

18th Annual CITIC CLSA ASEAN Forum 2022

March 9, 2022



 **GPSC**

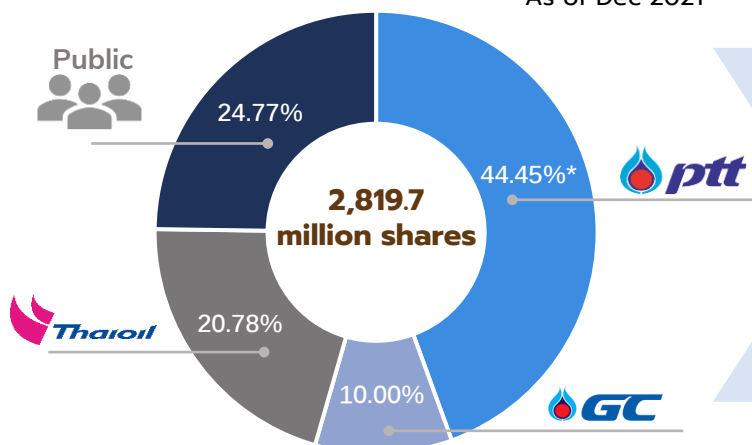


The power and smart energy flagship of PTT Group

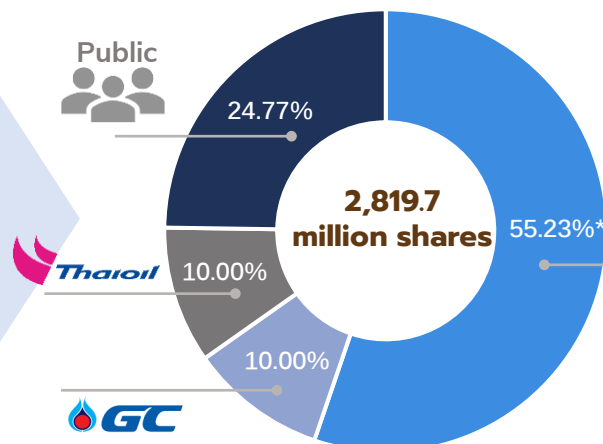
*"GPSC, The global leading innovative and sustainable power company, the core business is to **generate and supply electricity and utilities** to customers and also **developing new S-Curve business** to create value to stakeholders."*

GPSC's shareholding structure

As of Dec 2021



GPSC's shareholding structure after the restructuring transaction of PTT



PTT is under the process of regulatory work to purchase 10.78% of GPSC. from TOP.

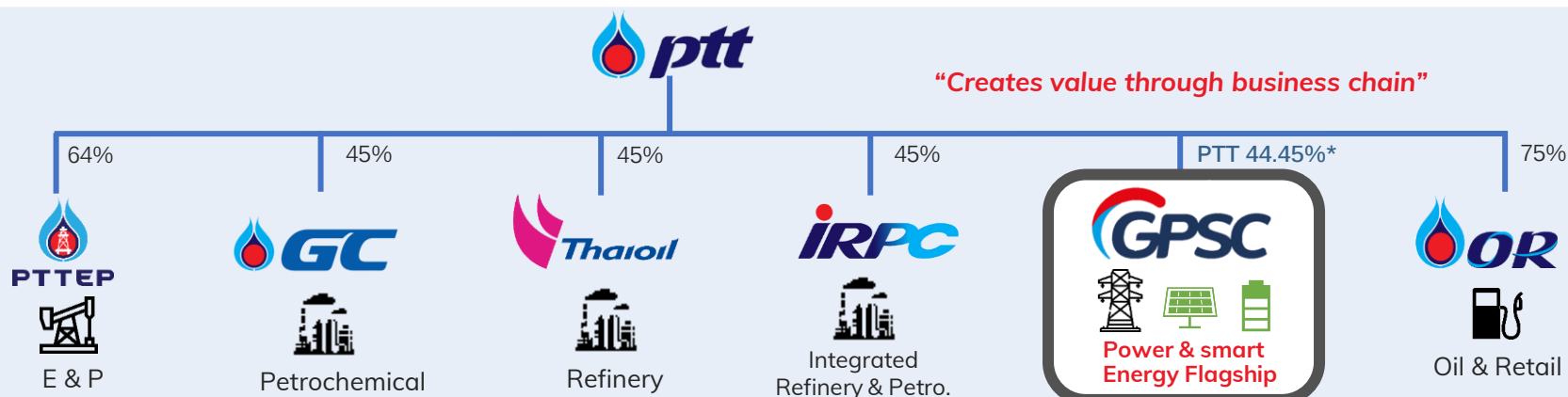
After the Restructuring Transaction, PTT and SMH will own 55.23% and TOP will own 10.00% of GPSC's total paid-up capital.

COMPANY INFORMATION (as of Feb 28, 2022)

Business Type | Energy & Utilities listed on SET
Paid-up Capital | 28,197 MB
Market Cap. | 211,480 MB (3rd in power sector)

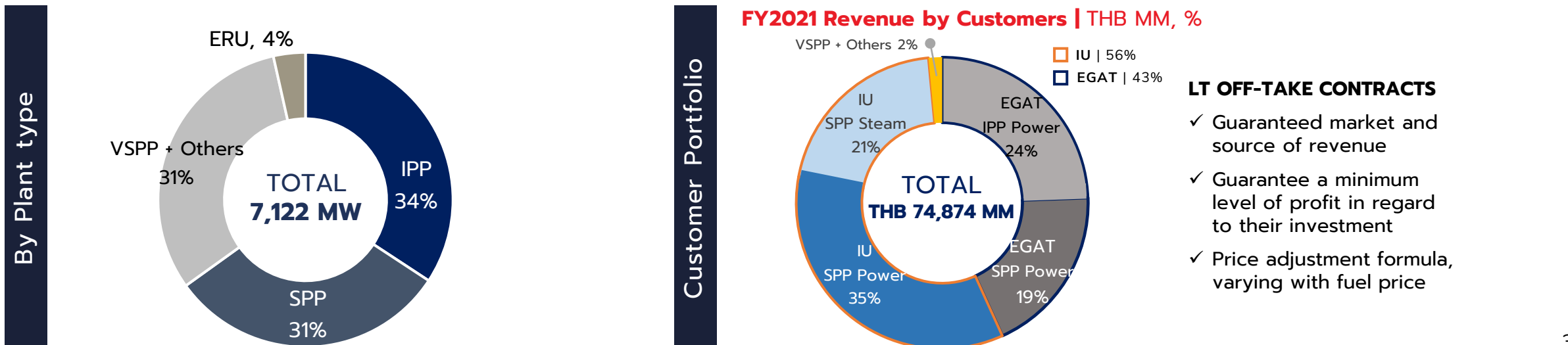
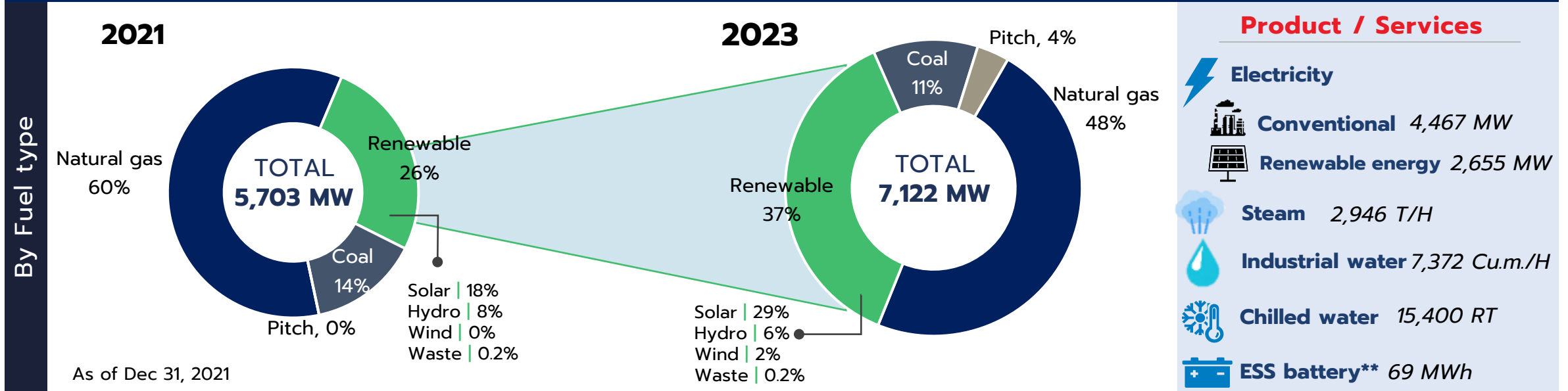
*PTT stake includes 191% hold via SMH, a wholly-owned indirect subsidiary of PTT.

PTT Group's Business



* PTT stake includes 1.91% hold via SMH

Total committed equity capacity*



Note: * Total equity capacity includes Solar Power Platform (Avaada) 1,917 MW and Offshore wind farm (CFXD) 149 MW.

** Total size of ESS battery after transferred of the assets related to battery business to NUOVO PLUS which GPSC hold 49% stake.

1. 2021 in Review & Going Forward

2. Financial Performance

3. Update of Projects & Outlook



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Overcome Emerging Challenges



COVID-19 disrupted the Thai economy in the first half of 2021. But energy consumption have been recovering slightly throughout the year.



Coal and natural gas prices surge amid constrained supply as demand recovery continues.



