33 million, decreased by Baht 16.19 million or 2.45% compared to Baht 659.52 million in a prior year.

6. Comprehensive Income for the Year

In 2020, the Group reported its net profit for the year of Baht 418.81 million, decreased by Baht 379.93 million or 47.57% compared to Baht 798.74 million in 2019. This was due to higher finance costs and a loss on foreign exchange in 2020 which was the loss from accounting transactions and there was no impact on operations and cash flows of the Company.

In 2020, the Group had comprehensive income for the year of Baht 722.28 million, increased from Bath 467.20 million in 2019 due largely to exchange differences on translation of financial statements which was the accounting transaction adjustment.

7. Return on Equity

The Group's return on equity for 2020 and 2019 accounted for 7.30% and 14.90% respectively. The return on equity decreased due to lower net profits of the Group as discussed above.

Report on Analysis of Financial Position in the Consolidated Financial Statements

Analysis of Assets

As of 31 December 2020 and 2019, the Group's total assets were Baht 19,176.78 million and Baht 15,869.99 million, respectively, increased by Baht 3,306.79 million or 20.84% with the following details:

(Unit: M.Baht)

Items	31 December		Increase (Decrease)	
	2020	2019	Amount	%
Current Assets	1,654.42	1,641.47	12.95	0.79
Non-Current Assets	17,522.36	14,228.52	3,293.84	23.15
Total Assets	19,176.78	15,869.99	3,306.79	20.84

- 1) As of 31 December 2020, current assets were Baht 1,654.42 million, increased by Baht 12.95 million or 0.79% compared to Baht 1,641.47 million as of 31 December 2019 as a result of an increase in cash and cash equivalents.
- 2) As of 31 December 2020, non-current assets were Baht 17,522.36 million, increased by Baht 3,293.84 million or 23.15% compared to Baht 14,228.52 million as of 31 December 2019. The increase was mainly to the progress of the projects under construction both locally and internationally.

Analysis of Liabilities and Equity

As of 31 December 2020, the Group's total liabilities and equities were Baht 19,176.78 million, increased by Baht 3,306.79 million or 20.84% compared to Baht 15,869.99 million as of 31 December 2019 with the following details:

(Unit: M.Baht)

Items	31 December		Increase (Decrease)	
	2020	2019	Amount	%
Liabilities	13,257.45	10,237.67	3,019.78	29.50
Equity	5,919.33	5,632.32	287.01	5.10
Total Liabilities and Equity	19,176.78	15,869.99	3,306.79	20.84

As of 31 December 2020, the Group's total liabilities were Baht 13,257.45 million, increased by 3,019.78 million or 29.50% compared to Baht 10,237.67 million as of 31 December 2019. The increase was largely due to borrowings from financial institutions of subsidiaries to serve the construction of the projects both locally and internationally.

As of 31 December 2020, the Group's total equity was Baht 5,919.33 million, increased by 287.01 million or 5.10% compared to Baht 5,632.32 million as of 31 December 2019. The increase was due to consistent profitability of the Group. The Company reported the owners of the parent for the year 2020 of Baht 421.43 million, resulting in an increase in retained earnings of the Group to Baht 2,865.34 million in 2020 from Baht 2,856.78 million in 2019. In 2020, the Board of Directors' Meeting approved interim dividend payments of Baht 0.05 per share amounting to Baht 106 million.

APPROPRIATION OF CAPITAL STRUCTURE

The Group's debt to equity ratio remained at a low level. Its debt to equity stood at 2.24 in 2020, higher than that of 1.82 in 2019. The change of its debt to equity ratio was largely due to higher finance costs and a foreign exchange loss, resulting in the 2020 retained earnings lower than the level should be.

Report on Analysis of Cash Flows in Consolidated Financial Statements

As of 31 December 2020, cash and cash equivalents in the consolidated financial statements were Baht 883.25 million, increased by Baht 239.66 million compared to Baht 643.59 million as of 31 December 2019, which can be summarized as follows:

- 1) Net cash flows from operating activities of Baht 560.85 million
- 2) Net cash flows from investing activities of Baht 1,916.65 million
- 3) Net cash flows from financing activities of Baht 1,657.71 million
- 4) Effect of exchange rate changes on translation of financial statements of Baht 62.25 million

Independent Auditor's Report

To the Shareholders and the Board of Directors of Thai Solar Energy Public Company Limited

My opinion

In my opinion, the consolidated financial statements and the separate financial statements present fairly, in all material respects, the consolidated financial position of Thai Solar Energy Public Company Limited (the Company) and its subsidiaries (the Group) and the separate financial position of the Company as at 31 December 2020, 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 the separate financial statements comprise:

- the consolidated and separate statements of financial position as at 31 December 2020;
- 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 significant accounting policies and other explanatory information.

Basis for opinion

I conducted my audit in accordance with Thai Standards on Auditing (TSAs). My responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated and separate financial statements section of my report. I am independent of the Group and the Company in accordance with the Code of Ethics for Professional Accountants issued by the Federation of Accounting Professions that 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.

Key audit matters

Key audit matters are those matters that, in my professional judgement, were of most significance in my audit of the consolidated and separate financial statements of the current period. I determined one key audit matter: First-time adoption of TFRS 16 Lease. The matter was 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 the matter.

Key audit matter	How my audit addressed the key audit matter
<p>First-time adoption of TFRS 16 Leases</p> <p>Refer to Note 4 Impacts from initial application of the new and revised financial reporting standards.</p> <p>TFRS 16 - Leases becomes effective for financial reporting beginning on or after 1 January 2020.</p> <p>As at 31 December 2020, the application of the new standard gives rise to a right-of-use asset of Baht 325.65 million and a corresponding increase in lease liabilities of Baht 338.42 million, representing 1.70% of total assets and 2.55% of total liabilities.</p> <p>The Group decided to apply the modified retrospective approach for the transition accounting in which the restatement of comparative financial statements is not required.</p> <p>I focus on the implementation of TFRS16 Lease because the impact to the financial statements is material, the implementation process to identify and process all relevant data associated with the leases is complex and the measurement of the right-of-use asset and lease liability is based on management assumptions such as lessee's incremental borrowing rate and the lease terms, including renewal and termination options.</p>	<p>My audit procedures included in particular:</p> <ul style="list-style-type: none"> • an evaluation of management implementation process, including the assessment of updated accounting policies adopted by the Group for leases and compliance of these policies with the requirements of the standard; • an understanding of how management ensured the completeness and accuracy of the lease identified and relevant accounting transactions of right-of-use asset and lease liability; • a verification of the accuracy of the underlying lease data by agreeing a representative sample of leases to original contracts or other supporting information and an assessment of the mathematical accuracy by recalculating of the carrying amounts of right-of-use asset and lease liability of the selected samples; • a consideration on the completeness of the lease data by testing the reconciliation of the lease liability to operating lease commitments disclosed in the 2019 financial statements and by considering if, based on other information obtained during the course of the audit, there are any other contracts which may contain a lease; • a test on a sample basis to evaluate management assumptions, specifically on the assumptions used to determine the lessee's incremental borrowing rate, and the assessment of renewal and termination options; and • an assessment of the accuracy and completeness of disclosures (including the impact of the first time adoption of TFRS16 presented in Note 4 in the consolidated and separate financial statements). <p>From the above procedures performed, I did not note any significant issue from the implementation of TFRS16 Lease, and the assumptions management applied in determination of right-of-use asset and lease liabilities are reasonable.</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 TFRS, 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's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group and the 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's and the Company's financial reporting process.

Auditor's responsibilities for the audit of the consolidated and separate financial statements

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

As part of an audit in accordance with TSAs, I exercise professional judgement and maintain professional 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's and the Company's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by 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's and the Company's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and whether the consolidated and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

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

PricewaterhouseCoopers ABAS Ltd.

Kajornkiet Aroonpirodkul

Certified Public Accountant (Thailand) No. 3445

Bangkok

25 February 2021

Financial Statement

Thai Solar Energy Public Company Limited

Statement of Financial Position

AS at 31 December 2020

		Consolidated		Separate	
		financial statements		financial statements	
		2020	2019	2020	2019
Notes		Baht	Baht	Baht	Baht
Assets					
Current assets					
Cash and cash equivalents	10	883,246,238	643,594,118	124,974,583	43,843,636
Short-term restricted bank deposits	11	13,747,528	18,864,046	9,096,416	14,912,759
Short-term investments	12	-	221,114,307	-	221,114,307
Financial assets measured at amortised cost	12	466,660	-	466,660	-
Trade and other receivables	13	340,859,233	430,399,966	185,268,566	263,930,877
Short-term loans to subsidiaries	37.3	-	-	-	701,000,825
Current portion of long-term loans to subsidiaries	37.4	-	-	81,140,000	61,600,000
Inventories		22,804,726	24,028,968	-	-
Refundable Value Added Tax		105,116,659	273,156,145	-	-
Undue input Value Added Tax		270,518,463	16,283,911	602,510	654,640
Other current assets	14	17,660,703	14,033,010	16,621,284	13,927,880
Total current assets		1,654,420,210	1,641,474,471	418,170,019	1,320,984,924
Non-current assets					
Long-term restricted bank deposits	11	42,349,359	34,239,939	2,300,000	12,365,952
Long-term loans to subsidiaries	37.4	-	-	6,133,449,798	5,004,151,459
Receivables from disposal of investments	37.2	-	-	1,383,683,149	1,383,683,149
Investments in subsidiaries	16	-	-	1,199,149,897	1,199,149,897
Investments in joint ventures	15	1,992,688,021	1,840,054,520	350,000,130	350,000,130
Investment properties	17	102,892,513	103,857,149	89,977,885	89,977,885
Property, plant and equipment	18	10,018,472,757	7,549,859,170	251,569,722	273,737,922
Right-of-use assets	19	325,646,578	-	30,342,972	-
Goodwill	20	50,855,042	17,112,763	-	-
Intangible assets	21	4,945,269,597	4,669,898,201	5,120,131	7,057,176
Deferred tax assets	22	21,733,866	1,623,005	-	-
Other non-current assets		22,450,747	11,871,739	2,661,544	7,339,848
Total non-current assets		17,522,358,480	14,228,516,486	9,448,255,228	8,327,463,418
Total assets		19,176,778,690	15,869,990,957	9,866,425,247	9,648,448,342

Thai Solar Energy Public Company Limited

Statement of Financial Position (Cont'd)

AS at 31 December 2020

		Consolidated		Separate	
		financial statements		financial statements	
		2020	2019	2020	2019
	Notes	Baht	Baht	Baht	Baht
Liabilities and equity					
Current liabilities					
Short-term borrowings from financial institutions	24.1	250,000,000	98,470,171	250,000,000	98,470,171
Construction and other payables	23	254,290,843	199,267,433	150,510,902	45,968,588
Current portion of right in power purchase agreement payables		795,875	2,056,215	-	-
Current portion of lease liabilities	24.2	28,895,457	7,195,003	8,233,557	2,720,032
Current portion of long-term borrowings	24.3	2,443,767,344	737,755,685	2,144,265,435	272,894,555
Short-term loan from subsidiary	37.5	-	-	-	22,500,000
Current portion of debentures	24.5	-	949,800,983	-	949,800,983
Income tax payable		1,985,053	4,404,066	-	-
Other current liabilities		70,925,130	26,403,034	5,853,596	5,292,403
Total current liabilities		3,050,659,702	2,025,352,590	2,558,863,490	1,397,646,732
Non-current liabilities					
Right in power purchase agreement payables		25,776,550	73,328,549	-	-
Lease liabilities	24.2	309,524,936	13,280,673	12,298,150	5,259,640
Long-term borrowings from financial institutions	24.3	6,278,580,339	5,736,434,390	394,385,850	2,291,060,602
Debentures	24.5	3,444,096,320	2,345,024,775	3,444,096,320	2,345,024,775
Derivative liabilities	25	58,355,907	-	-	-
Employee benefit obligations	26	17,371,256	13,521,825	17,371,256	13,521,825
Provision for decommissioning costs		29,027,161	2,584,824	2,652,516	2,584,824
Deferred tax liabilities	22	43,981,714	28,066,973	4,688,555	3,111,610
Other non-current liabilities		72,000	72,000	72,000	72,000
Total non-current liabilities		10,206,786,183	8,212,314,009	3,875,564,647	4,660,635,276
Total liabilities		13,257,445,885	10,237,666,599	6,434,428,137	6,058,282,008

Thai Solar Energy Public Company Limited

Statement of Financial Position (Cont'd)

AS at 31 December 2020

		Consolidated		Separate	
		financial statements		financial statements	
		2020	2019	2020	2019
Notes		Baht	Baht	Baht	Baht
Liabilities and equity (Cont'd)					
Equity					
Share capital					
Authorised share capital					
Ordinary shares 2,477,474,454 shares of par Baht 1 each	27	2,477,474,454	2,477,474,454	2,477,474,454	2,477,474,454
Issued and paid-up share capital					
Ordinary shares 2,117,716,281 shares of fully-paid	27	2,117,716,281	2,117,716,281	2,117,716,281	2,117,716,281
Premium on ordinary shares	27	1,045,504,325	1,045,504,325	1,045,504,325	1,045,504,325
Retained earnings					
Appropriated-legal reserve	28	106,757,899	81,303,726	80,090,954	67,603,094
Unappropriated		2,865,346,957	2,856,783,618	188,685,550	359,342,634
Other components of equity		(218,023,703)	(473,307,381)	-	-
Equity attributable to owners of the parent		5,917,301,759	5,628,000,569	3,431,997,110	3,590,166,334
Non-controlling interests		2,031,046	4,323,789	-	-
Total equity		5,919,332,805	5,632,324,358	3,431,997,110	3,590,166,334
Total liabilities and equity		19,176,778,690	15,869,990,957	9,866,425,247	9,648,448,342

Thai Solar Energy Public Company Limited

Statement of Comprehensive Income

AS at 31 December 2020

	Notes	Consolidated financial statements		Separate financial statements	
		2020	2019	2020	2019
		Baht	Baht	Baht	Baht
Revenue from sales		1,322,349,502	1,235,447,207	-	2,280
Subsidy for adders		161,007,323	68,702,780	-	-
Management service fee income		47,092,170	44,741,114	112,988,170	94,735,249
Total revenue		1,530,448,995	1,348,891,101	112,988,170	94,737,529
Cost of sales and services		(1,023,345,198)	(911,358,079)	(88,822,385)	(74,633,921)
Gross profit		507,103,797	437,533,022	24,165,785	20,103,608
Dividends income		45	56	490,700,087	618,380,107
Other income	29	12,512,351	92,716,644	18,589,923	9,753,504
Administrative expenses		(305,287,874)	(233,345,785)	(124,085,707)	(136,551,349)
(Loss) gain on exchange rate		(97,952,615)	(5,414,481)	75,635,864	(194,165,264)
Finance costs	31	(340,728,316)	(147,191,521)	(280,835,526)	(198,870,291)
Share of profit from investment in joint ventures		643,333,543	659,517,685	-	-
Profit before income tax		418,980,931	803,815,620	204,170,426	118,650,315
Income tax	32	(174,230)	(5,073,121)	1,654,307	(1,832,206)
Profit for the year		418,806,701	798,742,499	205,824,733	116,818,109
Other comprehensive income for the year:					
Items that will not be reclassified to profit or loss					
Remeasurements of post-employment benefit obligations	26	-	(2,873,219)	-	(2,873,219)
Income tax on the above item	22	-	(12,452)	-	(12,452)
Items that will be reclassified subsequently to profit or loss:					
Currency translation differences		311,585,026	(328,656,642)	-	-
Change in fair value of hedge derivatives	25	(8,119,989)	-	-	-
Total comprehensive income for the year		722,271,738	467,200,186	205,824,733	113,932,438
Profit attributable to:					
Owners of the parent		421,428,545	774,584,221	205,824,733	116,818,109
Non-controlling interests		(2,621,844)	24,158,278	-	-
		418,806,701	798,742,499	205,824,733	116,818,109
Total comprehensive income attributable to:					
Owners of the parent		724,564,481	443,033,716	205,824,733	113,932,438
Non-controlling interests		(2,292,743)	24,166,470	-	-
		722,271,738	467,200,186	205,824,733	113,932,438
Earnings per share					
Basic earnings per share	33	0.20	0.40	0.10	0.06

Thai Solar Energy Public Company Limited

Statement of Changes In Equity

AS at 31 December 2020

Consolidated financial statements												
Notes	Attribute to owners of the parent											
	Retained earnings			Other components of equity			Fair value of hedge derivatives			Total owners of the parent		
	Issued and called-up share capital	Premium on ordinary capital	Appropriated - legal reserve	Unappropriated	Changes in parent's ownership interest in subsidiary	Translation of financial statements	Baht	Baht	Baht	Baht	Non-controlling interests	Total
	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht
Opening balance at 1 January 2019	1,905,749,580	727,554,273	63,972,012	2,207,230,671	(7,768,923)	(126,350,172)	-	-	4,770,387,441	144,233,867	4,914,621,308	
Change in equity for the year												
Additional investment in subsidiaries by purchasing shares from non-controlling interests	-	-	-	-	(10,523,452)	-	-	-	(10,523,452)	(164,076,548)	(174,600,000)	
Appropriation of legal reserve	28	-	17,331,714	(17,331,714)	-	-	-	-	-	-	-	
Issuance of ordinary shares	27	211,966,701	317,950,052	-	-	-	-	-	529,916,753	-	529,916,753	
Cash dividends	35	-	-	(104,813,889)	-	-	-	-	(104,813,889)	-	(104,813,889)	
Total comprehensive income for the year	-	-	-	771,696,550	-	(328,664,834)	-	-	443,033,716	24,166,470	467,200,186	
Closing balance at 31 December 2019	2,117,716,281	1,045,504,325	81,303,726	2,856,783,618	(18,292,375)	(455,015,006)	-	-	5,628,000,569	4,323,789	5,632,324,358	
Opening balance at 1 January 2020												
- previously report	2,117,716,281	1,045,504,325	81,303,726	2,856,783,618	(18,292,375)	(455,015,006)	-	-	5,628,000,569	4,323,789	5,632,324,358	
Impact of first-time adoption of new financial reporting standards	4	-	-	(27,401,217)	-	-	-	(47,852,258)	(75,253,475)	-	(75,253,475)	
Opening balance at 1 January 2020 - restated	2,117,716,281	1,045,504,325	81,303,726	2,829,382,401	(18,292,375)	(455,015,006)	-	-	5,552,747,094	4,323,789	5,557,070,883	
Change in equity for the year												
Appropriation of legal reserve	28	-	25,454,173	(25,454,173)	-	-	-	-	-	-	-	
Cash dividends	35	-	-	(360,009,816)	-	-	-	-	(360,009,816)	-	(360,009,816)	
Total comprehensive income for the year	-	-	-	421,426,545	-	311,255,925	(8,119,989)	-	724,564,481	(2,292,743)	722,271,738	
Closing balance at 31 December 2020	2,117,716,281	1,045,504,325	106,757,899	2,865,346,957	(18,292,375)	(143,759,081)	(55,972,247)	-	5,917,301,759	2,031,046	5,919,332,805	

Thai Solar Energy Public Company Limited

Statement of Changes In Equity (Cont'D)

