



Thai Solar Energy PCL.

Presentation

1H2020

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AGENDA

- 01 Company Overview
- 02 Update New Projects 2020
- 03 Financial Highlights 1H2020
- 04 TSE's Projects
- 05 Appendix





COMPANY OVERVIEW

- Company Overview
- Milestones
- Portfolio Summary
- Capacity Growth
- Key Highlights FY2019
- Key Highlights FY2020

COMPANY OVERVIEW



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.

COMPANY OVERVIEW

Core Businesses

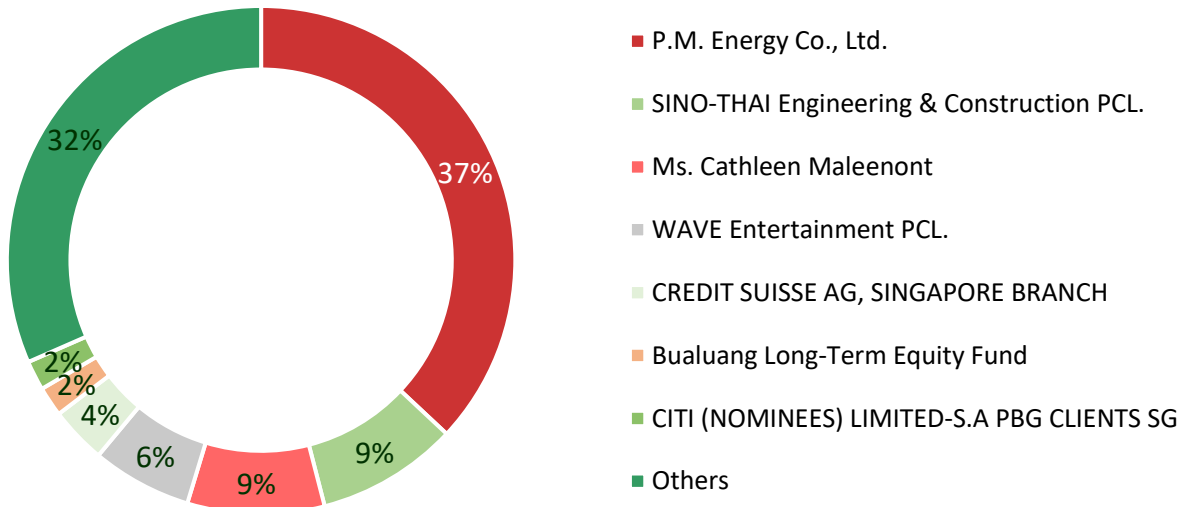
Solar PV
Farms

Solar PV
Rooftops

Biomass

Floating
Solar
Farm

TSE's Major Shareholders (as of 3 JUL 2020)



Established:

in 2008

Listed in Secondary Market:

MAI on 30 OCT 2014

SET on 14 MAY 2019

Core Business:

Operates in the business of and generation and distribution of electricity from solar and other renewable energies.

Paid-up Capital:

2,117.7 MB.

CG Rating:



Credit Rating:

BBB

MILESTONES



2008 - 2011

2008

- Established TSE

2011

- Majority owned by Dr. Cathleen Maleenont
- COD Solar Thermal (4.5 MW)



2013 - 2015

2013

- COD Solar PV TH 5 projects* (40 MW) / Partnership with GPSC (TSE 60%)

2014 **Listed in MAI**

- COD Solar PV TH 5 projects* (40 MW) / Partnership with GPSC (TSE 60%)
- COD Solar Rooftop 5 projects (5 MW)

2015

- Expanded TSE's business operation in Japan
- COD Solar PV JP 1 project (0.5 MW)
- COD Solar Rooftop 9 projects (9 MW)

2016 - 2018

2016

- COD Solar PV Co-Op 1 project (1 MW)
- COD Solar PV JP 4 projects (6.49 MW)
- Invested in Biomass 3 projects

2017

- Large Investment in Japan "Onikoube project" (147 MWp)

2018

- COD Biomass 3 projects (22.2 MW)
- COD Solar PV JP: Jyoso (1.25 MW)
- Acquired a new project "INS" in Ang Thong province (2.0 MW) in OCT 2018

2019

2019 **Moved to SET** **14 MAY 2019**

- COD Solar PV JP: Hanamizuki (13.5 MW)
- Fully Operate Biomass 3 projects (22.2 MW)
- **Capital Increase to 2,117.7 MB. completely in OCT 2019**
Note: TSR 212 million shares: Total value approx. 530 MB.
- Acquired a new project "BSS" in Ayutthaya province (5.0 MW) in MAR 2019
- Acquired a new project "BSE" in Udonnethani province (5.0 MW) in AUG 2019
- Acquired a new project "SSP" in Ang Thong province (8.0 MW) in NOV 2019
Note: All new acquired projects have been COD already.

2020 - 2022

2020

- Start project "Onikoube" Construction and receive project loan from BBL
- Invested in a Floating Solar PV farm project "BPT" in Prachinburi province (8.0 MW) in JUN 2020
- Acquired a new project "EES" in Krabi province (4.3 MW) in JUL 2020

Present - 2022

- Planning to do M&A in Thailand approx. 50 MW within 1 – 2 years
- Planning to bid for Power Plant for Community approx. 50 MW
- Planning to invest in new renewable energy projects overseas approx. 100 – 200 MW PPA within 3 years

PORTFOLIO SUMMARY

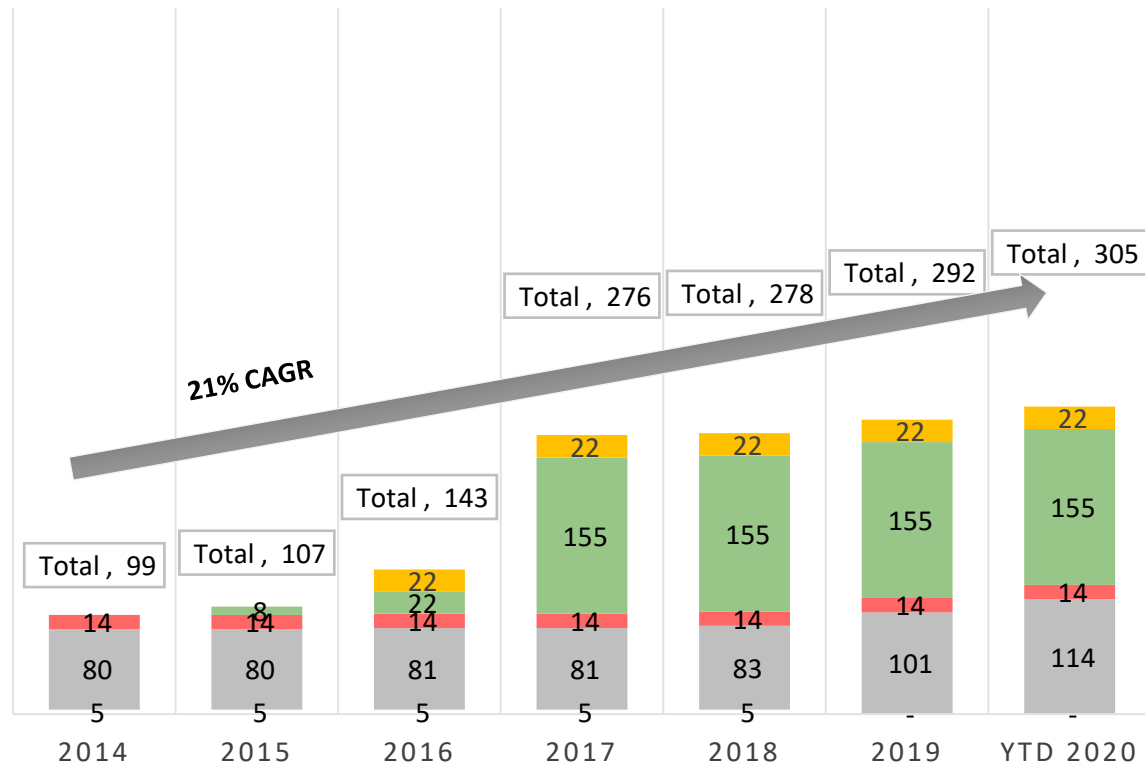
Year	Projects	Ownership	No. of Sites	Installed Capacity (MW _{DC})	Selling Capacity (MW _{AC})	Equity Capacity (MW _e)
2009 - 2011	Solar PV Farms - Thailand	60%	10	104.8	80	48
2014	Solar PV Rooftop	100%	14	14	14	14
2015	Solar PV Farms – Japan	100%	6	10.44	8.24	8.24
2016	• Biomass	100%	3	25.8	22.2	22.2
	• Solar PV Farm – Thailand	100%	1	1	1	1
	• Solar PV Farms – Japan	100%	1	18.1	13.5	13.5
2017	Solar PV Farm – Japan	100%	1	147	133	133
2018	Solar PV Farm – Thailand	100%	1	2	2	2
2019	Solar PV Farms – Thailand	100%	3	19.7	18	18
2020	• Solar PV Farm – Thailand	100%	1	5	4.3	4.3
	• Floating Solar PV Farm – Thailand	100%	1	8	8	8
	Total		42	355.84	304.24	272.24

(*as of 31 August 2020)

CAPACITY GROWTH

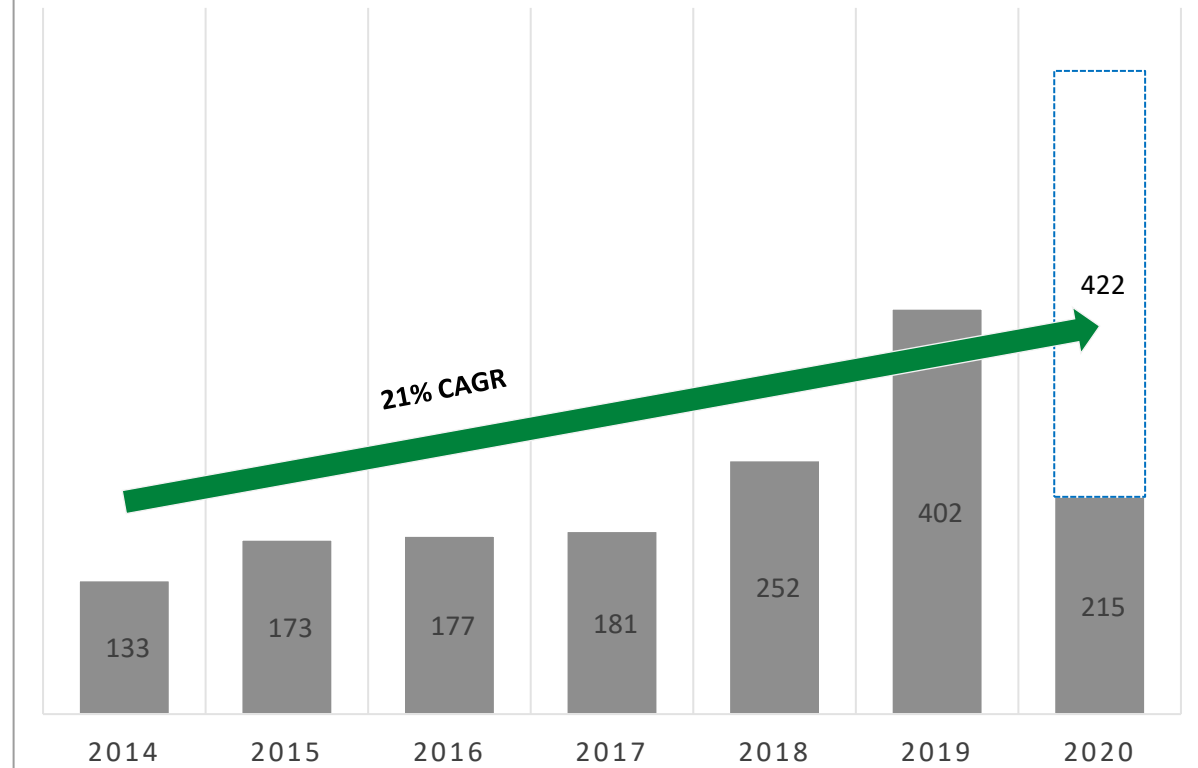
ACQUIRE CAPACITY (MW PPA)

Thermal PV Farms PV Rooftops PV Japan Biomass Total



POWER OUTPUT PRODUCTION (MIL KWH)

Actual Forecast



KEY HIGHLIGHTS FY2019



Hanamizuki



BSS



BSE



SSP

JAN

COD Hanamizuki (13.5 MW)

Location: Ishikawa, Japan
 FiT: JP¥ 36
 COD: 2 JAN 2019

MAR

Acquisition BSS (5.0 MW)

Location: Ayutthaya
 FiT: 5.66 Baht
 COD: 26 DEC 2016

JUL

Additional Investment in OSW of 25% (100%)

Location: Nakorn Si Thammarat
 FiT: 4.24 Baht + Premium 0.30 Baht (8 yrs.)
 COD: OSW1 – AUG 2018
 OSW2 – OCT 2018

AUG

Acquisition BSE (5.0 MW)

Location: Udornthani
 FiT: 4.12 Baht
 COD: 12 DEC 2018

OCT

Right Offering: TSR (TSE-T1)

Capital Increase to 2,117.7 MB.
 - TSR 212 million shares
 - Total value approx. 530 MB.