Unplanned outages

- Glow Energy Phase 5
- GHECO-One

React & Enablers



Measures against COVID-19

- To ensure stability and continuity of supply to meet all customers' needs
- Set up G-COVID center
- Designate restricted area for production
- Set up a special operation team (Golden man)
- Work from home policy
- Limited COVID-19 impact



React to fluctuations of energy price

- Manage the dispatch by merit order for minimizing the cost of production
- Proactive hedging strategies identification to mitigate risks by Hedging Committee

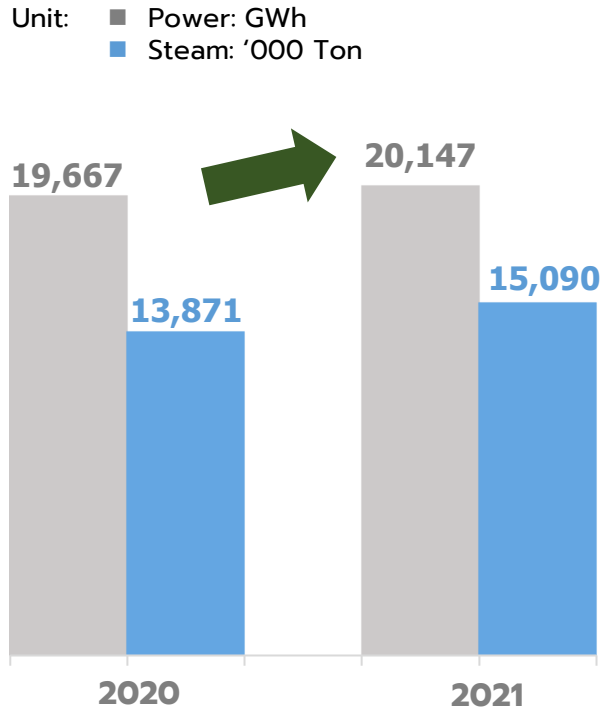


GPSC Group's network

- Manage the operation through the Group's network to serve customers' demands during the period
- Intensive root cause analysis for future prevention

2021 in Review | Financial Highlight

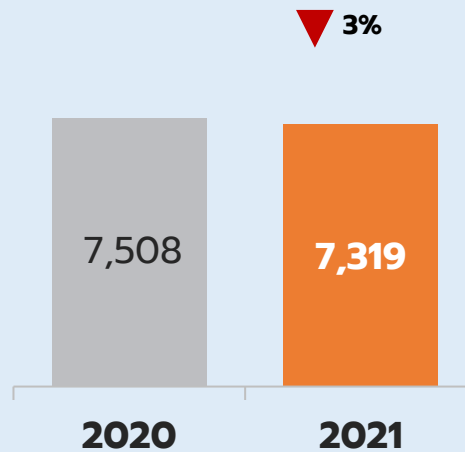
Higher power and steam sales volume led to higher revenue



Higher electricity demand during Covid-19

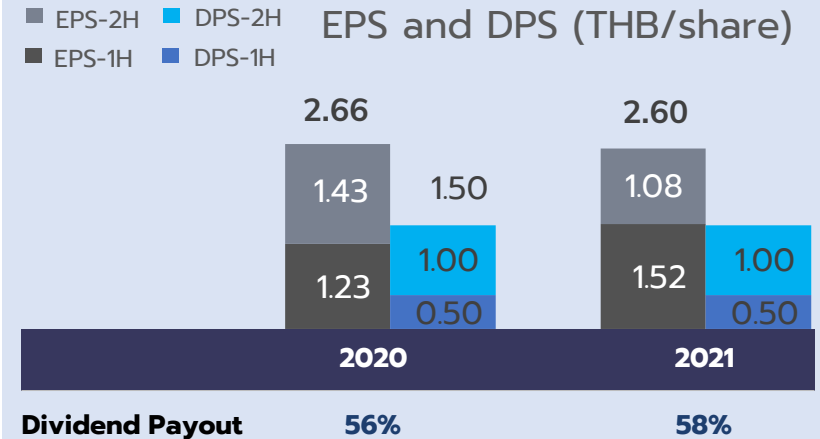
- Power + 2%, IUs + 13%
- Steam + 9%

Slightly decrease in NI



Slightly decrease in Net Income
from higher fuel prices and
unplanned outage even through
strong performance of Affiliate
and better synergy outcome

*GPSC announces 2021 dividend payment,
at the rate of **THB 1.50 per share***



Strong Credit Profile

AA+ **TRIS RATING** + 2 notches
A Strategic Partner of SGP Global


BBB- **Fitch Ratings** stable
A+(tha)

GPSC rating reflects the confident of our future growth and business direction.

- ✓ Stable Cash Flow Generation
- ✓ Strong linkages with the PTT
- ✓ Strategic role in PTT's group as GPSC play all in PTT's new future energy vision

✓ S1: Strengthen and Expand the Core

Recurring Synergy Value



As of **2021**, the recognized synergy value was **1,633 MB** (after-tax) from O&M, procurement and corporate functions.

2022 Target
> 1,600 MB per year



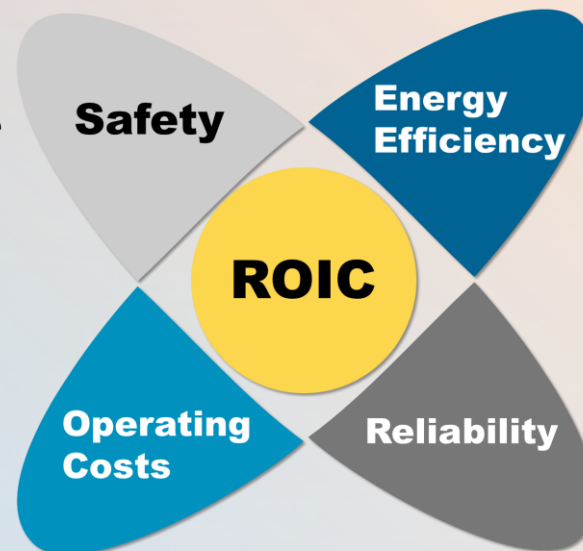
GLOW SPP has signed construction contract with JEL and TJEL (SCOD 2024)

GLOW SPP 2 uses advanced technology to *increase the project efficiency, the stability* of the network, serving energy demand of EGAT and IUs as well as *being environmentally friendly*.

Operation Excellence Management System

To drive “Operational Excellence” across all assets of GPSC

- Total Recordable Injury Rate (TRIR)



- Energy Intensity Index

- Lower operating cost/unit
- Higher operating margin

- Plant integrity review & management
- Replace critical equipment

2022 Target



Strengthening Zero TRIR & Zero Unplanned Shutdown program

Best in Class Target



To be Operational Best in Class by 2025



S2: Scale-Up Green Energy



Solar Projects in Taiwan

Sheng Yang Project

GPSC Holds | **45.00%** of shares



Installed Capacity | **55.8 MW**

Increased **25.11 MW** equity capacity to our portfolio

Revenue recognition since May 28, 2021



Offshore Wind in Taiwan

Changfang Project and Xidao Project (CFXD)



GPSC Holds | **25.00%** of shares



Installed Capacity | **595 MW**

Increased **149 MW** equity capacity to our portfolio

✓ **2022 Target** : The transfer of shares will be completed before the end of the 2nd quarter of 2022.



Solar Power Platform in India

Avaada Energy Private Limited (AEPL)



GPSC Holds | **41.60%*** of shares



As of Dec 2021, AEPL has a total committed capacity of 4,608 MW

Increased **1,917 MW** equity capacity to our portfolio

AEPL aims to expand its capacity up to 11,000 MW by 2025

2022 GPSC action plan for AEPL:

- ✓ Secure funding: Barclays provided loans for solar energy CAPEX plan of AEPL with GPSC's support in Feb-2022.
- ✓ Using AEPL investment platform to execute projects with target COD > 3,000 MW
- ✓ Dispatching staffs as the secondment to build expertise & keep monitoring performance to GPSC and to set up Liaison office of GRSC in 2H-2022

* On January 18, 2022, GPSC has raised the equity injection amounting USD 25 million in AEPL and shareholding proportion was increased to 42.93%



S3: S-Curve and Batteries

SemiSolid Energy Storage Unit Production Plant



"G-Cell" Energy Storage Unit Production Plant with a total initial capacity of 30 MWh per year, the first in Southeast Asia that employs the SemiSolid technology

"VW acquires 25% stake in 24M technologies" shows that 24M SemiSolid manufacturing platform offers the potential to substantially reduce capital and operating costs to meet rising demand for EVs.

Investment in China



Investment in **Anhui Axxiva New Energy Technology Co., Ltd.**

- Holding 11.1% equity interest for a battery manufacturing plant with a 1 GWh p.a. production capacity
- Serving the electric vehicle market in China

✓ **Target to start of regular production in Q1/2023**

GPSC & Chao Phraya Express Boat

Sign an MOU to Develop Thailand's first Prototype Boat Battery Pack



The establishment of NUOVO PLUS

NUOVO



GPSC & PTT have formed a joint venture in the battery supply chain to support electric vehicle (EV) production.

✓ **2022 Target : Expect to study the possibility of and prepare for the battery business in 1H/2022**



S3: S-Curve and Batteries

GPSC & PTT have formed a joint venture in the battery supply chain to support electric vehicle (EV) production.



On February 28, 2022, GPSC signed the agreement with NUOVO PLUS Company Limited to transfer assets involving production, education, research, and battery business development to NUOVO PLUS.

The asset transfer, valued at THB 2,428 million due to complete by April 2022, aims to support the growth of EV vehicle industry and energy storage system with purpose to produce 5-10 GWh per year in 2030.

2021 in Review | 4S Corporate Strategy Progress

✓ S3: S- Curve and Batteries

GPSC
11.1%

Giga-scale Battery Cell Plant*



Pilot-scale Battery Cell Plant R&D Center*



GPSC

49%

ARUN+

51%

PTT indirect owned 100% subsidiary company

NUOVO+

100%

Project
Flash

GPSC
Singapore

11.1%

AXXIVA

Project
VISESS

Battery Flagship



➤ Battery Value Chain for EV and Energy Storage System industry focus



➤ From battery cell to battery pack manufacturing scale-up and commercialization



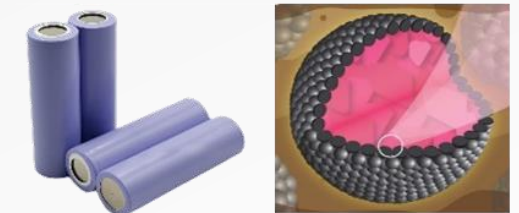
➤ Enhance competitiveness in battery business and EV value chain



➤ Strength combination of technical expertise and finance from GPSC and & PTT

Core-shell Cathode Battery Material Technology

ptt
VISESS





1. Digitalization:

Grid modernization and smart energy management

2. Decarbonization

RE50@50 + ESS, CCUS and Hydrogen

3. Decentralization

Smart microgrid & infrastructure development

4. De-regulation

Third Party Access, new price structure

5. Electrification

EV30@30 and Charging station

Thailand Smart Mobility 30@30 Plan 2019 – 2030

By 2030, 30% (~750,000 units) of total production will be Zero-emission EV (ZEV).

From 2035, only ZEV will be allowed to register as new vehicle.

Government's Package to boost EV Consumption



THB MM
< 2

2022-2023

- Customs duty discount up to 40%

2022-2025

- Excise tax cut to 2% from 8%

Buyer

2022-2023

- Subsidy THB 70,000 for battery size under 30 kWh
- Subsidy THB 150,000 for battery size over 30 kWh

THB MM
2-7

2022-2025

- Customs duty discount up to 20% for battery over 30 kWh
- Excise tax cut to 2% from 8%

none



THB MM
< 2*

2022-2025

- Excise tax cut to 0%

2022-2025

- Subsidy THB 150,000 for battery size over 30 kWh



THB MM
< 0.15

none

2022-2025

- Subsidy THB 18,000

EV

- CKD (Completely Knocked Down) : Domestic manufacture with domestic or imported parts
- CBU (Completely Built Up)** : Imported finished car from abroad

* The package covers domestic manufactured truck (CKD) only

** Under the incentive conditions, applicants shall produce 1-car or 1.5-car in Thailand offset CBU imported by 2024 or 2025, respectively.

