



ANALYST MEETING

2021 YEAR END

8 March 2022





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**RATCH
Overview**

02

**Group
Performance**

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**Financial
Performance**

04

Appendix



01

**RATCH
Overview**

02

**Group
Performance**

03

**Financial
Performance**

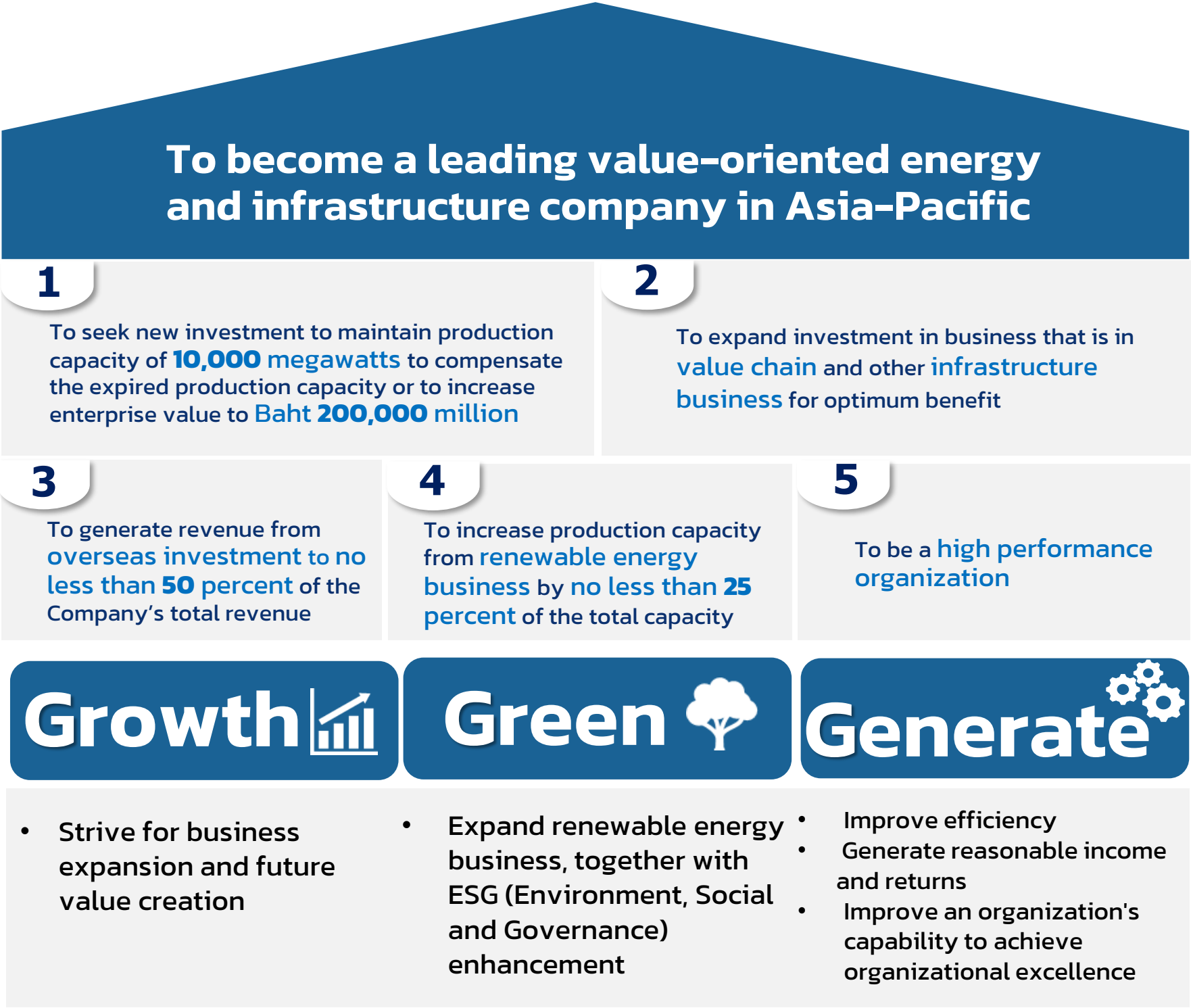
04

Appendix

Vision

Goal

3-G Strategy

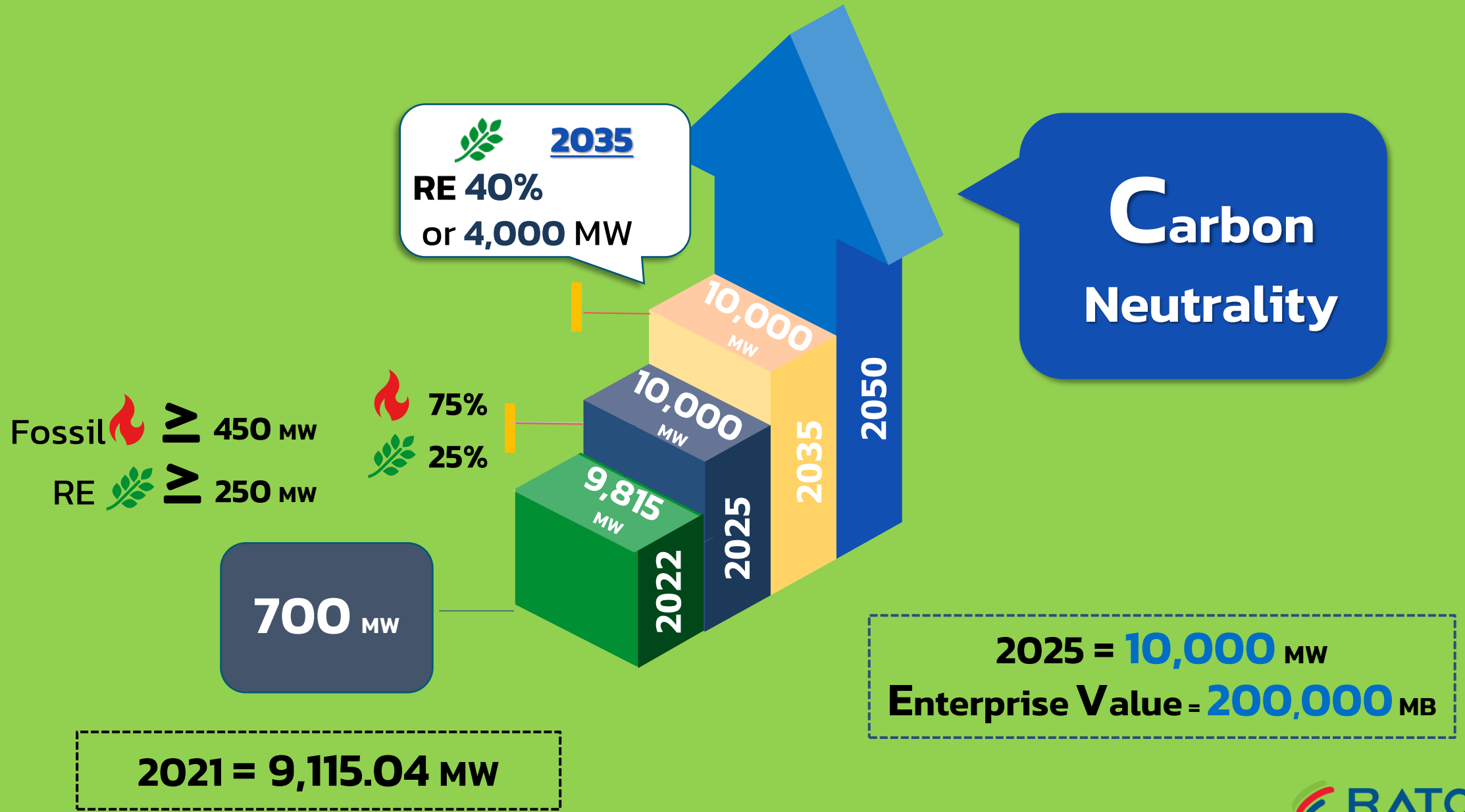


Strategy Path

RATCH Goals : 2022 – 2050

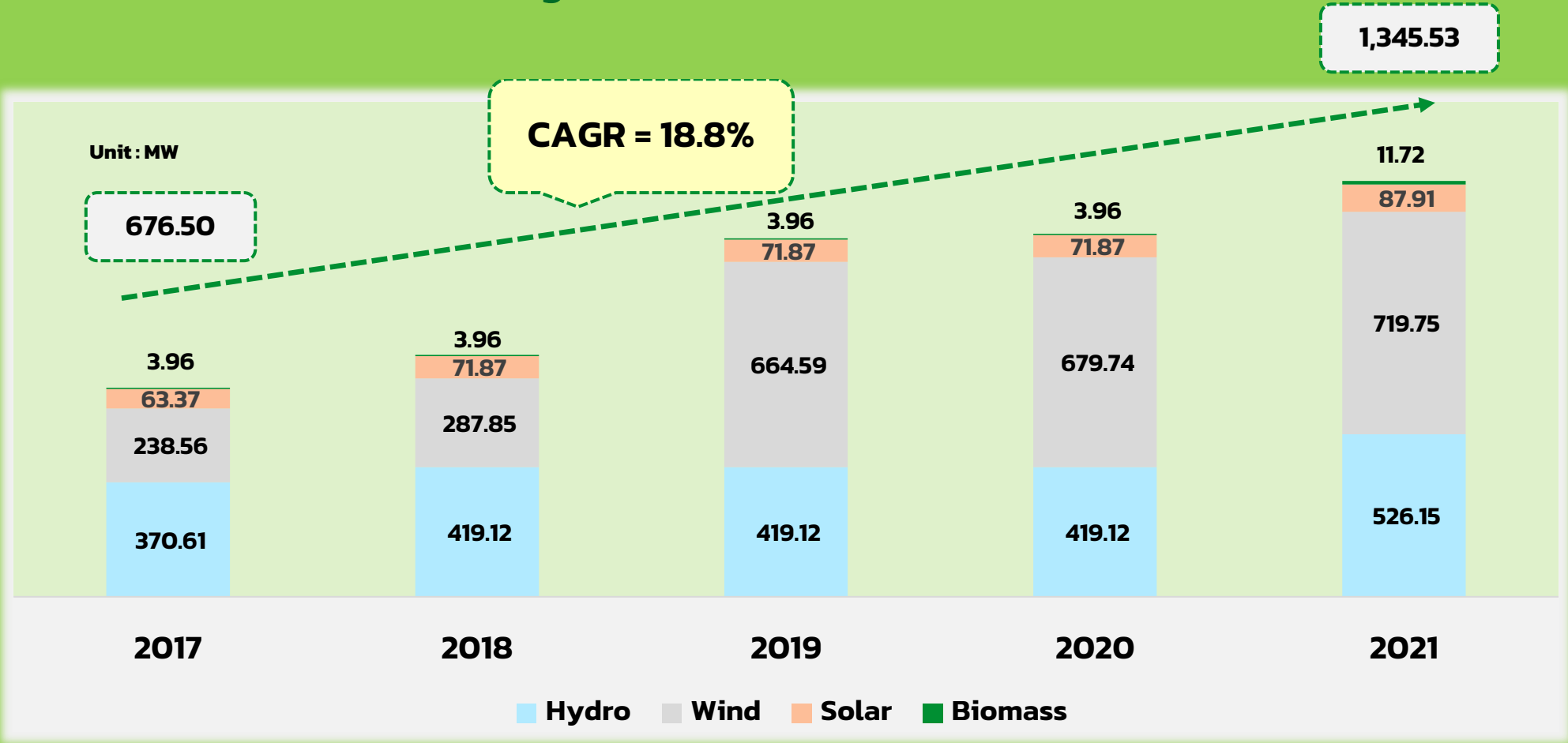
Growth 

Green 



Strategy Path

Renewable Energy Projects




Strategy Path

Financing for Green Growth

Growth 

Green 



Deal of the Year 2020 for Baht 8-billion **Green Bond issuance** and ESG Bond for Private Sector from **the Best Bond Award 2020** of Thai Bond Market Association

Signing of Sustainable Loan Agreement with **IFC**
MUSD 150



Strategy Path

ESG Envision & Assessment

Green



Generate



Climate Strategy Development

- Developing climate risk and opportunity assessment process system



GHG Inventory Development and Carbon Footprint Assessment

- Assessing organization carbon footprint in accordance with TGO's CFO methodology and issuing certification from TGO
- Finding solutions for GHG reduction in business and operation process in order to lowering organization and electricity carbon footprints



Developing GHG reduction roadmap, target and 5-year action plan

- Targeting annual investment of 250 MW
- Targeting 2025 capacity of 2,500 MW enabling to reduce by 6 million tCO₂e
- Targeting 2035 capacity of 4,000 MW enabling to reduce by 10 million tCO₂e

Reforestation and forest conservation enabling to increase CO₂ removal

- Targeting 50,000-rai reforestation during 2022-2025
- Assessing and issuing certification of carbon credit for 2022 -2034 by applying TGO's forest TVER methodology and process
- Projecting carbon credit of 670,000 tCO₂e

Recognition and Prides in 2021

**Best Local Currency
Green Bond – Renewable
Energy/** Transition energy
from the Asset Triple A
Sustainable Capital
Markets Country and
Regional Awards 2020



**Best Public
Company of the Year
2021**

Resources Industry
from Money & Banking
Award 2021



96% of total average score
from 2021 Corporate Governance
Report of Thai Listed Companies
(CGR) from IOD and SET



 **Full score** in the
evaluation of Annual
Shareholder General Meeting's
quality in 2021 by Thai
Investors Association

Highly
Commended Award in
**Sustainability
Excellence**
in SET Awards 2021



Listed in
Thailand
**Sustainability
Investment (THSI)**
for 7 consecutive
years



Honorable Award in
2021 Sustainability Award
from Thaipat Institute
the third consecutive year



Honorary plaque to the
benefactor from
the Royal **Forest**
Department in 2021



Key Development in 2021

JANUARY

Invested in **BAFS**
Total Investment:
MTHB 2,712.14 (15.53%)



MARCH

Started COD
of **YANDIN** Wind Farm
149.94 MW (70%)



APRIL

Started COD
of **COLLECTOR** Wind Farm
226.80 MW (100%)



MAY

Invested in **NEXIF ENERGY BT**, Near-shore wind power plant 40MW (50%)
Expected COD: 2024



Invested in **PRINC**
Total investment: MTHB 1,557.71 (10%)



JUNE

Signed the Sale and Purchase Agreement for the sale of ordinary shares in a group companies operating the coal-fired thermal power plants, located at Paiton Power Generation Complex



Signed Sustainable Loan with **IFC**
Total amount :
MUSD 150



JULY

Invested in **KASEMRAD**
International Hospital in Vientiane, Lao PDR
Total investment
MTHB 190 (9.91%)



