



Member of
**Dow Jones
Sustainability Indices**

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FY2022 Opportunity Day

February 21, 2023



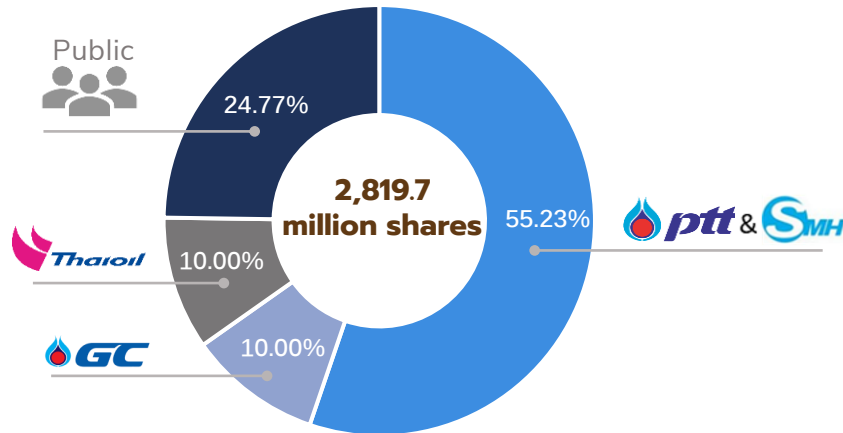


The power and smart energy flagship of PTT Group

*"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 2022



COMPANY INFORMATION (as of Feb 17, 2023)

Business Type | Energy & Utilities listed on SET

Paid-up Capital | THB 28,197 million

Market Cap. | THB 200,201 million
(3rd in power sector)

CREDIT RATINGS

AA+

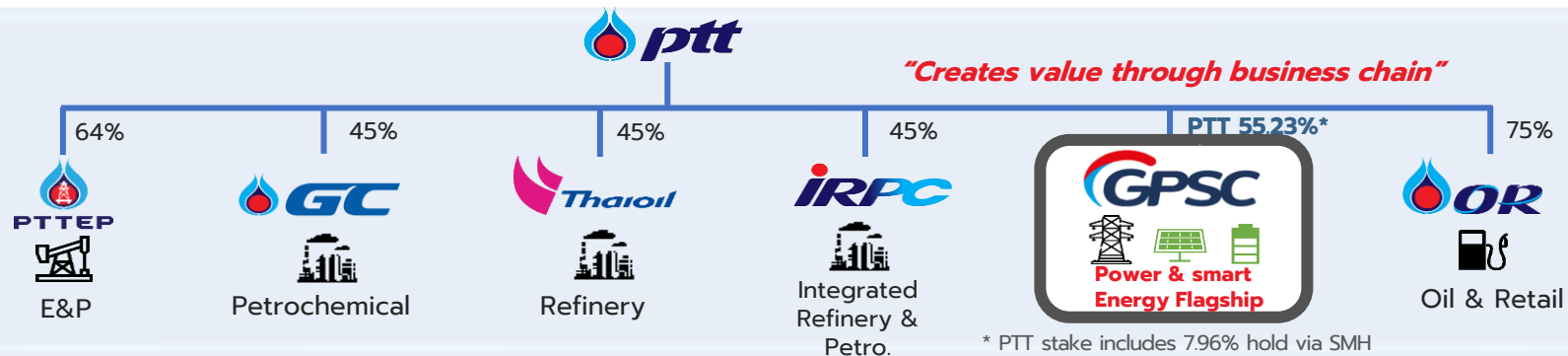


A+(tha)