AS at 31 December 2020

Separate financial statements							
	Notes	Issued and paid-up share capital	Premium on ordinary share capital	Retained earnings		Total Baht	
				Baht	Baht		Appropriated - legal reserve
Opening balance at 1 January 2019		1,905,749,580	727,554,273	50,894,012	366,933,167	3,051,131,032	
Change in equity for the year							
Appropriation of legal reserve	28	-	-	16,709,082	(16,709,082)	-	
Issuance of ordinary shares	27	211,966,701	317,950,052	-	-	529,916,753	
Cash dividends	35	-	-	-	(104,813,889)	(104,813,889)	
Total comprehensive income for the year		-	-	-	113,932,438	113,932,438	
Closing balance at 31 December 2019		2,117,716,281	1,045,504,325	67,603,094	359,342,634	3,590,166,334	
Opening balance at 1 January 2020 - previously reported		2,117,716,281	1,045,504,325	67,603,094	359,342,634	3,590,166,334	
Impact of first-time adoption of new financial reporting standards	4	-	-	-	(3,984,141)	(3,984,141)	
Opening balance at 1 January 2020 - restated		2,117,716,281	1,045,504,325	67,603,094	355,358,493	3,586,182,193	
Change in equity for the year							
Appropriation of legal reserve	28	-	-	12,487,860	(12,487,860)	-	
Cash dividends	35	-	-	-	(360,009,816)	(360,009,816)	
Total comprehensive income for the year		-	-	-	205,824,733	205,824,733	
Closing balance at 31 December 2020		2,117,716,281	1,045,504,325	80,090,954	188,685,550	3,431,997,110	

Thai Solar Energy Public Company Limited

Statement of Cash Flows

AS at 31 December 2020

	Notes	Consolidated		Separate	
		financial statements		financial statements	
		2020	2019	2020	2019
		Baht	Baht	Baht	Baht
Cash flows from operating activities					
Profit before income tax		418,980,931	803,815,620	204,170,426	118,650,315
Adjustments for:					
Depreciation	17, 18, 19	367,174,627	298,300,124	13,291,571	8,722,027
Amortisation	21	56,268,674	43,154,725	2,062,100	2,144,434
Expected credit loss	13	894,980	-	894,980	-
Share of profit from investments in joint ventures	15	(643,333,543)	(659,517,685)	-	-
Provision for long-term employee benefits obligations	26	3,849,431	5,959,136	3,849,431	5,959,136
Unrealised loss (gain) on exchange		215,236,293	(4,493,831)	(87,607,908)	183,834,020
Fair value gain on trading securities	12	-	(497,803)	-	(497,803)
Gain on disposal of trading securities		(218,977)	(974,492)	(218,977)	(974,492)
Loss (reversal) from impairment of assets	18	637,220	13,079,191	-	(577,706)
Loss (gain) from disposal/write-off equipment		16,792,429	548,712	(35,990)	(21,887)
Loss from disposal of subsidiary	16	2,704,575	-	-	-
Loss from write-off withholding tax		5,922	16,467	-	-
Dividends income		(45)	(56)	(490,700,087)	(618,380,107)
Interest income	29	(797,169)	(1,756,685)	(16,836,996)	(6,463,021)
Finance cost	31	340,728,316	147,191,521	280,835,526	198,870,291
Gain on bargain purchase of subsidiaries	29	-	(56,004,450)	-	-
Loss on impairment of goodwill	20	1,521,796	971,663	-	-
		780,445,460	589,792,157	(90,295,924)	(108,734,793)
Changes in operating assets and liabilities					
Trade and other receivables		8,575,371	101,708,164	39,052,833	9,521,134
Inventories		1,224,242	(9,576,138)	-	-
Value added tax refundable		162,301,185	43,782,264	-	-
Undue input Value Added Tax		(254,234,552)	124,230,086	52,130	(443,295)
Other current assets		70,952	(118,785,232)	-	509,017
Other non-current assets		(5,849,938)	3,938,719	4,685,604	(4,695,979)
Construction and other payables		(169,387,441)	(38,365,921)	(4,548,361)	2,069,083
Other current liabilities		44,583,687	3,594,680	561,193	4,325,485
Employee benefit payments	26	-	(3,917,039)	-	(3,917,039)
Cash flows from (used in) operating activities		567,728,966	696,401,740	(50,492,525)	(101,366,387)
Less Income tax paid		(6,877,949)	(3,324,445)	(2,693,404)	(2,670,607)
Cash flows from (used in) operating activities		560,851,017	693,077,295	(53,185,929)	(104,036,994)

Thai Solar Energy Public Company Limited

Statement of Cash Flows (Cont'd)

AS at 31 December 2020

	Notes	Consolidated		Separate	
		financial statements		financial statements	
		2020	2019	2020	2019
		Baht	Baht	Baht	Baht
Cash flows from investing activities					
Acquisition of subsidiaries, net of cash acquired		(123,160,507)	(745,028,449)	-	(399,992)
Proceeds from disposal of investment in subsidiary		69,312,138	-	-	-
Increase (decrease) in restricted bank deposits		14,993,338	33,319,048	15,882,295	(14,626,035)
Purchase of short-term investments	12	(520,000,000)	(995,390,807)	(520,000,000)	(995,390,807)
Proceeds from disposals of short-term investments		740,868,963	776,208,548	740,868,963	776,208,548
Short-term loans made to others		(6,650,000)	-	(6,650,000)	-
Short-term loans repayments received from others		6,650,000	-	6,650,000	-
Short-term loans made to subsidiaries	37.3	-	-	(41,300,000)	(488,000,000)
Short-term loan repayments received from subsidiaries	37.3	-	-	69,450,000	67,287,107
Long-term loans made to subsidiaries	37.4	-	-	(619,772,929)	(1,018,162,498)
Long-term loan repayments received from subsidiaries	37.4	-	-	292,168,628	161,816,773
Purchase of property, plant and equipment		(2,659,017,870)	(434,438,142)	(2,092,130)	(3,987,216)
Proceeds from disposals of equipment		4,800,374	417,540	56,160	274,547
Purchase of intangible asset		(347,956)	(2,089,002)	(125,055)	(2,088,845)
Interest received		802,183	1,768,982	(6,455,335)	7,644,226
Dividends received		555,100,143	599,830,104	555,100,098	599,830,104
Net cash (used in) generated from investing activities		(1,916,649,194)	(765,402,178)	483,780,695	(909,594,088)
Cash flows from financing activities					
Proceeds from issuance of ordinary shares	27	-	529,916,753	-	529,916,753
Proceeds from short-term loans from financial institutions, net of financial service fee	24.1	1,327,629,613	145,923,140	1,327,629,613	145,923,140
Repayment to short-term loans from financial institutions	24.1	(1,180,000,000)	(150,000,000)	(1,180,000,000)	(150,000,000)
Repayment to lease liabilities	24.2	(34,081,298)	(6,757,229)	(8,502,143)	(2,973,324)
Proceeds from long-term borrowings, net of financial service fee	24.3	3,070,532,061	900,251,282	368,987,500	546,458,031
Repayment to long-term borrowings	24.3	(1,095,850,251)	(942,089,214)	(501,434,656)	(203,166,050)
Proceeds from issuance of debentures	24.5	1,096,750,000	2,344,712,500	1,096,750,000	2,344,712,500
Redemption of debentures	24.5	(950,000,000)	(2,050,000,000)	(950,000,000)	(2,050,000,000)
Purchase shares in subsidiary from non-controlling interests		-	(174,600,000)	-	-
Cash dividends payment		(254,125,002)	(104,813,889)	(254,125,002)	(104,813,889)
Interest expenses and financial service fees		(323,143,553)	(272,131,422)	(248,718,234)	(206,109,932)
Net cash generated from (used in) financing activities		1,657,711,570	220,411,921	(349,412,922)	849,947,229

Thai Solar Energy Public Company Limited

Statement of Cash Flows (Cont'd)

AS at 31 December 2020

	Consolidated		Separate	
	financial statements		financial statements	
	2020	2019	2020	2019
	Baht	Baht	Baht	Baht
Net increase (decrease) in cash and cash equivalents	301,913,393	148,087,038	81,181,844	(163,683,853)
Cash and cash equivalents at beginning of the year	643,594,118	561,020,761	43,843,636	209,557,883
Effect of exchange differences on cash and cash equivalents	(890,465)	2,358,054	(50,897)	(2,030,394)
Effect of exchange differences on translation of financial statements	(61,370,808)	(67,871,735)	-	-
Cash and cash equivalents at end of the year	883,246,238	643,594,118	124,974,583	43,843,636
Non-cash transactions				
Significant non-cash transactions are as follows:				
Payable arising from purchase of investment in subsidiary	-	37,059,807	249,995	249,995
Payable arising from construction and purchase of equipment	17,914,782	6,993,242	-	-
Capitalise borrowing cost to property, plant and equipment and intangible assets	66,310,662	208,201,927	-	-

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

1 General information

Thai Solar Energy Public Company Limited (“the Company”) is a Public Company Limited which is incorporated and domiciled in Thailand. The Company is listed on the Stock Exchange of Thailand. Its parent company is P.M. Energy Company Limited (incorporated in Thailand) (“Parent Company”). The address of the Company’s registered office is as follows:

725 Metropolis Building, 19th Floor, Sukhumvit Rd., Klongton Nua, Wattana, Bangkok.

For reporting purposes, the Company, its subsidiaries and Joint Venture are referred to as the Group.

The principal business operations of the Group are generation and distribution of electricity from solar power and biomass to government and private sector.

These consolidated and separate financial statements have been approved for issue by the Board of Directors on 25 February 2021.

2 Basis of preparation

The consolidated and separate financial statements have been prepared in accordance with Thai Financial Reporting Standards (“TFRS”) and other financial reporting requirements issued under the Securities and Exchange Act.

The consolidated and separate financial statements have been prepared under the historical cost convention except certain financial assets and liabilities (including derivative instrument) as disclosed in accounting policy.

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 8.

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.

3 New and amended financial reporting standards

3.1 New and amended financial reporting standards that are effective for accounting period beginning on or after 1 January 2020 and have significant impacts to the Group

The Group has applied the following standards for the first time for reporting period commencing 1 January 2020.

a) Financial instruments

The new financial standards related to financial instruments are as follows:

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

The new financial reporting standards related to financial instruments introduce new classification and measurement requirements for financial instruments as well as provide derecognition guidance on financial assets and financial liabilities. The new guidance also provides an option for the Group to apply hedge accounting to reduce accounting mismatch between hedged item and hedging instrument. In addition, the new rule provides detailed guidance on financial instruments issued by the Group whether it is a liability or an equity. Among other things, they require extensive disclosure on financial instruments and related risks.

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

3 New and amended financial reporting standards (Cont'd)

3.1 New and amended financial reporting standards that are effective for accounting period beginning on or after 1 January 2020 and have significant impacts to the Group (Cont'd)

The Group has applied the following standards for the first time for reporting period commencing 1 January 2020. (Cont'd)

a) Financial instruments (Cont'd)

The new classification requirements of financial assets require the Group to assess both i) business model for holding the financial assets; and ii) cash flow characteristics of the asset whether the contractual cash flows represent solely payments of principal and interest (SPPI). The classification affects the financial assets' measurement. The new guidance requires assessment of impairment of financial assets as well as contract assets and recognition of expected credit loss from initial recognition.

On 1 January 2020, the Company will apply the new financial reporting standards on financial instruments in its financial statements by applying modified retrospective.

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.

On 1 January 2020, the Group will apply TFRS 16, Leases and adjust cumulative impact to opening retained earnings (modified retrospective approach).

3.2 New and amended financial reporting standards that are effective for accounting period beginning or after 1 January 2021

Certain amended financial reporting standards have been issued that are not mandatory for current reporting period and have not been early adopted by the Group.

a) Revised Conceptual Framework for Financial Reporting added the following key principals and guidance:

- Measurement basis, including factors in considering difference measurement basis
- Presentation and disclosure, including classification of income and expenses in other comprehensive income
- Definition of a reporting entity, which maybe a legal entity, or a portion of an entity
- Derecognition of assets and liabilities

The amendment also includes the revision to the definition of an asset and liability in the financial statements, and clarification to the prominence of stewardship in the objective of financial reporting.

- b) Amendment to TFRS 3, Business combinations amended the definition of a business which requires an acquisition to include an input and a substantive process that together significantly contribute to the ability to create outputs. The definition of the term 'outputs' is amended to focus on goods and services provided to customers and to exclude returns in the form of lower costs and other economic benefits.
- c) Amendment to TFRS 9, Financial instruments and TFRS 7, Financial instruments: disclosures amended to provide relief from applying specific hedge accounting requirements to the uncertainty arising from interest rate benchmark reform such as IBOR. The amendment also requires disclosure of hedging relationships directly affected by the uncertainty.
- d) Amendment to TAS 1, Presentation of financial statements and TAS 8, Accounting policies, changes in accounting estimates and errors amended to definition of materiality. The amendment allows for a consistent definition of materiality throughout the Thai Financial Reporting Standards and the Conceptual Framework for Financial Reporting. It also clarified when information is material and incorporates some of the guidance in TAS 1 about immaterial information.

The Group's management is currently assessing the impact of initial adoption of this standard.

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

4 Impacts from initial application of the new and revised financial reporting standards

This note explains the impact of the adoption of TAS 32 Financial Instruments: Presentation, TFRS 7 Financial Instruments: Disclosure, TFRS 9 Financial Instruments and TFRS 16 Leases on the Group's consolidated financial statements and the Company's separate financial statements. The new accounting policies are disclosed in Note 5.

The Group and the Company have adopted these accounting policies from 1 January 2020 by applying the modified retrospective approach. The comparative figures have not been restated. The reclassifications and the adjustments arising from the changes in accounting policies were therefore recognised in the statement of financial position as of 1 January 2020.

The impact of first-time adoption of new financial reporting standards on the consolidated and separate statements of financial position are as follows:

		Consolidated financial statement			
	Notes	As previously reported on 31 December 2019 Baht	Impact of TAS 32 and TFRS9 (Note 4.1) Baht	Impact of TFRS16 (Note 4.2) Baht	As restated on 1 January 2020 Baht
Assets					
Current assets					
Short-term investments	A	221,114,307	(221,114,307)	-	-
Financial assets measured at fair value through profit or loss	A	-	220,649,986	-	220,649,986
Financial assets measured at amortised cost	A	-	464,321	-	464,321
Non-current assets					
Property, plant and equipment	B	7,549,859,170	-	(43,204,284)	7,506,654,886
Right-of-use assets	B	-	-	275,997,883	275,997,883
Intangible assets	B	4,669,898,201	-	(24,331,931)	4,645,566,270
Deferred tax assets	C	1,623,005	-	3,494,699	5,117,704
Liabilities and equity					
Current liabilities					
Construction and other payables	B	(199,267,433)	-	12,211,113	(187,056,320)
Current portion of lease liabilities	B	(7,195,003)	-	(13,820,540)	(21,015,543)
Non-current liabilities					
Lease liabilities	B	(13,280,673)	-	(210,941,816)	(224,222,489)
Derivative liabilities	D	-	(47,852,258)	-	(47,852,258)
Deferred tax liabilities	C	(28,066,973)	-	(3,220,045)	(31,287,018)
Provision for decommissioning costs	B	(2,584,824)	-	(23,586,295)	(26,171,119)
Equity					
Unappropriated retained earnings		(2,856,783,618)	-	27,401,217	(2,829,382,401)
Other components of equity					
- Fair value of hedge derivatives		-	47,852,258	-	47,852,258

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

4 Impacts from initial application of the new and revised financial reporting standards (Cont'd)

The impact of first-time adoption of new financial reporting standards on the consolidated and separate statements of financial position are as follows: (Cont'd)

		Separate financial statement			
	Notes	As previously reported on 31 December 2019 Baht	Impact of TAS 32 and TFRS9 (Note 4.1) Baht	Impact of TFRS16 (Note 4.2) Baht	As restated on 1 January 2020 Baht
Assets					
Current assets					
Short-term investments	A	221,114,307	(221,114,307)	-	-
Financial assets measured at fair value through profit or loss	A	-	220,649,986	-	220,649,986
Financial assets measured at amortised cost	A	-	464,321	-	464,321
Non-current assets					
Property, plant and equipment	B	273,737,922	-	(18,865,512)	254,872,410
Right-of-use assets	B	-	-	34,462,508	34,462,508
Liabilities and equity					
Current liabilities					
Current portion of lease liabilities	B	(2,720,032)	-	(4,609,635)	(7,329,667)
Non-current liabilities					
Lease liabilities	B	(5,259,640)	-	(11,740,250)	(16,999,890)
Deferred tax liabilities	C	(3,111,610)	-	(3,231,252)	(6,342,862)
Equity					
Unappropriated retained earnings		(359,342,634)	-	3,984,141	(355,358,493)

The explanation of the adjustment and reclassify transaction.

- A) Changed in classification of financial assets.
- B) Recognised right-of-use assets and lease liabilities together with corresponding adjustments of prepaid and accrued rent against right-of-use assets.
- C) Adjusted deferred tax assets (liabilities) resulted from aforementioned adjustment.
- D) Recognised fair value of derivative liabilities.

4.1 Financial instruments

With the first-time adoption of financial reporting standards regarding financial instruments, the Group's financial statements have been significantly affected on derivative contracts and hedging activities.

The total impact on the other components of equity as at 1 January 2020 is as follows:

	Consolidated financial statement Baht
Other component of equity as at 31 December 2019	-
Hedge accounting and derivatives	47,852,258
Other component of equity as at 1 January 2020	47,852,258

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

4 Impacts from initial application of the new and revised financial reporting standards (Cont'd)

4.1 Financial instruments (Cont'd)

4.1.1 Classification and measurement (Cont'd)

On 1 January 2020 (the date of initial application), the Group's management has assessed which business models applied to the financial assets and liabilities held by the Group and has classified the financial assets and liabilities as below.

	Consolidated financial statement		
	Fair value through profit or loss Baht	Amortised cost Baht	Total Baht
Financial assets as at 1 January 2020			
Cash and cash equivalents	-	643,594,118	643,594,118
Restricted bank deposits	-	53,103,985	53,103,985
Short-term investments	220,649,986	464,321	221,114,307
Trade and other receivables	-	405,580,989	405,580,989
	<u>220,649,986</u>	<u>1,102,743,413</u>	<u>1,323,393,399</u>

	Consolidated financial statement		
	Fair value - Derivatives Baht	Amortised cost Baht	Total Baht
Financial liabilities as at 1 January 2020			
Short-term borrowings from financial institutions	-	98,470,171	98,470,171
Construction and other payables	-	199,267,433	199,267,433
Right in power purchase agreement payables	-	75,384,764	75,384,764
Lease liabilities	-	245,238,032	245,238,032
Long-term loans from financial institutions	-	6,474,190,075	6,474,190,075
Debentures	-	3,294,825,758	3,294,825,758
Derivative liabilities	47,852,258	-	47,852,258
	<u>47,852,258</u>	<u>10,387,376,233</u>	<u>10,435,228,491</u>

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

4 Impacts from initial application of the new and revised financial reporting standards (Cont'd)

4.1 Financial instruments (Cont'd)

4.1.1 Classification and measurement (Cont'd)

On 1 January 2020 (the date of initial application), the Group's management has assessed which business models applied to the financial assets and liabilities held by the Group and has classified the financial assets and liabilities as below. (Cont'd)

Financial assets as at 1 January 2020	Separate financial statement		
	Fair value through profit or loss Baht	Amortised cost Baht	Total Baht
Cash and cash equivalents	-	43,843,636	43,843,636
Restricted bank deposits	-	27,278,711	27,278,711
Short-term investments	220,649,986	464,321	221,114,307
Trade and other receivables	-	262,770,395	262,770,395
Receivables from disposal of investment	-	1,383,683,149	1,383,683,149
Short-term loans to subsidiaries	-	701,000,825	701,000,825
Long-term loans to subsidiaries	-	5,065,751,459	5,065,751,459
	<u>220,649,986</u>	<u>7,484,792,496</u>	<u>7,705,442,482</u>

Financial liabilities as at 1 January 2020	Separate financial statement	
	Amortised cost Baht	
Short-term borrowings from financial institutions	98,470,171	
Trade and other payables	45,968,588	
Short-term loans from subsidiaries	22,500,000	
Long-term loans from financial institutions	2,563,955,157	
Debentures	3,294,825,758	
Lease liabilities	24,329,557	
	<u>6,050,049,231</u>	

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

4 Impacts from initial application of the new and revised financial reporting standards (Cont'd)

4.1 Financial instruments (Cont'd)

4.1.2 Impairment of financial assets

The Group and the Company have following financial assets that are subject to the expected credit loss model:

- cash and cash equivalents
- trade and other receivables
- loans to related parties

Management assessed that the impact of new impairment requirement on cash and cash equivalents, trade and other receivables and loans to related parties were immaterial.