NOV

Acquisition SSP (8.0 MW)

Location: Ang Thong
 Adder: 8.0 Baht (10 yrs.)
 COD: 29 MAR 2013

KEY HIGHLIGHTS FY2020



Onikoube Project 147 MWp

- Start Project Construction in April, 2020
- Project Financing by BBL THB 8.6 bn.



Floating Solar Farm 8 MWp

- Invested in June, 2020
- SCOD 31 MAR 2021
- PPA Period 25 years



Solar Farm in Krabi 5 MWp

- Completed acquisition in July 2020
- COD 29 DEC 2018
- PPA Period 25 years



UPDATE NEW PROJECTS 2020

- Onikoube Project (147 MWp)
- Floating Solar Farm (8 MWp)
- Solar Farm Krabi (5 MWp)

“ONIKOUBE” PROJECT

- Project Update
- Project Summary
- Project Area
- Project Components
- Work Back Timeline

PROJECT UPDATE

MARCH 2020

Appointed Toshiba as its EPC for Onikoube Project 147 MWp

APRIL 2020

Start project construction

Project financing by BBL approx. 8,600 million Baht

ONIKOUBE PROJECT 147 MWp



PROJECT SUMMARY

Project Summary

Installed Capacity
(MWp)

147

Selling Capacity
(MW)

133

Purchase Rate (FIT JP¥)

36

Location

Miyagi, Japan

Off-taker

Tohoku Utility

SCOD

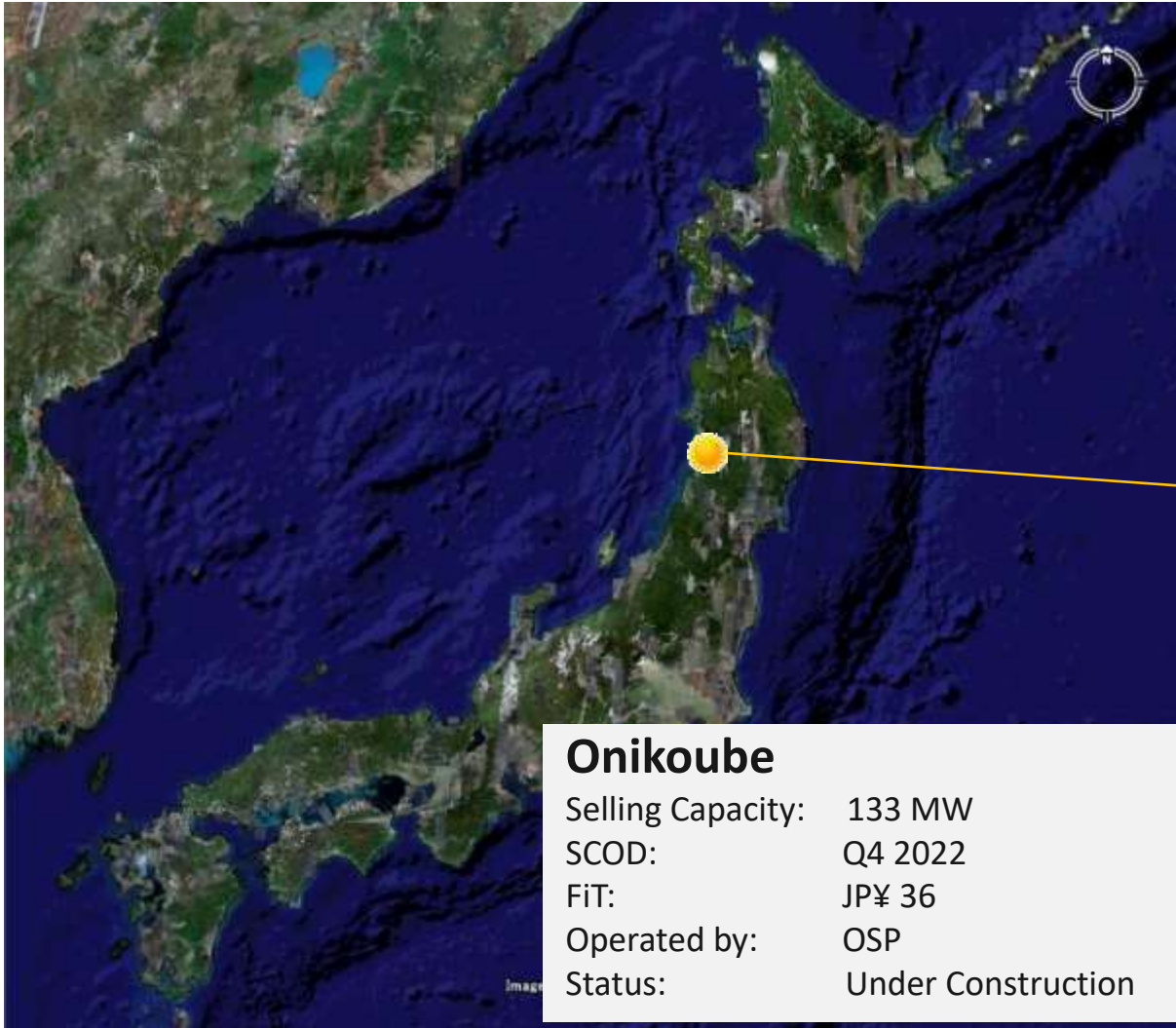
4Q2022

Operated by

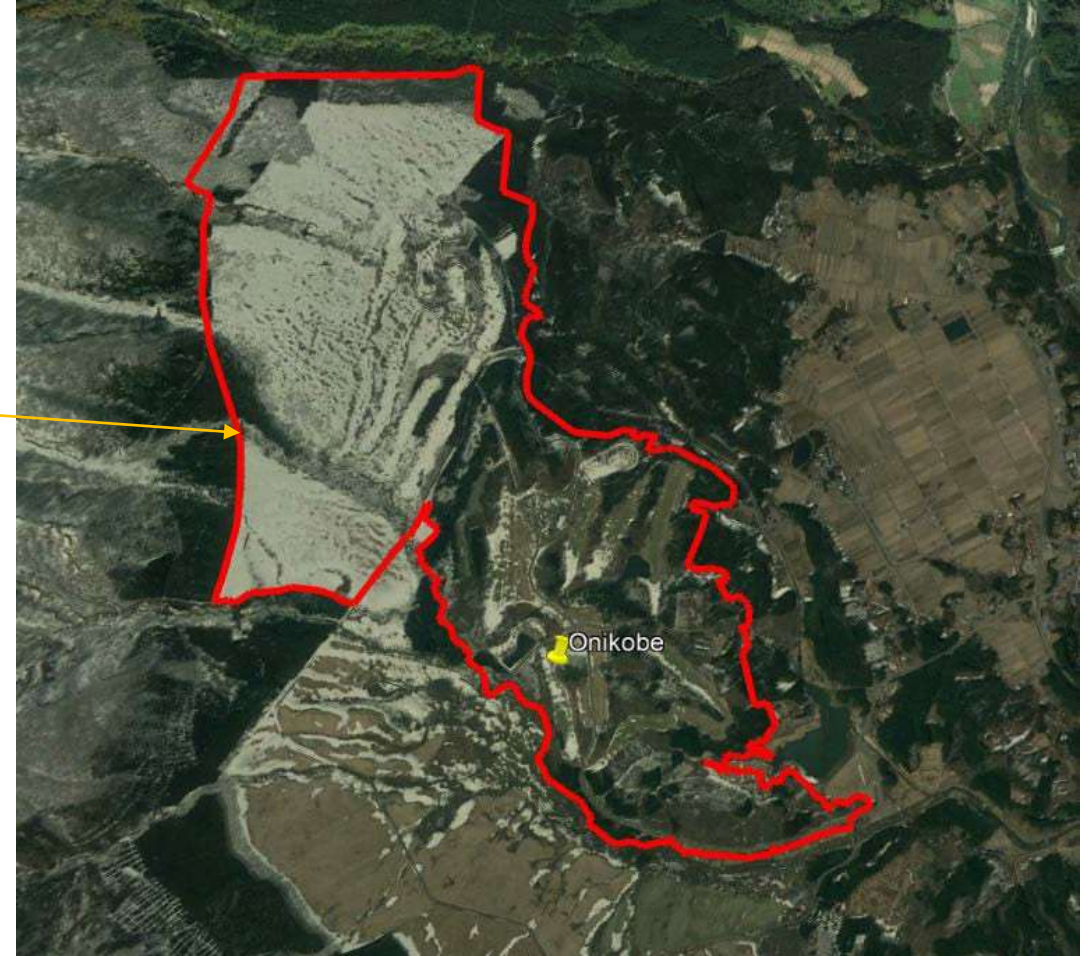
OSP



PROJECT AREA



Project Area



PROJECT COMPONENTS

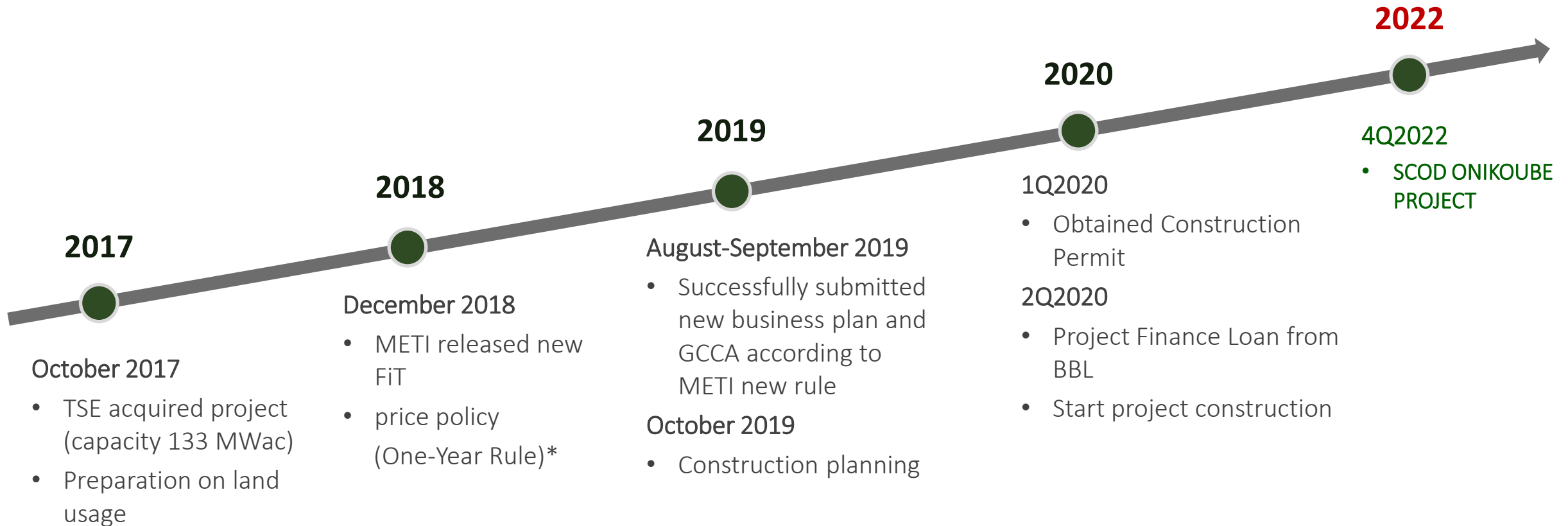


Project Components

Financing by:	BBL
EPC by:	TOSHIBA
PV Module by:	Trina Solar
Inverter by:	Huawei



WORK BACK TIMELINE



**METI's one-year rule requires resubmission of a business plan in order to secure project's FiT price and tenor year under the condition that the project is ready for the construction and to COD within a certain timeline. The conditions required by METI such as, EIA Approval, Forest Permit. Onikoube does not subject to such requirements so the project successfully secures FiT price under the new rule.*