BBB-

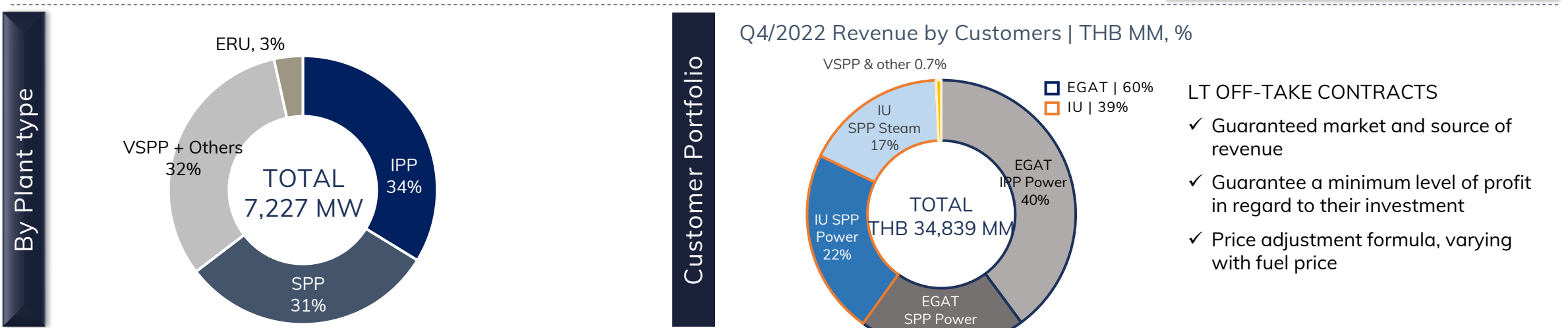
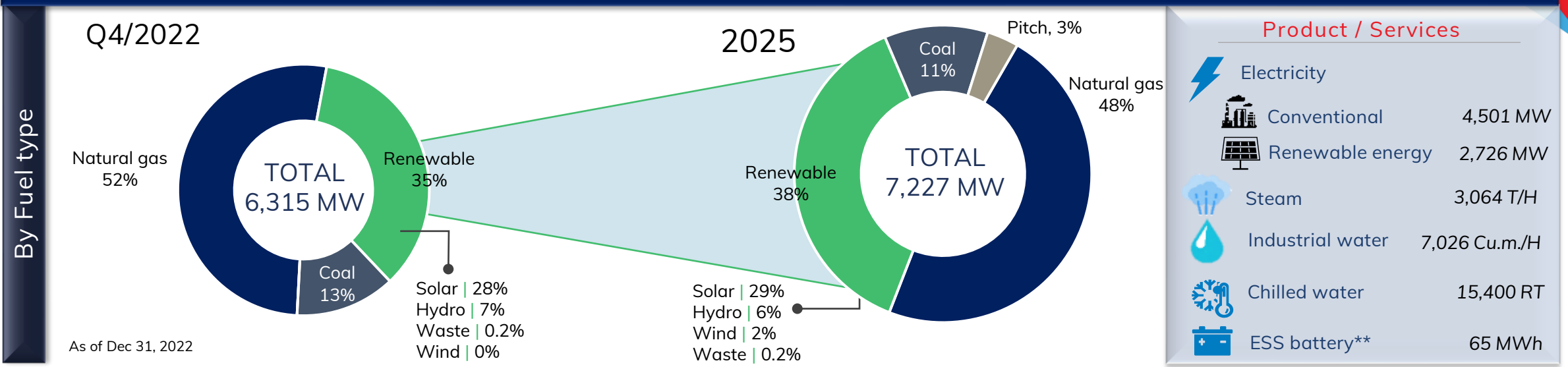
FitchRatings

PTT Group's Business



Business Portfolio

Total committed equity capacity (as of Q4/2022)*



Note: * Total equity capacity includes Solar Power Platform (Avaada) 1,990 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 holds 49% stake.

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2022 in Review &
Going forward

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Operational Best in Class
by 2025

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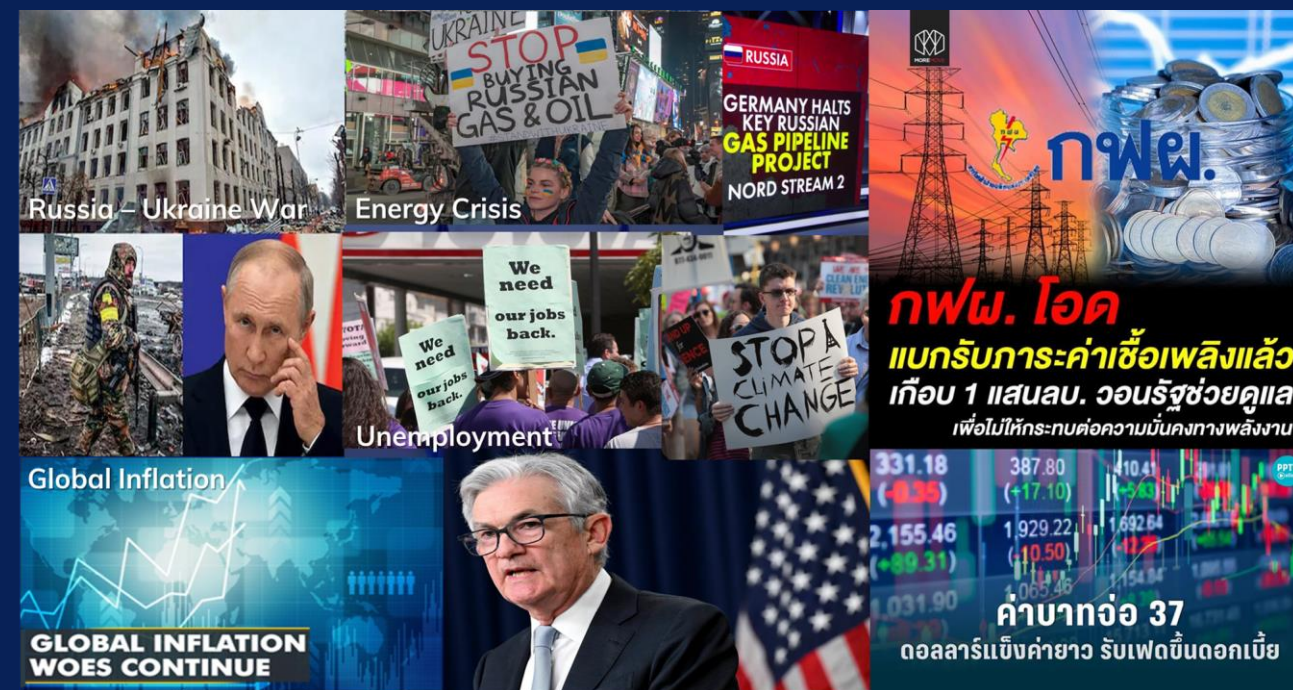
Investments opportunities
& Update of Project

