

Thailand Focus 2019

29 August 2019



Grand Hyatt Erawan Bangkok Hotel

Agenda

01 Our Mission & Portfolio

02 Group Performance

03 Financial Performance

04 Appendix

Agenda

01 Our Mission & Portfolio

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Vision & Mission

**Vision : To become a leading value-oriented
energy and infrastructure company in Asia Pacific**

To ensure shareholders' value creation by continuously generating superior financial returns

M1

M4

To raise employees' awareness and motivation of self-development in preparation for future business competition

To achieve world-class operational excellence and enhance competitiveness

M2

M5

To support long-term domestic energy security and infrastructure

To be socially and environmentally responsible, conducting business in a fair and sustainable manner and complying with all related laws and regulations

M3

M6

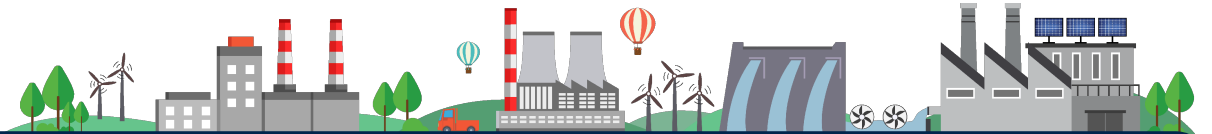
To seek new opportunities and alternatives in related and other businesses to generate growth and expand business base for shareholders

Goal



To increase generating capacity up to **10,000** MW or equivalent/to increase enterprise value (EV) up to 200 Billion Baht

To maintain the domestic revenue proportion not less than **50%** of the total revenue



To increase generating capacity in Renewable (including Hydro) not less than **20%** of total capacity from both domestic and oversea projects

To enhance organization on the principle of **HPO**
(High Performance Organization)

Valued Portfolio to Enhance Long-term Growth

- ❑ **Electric Power Generation**
: Gas, Coal, Mining, LNG
- ❑ **Renewable Energy**
: Wind, Solar, Hydro, Biomass, Nuclear, Geothermal, Wood Pallet
- ❑ **O&M**



- ❑ **Water Supply**
- ❑ **Waste Water Management**



Energy & Infrastructure

Transportation

Telecommunication

Water Supply

Power

- ❑ **Roads**
- ❑ **Rails**
- ❑ **Mass Transit**
- ❑ **Ports**
- ❑ **Airports**



- ❑ **Underground Fiber Optic Network**
- ❑ **Smart Grid/Smart City**
- ❑ **Broadband Connectivity**



Excellent Track Record of Successful Diversified Portfolio

Power Generation

Power plant projects in Thailand



Ratchaburi (RATCHGEN)
3,645 MW



Tri Energy (TECO)
720 MW



Ratchaburi Power (RPCL)
372.50 MW



Ratchaburi World (RW Cogen)
93.60 MW



Nava Nakhon (NNEG)
55.65 MW



Berkprai Cogeneration
34.73 MW



Navanakorn Electric
109.97 MW

Under Construction

- Nava Nakhon (Extension) 23.99 MW
- Hin Kong Unit 1-2 1,400 MW

International Investment

Power plant and renewable projects outside Thailand



Num Ngum 2
153.75 MW



Townsville
234MW



Kemerton
315.20 MW



BP Kwinana
35.40 MW



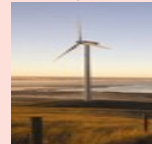
Mount Emerald
180.45 MW



Collinsville
42.50 MW



Hongsa
751.20 MW



Toora
21 MW



Starfish Hill
33 MW



Windy Hill
12 MW



Asahan-1
47.90 MW

Under Construction

- Xe-Pian Xe-Namnoy 102.5 MW
- Riau Combined-Cycle 145.15 MW
- Fangchenggang II Nuclear Power 236 MW
- Collector Wind Farm 226.8 MW
- Yandin Wind Farm 149.94 MW

Renewable Energy

Renewable projects in Thailand



Huay Bong 2
20.70 MW



Huay Bong 3
20.70 MW



Solar Power (Korat 3, 4 and 7)
8.64 MW



Solarta 20.73 MW



Songkhla Biomass 3.96 MW

Related Businesses

Power Plant Operation & Maintenance Services



CRESCO
Chubu Ratchaburi Electric Services Co., Ltd.

Fuel Supply

ບໍລິສັດ ພູໄຟມາຍນົງ ຈຳກັດ
Phu Fai Mining Company Limited



Capital Investment



EDL-Gen
114.97 MW

Other Business

MRT Pink Line and Yellow Line Projects



Sandin Water Supply



Underground Fiber Network Project

Continued Growth Projects Investment

Current Projects in Operation

7,047.55 MW

2019-2025: Committed Projects in pipeline **2,284.38 MW**

Name of Power Plant/Project	Location	RATCH's stake (%)	Installed Capacity (MW)	Attributable Capacity (MW)	Expected COD
2019			410.00	102.50	
Xe -Pian Xe-Namnoy Hydroelectric Power Plant	Attapue and Champasak provinces, Laos	25	410	102.50	Dec 2019
2020			274.17	173.93	
Nava Nakorn SPP Power Plant (Extension)	Nava Nakorn Industrial Promotion Zone, Pathumthani Province, Thailand	40	59.97	23.99	Sep 2020
Yandin Wind-Turbine Power Plant	Western Australia, Australia	70	214.2	149.94	Sep 2020
2021			2,883.03	607.95	
Riau Combined-Cycle Power Plant	Republic of Indonesia	49	296.23	145.15	May 2021
Collector Wind-Turbine Power Plant	New South Wales, Australia	100	226.80	226.80	In 2021
Fangchenggang II Nuclear Power Plant	Fangchenggang , China	10	2,360	236	In 2021
2024			700	700	
Hin Kong Power Project Unit 1	Ratchaburi Province, Thailand	100	700	700	In 2024
2025			700	700	
Hin Kong Power Project Unit 2	Ratchaburi Province, Thailand	100	700	700	In 2025

Continued Growth Projects Investment

Infrastructure Projects



MRT Pink Line Project

Technology: Monorail

Route: Khae Rai-Min Buri

Contract Type: PPP Net Cost with Subsidy

Contract Term: 30-Year

Expected COD: In 2021

Connecting Networks: 4 Interchanges



MRT Yellow Line Project

Technology: Monorail

Route: Lad Prao-Sam Rong

Contract Type: PPP Net Cost with Subsidy

Contract Term: 30-Year

Expected COD: In 2021

Connecting Networks: 4 Interchanges



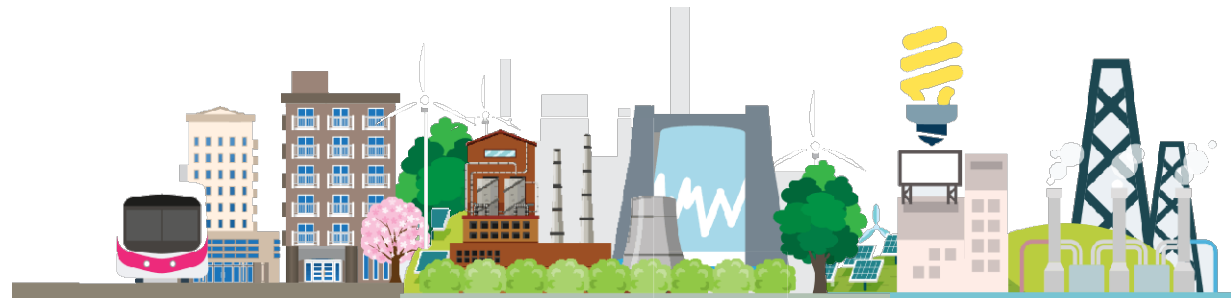
Sandin Water Supply Project

Type of Business: Generating water supply

Capacity:

Phase I: 24,000 cubic meters/day (2018)

Phase II: 48,000 cubic meters/day (2031)



Diversified Portfolio Across Core Locations




 **China**

236 MW

 **Nuclear**
100%





 **LAOS**

1,122.42 MW

 **Coal** 66.9%
 **Hydro** 33.0%
 **Solar** 0.1%

 **Thailand**

6,530.17 MW

 **Gas** 98.9%
 **Wind** 0.6%
 **Solar** 0.4%
 **Biomass** 0.1%




 **Indonesia**

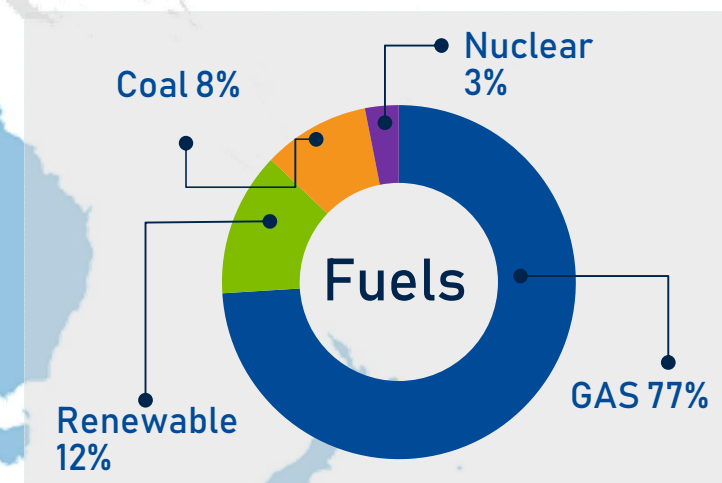
193.05 MW

 **Gas** 75.2%
 **Hydro** 24.8%

 **Australia**

1,250.29 MW

 **Wind** 49.8%
 **Gas** 46.8%
 **Solar** 3.4%



Company Milestones in 1H2019

March 2019

- 19 March 2019

Collector Wind Farm Pty Ltd signed binding debt documents with Clean Energy Finance Corporation.

- 20 March 2019

PT Medco Ratch Power Riau signed Loan Agreement and other related financial agreements with 4 Financial Institutes.



- 21 March 2019

Collinsville Solar PV achieved conditions under the Power Purchase Agreement and commenced commercial operations.

April 2019

- 17 April 2019

Change of the Company's name and seal



July 2019

- 12 July 2019

Hin Kong Power Company Limited had entered into the PPA for Hin Kong Power Project in Ratchaburi Province with EGAT. The Agreement is effective from the execution date until the 25-year from the COD.

- 26 July 2019

RAC had invested in 214.20 MW Yandin Wind Farm

- 30 July 2019

Moody's affirmed RATCH Baa1 rating and changed the outlook to positive from stable, in line with the rating action on the Government of Thailand (Baa1 positive)

June 2019

- 1 June 2019

Berkprai Cogeneration SPP Power Plant had commenced commercial operations.