✓ S4: Shift to Customer-Centric Solutions

“EECi Project: Smart City for Innovation Development”



VISTEC
VIDYASIRIMEDHI
INSTITUTE OF SCIENCE AND TECHNOLOGY



Smart Energy Technology

Solar Rooftop = 1.39 MW
Solar Floating = 0.1 MW



ESS = 1.2 MWh



Block Chain System
Peer to Peer Energy Trading



Energy Management Service



ZERO Import Building



ZERO Solar Shading



The Solar Orchestra Project

Energy management services to provide all-round energy support

All-in-one Package to Support Solar Roof Manufacturing and Carbon Reduction

SOLAR ORCHESTRA
100%
Project Finance

GPSC NEO EXIM C&I

Sources of funding
Installation technology
Carbon credit trading



✓ 2022 Target : The project's solar capacity including the Solar Orchestra Project is expected to reach beyond 30MW



To Grasp Opportunities in Wheeling Charges Program

Partners up with electrify to develop and implement energy trading platform

- ✓ Closely monitoring legal and regulatory framework for bilateral trade
- ✓ Studying Technical standards codes or guidelines in the areas of Barriers Planning and Design, System Operation and Maintenance



GPSC continually develops Smart Energy Solutions to support Thailand's 4D1E policy

Sustainability Strategy 2022-2025 Key Initiatives

- Green financing for clean portfolio growth
- Climate emergency/Climate resiliency

- Reforestation strategy
- No Net Biodiversity Loss program
- Water Security Program

- Social values delivery through CSR priorities,
- SDG contributions and community engagement

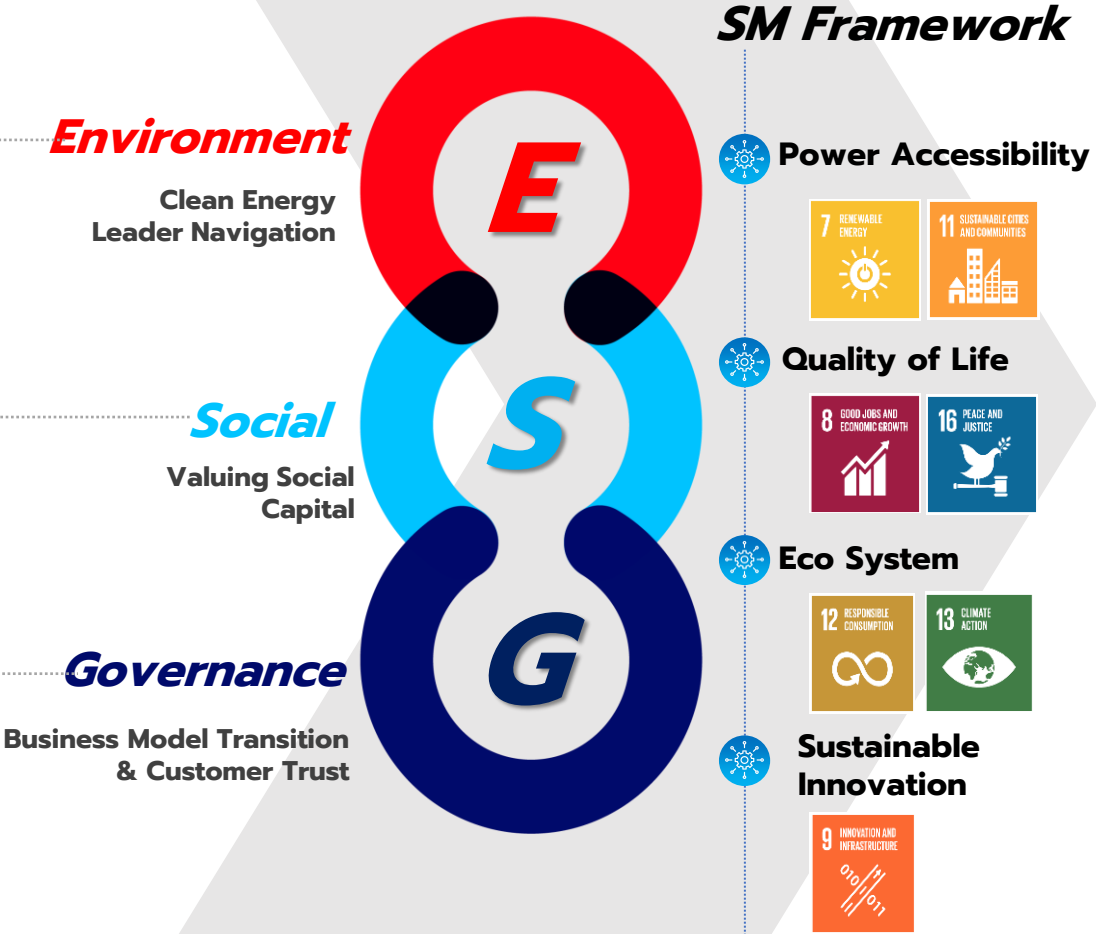
- Group-wide intensive human rights due-diligence
- People Centric Solutions

- Operational Excellence
- Reinforcing Customer Engagement Program

- Mobilizing new energy market
- Strengthening innovation

- Enhancing sustainable supply chain
- Securing Information and IT infrastructure
- Maintaining good corporate governance

Long Term Values Creation Innovative & Sustainable Energy



Value Creation
Key Deliverables

-  Delivering low carbon energy to customers
-  Creating shared values to all stakeholders
-  Doubling growth through business diversification, S-curve products & customer centric solutions

NET ZERO TARGET

Carbon intensity reduction

10% by 2025

35% by 2030

ESG | Sustainability Initiatives to Achieve SDGs and Objectives

Power Accessibility



Enhance stability of access
Smart Energy Management

VISTEC
VIDYASIRIREDHI
THE 1ST IN SUSTAINABLE ENERGY



EECI

- Clean Energy Generation
- Flexibility Distributed Generation
- No Clean Energy Shedding

SM Framework



Quality of Life



Empower better living

Light for Better Life Project

- Solar Rooftop System to schools in Rayong
- Solar Rooftop System to Koh Sichang Hospital
- Solar Rooftop System to Thanyarak Hospital in Mae Hong Son



Sustainable Innovation



Sustainable Innovation for the corporation
GPSC Young Social Innovator



PTT Group SMART Farming by GPSC (Restart Thailand)

- Basic training in agriculture and technology
- Smart farming technology installation and business plan creation

ECO system



Eco-system of driving clean energy

Sourcing Sustainable Materials

- Sustainable Procurement and Supplier Management
- GPSC Group sustainable way in operations

Operating Low Carbon Utilities & Green Products

Products

- Low carbon products
- Renewable energy
- Smart grids
- Stationary/ Mobility battery ESS
- EPC Contractor for Solar Rooftop, Solar Floating installation and Energy Management such as "Solar Orchestra"



2021 in Review | Awards of Achievements

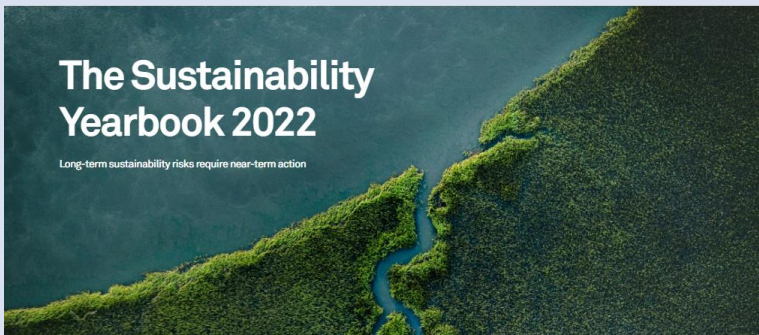


Rising Star Sustainability Awards

By the Stock Exchange of Thailand (SET) and Money & Banking magazine



CGR rating of “Excellent” (5 stars) for the 6th consecutive year
by the Thai Institute of Directors (IOD)



GPSC has earned the Bronze Class distinction for Electric Utilities industry in the S&P Global Sustainability Yearbook 2022*, marking the company's success in the Dow Jones Sustainability Indices (DJSI) assessment for the second year running, solidifying its position as a world-class leader in sustainable energy innovation.

*The Sustainability Yearbook 2022 is based on 2021 Corporate Sustainability Assessment.

Core Business Growth



**GPSC total electricity sale growth +7% YoY
and Steam +2% YoY**

Electricity and steam consumption will see continuing growth as demand expected to rise in line with gradual economic recovery during the COVID-19 pandemic.

2022 Additional MW Growth

> 500 MW



- Growth opportunities, especially for renewable energy and smart-grid development from PDP 2022
- Combining expertise and financial capabilities through Nuovo Plus and creating joint investment opportunities in battery business and EV value chain
- AEPL investment platform (Implementation phase) and beyond
- Opportunities in collaboration in focus countries

1. 2021 in Review & Going Forward

2. Financial Performance

3. Update of Projects & Outlook



FY2021 | Highlight

Events & Highlights



Higher demand from industrial customers due to limited COVID-19 impact



Better synergy outcome mainly from operation and maintenance – power and steam network integration, commercial activities, procurement and maintenance management.