4

Financial Performance



2022 In Review | Global Event & World outlook



WORLD ECONOMIC OUTLOOK UPDATE JANUARY 2023 GROWTH PROJECTIONS BY REGION

(PERCENT CHANGE)

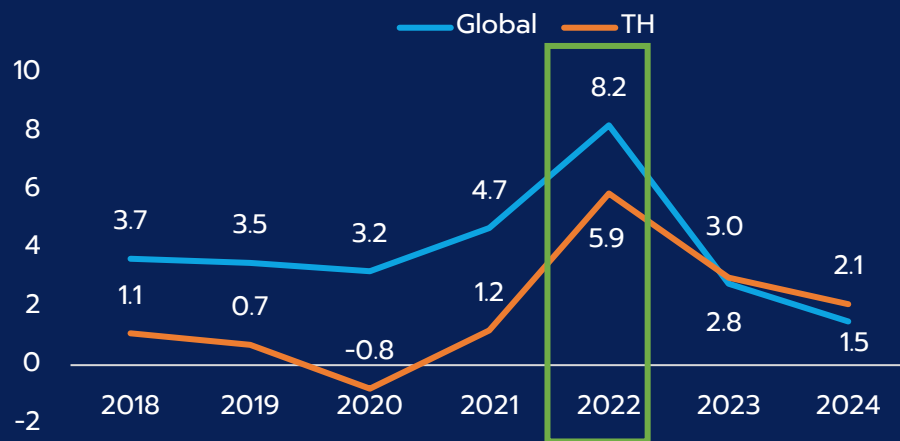


IMF.org/social

Source: IMF, World Economic Outlook Update, January 2023.

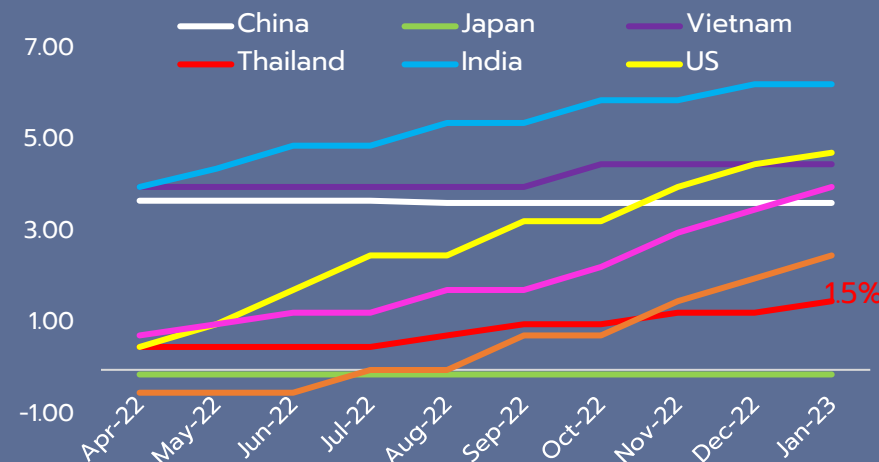
Note: Order of bars for each group indicates (left to right): 2022, 2023 projections, and 2024 projections.

Global Inflation (%)



Sources: IMF (Jan'23), BOT (Nov'22)

Interest Rate (%)

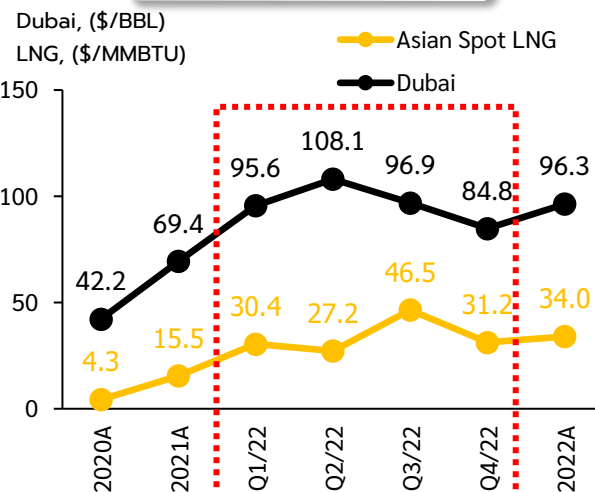


- World GDP growth is forecasted to grow slower after rapid recovery from COVID-19, the continuity of the Russia-Ukraine war and the concern of recession, whereas Thailand's GDP would increase due to high exposure to tourism sector, which are continued recovering.
- GDP growth leads to an increase in electricity consumption, but high interest rate level could impact investment