SEPTEMBER

Established a Joint Venture Company for Innovation and Invention

INNOPOWER

Executed the Public Private Partnership for Operation and Maintenance (O&M) Contracts of **M6** and **M81** Motorway



OCTOBER

Approved of the purchase of 45.515% and 65% of Ordinary Share in **PAITON** and **IPM ASIA**, respectively



NOVEMBER

Invested additional 40% in FRD resulting in the increase of %shareholding in **ASAHAN-1** from 26.61% to 47.89%



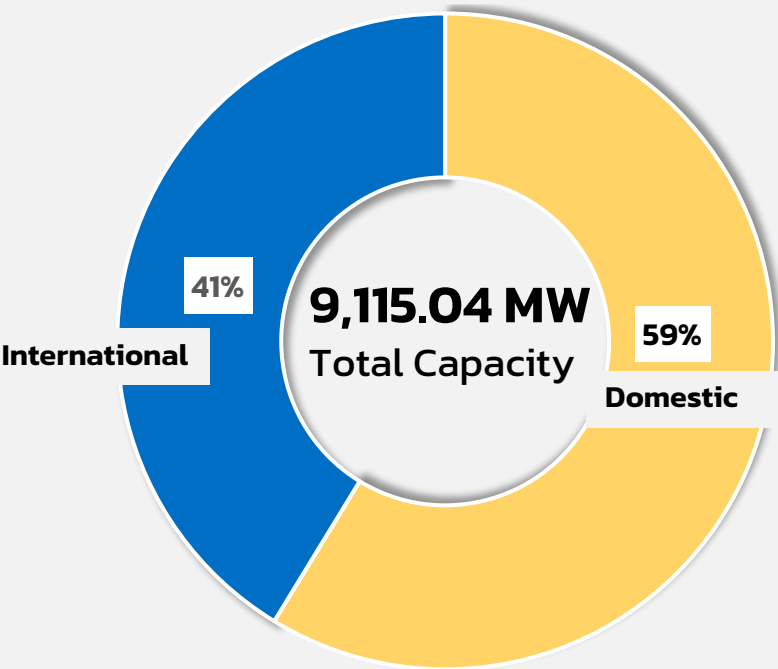
DECEMBER

Invested in **SAHACOGEN** (Chonburi) Public Company Limited ("SCG") 123.33 MW (51%)

↑ 124.95 MW (51.67%) in February 2022

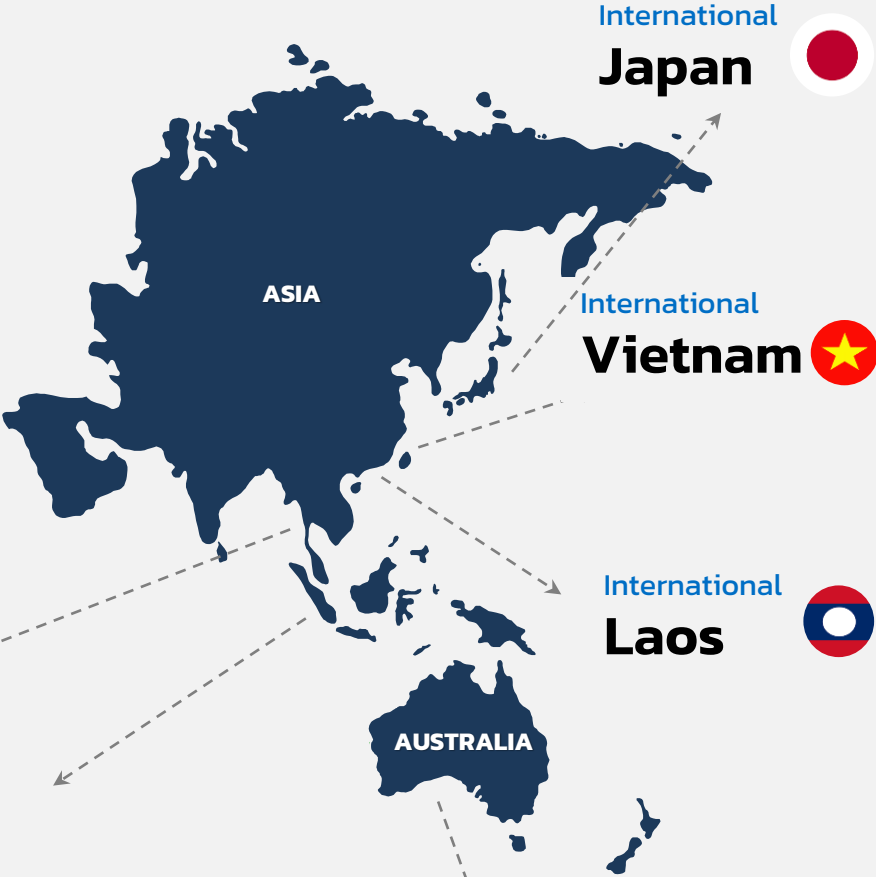


By Location



Domestic
Thailand

5,351.04 MW	
Fossil	5,256.47
RE	94.57



International
Japan

2.02 MW	
RE	2.02

International
Vietnam

191.87 MW	
Fossil	136.71
RE	55.16

International
Laos

1,193.09 MW	
Fossil	751.20
RE	441.89

International
Indonesia

1,162.13 MW	
Fossil	1,075.93
RE	86.20

International
Australia

1,214.89 MW	
Fossil	549.20
RE	665.69



Energy Mix of Cambodia

Conventional Energy
85%
9,115.04 MW
Total Capacity

Renewable Energy (RE)
15%
1,345.53 MW

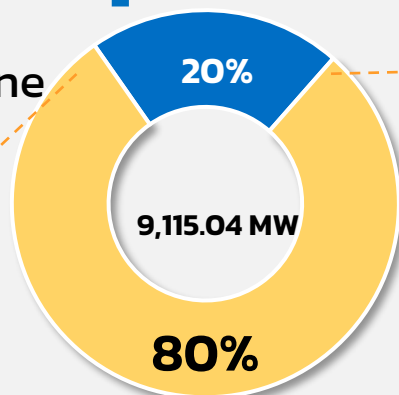
RE Breakdown

- Wind**
54%
719.75 MW
- Hydro**
39%
526.15 MW
- Solar & Biomass**
7%
99.63 MW

Category	Percentage	Capacity (MW)
Conventional	85%	9,115.04
Renewable Energy (RE)	15%	1,345.53
Wind	54%	719.75
Hydro	39%	526.15
Solar & Biomass	7%	99.63

Projects in Operation

Project in pipeline
1,788.69 MW



COD
7,326.35 MW

Recently COD Projects

In 2021



Yandin Wind Farm

Attributable Capacity **149.94** MW (70%)

- Located in Dandaragan, Australia
- Commenced commercial operations on 19 March 2021
- 15-year PPA with Alinta Sales Pty Ltd.,

Collector Wind Farm

Attributable Capacity **226.80** MW (100%)

- Located in New South Wales, Australia
- Commenced commercial operations on 7 April 2021
- 10-year PPA : (60% with Infigen Energy,
19.4% with ALDI Foods Pty Ltd)

and the remaining output 20.6% sold to Australia's National Electricity Market



In 2022



Riau Power Plant

Attributable Capacity **145.15** MW (49%)

- Located in Riau province of Sumatra Island, Indonesia
- Commenced commercial operations on 10 February 2022
- 20-Year power purchase agreement with Indonesia's national electricity utility, PLN.

Projects in Pipeline



Hin Kong Combined-Cycle

Attributable Capacity **714** MW (51%)



Ratchaburi Province

- 25-Year PPA with EGAT
- Completion 24.5%
- Expected COD: Unit 1:2024 & Unit 2: 2025



Nexif RATCH Energy Rayong

Attributable Capacity **45.08** MW (49%)



Rayong Province

- 25-Year PPA with EGAT
- Completion 93.81%
- Expected COD: 2022



RATCH Cogeneration Expansion

Attributable Capacity **31.19** MW (99.97%)



Pathum Thani Province

- Contracts with Industrial Users Signed
- Completion 57.18%
- Expected COD: 2022



R E N Korat (IPS)

Attributable Capacity **12.48** MW (40%)



Nakhon Ratchasima province

- EIA approved
- Expected COD: 2023



Ecowin Wind-Turbine

Attributable Capacity **15.16** MW (51.04%)



Ben Tre Province, Vietnam

- 20-Year PPA with EVN
- Completion 80.30%
- Expected COD: 2Q2022



Nexif Energy Ben Tre Wind

Attributable Capacity **40** MW (50%)



Ben Tre Province, Vietnam

- 20-Year PPA with EVN
- Construction period: 18 months
- Expected COD: 2024



TRANSPORTATION



Pink and Yellow Line Monorail Project

Routes	Pink Line: Khae Rai–Min Buri, 34.5 km. 30Stations Yellow Line: Lad Prao–Sam Rong, 30.4 km. 23 Stations
Contract Term	30 Years
Concessioner	Mass Rapid Transit Authority of Thailand
RATCH’s stake	10%



Detail	 Pink Line (NBM)	 Yellow Line (EBM)
NTP	29 June 18	29 June 18
Durations	3 Years 3 Months	3 Years 3 Months
Contract Term	30 �	30 �
COD	2023	2022
Overall Progress (%)	84.64	90.01
Partial Operation Plan	<ul style="list-style-type: none">Phase 1 [Aug 22]Phase 2 [Dec 22]Phase 2.5 [Jan 23]Phase 3 [Jul 23]	<ul style="list-style-type: none">Phase 1 [Aug 22]Phase 2 [Oct 22]

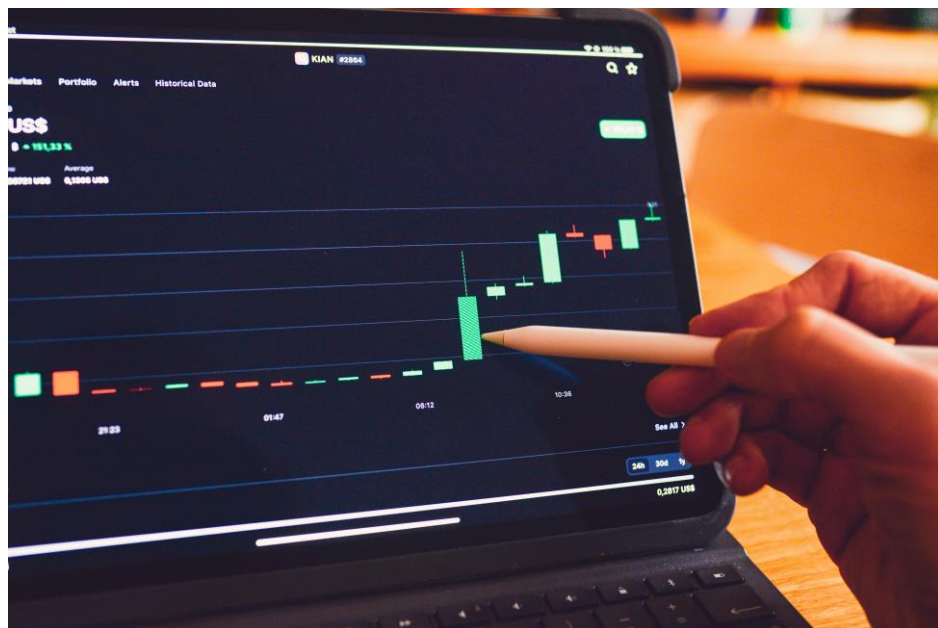
TRANSPORTATION

Intercity Motorway

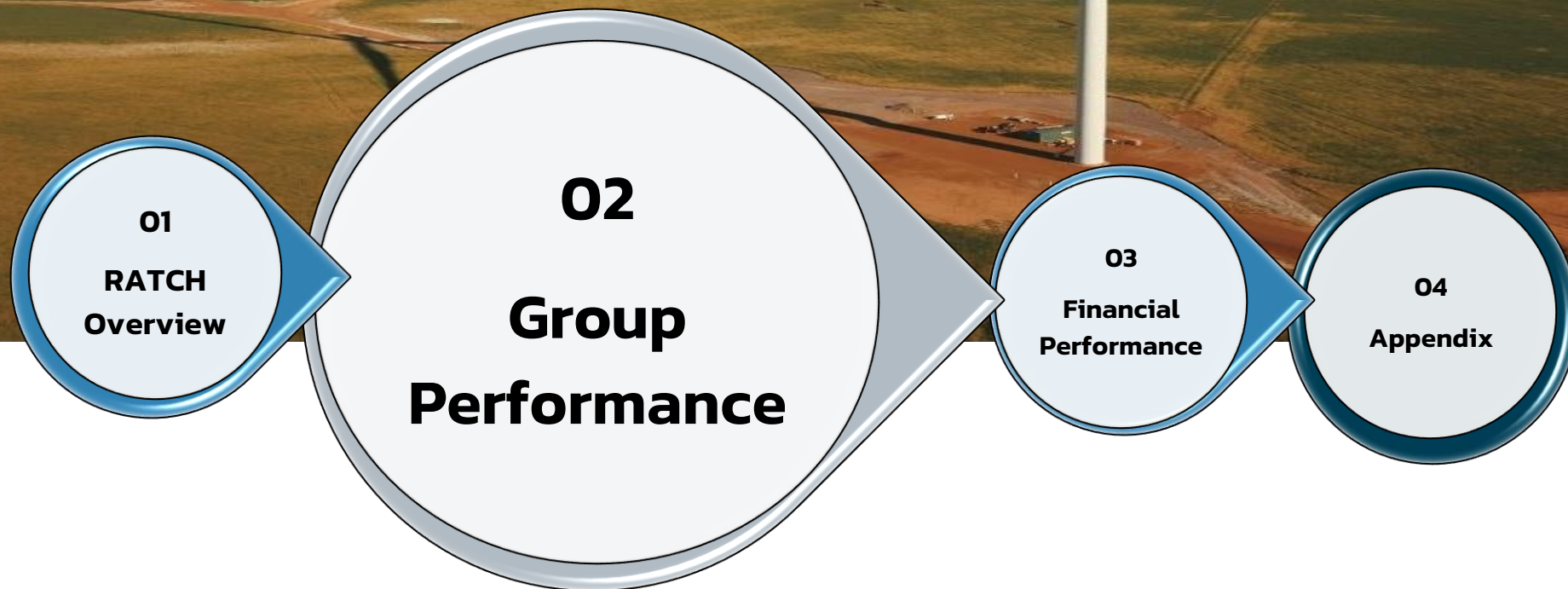
 Bang Pa-In – Nakhon Ratchasima M6 (196 km)	Bang Yai- Kanchanaburi M81 (96 km) 
Investment Type	Expected COD
PPP Gross Cost	2024
Scope of work:	
<p>Phase 1: Design & Construction (3 Years: starting in December 2021)</p> <ul style="list-style-type: none">• Toll Collection System• Traffic Management and Control System• Other Infrastructure <p>Phase 2: O&M (30 Years)</p>	
Project Update	
<ul style="list-style-type: none">• PPP for O&M Contracts signed in September 2021• Credit Facilities Agreement signed in January 2022	