August 2019

- 20 August 2019

RATCH has entered into Share Purchase Agreement to purchase ordinary and preferred share of Navanakorn Electric Company Limited at 99.97%, totaling approximately Baht 1,998.40 million



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01 Our Mission & Portfolio

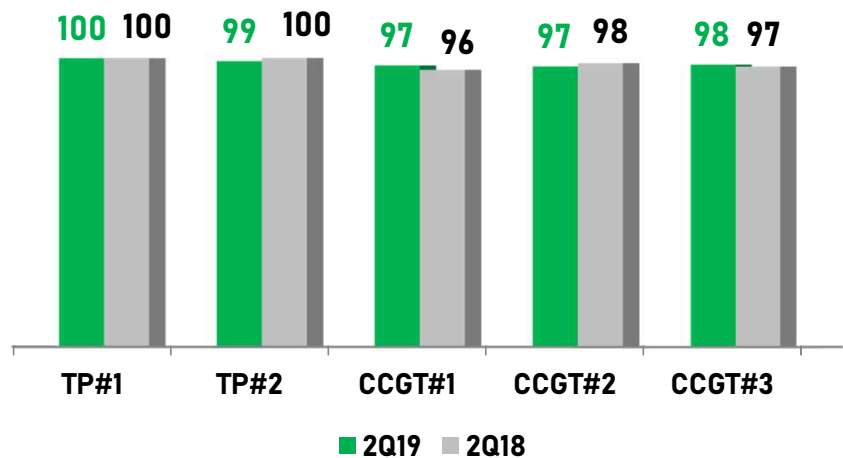
02 Group Performance

03 Financial Performance

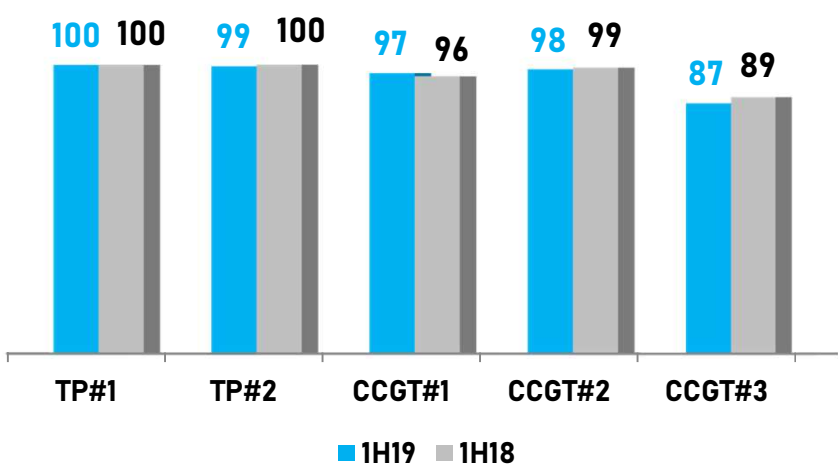
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Operation Performance : RATCHGEN

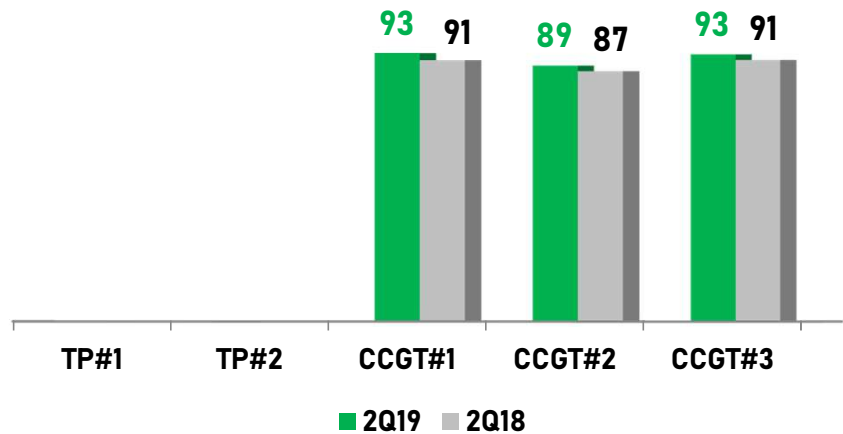
%Equivalent Availability Factor



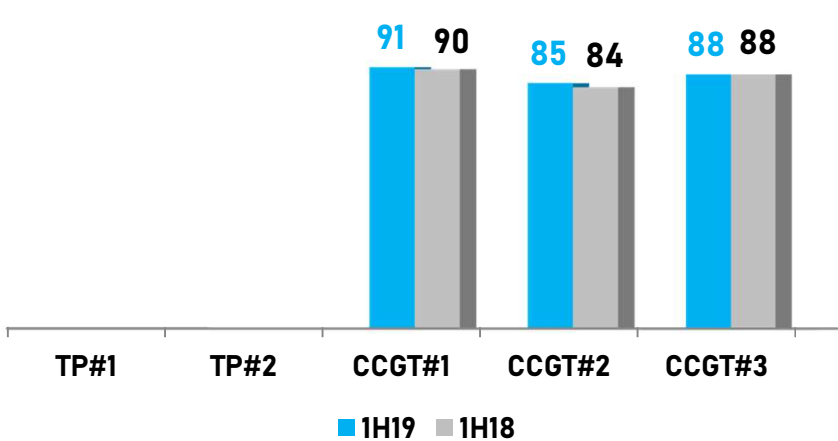
%Equivalent Availability Factor



%Dispatch Factor



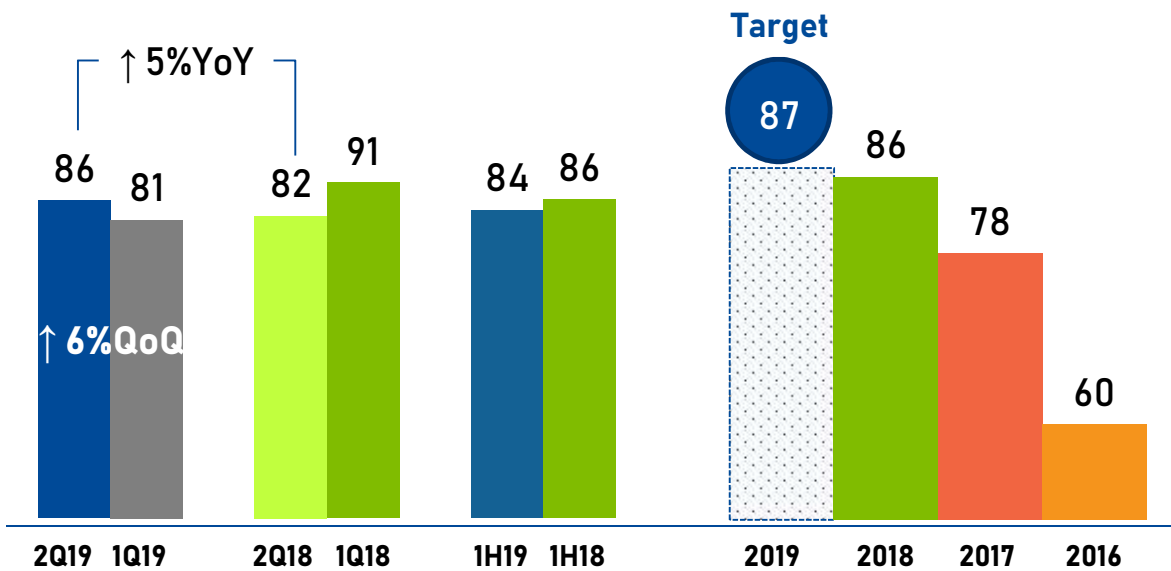
%Dispatch Factor



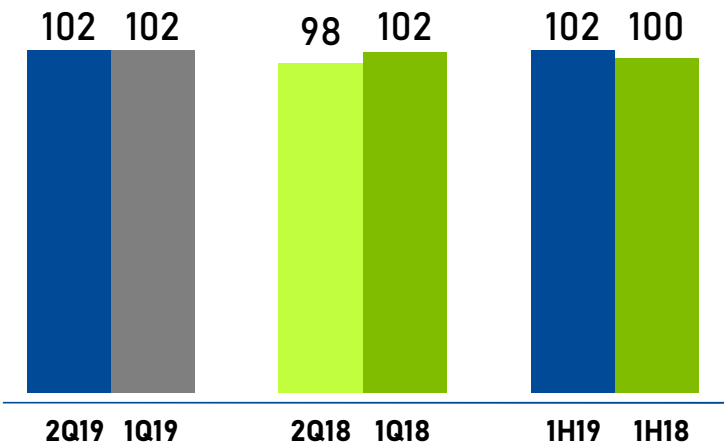
Operation Performance : Hongsa



% Commercial Equivalent Availability Factor (3 Units)



% Dispatch Factor (3 Units)