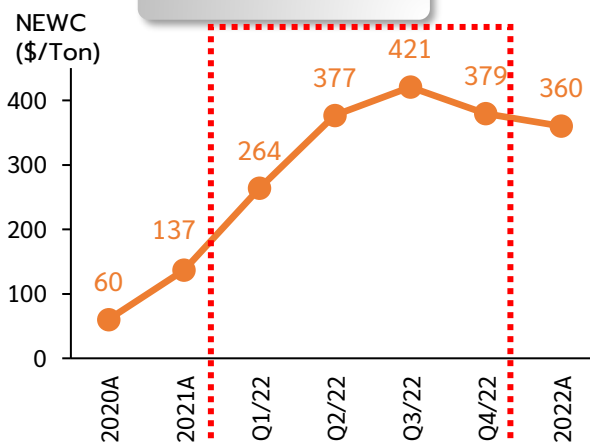
2022 In Review | Thailand – Energy Crisis 2022



Oil and Gas Price



Coal Price



Ref: PTT and GPSC



Average total tariff and Gas price history

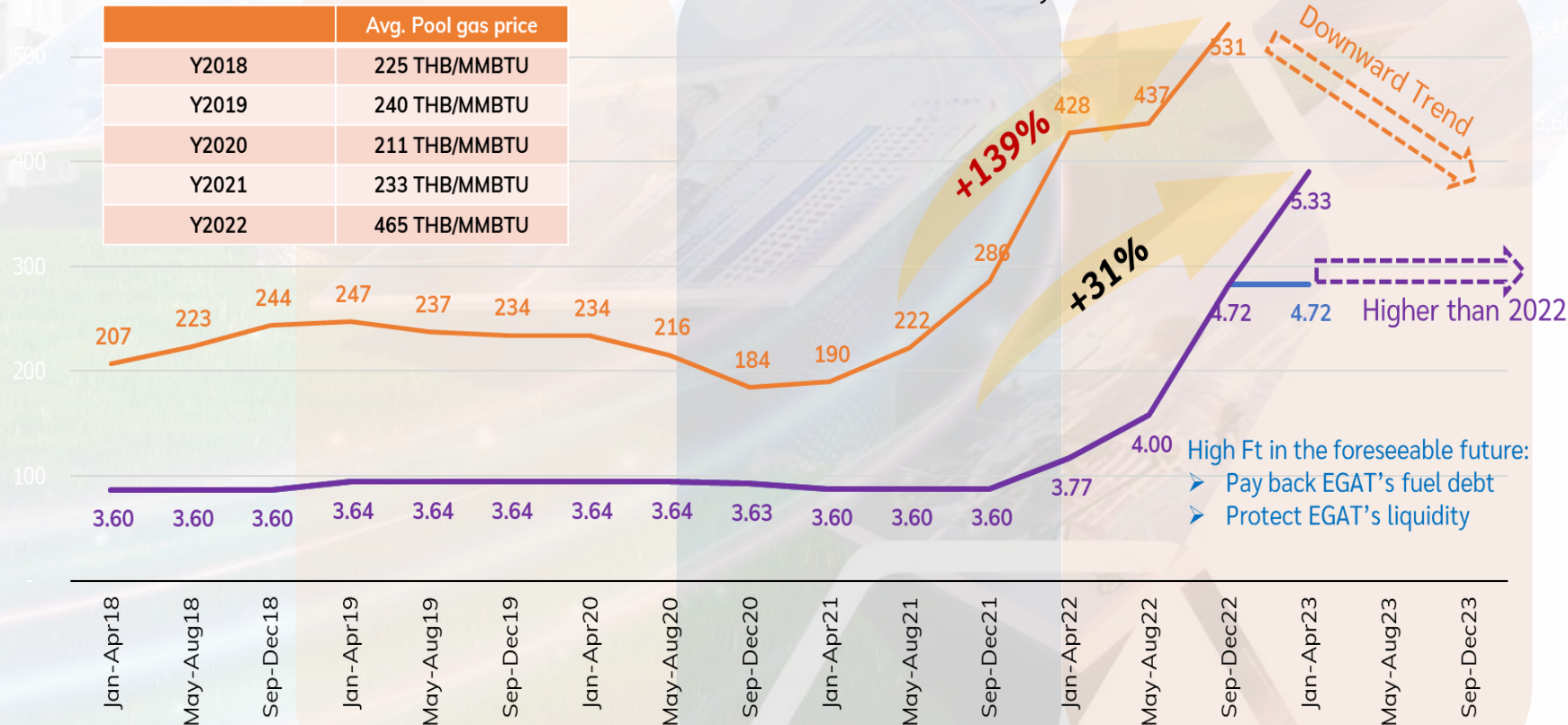
Pool gas price (THB/MMBTU) Total Tariff for Household (THB/kWh) Total Tariff for Industry (THB/kWh)