Affiliate strong performance mainly from XPCL



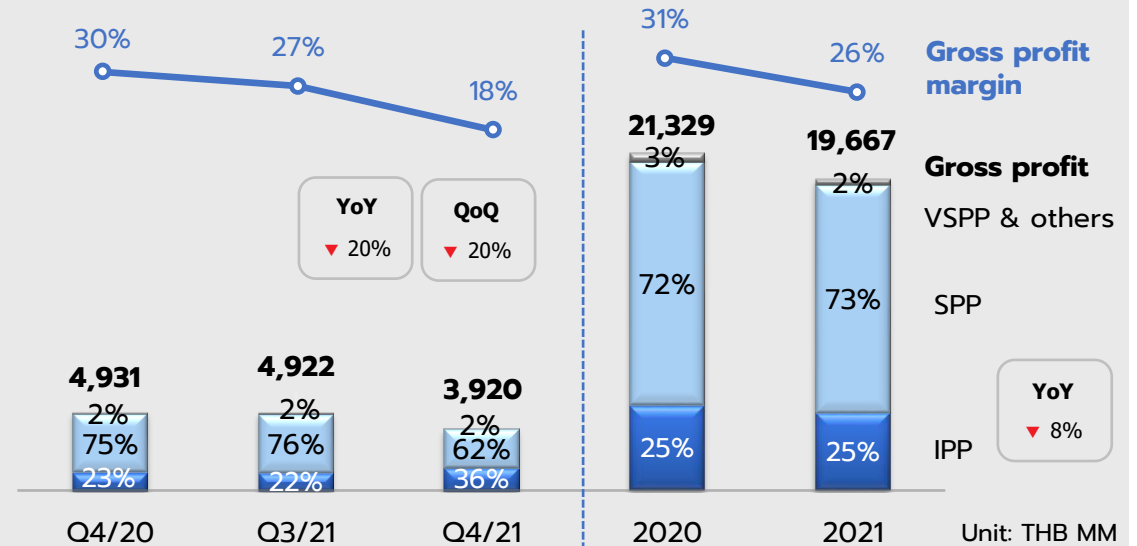
Higher fuel cost from upward trend of natural gas & coal price

Unplanned outages

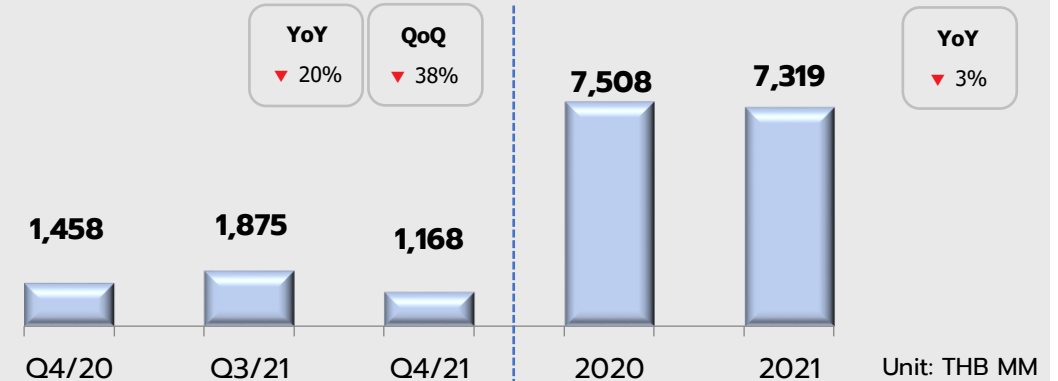
- **GHECO-One's unplanned outage 28 days (30 Aug – 27 Sep 2021)**
- Loss mitigation by selling coal to SPP3, which has been realized the benefit in Q4/2021
- **GLOW Energy Phase 5's unplanned outage since 14 Aug 2021**
- **GLOW Energy Phase 5's unplanned outage during 4 Jun – 18 Oct 2020 and 6 Dec 2020 – 1 Apr 2021**

FY2021 & Q4/2021 Performance

Gross profit & Gross profit margin by power plant type

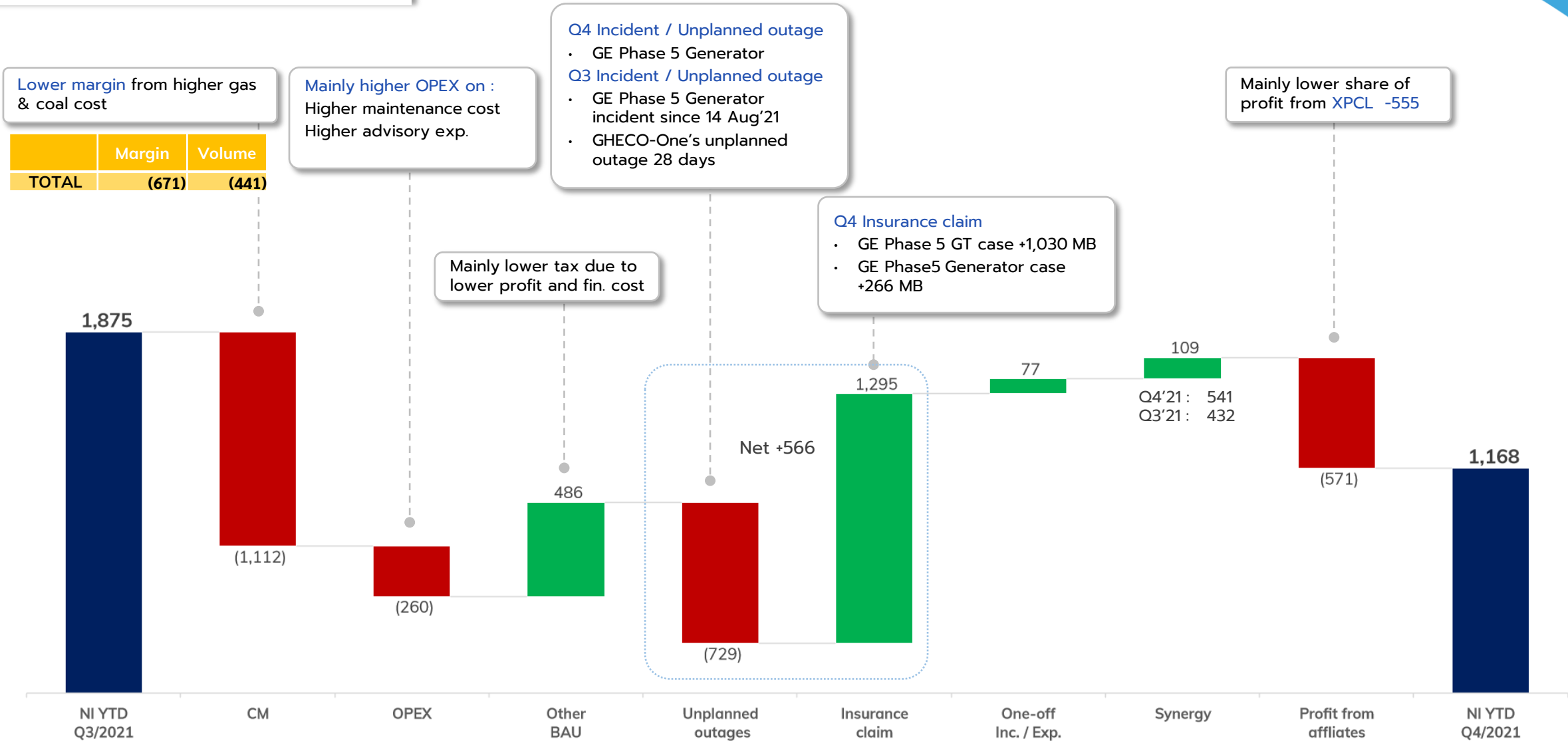


Net Income



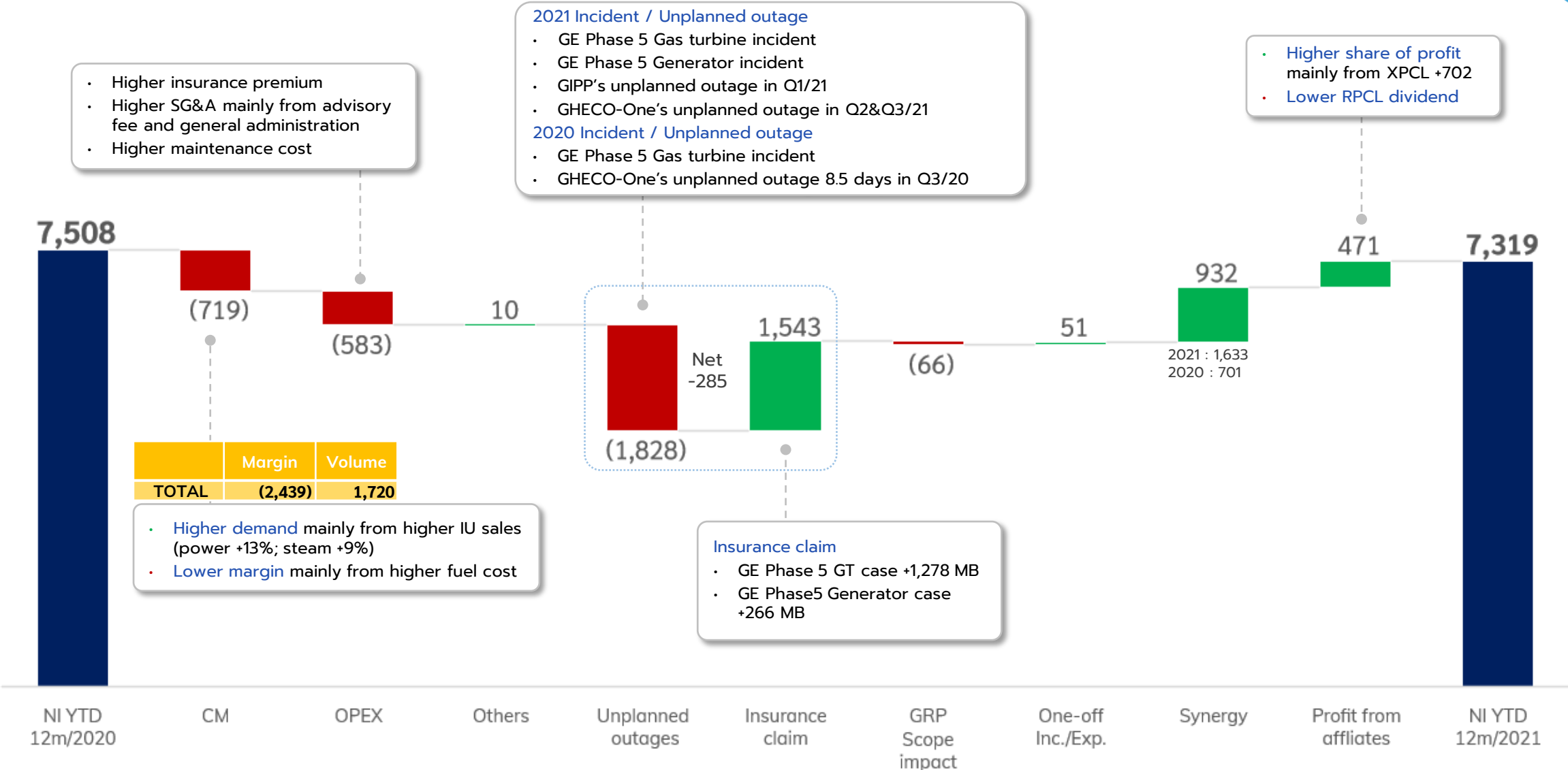
Q4/2021 vs Q3/2021 (QoQ) Net Profit

Net Profit **-706 MTHB (-38%)**



FY2021 vs FY2020 (YoY) Net Profit

Net Profit **-189 MTHB (-3%)**



1. 2021 in Review & Going Forward

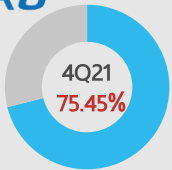
2. Financial Performance

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Energy Recovery Unit (ERU)

SCOD | 2023*



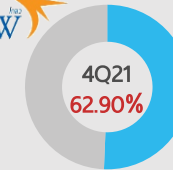
Electricity (MW)	250
Steam (ton/hr.)	175

Project updates:

Engineering design work almost done. Procurement of steam turbine and electricity generator 1 and 2 are done, while the procurement of boiler 1, 2, and 3 including condenser of SNOX system are in progress. The construction of foundation and equipment work for Boilers, Pitch Solidification, Electrostatic precipitator, and Cooling Tower are in progress. Overall, the project has reached 75.45%.