 **Capital Increase and Issuing and Offering of New Ordinary Shares in Proportion to the Shareholding of Existing Shareholders (Preferential Public Offering : PPO) announced on 2 March 2022**

Propose to the General Meeting of Shareholders to consider and approve the allocation of new ordinary shares as follows:



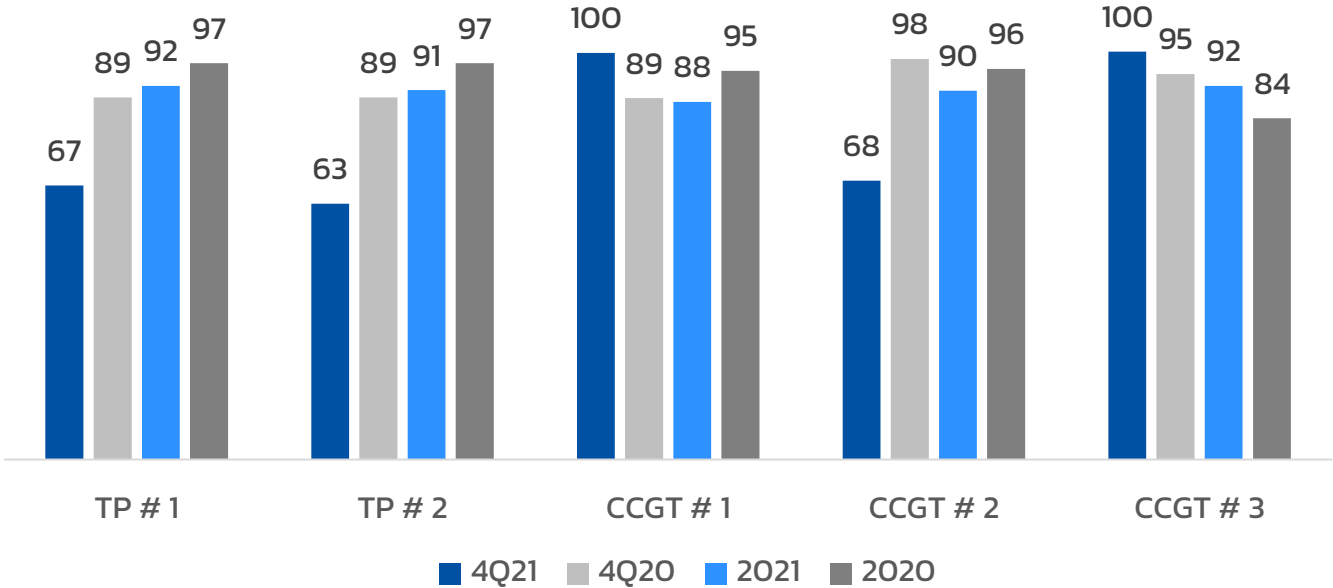
- To consider the increase of the registered capital of the Company from THB 14,500,000,000 to THB 22,192,307,700 by way of issuing new ordinary shares in the amount of 769,230,770 shares at par value of THB 10 each
- To consider the allocation of up to 769,230,770 shares for issuing and offering to existing shareholders in proportion to their shareholding, except where such allocation will result in the Company being subject to any obligations under the law of other jurisdictions (Preferential Public Offering: PPO)



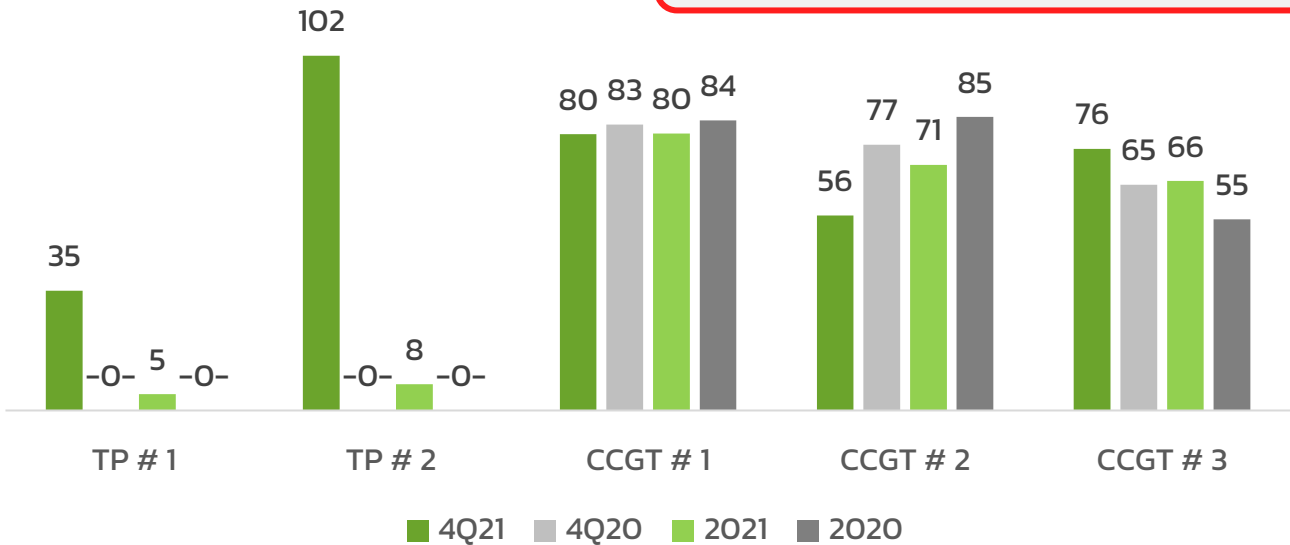
Operation Performance : IPP Projects



%Equivalent Availability Factor (EAF)



%Dispatch Factor (DF)

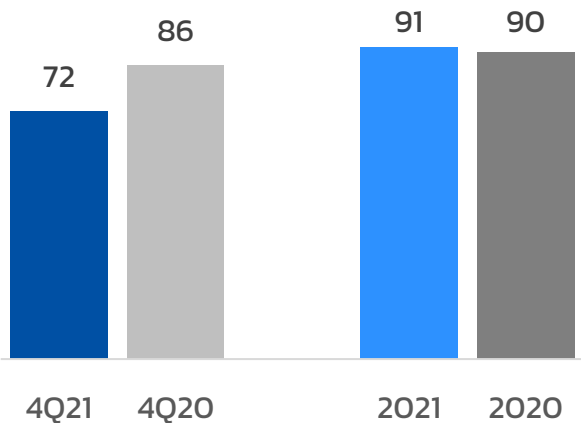


Operation Performance : IPP Projects



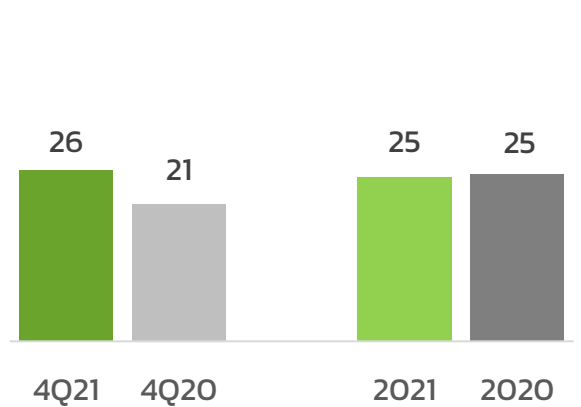
RPCL

%Equivalent
Availability
Factor (EAF)

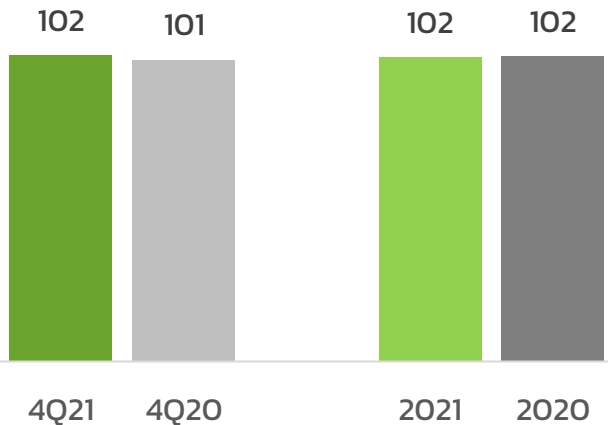
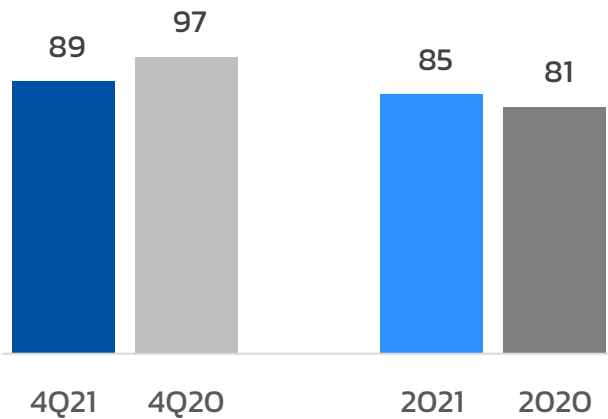


HPC

%Dispatch
Factor (DF)

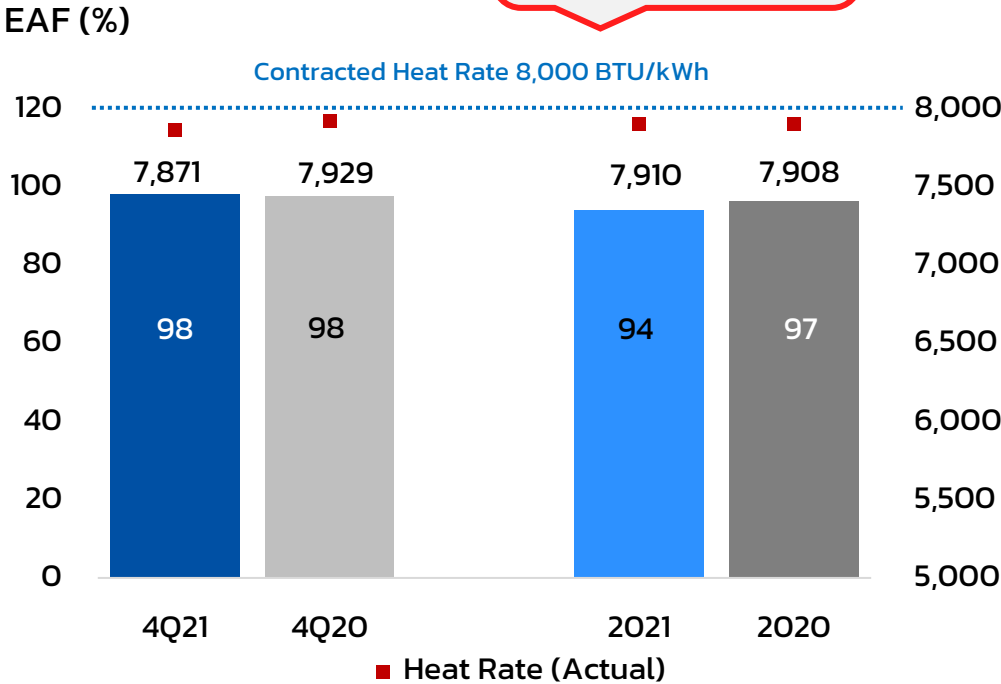


HPC



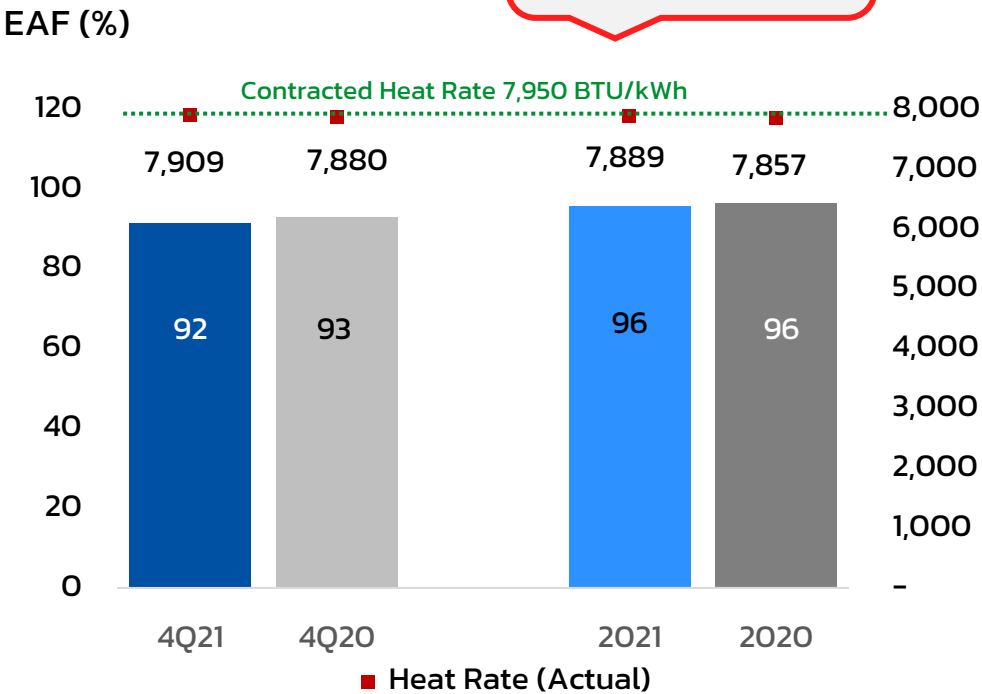
RATCH Cogeneration

Heat Rate:
Maintained below the
Contracted Heat Rate



RATCH WORLD Cogen Block 1-2

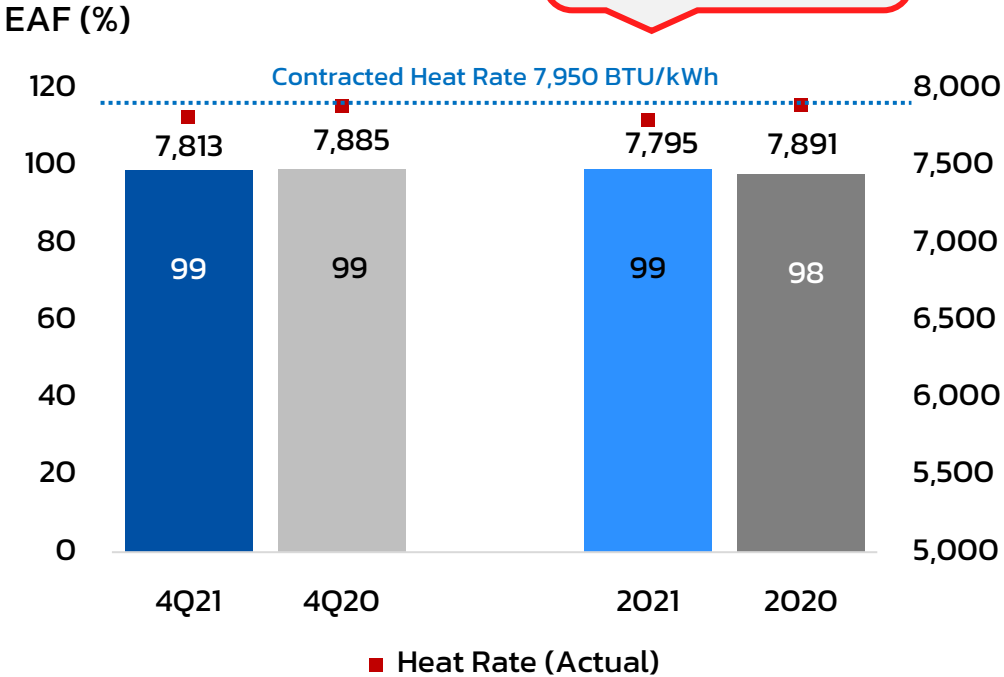
Heat Rate:
Maintained below the
Contracted Heat Rate