Covid-19 demand shock

	Avg. Pool gas price
Y2018	225 THB/MMBTU
Y2019	240 THB/MMBTU
Y2020	211 THB/MMBTU
Y2021	233 THB/MMBTU
Y2022	465 THB/MMBTU

Post-Covid demand recovery

Russia – Ukraine war

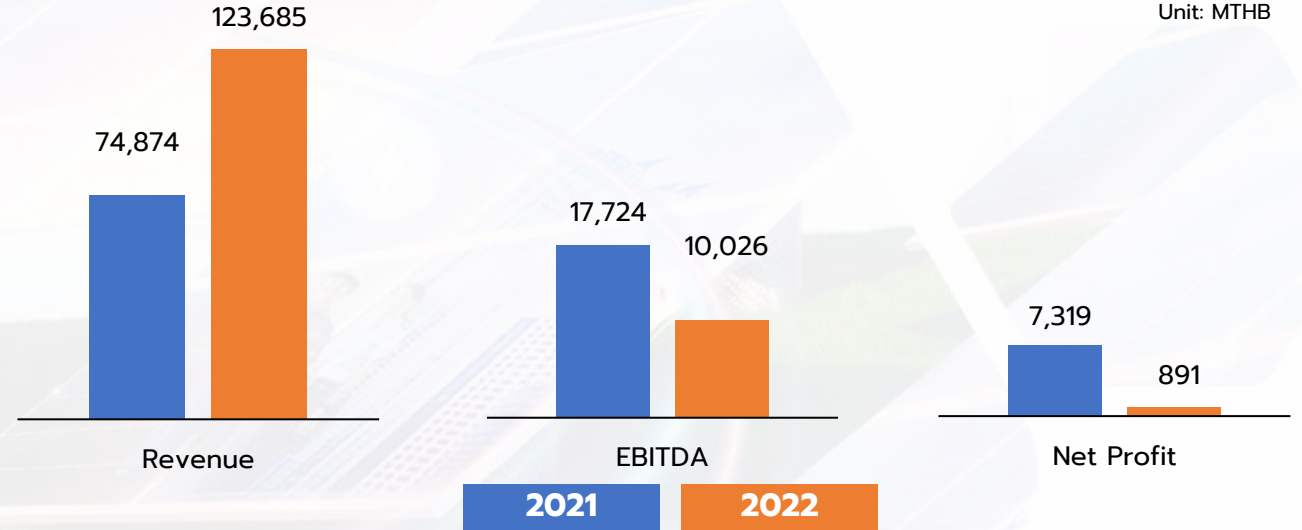
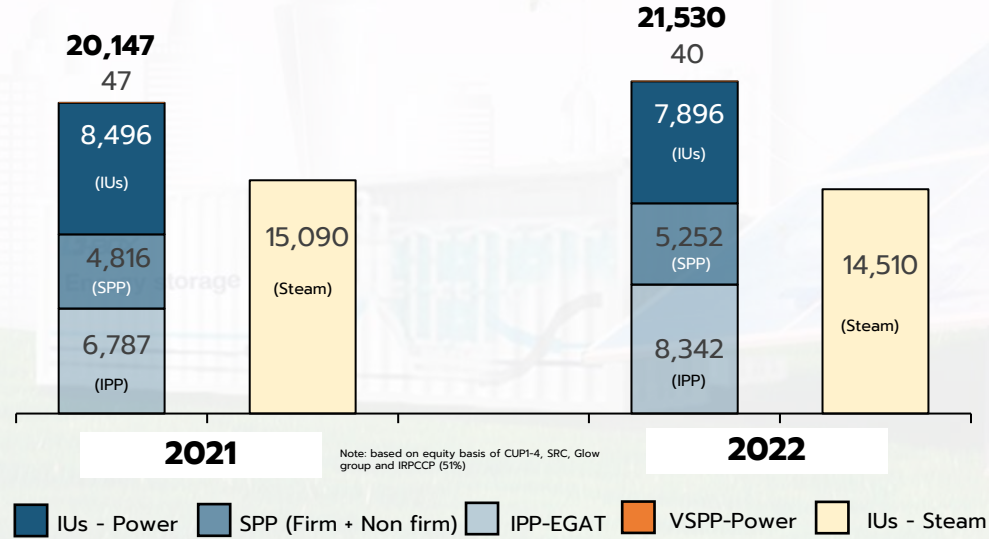