SPP Replacement - Stage 1 | Glow Energy Phase 2

SCOD | Q4/2022



Electricity (MW)	192
Steam (ton/hr.)	300

Project updates:

The engineering design work, procurement and construction progress has reached 62.9% and the project is on the process of installing machine, notably HRSG, Piperack, Gas Metering Station and foundation work for Gas Turbine which are on schedule

AEPL : Solar Power Platform in India



Contracted Capacity
4,608 MW

GPSC Hold
41.6% * of shares

Project	MW	COD
Operating (23 projects)	2,205	As of Q4/2021
Under construction (13 projects)	2,403	2022 - 2023

* On January 18, 2022, GPSC has raised the equity injection amounting USD 25 million in AEPL and shareholding proportion was increased to 42.93%

CFXD : Offshore Wind Power Plant in Taiwan

SCOD | Q1/2024



Contracted Capacity
595 MW

GPSC Hold
25% of shares

Project updates:

The project is under construction and expected to COD in 2024

Operating outlook

✓ Glow Energy Phase 5 resume normal operation

- GLOW Energy Phase 5 Power Plant is expected to resume normal operation in March 2022
- Insurance claim is ongoing

✓ Improving Operation Excellence Management System

- Improve reliability & efficiency to maintain industrial customers' demand

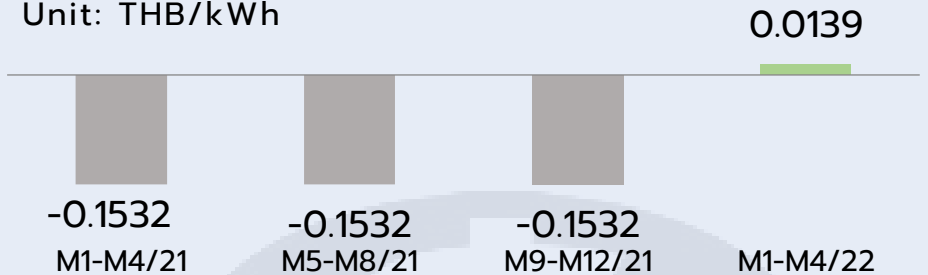
✓ The opportunities with new PDP & national EV policy

- There are room for GPSC to support in closing the PDP gap and EV demand during energy transition period



✓ Ft recovery

Unit: THB/kWh



— Natural gas price

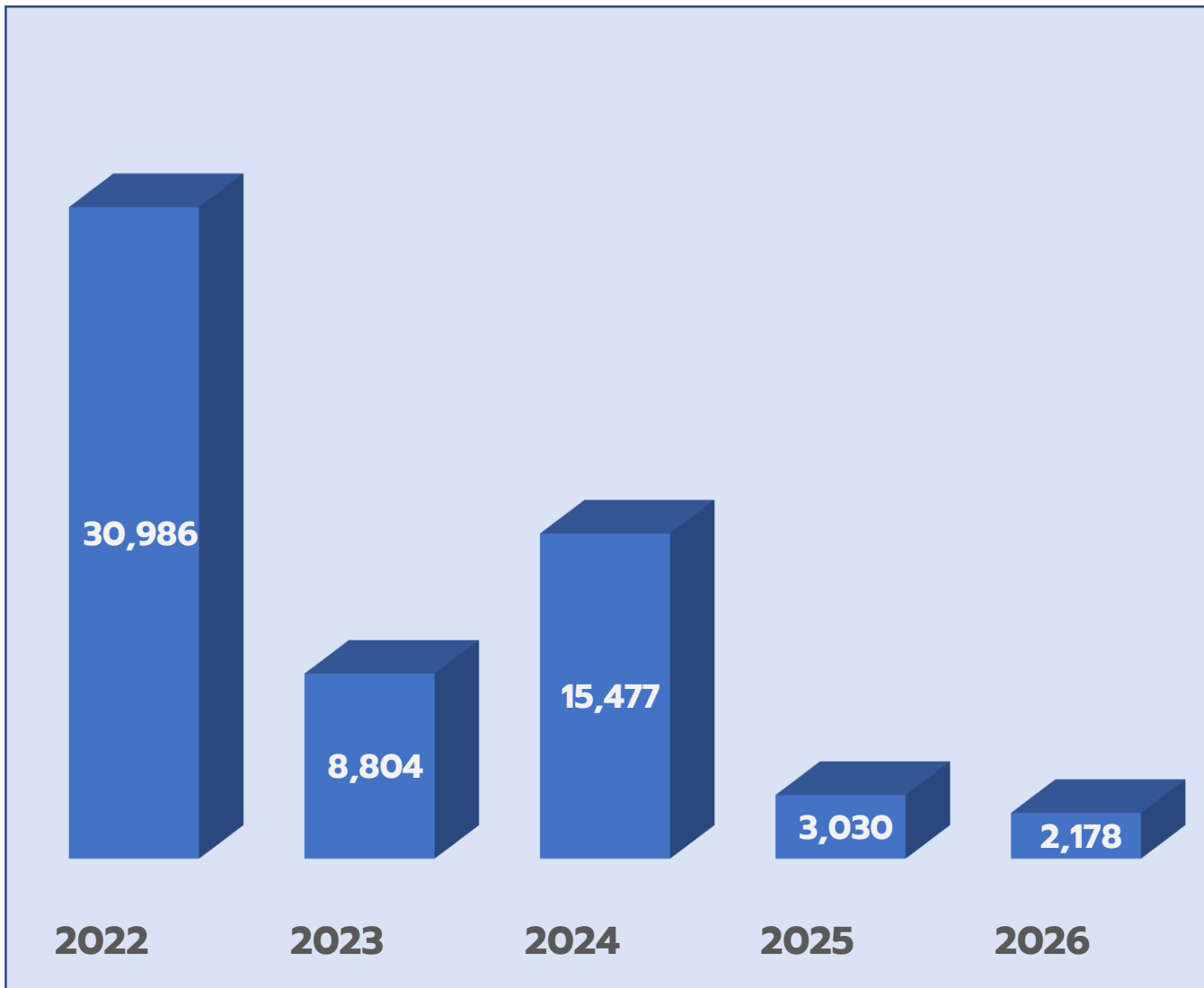
- Natural gas price is forecasted to remain high in 1H/2022 in the same direction with crude oil with lag time of 6 – 12 months

— Coal price

- Coal price is expected to peak in 1H/2022 and to decline in 2H/2022

GPSC | CAPEX in the next 5 years

Committed CAPEX in the next 5 years (2022-2026) ~ 60,000 MB



GPSC's Committed CAPEX in the next 5 years is aligned with the 4S Strategy.

- CAPEX in 2022 mainly from core business and offshore wind project in Taiwan
- GPSC manages its core business with OpEx and Synergy programs, while also balances new investments for well-diversified portfolio
- A huge investment has been put into AEPL in 2021
- Battery and new S-Curve businesses are non-capital-intensive in the initial stage

Q&A SESSION



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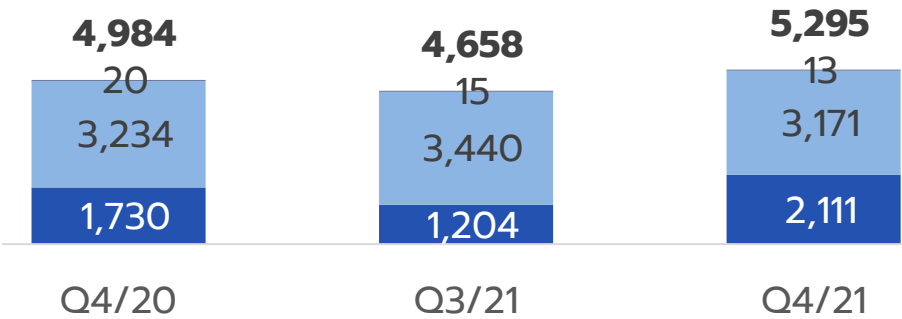
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Appendix

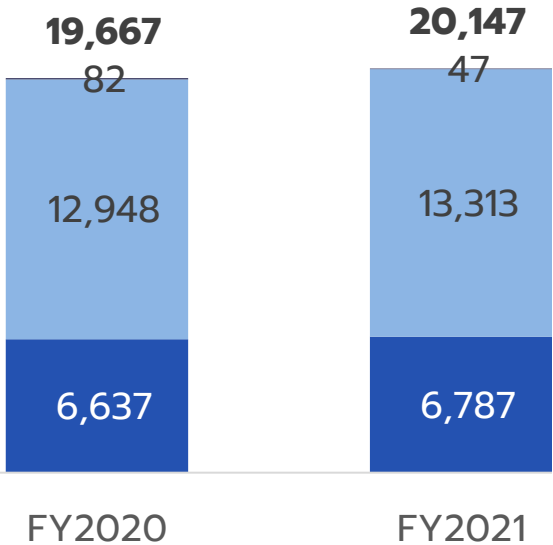


IPP SPP VSPP & Others

Key Macro Factors (as of Dec 2021)