Operation Performance : SPP Projects

NNEG*

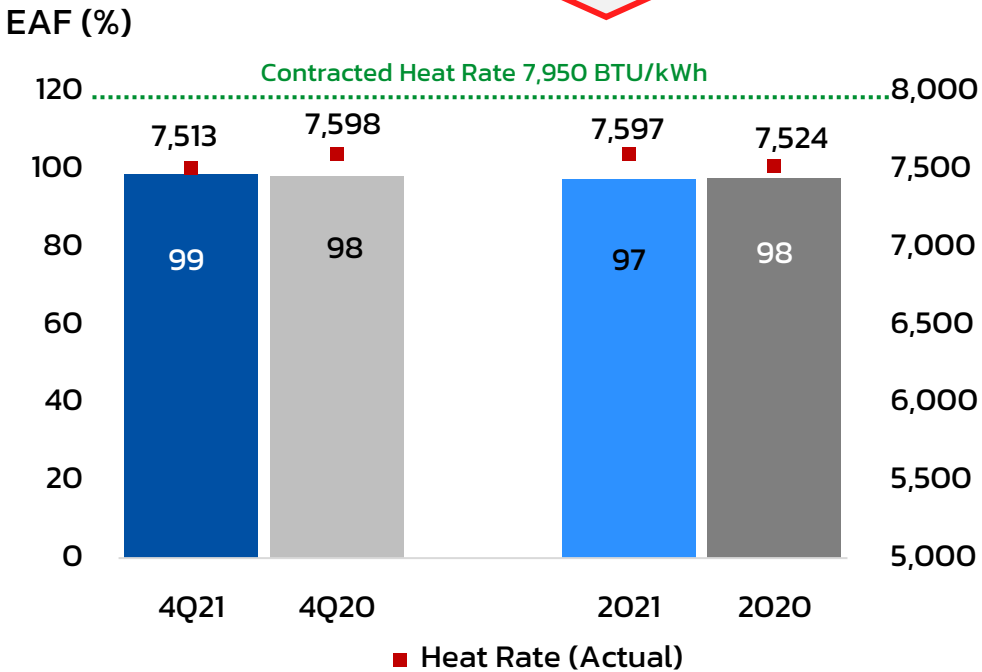
Heat Rate:
Maintained below the
Contracted Heat Rate



Remark: * NNEG Extension COD in 31 October 2020

Berkprai

Heat Rate:
Maintained below the
Contracted Heat Rate



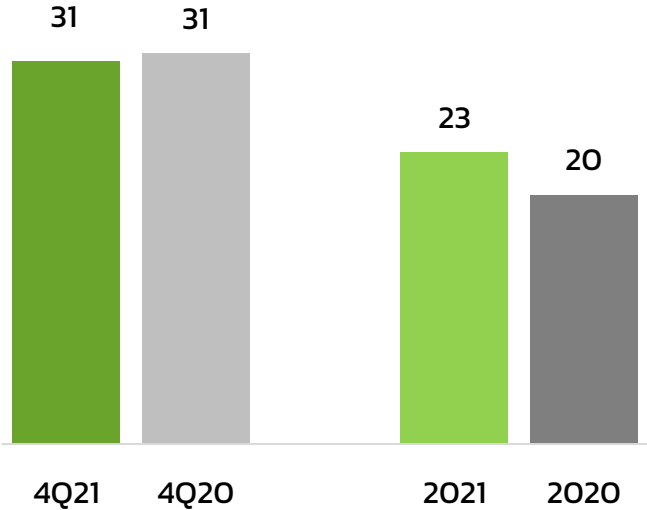


HB 2-3



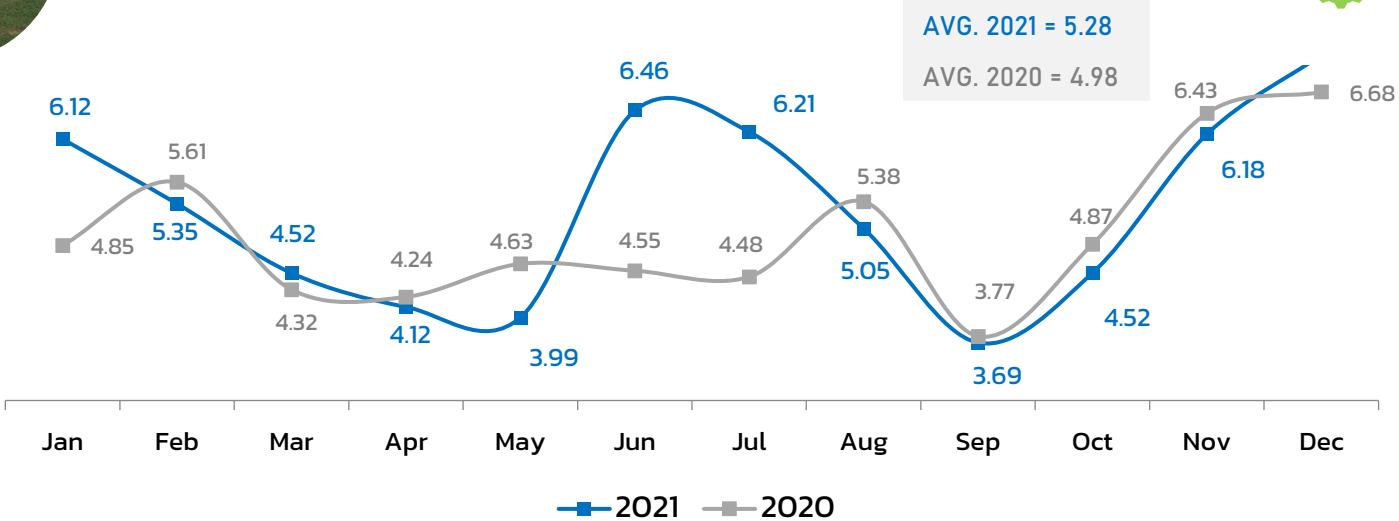
%Capacity Factor (CF)





Wind Speed (m/s)





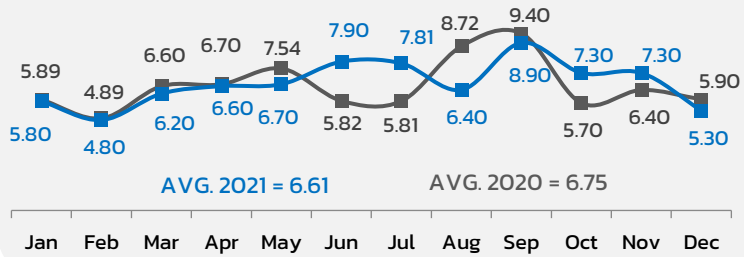


Wind Farms

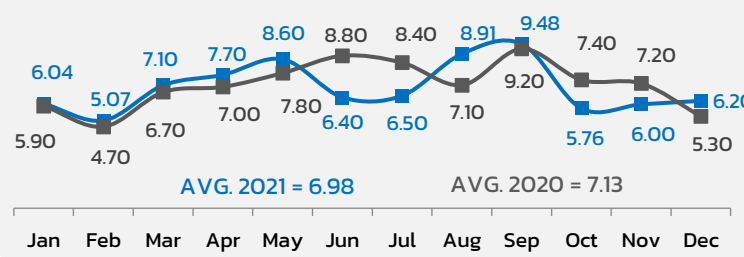
Wind Speed (m/s)



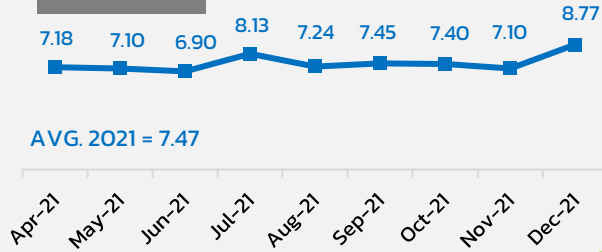
Windy Hill



Mount Emerald



Yandin**



Remark: ** COD in 2021



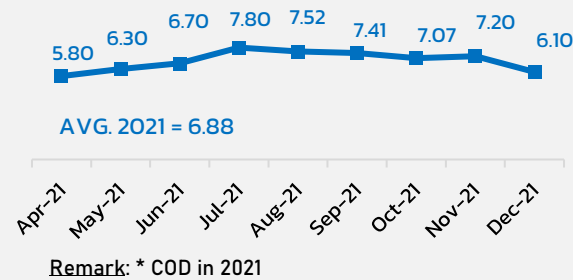
Yandin**
(214 MW)

Windy Hill
(12 MW)

Mouth
Emerald
(180.45 MW)



Collector*



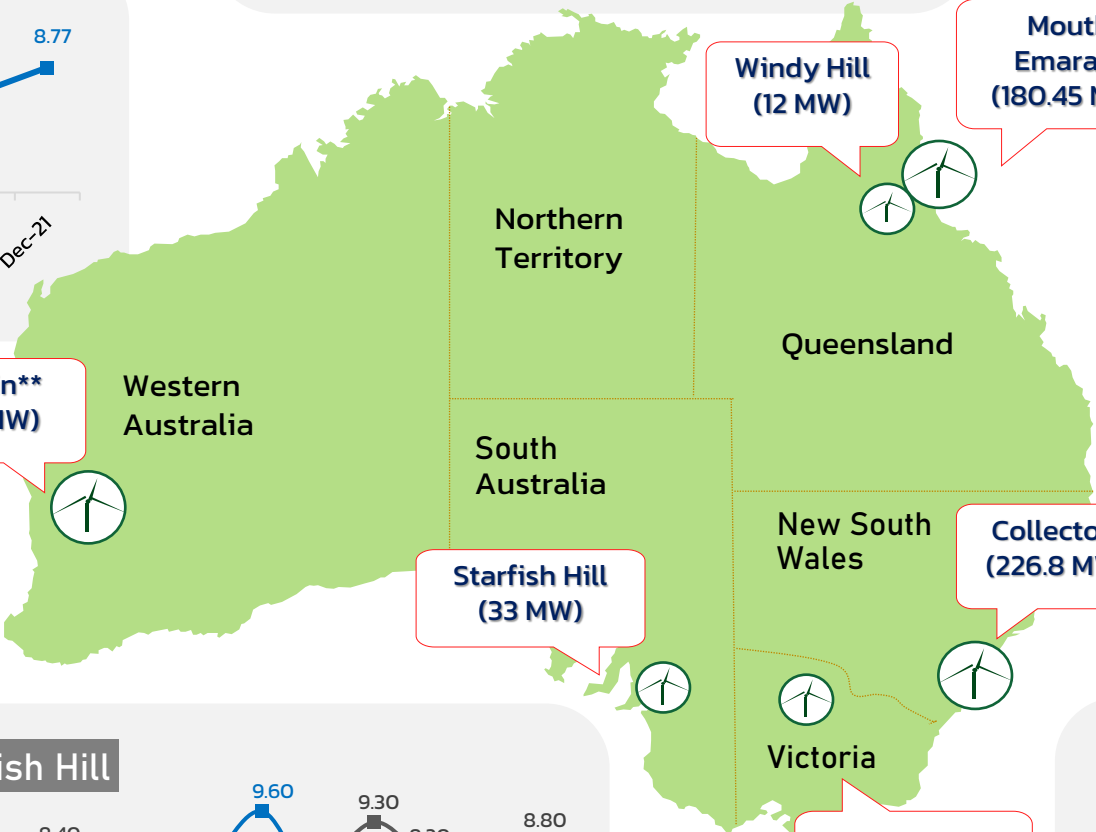
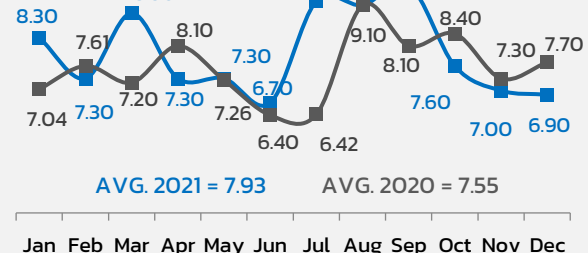
Remark: * COD in 2021

Starfish Hill



Toora
(21 MW)

Toora



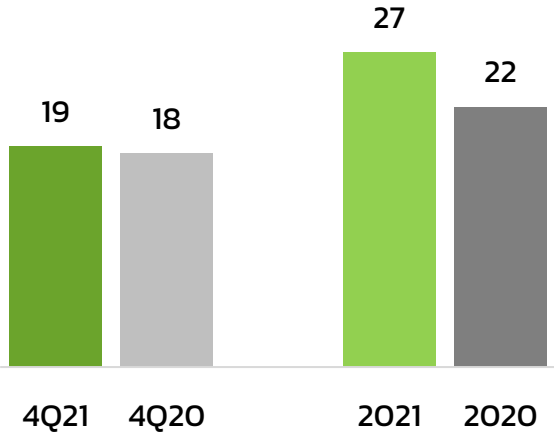


Wind Farms

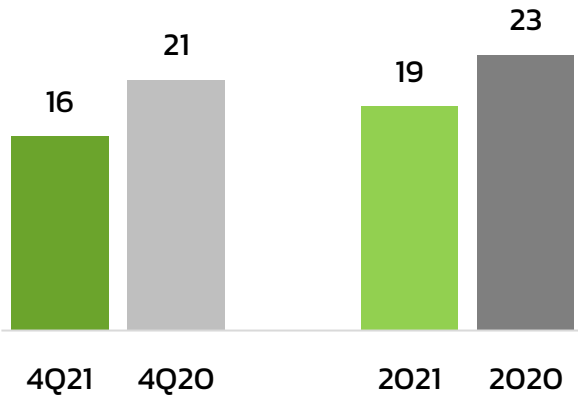
%Capacity Factor (CF)