4.1.3 Hedging activities

Before 1 January 2020 the Group did not recognise derivatives as assets or liabilities in the financial statements. The derivative contracts and related fair values were disclosed in the note.

On 1 January 2020, the Group applies hedge accounting for the first time. The interest rate swaps qualified as cash flow hedges which were disclosed in Note 25.

The Group recognises adjustments of the fair value of the derivatives in cash flow hedges reserve and retained earnings as follows.

	Consolidated financial statement Baht
Financial liabilities as at 1 January 2020	
Non-current liabilities	
Interest rate swaps - cash flow hedges	47,852,258

4.2 Leases

On adoption of TFRS 16, the Group recognised lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of TAS 17 Leases. These liabilities were measured at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate as of 1 January 2020. The weighted average lessee's incremental borrowing rate applied to the lease liabilities on 1 January 2020 was between 0.47% to 4.89% per annum.

The associated right-of-use assets for property leases were measured on a retrospective basis as if TFRS 16 had always been applied. Other right-of-use assets were measured at the amount equal to the lease liabilities, adjusted by the amount of any prepaid or accrued lease payments relating to that lease recognised in the statement of financial position as at 31 December 2019. There were no onerous lease contracts that would have required an adjustment to the right-of-use assets at the date of initial application of TFRS 16.

For leases previously classified as finance leases the Group recognised the carrying amount of the lease asset and lease liability immediately before transition as the carrying amount of the right of use asset and the lease liability at the date of initial application. The measurement principles of TFRS 16 are only applied after that date.

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

4 Impacts from initial application of the new and revised financial reporting standards (Cont'd)

4.2 Leases (Cont'd)

	Consolidated financial statement Baht	Separate financial statement Baht
Operating lease commitments disclosed as at 31 December 2019	206,840,023	10,834,103
Discounted using the lessee's incremental borrowing rate of at the date of initial application	(61,531,286)	(1,234,143)
Add: finance lease liabilities recognised as at 31 December 2019	20,475,676	7,979,672
Add: contracts reassessed due to extension of leases	112,399,630	10,872,401
Less: short-term leases recognised on a straight-line basis as expense	(29,245,159)	(684,704)
Less: low-value leases recognised on a straight-line basis as expense	(3,700,852)	(3,437,772)
	<u>245,238,032</u>	<u>24,329,557</u>
Lease liabilities recognised as at 1 January 2020		
Current lease liabilities	21,015,543	7,329,667
Non-current lease liabilities	224,222,489	16,999,890
	<u>245,238,032</u>	<u>24,329,557</u>

The recognised right-of-use assets related to the following types of assets:

	Consolidated financial statement		Separate financial statement	
	31 December 2020 Baht	1 January 2020 Baht	31 December 2020 Baht	1 January 2020 Baht
Properties	262,691,329	221,841,476	9,532,294	13,433,173
Equipment	15,132,267	16,266,751	-	-
Vehicles	47,822,986	37,889,656	20,810,678	21,029,335
Total right-of-use assets	<u>325,646,578</u>	<u>275,997,883</u>	<u>30,342,972</u>	<u>34,462,508</u>

In applying TFRS 16 with lease contract existing before 1 January 2020 for the first time, the Group has used the following practical expedients permitted by the standard:

- the use of a single discount rate to a portfolio of leases with reasonably similar characteristics
- reliance on previous assessments on whether leases are onerous
- the accounting for operating leases with a remaining lease term of less than 12 months as at 1 January 2020 as short-term leases
- the exclusion of initial direct costs for the measurement of the right-of-use asset at the date of initial application
- the use of hindsight in determining the lease term where the contract contains options to extend or terminate the lease, and
- elect not to reassess whether a contract is, or contains a lease as defined under TFRS 16 at the date of initial application but relied on its assessment made applying TAS 17 and TFRIC 4 determining whether an arrangement contains a Lease.

5 Accounting policies

5.1 Principles of consolidation and equity accounting

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 method.

b) Joint arrangements

Investments in joint arrangements are classified as either joint operations or joint venture depending on the contractual rights and obligations of each investor, rather than the legal structure of the joint arrangements.

Joint venture

A joint venture is a joint arrangement whereby the Group has rights to the net assets of the arrangement. Interests in joint venture are accounted for using the equity method.

In the separate financial statements, investments in joint venture are accounted for using cost method.

List of joint venture is disclosed in Note 15

c) 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 joint venture's 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 venture equals or exceeds its interest joint venture, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the joint venture.

d) 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 venture 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 venture 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.

e) 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 venture are eliminated to the extent of the Group's interest in the associates and joint venture. Unrealised losses are also eliminated in the same manner unless the transaction provides evidence of an impairment of the asset transferred.

5 Accounting policies (Cont'd)

5.2 Business combination

The Group applies the acquisition method to account for business combinations with an exception on business combination under common control. The consideration transferred for the acquisition of a subsidiary comprises:

- fair value of the assets transferred
- liabilities incurred to the former owners of the acquiree
- equity interests issued by the Group

Identifiable assets and liabilities acquired and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date.

On an acquisition-by-acquisition basis, the Group initially recognises any non-controlling interest in the acquiree either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets.

The excess of the consideration transferred, the amount of any non-controlling interest recognised and the acquisition-date fair value of any previous equity interest in the acquiree (for business combination achieved in stages) over the fair value of the identifiable net assets acquired is recorded as goodwill. In the case of a bargain purchase, the difference is recognised directly in profit or loss.

Acquisition-related cost

Acquisition-related cost are recognised as expenses.

Changes in fair value of contingent consideration paid/received

Subsequent changes to the fair value of the contingent consideration that is an asset or liability is recognised in profit or loss. Contingent consideration that is classified as equity is not re-measured.

Business combination under common control

The Group accounts for business combination under common control by measuring acquired assets and liabilities of the acquiree at their carrying values presented in the highest level of the consolidation. The Group retrospectively adjusted the business combination under common control transactions as if the combination had occurred on the later of the beginning of the preceding comparative period and the date the acquiree has become under common control.

Consideration of business combination under common control are the aggregated amount of fair value of assets transferred, liabilities incurred and equity instruments issued by the acquirer at the date of which the exchange in control occurs.

5 Accounting policies (Cont'd)

5.3 Foreign currency translation

a) Functional and presentation currency

The financial statements are presented in Thai Baht, which is the Company's and the Group's functional and 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.

Any exchange component of gains and losses on a non-monetary item that recognised in profit or loss, or other comprehensive income is recognised following the recognition of a gain or loss on the non-monetary item.

c) Group companies

The operational results and financial position of the Group's entities (none of which has the currency of a hyper-inflationary economy) that have a different functional currency from the Group's presentation currency are translated into the presentation currency as follows:

- Assets and liabilities are translated at the closing rate at the date of respective statement of financial position;
- Income and expenses for statement of comprehensive income are translated at average exchange rates; and
- All resulting exchange differences are recognised in other comprehensive income.

5.4 Cash and cash equivalents

In the statements of cash flows, cash and cash equivalents includes cash on hand, deposits held at call, short-term highly liquid investments with maturities of three months or less from acquisition date

5.5 Restricted bank deposits

Restricted bank deposits mean all types of bank deposits that are under condition of withdrawal process for specific purpose according to financial agreement and loan facilities agreement with financial institution which provide credit to the Group.

5.6 Trade accounts receivable

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business. They are generally due for settlement within 60 days and therefore are all classified as current.

Trade receivables are recognised initially at the amount of consideration that is unconditional unless they contain significant financing components, they are recognised at fair value. The Group holds the trade receivables with the objective to collect the contractual cash flows and therefore measures them subsequently at amortised cost.

5 Accounting policies (Cont'd)

5.7 Inventories

Inventories are stated at the lower of cost or net realisable value.

Cost of inventories is determined by the weighted average method. Cost of raw materials comprise all purchase cost and costs directly attributable to the acquisition of the inventory less all attributable discounts, direct labour and other direct costs.

5.8 Financial assets

Investments and other financial assets

For the year ended 31 December 2020

a) Classification

From 1 January 2020, the Group classifies its debt instrument financial assets in the following measurement categories depending on i) business model for managing the asset and ii) the cash flow characteristics of the asset whether they represent solely payments of principal and interest (SPPI).

- those to be measured subsequently at fair value (either through other comprehensive income or through profit or loss); and
- those to be measured at amortised cost

The Group reclassifies debt investments when and only when its business model for managing those assets changes.

For investments in equity instruments, the Group has an irrevocable election at the time of initial recognition to account for the equity investment at fair value through profit or loss (FVPL) or at fair value through other comprehensive income (FVOCI) except those that are held for trading, they are measured at FVPL.

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

b) Recognition and derecognition

Regular way purchases, acquires and sales of financial assets are recognised on trade-date, the date on which the Group commits to purchase or sell the asset. Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

c) Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at FVPL, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at FVPL are expensed in profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether the cash flows are solely payment of principal and interest.

5 Accounting policies (Cont'd)

5.8 Financial assets (Cont'd)

Investments and other financial assets (Cont'd)

For the year ended 31 December 2020 (Cont'd)

d) Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. There are three measurement categories:

- Amortised cost: Assets that are held for collection of contractual cash flows that represent solely payments of principal and interest (SPPI) are measured at amortised cost. Interest income is included in other income using the effective interest method. Any gain or loss on derecognition is presented in other gains/(losses), together with foreign exchange gains and losses. Impairment losses are presented as separate line item.
- FVOCI: Assets that are held for collection of contractual cash flows that represent SPPI and for selling the financial assets are measured at FVOCI. Movements in the carrying amount are taken through OCI, except impairment gains or losses, interest revenue and foreign exchange gains and losses which are recognised in profit or loss. Interest revenue is included in finance income. Foreign exchange gains and losses are presented in other gains/(losses). Impairment losses are presented as separate line item. When the financial asset is derecognised, the cumulative gain or loss previously recognised in OCI is reclassified to profit or loss in other gains/(losses).
- FVPL: Assets that do not meet the criteria for amortised cost or FVOCI are measured at FVPL. A gain or loss on subsequent measurement is presented in other gains/(losses).

The Group reclassifies debt instruments only when its business model for managing those assets changes.

e) Impairment

From 1 January 2020, the Group assesses expected credit loss on a forward-looking basis for its financial assets carried at FVOCI and at amortised cost. The impairment methodology applied depends on whether there has been a significant increase in credit risk, except trade receivables, contract assets, and lease receivables which the Group applies the simplified approach in determining its expected credit loss.

For trade receivables, the Group applies the simplified approach, which requires expected lifetime losses to be recognised from initial recognition of the receivables.

Impairment (reversal of impairment) losses are recognised in profit or loss and included in administrative expenses.

Classification and measurement of financial assets for the year ended 31 December 2019 is disclosed in Note 4.1.

For the year ended 31 December 2019

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.

5 Accounting policies (Cont'd)

5.8 Financial assets (Cont'd)

Investments and other financial assets (Cont'd)

For the year ended 31 December 2019 (Cont'd)

Held-to-maturity investments

Held-to-maturity investments are carried at amortised cost using the effective interest method 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.

5.9 Lease

Leases - where the Group is the lessee

For the year ended 31 December 2020

Leases are recognised as a right-of-use asset and a lease liability at the date at which the leased asset is available for use by the Group. Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable
- variable lease payment that are based on an index or a rate
- amounts expected to be payable by the lessee under residual value guarantees
- the exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and
- payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- restoration costs.

Payments associated with short-term leases and leases of low-value assets are recognised on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise small items of office furniture.

For the year ended 31 December 2019

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.

5 Accounting policies (Cont'd)

5.10 Investment property

Investment properties of the Group are lands and condominium which are held for capital appreciation and are not occupied by the Group.

Investment property is measured initially at cost, including directly attributable costs and borrowing costs.

Subsequently, investment property is carried at cost less any accumulated depreciation and any accumulated impairment losses.

Land is not depreciated. Depreciation on condominium is calculated by using straight-line method over 20 years.

Subsequent expenditure is capitalised to the asset's carrying amount only when it is probable that future economic benefits associated with the expenditure will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance costs are expensed when incurred. When part of an investment property is replaced, the carrying amount of the replaced part is derecognised.

5.11 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:

	<u>Number of years</u>
Land improvement	15 years 4 months - 25 years
Power plants	15 years 4 months - 25 years
Office buildings	25 years
Tools and equipment	5 - 10 years
Office equipment	3 - 5 years
Vehicles	5 years

The assets' residual values and useful life 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 the statement of comprehensive income

5.12 Goodwill

Goodwill is tested for impairment annually, or more frequently if events or changes in circumstances indicate that it might be impaired and is carried at cost less accumulated impairment losses.

For the purpose of impairment testing, goodwill is allocated to cash-generating units or groups of cash-generating units that are expected to benefit from the business combination in which the goodwill arose. The units or groups of units are identified at the lowest level at which goodwill is monitored for internal management purposes.

5 Accounting policies (Cont'd)

5.13 Intangible assets

5.13.1 Computer software

Acquired computer software is capitalised on the basis of the costs incurred to acquire and bring to use the specific software. These costs are amortised over their estimated useful life of 5 years.

5.13.2 Right in Power Purchase Agreement

Right in Power Purchasing Agreements ("PPAs") comprise of PPA for renewable energy (Biomass project) which the Group signed with Provincial Electricity Authority (PEA) and PPA for generating electricity from solar farm as specified in certification for power distribution granted by Ministry of Economy, Trade and Industry, Japan (METI Certificate). The Group acquired those PPAs from acquisition of subsidiaries. PPAs were amortised by using the straight-line method to allocate their cost to their residual values over their Power Purchase Agreement. Amortisation starts when the Group start their commercial operation.

5.13.3 Right in use of land

Land for the location of The Electricity Generating Authority of Thailand Installed on the ground for government agencies and agricultural cooperatives that is a joint project between a subsidiary with a cooperative in Thailand. A subsidiary agreed to transfer the ownership in this plot of land to that cooperative by the end of the project. The Group remain the right to use such land over the agreement period. Right in use of land was amortised using straight-line method over the contractual period of 25 years.

5.14 Impairment 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.

5.15 Financial liabilities

For the year ended 31 December 2020

a) Classification

Financial instruments issued by the Group are classified as either financial liabilities or equity securities by considering contractual obligations.

- Where the Group has an unconditional contractual obligation to deliver cash or another financial asset to another entity, it is considered a financial liability unless there is a predetermined or possible settlement for a fixed amount of cash in exchange of a fixed number of the Group's own equity instruments.
- Where the Group has no contractual obligation or has an unconditional right to avoid delivering cash or another financial asset in settlement of the obligation, it is considered an equity instrument.

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

5 Accounting policies (Cont'd)

5.15 Financial liabilities (Cont'd)

For the year ended 31 December 2020 (Cont'd)

b) Measurement

Financial liabilities are initially recognised at fair value and are subsequently measured at amortised cost.

c) Derecognition and modification

Financial liabilities are derecognised when the obligation specified in the contract is discharged, cancelled, or expired.

Where the terms of a financial liability are renegotiated/modified, the Group assesses whether the renegotiation / modification results in the derecognition of that financial liability. Where the modification results in an extinguishment, the new financial liability is recognised based on fair value of its obligation. The remaining carrying amount of financial liability is derecognised. The difference as well as proceed paid is recognised as other gains/(losses) in profit or loss.

Where the modification does not result in the derecognition of the financial liability, the carrying amount of the financial liability is recalculated as the present value of the renegotiated / modified contractual cash flows discounted at its original effective interest rate. The difference is recognised in other gains/(losses) in profit or loss.

For the year ended 31 December 2019

Borrowings

Borrowings 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 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.

5.16 Borrowing costs

General and specific borrowing costs directly attributable to the acquisition, construction or production of qualifying assets (assets that take times to get ready for its intended use or sale) are added to the cost of those assets less investment income earned from those specific borrowings. The capitalisation of borrowing costs is ceased when substantially all the activities necessary to prepare the qualifying asset for its intended use or sale are complete.

Other borrowing costs are expensed in the period in which they are incurred.

5 Accounting policies (Cont'd)

5.17 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.

5.18 Employee benefits

5.18.1 Short-term employee benefits

Liabilities for short-term employee benefits such as wages, salaries, paid annual leave and paid sick leave, bonuses, and medical care that are expected to be settled wholly within 12 months after the end of the period are recognised in respect of employees' service up to the end of the reporting period. They are measured at the amount expected to be paid.

5.18.2 Defined contribution plan

The Group operates a provident fund, being a defined contribution plan. The assets of which are held in a separate trustee - administered fund. The provident fund is funded by payments from employees and by the Company. Contributions to the provident fund are charged to the statement of comprehensive income in the period to which the contributions relate.

5 Accounting policies (Cont'd)

5.18 Employee benefits (Cont'd)

5.18.3 Defined benefit plans

A defined benefit plan is a retirement plan that is not a defined contribution plan. Typically defined benefit plans define an amount of retirement benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation. The liability recognised in the statement of financial position in respect of defined benefit retirement plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries 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 are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating to the terms of the related retirement liability. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity in other comprehensive income in the period in which they arise. They are included in retained earnings in the statements of changes in equity / presented as a separate item in statements of changes in equity.

Past-service costs are recognised immediately in profit or loss.

5.18.4 Termination benefits

The Group recognises termination benefits at the earlier of (a) when the Group can no longer withdraw the offer of those benefits; and (b) when the entity recognises costs for the related restructuring. Benefits due more than 12 months are discounted to their present value.

5.19 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 the amount has been reliably estimated.

Provisions are measured at the present value of the expenditures expected to be required to settle the obligation. The increase in the provision due to passage of time is recognised as interest expense.

5.20 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 attached conditions.

Government grants relating to the sales of electricity generated from solar power is recognised as profit or loss systematically throughout the period. Moreover, the Group recognised expenses related to cost which is compensated.

5.21 Share capital

Ordinary shares are classified as equity.

Incremental costs directly attributable to the issue of new shares or options (net of tax) are shown as a deduction in equity.

5.22 Revenue recognition

Revenue comprises the fair value of the consideration received or receivable for the sale of goods and service in the ordinary course of the Company's activities. Revenue including electricity tariff adders, net of fuel adjustment (Ft) and the Provincial Electricity Authority's operating charges, are the invoiced value, excluding valued added tax of electricity supplied, and after eliminating sales within the Group. Revenue from sales of goods is recognised when the collectability of goods provided is high probable.

Management service income is recognised when service is completed.

5 Accounting policies (Cont'd)

5.22 Revenue recognition (Cont'd)

Interest income is recognised using the effective interest method.

Dividend income is recognised when the right to receive payment is established.

5.23 Dividend distribution

Dividend distributed to the Company's shareholders is recognised as a liability when interim dividends are approved by the Board of Directors, and when the annual dividends are approved by the shareholders.

5.24 Derivative and hedge accounting

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The Group designates certain derivatives as either hedges of a particular risk associated with the cash flows of i) recognised assets and liabilities and ii) highly probable forecast transactions (cash flow hedges).

At inception of the hedge relationship, the Group documents i) the economic relationship between hedging instruments and hedged items including whether changes in the cash flows of the hedging instruments are expected to offset changes in the cash flows of hedged items and ii) its risk management objective and strategy for undertaking its hedge transactions.