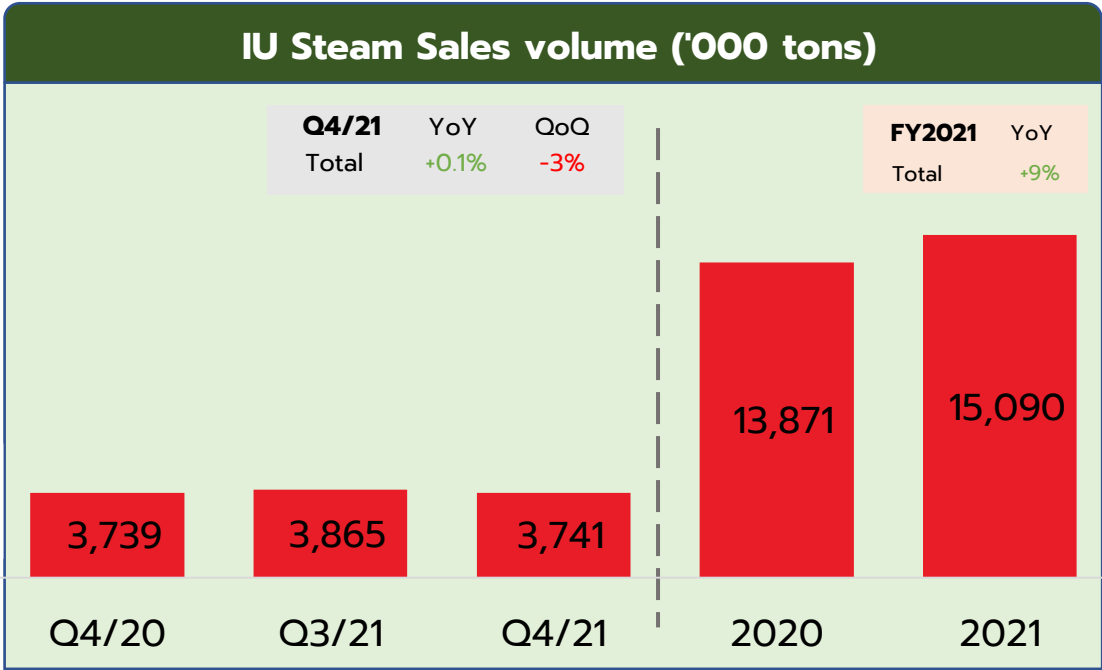
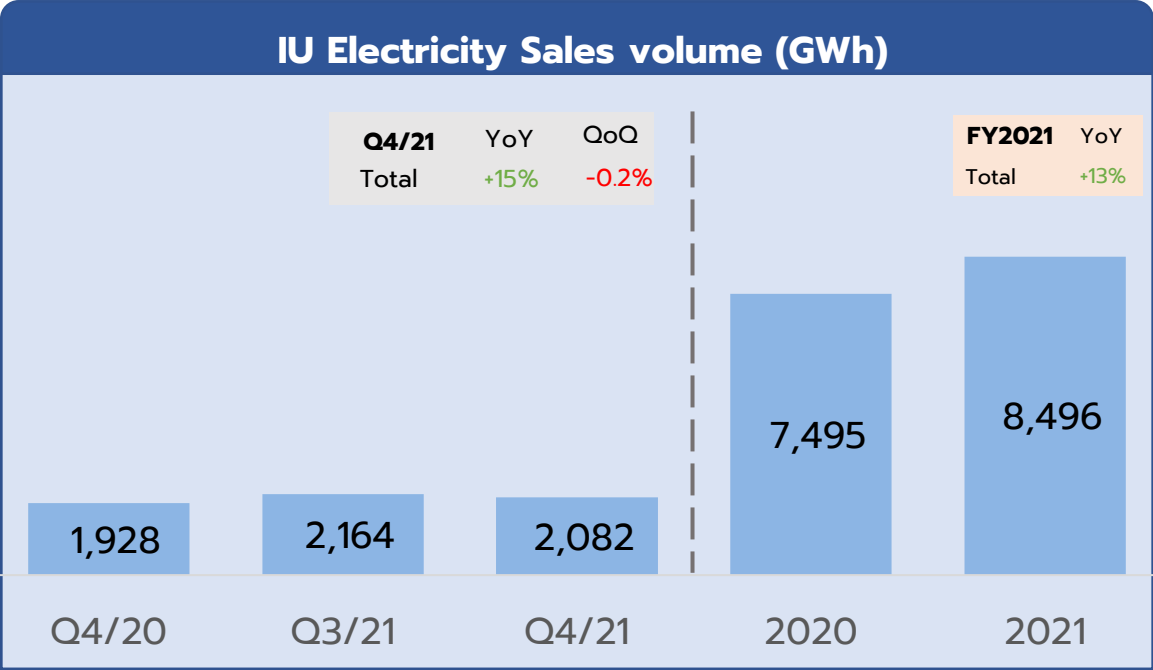


Electricity Sales volume (GWh)



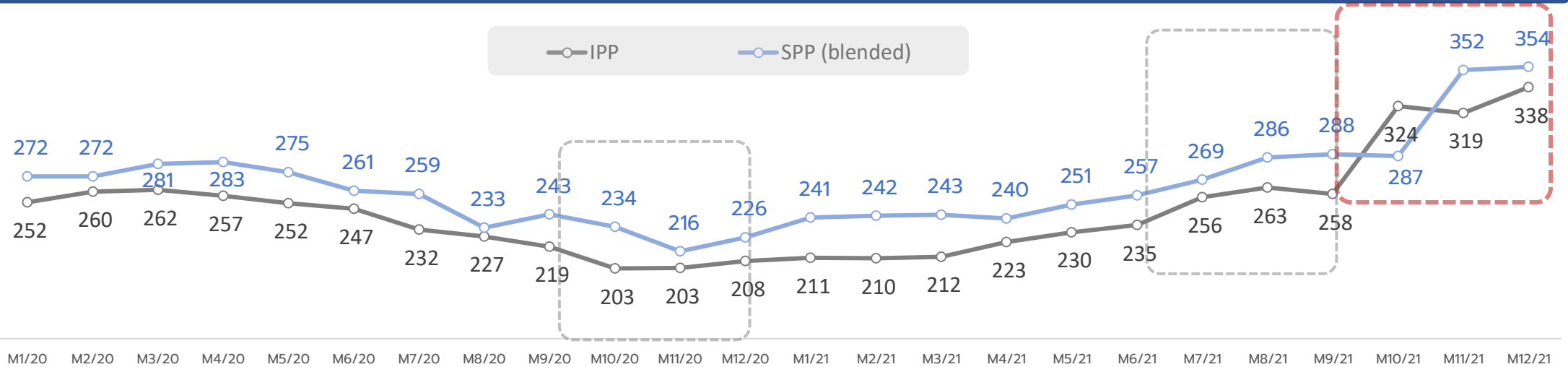
Q4/21	YoY	QoQ
Total	+6%	+14%
VSPP & Others	-33%	-8%
SPP	-2%	-8%
IPP	+22%	+75%

FY2021	YoY
Total	+2%
VSPP & Others	-43%
SPP	+3%
IPP	+2%

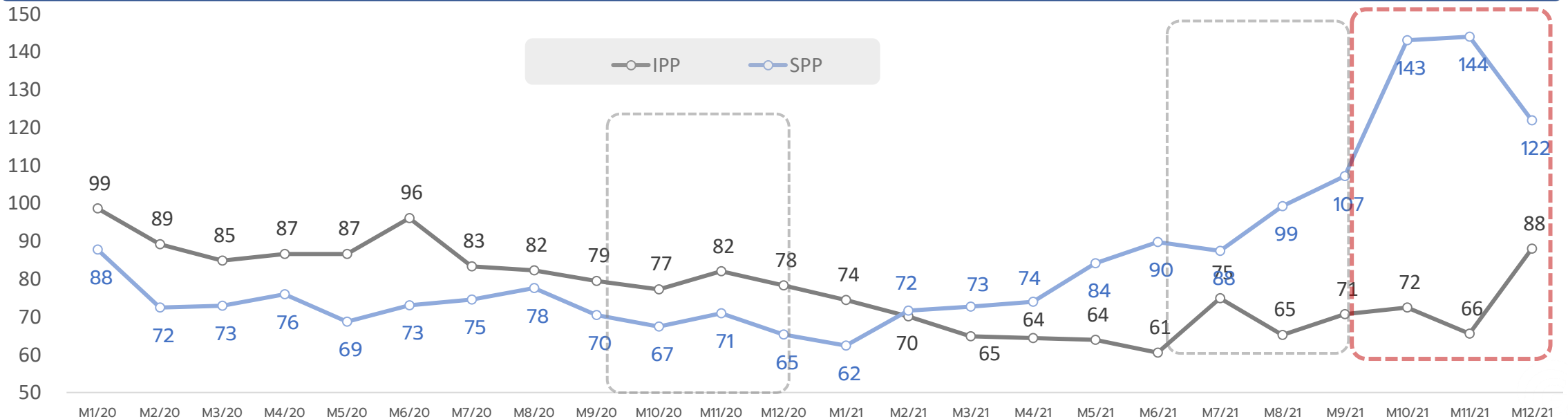


GPSC | Macro Factors (as of Dec 2021)

Natural Gas Cost 2020 – Q4'2021 (THB/MMBTU)



Coal Cost 2020 – Q4'2021 (USD/Ton JPU)