FLOATING SOLAR 8 MWp in Prachinburi

- Project Summary

PROJECT SUMMARY

Project Summary	
Installed Capacity (MWp)	Selling Capacity (MWac)
8	8
PPA Type	PPA Period
Private PPA	25 years
Location	Off-taker
Kabinburi Industrial Estate Prachinburi, Thailand	Hitachi
SCOD	Operated by
2Q2021	SV



EES PROJECT 5 MWp in Krabi

- Project Summary

PROJECT SUMMARY

Project Summary

Installed Capacity (MWp)	Selling Capacity (MWac)
5	4.3

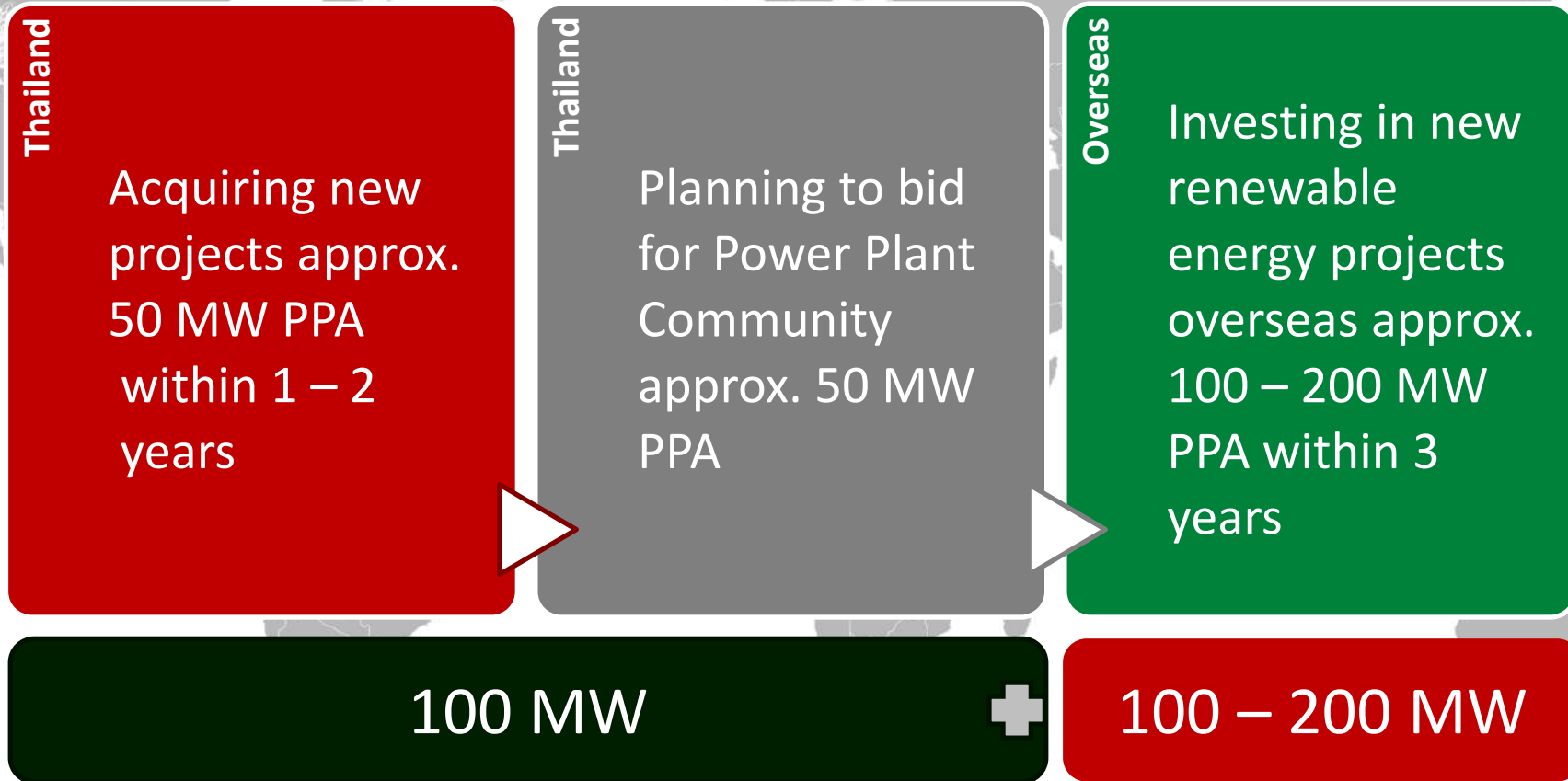
Purchase Rate (FIT THB)
4.12

Location	Off-taker
Krabi, Thailand	PEA

COD	Operated by
29 DEC 2018	SV



OUTLOOK





FINANCIAL HIGHLIGHTS 1H2020

- Income Statement 1Q2020 and 2Q2020
- Financial Position
- Revenue and EBITDA
- Net Profit and ROE
- EPS and D/E
- Debt Structure

INCOME STATEMENT 1Q2020 (3M)



TSE Energy Public Company Limited

Statement of Comprehensive Income

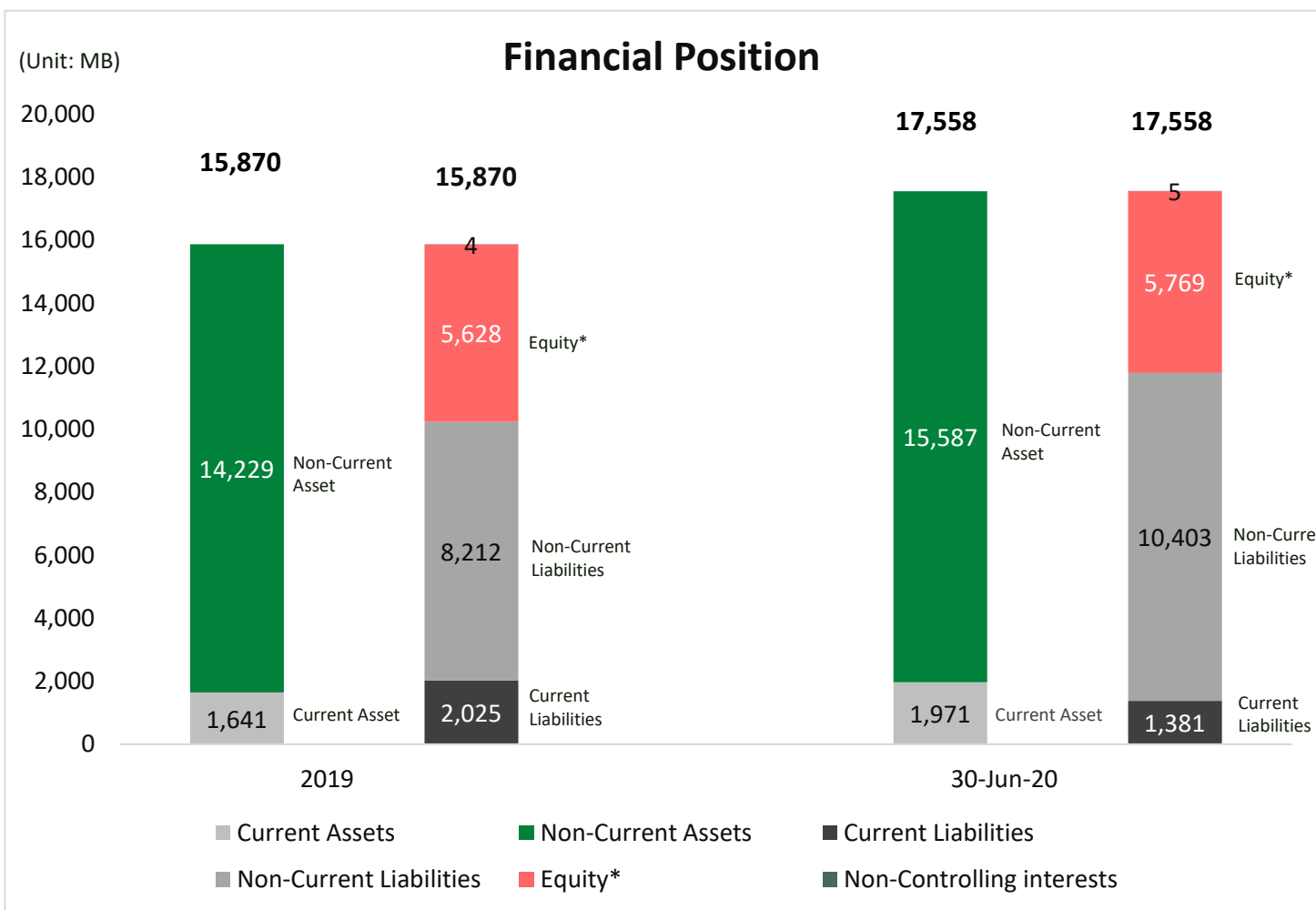
	(3M)		
	Consolidated (Unit: Thousand Baht)		
	1Q2020	1Q2019	% Change
Revenue			
Electricity Sales	359,694	289,018	24%
Management Fee	11,365	10,824	5%
Total Revenue	371,059	299,842	24%
COGs	(241,462)	(198,426)	22%
Gross Profit	129,597	101,416	28%
Other Income	4,708	7,224	-35%
Administrative Expenses	(65,732)	(64,811)	1%
Loss from exchange rate	(167,472)	(1,877)	8822%
Finance costs	(62,537)	(45,977)	36%
Share of Profit from joint ventures	168,589	160,105	5%
Profit before Income Tax	7,153	156,080	-95%
Income Tax	(663)	(154)	331%
Net Profit from Operation	6,490	155,926	-96%
Currency translation differences	515,158	(113,820)	-553%
Change in fair value of hedging derivatives	(7,740)	0	100%
Total Comprehensive Income	513,908	42,106	1121%
Profit Attributable to:			
Owners of the Parent	6,531	146,726	-96%
Non-Controlling Interests	(41)	9,200	-100%
	6,490	155,926	-96%
Total Comprehensive Income Attributable to:			
Owners of the Parent	513,607	32,919	1460%
Non-Controlling Interests	301	9,187	-97%
	513,908	42,106	1121%

INCOME STATEMENT 2Q2020 (3M and 6M)