2022 In Review | GPSC Performance and Portfolio

Sales Volume & Financial Highlight

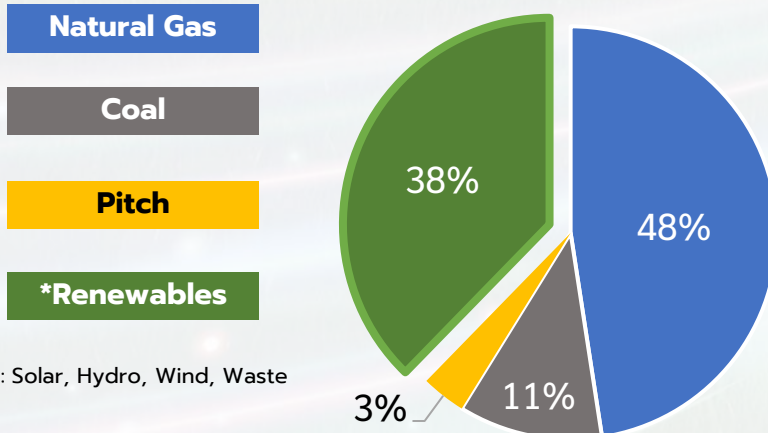
Power: GWh
Steam: '000 Ton

*Financial Highlight Y2022 subject to auditor



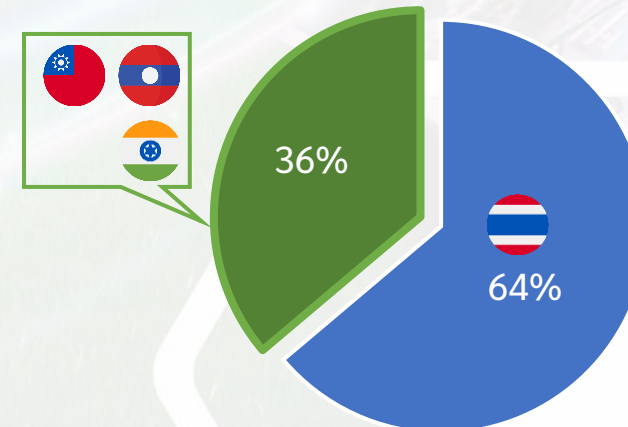
MW based on Fuel Type

2022 (7,227 MW)



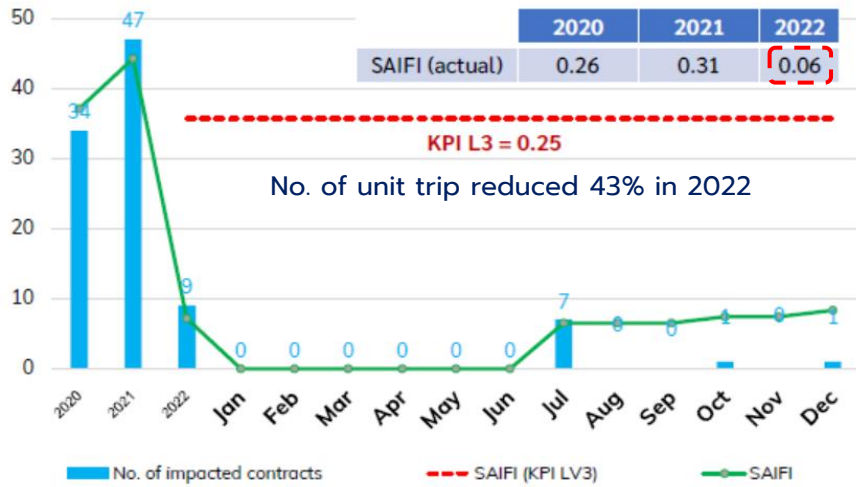
MW based on Location

2022 (7,227 MW)



4S Corporate Strategy | S1-Strengthen and expand the Core

SAIFI



GLOW Energy Ph2 SPP Replacement



GLOW energy phase 2 replacement Block#1 COD in Nov'22 and Block#2 in Jan'23

ERU Project



Energy Recovery Unit (ERU) project Of 250 MW power and 175 Ton steam is under construction, COD in 2025

New Project SPP Replacement



GLOW SPP 2 Replacement

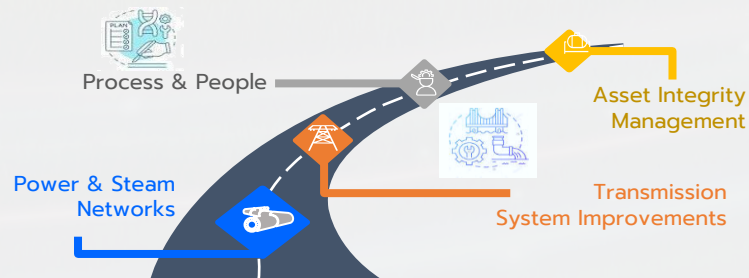
Conducted a piling work for 98 MW GLOW SPP 2 Replacement with SCOD in 2024