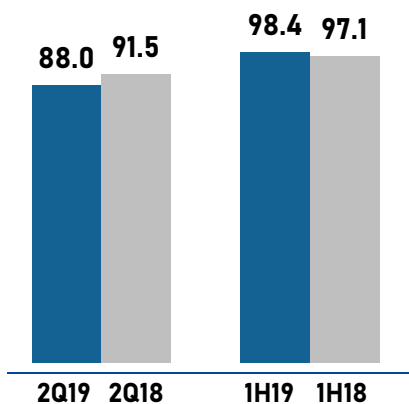


Operation Performance : Wind Projects

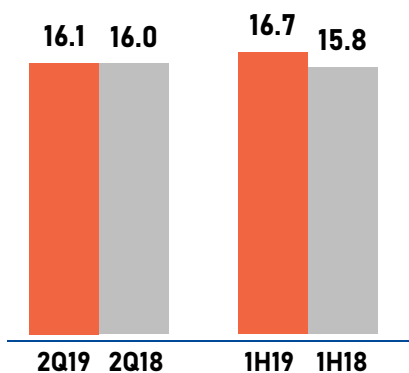


Huay Bong 2-3

%Avg. Commercial Availability

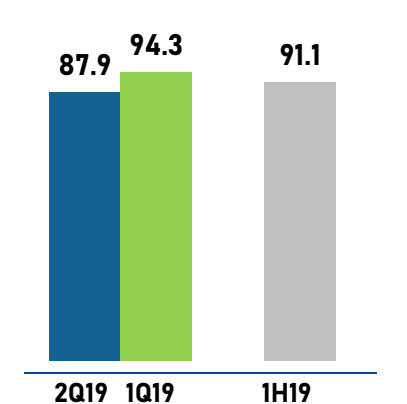


%Capacity Factor

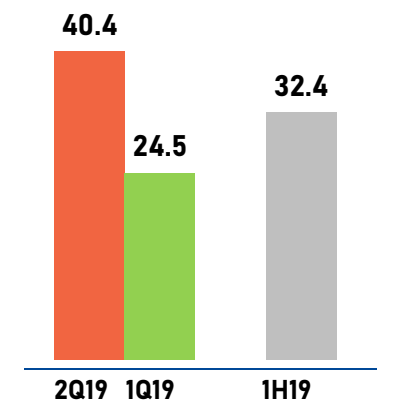


Mount Emerald

%Avg. Commercial Availability

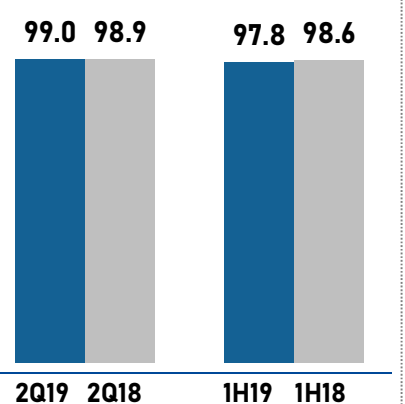


%Capacity Factor

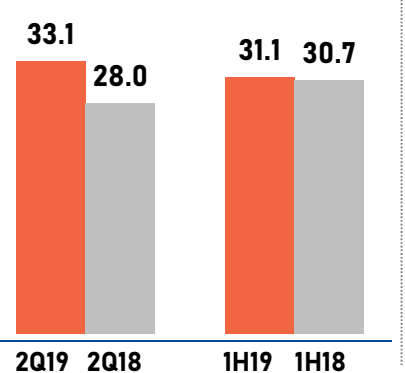


Starfish Hill

%Avg. Commercial Availability

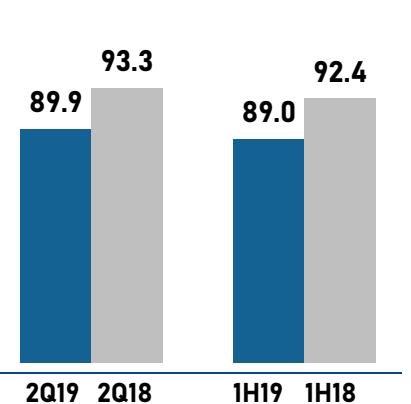


%Capacity Factor

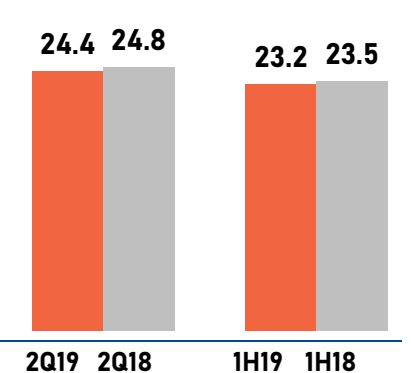


Toora

%Avg. Commercial Availability

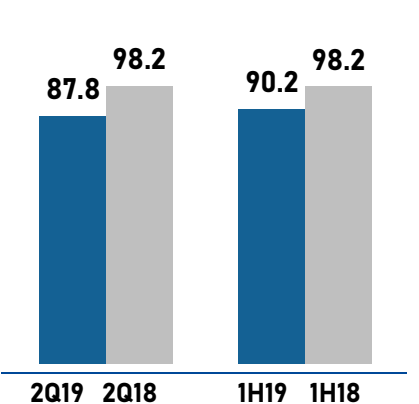


%Capacity Factor

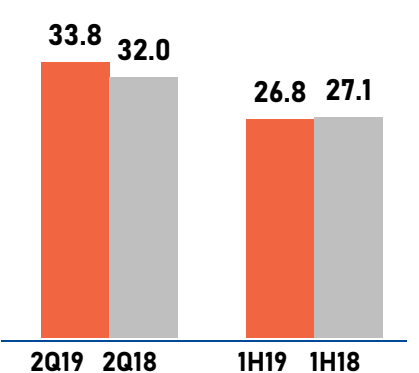


Windy Hill

%Avg. Commercial Availability



%Capacity Factor

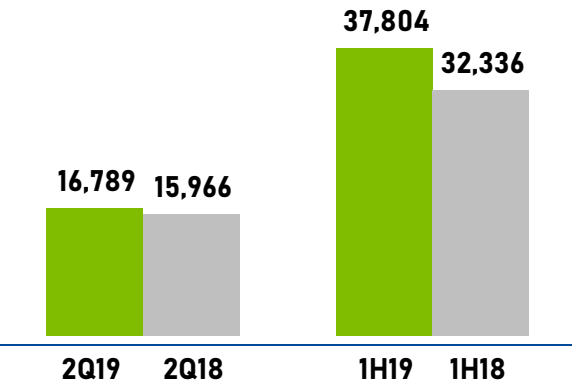


Operation Performance : Solar Projects

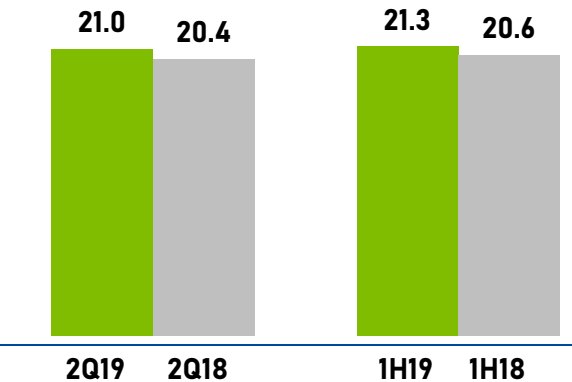


Solarta

Total Net Energy (MWh /Quarter)

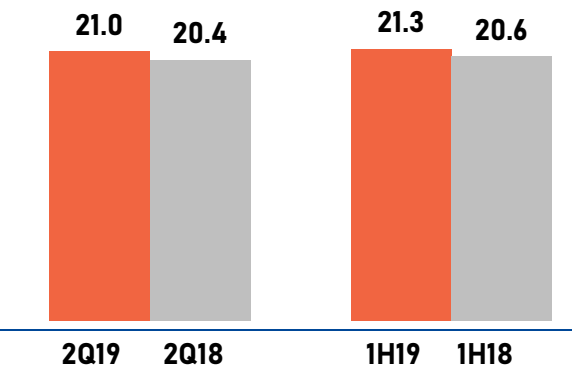


%Avg. Capacity Factor

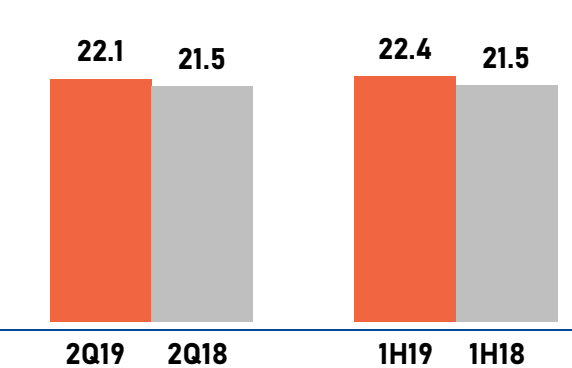


Korat 3,4,7

Total Net Energy (MWh /Quarter)