TSE Energy Public Company Limited




Statement of Comprehensive Income	(3M)			(6M)		
	2Q2020	2Q2019	% Change	2Q2020	2Q2019	% Change
Consolidated (Unit: Thousand Baht)						
Revenue						
Electricity Sales	407,635	358,988	14%	767,329	648,006	18%
Management Fee	11,745	13,196	-11%	23,110	24,020	-4%
Total Revenue	419,380	372,184	13%	790,439	672,026	18%
COGs	(258,539)	(221,222)	17%	(500,001)	(419,648)	19%
Gross Profit	160,841	150,962	7%	290,438	252,378	15%
Other Income	2,112	13,051	-84%	6,820	20,275	-66%
Administrative Expenses	(94,075)	(46,338)	103%	(159,807)	(111,149)	44%
Gain (loss) from exchange rate	96,355	(2,489)	-3971%	(71,117)	(4,366)	1529%
Finance costs	(93,114)	(67,917)	37%	(155,651)	(113,894)	37%
Share of Profit from joint ventures	169,990	173,659	-2%	338,579	333,764	1%
Profit (Loss) before Income Tax	242,109	220,928	10%	249,262	377,008	-34%
Income Tax	712	1,010	-30%	49	856	-94%
Net Profit from Operation	242,821	221,938	9%	249,311	377,864	-34%
Currency translation differences	(290,766)	(30,883)	842%	224,392	(144,703)	-255%
Change in fair value of hedging derivatives	4,826	0	100%	(2,914)	0	100%
Total Comprehensive Income	(43,119)	191,055	-123%	470,789	233,161	102%
Profit Attributable to:						
Owners of the Parent	242,377	208,394	16%	248,908	355,121	-30%
Non-Controlling Interests	444	13,544	-97%	403	22,743	-98%
	242,821	221,938	9%	249,311	377,864	-34%
Total Comprehensive Income Attributable to:						
Owners of the Parent	(43,393)	177,470	-124%	470,214	210,389	123%
Non-Controlling Interests	274	13,585	-98%	575	22,772	-97%
	(43,119)	191,055	-123%	470,789	233,161	102%

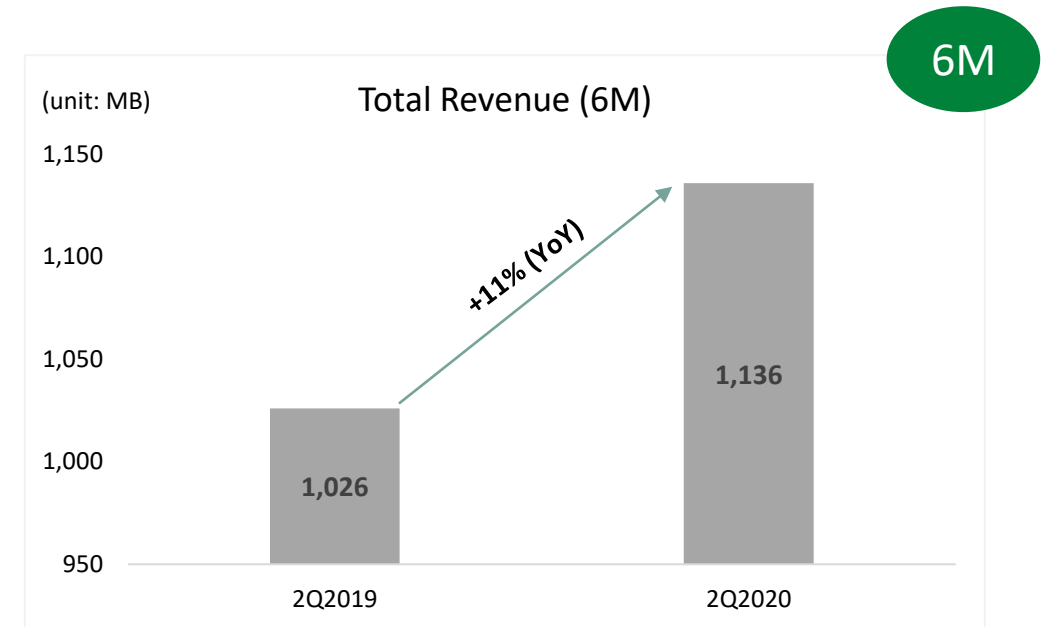
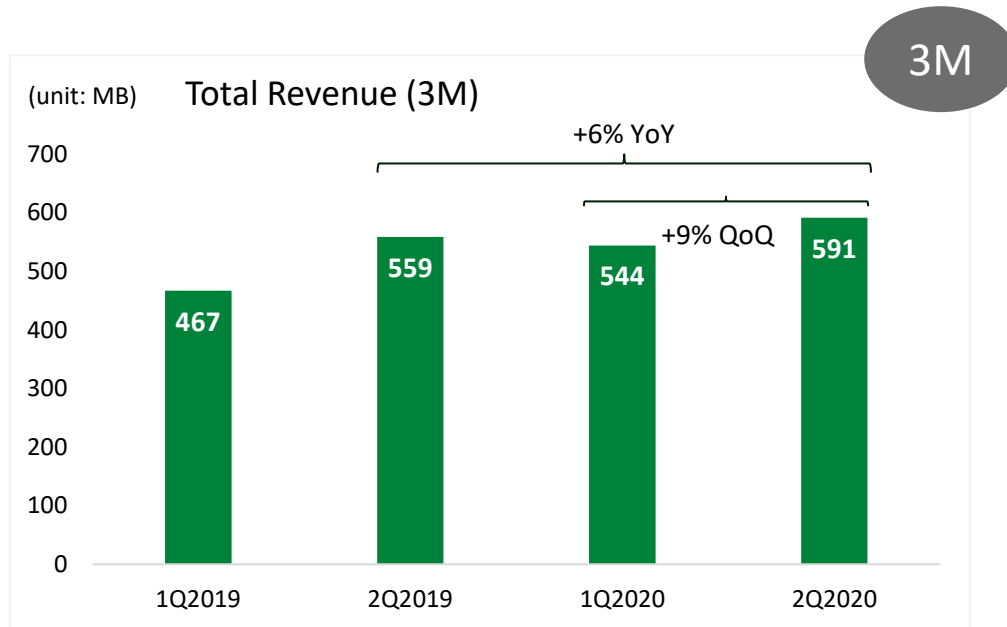


Note: *Equity attributable to owners of the parent

Due to the business expansion continually, total assets and total liabilities increased respectively. Therefore, it helped generate more revenue and increase in net profit.

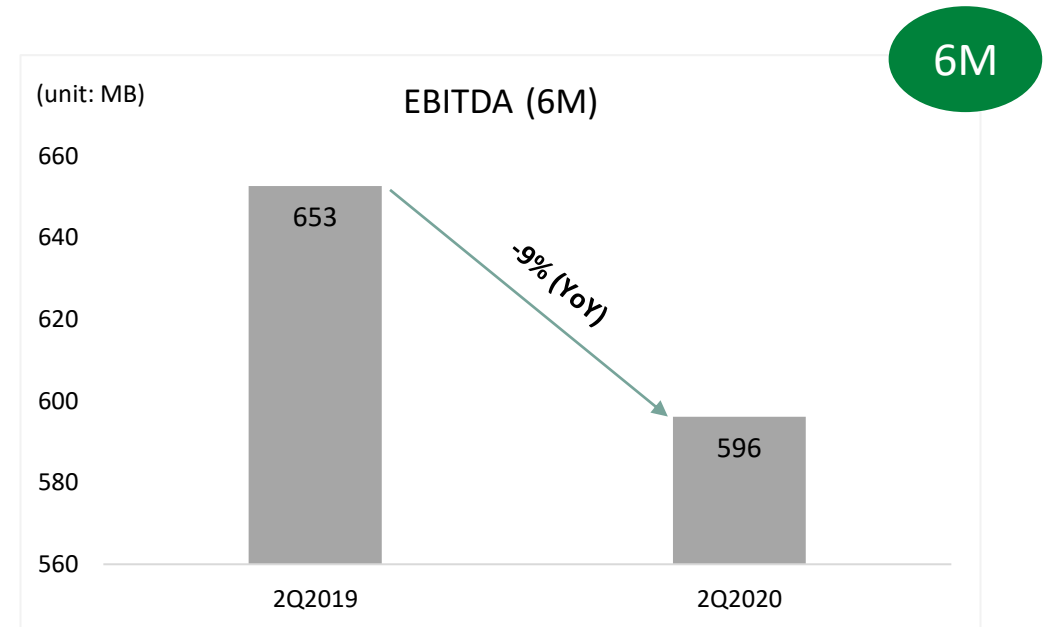
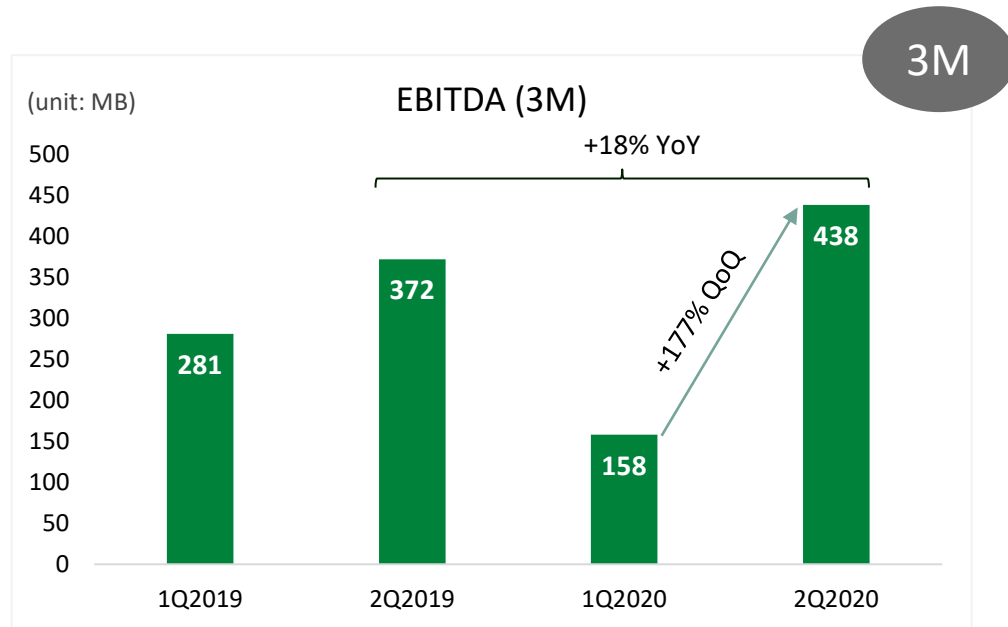
As of 30 June 2020:

- Total Assets increased from 15,870 MB to 17,558 MB, or increased 11%. 
- Total Liabilities also increased from 10,237 MB to 11,784 MB, or increased 15%. 
- Equity attributable to owners of the parent also slightly increased from 5,628 MB to 5,769 MB, or increased 3%. 