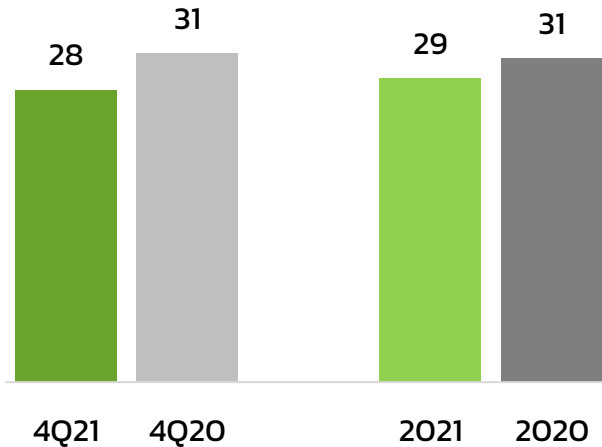
Mount Emerald



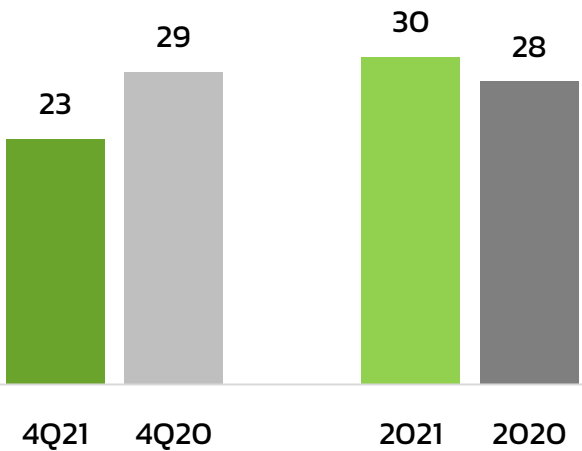
Windy Hill



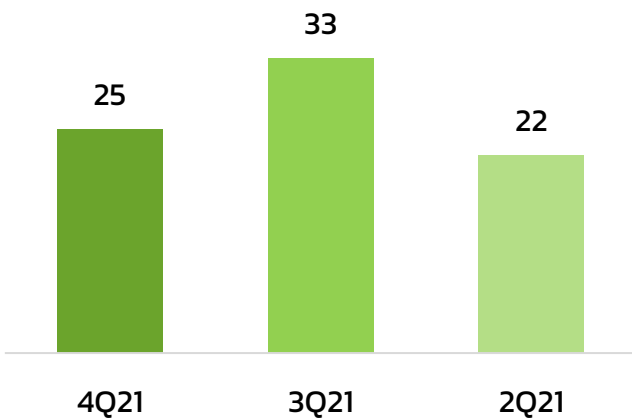
Starfish Hill



Toora

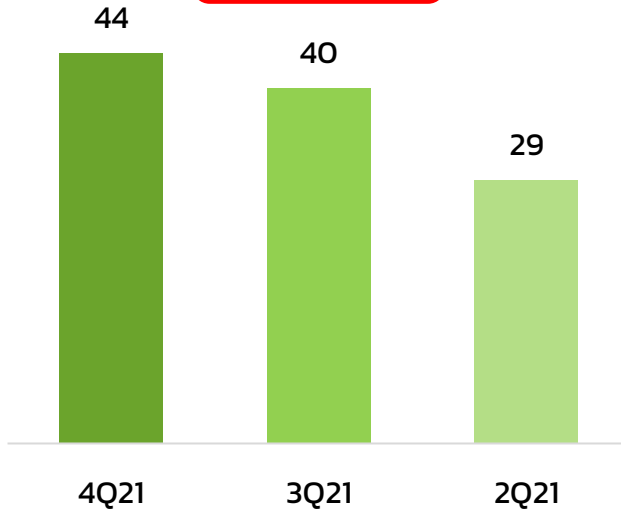


Collector*



Remark: * COD in 2021

Yandin*



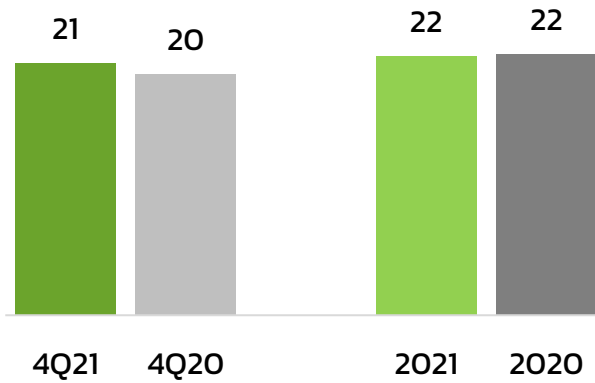
Remark: ** COD in 2021

Solar Farms

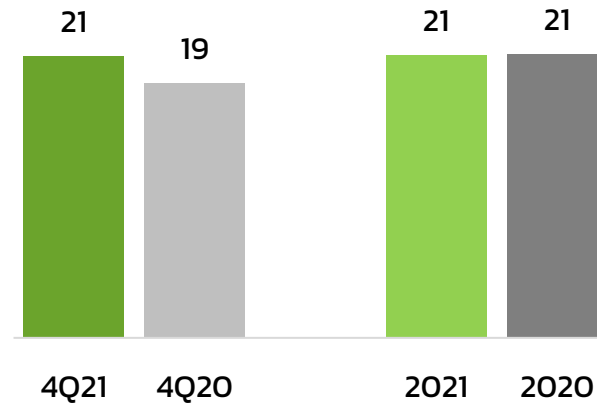
%Capacity Factor (CF)



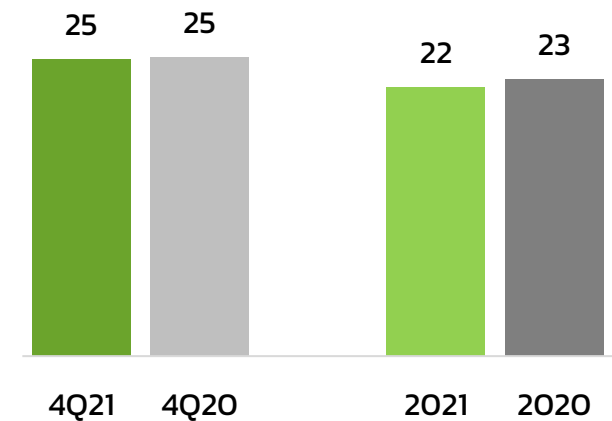
Solarta



KR 3 4 7



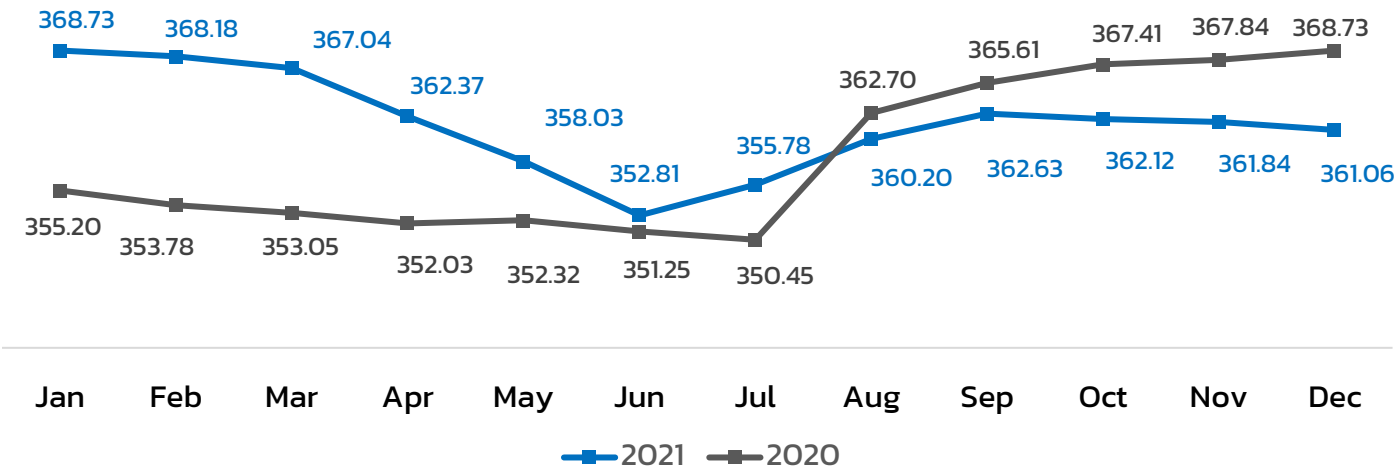
Collinsville



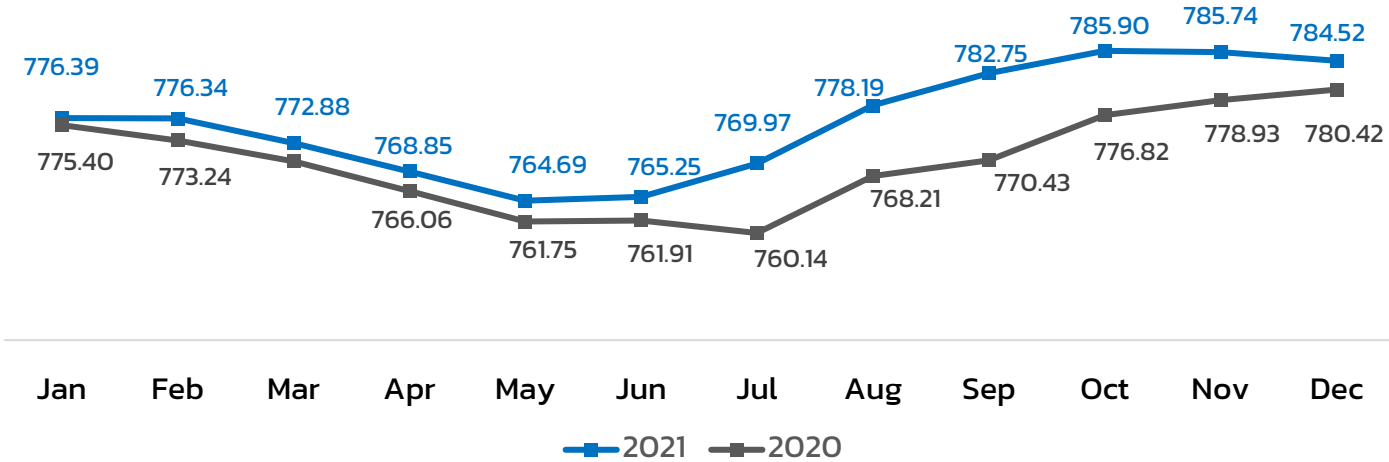
Hydro Projects

Water Level (m.asl.)