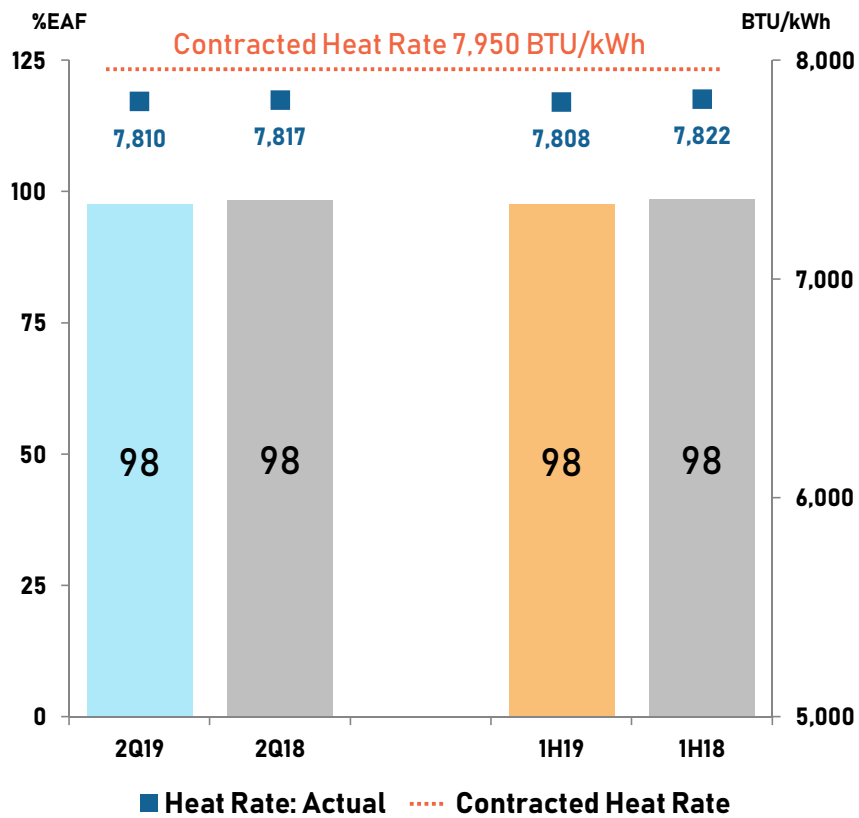
%Avg. Capacity Factor



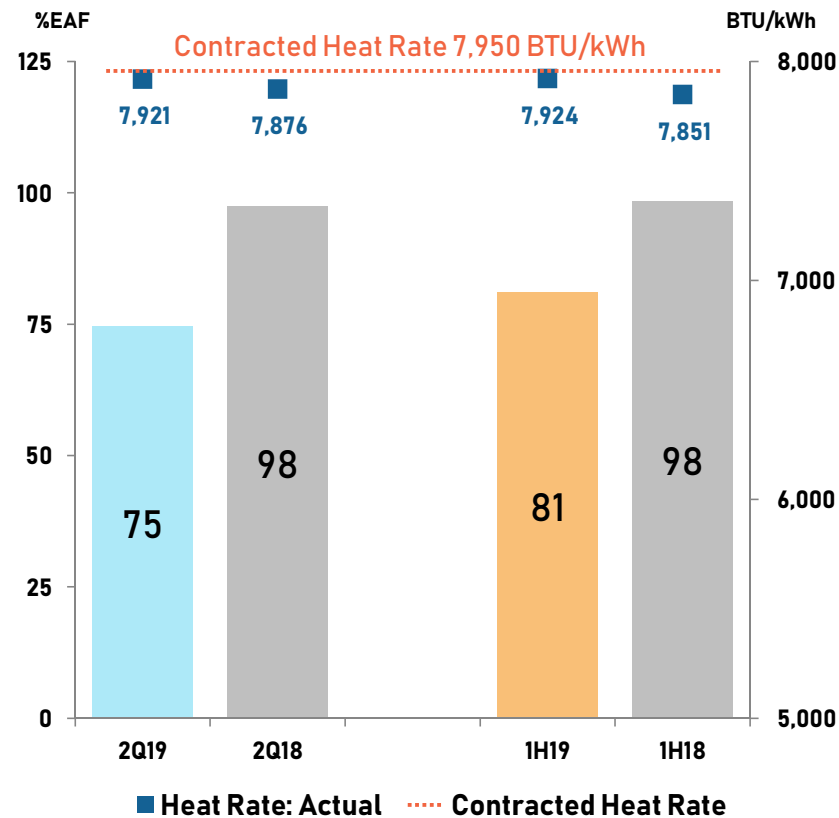
Operation Performance : SPP Projects



RW Cogen Block 1-2



NNEG



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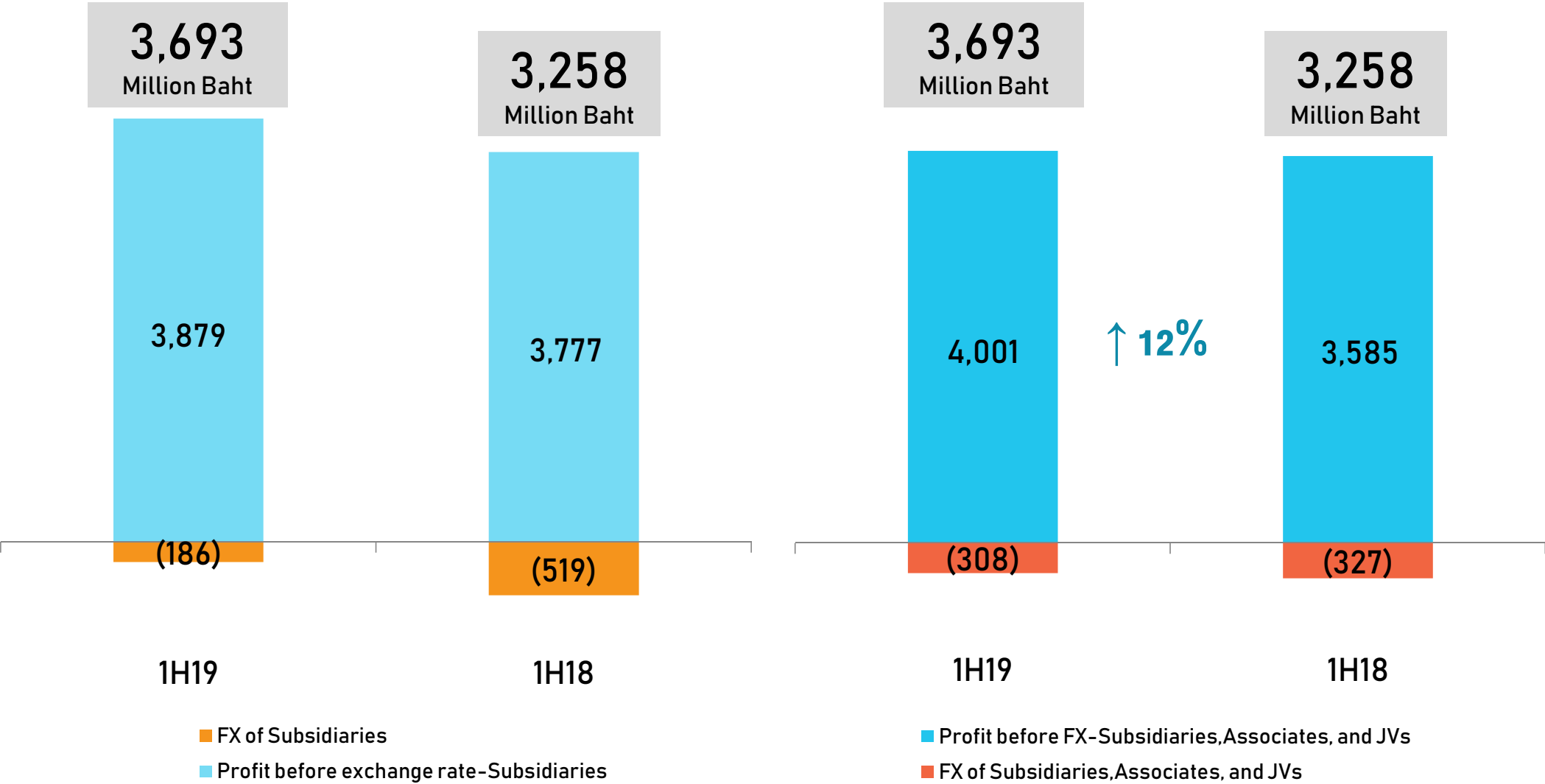
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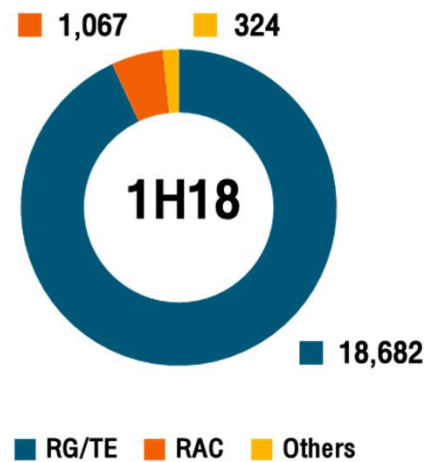
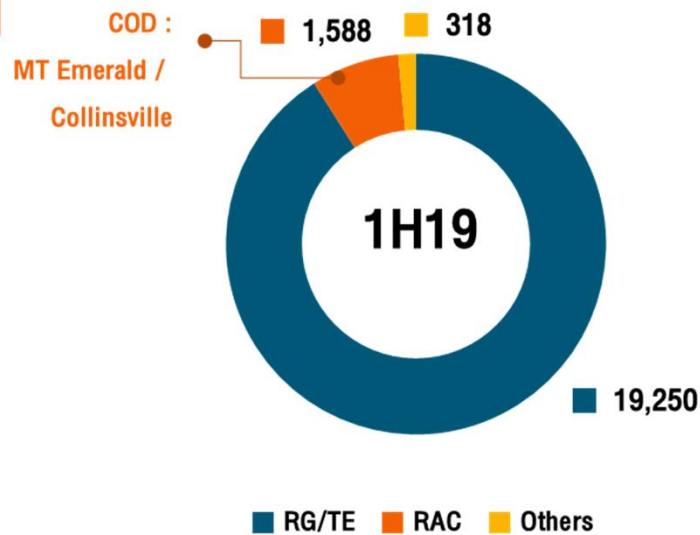
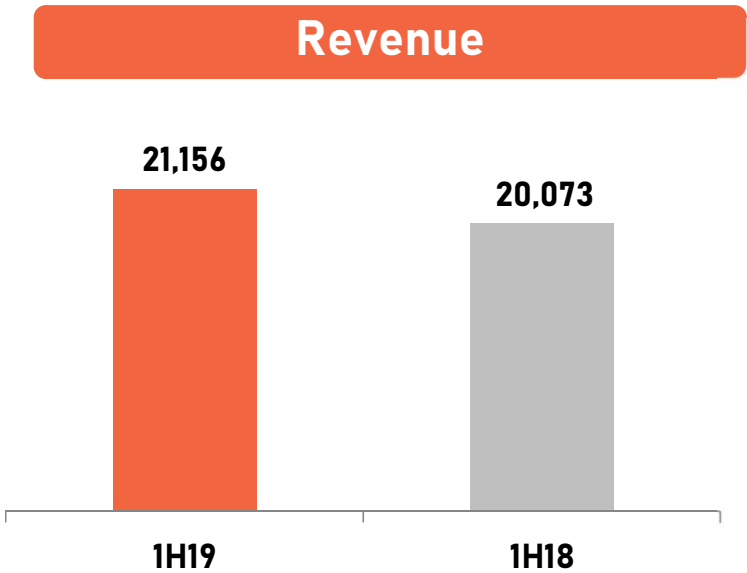
Profit for the period: Equity holders of the Company



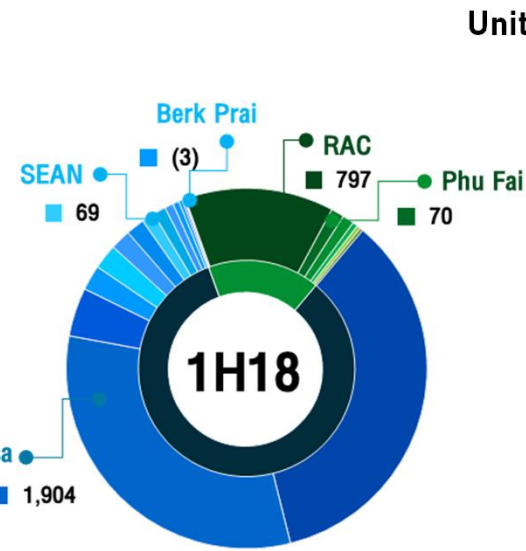
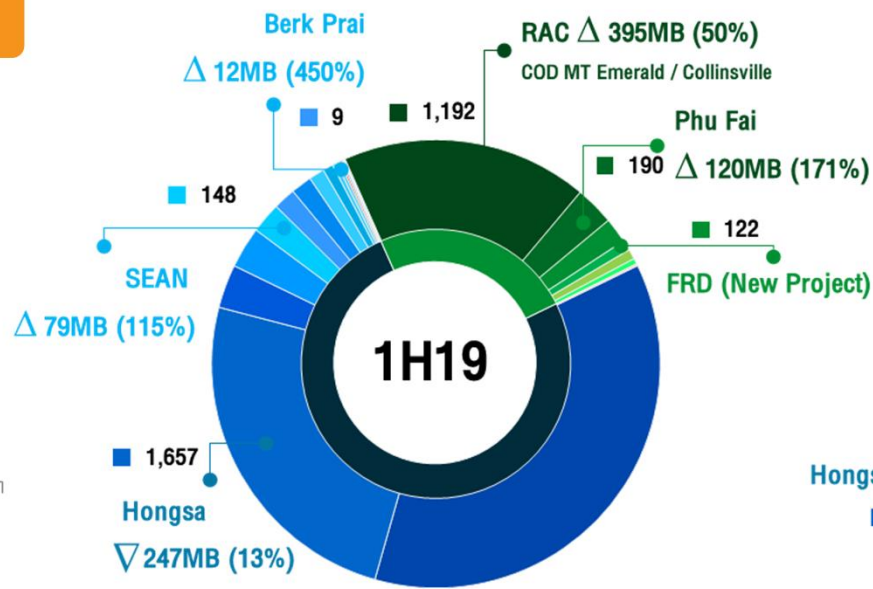
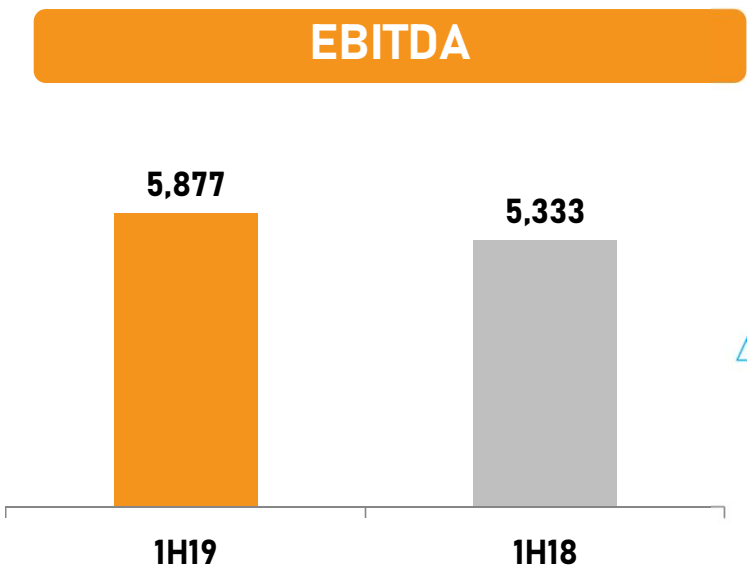
Profit for the period: Equity holders of the Company

Unit : MB

Revenue



EBITDA



Unit : MB

Domestic (THB) : 72% Foreign (Foreign Currency) : 28%

Income Statement : 1H19 & 1H18

Unit : in Million Baht	1H19	1H18
Revenues	21,155.54	20,073.12
Cost & Expenses	(17,641.15)	(17,356.36)
EBITDA before Share of Profit and FX	3,514.39	2,716.76
Share of profit of jointly-controlled entities and associates including gain (loss) on FX	2,362.96	2,615.99
EBITDA	5,877.35	5,332.75
Depreciation & Amortization - Cost	(714.48)	(576.88)
Depreciation & Amortization - Admin	(36.05)	(39.19)
EBIT	5,126.82	4,716.68
Finance costs	(731.94)	(564.85)
Income tax expense	(515.66)	(393.12)
Profit for the period	3,879.22	3,758.71
Non-controlling interests	-	(18.63)
Profit for the period: Equity holders of the Company - before FX of subsidiaries	3,879.22	3,777.34
Gain (Loss) on FX of subsidiaries	(185.65)	(518.89)
Profit for the Company	3,693.57	3,258.45
The effect of FX:		
Gain (Loss) on FX of subsidiaries	(185.65)	(518.89)
Gain (Loss) on FX of associates and JVs	(122.10)	191.72
Profit attributable to owner of the Company before FX	4,001.32	3,585.63