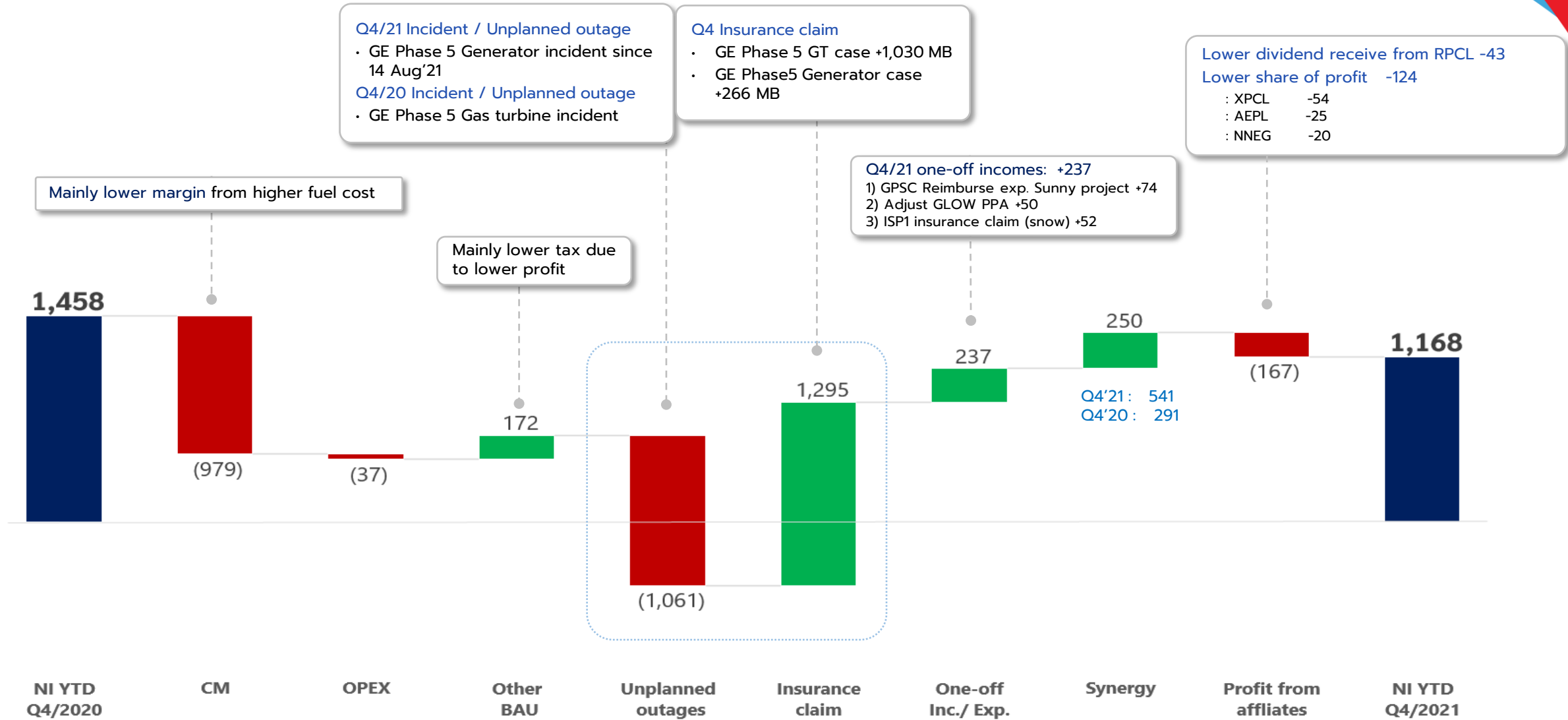


GPSC | Operating Results

Overall operating results of the Company and its subsidiaries (unit: THB million)	Q4/20	Q3/21	Q4/21	change +/-		2020	2021	change +/-
				YoY	QoQ			YoY
Operating revenue	16,532	17,997	22,019	33%	22%	69,578	74,873	8%
Cost of sales (excluding depreciation and amortization)	(11,601)	(13,075)	(18,098)	56%	38%	(48,249)	(55,206)	14%
Gross profit	4,931	4,922	3,920	(20%)	(20%)	21,329	19,667	(8%)
Selling and administrative expenses	(528)	(431)	(582)	10%	35%	(1,790)	(1,963)	10%
Other operating income	5	5	5	2%	0%	20	20	0%
EBITDA	4,409	4,496	3,343	(24%)	(26%)	19,559	17,724	(9%)
Depreciation and amortization	(2,046)	(2,205)	(2,200)	8%	(0.2%)	(8,287)	(8,630)	4%
EBIT	2,362	2,291	1,143	(52%)	(50%)	11,272	9,093	(19%)
Finance costs	(965)	(998)	(901)	(7%)	(10%)	(4,024)	(3,860)	(4%)
Other non-operating income and expenses	133	262	1,063	699%	306%	915	2,100	130%
Dividend received and shares of profit of associates and joint ventures	367	772	201	(45%)	(74%)	1,320	1,792	36%
Income tax expenses	(141)	(295)	(97)	(31%)	(67%)	(992)	(1,192)	20%
Profit before FX and extraordinary items	1,757	2,033	1,409	(20%)	(31%)	8,491	7,934	(7%)
Net foreign exchange gain (loss)	12	(95)	68	466%	(172%)	(1)	(93)	9,221%
Net profit	1,769	1,938	1,477	(17%)	(24%)	8,490	7,841	(8%)
Non-controlling interests	(311)	(63)	(309)	(1%)	391%	(982)	(522)	(47%)
Net profit for the Company	1,458	1,875	1,168	(20%)	(38%)	7,508	7,319	(3%)
Adjusted Net Income¹	1,813	2,256	1,571	(13%)	(30%)	8,962	8,907	(1%)
Gross profit margin (%)	30%	27%	18%	(12%)	(10%)	31%	26%	(5%)
Net profit margin (%)	9%	10%	5%	(4%)	(5%)	11%	10%	(1%)
Adjusted Net Income margin (%)	11%	13%	7%	(4%)	(5%)	13%	12%	(1%)

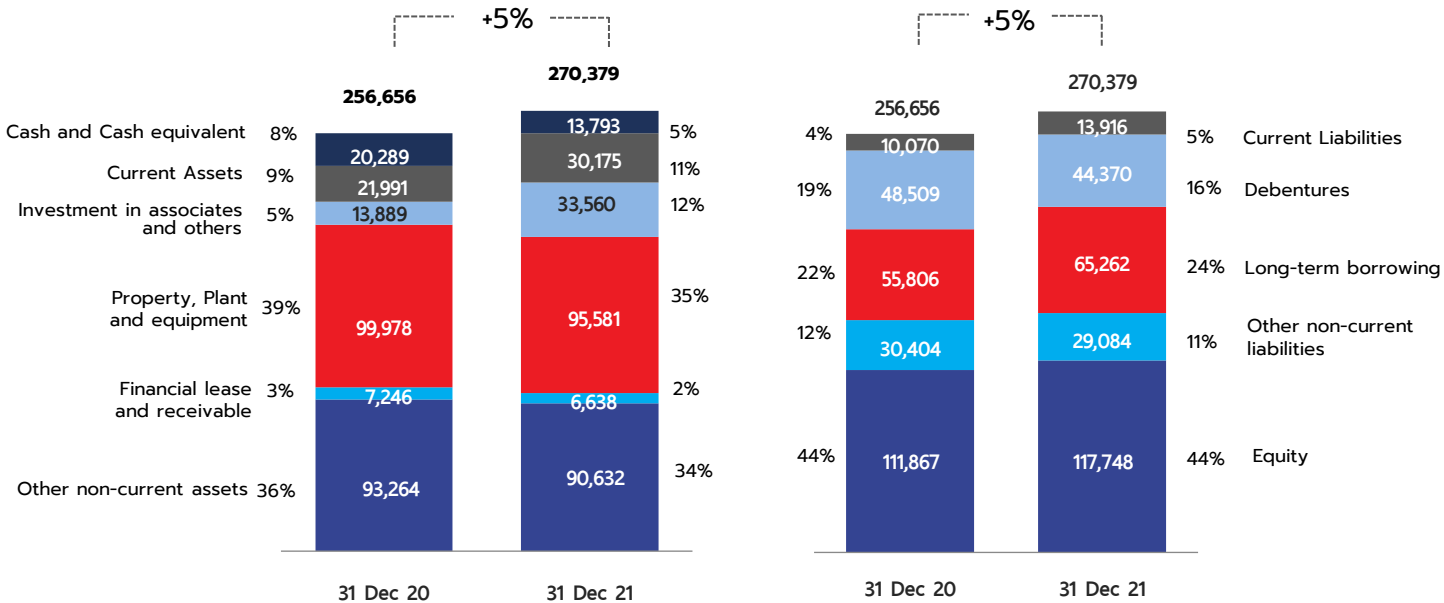
Q4/2021 vs Q4/2021 (YoY) Net Profit

Net Profit **-290 MB (-20%)**



GPSC | FY2021 Financial Position

Summary of Financial Position



Total asset +13,723 MTHB

- Cash and cash equivalents -6,496
- Investment in associates and others, mainly AEPL, GRP and Axxiva +19,672
- PPE -4,397
- Other assets -4,944

Total Liabilities +7,843 MTHB

- Long-term loan and debenture +5,317
- Current liabilities +3,846
- Other liabilities: -1,320

Total Equity +5,880 MTHB

- NI for the period +7,840
- Dividend payment -4,534
- Other comprehensive income +2,574

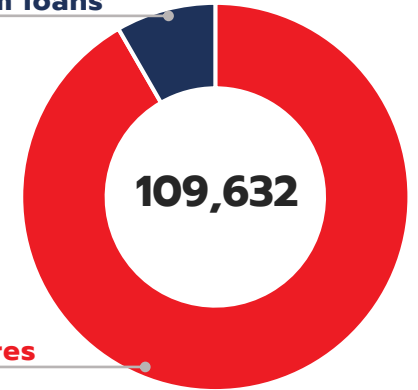
Total Interest-Bearing Debt (THB million)

Short-term loans
and current portion of long-term loans

THB 9,121 million | 8%

Non-current portion of
long-term loans and debentures

THB 100,511 million | 92%



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Summary of Thailand Power Development Plan: PDP 2018 Rev.1 VS New PDP

10-Year Plan: 2021-2030 New Power Generation

Unit: MW

Fossil fuels		PDP2018 Rev.1	New PDP	Change
	Gas-Fired Power Plant	5,550	4,850	-700
	Coal-Fired Power Plant	600	600	0
Total		6,150	5,450	-700
Renewable energy				
	Import Hydro	1,400	2,766	+1,366
	Solar Power	5,194	4,455	-739
	Wind Power	270	1,500	+1,230
	Biomass	1,120	485	-635
	Biogas	783	335	-448
	Waste	400	600	+200
	Small Hydro	26	52	+26
Total		9,193	10,193	+1,000
Total		15,343	15,643	+300

To reduce the proportion of electricity purchases from fossil fuels during the next 10 years (2021-2030)

To reduce environmental and social impacts by lessening carbon dioxide intensity of power generation.

- Renewable energy will be encouraged according to the AEDP.
- Investments in transmission and distribution system will accommodate renewable energy and smart-grid development.

Next Step: Under the new PDP2022, Renewable target for 2036 to be raised from 30% to 50%

There are room for GPSC to support in closing the gap between PDP2018 Rev.1 and New PDP

S-curve & Batteries | G-Cell Target Application



E-Mobility
Developing battery ecosystem and continuing adding value to Thailand Industrial

Energy Storage
SemiSolid Batteries enable efficient use of power from renewable energy



GPSC | Power Plant Portfolio (1/2)

Name	Type	Shareholding (%)	Total capacity (MW)	Equity Power capacity (MW)	Equity Operating Power capacity (MW)	Steam (T/H)	Industrial water (Cu.m/H)	COD	Tenor
IPP									
Sriracha	IPP	GPSC (100%)	700	700	700	-	80	2000	25
Glow IPP	IPP	GLOW (95%)	713	677	677	-	-	2003	25
Huay Ho	IPP	GLOW (67%)	152	102	102	-	-	1999	30
GHECO-One	IPP	GLOW (65%)	660	429	429	-	-	2012	25
XPCL	IPP	GPSC (25%)	1285	321	321	-	-	2019	29
RPCL	IPP	GPSC (15%)	1400	210	210	-	-	2008	25
Total IPP			4,910	2,439	2,439	-	80		
SPP									
CUP-1	SPP	GPSC (100%)	226	226	226	890	720	2006	10-15
CUP-2	SPP	GPSC (100%)	113	113	113	170	510	2008	15
CUP-3	SPP	GPSC (100%)	-	-	-	280	770	2009	15
Rayong Expansion (CUP-3)	SPP	GPSC (100%)	15	15	15	-	-	2019	n/a
CUP-4	SPP	GPSC (100%)	49	49	49	140	-	2019	Long-term
Glow Energy Phase 1	SPP	GLOW (100%)	-	-	-	250	1,340	1994	-
Glow Energy Phase 2	SPP	GLOW (100%)	281	281	281	300	1,180	1996	(extension)
Glow Energy Phase 4	SPP	GLOW (100%)	77	77	77	137	2,050	2005	25
Glow Energy Phase 5	SPP	GLOW (100%)	328	328	328	160	-	2011	10-20
Glow SPP 2/ GLOW SPP 3	SPP	GLOW (100%)	513	513	513	190	150	1999	25
Glow SPP 11 Phase 1	SPP	GLOW (100%)	120	120	120	-	360	2000	25
Glow SPP 11 Phase 3	SPP	GLOW (100%)	42	42	42	-	-	2006	10-20
Glow SPP 11 Phase 2	SPP	GLOW (100%)	110	110	110	-	212	2012	25
Glow Energy CFB 3	SPP	GLOW (100%)	85	85	85	79	-	2010	10-20
IRPC-CP Phase 1	SPP	GPSC (51%)	45	23	23	86.7	-	2015	25-27
IRPC-CP Phase 2	SPP	GPSC (51%)	195	99.4	99.4	66.3	-	2017	25
NNEG	SPP	GPSC (30%)	125	38	38	9	-	2016	25
NNEG Expansion	SPP	GPSC (30%)	60	18	18	3	-	2020	21
BIC-1	SPP	GPSC (25%)	117	29.25	29.25	5	-	2013	25
BIC-2	SPP	GPSC (25%)	117	29.25	29.25	5	-	2017	25
Total SPP			2,618	2,196	2,196	2,771	7,292		