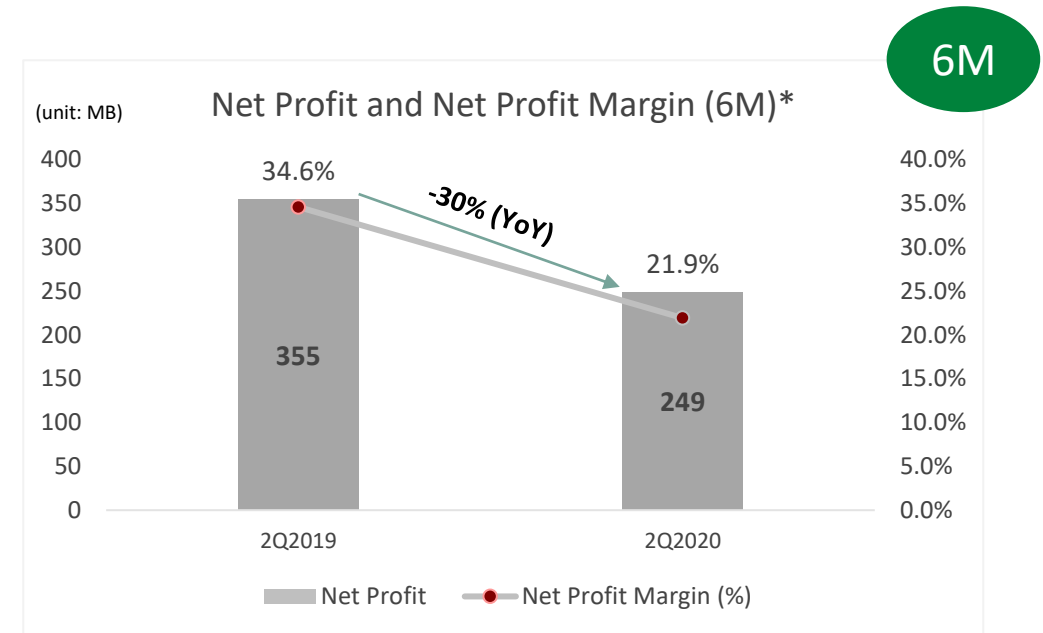
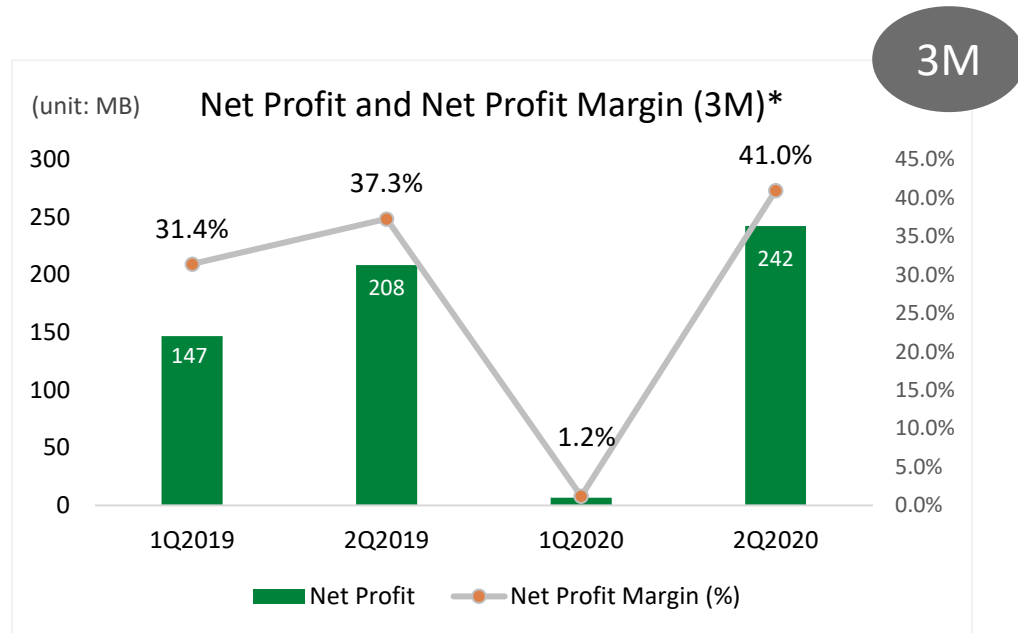
2Q2020 : Total Revenue (3M) and (6M)

- 3-month period of 2Q2020:** Total Revenue slightly increased to 591 MB or +6% (YoY) as compared to 2Q2019 which was 559 MB. This was primarily due to revenue recognition fully from 3 new projects acquired during the year 2019 which were: 1) BSS in Ayutthaya (5 MW), 2) BSE in Udornthani (5 MW), and 3) SSP in Ang Thong (8 MW) of which were totaling of 18 MW.
- 6-month period of 2Q2020:** Total Revenue increased to 1,136 MB or 11% (YoY) as compared to 2Q2019 which was 1,026 MB.



2Q2020 : EBITDA (3M) and (6M)

- **3-month period of 2Q2020:** EBITDA increased to 438 MB or +18% (YoY) as compared to 2Q2019 which was 372 MB, and
- **6-month period of 2Q2020:** EBITDA slightly decreased to 596 MB or -9% (YoY) as compared to 2Q2019 which was 653 MB. This was primarily due to the recognition of loss from exchange rate which occurred from loans in foreign currency of 167 MB in 1Q2020, whereas there was gain from exchange rate of 96 MB in 2Q2020. The record of Loss and Gain from exchange rate is such an accounting transaction and it does not have impact on the Company's cash flow and performance.

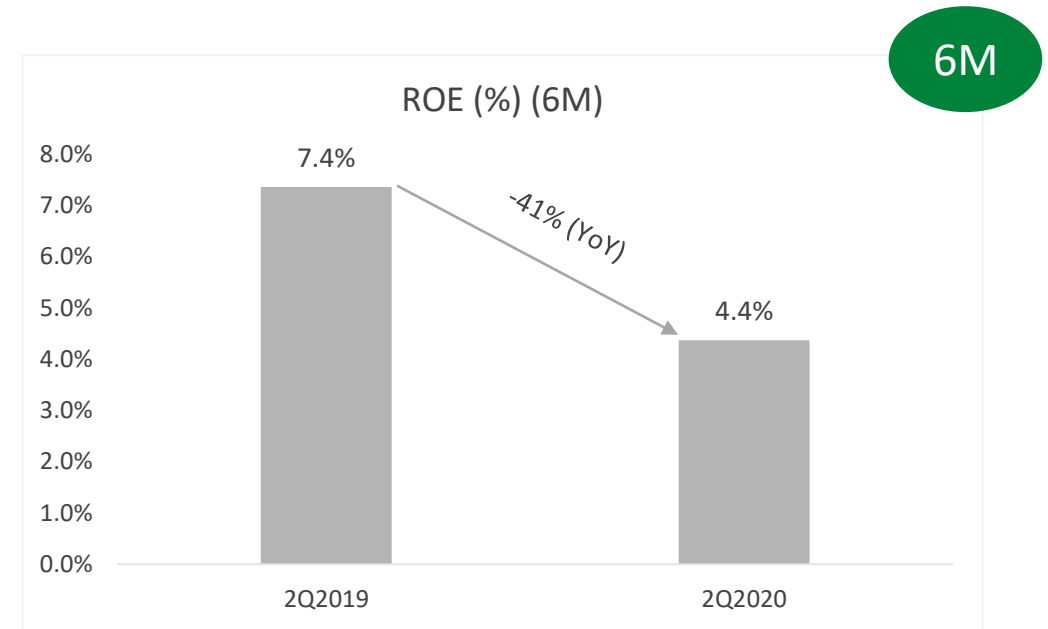
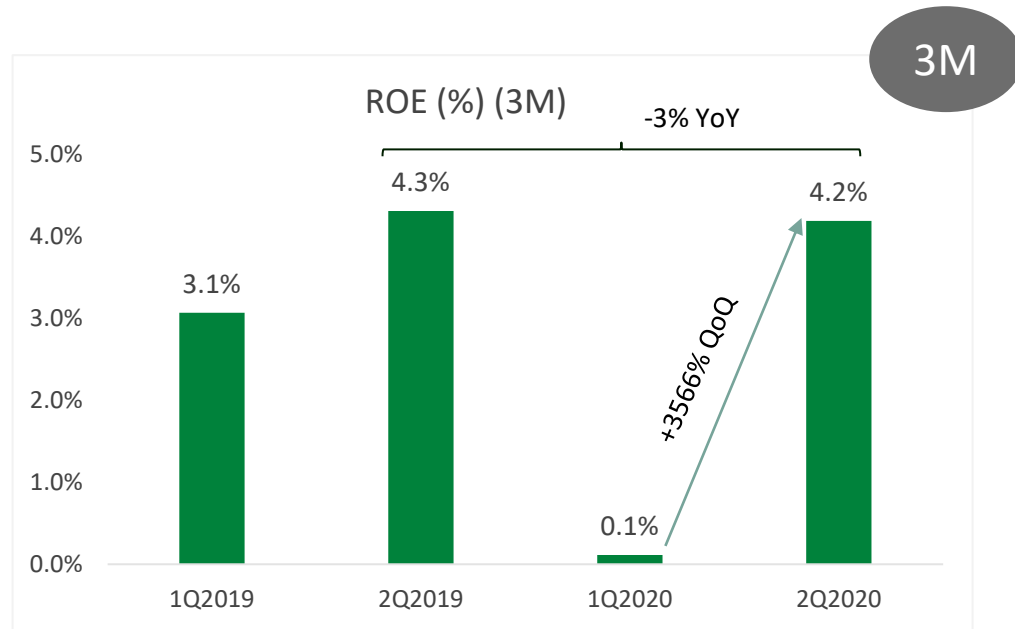


Note: *Equity attributable to owners of the parent

2Q2020 : Net Profit and Net Profit Margin (3M) and (6M)*

- **3-month period of 2Q2020:** Net Profit increased to 242 MB or +16% (YoY) as compared to 2Q2019 which was 208 MB, and
- **6-month period of 2Q2020:** Net Profit significantly decreased to 249 MB or -30% (YoY) as compared to 2Q2019 which was 355 MB.

This was primarily due to the recognition of loss from exchange rate which occurred from loans in foreign currency of 71 MB in 2Q2020. However, the record of Loss from exchange rate is such an accounting transaction and it does not have impact on the Company's cash flow and performance.

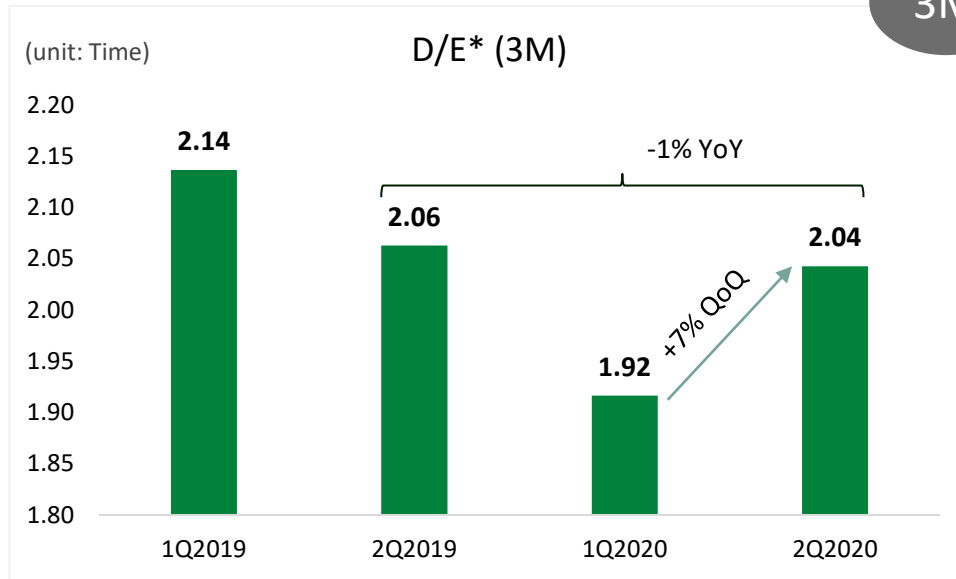


Note: *Average equity

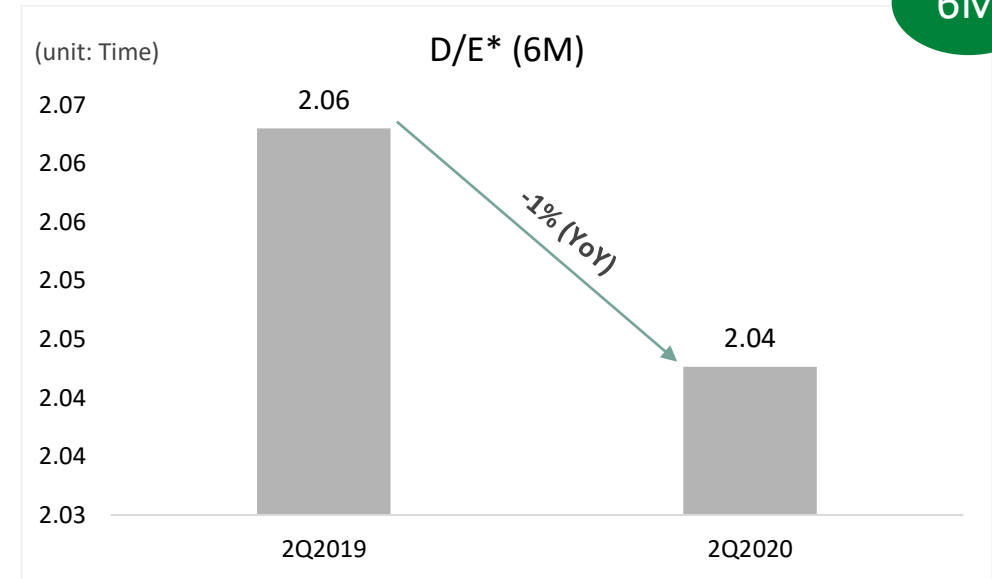
2Q2020 : ROE (3M) and (6M)

- **3-month period of 2Q2020:** ROE slightly decreased to 4.2%, or -3% (YoY) as compared to 2Q2019 which was 4.3% MB, and
- **6-month period of 2Q2020:** ROE significantly decreased to 4.4%, or -41% (YoY) as compared to 2Q2019 which was 7.4%. This was primarily due to the recognition of loss from exchange rate which occurred from loans in foreign currency of 71 MB in 2Q2020. The record of Loss and Gain from exchange rate is such an accounting transaction and it does not have impact on the Company's cash flow and performance.