NN2



PNPC





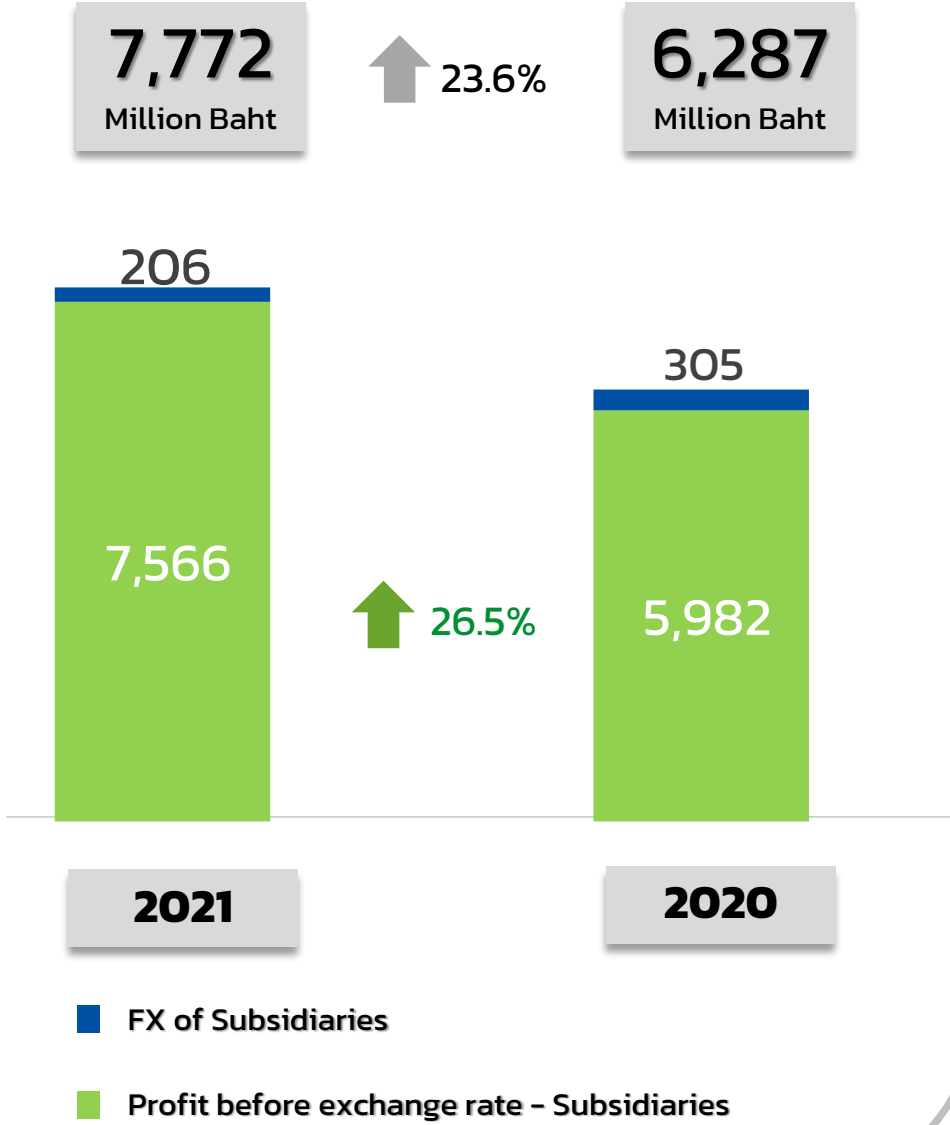
01
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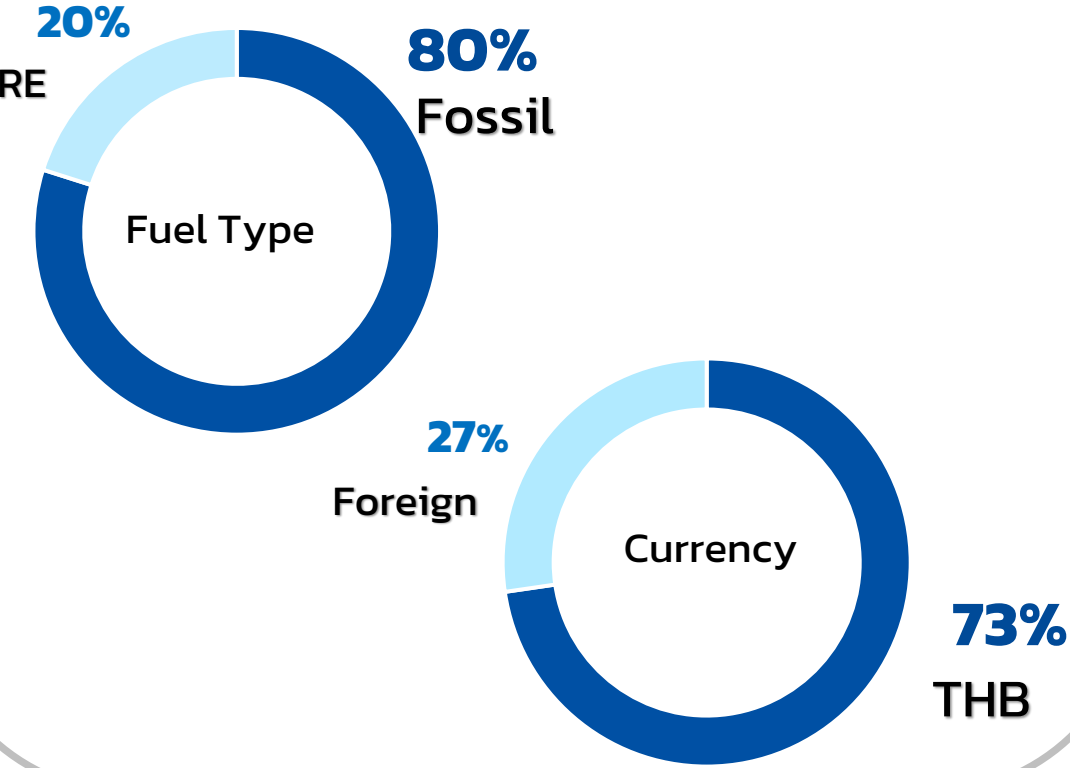
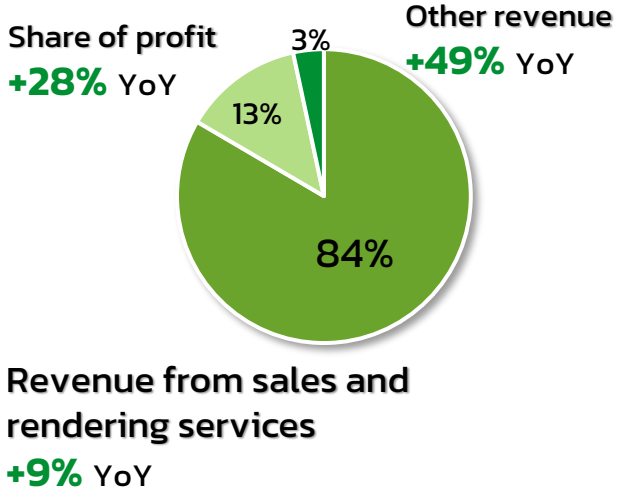
03
Financial
Performance