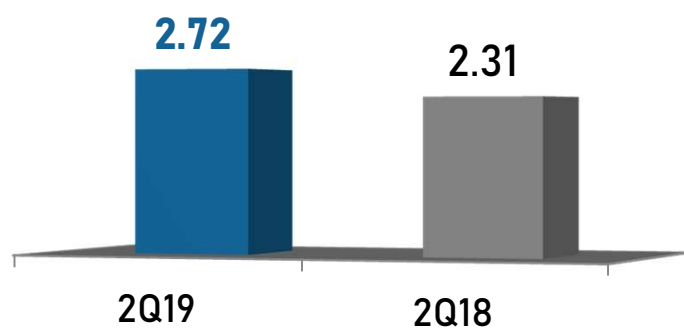
Statements of Financial Position

As of 30 June 2019

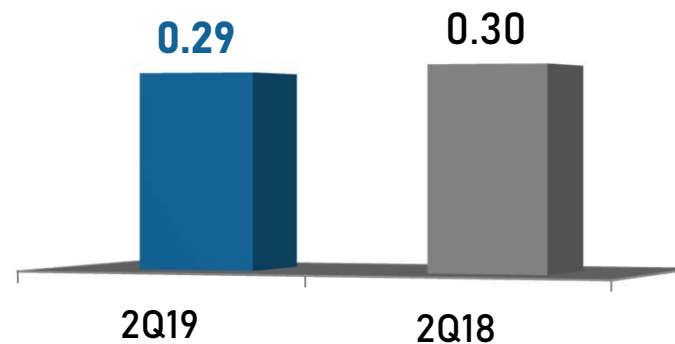
Total Assets	Million Baht	Total Liabilities & Equity	Million Baht
<u>Assets</u>		<u>Liabilities</u>	
Cash and cash equivalents	10,973.21	Loans from Related party, Financial Institutions & Debentures	29,620.70
Current investments	1,558.14	Derivative liabilities	859.48
Other Current Assets	10,197.81	Other liabilities	9,070.75
Investment in Jointly-controlled entities/Associates/Others	34,205.67	Total Liabilities	39,550.93
Derivative assets	245.63	<u>Equity</u>	
Financial lease receivables	16,862.07	Issued and paid-up share capital	16,031.78
Property, plant & equipments	19,568.01	Retained earnings	51,650.05
Other assets	5,545.48	Other components of equity	(8,076.74)
		Total equity	59,605.09
Total Assets	99,156.02	Total Liabilities & Equity	99,156.02

Financial Ratios*

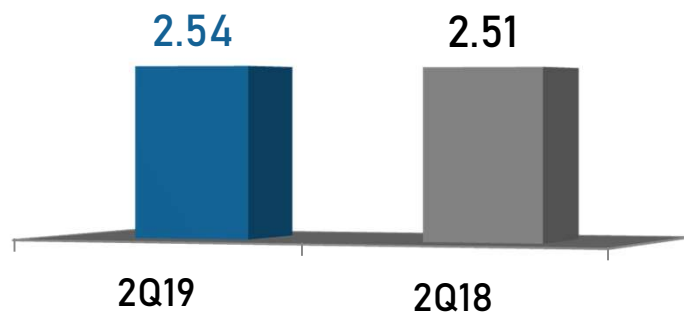
Current Ratio (times)



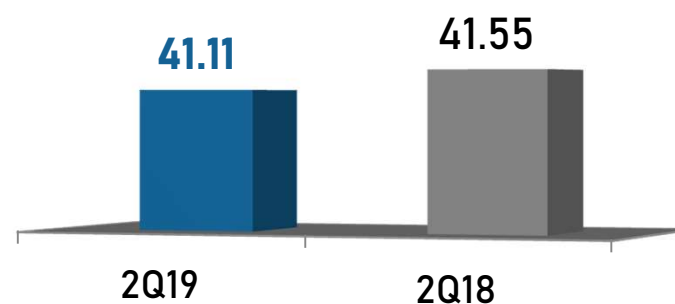
Net Debt to Equity (times)



Net Debt to EBITDA**(times)



Book Value per share (Baht)

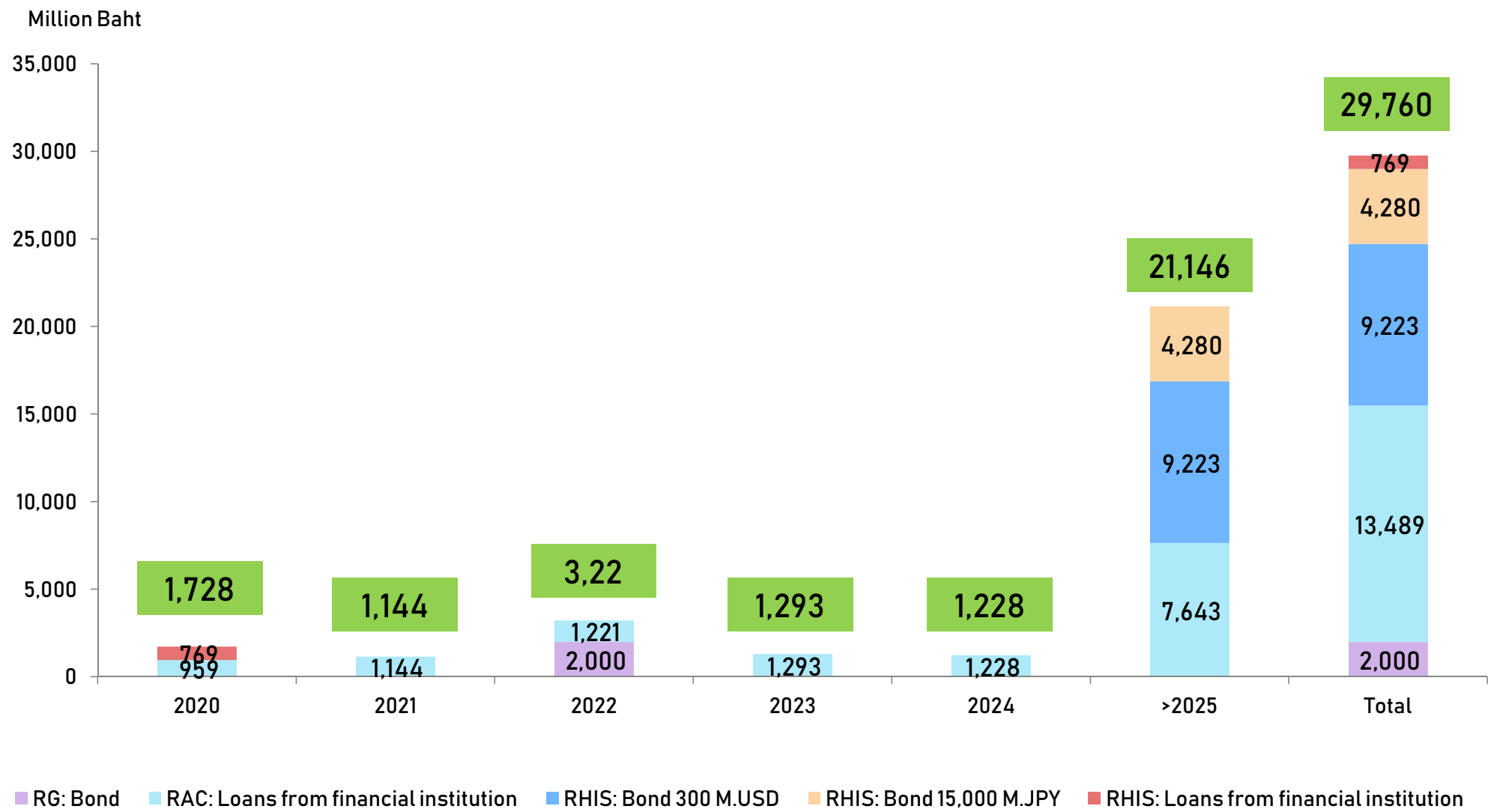


* Not included the effect of FX of subsidiaries

** 6-month EBITDA included the change in lease receivable

Debt Profile

As of June 2019

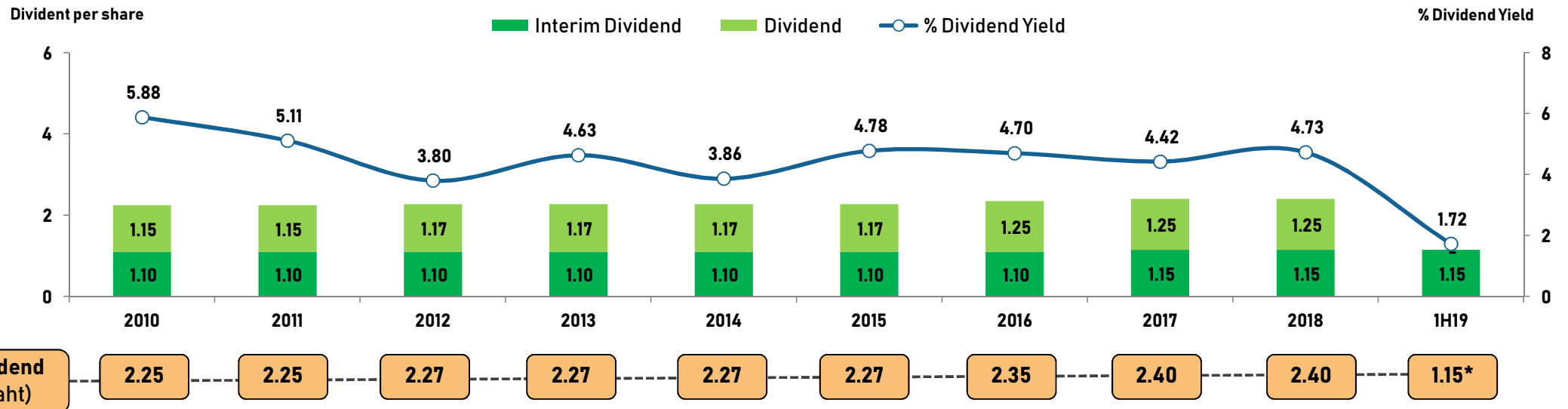
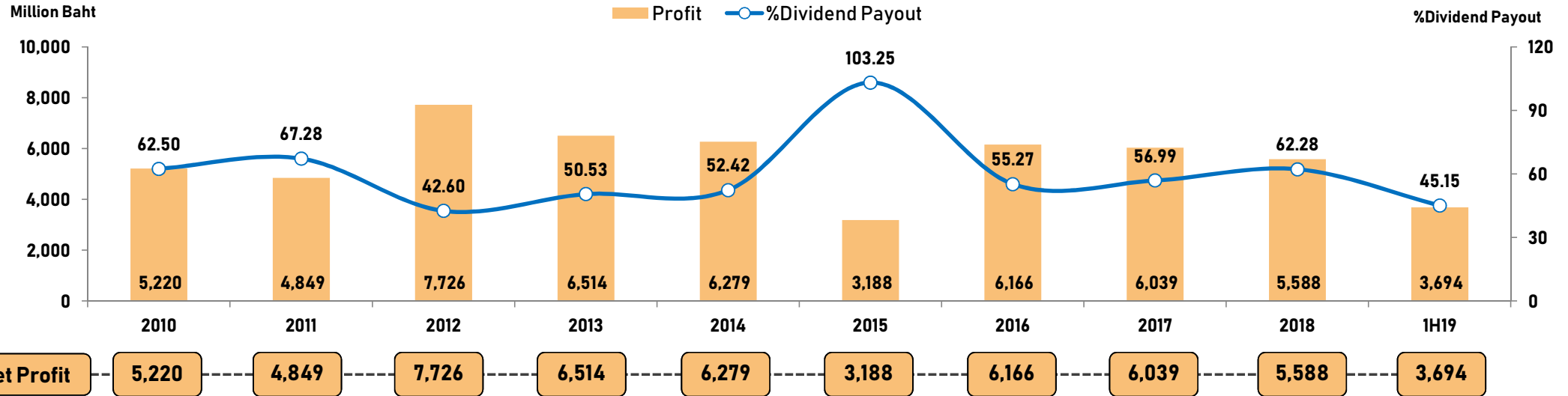