GLOW SPP 3 Replacement Progress

- FID >> No new coal power plants to achieve net-zero policy
- Option: Switch to NG power plant for industrial's customer demand

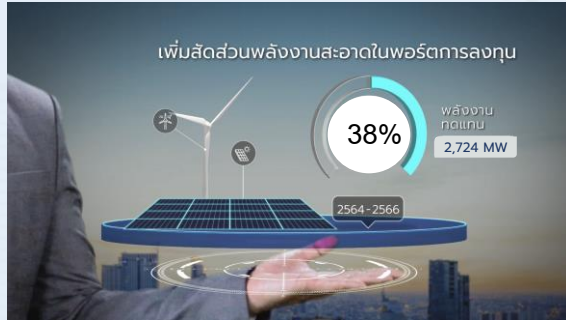


Asset Integrity Management



4S Corporate Strategy | S2-Scale-up Green energy

Enhancing Green Energy Portfolio



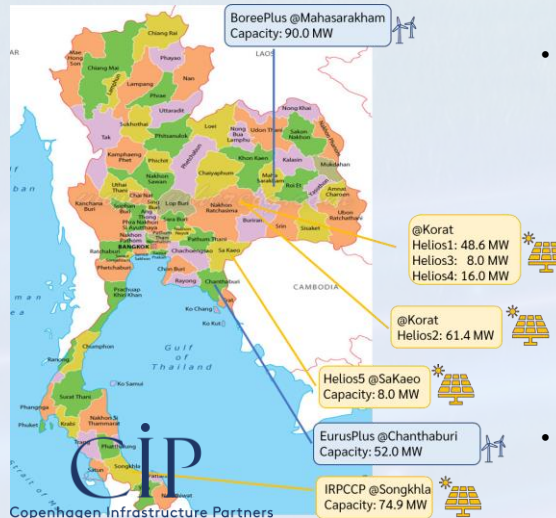
ERC Sandbox Phase II



- Projects from GPSC have qualified for the ERC Sandbox Phase 2.



Thailand's RE Investment



- GPSC group is in the process of participating in bidding ~360 MW for RE under PDP (8 projects)



- Joint venture agreement with CIP to develop wind power projects with the focus in Thailand

Overseas Investment



Avaada : Solar Power Platform in India

- Equity injection to AEPL from 41.62% to 42.93%
- Operating capacity has increased from 1,392 MW at time of purchase in 2021 to 3,931 MW at the end of 2022



CFXD : Offshore wind in Taiwan

- Transaction completed for CFXD project
- The first turbine (9.6 MW) has already achieved the first power in Nov 2022
 - Ph. 1 (96 MW) completion: Q3/2023
 - Ph. 2 (499 MW) completion : Q4/2023
 - Full COD: Q1/2024

4S Corporate Strategy | S3-S-curve & Batteries



Battery Business

NUOVO PLUS



- The asset transfer is recognized as the lithium-ion battery business.



- JV between Nuovo+, PTT, and Gotion to explore potential opportunity of battery in Thailand



- AXXIVA 1 GWh battery manufacturing plant for EV is expected to COD in 2023



New S-curve



H2 value chain & CO2 Capture :



- Co-study with PTT group for each technology and benefit



CCUS :



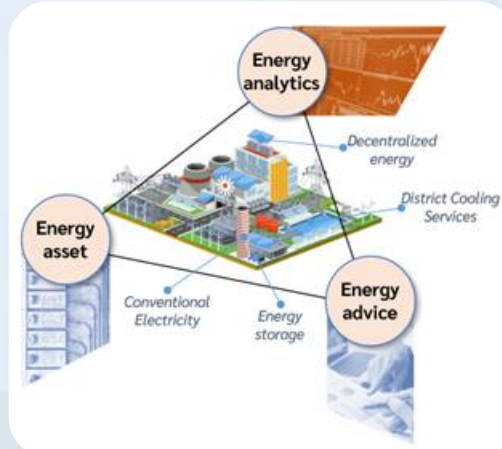
- PTT Group Study CCS Hub Model Technology Prototyping for Net Zero Goals



- MOU with PEA to jointly develop a project on battery energy storage system technologies for use in the power grid of PEA