The full fair value of a hedging derivative is classified as a current or non-current asset or liability following the maturity of related hedged item.

Cash flow hedges that qualify for hedge accounting

The effective portion of changes in the fair value of derivatives that are designated and qualified as cash flow hedges is recognised in the cash flow hedge reserve within equity. The gain or loss relating to the ineffective portion is recognised immediately in profit or loss within other gains (losses).

When forward contracts are used to hedge forecast transactions, the Group generally designates only the change in fair value of the forward contract related to the spot component as the hedging instrument. Gains or losses relating to the effective portion of the change in the spot component of the forward contracts are recognised in the cash flow hedge reserve within other components of equity. The change in the forward element of the contract that relates to the hedged item ('aligned forward element') is recognised within other comprehensive income in the costs of hedging reserve within equity. In some cases, the Group may designate the full change in fair value of the forward contract (including forward points) as the hedging instrument. In such cases, the gains or losses relating to the effective portion of the change in fair value of the entire forward contract are recognised in the cash flow hedge reserve within other components of equity.

Amounts accumulated in equity are reclassified in the periods when the hedged item affects profit or loss. The gain or loss relating to the effective portion of the interest rate swaps hedging variable rate borrowings is recognised in profit or loss within finance cost at the same time as the interest expense on the hedged borrowings.

When a hedging instrument expires, or is sold or terminated, or when a hedge no longer meets the criteria for hedge accounting, any cumulative deferred gain or loss and deferred costs of hedging in other components of equity at that time remains in equity until the forecast transaction occurs. When the forecast transaction is no longer expected to occur, the cumulative gain or loss and deferred costs of hedging that were reported in equity are immediately reclassified to profit or loss.

5.25 Segment reporting

Operating segment are reported in a manner consistent with the internal reporting provided to the chief operating decision-maker. The chief operating decision-maker, who is responsible for allocating resource and assessing performance of the operating segments, has been identified as the Chief Executive Officer and the Executive Committee that make strategic decision.

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

6 Financial risk management

6.1 Financial risk factors

The Group exposes to a variety of financial risks: market risk (currency risk, fair value risk and price risk), credit risk and liquidity risk.

6.1.1 Market risk

a) Foreign exchange risk

The Group hires contractor for construction of power plants. Contractors are operating in overseas. The Group is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to US Dollar and Japanese Yen, in terms of foreign exchange risk arises from future commercial transactions, recognition of assets and liabilities and net investments in foreign operations. However, the Group does not hedge foreign exchange risk as investments and borrowings were made in the same currency with future cash inflow and cash outflow.

The Company has granted loans denominated in Japanese Yen to its subsidiaries which expose the Company to a foreign exchange risk.

As at 31 December 2020, The Group's exposure to the significant foreign currency risk expressed in Baht are as follows:

- Cash and cash equivalents denominated in Japanese Yen of Baht 432.13 million
- Long-term loans from financial institutions denominated in Japanese Yen of Baht 1,993.50 million
- Construction payables denominated in US Dollar of Baht 5.23 million

Sensitivity

The Group is primarily exposed to changes in Baht and Japanese Yen and Baht and US Dollar exchange rates. The sensitivity of profit or loss to changes in the exchange rates arises mainly from financial assets and financial liabilities denominated in Japanese Yen and US Dollar.

	Consolidated financial statements			
	Impact to net profit		Impact to other components of equity	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Baht to Japanese Yen exchange rate				
- increase 1%*	19,170,656	20,975,643	-	-
Baht to Japanese Yen exchange rate				
- decrease 1%*	(19,170,656)	(20,975,643)	-	-
Baht to US Dollar exchange rate				
- increase 1%*	52,364	-	-	-
Baht to US Dollar exchange rate				
- decrease 1%*	(52,364)	-	-	-
* Holding all other variables constant				

	Separate financial statements			
	Impact to net profit		Impact to other components of equity	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Baht to Japanese Yen exchange rate				
- increase 1%*	19,170,656	20,975,643	-	-
Baht to Japanese Yen exchange rate				
- decrease 1%*	(19,170,656)	(20,975,643)	-	-
* Holding all other variables constant				

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6 Financial risk management (Cont'd)

6.1 Financial risk factors (Cont'd)

6.1.1 Market risk (Cont'd)

b) Cash flow and fair value interest rate risk

Interest rate risk of the Group occurs from credit facilities of commercial bank which is floating rate. Credit terms and interest rates depend on each borrower's creditability that cause the Company exposing to cash flow risk from interest rate. Generally, the Group enters into long-term borrowings at floating rates and swaps them into fixed rates that are lower than those available if the Group borrowed at fixed rates directly. The Group's borrowings at variable rate were mainly denominated in Thai Baht and Japanese Yen.

Instruments used by the Group

The Group and the Company entered interest rate swaps covering TIBOR + 1.22% (2019: TIBOR + 1.22%) of the variable loan principal outstanding. The fixed interest rate of the swaps is 1.97% (2019: 1.97%), and the variable rate of the loans of 0.68% above TIBOR + 1.22% which is 1.29% (2019: 1.29%) at the end of the reporting period.

The swap contracts require settlement of net interest receivable or payable every 90 days. The settlement dates coincide with the dates on which interest is payable on the underlying debt.

Sensitivity

Profit or loss is sensitive to higher or lower interest income from cash and cash equivalents, and interest expenses from borrowings as a result of changes in interest rates. Other components of equity changes as a result of an increase or decrease in the fair value of the cash flow hedges of borrowings and the fair value of debt investments at fair value through other comprehensive income.

	Consolidated financial statements			
	Impact to net profit		Impact to other components of equity	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Interest rate - increase 10%*	(25,342,347)	(21,070,852)	(2,432,694)	(2,648,490)
Interest rate - decrease 10%*	25,342,347	21,070,852	2,432,694	2,648,490
* Holding all other variables constant				

	Separate financial statements			
	Impact to net profit		Impact to other components of equity	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Interest rate - increase 10%*	(8,878,190)	(8,271,247)	-	-
Interest rate - decrease 10%*	8,878,190	8,271,247	-	-
* Holding all other variables constant				

6 Financial risk management (Cont'd)

6.1 Financial risk factors (Cont'd)

6.1.2 Credit risk

Credit risk arises from cash and cash equivalents and derivative financial instruments as well as credit exposures to customers, including outstanding receivables.

a) Risk management

Credit risk is managed on a group basis. For banks and financial institutions, only independently rated parties with a minimum rating of 'A' are accepted.

If customers are independently rated, these ratings are used. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on tips assessments in accordance with limits set by the board. The compliance with credit limits by customers is regularly monitored by line management.

b) Impairment

The Group and the Company has financial assets that are subject to the expected credit loss model:

- Trade and other receivables
- Loan to related parties

While cash and cash equivalents are also subject to the impairment requirements of TFRS 9, the identified impairment loss was immaterial.

Trade receivables

The Group applies the TFRS 9 simplified approach to measure expected credit losses which uses a lifetime expected loss allowance for all trade receivables.

To measure the expected credit losses, trade receivables and contract assets have been grouped based on shared credit risk characteristics and the days past due. The contract assets relate to unbilled work in progress and have substantially the same risk characteristics as the trade receivables for the same types of contracts. The Group has therefore concluded that the expected loss rates for trade receivables are a reasonable approximation of the loss rates for the contract assets.

The expected loss rates are based on the payment profiles of sales before 31 December 2020 and the corresponding historical credit losses experienced within this period. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle the receivables.

Loans to related parties

Loans to related parties measured at amortised cost are considered to have low credit risk, and the loss allowance recognised during the year was therefore limited to 12 months expected losses. Lifetime expected credit losses is recognised for the loans that the credit risk is significant increased.

6 Financial risk management (Cont'd)

6.1 Financial risk factors (Cont'd)

6.1.3 Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash and the availability of funding through an adequate amount of committed credit facilities to meet obligations when due and to close out market positions. At the end of the reporting period the Group held deposits at call of Baht 883.25 million (2019: Baht 643.60 million) that are expected to readily generate cash inflows for managing liquidity risk. Due to the dynamic nature of the underlying businesses, the Group Treasury maintains flexibility in funding by maintaining availability under committed credit lines.

Management monitors i) rolling forecasts of the Group's liquidity reserve (comprising the undrawn borrowing facilities below); and ii) cash and cash equivalents on the basis of expected cash flows. In addition, the Group's liquidity management policy involves projecting cash flows in major currencies and considering the level of liquid assets necessary, monitoring balance sheet liquidity ratios and maintaining financing plans.

a) Financing arrangements

The detail of undrawn facilities as at 31 December are disclosed in Note 24.

b) Maturity of financial liabilities

Construction and other payables financial liabilities have maturity within 1 year. The maturity of the borrowing from financial institutes and debentures are disclosed in Note 24.

6.2 Capital management

Risk management

The objectives when managing capital are to:

- Safeguard their ability to continue as a going concern, to provide returns for shareholders and benefits for other stakeholders, and
- Maintain an optimal capital structure to reduce the cost of capital

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

Consistent with others in the industry, the Group monitors capital based on gearing ratio which is determined by dividing net debt with equity.

6.3 Major customer reliance risk

The Group relies on Provincial Electricity Authority (PEA) and Metropolitan Electricity Authority (MEA) who purchase of all electricity generated in specific quantities at specific price based on each specific period according to Power Purchase Agreements, in accordance with Ministry of Energy's policy to encourage production and usage of renewable energy. As a result, agreement termination may significantly impact the Group's operations.

6.4 Risk from generated electricity lower than estimation

The electricity volume generated from solar power plants might be affected by climate change and natural disaster, forming as a risk of production volume is lower than estimation. In consequence, it may impact to revenues and operating results of the Group as well as other electricity generators in this industry.

6 Financial risk management (Cont'd)

6.5 Debt settlement ability risk

According to credit facilities conditions with commercial bank, the Group has to comply with financial covenants stated in the agreement such as to maintain Debt-to-Equity ratio and maintain Debt service coverage ratio. If the Group cannot maintain those financial covenants, the Group might be called up for immediate debt settlement.

7 Fair value

Fair value of financial assets, investment property and derivative liabilities are disclosed in Notes 12, 17 and 25, respectively.

8 Critical estimates and judgements

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

Fair value of derivatives

The fair value of derivatives that are not traded in an active market is determined using valuation techniques based on observable information. Details of valuation technique are disclosed in Note 25.

Estimated impairment of assets

The Group tests whether asset has suffered any impairment, in accordance with the accounting policy stated in Note 5.14. The recoverable amounts of cash-generating units have been determined based on fair value less costs to sell which was determined with reference to market prices for equivalent assets.

Consolidation of entities with less than 50% ownership

Management consider that the Group has de facto control over Bangsawan Green Co., Ltd. even though it has less than 50% of the voting rights. The Group is the major shareholder of Bangsawan Green Co., Ltd. with a 49% equity interest, while all other shareholders individually own less than 51% of its equity shares. There is no history of other shareholders forming a group to exercise their votes collectively.

Determination of discount rate applied to lease liabilities

The Group determines the incremental borrowing rate as follows:

- Where possible, use recent third-party financing received by the individual lessee as a starting point, adjusting to reflect changes in its financing conditions.
- Make adjustments specific to the lease, e.g. term, country, currency and security.

9 Operating segments

The principal business operations of the Group are generation and distribution of electricity from solar power and biomass and operating its business in Thailand and in Japan. Segment information is presented in respect of the Group's geography segments which are domestic and international. The two segments presented were classified and reviewed by authorised persons which are Chief Executive Officer and the Executive Committee.

The following information is used by authorised persons to evaluate operation of each segment.

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9 Operating segments (Cont'd)

Financial information by geography segment

	For the year ended 31 December (Million Baht)							
	Domestic		International		Total		Elimination	
	2020	2019	2020	2019	2020	2019	2020	2019
Revenue from operations	1,291.25	1,095.94	315.29	305.58	1,606.54	1,401.52	(76.09)	(52.63)
Other income	25.60	86.03	3.51	12.34	29.11	98.37	(16.60)	(5.65)
Dividends income	490.70	618.38	-	-	490.70	618.38	(490.70)	(618.38)
Cost of operations	(793.31)	(708.47)	(228.24)	(202.06)	(1,021.55)	(910.53)	(1.80)	(0.83)
Operating profit	1,014.24	1,091.88	90.56	115.86	1,104.80	1,207.74	(585.19)	(677.49)
Administrative expenses	(288.93)	(228.40)	(93.54)	(58.19)	(382.47)	(286.59)	77.18	53.24
Profit (loss) before finance cost and taxes	725.31	863.48	(2.98)	57.67	722.33	921.15	(508.01)	(624.25)
Finance costs	(377.00)	(315.68)	(46.64)	(45.37)	(423.64)	(361.05)	82.91	213.86
Gain (loss) from exchange rate	42.24	(148.52)	(3.51)	(0.11)	38.73	(148.63)	(136.68)	143.22
Share of profit from investments in joint ventures	643.33	659.52	-	-	643.33	659.52	-	-
Operating results before taxes	1,033.88	1,058.80	(53.13)	12.19	980.75	1,070.99	(561.78)	(267.17)
Income tax	1.37	(3.72)	(1.54)	(1.35)	(0.17)	(5.07)	-	-
Net profit (loss)	1,035.25	1,055.08	(54.67)	10.84	980.58	1,065.92	(561.78)	(267.17)
Timing of revenue recognition								
At a point in time								
Over time								
Total revenue								
							1,483.36	1,304.15
							47.09	44.74
Total assets								
							1,530.45	1,348.89
Total liabilities								
							19,176.78	15,869.99
							13,257.45	10,237.67

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10 Cash and cash equivalents

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Cash on hand	6,435,907	1,870,000	25,000	25,000
Cash at bank	876,810,331	641,724,118	124,949,583	43,818,636
	<u>883,246,238</u>	<u>643,594,118</u>	<u>124,974,583</u>	<u>43,843,636</u>

The average effective interest rate on short-term bank deposits was 0.12% per annum (2019: 0.33% per annum).

11 Restricted bank deposits

Short-term restricted bank deposits comprise saving deposits specially for repayment of debenture's principals and interest, pledged saving deposits and pledged deposits in current accounts of subsidiaries and the transfer of claims in the deposit accounts to the lender according to the specified expenditure conditions to secure the credit facilities.

The long-term restricted bank deposits consist of the pledged saving bank deposits of the Company to guarantee its electricity consumption, the pledged saving bank deposits of the subsidiaries for the specific purpose specified in the credit facility agreement and a fixed deposit of the Company pledged to the lender to guarantee the credit.

12 Financial assets and financial liabilities

As at 31 December 2020, the Group has classified all financial assets and financial liabilities to be measured at amortised cost except trading securities and derivative liabilities, which classified to be measured at fair value through profit or loss. Details and fair value of derivative liabilities are disclosed in Note 25.

The movements of trading securities and held-to-maturity investments financial assets during the year are as follows:

	Consolidated and separate financial statements		
	Trading securities Baht	Held-to-maturity investment due within 1 year Baht	Total Baht
At 1 January 2019	-	459,753	459,753
Additions	995,386,239	4,568	995,390,807
Disposals	(775,234,056)	-	(775,234,056)
Change in fair value	497,803	-	497,803
At 31 December 2019	220,649,986	464,321	221,114,307
Additions	520,000,000	-	520,000,000
Disposals	(740,649,986)	-	(740,649,986)
Interest received	-	2,339	2,339
At 31 December 2020	-	466,660	466,660

The fair value of investments are within level 2 of the fair value hierarchy which is based on bid price in liquidity market as at financial statement date.

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13 Trade and other receivables

Trade and other receivables as at 31 December 2020 and 2019 comprise the following:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Trade receivables	208,663,980	237,261,772	-	-
<u>Less</u> Expected credit loss	-	-	-	-
Total trade receivables, net	208,663,980	237,261,772	-	-
Amounts due from and advances to related parties (Note 37.2)	4,256,449	4,053,761	84,184,990	99,069,193
Prepaid expenses	23,757,557	24,818,977	2,747,118	1,160,482
Dividends receivable (Note 37.2)	88,900,016	153,300,027	88,900,016	153,300,027
Other receivables	15,097,280	10,667,959	10,125,002	10,160,660
Advance payment	1,078,931	297,470	206,420	240,515
Total other receivables	133,090,233	193,138,194	186,163,546	263,930,877
<u>Less</u> Expected credit loss	(894,980)	-	(894,980)	-
Total other receivables, net	132,195,253	193,138,194	185,268,566	263,930,877
Total trade and other receivables	340,859,233	430,399,966	185,268,566	263,930,877

All outstanding trade receivable are not yet due.

14 Other current assets

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Withholding tax deducted at sources	16,596,752	13,745,352	16,430,244	13,736,840
Others	1,063,951	287,658	191,040	191,040
	17,660,703	14,033,010	16,621,284	13,927,880

15 Investments in joint ventures

Movement in investments in joint ventures

	Consolidated financial statements Baht	Separate financial statements Baht
For the year ended 31 December 2020		
Opening net book amount	1,840,054,520	350,000,130
Share of profit	643,333,543	-
Dividends received	(490,700,042)	-
Closing net book amount	1,992,688,021	350,000,130

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15 Investments in joint ventures (Cont'd)

Details of joint ventures in 2020 and 2019 are as follows:

	Type of business	Country of incorporation	% Ownership		Measurement method
			2020	2019	
Joint venture directly held by the Company					
Thai Solar Renewable Co., Ltd.	Investment holding	Thailand	60	60	Equity
Joint venture held by Thai Solar Renewable Co., Ltd.					
Siam Solar Energy 1 Co., Ltd.*	Generation and distribution of electricity	Thailand	60	60	Equity

* The Company directly holds 1 share and the remaining shares are held by Thai Solar Renewable Co., Ltd.

Thai Solar Renewable Co., Ltd. is investment holding company and Siam Solar Energy 1 Co., Ltd. engages in the generation and distribution of electricity from solar energy. These companies are private companies and their shares are not traded. These companies were joint venture held by the Company and Global Power Synergy Public Co., Ltd.

Summarised financial information for joint ventures

Financial statements of Siam Solar Energy 1 Co., Ltd., subsidiary of Thai Solar Renewable Co., Ltd., was included in the consolidated financial statements of Thai Solar Renewable Co., Ltd.

Set out below are the summarised consolidated financial statements of Thai Solar Renewable Co., Ltd.

Summarised statement of financial positions

	Consolidated financial statements of Thai Solar Renewable Co., Ltd. As at 31 December	
	2020 Baht	2019 Baht
Current		
Cash and cash equivalents	933,796	1,473,351
Other current assets (excluding cash)	503,573,311	617,286,173
Total current assets	504,507,107	618,759,524
Current financial liabilities (excluding trade payables)	(700,614,716)	(321,750,000)
Other current liabilities (including trade payables)	(187,886,318)	(304,104,265)
Total current liabilities	(888,501,034)	(625,854,265)
Total current net assets	(383,993,927)	(7,094,741)
Non-current		
Assets	4,730,342,032	4,798,663,173
Financial liabilities	(1,162,120,609)	(1,861,540,574)
Total non-current net assets	3,568,221,423	2,937,122,599
Net assets	3,184,227,496	2,930,027,858

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15 Investments in joint ventures (Cont'd)

Summarised statement of comprehensive income

Consolidated financial statements of Thai Solar Renewable Co., Ltd. For the year ended 31 December		
	2020 Baht	2019 Baht
Revenue from sales	490,897,737	513,383,500
Subsidy for adders	1,007,241,723	1,028,311,564
Cost of sales	(309,561,972)	(312,025,608)
Gross profit	1,188,577,488	1,229,669,456
Other income	2,213,106	4,582,965
Administrative expenses	(32,340,387)	(30,098,682)
Finance costs	(85,853,653)	(104,205,283)
Profit before income tax	1,072,596,554	1,099,948,456
Income tax	(373,983)	(752,315)
Profit from continuing operations after income tax	1,072,222,571	1,099,196,141

The information above reflects the amounts presented in the financial statements of the joint venture (and not the Group's share of those amounts). Under equity method the Group recognised profit or loss of the joint venture in Statement of Comprehensive Income within "Share of profit from investments in joint venture" according to the Group's interest in the joint venture.