Dividend Policy

RATCH has a dividend payout policy of no less than **40%** of the net profit

2010-2018
Avg. %Dividend Payout
61%

2010-2018
Avg. %Dividend Yield
4.66%



* Interim dividend payment will be on 20th September 2019

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Company Overview

OVERVIEW

- Listed on the Stock Exchange of Thailand since 2 November 2000
- Investment company in the electricity generation business based in Thailand
- Largest independent power producer (“IPP”) based in Thailand by total capacity
- Primarily involved in the construction, development and operation of power plants in Thailand, Laos, Australia and China
- Market Cap of USD 3,446 million* (THB 105,488 million) as at 27 August 2019

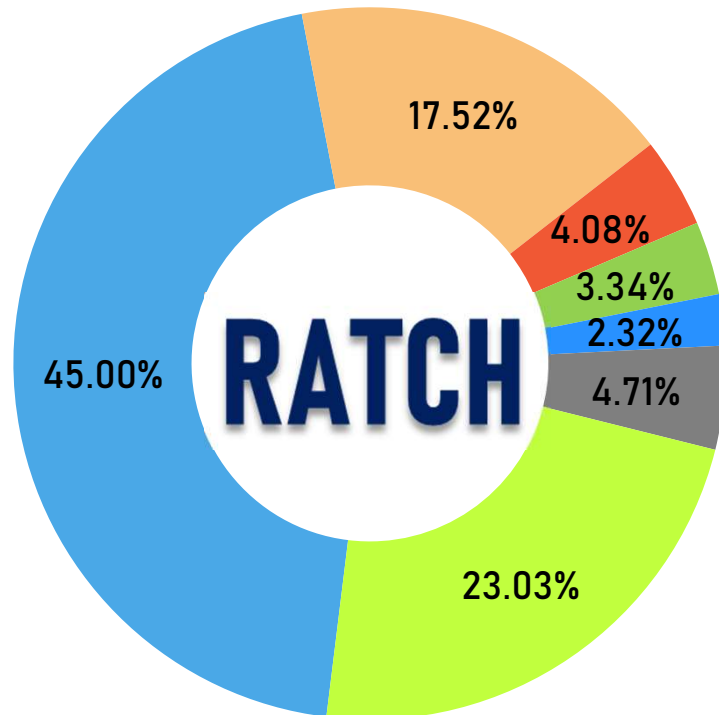
Note: *Foreign Exchange Rate as at 27 August 2019= 30.608 Baht/USD

Credit Rating	S&P Global Rating	Moody's Investor Service
RATCH	BBB+	Baa1
Thailand	BBB+	Baa1

Shareholder Information

Major Shareholders

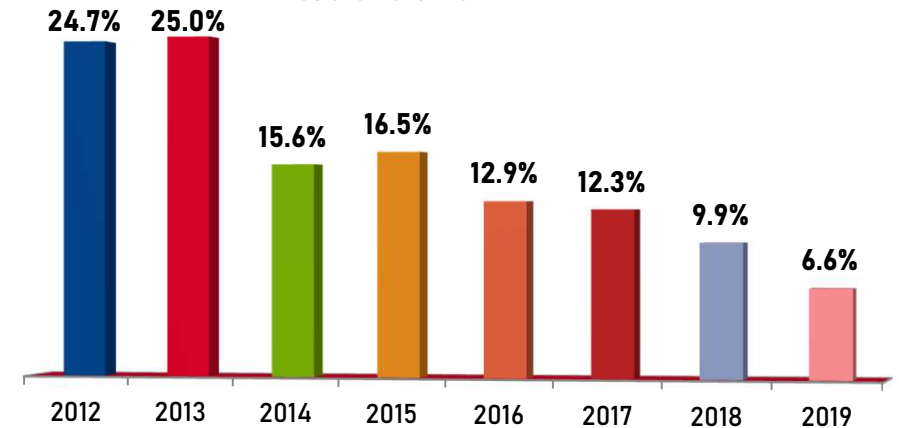
as of 5 March 2019



- Electricity Generating Authority of Thailand
- Thai NVDR Company Limited
- EGAT Saving and Credit Cooperative Limited
- Social Security Office
- SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED
- Other Major Shareholders
- Other Shareholders

% Foreign Shareholders

Data are as of AGM closing date in each respective year as of 5 March 2019



Remark:

On 17 July 2014, the SILCHESTER INTERNATIONAL INVESTORS LLP transferred its common shares of RATCH by the amount of 157,297,300 shares (equivalent to 10.85% of the Company's common shares) to Thai NVDR Company Limited.

Other Major Shareholders

Other Major Shareholders consisted of

- Mr. Min Tieworn 1.38%
- AIA COMPANY LIMITED - EQ3-P 1.15%
- STATE STREET EUROPE LIMITED 1.14%
- Thanachart Bank Public Company Limited 0.61%
- EGAT Saving and Credit Cooperative Limited Private Fund by Krunghthai Asset Management PCL 2 0.43%

Industry Overview

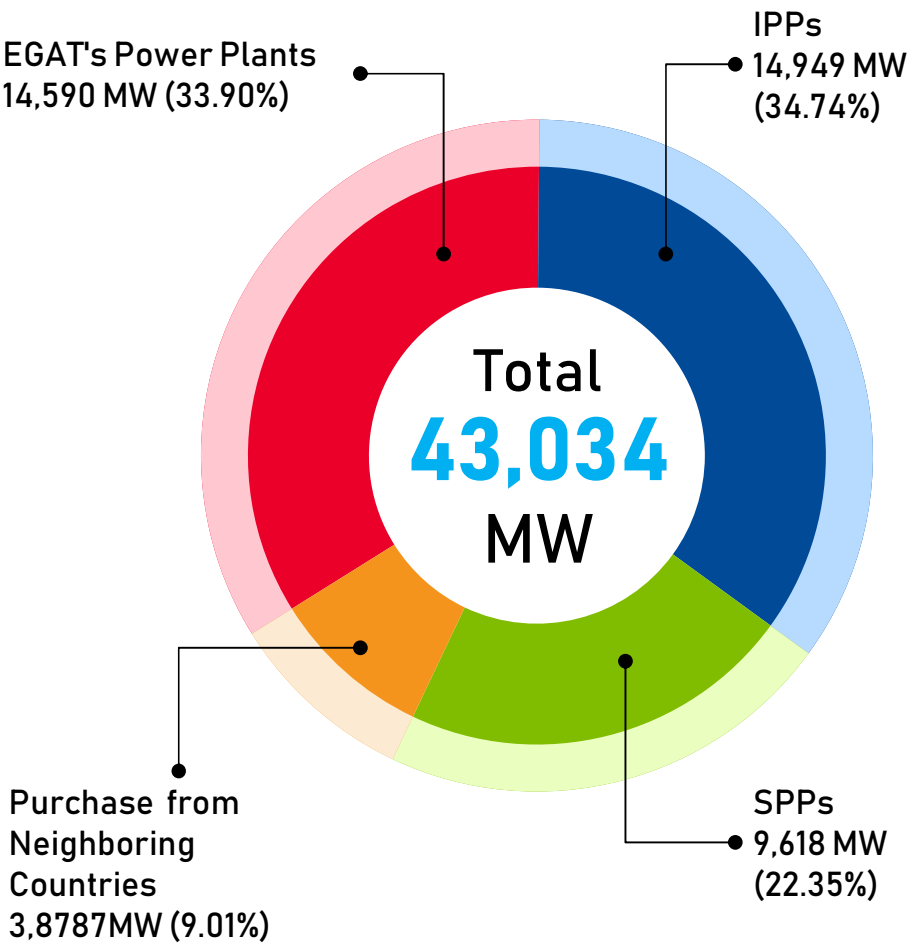
Thailand: Power Generation

Source: EGAT

Total Contracted Capacity

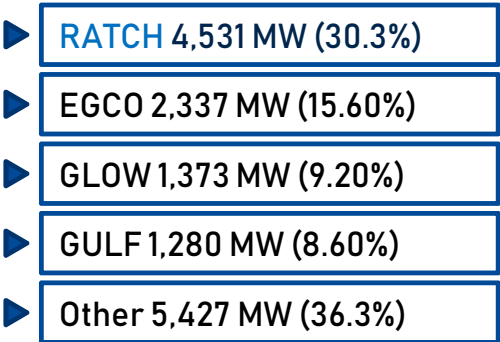
“43,034 MW”