GPSC | Power Plant Portfolio (2/2)

Name	Type	Shareholding (%)	Total capacity (MW)	Equity Power capacity (MW)	Equity Operating Power capacity (MW)	Steam (T/H)	Industrial water (Cu.m/H)	COD	Tenor
VSPP and others									
Rayong WTE	VSPP	GPSC (100%)	9.8	9.8	9.8	-	-	2021	18
Glow Energy Solar Plant	VSPP	GLOW (100%)	1.55	1.55	1.55	-	-	2012	25
CHPP	VSPP	GPSC (100%)	5	5	5	-	-	2008	30
CHPP (Solar)	VSPP	GPSC (100%)	5	5	5	-	-	2016	25
ISP1	Solar	GPSC (99%)	20.8	20.59	20.59	-	-	2017	20
GRP (NPS, WXA, PPS)	VSPP	GPSC (50%)	39.5	19.75	19.75	-	-	2014-15	25
GRP1 (Sheng Yang)	Solar	GPSC (45%)	55.8	25.11	25.11	-	-	2016-21	20
AEPL (Solar Power Platform)	Solar	GPSC (41.6%)	4,608	1,917	917			2018-23	10-25
TSR (SSE1)	VSPP	GPSC (40%)	80	32	32	-	-	2013	25
NL1PC	Hydro	GPSC (40%)	65	26	26	-	-	2019	24
Chonburi Clean Energy (CCE)	VSPP	GLOW (33%)	8.6	2.87	2.87	-	-	2019	20
CFXD (Offshore wind farm) (Under closing process)	Wind	GPSC (25%)	595	149	-	-	-	2022-24	20
Private PPA	Solar	GPSC Gr. (100%)	23.40	23.40	2.99			2018-22	Long-term
Total VSPP and others			5,518	2,237	1,068	-	-		
ERU									
ERU (under construction)	Cogen	GPSC (100%)	250	250	-	175	-	2023	25
Total ERU			250	250	-	175	-		
Total capacity			13,296	7,122	5,703	2,946	7,372		

Note: - Total committed equity capacity as of December 31, 2021.
- Equity capacity includes 100% stake in GLOW, CFXD, Private PPA and ERU
- On January 18, 2022, GPSC has raised the equity injection amounting USD 25 million in AEPL and shareholding proportion was increased to 42.93%

2022 Maintenance Schedule | Sriracha and Rayong Plants

			2022											
Description		Duration	Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CUP-1	GTG-14	22 Days	10/1	MI	31/1									
	GTG-11	14 Days		15/2	HGPI	28/2								
	AB11	13 Days		15/3	3Y	27/3								
	GTG-15	22 Days					7/6	1Y	28/6					
	GTG-16	22 Days						7/7	1Y	28/7				
CUP-2	AB21	13 Days					1/7	3Y	13/7					
CUP-3	STG31	15 Days							1/8	MI	15/8			
CUP-4	GTG-41	5 Days	6/2	RMI	10/2									
SRC	GT-11	9 Days										18/12	CI	26/12
	GT-12	9 Days										18/12	CI	26/12
RDF	BMH Machine	7 Days	10/1	1Y	16/1									
	BMH Machine	30 Days					1/6	1Y	30/6					

Notes: Rayong Site				Notes: Sriracha Site			
<u>GTG</u>				<u>HRSG</u>			
HGPI	Hot Gas Path Inspection for Gas Turbine	14 days	1Y	One Year Inspection HRSG	11 days	CI	Combustion Inspection for Gas Turbine
MI	Major Inspection for Gas Turbine	22 days	3Y	Three Year Inspection HRSG	14 days	HGPI	Hot Gas Path Inspection for Gas Turbine
RMI	Remote Minor Inspection for Gas Turbine	5 days	<u>Others</u>			MO	Major Overhaul for Gas Turbine
<u>STG</u>			1Y	One Year Inspection NG Station Test	Online	RCIE	Rotor and Casting Inspection Evaluation
Minor	Minor Inspection for Steam Turbine	15 days	5Y	Five Year Inspection NG Station (NDT)	Online		
1MO	2 nd Major Overhaul for Steam Turbine	23 days	FO	Forced Outage	Depending on physical damage		
2MO	2 nd Major Overhaul for Steam Turbine	27 days					
<u>AB</u>							
1Y	One Year Inspection Aux. Boiler	11 days					
3Y	Three Year Inspection Aux. Boiler	13 days					

2022 Maintenance Schedule | IRPC-CP

Main Unit	Description	Duration	2021											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Block 1														
CTG 21	A	7 Days				7								
HRSG 21	YI	7 Days				7								
CTG 22	A	7 Days				7								
HRSG 22	YI	7 Days				7								
STG 23	YI	5 Days				5								
Block 2														
CTG 31	A	7 Days					7							
HRSG 31	YI	7 Days					7							
CTG 32	A	7 Days							7					
HRSG 32	YI	7 Days							7					
STG 33	YI	5 Days							5					
Aux. Boiler	YI	7 Days						7						

Notes:
YI Yearly Inspection Aux Boiler 7 days
A CTG/HRSR Inspection Level A 5/7 days

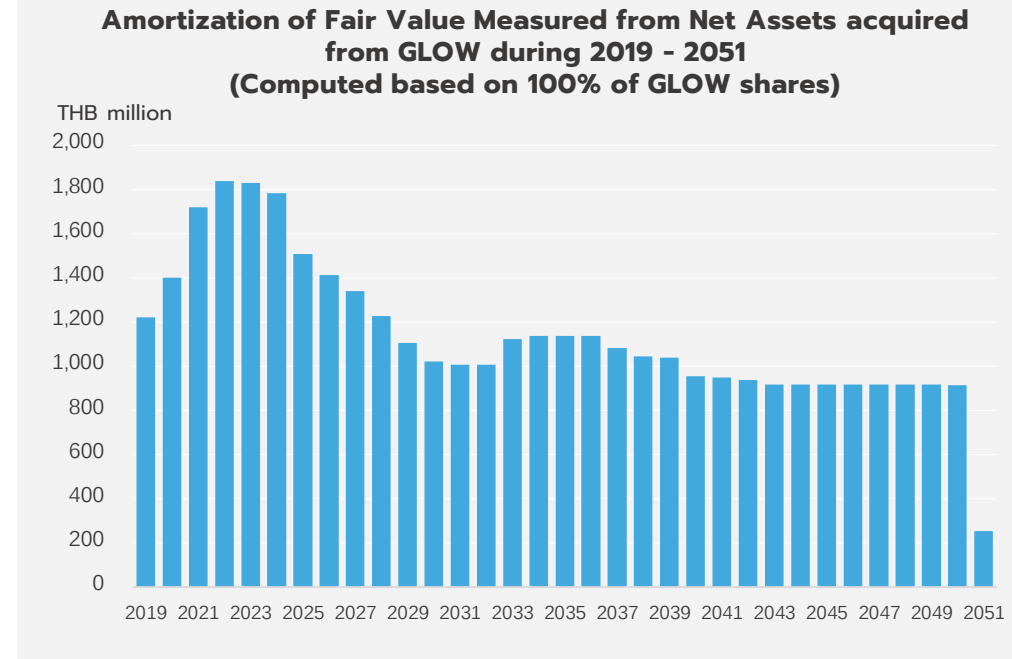
2022 Maintenance Schedule | GLOW's Main Units

Main Units	Description	Duration	2022											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GE phase 4	CTG_3A	7 Days	10/1	MI	16/1									
GSPP2	CTG_3A_3B	4 Days	10/1	MI	13/1									
GSPP2	CTG_1A	7 Days		12/3	MI	18/3								
GSPP2	CTG_1B	7 Days				6/5	MI	12/5						
GSPP2	CTG_2A	4 Days							25/8	MI	28/8			
GSPP2	CFB_2	4 Days							26/8	MI	29/8			
GSPP3	CFB_1&2	21 Days							22/8	3Y	11/9			
GSPP11 (Plant 2)	GT_1	5 Days	14/1	MO	18/1									
GSPP11 (Plant 3)	GE_2	16 Days		13/2	MI	28/2								
GSPP11 (Plant 3)	GE_1	16 Days				25/5	MO	9/6						
GSPP11 (Plant 1)	GT_100	15 Days							17/8	MO	31/8			
HHPC (Unit 1)	Unit_1	14 Days										20/10	MI	2/11
HHPC (Unit 2)	Unit_2	14 Days										3/11	MI	16/11

Fair Value Measurement of Net Assets from Acquisition of Glow

unit: THB million

Items	Book Value of GLOW	Fair Value of GLOW	Differential Value
Assets	107,655	155,500	47,845
Liabilities	(56,246)	(66,497)	(10,251)
Net Assets of GLOW at 14 March 2019	51,409	89,003	37,594
Non-Controlling interests at 30.89%		(32,092)	
Total Net Asset obtained GLOW at 69.11%		56,911	
Goodwill		36,090	
Proportion of acquisition cost 69.11%		93,001	



GPSC has completed the acquisition of 69.11% on 14 March 2019 at a total of THB 93,001 million, the company has measured the fair value of GLOW net assets as follows:

- The fair value uplift of THB 37,594 million from **Purchase Price Allocation (PPA)**
- **The fair value recognition of net assets** acquired from GLOW will be amortized yearly (based on the remaining period of the contract, 5 to 31 years).
- **Goodwill** will be subjected to an impairment test on a yearly basis.



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