Reconciliation of summarised financial information

Reconciliation of the summarised financial information presented to the carrying amount of its interest in joint ventures.

Thai Solar Renewable Co., Ltd. As at 31 December		
	2020 Baht	2019 Baht
Summarised financial information		
Closing net assets	3,184,227,496	2,930,027,858
Reconciliation:		
The difference from restructuring business under common control	136,913,097	136,913,097
Non-controlling interests	6,109	(183,422)
Closing net assets after reconciliation	3,321,146,702	3,066,757,533
Interest in joint ventures (60%)	1,992,688,021	1,840,054,520
Carrying value	1,992,688,021	1,840,054,520

As at 31 December 2020, Thai Solar Renewable Company Limited has pledged share certificates of Siam Solar Energy 1 Company Limited, amounting to Baht 1,080 million (2019: Baht 1,080 million) as collateral for its subsidiary's credit facilities granted by a commercial bank. In addition, Siam Solar Energy 1 Company Limited has mortgaged land with construction thereon and machinery with a total net book value of Baht 4,523.59 million (2019: Baht 4,754.92 million) and pledged bank deposits amounting to Baht 264 million (2019: Baht 360 million) as collateral for credit facilities granted by a commercial bank.

The Company has pledged all share certificates of the investment in the joint venture with the lender as the collateral for the credit facilities which the joint venture is granted from the commercial bank.

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16 Investments in subsidiaries

Details of investments as at 31 December 2020 and 2019 are as follows:

	Type of business	Country of incorporation	Proportion of ordinary shares directly held by parent (%)		Proportion of shares held by non-controlling interests (%)	
			2020	2019	2020	2019
Subsidiaries directly held by the Company						
TSE Rooftop Co., Ltd.	Investment	Thailand	100	100	-	-
Solar Visible Co., Ltd.	Investment	Thailand	100	100	-	-
TSE Overseas Group Co., Ltd.	Investment	Thailand	100	100	-	-
World Solar Co., Ltd.	Investment	Thailand	100	100	-	-
Thai Community Energy Co., Ltd.	Investment	Thailand	100	100	-	-
Subsidiaries held by TSE Rooftop Co., Ltd.						
Green Rooftop Co., Ltd.	Production and distribution of electricity	Thailand	100	100	-	-
North Rooftop Co., Ltd.	Production and distribution of electricity	Thailand	100	100	-	-
Lucky Solar Co., Ltd.	Production and distribution of electricity	Thailand	100	100	-	-
Champ Energy Co., Ltd.	Production and distribution of electricity	Thailand	100	100	-	-
Roof Energy Co., Ltd.	Production and distribution of electricity	Thailand	100	100	-	-
Subsidiaries held by Solar Visible Co., Ltd.						
Solar Community Co., Ltd.	Production and distribution of electricity	Thailand	100	100	-	-
Infinity Solar Co., Ltd.	Production and distribution of electricity	Thailand	100	100	-	-
BS Bangsai Solar Co., Ltd.	Production and distribution of electricity	Thailand	100	100	-	-
BS Solar Energy Co., Ltd.	Production and distribution of electricity	Thailand	-	100	-	-
Siam Solar Power Plc.	Production and distribution of electricity	Thailand	100	100	-	-
BP Trading (Thailand) Co., Ltd.	Production and distribution of electricity	Thailand	100	-	-	-
Earth Energy Systems Co., Ltd.	Investment	Thailand	100	-	-	-
Subsidiaries held by Thai Community Energy Co., Ltd.						
Bangsawan Green Co., Ltd.	Production and distribution of electricity	Thailand	49	49	51	51
Oscar Save The World Co., Ltd.	Production and distribution of electricity	Thailand	100	100	-	-
Native Power Energy Co., Ltd. (previously "Sun Future Co., Ltd.")	Production and distribution of electricity	Thailand	-	100	-	-
White Solution Energy Co., Ltd. (previously "The Solar Earth Co., Ltd.")	Production and distribution of electricity	Thailand	-	100	-	-
Clean Renewable Co., Ltd.	Production and distribution of electricity	Thailand	-	100	-	-
Subsidiary held by Siam Solar Power Plc.						
Siam Waste Power Co., Ltd.	Production and distribution of electricity	Thailand	100	100	-	-
Subsidiary held by Earth Energy Systems Co., Ltd.						
Mars Solar Co., Ltd.	Production and distribution of electricity	Thailand	100	-	-	-
Subsidiaries held by World Solar Co., Ltd.						
Native Power Energy Co., Ltd. (previously "Sun Future Co., Ltd.")	Production and distribution of electricity	Thailand	100	-	-	-
White Solution Energy Co., Ltd. (previously "The Solar Earth Co., Ltd.")	Production and distribution of electricity	Thailand	100	-	-	-
Clean Renewable Co., Ltd.	Production and distribution of electricity	Thailand	100	-	-	-

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16 Investments in subsidiaries (Cont'd)

Details of investments as at 31 December 2020 and 2019 are as follows: (Cont'd)

	Type of business	Country of incorporation	Proportion of ordinary shares directly held by parent (%)		Proportion of shares held by non-controlling interests (%)	
			2020	2019	2020	2019
Subsidiaries held by TSE Overseas Group Co., Ltd.						
TSE Group International. Pte. Ltd.	Investment	Singapore	100	100	-	-
Solar Assets Pte. Ltd.	Investment	Singapore	100	100	-	-
Onikoube Solar Power Pte. Ltd.	Investment	Singapore	100	100	-	-
TSE Japan GK	Service	Japan	100	-	-	-
Subsidiaries held by TSE Group International. Pte. Ltd.						
Eco Solar Aizu GK	Production and distribution of electricity	Japan	97	97	3	3
Ishikawa Hanamizuki 1 GK	Production and distribution of electricity	Japan	97	97	3	3
Subsidiaries held by Solar Assets Pte. Ltd.						
Ibaraki Ushiku 1 GK	Land lease	Japan	100	100	-	-
Ibaraki Ushiku 2 GK	Land lease	Japan	100	100	-	-
Subsidiaries held by Onikoube Solar Power Pte. Ltd.						
PurpleSol GK	Production and distribution of electricity	Japan	100	100	-	-

Movements of investments in subsidiaries during the year are as follow:

Additional investment under Solar Visible Co., Ltd. ("Solar Visible")

Investment in BP Trading (Thailand) Co., Ltd. ("BP Trading")

On 12 June 2020, Solar Visible acquired 8,000 ordinary shares of BP Trading (Thailand) Company Limited, representing 80% of the registered capital, in order to acquire a business with a private Power Purchase Agreement (Private PPA) of the electricity generation from floating solar in Kabinburi Industrial Estate. The acquisition is considered as assets acquisition. Another third party, at the same time, has intended to acquire the remaining 20% of interests.

In August 2020, the buyer of the 20% interests decided not to pursue with the acquisition. Therefore, Solar Visible agreed to acquire entire 100% interests in BP Trading for a total consideration of Baht 67.24 million.

Investment in Earth Energy System Co., Ltd.

On 14 July 2020, Solar Visible acquired 1,000,000 ordinary shares of Earth Energy System Company Limited, representing 100% of the registered capital for a total consideration of Baht 56.69 million, in order to acquire a business with a ground-mounting solar power plant with the production capacity of 5 MW which operated by its subsidiary, MARS Solar Company Limited. The acquisition is considered as business acquisition.

Disposal of investment under Solar Visible Co., Ltd.

On 25 September 2020, Solar Visible disposed investment in BS Solar Energy Co., Ltd. for a consideration of Baht 84.61 million. The Group recognised a loss from disposal of investment amounting to Baht 2.70 million under "Administrative expenses" in the statement of comprehensive income in consolidated financial statements.

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16 Investments in subsidiaries (Cont'd)

Changes in investment under Thai Community Energy Co., Ltd.

On 29 July 2020, the Group restructured its investments by selling shares of 3 subsidiaries under Thai Community Energy Co., Ltd. at book value to World Solar Co., Ltd. Details are as follows:

Subsidiaries	Investments Baht
Native Power Energy Co., Ltd.	249,995
White Solution Energy Co., Ltd.	249,995
Clean Renewable Co., Ltd.	249,995
	<u>749,985</u>

Additional investment under TSE Overseas Group Co., Ltd. ("TSE Overseas Group")

On 20 August 2020, the Group has established TSE Japan GK for the purpose of overseas investments. TSE Overseas Group subscribed 100% of interests in TSE Japan GK and fully paid for the subscription amounting to Baht 876,414. The Group classified the investment in TSE Japan GK as investment in subsidiary.

17 Investment properties

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Cost	124,193,203	110,193,203	110,193,203	110,193,203
Less Accumulated depreciation	(120,736)	-	-	-
Provision for impairment	(20,215,318)	(20,215,318)	(20,215,318)	(20,215,318)
Net book amount	<u>103,857,149</u>	<u>89,977,885</u>	<u>89,977,885</u>	<u>89,977,885</u>
Fair value	<u>138,420,100</u>	<u>124,420,100</u>	<u>124,420,100</u>	<u>124,420,100</u>
For the year ended 31 December				
Opening net book amount	103,857,149	89,977,885	89,977,885	89,977,885
Acquisition of a subsidiary	-	14,000,000	-	-
Depreciation	(964,636)	(120,736)	-	-
Closing net book amount	<u>102,892,513</u>	<u>103,857,149</u>	<u>89,977,885</u>	<u>89,977,885</u>
As at 31 December				
Cost	124,193,203	124,193,203	110,193,203	110,193,203
Less Accumulated depreciation	(1,085,372)	(120,736)	-	-
Provision for impairment	(20,215,318)	(20,215,318)	(20,215,318)	(20,215,318)
Net book amount	<u>102,892,513</u>	<u>103,857,149</u>	<u>89,977,885</u>	<u>89,977,885</u>
Fair value	<u>138,420,100</u>	<u>138,420,100</u>	<u>124,420,100</u>	<u>124,420,100</u>

The fair value of investment property are within level 2 of the fair value hierarchy which are based on market comparable approach by comparing with the current price of recently sold properties in the same location.

Amounts recognised in profit and loss that are related to investment properties are as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Rental income	532,500	418,500	418,500	418,500
Direct operating expense relating to rental income	3,323	6,612	397	6,612
Operating expense not relating to rental income	4,190	9,355	4,190	9,355

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18 Property, plant and equipment

	Consolidated financial statements								
	Land improvement Baht	Land Baht	Power plants Baht	Office buildings Baht	Tools and equipment Baht	Office equipment Baht	Vehicles Baht	Asset under construction Baht	Total Baht
At 1 January 2019									
Cost	609,433,377	58,195,883	4,574,328,943	30,083,233	19,966,047	14,872,170	66,861,970	2,520,347,308	7,894,088,931
Less Accumulated depreciation	-	(1,490,201)	(390,380,175)	(5,511,705)	(5,176,154)	(7,758,627)	(9,772,296)	-	(420,089,158)
Provision for impairment	-	(1,903,108)	(536,573,146)	(6,780,379)	(268,849)	(184,262)	(206,834)	-	(545,916,578)
Net book amount	609,433,377	54,802,574	3,647,375,622	17,791,149	14,521,044	6,929,281	56,882,840	2,520,347,308	6,928,083,195
For the year ended 31 December 2019									
Opening net book amount	609,433,377	54,802,574	3,647,375,622	17,791,149	14,521,044	6,929,281	56,882,840	2,520,347,308	6,928,083,195
Acquisition of subsidiaries	163,000,000	27,732,999	638,609,155	-	117,062	2,426,834	3,168,000	25,950	835,080,000
Additions	9,476,156	2,532,759	27,279,116	-	5,029,853	2,609,453	16,638,017	294,458,295	358,023,649
Disposals/write-off, net	-	-	(17,416,533)	-	(3,108)	(403,549)	(559,595)	-	(18,382,785)
Transfer-in (out)	-	(1,349,686)	1,903,509,970	1,354,583	10,800	149,760	-	(1,903,675,427)	-
Depreciation charge	-	(4,792,480)	(269,951,014)	(4,172,029)	(3,355,155)	(2,525,400)	(13,383,310)	-	(298,179,388)
(Impairment charge) reversal of impairment	-	-	(13,492,208)	-	145,127	61,056	206,834	-	(13,079,191)
Exchange differences	(25,972,728)	-	(180,043,684)	-	-	(13,799)	-	(35,656,099)	(241,686,310)
Closing net book amount	755,936,805	78,926,166	5,735,870,424	14,973,703	16,465,623	9,233,636	62,952,786	875,500,027	7,549,859,170
At 31 December 2019									
Cost	755,936,805	87,111,955	6,946,266,967	31,437,816	25,099,132	19,269,824	85,068,987	875,500,027	8,825,691,513
Less Accumulated depreciation	-	(6,282,681)	(660,331,189)	(9,683,734)	(8,509,787)	(9,912,982)	(22,116,201)	-	(716,836,574)
Provision for impairment	-	(1,903,108)	(550,065,354)	(6,780,379)	(123,722)	(123,206)	-	-	(558,995,769)
Net book amount	755,936,805	78,926,166	5,735,870,424	14,973,703	16,465,623	9,233,636	62,952,786	875,500,027	7,549,859,170

Thai Solar Energy Public Company Limited

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18 Property, plant and equipment (Cont'd)

Consolidated financial statements									
	Land Baht	Land improvement Baht	Power plants Baht	Office buildings Baht	Tools and equipment Baht	Office equipment Baht	Vehicles Baht	Asset under construction Baht	Total Baht
For the year ended 31 December 2020									
Opening net book amount	755,936,805	78,926,166	5,735,870,424	14,973,703	16,465,623	9,233,636	62,952,786	875,500,027	7,549,859,170
Reclassification due to adoption of TFRS 16 (Note 4)	-	-	(9,635,319)	(1,498,301)	-	-	(32,070,664)	-	(43,204,284)
Opening net book amount - restated	755,936,805	78,926,166	5,726,235,105	13,475,402	16,465,623	9,233,636	30,882,122	875,500,027	7,506,654,886
Acquisition of subsidiaries (Note 36)	-	14,800,000	167,385,707	-	-	14,293	-	-	182,200,000
Disposal of a subsidiary	-	(4,772,031)	(177,444,551)	-	(27,226)	-	-	-	(182,243,808)
Additions	-	4,674,575	2,907,726	163,000	8,222,062	2,160,253	449,110	2,670,390,646	2,688,967,372
Disposals/write-off, net	-	-	(21,572,633)	-	-	(20,170)	-	(56,766,333)	(21,592,803)
Transfer-in (out)	-	78,084	53,260,721	945,948	2,481,580	-	-	-	-
Depreciation charge	-	(10,842,311)	(304,283,868)	(3,417,931)	(4,199,755)	(3,586,096)	(9,215,002)	-	(335,544,963)
Impairment charge	-	-	(637,220)	-	-	-	-	-	(637,220)
Exchange differences	22,324,324	-	136,083,248	-	-	21,001	-	22,240,720	180,669,293
Closing net book amount	778,261,129	82,864,483	5,581,934,235	11,166,419	22,942,284	7,822,917	22,116,230	3,511,365,060	10,018,472,757
At 31 December 2020									
Cost	778,261,129	101,892,583	7,073,122,189	30,092,186	35,775,548	21,441,920	45,926,121	3,511,365,060	11,597,876,736
Less Accumulated depreciation	-	(17,124,992)	(954,043,248)	(12,145,388)	(12,709,542)	(13,495,797)	(23,809,891)	-	(1,033,328,858)
Provision for impairment	-	(1,903,108)	(537,144,706)	(6,780,379)	(123,722)	(123,206)	-	-	(546,075,121)
Net book amount	778,261,129	82,864,483	5,581,934,235	11,166,419	22,942,284	7,822,917	22,116,230	3,511,365,060	10,018,472,757

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18 Property, plant and equipment (Cont'd)

	Separate financial statements								
	Land Baht	Land improvement Baht	Power plants Baht	Office buildings Baht	Tools and equipment Baht	Office equipment Baht	Vehicles Baht	Asset under construction Baht	Total Baht
At 1 January 2019									
Cost	37,552,064	3,141,059	887,448,339	30,083,233	2,616,544	12,227,812	23,467,522	243,583	996,780,156
Less Accumulated depreciation	-	(544,867)	(153,181,379)	(5,511,705)	(1,895,989)	(6,111,727)	(3,384,221)	-	(170,629,888)
Provision for impairment	-	(1,903,108)	(536,573,146)	(6,780,379)	(268,849)	(184,262)	(206,834)	-	(545,916,578)
Net book amount	37,552,064	693,084	197,693,814	17,791,149	451,706	5,931,823	19,876,467	243,583	280,233,690
For the year ended 31 December 2019									
Opening net book amount	37,552,064	693,084	197,693,814	17,791,149	451,706	5,931,823	19,876,467	243,583	280,233,690
Additions	-	-	665,000	-	-	1,213,413	-	22,800	1,901,213
Disposals - net	-	-	-	-	-	(252,660)	-	-	(252,660)
Transfer-in (out)	-	-	-	105,583	10,800	-	-	(116,383)	-
Depreciation charge	-	-	(25,164)	(3,785,109)	(381,485)	(1,814,182)	(2,716,087)	-	(8,722,027)
Reversal of impairment	-	-	164,689	-	145,127	61,056	206,834	-	577,706
Closing net book amount	37,552,064	693,084	198,498,339	14,111,623	226,148	5,139,450	17,367,214	150,000	273,737,922
At 31 December 2019									
Cost	37,552,064	3,141,059	888,113,339	30,188,816	2,627,344	12,846,631	23,467,522	150,000	998,086,774
Less Accumulated depreciation	-	(544,867)	(153,206,543)	(9,296,814)	(2,277,474)	(7,583,975)	(6,100,308)	-	(179,009,980)
Provision for impairment	-	(1,903,108)	(536,408,457)	(6,780,379)	(123,722)	(123,206)	-	-	(545,338,872)
Net book amount	37,552,064	693,084	198,498,339	14,111,623	226,148	5,139,450	17,367,214	150,000	273,737,922
For the year ended 31 December 2020									
Opening net book amount	37,552,064	693,084	198,498,339	14,111,623	226,148	5,139,450	17,367,214	150,000	273,737,922
Reclassification due to adoption of TFRS 16 (Note 4)	-	-	-	(1,498,298)	-	-	(17,367,214)	-	(18,865,512)
Opening net book amount - restated	37,552,064	693,084	198,498,339	12,613,325	226,148	5,139,450	-	150,000	254,872,410
Additions	-	-	487,500	-	36,600	1,568,030	-	-	2,092,130
Disposals - net	-	-	-	-	-	(20,170)	-	-	(20,170)
Depreciation charge	-	-	(24,615)	(3,305,463)	(134,995)	(1,909,575)	-	-	(5,374,648)
Closing net book amount	37,552,064	693,084	198,961,224	9,307,862	127,753	4,777,735	-	150,000	251,569,722
At 31 December 2020									
Cost	37,552,064	3,141,059	888,600,839	27,734,238	2,663,944	14,391,211	-	150,000	974,233,355
Less Accumulated depreciation	-	(544,867)	(153,231,158)	(11,645,997)	(2,412,469)	(9,490,270)	-	-	(177,324,761)
Provision for impairment	-	(1,903,108)	(536,408,457)	(6,780,379)	(123,722)	(123,206)	-	-	(545,338,872)
Net book amount	37,552,064	693,084	198,961,224	9,307,862	127,753	4,777,735	-	150,000	251,569,722

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18 Property, plant and equipment (Cont'd)

Borrowing costs incurring from the borrowings for the construction of the power plants during the year were capitalised and included as "Additions" for Baht 57.87 million (2019: Baht 20.34 million). The Group used the capitalisation rates of 3.01% to 4.58% per annum (2019: 3.01% to 4.58% per annum) to calculate the borrowing costs for the capitalisation. The capitalisation rate are the actual rate of the borrowings which were used for the construction, and the interest rate differential between borrowing costs that would incur if the company borrowed in its functional currency and actual borrowing costs incurred on foreign currency borrowing.