04
Appendix

Profit for the period: Equity holders of the Company



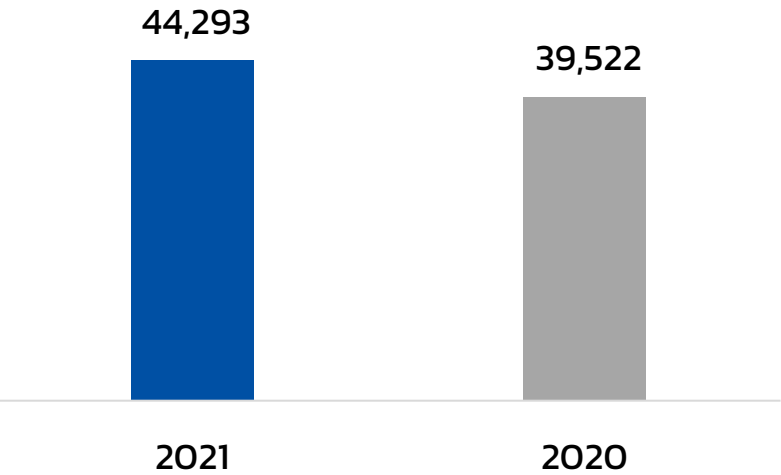
Revenue in 2021



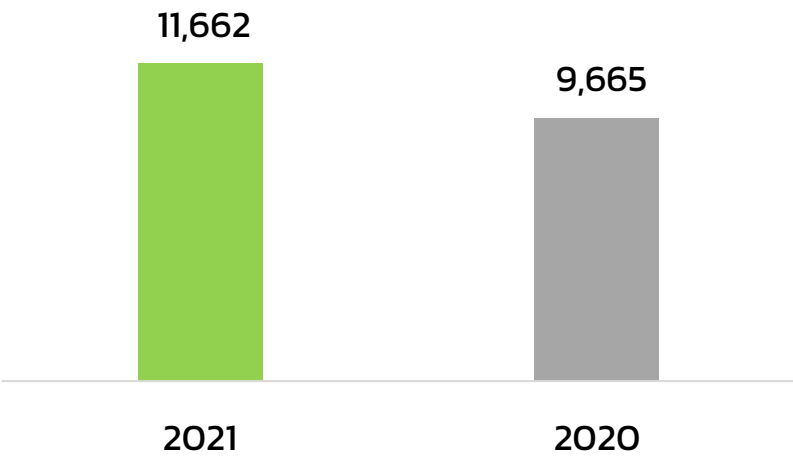
Revenue & EBITDA

Unit: million Baht

Revenue

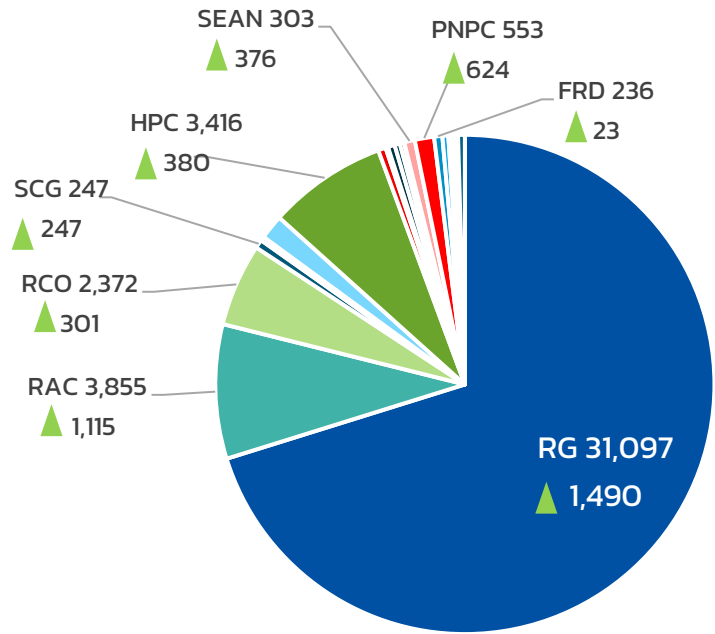


EBITDA

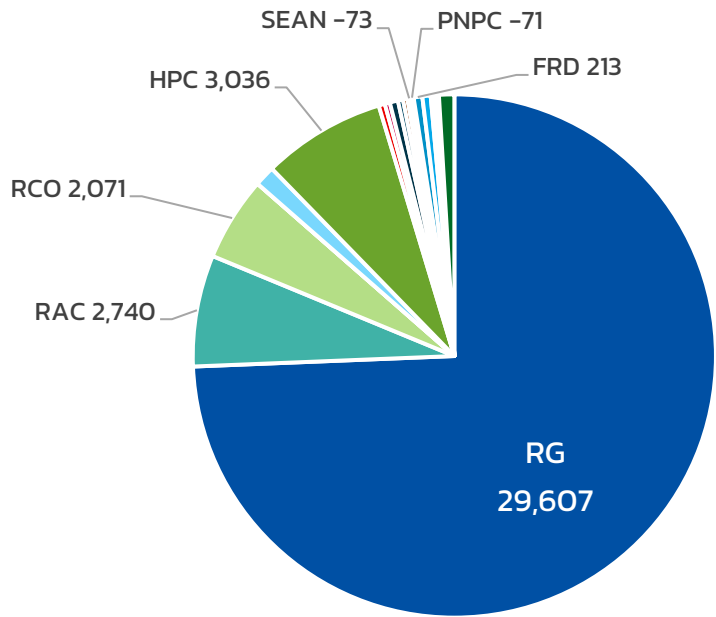


Revenue Breakdown

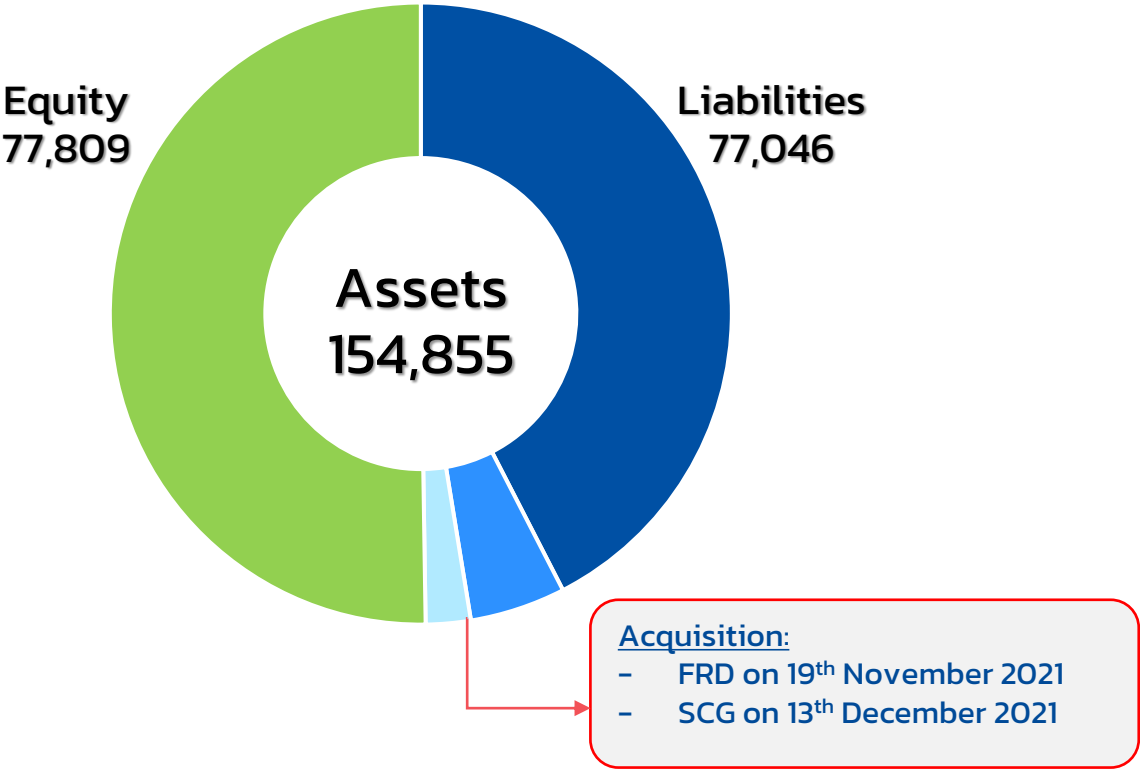
2021



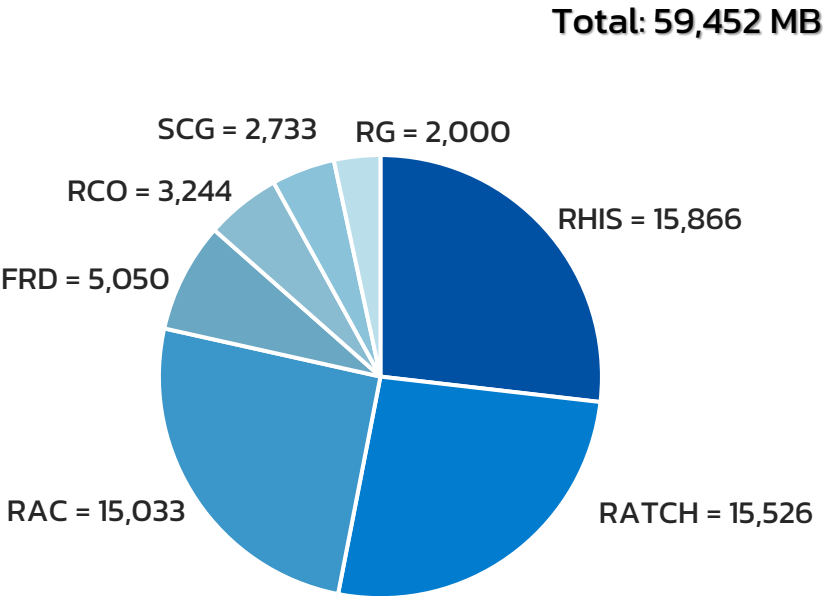
2020



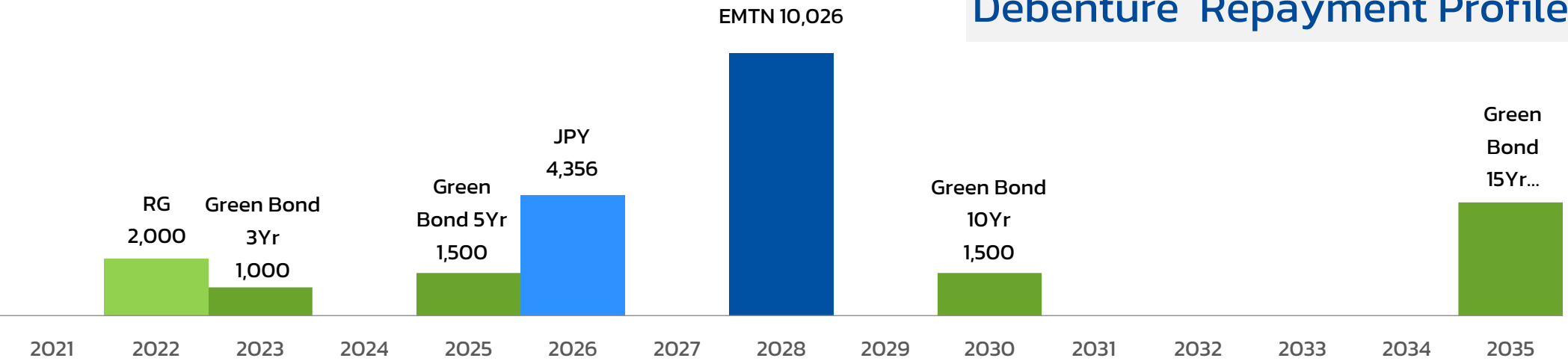
Financial Position



Interest Bearing Debt

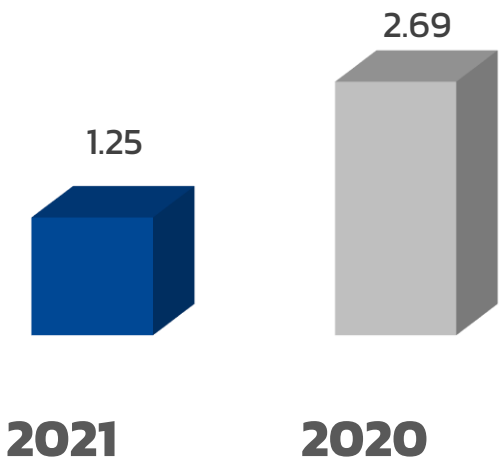


Debenture Repayment Profile

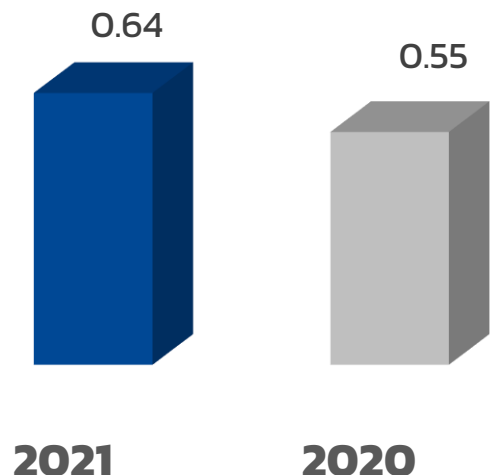


Financial Ratios

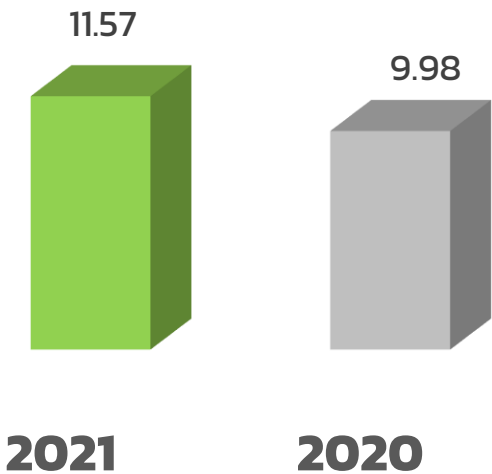
Current ratios (times)



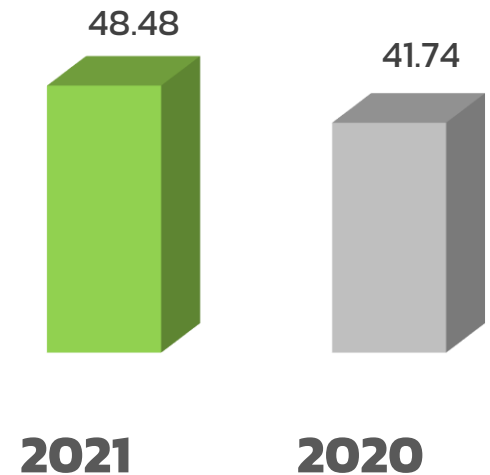
Net Debt/Equity (times)



ROE (%)



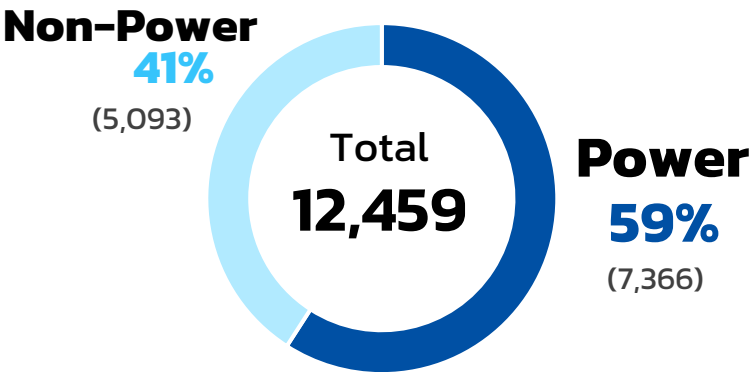
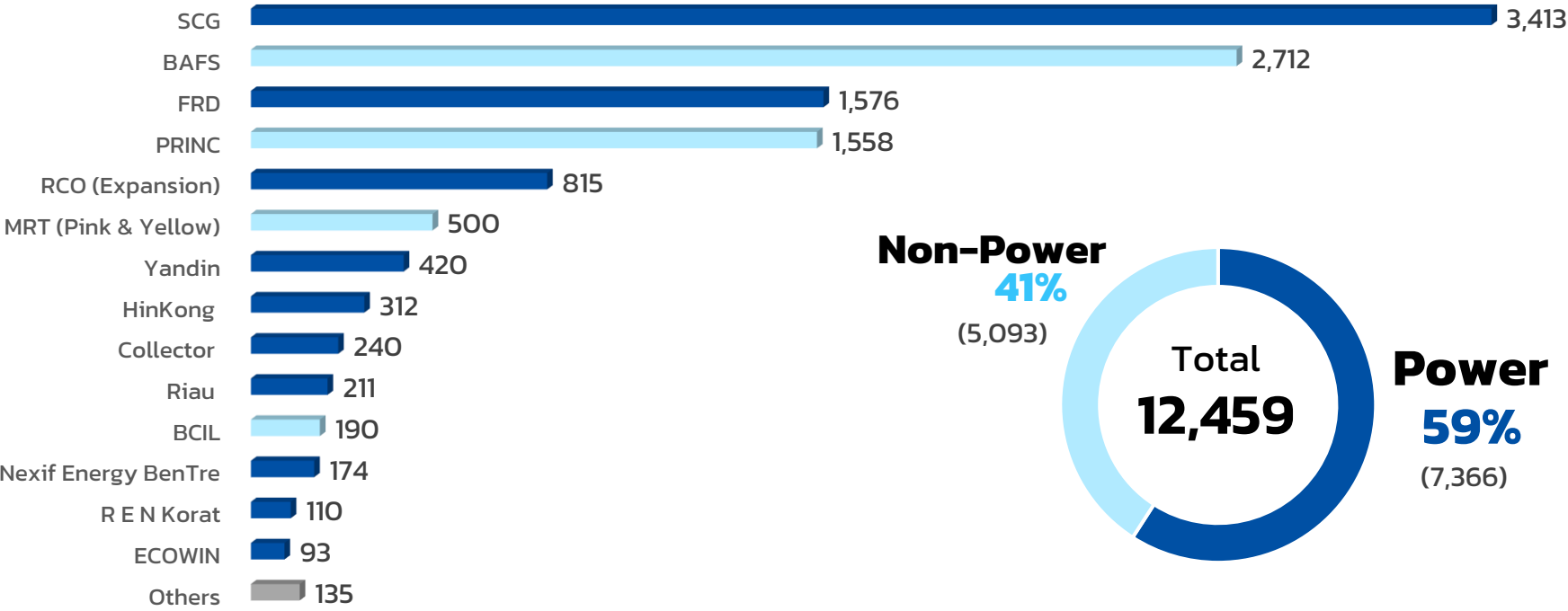
Book Value per share (Baht)



Capital Expenditure

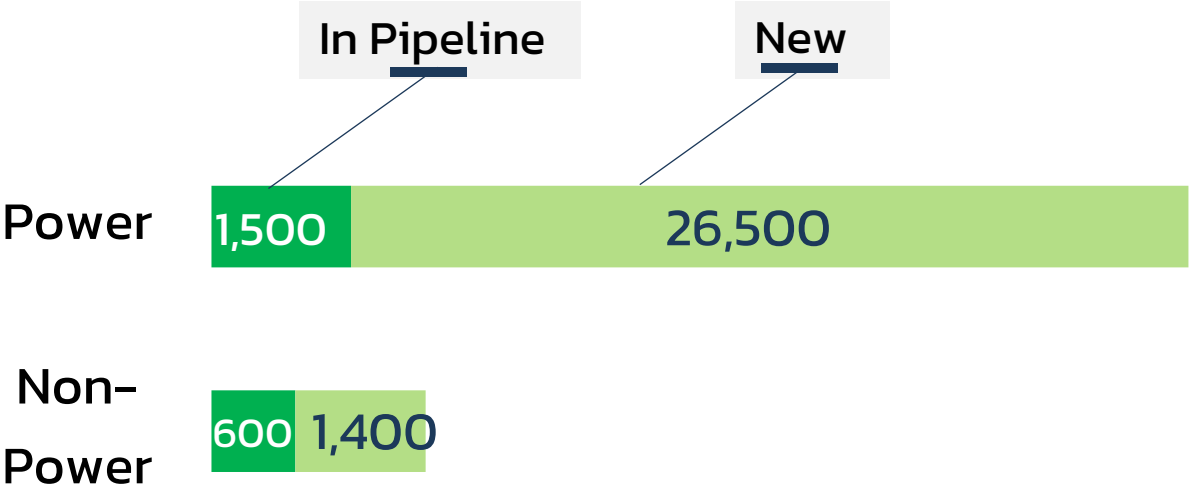
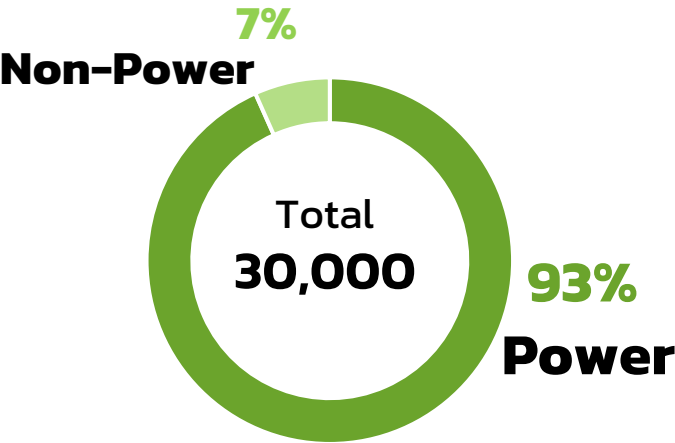
2021

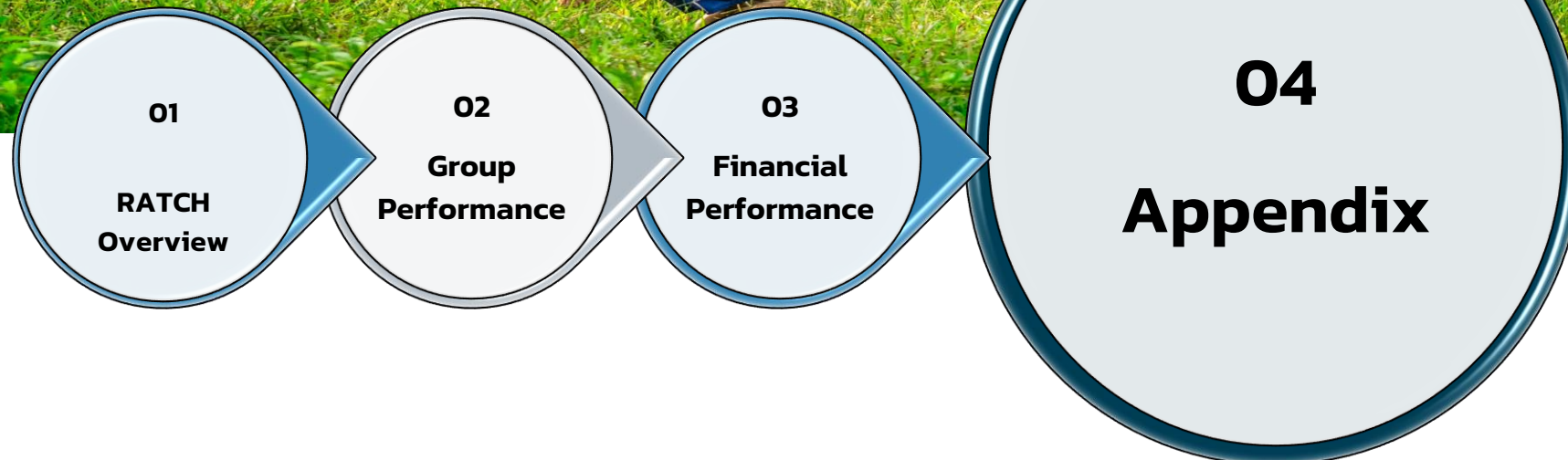
Unit: Million Baht



2022

Unit: Million Baht





Income Statement : 4Q21 & 4Q20

Unit : in Million Baht	4Q21	4Q20
Revenues	14,469.16	9,118.87
Cost & Expenses	(11,199.70)	(6,558.25)
EBITDA	3,269.46	2,560.62
Depreciation & Amortization – Cost*	(571.06)	(352.35)
Depreciation & Amortization – Admin	(61.41)	(38.93)
EBIT	2,636.99	2,169.34
Finance costs	(566.28)	(396.21)
Gain (loss) on fair value adjustment of derivatives	14.10	(93.85)
Income tax expense	(114.90)	201.24
Profit for the period	1,969.91	1,880.52
Non-controlling interests	(6.61)	–
Profit for the period: Equity holders of the Company – before FX of subsidiaries	1,963.30	1,880.52
Gain (Loss) on FX of subsidiaries	159.91	248.95
Profit for the Company	2,123.21	2,129.47

*Included the revaluation of heavy oil and diesel oil prices in the total amount of -0- MB in 4Q21, +78.11 MB in 4Q20