3M



6M

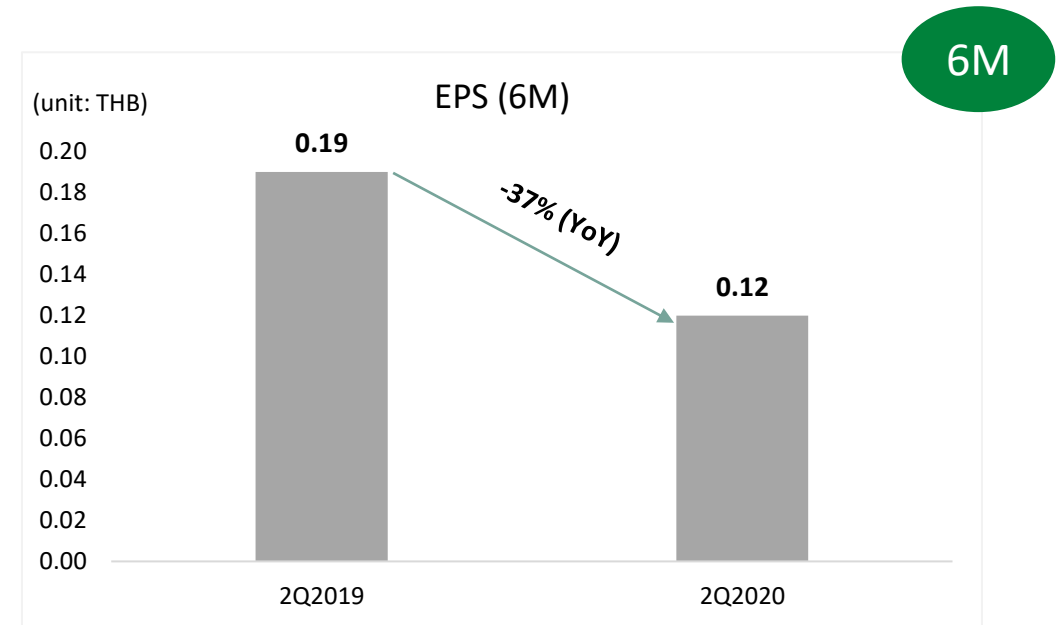
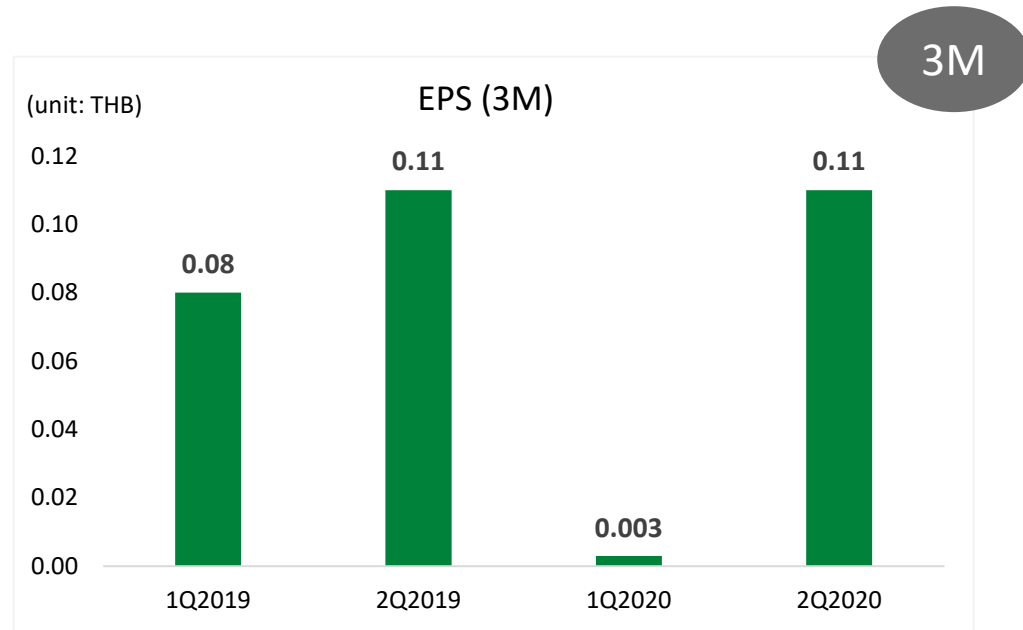


Note: *Equity attributable to owners of the parent

2Q2020 : D/E Ratio (3M) and (6M)

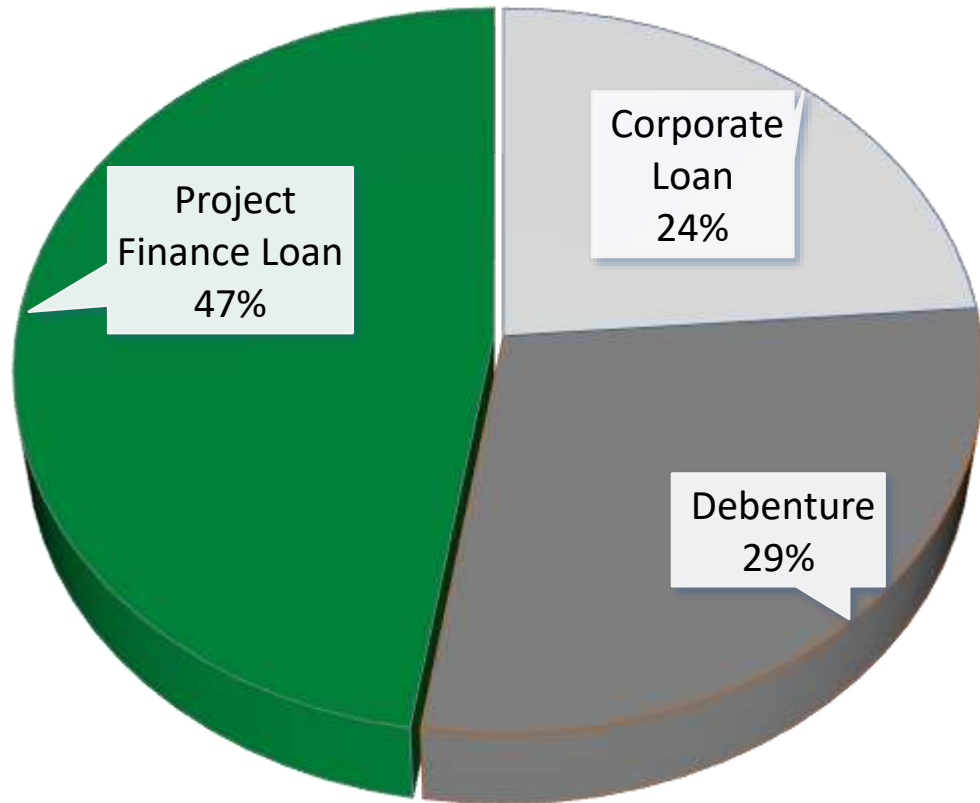
- **3-month period of 2Q2020:** D/E slightly decreased to 2.04 times or -1% (YoY) as compared to 2Q2019 which was 2.06 times.
- **6-month period of 2Q2020:** D/E slightly decreased to 2.04 times or -1% (YoY) as compared to 2Q2019 which was 2.06 times. This was primarily due to liabilities and equity* that were increased in 2Q2020 consistently.

Note: *Equity attributable to owners of the parent



2Q2020 : EPS (3M) and (6M)

- **3-month period of 2Q2020:** EPS was the same as compared to 2Q2019 which was 0.11 THB.
- **6-month period of 2Q2020:** EPS significantly decreased to 0.12 THB or -37% (YoY) as compared to 2Q2019 which was 0.19 THB. This was primarily due to the recognition of loss from exchange rate which occurred from loans in foreign currency of 71 MB in 2Q2020. Hence, it impacted on Net Profit.



Most of interest bearing debt from Corporate Loan for 53% (Corporate Loan for 24% and Debenture for 29%).

The remaining Project Finance Loan for 47%.
Unchanged due to loan drawdown in Onikoube project and repayment by schedule of current loan

40% of Project Finance Loan from COD project.
7% of Project Finance Loan from project under-construction.



TSE's PROJECTS

- Solar Farms - Thailand
- Solar Rooftop – Thailand
- Biomass – Thailand
- Solar Farm – Japan
- Floating Solar Farm - Thailand

TSE's Projects

CORE BUSINESSES
Total 304.24 MWac (272.24 MWe)*

Solar PV Farms

(Total 24 projects)
260.04 MWac (228.04 MWe)*

Thailand

(Total 16 projects)
105.30 MWac (73.30 MWe)*

Japan

(Total 8 projects)
154.74 MWac

Solar Rooftops

(Total 14 projects)
14 MWac

Biomass

(Total 3 projects)
22.2 MWac

Floating Solar

(Total 1 project)
8 MWac



Note:

> **163.24 MWac (131.24 MWe)*: COD**

> 141.00 MWac: under development & under construction

*Remark: As of 31 August 2020
Equity Capacity Proportionate by ownership
(TSE holds 60% of SSE1).

Solar PV Farms - Thailand

Project	Selling Capacity (MWac)	Equity Capacity (MWe)	COD	Operated by	Power Purchase Rate	Tenor	Ownership	Tax Rate
10 plants: (SSE01 - SSE10) Partnership with GPSC (TSE 60%)	8 MW / plant (totaling 80 MWac)	8 MW / plant (totaling 48 MWe)*	2013 – 2014	TSR	Base Tariff + FT + Adder 6.5 THB/kWh (10 years from COD)	5 years with automatic renewal	60%	0% (year 0 – 8) 10% (year 9 - 13) 20% (year 14 - 25)
4 plants: (SLC, INS, BSE, BSS)	Totaling 13 MWac	Totaling 13 MWac	2015, 2016, 2018	SV	FiT 4.12 B. FiT 5.66 B.	25 years	100%	0% (year 0 - 8) 20% (year 9 - 25)
1 plant (SSP) Ang Thong	8 MWac	8 MWac	2013	SV	Base Tariff + FT + Adder 8 THB/kWh (10 years from COD)	5 years with automatic renewal	100%	0% (year 0 – 8) 10% (year 9 - 13) 20% (year 14 - 25)
1 plant (EES) Krabi	4.3 MWac	4.3 MWac	29-Dec-18	SV	FiT 4.12 B.	25 years	100%	0% (year 0 - 8) 20% (year 9 - 25)
Total 16 projects	105.30	73.30*						

*Remark: As of 31 August 2020

Solar PV Farms – Thailand



Prachuap Kirikhan

SLC

Location: Bang Saphan
Selling Capacity: 1.0 MW
COD: 29 DEC 2016

Udonthani

BSE (Acquisition in AUG 2019)

Location: Udonthani
Selling Capacity: 5.0 MW
COD: 12 DEC 2018

Ang Thong

INS

Location: Ang Thong
Selling Capacity: 2.0 MW
COD: 28 DEC 2015

SSP (Acquisition in NOV 2019)

Location: Ang Thong
Selling Capacity: 8.0 MW
COD: 29 MAR 2013

Krabi

EES (Acquisition in JUL 2020)

Location: Krabi
Selling Capacity: 4.3 MW
COD: 29 DEC 2018

Ayutthaya

BSS (Acquisition in MAR 2019)

Location: Ayutthaya
Selling Capacity: 5.0 MW
COD: 26 DEC 2016

Kanchanaburi

SSE1-PV01

Location: Bo Phloi
Selling Capacity: 8.0 MW
COD: 4 SEP 2013

SSE1-PV06

Location: Dan Makham Tia
Selling Capacity: 8.0 MW
COD: 6 JUNE 2014

SSE1-PV07

Location: Ta Muang
Selling Capacity: 8.0 MW
COD: 20 MAR 2014

SSE1-PV08

Location: Panom Tuan
Selling Capacity: 8.0 MW
COD: 6 JUNE 2014

Suphanburi

SSE1-PV02

Location: Don Chedi
Selling Capacity: 8.0 MW
COD: 17 JUL 2013

SSE1-PV03

Location: Nong Ya Sai
Selling Capacity: 8.0 MW
COD: 28 OCT 2013

SSE1-PV04

Location: Doem Bang Nang Buet
Selling Capacity: 8.0 MW
COD: 21 NOV 2013

SSE1-PV05

Location: Doem Bang Nang Beut
Selling Capacity: 8.0 MW
COD: 21 NOV 2013

SSE1-PV09

Location: U Thong
Selling Capacity: 8.0 MW
COD: 9 APR 2014

SSE1-PV10

Location: Sam Chuk
Selling Capacity: 8.0 MW
COD: 30 MAY 2014

*Remark: As of 31 August 2020
Equity Capacity Proportionate by ownership (TSE holds 60% of SSE1).