Depreciation expense has been recognised in the statement of comprehensive income as follows;

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
	Baht million	Baht million	Baht million	Baht million
Cost of sales	319.32	278.10	0.16	0.41
Administrative expense	16.22	20.08	5.22	8.32
	335.54	298.18	5.38	8.73

Land, building and equipment with the net book value amounting to Baht 8,234.74 million (2019: Baht 4,783 million) have been pledged as collaterals for credit facilities obtained from commercial bank.

19 Right-of-use assets

Right-of-use assets as at 31 December comprise the following:

	Consolidated financial statements			
	Properties Baht	Equipment Baht	Vehicles Baht	Total Baht
Balance as at 1 January 2020 (Note 4.2)	221,841,476	16,266,751	37,889,656	275,997,883
Additions	53,905,558	-	18,635,144	72,540,702
Acquisition of subsidiary (Note 4)	3,300,000	-	-	3,300,000
Lease termination	(1,196,570)	-	-	(1,196,570)
Depreciation	(20,828,726)	(1,134,485)	(8,701,817)	(30,665,028)
Translation adjustments	5,669,591	-	-	5,669,591
Net book value as at 31 December 2020	262,691,329	15,132,266	47,822,983	325,646,578

	Separate financial statements		
	Properties Baht	Vehicles Baht	Total Baht
Balance as at 1 January 2020 (Note 4.2)	13,433,173	21,029,335	34,462,508
Additions	-	3,797,387	3,797,387
Depreciation	(3,900,879)	(4,016,044)	(7,916,923)
Net book value as at 31 December 2020	9,532,294	20,810,678	30,342,972

The expenses relating to leases that not included in the measurement of lease liabilities and right-of-use assets are as follows:

	Consolidated financial statements	Separate financial statements
	2020 Baht	2020 Baht
Expense relating to short-term leases	716,162	716,162
Expense relating to leases of low-value assets	218,760	108,840
Expense relating to variable lease payments	7,963,784	-
Total cash outflow of leases	43,123,971	9,311,745

Thai Solar Energy Public Company Limited

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AS at 31 December 2020

20 Goodwill

	Consolidated financial statements	
	2020 Baht	2019 Baht
As 1 January		
Cost	18,084,426	17,726,430
<u>Less</u> Provision for impairment	(971,663)	-
Net book amount	<u>17,112,763</u>	<u>17,726,430</u>
For the year ended 31 December		
Opening net book amount	17,112,763	17,726,430
Acquisition of a subsidiary (Note 36)	35,605,786	357,996
Disposal of a subsidiary	(341,711)	-
Impairment charge	(1,521,796)	(971,663)
Closing net book amount	<u>50,855,042</u>	<u>17,112,763</u>
At 31 December		
Cost	53,332,214	18,084,426
<u>Less</u> Provision for impairment	(2,477,172)	(971,663)
Net book amount	<u>50,855,042</u>	<u>17,112,763</u>

The Group has reduced the carrying amount of goodwill to the amount that is recoverable by recognising the loss from impairment of goodwill. Such losses are included in cost of sales and services in profit or loss.

The recoverable amount of a CGU is determined based on value-in-use calculations. These calculations use pre-tax cash flow projections based on financial budgets approved by management covering a contractual period of power purchase agreement. The growth rate does not exceed the long-term average growth rate for the business in which the CGU operates.

The key assumptions used for value-in-use calculations are as follows:

Gross margin ¹	51.64 - 69.29 %
Growth rate ²	0.46 - 0.50 %
Discount rate ³	8.00 %

- ¹ Budgeted gross margin
- ² Weighted average growth rates used to extrapolate cash flows for the budget period
- ³ Post-tax discount rates applied to the cash flow projections

These assumptions are used for analysis a CGU generating cash in business segments.

Management determined budgeted gross margin based on past performance and expected market growth. The weighted average growth rates used are consistent with the forecasts throughout contractual period of power purchase agreement. The discount rates used are pre-tax and reflect specific risks relating to the relevant segments.

The impairment charge arose from the decreasing in the expected period of the operation in respect of the duration of the specified Power Purchase Agreement.

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AS at 31 December 2020

21 Intangible assets

	Consolidated financial statements				
	Software Baht	Power purchase agreement Baht	Right to use - land Baht	Right to use - transmission line Baht	Works in progress Baht
As at 1 January 2019					
Cost	8,950,261	4,352,309,048	9,144,026	17,712,735	1,822,121
Less Accumulated amortisation	(3,054,731)	(9,276,290)	(713,086)	(313,842)	-
Net book amount	5,895,530	4,343,032,758	8,430,940	17,398,893	1,822,121
For the year ended 31 December 2019					
Opening net book amount	5,895,530	4,343,032,758	8,430,940	17,398,893	1,822,121
Acquisition of subsidiaries	744,075	358,204,298	-	-	-
Additions	790,780	187,908,635	-	-	731,500
Transfer - in (out)	1,822,121	-	-	-	(1,822,121)
Amortisation charge	(2,215,445)	(39,441,378)	(365,761)	(1,132,141)	-
Exchange differences	-	(211,906,604)	-	-	-
Closing net book amount	7,037,061	4,637,797,709	8,065,179	16,266,752	731,500
As at 31 December 2019					
Cost	12,307,237	4,686,515,377	9,144,026	17,712,735	731,500
Less Accumulated amortisation	(5,270,176)	(48,717,668)	(1,078,847)	(1,445,983)	-
Net book amount	7,037,061	4,637,797,709	8,065,179	16,266,752	731,500
For the year ended 31 December 2020					
Opening net book amount	7,037,061	4,637,797,709	8,065,179	16,266,752	731,500
Reclassification due to adoption of TFRS 16 (Note 4)	-	-	(8,065,179)	(16,266,752)	-
Opening net book amount - restated	7,037,061	4,637,797,709	-	-	731,500
Acquisition of subsidiaries (Note 36)	-	189,500,000	-	-	-
Disposal of a subsidiary	-	(63,298,617)	-	-	-
Additions	347,956	47,282,699	-	-	-
Transfer - in (out)	731,500	-	-	-	(731,500)
Amortisation charge	(2,434,751)	(53,833,923)	-	-	-
Exchange differences	-	182,139,963	-	-	-
Closing net book amount	5,681,766	4,939,587,831	-	-	-
As at 31 December 2020					
Cost	13,386,693	5,037,813,126	-	-	-
Less Accumulated amortisation	(7,704,927)	(98,225,295)	-	-	-
Net book amount	5,681,766	4,939,587,831	-	-	-

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AS at 31 December 2020

21 Intangible assets (Cont'd)

	Separate financial statements		
	Computer software Baht	Works in progress Baht	Total Baht
As at 1 January 2019			
Cost	8,880,301	1,822,121	10,702,422
<u>Less</u> Accumulated amortisation	(3,023,092)	-	(3,023,092)
Net book amount	5,857,209	1,822,121	7,679,330
For the year ended 31 December 2019			
Opening net book amount	5,857,209	1,822,121	7,679,330
Additions	790,780	731,500	1,522,280
Transfer-in (out)	1,822,121	(1,822,121)	-
Amortisation charge	(2,144,434)	-	(2,144,434)
Closing net book amount	6,325,676	731,500	7,057,176
As at 31 December 2019			
Cost	11,493,202	731,500	12,224,702
<u>Less</u> Accumulated amortisation	(5,167,526)	-	(5,167,526)
Net book amount	6,325,676	731,500	7,057,176
For the year ended 31 December 2020			
Opening net book amount	6,325,676	731,500	7,057,176
Additions	125,055	-	125,055
Transfer-in (out)	731,500	(731,500)	-
Amortisation charge	(2,062,100)	-	(2,062,100)
Closing net book amount	5,120,131	-	5,120,131
As at 31 December 2020			
Cost	12,349,757	-	12,349,757
<u>Less</u> Accumulated amortisation	(7,229,626)	-	(7,229,626)
Net book amount	5,120,131	-	5,120,131

Borrowing costs incurring from the borrowings specifically for developing the power plant projects to its intended use were capitalised and included as "Additions" for Baht 47.28 million (2019: Baht 187.91 million). The Group used the capitalisation rates of 3.01% to 4.58% per annum (2019: 3.01% to 4.58% per annum) to calculate the borrowing costs for the capitalisation. The capitalisation rate are the actual rate of the borrowings which were used for borrowing, and the interest rate differential between borrowing costs that would incur if the company borrowed in its functional currency and actual borrowing costs incurred on foreign currency borrowing.

Amortisation expenses recognised in the statement of comprehensive income are as follows;

	Consolidated financial statements		Separate financial statements	
	2020 Baht million	2019 Baht million	2020 Baht million	2019 Baht million
Cost of sales	53.84	40.94	-	-
Administrative expense	2.43	2.22	2.06	2.14
	56.27	43.16	2.06	2.14

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

22 Deferred income taxes

The analysis of deferred income tax assets and liabilities is as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Deferred income tax assets				
Deferred income tax asset to be utilised within 12 months	-	-	-	-
Deferred income tax asset to be utilised after more than 12 months	85,869,845	39,328,779	-	-
	<u>85,869,845</u>	<u>39,328,779</u>	<u>-</u>	<u>-</u>
Deferred income tax liabilities				
Deferred income tax liabilities to be settled within 12 months	(2,013,872)	(1,309,420)	(2,013,872)	(1,309,420)
Deferred income tax liabilities to be settled after more than 12 months	(106,103,821)	(64,463,327)	(2,674,683)	(1,802,190)
	<u>(108,117,693)</u>	<u>(65,772,747)</u>	<u>(4,688,555)</u>	<u>(3,111,610)</u>
Deferred income taxes - net	<u>(22,247,848)</u>	<u>(26,443,968)</u>	<u>(4,688,555)</u>	<u>(3,111,610)</u>

Movement of deferred income tax account is as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
As at 1 January	(26,443,968)	1,074,379	(3,111,610)	(1,266,952)
Impact of first-time adoption of new financial reporting standard (Note 4)	274,654	-	(3,231,252)	-
As at 1 January - restated	(26,169,314)	1,074,379	(6,342,862)	(1,266,952)
Acquisition of subsidiaries (Note 36)	(1,431,699)	(25,692,896)	-	-
Disposal of a subsidiary	3,438,465	-	-	-
Charged / (credited) to profit or loss	1,893,081	(1,785,395)	1,654,307	(1,832,206)
Charged / (credited) directly to equity	-	(12,452)	-	(12,452)
Exchange differences	21,619	(27,604)	-	-
As at 31 December	<u>(22,247,848)</u>	<u>(26,443,968)</u>	<u>(4,688,555)</u>	<u>(3,111,610)</u>

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

22 Deferred income taxes (Cont'd)

Movements of deferred income tax assets and liabilities during the year are as follows:

	Consolidated financial statements			
	Tax losses Baht	Retirement benefits Baht	Others Baht	Total Baht
Deferred income tax assets				
As at 1 January 2019	125,376	1,721,301	9,234,240	11,080,917
Acquisition of subsidiaries	-	-	29,922,871	29,922,871
Charged / (credited) to profit or loss	-	(1,708,849)	92,995	(1,615,854)
Charged / (credited) directly to equity	-	(12,452)	-	(12,452)
Exchange differences	(7,336)	-	(39,367)	(46,703)
As at 31 December 2019	118,040	-	39,210,739	39,328,779
As at 1 January 2020	118,040	-	39,210,739	39,328,779
Impact of first-time adoption of new financial reporting standard	-	-	16,481,534	16,481,534
As at 1 January - restated	118,040	-	55,692,273	55,810,313
Acquisition of subsidiaries (Note 36)	-	-	22,571,769	22,571,769
Disposal of a subsidiary	-	-	(1,921,913)	(1,921,913)
Charged / (credited) to profit or loss	-	-	9,370,522	9,370,522
Exchange differences	6,306	-	32,848	39,154
As at 31 December 2020	124,346	-	85,745,499	85,869,845

	Consolidated financial statements			
	Deferred debt issuance Baht	Depreciation Baht	Other Baht	Total Baht
Deferred income tax liabilities				
As at 1 January 2019	(5,261,479)	(5,582,682)	837,623	(10,006,538)
Acquisition of subsidiaries	-	-	(55,615,767)	(55,615,767)
Charged / (credited) to profit or loss	1,360,707	(2,065,472)	535,224	(169,541)
Exchange differences	126,733	337,694	(445,328)	19,099
As at 31 December 2019	(3,774,039)	(7,310,460)	(54,688,248)	(65,772,747)
As at 1 January 2020	(3,774,039)	(7,310,460)	(54,688,248)	(65,772,747)
Impact of first-time adoption of new financial reporting standard	-	(16,206,880)	-	(16,206,880)
As at 1 January - restated	(3,774,039)	(23,517,340)	(54,688,248)	(81,979,627)
Acquisition of subsidiaries (Note 36)	-	-	(24,003,468)	(24,003,468)
Disposal of a subsidiary	-	-	5,360,378	5,360,378
Charged / (credited) to profit or loss	1,227,044	(10,951,199)	2,246,714	(7,477,441)
Exchange differences	(110,145)	(272,953)	365,563	(17,535)
As at 31 December 2020	(2,657,140)	(34,741,492)	(70,719,061)	(108,117,693)

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

22 Deferred income taxes (Cont'd)

Movements of deferred income tax assets and liabilities during the year are as follows: (Cont'd)

	Separate financial statements Retirement benefits Baht
Deferred income tax assets	
As at 1 January 2019	1,721,301
Charged/(credited) to profit or loss	(1,708,849)
Charged/(credited) directly to equity	(12,452)
As at 31 December 2019	-
As at 31 December 2020	-

	Deferred debt issuance cost Baht	Depreciation Baht	Others Baht	Total Baht
Deferred income tax liabilities				
As at 1 January 2019	(2,988,253)	-	-	(2,988,253)
Charged/(credited) to profit or loss	1,217,457	-	(1,340,814)	(123,357)
As at 31 December 2019	(1,770,796)	-	(1,340,814)	(3,111,610)
As at 1 January - previously report	(1,770,796)	-	(1,340,814)	(3,111,610)
Impact of first-time adoption of new financial reporting standard (Note 4)	-	(3,231,252)	-	(3,231,252)
As at 1 January - restated	(1,770,796)	(3,231,252)	(1,340,814)	(6,342,862)
Charged/(credited) to profit or loss	1,079,626	334,666	240,015	1,643,307
As at 31 December 2020	(691,170)	(2,896,586)	(1,100,799)	(4,688,555)

Presentation in the statements of financial position is as follows:

	Consolidated financial statements		Separate financial statements	
As at 31 December	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Deferred income tax assets	21,733,866	1,623,005	-	-
Deferred income tax liabilities	(43,981,714)	(28,066,973)	(4,688,555)	(3,111,610)
Deferred income tax, net	(22,247,848)	(26,443,968)	(4,688,555)	(3,111,610)

Deferred income tax assets and liabilities are offset when the income taxes related to the same fiscal authority. Deferred tax assets and deferred tax liabilities in the consolidated financial position are presented at net amount of assets and liabilities incurred in each entity.

Deferred income tax assets are recognised for tax loss carry forwards only to the extent that realisation of the related tax benefit through the future taxable profits is probable. The Group did not recognise deferred income tax assets of Baht 202.12 million (2019: Baht 135.28 million) in respect of losses carry forward amounting to Baht 1,011.60 million (2019: Baht 676.40 million).

Thai Solar Energy Public Company Limited

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22 Deferred income taxes (Cont'd)

A summary of the tax losses carried forward and the expiry dates are set out below:

Expiry year	Consolidated financial statements Baht	Separate financial statements Baht
2021	62,513,081	53,390,602
2022	219,953,530	210,429,201
2023	308,083,865	291,765,982
2024	420,051,182	410,500,432
	<u>1,010,601,658</u>	<u>966,086,217</u>

23 Construction and other payables

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Construction payables and retention guarantee	18,153,132	6,993,242	7,500	7,500
Other payables	48,235,144	72,557,019	832,285	5,957,523
Payables from acquisition of investments	-	37,059,807	249,995	249,995
Dividends payable	105,884,814	-	105,884,814	-
Other accrued expenses	82,017,753	82,657,365	43,536,308	39,753,570
	<u>254,290,843</u>	<u>199,267,433</u>	<u>150,510,902</u>	<u>45,968,588</u>

24 Borrowings

24.1 Short-term borrowings from financial institutions

	Consolidated and Separate financial statements	
	2020 Baht	2019 Baht
Short-term borrowings from financial institutions	250,000,000	98,470,171

Movements in short-term borrowings from financial institutions during 2020 and 2019 are analysed as follows:

	Consolidated and Separate financial statements	
	2020 Baht	2019 Baht
Opening amount as at 1 January	98,470,171	98,794,277
Cash items:		
Additions	1,330,000,000	150,000,000
Discount on notes payable	(2,370,387)	(4,076,860)
Repayment of borrowings	(1,180,000,000)	(150,000,000)
Non-cash items:		
Amortisation of discount on notes payable	3,900,216	3,752,754
Closing amount as at 31 December	<u>250,000,000</u>	<u>98,470,171</u>

At 31 December 2020, the short-term borrowings comprised promissory note issued to financial institution amounting to Baht 250 million with interest rate of 2.95% per annum. The principal repayment is due by 28 May 2021.

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

24 Borrowings (Cont'd)

24.2 Lease liabilities

The present value of lease liabilities are as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Not later than 1 year	28,895,457	7,195,003	8,233,557	2,720,032
Later than 1 year but not later than 5 years	309,524,936	13,280,673	12,298,150	5,259,640
	<u>338,420,393</u>	<u>20,475,676</u>	<u>20,531,707</u>	<u>7,979,672</u>

Movements in lease can be analysed as follows:

	Consolidated financial statements		
	Lease payables	Deferred interest	Lease liabilities
As at 1 January 2019	11,397,742	(798,186)	10,599,556
Cash items:			
Repayment	(6,757,229)	-	(6,757,229)
Non-cash items:			
Additions	16,876,782	(670,514)	16,206,268
Amortised deferred interest	-	427,081	427,081
As at 31 December 2019	<u>21,517,295</u>	<u>(1,041,619)</u>	<u>20,475,676</u>
As at 1 January 2020	21,517,295	(1,041,619)	20,475,676
Reclassification due to adoption of new financial reporting standards (Note 4)	<u>286,293,642</u>	<u>(61,531,286)</u>	<u>224,762,356</u>
Opening net balance - restated	307,810,937	(62,572,905)	245,238,032
Cash items:			
Repayment	(34,081,298)	-	(34,081,298)
Non-cash items:			
Additions	102,884,422	(33,128,071)	69,756,351
Lease termination	(1,156,381)	5,868	(1,150,513)
Acquisition of subsidiaries	71,033,288	(25,810,003)	45,223,285
Amortised deferred interest	-	8,462,455	8,462,455
Foreign currency translation differences	<u>5,439,234</u>	<u>(467,153)</u>	<u>4,972,081</u>
As at 31 December 2020	<u>451,930,202</u>	<u>(113,509,809)</u>	<u>338,420,393</u>

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

24 Borrowings (Cont'd)

24.2 Lease liabilities (Cont'd)

Movements in lease can be analysed as follows:(Cont'd)

	Separate financial statements		
	Lease payables	Deferred interest	Lease liabilities
As at 1 January 2019	11,397,742	(798,186)	10,599,556
Cash items:			
Repayment	(2,973,324)	-	(2,973,324)
Non-cash items:			
Amortised deferred interest	-	353,440	353,440
As at 31 December 2019	8,424,418	(444,746)	7,979,672
As at 1 January 2020	8,424,418	(444,746)	7,979,672
Reclassification due to adoption of new financial reporting standards (Note 4)	17,584,028	(1,234,143)	16,349,885
Opening net balance - restated	26,008,446	(1,678,889)	24,329,557
Cash items:			
Repayment	(8,502,143)	-	(8,502,143)
Non-cash items:			
Addition	4,211,520	(414,134)	3,797,386
Amortised deferred interest	-	906,907	906,907
As at 31 December 2020	21,717,823	(1,186,116)	20,531,707

24.3 Long-term borrowings from financial institutions

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Current portion of long-term borrowings	2,443,767,344	737,755,685	2,144,265,435	272,894,555
Long-term borrowings payable between 1 to 5 years	4,172,879,911	3,453,869,298	337,164,964	2,240,180,868
Long-term borrowings payable more than 5 years	2,105,700,428	2,282,565,092	57,220,886	50,879,734
	8,722,347,683	6,474,190,075	2,538,651,285	2,563,955,157

The long-term borrowings from financial institutions are secured by the pledge and the assignment of rights over the Group's bank deposits, land with construction thereon and machinery, the assignment of rights under all project agreements, pledge of the certain shares held by the subsidiaries and the joint venture's shares held by the Company, pledge of the Company's shares that held by P.M. Energy Company Limited, shares of subsidiaries, and the right to receive dividends from subsidiaries and joint venture.