As of July 2019

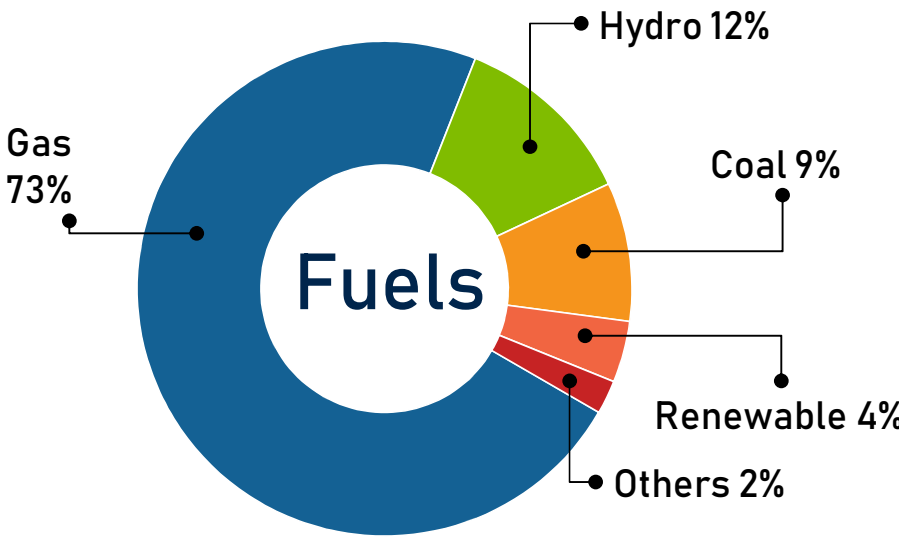


RATCH

is the largest IPP in the Thailand

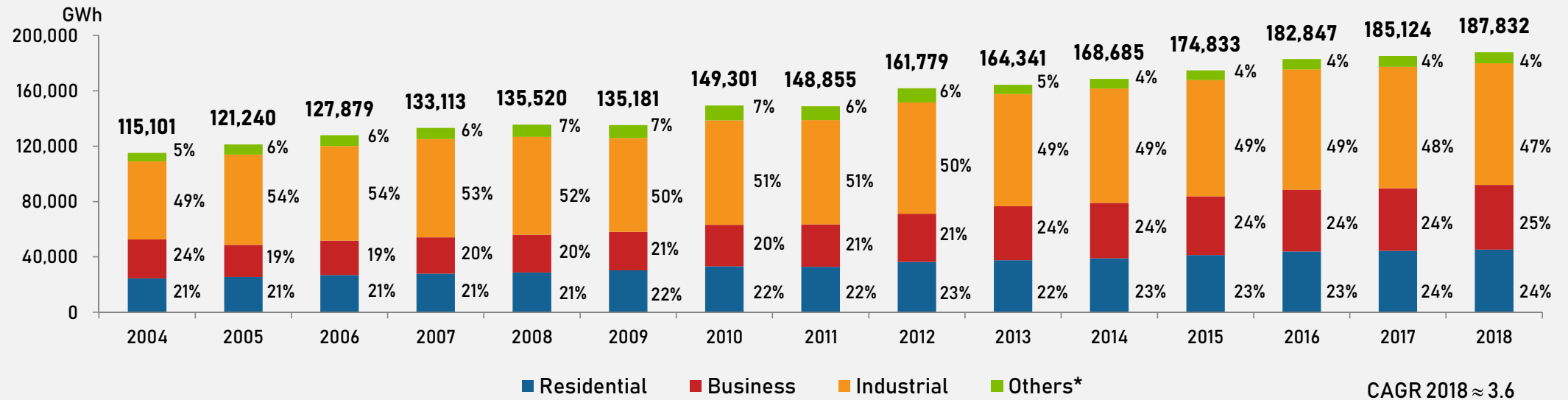


Breakdown by Type of Fuels

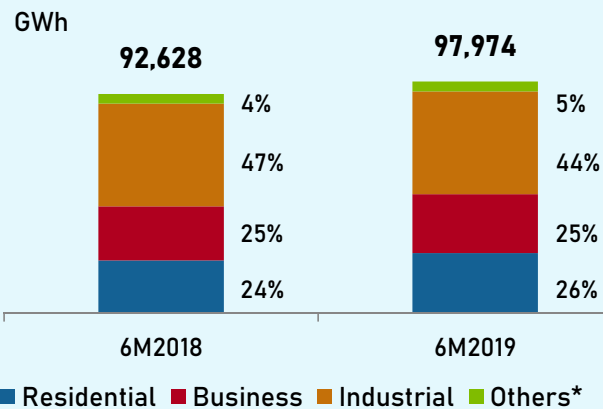


Electricity Consumption

2004-2018

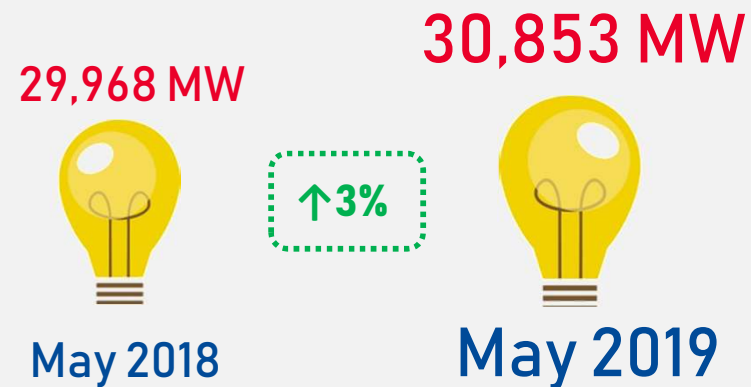


2M2018 & 2M2019



* Others consisted of Agriculture Pumping / Government and Non-Profit / Free of Charge-Public Infrastructure

Peak Demand



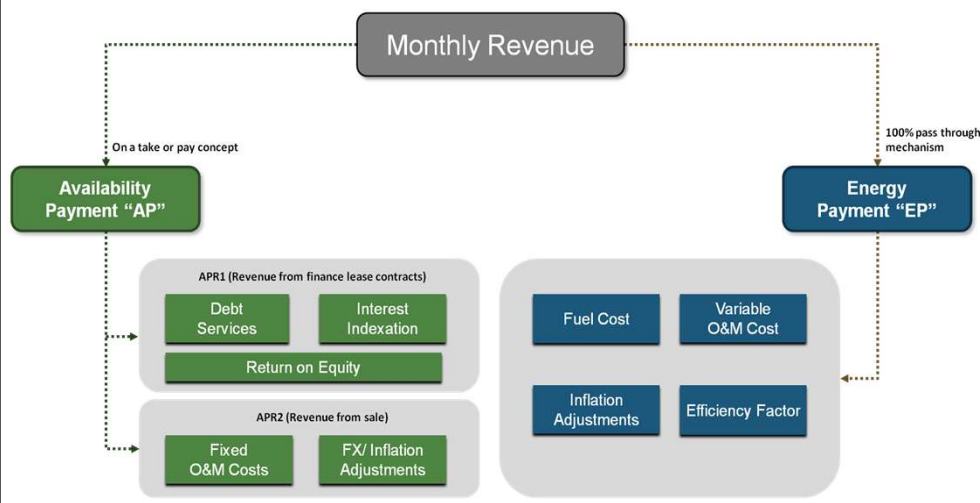
Source: EGAT

Thailand's Electricity Structure

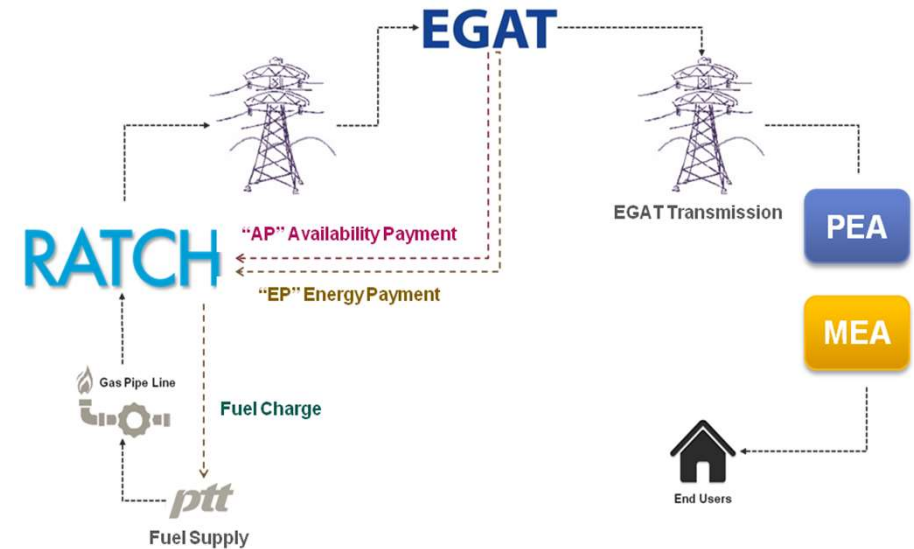
EGAT Overview

- Thailand's state-owned power utility under the Ministry of Energy
- Responsible for electric power generation and transmission for the whole country as well as bulk electric energy sales
- EGAT is the single buyer that purchases bulk electricity from private power producers and neighboring countries
- Sells electricity to Provincial Electricity Authority ("PEA"), Metropolitan Electricity Authority ("MEA"), neighboring countries and others
- Owns and operates a high voltage transmission network which covers all parts of Thailand

PPA Tariff Structure



Thailand's Electricity Structure



Provincial Electricity Authority "PEA"

- ✓ Thai state enterprise under the Ministry of Interior
- ✓ Generation, procurement, distribution and sale of electricity
- ✓ Covers approximately 99.4% of Thailand, with the exception of Bangkok, Nonthaburi and Samut Prakarn provinces



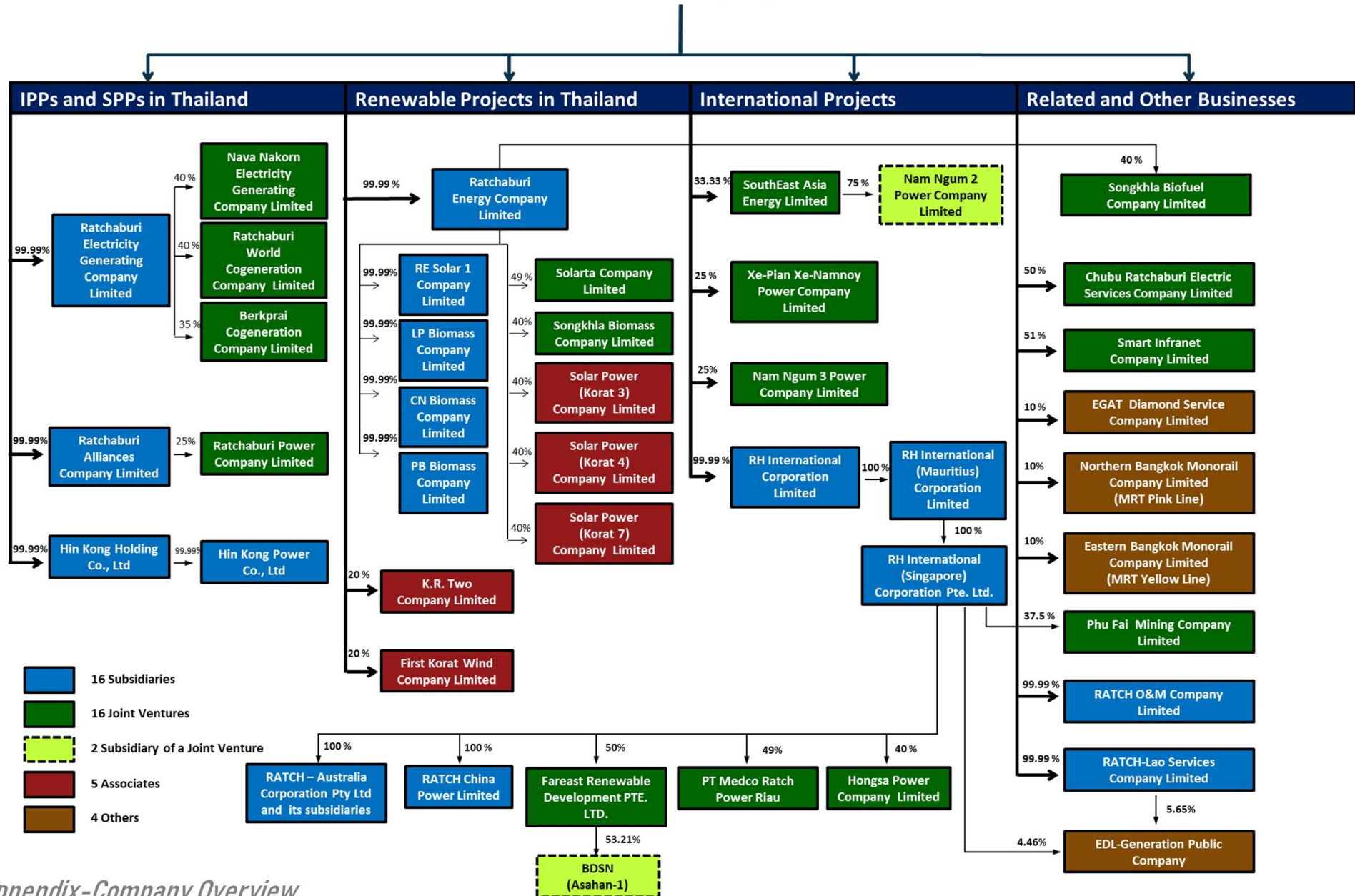
Metropolitan Electricity Authority "MEA"