Solar PV Farms – Thailand



SSE1-PV01 (8MW)
COD SEP 2013



SSE1-PV02 (8MW)
COD JUL 2013



SSE1-PV03 (8MW)
COD OCT 2013



SSE1-PV04 (8MW)
COD NOV 2013



SSE1-PV05 (8MW)
COD NOV 2013



SSE1-PV06 (8MW)
COD JUN 2014



SSE1-PV07 (8MW)
COD MAR 2014



SSE1-PV08 (8MW)
COD JUN 2014



SSE1-PV09 (8MW)
COD APR 2014



SSE1-PV10 (8MW)
COD MAY 2014



SLC (1MW)
COD DEC 2016



INS (2MW)
COD DEC 2015



BSS (5MW)
COD DEC 2016



BSE (5MW)
COD DEC 2018



SSP (8MW)
COD MAR 2013



EES (4.3 MW)
COD DEC 2018

Total 16 projects
105.30 MWac (73.30 MWe)*

*Remark: As of 31 August 2020
Equity Capacity Proportionate by ownership
(TSE holds 60% of SSE1).

Solar PV Rooftop - Thailand

Project	Selling Capacity (MWac)	COD	Operated by	Power Purchase Rate	Tenor	Ownership	Tax Rate
14 plants (TSER01 - TSER14) Partnership with HomePro and The Mall	1 MW / plant (totaling 14 MWac)	2014 – 2015	TSER	FiT 6.16 Baht	25 years	100%	0% (year 0 – 8) 10% (year 9 - 13) 20% (year 14 - 25)

Total: 14 projects

14 MWac



Solar PV Rooftop - Thailand



North Metropolitan

TSER-RT03

Location: Nakorn Sawan
Selling Capacity: 1.0 MW
COD: JUN 2015

TSER-RT01

Location: Lopburi
Selling Capacity: 1.0 MW
COD: SEP 2014

North East

TSER-RT09

Location: Khao Yai
Selling Capacity: 1.0 MW
COD: NOV 2014

TSER-RT08

Location: Ubon Ratchathanee
Selling Capacity: 1.0 MW
COD: MAR 2015

North

TSER-RT02

Location: Phrae
Selling Capacity: 1.0 MW
COD: FEB 2015

South

TSER-RT04

Location: Chumporn
Selling Capacity: 1.0 MW
COD: SEP 2014

TSER-RT05

Location: Surat Thani
Selling Capacity: 1.0 MW
COD: DEC 2014

TSER-RT06

Location: Nakhon Si Thammarat
Selling Capacity: 1.0 MW
COD: JUL 2015

TSER-RT07

Location: Hat Yai
Selling Capacity: 1.0 MW
COD: OCT 2015

Bangkok

TSER-RT10

Location: Ekamai – Ramindra
Selling Capacity: 1.0 MW
COD: FEB 2015

TSER-RT11

Location: Ratchapruok
Selling Capacity: 1.0 MW
COD: NOV 2014

TSER-RT12

Location: Thapra
Selling Capacity: 1.0 MW
COD: JUL 2015

TSER-RT13

Location: Bangkokapi
Selling Capacity: 1.0 MW
COD: JUL 2015

TSER-RT14

Location: Ngamwongwan
Selling Capacity: 1.0 MW
COD: AUG 2015



Solar PV Rooftop - Thailand



RT-01 Lopburi
COD SEP 2014



RT-02 Phrae
COD FEB 2015



RT-03 Nakorn Sawan
COD JUN 2015



RT-04 Chumporn
COD SEP 2014



RT-05 Surat Thani
COD DEC 2014



RT-06 Nakhon Si Thammarat
COD JUL 2015



RT-07 Hat Yai
COD OCT 2015



RT-08 Ubon Ratchathanee
COD MAR 2015



RT-09 Khao Yai
COD NOV 2014



RT-10 Ekamai-Ramindra
COD FEB 2015



RT-11 Ratchapruek
COD NOV 2014



RT-12 Thapra
COD JUL 2015



RT-13 Bangkokpi
COD JUL 2015



RT-14 Ngamwongwan
COD AUG 2015

**Total
14 projects
14 MWac**

Biomass - Thailand

Biomass



3 Projects, 22.2 MW

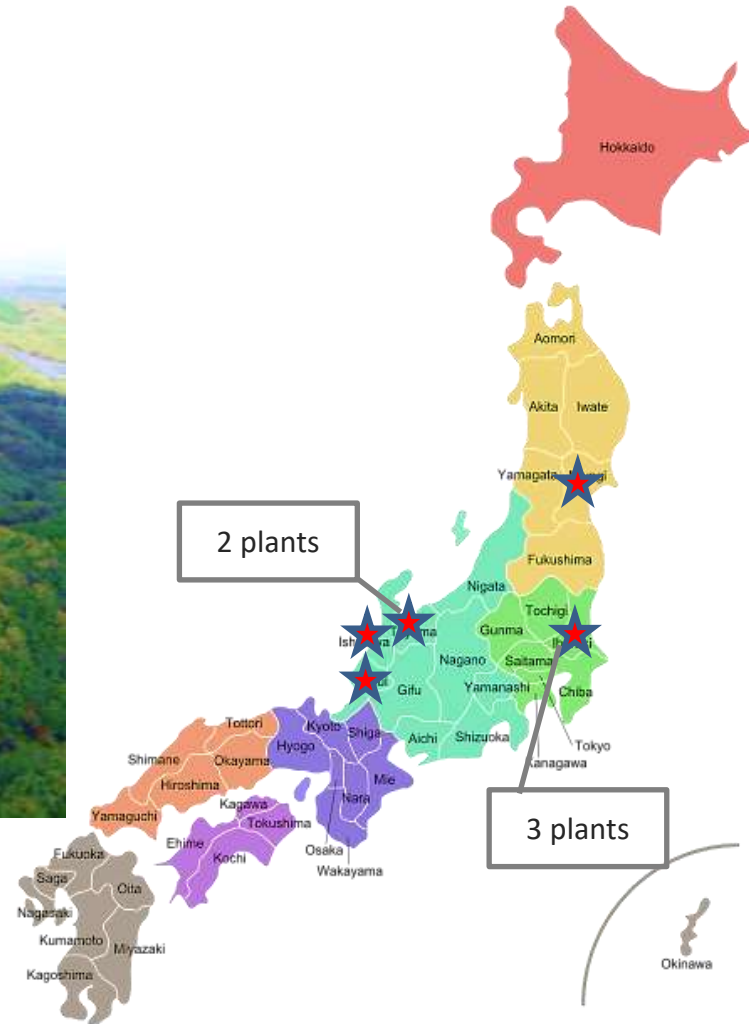
	Project Summary	
Project:	BSW	OSW1 & OSW2
Selling Capacity:	4.6 MW	8.8 MW / plant
COD:	MAR 2018	OSW1 – AUG 2018 OSW2 – OCT 2018
Operated by:	TCE	
Power Purchase Rate:	FiT 4.24 Baht + Premium 0.30 THB (8 years)	
Tenor:	20 years	15Y4M
Customer:	PEA*	
Ownership:	100%	
Tax Rate:	0% (year 0 – 8) 20% (year 9-20)	0% (year 0 – 8) 20% (year 9 – 15Y4M)
Location:	Surat Thani	Nakhon Si Thammarat

Solar PV Farms - Japan

Solar PV Farms - Japan



8 Projects, 154.74 MW



Project Summary

- Projects: 8 Plants
- Selling Capacity: totaling 154.74 MW
- Operated by: TSEO
- Power Purchase Rate: FIT JP¥ 32 – 36
- Tenor: 20 years
- Customers:
 1. TOPCO* - Onikoube
 2. TEPCO** - Ibaraki
 3. HEPCO*** - Hokuriku
- Ownership: 100%
- Tax Rate: 0% (CIT 20 years)
20 years 20.42%
(WHT on allocation)

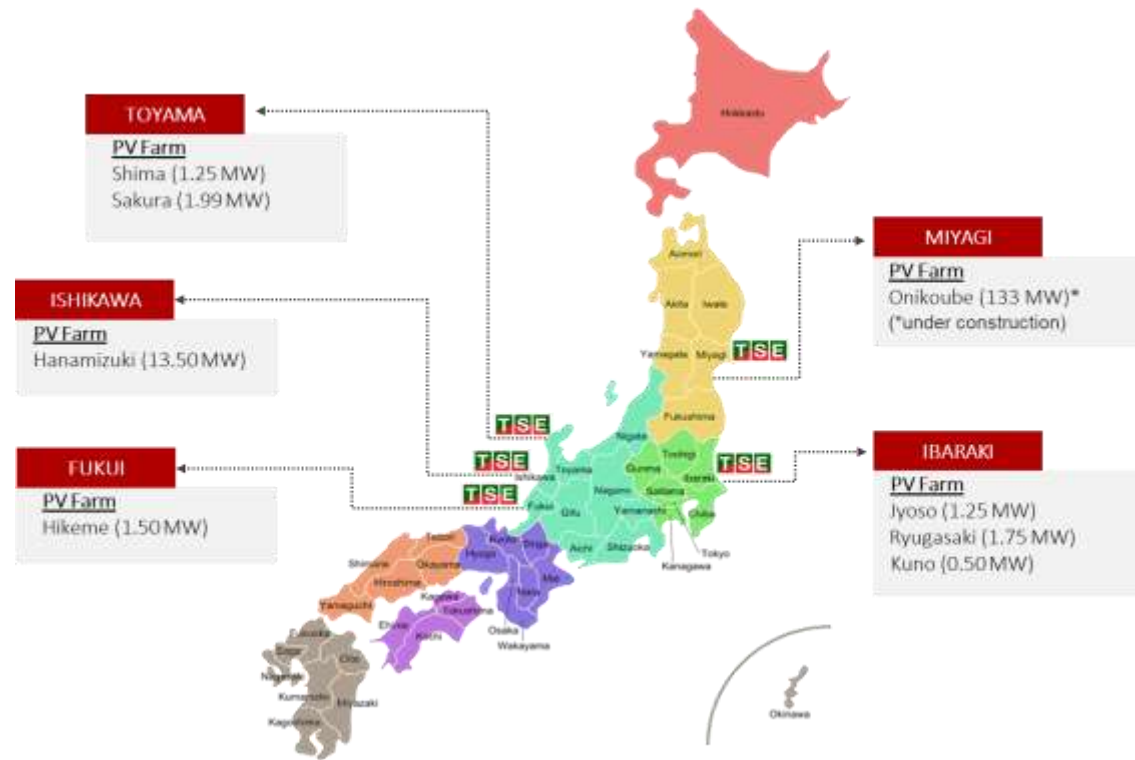
* Tohoku Electric Power Company (TOPCO)