The loan agreements contain covenants imposed on the Group as specified in the agreements, related to such matters as dividend payment, reduction of share capital, merger or consolidation with any other entities and maintenance of certain debt to equity and debt service coverage ratios.

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

24 Borrowings (Cont'd)

24.3 Long-term borrowings from financial institutions (Cont'd)

Movements in long-term borrowings from financial institutions during 2020 and 2019 are analysed as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Opening amount as at 1 January	6,474,190,075	6,359,875,341	2,563,955,157	2,238,668,459
Cash items:				
Addition	3,155,668,685	909,770,842	370,000,000	548,192,531
Financial service fee	(85,136,624)	(9,519,560)	(1,012,500)	(1,734,500)
Repayment of borrowings	(1,095,850,251)	(942,089,214)	(501,434,656)	(203,166,050)
Non-cash items:				
Acquisition of subsidiaries (Note 36)	174,292,767	270,157,262	-	-
Disposal of a subsidiary	(113,340,552)	-	-	-
Amortisation of financial service fee	17,703,069	28,118,005	4,302,816	5,495,536
Foreign currency translation differences	194,820,514	(142,122,601)	102,840,468	(23,500,819)
Closing amount as at 31 December	8,722,347,683	6,474,190,075	2,538,651,285	2,563,955,157

The contractual interest rates of the long-term borrowings at the statement of financial position date are as follows :

Currency	Consolidated financial statements			
	2020 %		2019 %	
	Fixed interest rates	Floating interest rates	Fixed interest rates	Floating interest rates
Yen	-	TIBOR + 1.22 to 3.00	-	TIBOR + 1.22 to 3.00
Baht	3.25	Fixed deposit rate + 3.35 THBFIX + 3.50 MLR - 1.95	-	Fixed deposit rate + 3.35 THBFIX + 3.50 MLR - 0.50 to 1.95

Currency	Separate financial statements			
	2020 %		2019 %	
	Fixed interest rates	Floating interest rates	Fixed interest rates	Floating interest rates
Yen	-	TIBOR + 3.00	-	TIBOR + 3.00
Baht	3.25	MLR - 1.95	-	MLR - 0.50 to 1.95

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

24 Borrowings (Cont'd)

24.4 Borrowing facilities

The Group and the Company have the following undrawn committed borrowing facilities:

	Currency	Consolidated financial statements		Separate financial statements	
		2020	2019	2020	2019
Floating rate					
Expiring beyond one year	Baht Thousand	105,350	178,874	400	400
	Yen Thousand	601,115	601,115	601,115	601,115
Fixed rate					
Expiring beyond one year	Baht Thousand	4,966	4,966	-	-

24.5 Debentures

	Consolidated and Separate financial statements	
	2020 Baht	2019 Baht
Current portion of debentures	-	949,800,983
Debentures payable between 1 to 5 years	3,444,096,320	2,345,024,775
	<u>3,444,096,320</u>	<u>3,294,825,758</u>

Movements in debentures during 2020 and 2019 are analysed as follows:

	Consolidated and Separate financial statements	
	2020 Baht	2019 Baht
Opening amount as at 1 January	3,294,825,758	2,997,595,996
Cash items:		
Issuance of debentures	1,099,600,000	2,350,000,000
Maturing of debentures	(950,000,000)	(2,050,000,000)
Deferred issuance cost	(2,850,000)	(5,287,500)
Non-cash items:		
Amortisation of issuance cost	2,520,562	2,517,262
Closing amount as at 31 December	<u>3,444,096,320</u>	<u>3,294,825,758</u>

As at 31 December 2020, outstanding debentures comprise name-registered certificate of unsubordinated and unsecured debentures totaling 2,350,000 units and 1,099,600 units with the fixed interest of 4.50% per annum, with the interest payable every 3 and 6 months, respectively. Debentures have the face value of Baht 1,000. The debentures amounting to Baht 2,350 million and Baht 1,099.60 million will be redeemed on 22 October 2022 and 21 April 2023, respectively.

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AS at 31 December 2020

24 Borrowings (Cont'd)

24.6 Fair value

The carrying amounts and fair values of certain long-term borrowings are as follows:

	Consolidated financial statements			
	Carrying amounts		Fair value	
	31 December 2020	1 January 2020	31 December 2020	1 January 2020
	Baht	Baht	Baht	Baht
Lease liabilities	309,524,936	245,238,032	310,596,362	238,155,841
Long-term borrowings				
from financial institutions	6,278,580,339	5,736,434,390	9,386,425,888	6,277,087,595
Debentures	3,444,096,320	3,294,825,757	3,419,264,566	3,313,923,268
	Separate financial statements			
	Carrying amounts		Fair value	
	31 December 2020	1 January 2020	31 December 2020	1 January 2020
	Baht	Baht	Baht	Baht
Lease liabilities	12,298,150	24,329,557	15,100,807	20,076,883
Long-term borrowings				
from financial institutions	394,385,850	2,563,955,157	383,241,228	2,574,542,377
Debentures	3,444,096,320	3,294,825,758	3,419,264,566	3,313,923,268

The fair value of current borrowings equals their carrying amount, as the impact of discounting is not significant.

The fair values of non-current borrowings are based on discounted cash flows using a discount rate based upon the borrowing rates of 1.88% to 3.71% (2019: 1.88% to 5.64%) and are within level 2 of the fair value hierarchy.

24.7 Interest rates

The effective interest rates at the statement of financial position date are as follows:

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
Finance lease liabilities	2.34% - 4.89%	3.76% - 6.44%	4.15% - 4.20%	3.76%
Borrowings from financial institutions	1.88% - 3.71%	1.88% - 5.64%	3.34% - 3.42%	3.17% - 5.64%
Debentures	4.58%	4.58%	4.58%	4.58%

Thai Solar Energy Public Company Limited

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25 Derivative liabilities

	Consolidated financial statements	
	2020 Baht	2019 Baht
Current interest rate swap	-	-
Non-current interest rate swap	58,355,907	-
Total interest rate swap	58,355,907	-

The fair value of interest rate swaps are within level 2 of the fair value hierarchy which are calculated as the present value of the estimated future cash flows based on observable yield curve.

Cash flow hedging on long-term borrowing

To avoid the uncertainty of floating interest rate exposure under JPY denominated borrowing, the Group entered into interest rate swap agreement of principal amounting to Baht 1,243.16 million with financial institution in March 2017 to swap floating rate to a fixed rate until 2037.

The ineffective portion that arises from cash flow hedge amounts will be recognised in the profit or loss; however, there is no ineffectiveness for the year ended 31 December 2020. The effective portion of the fair value of swap is recognised in the other comprehensive income (OCI).

The following table shows a reconciliation of cash flow hedge reserve.

	Consolidated financial statements Baht
As at 31 December 2019	
Impact of first-time adoption of new financial reporting standards (Note 4)	47,852,256
As at 1 January - restated	47,852,256
Add: Change in fair value of hedge instrument recognised in OCI for the year	8,119,986
Foreign currency translation differences	2,383,660
Closing balance 31 December 2020	58,355,902

26 Employee benefit obligations

	Consolidated and Separate financial statements	
	2020 Baht	2019 Baht
Statement of financial position:		
Retirement benefits		
Liability in the statement of financial position	17,371,256	13,521,825
Profit or loss charge included in operating profit for:		
Retirement benefits	3,849,431	5,959,136
Remeasurement for:		
Retirement benefits	-	2,873,219

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AS at 31 December 2020

26 Employee benefit obligations (Cont'd)

The movement in the defined benefit obligations over the year is as follows:

	Consolidated and Separate financial statements	
	2020 Baht	2019 Baht
At 1 January	13,521,825	8,606,509
Current service cost	3,626,307	2,511,169
Past service cost	-	3,213,871
Interest expense	223,124	234,096
Remeasurements:		
Loss from change in financial assumptions	-	2,873,219
Benefit payment	-	(3,917,039)
At 31 December	17,371,256	13,521,825

The principal actuarial assumptions used were as follows:

	Consolidated and Separate financial statements	
	2020	2019
Discount rate	1.65%	1.65%
Salary growth rate	4.00%	4.00%

The sensitivity analyses of significant actuarial assumptions in pension liability calculations.

	Change in assumption		Impact on defined benefit obligation			
			Increase in assumption		Decrease in assumption	
	2020	2019	2020	2019	2020	2019
Discount rate	1%	1%	Decrease by 11.10%	Decrease by 11.53%	Increase by 13.18%	Increase by 13.68%
Salary growth rate	1%	1%	Increase by 13.81%	Increase by 13.21%	Decrease by 11.83%	Decrease by 11.39%

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 year.

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26 Employee benefit obligations (Cont'd)

Through its defined benefit retirement plans, the Group is exposed to a number of risks, the most significant of which are detailed below:

Changes in bond yields	A decrease in Government bond yields will increase plan liabilities.
Inflation risk	Some of the Group pension obligations are linked to inflation, and higher inflation will lead to higher liabilities.

The weighted average duration of the defined benefit obligation is 24.38 years (2019: 26.15 years).

Expected maturity analysis of undiscounted retirement:

	Consolidated and Separate financial statements				
	Less than a year Baht	Between 1-2 years Baht	Between 2-5 years Baht	Over 5 years Baht	Total Baht
Retirement benefits					
As at 31 December 2019	-	117,079	1,029,252	223,284,445	224,430,776
As at 31 December 2020	117,079	409,672	752,438	223,151,587	224,430,776

27 Share capital and premium on share capital

	Consolidated and Separate financial statements				
	Number of shares Shares	Issued and paid Shares	Issued and paid up Baht	Share premium Baht	Total Baht
At 1 January 2019	2,450,250,000	1,905,749,580	1,905,749,580	727,554,273	2,633,303,853
Capital reduction	(1,116,225,294)	-	-	-	-
Register new ordinary shares	1,143,449,748	-	-	-	-
Exercise of TSR	-	211,966,701	211,966,701	317,950,052	529,916,753
At 31 December 2019	2,477,474,454	2,117,716,281	2,117,716,281	1,045,504,325	3,163,220,606
At 31 December 2020	2,477,474,454	2,117,716,281	2,117,716,281	1,045,504,325	3,163,220,606

As at 31 December 2020, the total authorised number of ordinary shares is 2,477,474,454 shares (2019: 2,477,474,454 shares) with a par value of Baht 1 each (2019: Baht 1 each). 2,117,716,281 shares are issued and fully paid (2019: 2,117,716,281 shares).

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28 Legal reserve

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
At 1 January	81,303,726	63,972,012	67,603,094	50,894,012
Appropriation during the year	25,454,173	17,331,714	12,487,860	16,709,082
At 31 December	106,757,899	81,303,726	80,090,954	67,603,094

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 accumulated deficit brought forward (if any) until the reserve is not less than 10% of the registered capital. The legal reserve is non-distributable.

29 Other income

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Rental income	1,025,100	974,799	1,025,100	974,799
Gain on disposal of assets	3,281	21,887	3,281	21,887
Interest income	797,169	1,756,685	16,836,996	6,463,021
Realised gain on disposal of trading securities	218,977	1,472,295	218,977	1,472,296
Insurance claims	-	12,055,207	-	-
Gain on bargain purchase	-	56,004,450	-	-
Other income	10,467,824	20,431,321	505,569	821,501
	12,512,351	92,716,644	18,589,923	9,753,504

30 Expenses by nature

The following expenditure items, classified by nature, have been charged in arriving at the operating profit:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Salary, wages and employees' benefits	159,273,659	149,811,557	140,435,542	127,969,732
Depreciation	367,174,627	298,300,124	13,291,571	8,722,027
Amortisation	56,268,674	43,154,725	2,062,100	2,144,434
(Gain) loss on exchange rate	97,952,615	5,414,481	(75,635,864)	194,165,264
Impairment loss	2,159,016	14,050,854	-	-
Loss from disposals and write-off	16,792,429	548,712	(35,990)	-
Professional fees	214,705,547	136,496,042	30,175,554	25,127,095
Operation and maintenance of power plants	25,024,512	26,575,317	-	120
Expected credit loss	894,980	-	894,980	-

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

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31 Finance costs

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Interest on borrowing from financial institutions	313,545,207	122,280,333	269,908,871	190,444,053
Financial service fees	15,095,345	20,202,368	10,019,748	8,072,796
Interest on lease liabilities	12,087,764	4,708,820	906,907	353,440
	<u>340,728,316</u>	<u>147,191,521</u>	<u>280,835,526</u>	<u>198,870,291</u>

32 Income tax

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Current tax on profits for the year	2,067,311	3,114,945	-	-
Deferred tax (Note 22)	(1,893,081)	1,785,395	(1,654,307)	1,832,206
Adjustments in respect of prior year	-	172,781	-	-
	<u>174,230</u>	<u>5,073,121</u>	<u>(1,654,307)</u>	<u>1,832,206</u>

The tax on the Group's profit before tax differs from the theoretical amount that would arise using the basic tax rate as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Profit (loss) before tax	418,980,931	803,815,620	204,170,426	118,650,315
Tax calculated at a tax rate of 20% (2019: 20%)	83,796,186	160,763,124	40,834,085	23,730,063
Tax effect of:				
Foreign tax rate difference	12,395,452	(1,244,335)	-	-
Joint venture's results reported net of tax	(128,666,709)	(131,903,537)	-	-
Tax exemption for income under BOI	(58,065,402)	(51,358,005)	-	-
Income subject to tax	14,307,703	24,116,157	12,644,887	22,324,668
Income not subject to tax	(108,634)	(115,552)	(98,140,017)	(123,791,563)
Expenses not deductible for tax purpose	9,447,470	8,709,627	1,725,325	3,154,361
Expense deducted at greater amount	(10,630,573)	(8,939,732)	(6,390,517)	(7,515,615)
Tax losses for which no deferred income tax asset was recognised	64,282,318	82,642,581	48,006,596	82,100,086
Utilisation of previously unrecognised tax losses	(285,827)	(9,270,320)	-	-
Deferred tax expense relating to the origination and reversal of temporary differences	(430,284)	1,785,395	(334,666)	1,832,206
Unrealised gain (loss) from intercompany transactions	14,132,530	(70,285,063)	-	-
Adjustment in respect of prior periods	-	172,781	-	-
	<u>174,230</u>	<u>5,073,121</u>	<u>(1,654,307)</u>	<u>1,832,206</u>
Tax charge				

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

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33 Earnings per share

Basic earnings per share is calculated by dividing the net profit attributable to ordinary shareholders of the Company by the weighted average number of ordinary shares in issue during the year.

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
Net profit attributable to ordinary shareholders of the company (Baht)	421,428,545	774,584,221	205,824,733	116,818,109
Weighted average number of outstanding ordinary shares (Shares)	2,117,716,281	1,950,465,843	2,117,716,281	1,950,465,843
Basic earnings per share (Baht per share)	0.20	0.40	0.10	0.06

There are no potential dilutive ordinary shares during 2020 and 2019.

34 Promotional privileges

The Group is granted with 34 certificates of promotional privileges from the Board of Investment for the production of electricity generated from solar power and biomass, the privilege include an exemption of import duty on imported machinery, an exemption for corporate income tax for a period of 8 years from the date the promoted operation commenced generating revenue (the commercial operation date).

The Group's operating revenue from sales and subsidy for adders as per the statements of comprehensive income for the years ended 31 December 2020 and 2019 wholly derive from promoted operations in Thailand. Details of operating segments are disclosed in Note 9.

35 Dividends

2020

On 25 March 2020, the Board of Directors Meeting (special occasion) approved a dividend payment in respect of operating results for the year 2019 to the shareholders at Baht 0.12 per share, totaling Baht 254 million. The dividends were paid on 20 April 2020.

On 9 December 2020, the Board of Directors Meeting approved a dividend payment in respect of operating results during January to September 2020 to the shareholders at Baht 0.05 per share, totaling Baht 106 million. The dividends were paid on 8 January 2021.

2019

On 22 April 2019, the Annual General Meeting of Shareholders approved a dividend payment in respect of operating results for the year 2018 to the shareholders at Baht 0.055 per share, totaling Baht 105 million. The dividends were paid on 21 May 2019.

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

36 Business combination

On 12 June 2020, Solar Visible acquired 8,000 ordinary shares of BP Trading (Thailand) Company Limited, representing 80% of the registered capital, in order to acquire a business with a private Power Purchase Agreement (Private PPA) of the electricity generation from floating solar in Kabinburi Industrial Estate. The acquisition is considered as assets acquisition. Another third party, at the same time, has intended to acquire the remaining 20% of interests.

In August 2020, the buyer of the 20% interests decided not to pursue with the acquisition. Therefore, Solar Visible agreed to acquire entire 100% interests in BP Trading for a total consideration of Baht 67.24 million.

The following table summarises the consideration paid for acquiring BP Trading (Thailand) Company Limited, and the assets acquired and liabilities assumed recognised on acquisition date.

Consideration paid	Baht
Cash	27,600,000
Payables from acquisition of investments	39,635,324
Total consideration	67,235,324
Recognised amounts of identifiable assets acquired and liabilities assumed	Baht
Cash and cash equivalents	734,943
Other current liabilities	381
Power Purchase Agreement	66,500,000
Total	67,235,324

Expenses related to the acquisition of subsidiary amounting to Baht 24.75 million are recognised as administrative expenses in the consolidated financial statements for the period ended 31 December 2020.

The Group has settled the payables from acquisition amounting to Baht 39.64 million on 31 August 2020.

On 14 July 2020, Solar Visible acquired 1,000,000 ordinary shares of Earth Energy System Company Limited, representing 100% of the registered capital for a total consideration of Baht 56.69 million, in order to acquire a business with a ground-mounting solar power plant with the production capacity of 5 MW which operated by its subsidiary, MARS Solar Company Limited. The acquisition is considered as business acquisition.

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

36 Business combination (Cont'd)

The following table summarises the consideration paid for acquiring Earth Energy System Company Limited and the subsidiary, and the assets acquired and liabilities assumed recognised on acquisition date.