- ✓ Thai state enterprise under the Ministry of Interior
- ✓ Distribution/Sales of electricity in Bangkok, Nonthaburi, and Samut-Prakarn Provinces

Company Structure



As of August 2019



IPPs and SPPs in Thailand

Name of Power Plant/Project	Location	Technology	RATCH's stake (%)	Installed Capacity (MW)	Attributable Capacity (MW)	COD	Terms of the PPA		
							PPA Party	Tenure/Expiry Year	Renewal/Option to Extend
In Operation									
Ratchaburi Power Plant	Ratchaburi Province	Thermal	100	1,470	1,470	2000	EGAT	25 years/2025	N.A.
		Combined Cycle	100	2,175	2,175	2002	EGAT	25 years/2027	N.A.
Tri Energy Power Plant	Ratchaburi Province	Combined Cycle	100	720	720	2000	EGAT	20 years/2020	Possibility to extend on mutually agreed terms
Ratchaburi Power Power Plant	Ratchaburi Province	Combined Cycle	25	1,490	372.50	2008	EGAT	25 years/2033	N.A.
Ratchaburi World SPP Power Plant	Ratchaburi Industrial Estate, Ratchaburi Province	Cogeneration	40	234	93.60	1#2014 2#2015	EGAT	Block 1: 25 years/2039 Block 2: 25 years/2040	N.A.

IPPs and SPPs in Thailand

Name of Power Plant/Project	Location	Technology	RATCH's stake (%)	Installed Capacity (MW)	Attributable Capacity (MW)	COD	Terms of the PPA		
							PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
In Operation (Cont.)									
Nava Nakorn SPP Power Plant	Nava Nakorn Industrial Promotion Zone, Pathumthani Province	Cogeneration	40	139.13	55.65	2016	EGAT	25 years/ 2041	N.A.
Berkprai Cogeneration SPP Power Plant	Ratchaburi Province	Cogeneration	35	99.23	34.73	Jun 2019	EGAT	25 years/2044	N.A.
Navanakorn Electric SPP Power Plant	South Nava Nakorn Industrial Promotion Zone, Pathumthani Province	Cogeneration	99.97	110	109.97	Oct 2013	EGAT	25 years/ 2038	N.A.
Total				6,437.36	5,031.45				
Under Construction									
Nava Nakorn SPP Power Plant (Extension) Progress : 44.5% (May 2019)	Nava Nakorn Industrial Promotion Zone, Pathumthani Province	Cogeneration	40	59.97	23.99	Expected COD : Sep 2020	EGAT	25 years/2045	N.A.
Total				59.97	23.99				

IPPs and SPPs in Thailand

Name of Power Plant/Project	Location	Technology	RATCH's stake (%)	Installed Capacity (MW)	Attributable Capacity (MW)	COD	Terms of the PPA		
							PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
Under Development									
Hin Kong Power Plant Unit #1	Ratchaburi Province	Combined Cycle	100	700	700	Expected COD: In 2024	EGAT	25 years /2049	N.A.
Hin Kong Power Plant Unit #2	Ratchaburi Province	Combined Cycle	100	700	700	Expected COD: In 2025	EGAT	25 years /2050	N.A.
Total				1,400	1,400				
Grand Total				7,897.33	6,455.44				

Renewable Projects in Thailand

Name of Power Plant/Project	Location	Technology	RATCH’s stake (%)	Installed Capacity (MW)	Attributable Capacity (MW)	COD	Terms of the PPA		
							PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
In Operation									
Huay Bong 2 Wind-Turbine Power Plant	Nakorn Ratchasima Province	Wind-Turbine	20	103.50	20.70	2013	EGAT	5 years/ 2023 Adder 3.5 Baht (10-Year)	Automatic renewal for a further 5 years every 5 years
Huay Bong 3 Wind-Turbine Power Plant	Nakorn Ratchasima Province	Wind-Turbine	20	103.50	20.70	2012	EGAT	5 years/ 2022 Adder 3.5 Baht (10-Year)	Automatic renewal for a further 5 years every 5 years
Solar Power Power Plant (Korat 3, Korat 4, Korat 7)	Nakorn Ratchasima Province	Solar Power	40	21.60	8.64	2012	PEA	5 years/ 2022 Adder 8 Baht (10-Year)	Automatic renewal for a further 5 years every 5 years
Solarta Solar Power Plant	Ayutthaya, Nakhon Pathom, and Suphanburi Provinces	Solar Power	49	42.30	20.73	2011-2012	PEA	Ayutthaya : 5 years / 2021 Suphanburi and Nakhon Pathom: 5 years / 2022 Adder 8 Baht (10-Year)	Automatic renewal for a further 5 years every 5 years
Songkhla Biomass Power Plant	Songkhla Province	Thermal	40	9.90	3.96	2015	PEA	20 years/2035	N.A.
Total				280.80	74.73				
Grand Total				280.80	74.73				

International Projects in Australia

Name of Power Plant/Project	Location	Technology	RATCH's stake (%)	Installed Capacity (MW)	Attributable Capacity (MW)	COD	Terms of the PPA		
							PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
In Operation									
Townsville Power Plant	North Queensland, Australia	Combined Cycle Gas Turbine	100	234	234	1999	AGL Energy /Arrow	February 2025	N.A.
Kemerton Power Plant (Included Black Start)	Western Australia, Australia	Open Cycle Gas/Diesel Turbine	100	315.20	315.20	2005	Synergy	October 2030	N.A.
BP Kwinana Power Plant (30 % owned by RAC)	Western Australia, Australia	Cogeneration	30	118	35.40	1996	Verve Energy/BP	December 2021	N.A.
Starfish Hill Wind-Turbine Power Plant	South Australia, Australia	Wind-Turbine	100	33	33	2003	Alinta Energy	In 2020	N.A.
Toora Wind-Turbine Power Plant	Victoria, Australia	Wind-Turbine	100	21	21	2002	Merchant Market	N.A.	N.A.
Windy Hill Wind-Turbine Power Plant	Queensland, Australia	Wind-Turbine	100	12	12	2000	Merchant Market	N.A.	N.A.

International Projects in Australia

Name of Power Plant/Project	Location	Technology	RATCH's stake (%)	Installed Capacity (MW)	Attributable Capacity (MW)	COD	Terms of the PPA		
							PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
In Operation									
Mount Emerald Wind-Turbine Power Plant	Queensland, Australia	Wind-Turbine	100	180.45	180.45	Dec 2018	Ergon Energy Queensland	December 2030	N.A.
Collinsville Solar PV Power Plant	Queensland, Australia	Solar Power	100	42.50	42.50	March 2019	Alinta Energy	12.5-year	N.A.
Total				956.15	873.55				
Under Construction									
Collector Wind-Turbine Power Plant	New South Wales, Australia	Wind-Turbine	100	226.80	226.80	Expected COD: 2021	Merchant Market	N.A.	N.A.
Yandin Wind-Turbine Power Plant	Western Australia, Australia	Wind-Turbine	70	214.20	149.94	Expected COD: Sep 2020	Alinta Sales	15-year	N.A.
Total				441.00	376.74				
Grand Total				1,397.15	1,250.29				

International Projects in Laos

Name of Power Plant/Project	Location	Technology	RATCH's stake (%)	Installed Capacity (MW)	Attributable Capacity (MW)	COD	Terms of the PPA		
							PPA Party	Tenure/Expiry Year	Renewal/Option to Extend
In Operation									
Nam Ngum 2 Hydroelectric Power Plant	Laos	Hydro Power Plant	25	615	153.75	2011	EGAT	27 years/2038	N.A.
Hongsa Thermal Power Plant	Sainyaburi Province, Laos	Lignite-Fired Power Plant	40	1,878	751.20	1# 2015 2# 2016	EGAT & EDL	25 years/2040	N.A.
EDL-Generation	Laos	Hydro Power Plant	10.11	1,131.15	114.36	N.A.	N.A.	N.A.	N.A.
EDL-Generation	Laos	Solar Power	10.00	6.00	0.61	2017	N.A.	N.A.	N.A.
Total				3,630.15	1,019.92				
Under Construction									
Xe-Pian Xe-Namnoy Hydroelectric Power Plant Progress : 94.69% (Apr 2019)	Attapue and Champasak provinces, Laos	Hydro Power Plant	25	410	102.50	Expected COD : Dec 2019	EGAT & EDL	27 years/2046	N.A.
Total				410	102.50				
Grand Total				4,040.15	1,122.42				

International Projects in China & Republic of Indonesia

Name of Power Plant/Project	Location	Technology	RATCH's stake (%)	Installed Capacity (MW)	Attributable Capacity (MW)	COD	Terms of the PPA		
							PPA Party	Tenure/Expiry Year	Renewal/Option to Extend
In Operation									
Asahan-1 Hydroelectric Power Plant	Republic of Indonesia	Hydro Power Plant	26.61	180	47.90	2011	PT PLN (PERSERO)	30 year / 2040	N.A.
Total				180	47.90				
Under Construction									
Riau Combined-Cycle Power Plant Progress : 30.75% (May 2019)	Republic of Indonesia	Combined Cycle	49	296.23	145.15	Expected COD: May 2021	PT PLN (PERSERO)	20 year	N.A.
Fangchenggang II Nuclear Power Plant Progress : 33.06% (Dec 2018)	Fangchenggang , China	Nuclear Power	10	2,360	236	Expected COD: 2021	N.A.	30 year	N.A.
Total				2,656.23	381.15				
Grand Total				2,836.23	429.05				

Infrastructure Projects

Name of Power Plant/Project	Location	Technology	RATCH's stake (%)	Installed Capacity (MW)	Attributable Capacity (MW)	COD	Terms of the PPA		
							PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
Under Construction									
MRT Pink Line Project and MRT Yellow Line Project	Nonthaburi and Bangkok Province	Elevated Straddle Monorail	10	N.A.	N.A.	Expected COD: In 2021	Concession Contracts with MRTA	30 years/2051	N.A.

Infrastructure Projects

Name of Power Plant/Project	Location	Type of Business	RATCH's stake (%)	Generating Capacity (cubic meters/day)	Attributable Generating Capacity (cubic meters/day)	COD	Terms of the PPA		
							PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
In Operation									
Sandin Water Supply Project (Phase 1)	Laos	Generating water supply	40	24,000	9,600	2018	Concession Contracts with Nampapa Nakhone Luang	50 years	N.A.
Total				24,000	9,600				
Under Development									
Sandin Water Supply Project (Phase 2)	Laos	Generating water supply	40	24,000	9,600	Expected COD: In 2031	Concession Contracts with Nampapa Nakhone Luang	50 years	N.A.
Total				24,000	9,600				
Grand Total				48,000	19,200				

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