** Tokyo Electric Power Company (TEPCO)

*** Hokuriku Electric Power Company (HEPCO)

Solar PV Farms - Japan

Solar PV Farms - Japan



Project Site	Location	Company	Installed Capacity (MW)	Selling Capacity (MW)	Feed-in-Tariff	COD
Kuno	Ibaraki	TSI	0.65	0.50	36 Yen	31/8/2015
Shima	Toyama	TSI	1.43	1.25	32 Yen	2/3/2016
Hikeme	Fukui	TSI	1.86	1.50	32 Yen	1/4/2016
Ryugasaki	Ibaraki	TSI	2.36	1.75	36 Yen	1/9/2016
Sakura	Toyama	TSI	2.55	1.99	32 Yen	2/11/2017
Jyoso	Ibaraki	TSI	1.59	1.25	36 Yen	2/5/2018
Hanamizuki	Ishikawa	TSI	18.1	13.50	36 Yen	2/1/2019
Onikoube	Miyagi	OSP	147.00*	133.00*	36 Yen	4Q2022
Total			175.54	154.74		

(*under construction)

Solar PV Farms - Japan



Toyama

Shima

Selling Capacity: 1.25 MW
COD: 2 MAR 2016
FiT: JP¥ 32
Operated by: TSI

Sakura

Selling Capacity: 1.99 MW
COD: 2 NOV 2017
FiT: JP¥ 32
Operated by: TSI

Ishikawa

Hanamizuki

Selling Capacity: 13.5 MW
COD: 2 JAN 2019
FiT: JP¥ 36
Operated by: TSI

Ibaraki

Jyoso

Selling Capacity: 1.25 MW
COD: 2 MAY 2018
FiT: JP¥ 36
Operated by: TSI

Ryugasaki

Selling Capacity: 1.75 MW
COD: 1 SEP 2016
FiT: JP¥ 36
Operated by: TSI

Kuno

Selling Capacity: 0.5 MW
COD: 31 AUG 2015
FiT: JP¥ 36
Operated by: TSI

Miyagi

Onikoube

Selling Capacity: 133 MW
SCOD: Q4 2022
FiT: JP¥ 36
Operated by: OSP
Status: Under Construction

Ishikawa

Hikeme

Selling Capacity: 1.5 MW
COD: 1 APR 2016
FiT: JP¥ 32
Operated by: TSI

Solar PV Farms - Japan



Kuno (0.5 MW)
COD AUG 2015



Shima (1.25 MW)
COD MAR 2016



Hikeme (1.50 MW)
COD APR 2016



Hanamizuki (13.5 MW)
COD JAN 2019



Ryugasaki (1.75 MW)
COD SEP 2016



Sakura (1.99 MW)
COD NOV 2017



Jyoso (1.25 MW)
COD MAY 2018



Onikoube (133 MW)*
SCOD 4Q2022

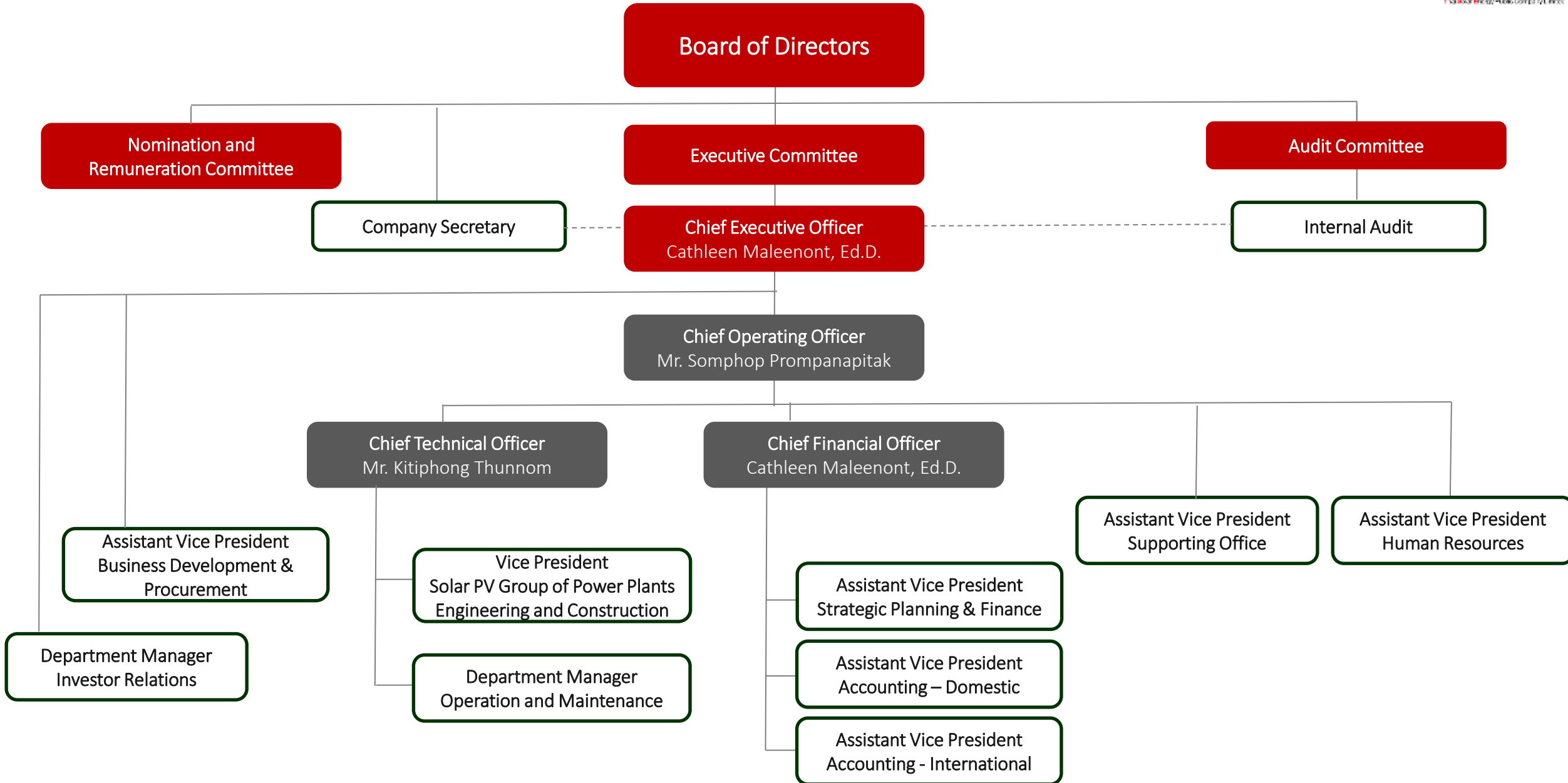
(*under construction)



APPENDIX

- Organization Structure
- Board of Directors and Audit Committee
- Investment Structure

ORGANIZATION STRUCTURE



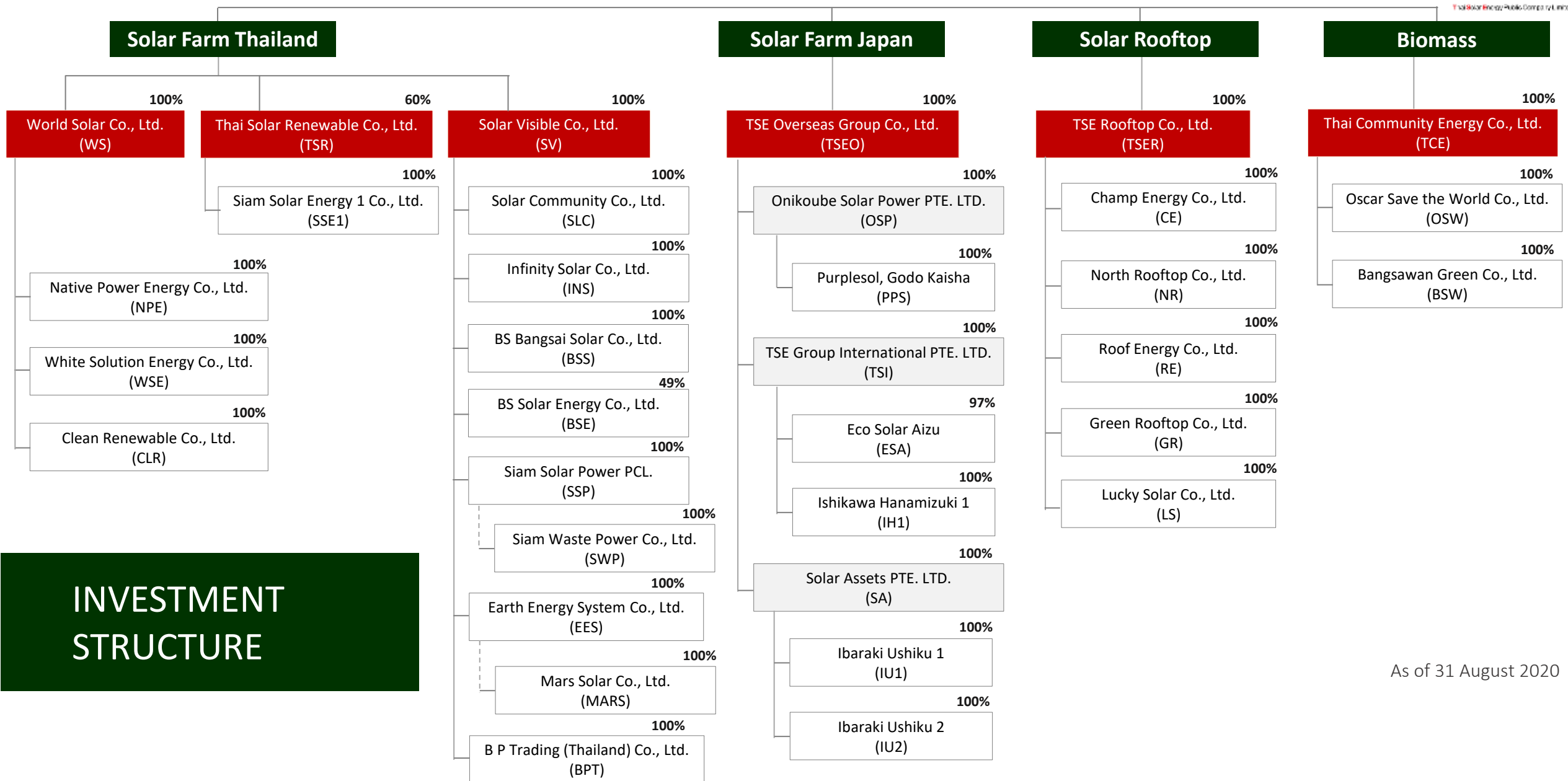
BOARD OF DIRECTORS:

- ❖ Chairman of Board of Directors: Cathleen Maleenont Ed., D.
- ❖ Vice Chairman + Independent Director: Mr. Prommin Lertsuridej
- ❖ Independent Director: Mr. Pala Sookawesh
- ❖ Independent Director +
Chairman of Audit Committee: Mrs. Siripen Sitasuwan
- ❖ Independent Director +
Chairman of Nomination and
Remuneration Committee: Mr. Prasan Chuapanich
- ❖ Independent Director: Mr. Aran Apichari
- ❖ Director: Mr. Somphop Prompanapitak
- ❖ Director: Mrs. Angkanee Rerksirisuk
- ❖ Director: Mr. Masthawin Charnvirakul

AUDIT COMMITTEE:

- ❖ Chairman of Audit Committee + Independent Director:
Mrs. Siripen Sitasuwan
- ❖ Member of Audit Committee + Independent Director:
Mr. Prasan Chuapanich
- ❖ Member of Audit Committee and Independent Director:
Mr. Pala Sookawesh

Thai Solar Energy Public Company Limited



INVESTMENT STRUCTURE

As of 31 August 2020



T S E
Thai Solar Energy Public Company Limited

THANK YOU

www.thaisolarenergy.com

Tel. +66 2258 4530-34