Consideration paid	Baht
Cash	56,688,363
Total consideration	56,688,363

Recognised amounts of identifiable assets acquired and liabilities assumed	Baht
Cash and cash equivalents	28,237
Trade and other receivables	9,514,929
Other current assets	1,513,632
Restricted bank deposits	17,986,240
Property, plant and equipment	182,200,000
Right-of-use assets	3,300,000
Right in power purchase agreement	123,000,000
Other non-current assets	4,766,070
Trade and other payables	(2,990,662)
Short-term loans from related parties	(95,482,624)
Other current liabilities	(494,134)
Lease liabilities	(45,223,285)
Long-term loans from financial institutions	(174,292,767)
Provisions of decommissioning cost	(1,311,360)
Deferred tax liabilities	(1,431,699)
Total identifiable net assets	21,082,577
Goodwill	35,605,786
Total	56,688,363

Expenses related to the acquisition of subsidiary amounting to Baht 8.35 million are recognised as administrative expenses in the consolidated financial statements for the period ended 31 December 2020.

The revenue and net profit contributed by MARS Solar Company Limited from 14 July 2020 to 31 December 2020 included in the consolidated statement of comprehensive income were Baht 14 million and 0.3 million respectively.

37 Related party transactions

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

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

The Company is controlled by P.M. Energy Company Limited (incorporated in Thailand) which owns 37% of the Company's shares. The remaining 63% of the shares are held by Wave Entertainment (Public) Company Limited, Sino-Thai Engineering & Construction Public Company Limited and individual shareholders. The significant investments in joint venture, and subsidiaries are set out in Notes 15 and 16.

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

37 Related party transactions (Cont'd)

The following material transactions were carried out with related parties:

37.1 Sales of goods and services

For the year ended 31 December	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Subsidiaries				
Management service income	-	-	64,330,000	48,314,135
Operation and maintenance income	-	-	1,680,000	1,680,000
Dividends income	-	-	-	11,830,055
	-	-	66,010,000	61,824,190
Joint venture				
Management service income	46,978,170	44,741,114	46,978,170	44,741,114
Rental income	453,600	453,600	453,600	453,600
Dividends income	45	56	490,700,087	606,550,052
	47,431,815	45,194,770	538,131,857	651,744,766

37.2 Outstanding balances arising from sales/purchases of goods/services

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Amounts due from and advances to related parties (Note 13)				
Subsidiaries	-	-	79,928,541	95,015,432
Joint venture	4,256,449	4,053,761	4,256,449	4,053,761
	4,256,449	4,053,761	84,184,990	99,069,193
Dividends receivable (Note 13)				
Joint venture	88,900,016	153,300,027	88,900,016	153,300,027
Receivables from disposal of investments				
Subsidiaries	-	-	1,383,683,149	1,383,683,149

Receivables from disposal of investments arose due to the Group's restructuring.

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Payables from acquisition of investments				
Subsidiaries	-	-	249,995	249,995

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

37 Related party transactions (Cont'd)

The following material transactions were carried out with related parties: (Cont'd)

37.3 Short-term loans to subsidiaries

For the year ended 31 December	Separate financial statements	
	2020 Baht	2019 Baht
Short-term loans to subsidiaries	-	701,000,825

Movements in loans to subsidiaries are analysed as follows:

	Separate financial statements	
	2020 Baht	2019 Baht
Opening net book amount	701,000,825	335,287,932
Cash items:		
Addition	41,300,000	488,000,000
Repayment received	(69,450,000)	(67,287,107)
Non-cash items:		
Offset loans (Note 37.5)	(22,500,000)	-
Transferred to long-term loan (Note 37.4)	(650,350,825)	(55,000,000)
Closing net book amount	-	701,000,825

During the year, the Company offset the short-term loan to subsidiary with short-term loan from the same subsidiary amounting to Baht 22.50 million (Note 37.5).

37.4 Long-term loans to subsidiaries

	Separate financial statements	
	2020 Baht	2019 Baht
Current portion of long-term loans to subsidiaries	81,140,000	61,600,000
Long-term loans to subsidiaries	6,133,449,798	5,004,151,459
	6,214,589,798	5,065,751,459

Movements in loans to subsidiaries for the year ended 31 December are analysed as follows:

	Separate financial statements	
	2020 Baht	2019 Baht
Opening net book amount	5,065,751,459	4,333,468,428
Cash items:		
Addition	619,772,929	1,018,162,498
Repayment received	(292,168,628)	(161,816,773)
Non-cash items:		
Transferred from short-term loan (Note 37.3)	650,350,825	55,000,000
Foreign currency translation differences	170,883,213	(179,062,694)
Closing net book amount	6,214,589,798	5,065,751,459

Long-term loans to subsidiaries are in form of loan agreements denominated in Japanese Yen and Thai Baht. Loans carry non-bearing interest and the rates range from 4.3% to 6.0% per annum respectively. Certain loans are due for repayment at call and other loans have maturity within 2021 to 2028.

The management do not have intention to call the for repayment of loans due at call in the next 12 months and classify these loans as long-term accordingly.

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

37 Related party transactions (Cont'd)

The following material transactions were carried out with related parties: (Cont'd)

37.5 Short-term loan from subsidiary

	Separate financial statements	
	2020 Baht	2019 Baht
Short-term loan from subsidiary	-	22,500,000

Movement of short-term loan from subsidiary is as follows:

	Separate financial information	
	2020 Baht	2019 Baht
Opening net book value	22,500,000	22,500,000
Non-cash items:		
Offset loans (Note 37.3)	(22,500,000)	-
Closing net book value	-	22,500,000

37.6 Key management compensation

For the year ended 31 December	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Short-term employee benefits	39,210,338	40,090,999	22,281,141	24,527,887
Post-employment benefits	1,575,687	1,389,182	1,575,687	1,389,182
	40,786,025	41,480,181	23,856,828	25,917,069

38 Contingencies

Guarantees

As at 31 December 2020, there were outstanding bank guarantees amounting to Baht 6 million (2019: Baht 6 million) issued by banks on behalf of the Company and its subsidiaries in respect of certain performance bonds as required in the normal course of business.

39 Commitments

39.1 Capital commitments

Capital commitments exist as at the date of the statement of financial position but not included in the financial statements are as follows:

	Currency	Consolidated and Separate financial statements	
		31 December 2020	31 December 2019
Power plants	THB	106,724,300	-
Power plants	USD	40,986,702	400
Power plants	JPY	14,773,350,000	-

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

39 Commitments (Cont'd)

39.2 Power purchase agreements

Domestic

As at 31 December 2020, the Group has 34 power purchase agreements with the Provincial Electricity Authority ("PEA") and the Metropolitan Electricity Authority ("MEA") (2019: 33 agreements). Currently, the Group has commenced the production and distribution of electricity under 33 power purchase agreements which are summarised as follows:

	The electricity generated system	Company	Number of agreements	Production capacity MW	Electricity rate (Baht/kilowatt-hour)	The term of the agreements
Production and distribution of electricity	Renewable energy	Company	1	4.5	Peak period amounting to Baht 4.21 and off-peak period amounting to Baht 2.63 for the quantity which do not exceed the capacity factor and peak period amounting to Baht 4.22 and off-peak period amounting to Baht 2.36 for the quantity which exceed the capacity factor and the Company had also been granted an adder amounting to Baht 8 granted for a period of 10 years commencing from commercial operation date (COD).	The agreements are for a period of 5 years and will be automatically renewed every 5 years until the contract termination.
Production and distribution of electricity	Solar farm	Joint venture	10	80	Peak period amounting to Baht 4.21 and off-peak period amounting to Baht 2.63 for the quantity which do not exceed the capacity factor and peak period amounting to Baht 4.22 and off-peak period amounting to Baht 2.36 for the quantity which exceed the capacity factor and the Company had also been granted an adder amounting to Baht 6.50 granted for a period of 10 years commencing from commercial operation date (COD).	The agreements are for a period of 5 years and will be automatically renewed every 5 years until the contract termination.
Production and distribution of electricity	Solar rooftops	Subsidiaries	14	14	Feed-in Tariff system (FIT) amounting to Baht 6.16.	The agreements are for a period of 25 years commencing from commercial operation date (COD).
Production and distribution of electricity	Solar farm	Subsidiary	3	8	Feed-in Tariff system (FIT) amounting to Baht 5.66.	The agreements are for a period of 25 years commencing from commercial operation date (COD).
Production and distribution of electricity	Biomass energy	Subsidiary	1	4.6	Feed-in Tariff system (FIT) amounting to Baht 4.27 and Feed-in Tariff system (FIT) Premium amounting to Baht 0.30 granted for a period of 8 years commencing from commercial operation date (COD).	The agreements are for a period of 20 years commencing from commercial operation date (COD).
Production and distribution of electricity	Biomass energy	Subsidiary	2	17.6	Feed-in Tariff system (FIT) amounting to Baht 4.27 and Feed-in Tariff system (FIT) Premium amounting to Baht 0.30 granted for a period of 8 years commencing from commercial operation date (COD).	The agreements are for a period of 15 years 4 months commencing from commercial operation date (COD).
Production and distribution of electricity	Solar farm	Subsidiary	1	5	Feed-in Tariff system (FIT) amounting to Baht 4.12.	The agreements are for a period of 25 years commencing from commercial operation date (COD).
Production and distribution of electricity	Solar farm	Subsidiary	1	8	Peak period amounting to Baht 4.18 and off-peak period amounting to Baht 2.60 for the quantity which do not exceed the capacity factor and peak period amounting to Baht 4.22 and off-peak period amounting to Baht 2.36 for the quantity which exceed the capacity factor and the Company had also been granted an adder amounting to Baht 8 granted for a period of 10 years commencing from commercial operation date (COD).	The agreements are for a period of 1 year and will be automatically renewed every 1 year until the contract termination.
Under development and construction	Floating Solar	Subsidiary	1	8	Time of Use Rate (TOU) and FT rate specified by the Provincial Electricity Authority (PEA)	For a period of 25 years commencing from commercial operation date (COD)

Thai Solar Energy Public Company Limited

Note to the Consolidate and Separate Financial Statements

AS at 31 December 2020

39 Commitments (Cont'd)

39.2 Power purchase agreements (Cont'd)

Overseas

As at 31 December 2020, subsidiaries operating in Japan have 7 power purchase agreements (2019: 7 agreements) with the power purchasing agencies, of which the power plants have already commenced generating and distributing the electricity. In addition, subsidiaries have 1 power purchase agreement and right to develop for the power purchase agreement (2019: 1 agreements) for the projects which have not yet commenced generating and distributing the electricity. The agreements are summarised as follows:

	The electricity generated system	Company	Number of agreements	Production capacity MW	Electricity rate (Baht/kilowatt-hour)	The term of the agreements
Production and distribution of electricity	Solar farm	Subsidiary	7	21.74	Feed-in Tariff system (FIT) amounting to Yen 32 - 36.	The agreements are for a period of 20 years starting from commercial operation date (COD).
Under development and construction	Solar farm	Subsidiary	1	154.98	Feed-in Tariff system (FIT) amounting to Yen 36.	The agreement has maturity within 2040 starting from commercial operation date (COD).

39.3 Contracts and other commitments

- A joint venture has commitments in respect of a management service agreement with the other venture amounting to Baht 6 million per annum for a period of 10 years from May 2013, with the service fee to increase on an annual basis at the rate specified in the agreement. The fees for the year ended 31 December 2020 amounting to Baht 4 million (2019: Baht 4 million) (in proportionate of the Company's interest in the joint venture) were recognised as expenses.
- A joint venture has commitments in respect of the operation and maintenance agreements of seven power plants with a company, amounting to Baht 9 million per annum for the period of 10 years from the commercial operation date. The fees for the year ended 31 December 2020 amounting to approximately Baht 5 million (2019: Baht 5 million) (in proportionate of the Company's interest in the joint venture) were recognised as expenses.
- A joint venture has commitments in respect of the operation and maintenance agreements of three power plants with a company, amounting to Baht 8 million per annum for the period of 5 years from June 2017. The fees for the year ended 31 December 2020 amounting to Baht 5 million per annum (2019: Baht 5 million) (in proportionate of the Company's interest in the joint venture) were recognised as expenses.
- A subsidiary has commitments in respect of the operation and maintenance agreements of two power plants with a company, amounting to Baht 44 million per annum for the period of 5 years from the commercial operation date. The fees for the year ended 31 December 2020 amounting to Baht 44 million (2019: Baht 44 million) were recognised as expenses.
- A subsidiary has commitments in respect of the operation and maintenance agreements of one power plants with a company, amounting to Baht 18 million per annum for the period of 5 years from the commercial operation date. The fees for the year ended 31 December 2020 amounting to Baht 18 million (2019: Baht 18 million) were recognised as expenses.

40 Events after the reporting period

Forward contracts

The Company entered into forward contracts to hedge foreign exchange risk for the repayments of long-term borrowings amounting to Yen 220 million equivalent to Baht 62.92 million in February 2021.

Capital and Major Shareholders

Securities information

As of 31 December 2020, the company registered capital is 2,477,474,454 Baht, divided into 2,477,474,454 shares with a par value of 1 Baht. The paid — up capital was 2,117,716,281 Baht

Shareholders

The company's shareholding structure as of the latest book closure date on 23 December 2020, prepared by Thailand Securities Depository Co., Ltd. (TSD) is as follows:

	Number of shareholders	Number of shares	Percentage
Thai securities holders	8,113	1,985,546,909	93.76
Foreign securities holders	20	132,169,372	6.24
Total	8,133	2,117,716,281	100.00

The Company's top 10 major shareholders are as follows:

	Name	Number of shares	Percentage
1	P.M. Energy Co.,Ltd.	783,034,150	36.98
2	SINO-THAI ENGINEERING AND CONSTRUCTION PUBLIC	190,575,000	9.00
3	Cathleen Maleenont,Ed.D.	184,620,000	8.72
4	Wave Entertainment Public Co.,Ltd.	118,290,900	5.59
5	CREDIT SUISSE AG, SINGAPORE BRANCH	76,247,946	3.60
6	Bualuang Long-Term Equity Fund	55,298,900	2.61
7	CITI (NOMINEES) LIMITED-S.A PBG CLIENTS SG	39,900,000	1.88
8	Bualuang Infrastructure RMF	22,341,900	1.06
9	Bualuang Long-Term Equity Fund 75/25	20,319,200	0.96
10	Bualuang Flexible RMF	13,528,600	0.64

Information of the Company's Subsidiaries and reference persons

Information of the Company's Subsidiaries

	Business	Registered Capital (million baht)	Paid-up Capital (million baht)	Percentage (%)
Address of Company Group				
725 Metropolis, 19 th floor, Sukhumvit Road, KlongtanNua, Wattana Bangkok 10110				
The companies held by Thai Solar Energy PLC. ("the Company")				
1. Thai Solar Renewable Co., Ltd. – TSR	Holding Company	583.33	583.33	60
2. Solar Visible Co., Ltd. – SV	Holding Company	202	51.5	100
3. World Solar Co., Ltd. – WS	Solar Farm	1	0.65	100
4. TSE Rooftop Co., Ltd. – TSE	Holding Company	182	182	100
5. Thai Community Energy Co., Ltd. – TCE	Holding Company	450	450	100
6. TSE Overseas Group Co., Ltd. – TSEO	Holding Company	515	515	100
The companies held by Thai Solar Renewable Co., Ltd. – TSR				
7. Siam Solar Energy 1 Co., Ltd. – SSE1	Solar Farm	1,800	1,800	100
The companies held by Solar Visible Co., Ltd. – SV				
8. Solar Community Co., Ltd. – SLC	Solar Co-Op	100	25	100
9. Infinity Solar Co., Ltd. – INS	Solar Farm	30	30	100
10. Bs Bangsai Solar Co., Ltd. – BSS	Solar Co-Op	82	82	100
11. Siam Solar Power PCL. – SSP	Solar Farm	400	300	100
12. Earth Energy System Co., Ltd. – EES	Holding Company	1	1	100
13. B P Trading (Thailand) Co., Ltd. – BPT	Solar Floating	88.62	62.33	100
The companies held by Siam Solar Power PCL. – SSP				
14. Siam Waste Power Co., Ltd. – SWP	RDF	1	1	100
The companies held by Earth Energy System Co., Ltd. – EES				
15. Mars Solar Co., Ltd. – MARS	Solar Farm	83	83	100

	Business	Registered Capital (million baht)	Paid-up Capital (million baht)	Percentage (%)
The companies held by TSE Rooftop Co., Ltd. – TSER				
16. Champ Energy Co., Ltd. – CE	Solar Rooftop	52	52	100
17. North Rooftop Co., Ltd. – NR	Solar Rooftop	39	39	100
18. Roof Energy Co., Ltd. – RE	Solar Rooftop	39	39	100
19. Green Rooftop Co., Ltd. – GR	Solar Rooftop	26	26	100
20. Lucky Solar Co., Ltd. – LS	Solar Rooftop	26	26	100
The companies held by Thai Community Energy Co., Ltd. – TCE				
21. Oscar Save the World Co., Ltd. – OSW	Biomass	582	582	100
22. Bangsawan Green Co., Ltd. – BSW	Biomass	174	174	100
The companies held by World Solar Co., Ltd. – WS				
23. Native Power Energy Co., Ltd. – NPE	Holding Company	1	0.25	100
24. White Solution Energy Co., Ltd. – WSE	Holding Company	1	0.25	100
25. Clean Renewable Co., Ltd. – CLR	Holding Company	1	0.25	100
The companies held by TSE Overseas Group Co., Ltd. – TSEO				
26. Onikoube Solar Power PTE.LTD – OSP Address 41 Middle Road #04-00 Boon Sing Building , Singapore (188950)	Holding Company	7,815.95 Million JPY	7,815.95 Million JPY	100
27. TSE Group International PTE. LTD. – TSI Address 41 Middle Road #04-00 Boon Sing Building , Singapore (188950)	Holding Company	2,088.57 Million JPY	2,088.57 Million JPY	100
28. Solar Assets PTE. LTD. – SA Address 41 Middle Road #04-00 Boon Sing Building , Singapore (188950)	Holding Company	431.80 Million JPY	431.80 Million JPY	100
29. TSE Japan Goudou Kaisha – TSEJ Address Shin Otemachi Building, 3F., xLINK Otemachi Room No.104, 2-2-1, Otemachi, Chiyoda-ku, Tokyo	Solar Farm	3 Million JPY	3 Million JPY	100
The companies held by Onikobe Solar Power PTE.LTD – OSP				
30. Purplesol Goudou Kaisha – PPS Address Toshida Building 3F, 1-6-11 Ginza, Chuaku, Tokyo	Solar Farm	393.9 Million JPY	393.9 Million JPY	100

	Business	Registered Capital (million baht)	Paid-up Capital (million baht)	Percentage (%)
The companies held by TSE Group International PTE. LTD. – TSI				
31. Eco Solar Aizu Goudou Kaisha – ESA <u>Address</u> 3F Hayashi Building, 3-34-1 Aoto, Katsushika-ku, Tokyo, Japan	Solar Farm	10,000 JPY	10,000 JPY	97
32. Ishikawa Hanamizuki No.1 Goudou Kaisha – IH1 <u>Address</u> 3F Hayashi Building, 3-34-1 Aoto, Katsushika-ku, Tokyo, Japan	Solar Farm	10,000 JPY	10,000 JPY	100
Solar Assets PTE. LTD. – SA				
33. Ibaraki Ushiku 1 Goudou Kaisha – IU1 <u>Address</u> 3F Hayashi Building, 3-34-1 Aoto, Katsushika-ku, Tokyo, Japan	Land Lease	10,000 JPY	10,000 JPY	100
34. Ibaraki Ushiku 2 Goudou Kaisha – IU2 <u>Address</u> 3F Hayashi Building, 3-34-1 Aoto, Katsushika-ku, Tokyo, Japan	Land Lease	10,000 JPY	10,000 JPY	100

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