Income Statement : 2021 & 2020

Unit : in Million Baht	2021	2020
Revenues	44,293.29	39,521.99
Cost & Expenses	(32,631.68)	(29,857.19)
EBITDA	11,661.61	9,664.80
Depreciation & Amortization – Cost*	(1,942.27)	(1,840.44)
Depreciation & Amortization – Admin	(244.39)	(132.15)
EBIT	9,474.95	7,692.21
Finance costs	(1,868.07)	(1,551.35)
Gain (loss) on fair value adjustment of derivatives	143.51	(130.24)
Income tax expense	(178.06)	(28.36)
Profit for the period	7,572.33	5,982.26
Non-controlling interests	(6.60)	(0.03)
Profit for the period: Equity holders of the Company – before FX of subsidiaries	7,565.73	5,982.23
Gain (Loss) on FX of subsidiaries	206.29	304.45
Profit for the Company	7,772.02	6,286.68

*Included the revaluation of heavy oil and diesel oil prices in the total amount of +65.88 MB in 2021, -65.88 MB in 2020

Income Statement : 4Q21 & 4Q20

Unit : in Million Baht	4Q21	3Q21	2Q21	1Q21	4Q20
Revenues	14,469.16	10,606.65	10,516.14	8,701.34	9,118.87
Cost & Expenses	(11,199.70)	(7,895.91)	(7,484.78)	(6,051.29)	(6,558.25)
EBITDA	3,269.46	2,710.74	3,031.36	2,650.05	2,560.62
Depreciation & Amortization – Cost*	(571.06)	(527.62)	(486.06)	(357.53)	(352.35)
Depreciation & Amortization – Admin	(61.41)	(103.34)	(40.18)	(39.46)	(38.93)
EBIT	2,636.99	2,079.78	2,505.12	2,253.06	2,169.34
Finance costs	(566.28)	(465.12)	(425.63)	(411.04)	(396.21)
Gain (loss) on fair value adjustment of derivatives	14.10	78.72	52.08	(1.39)	(93.85)
Income tax expense	(114.90)	(100.65)	57.91	(20.42)	201.24
Profit for the period	1,969.91	1,592.73	2,189.48	1,820.21	1,880.52
Non-controlling interests	(6.61)	0.03	(0.01)	(0.01)	–
Profit for the period: Equity holders of the Company - before FX	1,963.30	1,592.76	2,189.47	1,820.20	1,880.52
Gain (Loss) on foreign exchange of subsidiaries	159.91	(154.65)	(66.63)	267.66	248.95
Profit for the Company	2,123.21	1,438.11	2,122.84	2,087.86	2,129.47

*Included the revaluation of heavy oil and diesel oil prices in the total amount of -0- MB in 4Q21, +78.11 MB in 4Q20

Revenues: 4Q21 & 4Q20

Unit : in Million Baht		4Q21	4Q20	Diff	%
Sales		11,785.33	6,995.19	4,790.14	68.48
AP	- RG/TECO	583.04	764.41	(181.37)	(23.73)
EP (Fuel)	- RG/TECO	9,368.78	5,072.07	4,296.71	84.71
RATCH Cogen (RCO)		661.35	488.44	172.91	35.40
RAC		956.04	670.27	285.77	42.64
Sahacogen / FRD		216.12	-	216.12	n.a.
Revenue from leases - RG/TECO & FRD		592.58	558.12	34.46	6.17
Revenue from rendering of services		17.79	16.05	1.74	10.84
Management service income		58.81	79.14	(20.33)	(25.69)
Interest income		48.08	49.41	(1.33)	(2.69)
Dividend income		-	-	-	-
Gain on bargain purchase		177.67	-	177.67	n.a.
Other incomes		204.55	93.24	111.11	n.a.
Share of profit from JVs & Associates		1,584.35	1,327.72	256.63	19.33
Total Revenues		14,469.16	9,118.87	5,350.29	58.67

Revenues: 2021 & 2020

Unit : in Million Baht		2021	2020	Diff	%
Sales		35,162.22	31,590.51	3,571.71	11.31
AP	- RG/TECO	3,121.03	3,349.12	(228.09)	(6.81)
EP (Fuel)	- RG/TECO	25,871.34	23,490.68	2,380.66	10.13
RATCH Cogen (RCO)		2,219.38	2,065.88	153.50	7.43
RAC		3,734.35	2,684.83	1,049.52	39.09
Sahacogen / FRD		216.12	-	216.12	n.a.
Revenue from leases - RG/TECO & FRD		2,095.30	2,553.21	(475.91)	(17.93)
Revenue from rendering of services		69.26	62.03	7.23	11.66
Management service income		224.30	276.31	(52.01)	(18.82)
Interest income		205.35	159.41	45.94	28.82
Dividend income		58.83	61.18	(2.35)	(3.84)
Gain on bargain purchase		177.67	-	438.83	n.a.
Other incomes		397.96	219.00	178.96	81.72
Share of profit from JVs & Associates		5,902.40	4,600.34	1,302.06	28.30
Total Revenues		44,293.29	39,521.99	4,771.30	12.07

Share of profit from jointly-controlled entities : 4Q21 & 4Q20

Included FX	Unit : in Million Baht	4Q21	4Q20	Diff	%
	HPC	910.08	1,010.74	(100.66)	(9.96)
	PNPC	318.10	(44.70)	362.80	n.a.
	FRD	50.86	56.19	(5.33)	(9.49)
	SEAN	42.37	(76.82)	119.19	n.a.
	SOLARTA	40.16	33.21	6.95	20.93
	Berk Prai	28.36	28.22	0.14	0.50
	RW COGEN	24.96	29.44	(4.48)	(15.22)
	KORAT 3,4,7	24.38	21.40	2.98	13.93
	RPCL	19.06	34.56	(15.50)	(44.85)
	FKW	9.40	10.16	(0.76)	(7.48)
	Songkhla Biomass	8.50	10.19	(1.69)	(16.58)
	KR2	7.93	8.34	(0.41)	(4.92)
	NNEG	5.91	31.34	(25.43)	(81.14)
	ABEIF (TLP)	(46.74)	115.50	(162.24)	n.a.
	Yandin	111.86	(17.16)	129.02	n.a.
	Others	29.16	77.11	(47.95)	(62.18)
	Total Share of profit from jointly-controlled entities	1,584.35	1,327.72	256.63	19.33

Share of profit from jointly-controlled entities : 2021 & 2020

Included FX

Unit : in Million Baht	2021	2020	Diff	%
HPC	3,415.67	3,035.99	379.68	12.51
PNPC	553.31	(70.77)	624.08	n.a.
SEAN	303.43	(73.46)	376.89	n.a.
FRD	236.24	213.25	22.99	10.78
RPCL	219.03	152.30	66.73	43.81
RW COGEN	195.50	202.30	(6.80)	(3.36)
SOLARTA	168.52	203.98	(35.46)	(17.38)
NNEG	154.64	125.40	29.24	23.32
Berk Prai	121.80	113.88	7.92	6.95
KORAT 3,4,7	96.37	96.55	(0.18)	(0.19)
ABEIF (TLP)	70.40	125.19	(54.79)	(43.77)
Songkhla Biomass	29.96	40.49	(10.53)	(26.01)
FKW	23.47	19.44	4.03	20.73
KR2	19.24	14.39	4.85	(33.70)
Yandin	106.65	28.29	78.36	n.a.
Others	188.17	373.12	(184.95)	(49.57)
Total Share of profit from jointly-controlled entities	5,902.40	4,600.34	1,302.06	28.30

Share of profit from jointly-controlled entities : 4Q21 & 4Q20

Excluded FX

Unit : in Million Baht	4Q21	4Q20	Diff	%
HPC	955.90	1,125.38	(169.48)	(15.06)
PNPC	107.70	47.38	60.32	n.a.
FRD	50.86	56.19	(5.33)	(9.49)
SEAN	43.12	(75.26)	118.38	n.a.
SOLARTA	40.16	33.21	6.95	20.93
Berk Prai	28.36	28.27	0.09	0.32
RW COGEN	24.54	29.20	(4.66)	(15.96)
KORAT 3,4,7	24.38	21.40	2.98	13.93
RPCL	18.57	34.25	(15.68)	(45.78)
FKW	9.40	10.16	(0.76)	(7.48)
Songkhla Biomass	8.50	10.19	(1.69)	(16.58)
KR2	7.93	8.34	(0.41)	(4.92)
NNEG	5.05	32.60	(27.55)	(84.51)
ABEIF (TLP)	(46.74)	115.50	(162.24)	n.a.
Yandin	111.86	(17.16)	129.02	n.a.
Others	28.71	79.98	(51.27)	(64.10)
Total Share of profit from jointly-controlled entities	1,418.30	1,539.63	(121.33)	(7.88)

Share of profit from jointly-controlled entities : 2021 & 2020

Excluded FX

Unit : in Million Baht	2021	2020	Diff	%
HPC	3,024.29	3,022.93	1.36	0.04
SEAN	290.63	(77.96)	368.59	n.a.
PNPC	281.82	69.86	211.96	n.a.
FRD	236.24	213.25	22.99	10.78
RPCL	219.85	150.86	68.99	45.73
RW COGEN	196.63	202.19	(5.56)	(2.75)
SOLARTA	168.51	204.00	(35.49)	(17.40)
NNEG	152.88	121.47	31.41	25.86
Berk Prai	121.81	110.63	11.18	10.11
KORAT 3,4,7	96.37	96.55	(0.18)	(0.19)
ABEIF (TLP)	70.40	125.19	(54.79)	(43.77)
Songkhla Biomass	29.96	40.49	(10.53)	(26.01)
FKW	23.47	19.44	4.03	20.73
KR2	19.24	14.39	4.85	33.70
Yandin	106.65	28.29	78.36	n.a.
Others	191.93	381.29	(189.36)	(49.66)
Total Share of profit from jointly-controlled entities	5,230.68	4,722.87	507.81	10.75

Cost and Expenses : 4Q21 & 4Q20

Unit : in Million Baht	4Q21	4Q20	Diff	%
Cost of Sale and Rendering of Services	10,808.41	6,259.21	4,549.20	72.68
– Fuel Cost : RG/ TECO	9,090.54	5,052.86	4,037.68	79.91
– SPP Fuel Cost : RATCH Cogen & SPP	622.71	295.89	326.82	n.a.
– Operation & Maintenance	456.64	379.86	76.78	20.21
– Repairing Expense (CSA)	232.30	212.93	19.37	9.10
– Spare parts	124.25	78.84	45.41	57.60
– Others	281.97	238.83	43.14	18.06
Selling and Admin- Expenses	391.29	299.04	92.25	39.85
Total Cost and Expenses*	11,199.70	6,558.25	4,641.45	70.77

* excluding depreciation & amortization

Cost and Expenses : 2021 & 2020

Unit : in Million Baht	2021	2020	Diff	%
Cost of Sale and Rendering of Services	31,174.23	28,388.25	2,785.98	9.81
– Fuel Cost : RG/ TECO	25,501.56	23,366.07	2,135.49	9.14
– SPP Fuel Cost : RATCH Cogen & SPP	1,618.39	1,335.89	282.50	21.15
– Operation & Maintenance	1,605.36	1,581.95	23.41	1.48
– Repairing Expense (CSA)	899.57	961.81	(62.24)	(6.47)
– Spare parts	425.72	291.44	134.28	46.07
– Others	1,123.63	851.09	272.54	32.02
Selling and Admin- Expenses	1,457.45	1,468.94	(11.49)	(0.78)
Total Cost and Expenses*	32,631.68	29,857.19	2,774.49	9.29

* excluding depreciation & amortization

Actual Outage

Planned Outage

Planned Outage in 2021

Plant		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
RG	CCGT-11							23	MI (31d) 22				
	CCGT-12							23	MI (30d) 21				
	CCST-10							4	MO (51d) 23				
RG	CCGT-21										3	CI (15d) 17	
	CCGT-22										3	CI (15d) 17	
	CCST-20										3	MO (48d) 19	
RG	CCGT-S1		6	CI (13d) 18									
	CCGT-S2		6	CI (13d) 18									
	CCST-30	3	MO (47d) 18										
RG	Thermal-1											14	MI (31d) 14
RG	Thermal-2											22	MI (31d) 22
HPC	Unit #1								22	MO (53d) 13			
	Unit #2	18	YM (29d) 15										
	Unit #3							18	YM (23d) 9				
RPCL	CCGT-11											21	MI (25d) 15
	CCGT-12											21	MI (28d) 18
	CCST-10											21	MI (25d) 15
RPCL	CCGT-21	3	CI (10d) 12										
	CCGT-22	3	CI (10d) 12										
	CCST-20												

Thermal Plant	Minor Inspection (MI)		40 Days	Major Overhaul (MO)		57 Days		
Gas Turbine	Warranty Inspection (WI)			Combustion Inspection			Minor Inspection	Major Overhaul
	Normal (WI)		Gen.Rotor Removed (WI*)		(CI)		(MI)	(MO)
	26 Days		32 Days		15 Days		30 Days	52 Days
Steam Turbine	Warranty Inspection (WI)			Minor Inspection			Major Overhaul	
	Normal (WI**)		Gen.Rotor Removed (WI*)		(MI)		(MO)	
	26 Days		30 Days		26 Days		49 Days	

Plant		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
RG	CCST-10												
	CCGT-11												6 <u>CI (10d)</u> 15
	CCGT-12												6 <u>CI (10d)</u> 15
RG	CCST-20												
	CCGT-21								23 <u>CI (9d)</u> 31				
	CCGT-22								23 <u>CI (9d)</u> 31				
RG	CCST-30												
	CCGT-31						7 <u>MO (52d)</u> 28						
	CCGT-32						7 <u>MO (52d)</u> 28						
RG	Thermal-1												
RG	Thermal-2												
RG (TE)	CCST-10 - CCTE												
	CCGT-11 - CCTE												
	CCGT-12 - CCTE												
HPC	Unit #1	1 Dec <u>MI (36d)</u> 5											
	Unit #2												
	Unit #3				28 <u>MO (121d)</u> 26								
RPCL	CCST-10	19 <u>MO (34d)</u> 21											
	CCGT-11	19 <u>MO (34d)</u> 21											
	CCGT-12	19 <u>MO (34d)</u> 21											
RPCL	CCST-20												
	CCGT-21										18 <u>CI (10d)</u> 27		
	CCGT-22										18 <u>CI (10d)</u> 27		

Thermal Plant	Minor Inspection (MI)		40 Days	Major Overhaul (MO)		57 Days		
Gas Turbine	Warranty Inspection (WI)			Combustion Inspection		Minor Inspection		Major Overhaul
	Normal (WI)	Gen.Rotor Removed (WI*)		(CI)		(MI)		(MO)
	26 Days	32 Days		15 Days		30 Days		52 Days
Steam Turbine	Warranty Inspection (WI)			Minor Inspection		Major Overhaul		
	Normal (WI**)	Gen.Rotor Removed (WI*)		(MI)		(MO)		
	26 Days	30 Days		26 Days		49 Days		

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