4S Corporate Strategy | S4-Shift to customer centric solution

Energy Management Services



Energy Innovation Development



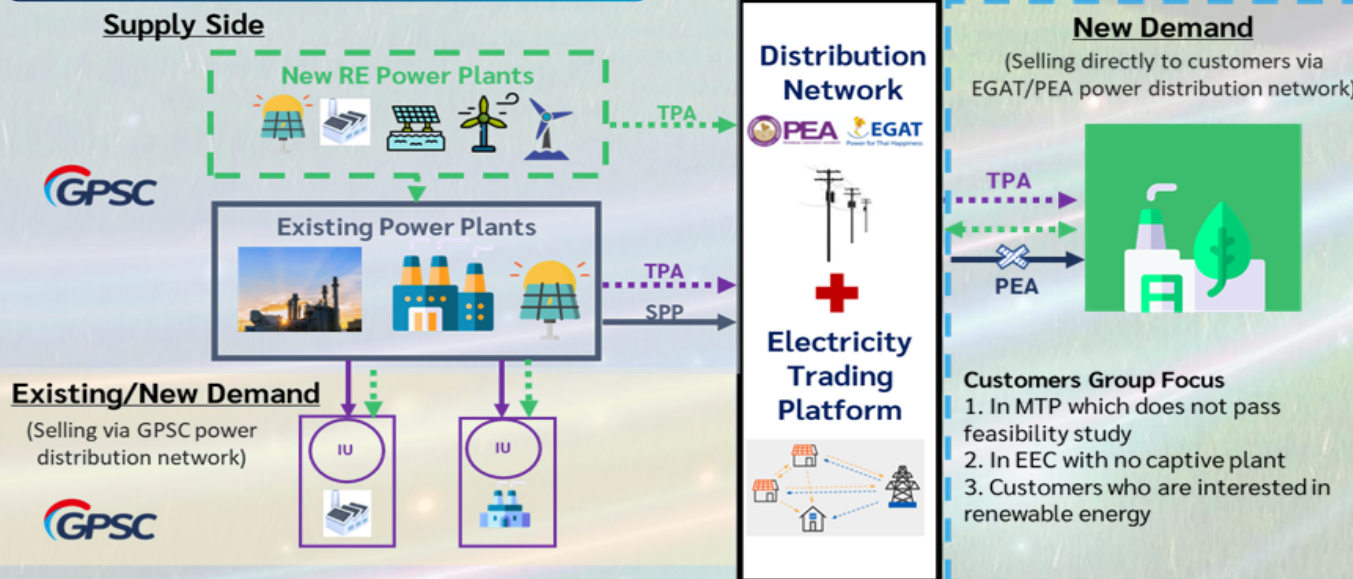
- MOU with SC Asset to implement the project of renewable energy and energy innovation development designated for SC Asset's development plans

Floating Solar Project



- Collaboration with GC on a floating solar power production project to help with climate change issues in line with GC

Third Party Access (TPA)



ERC Sandbox Phase II



- Cooperation with PTT and Western Digital in studying renewable energy development and application guideline for WD through new electricity purchase contracts (TPA) under the ERC Sandbox Project, Phase 2

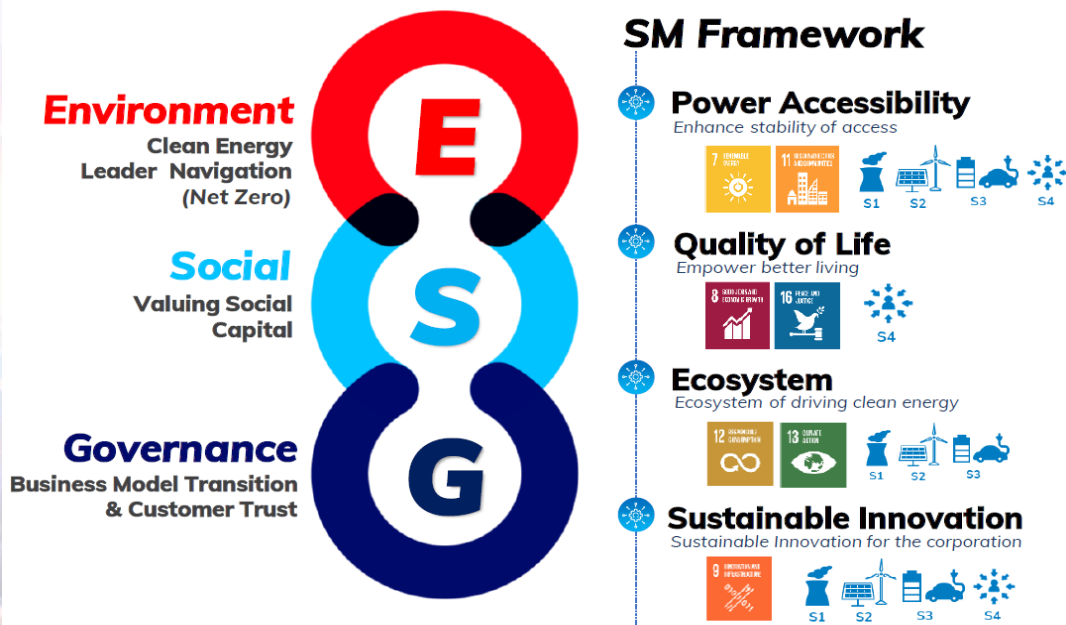
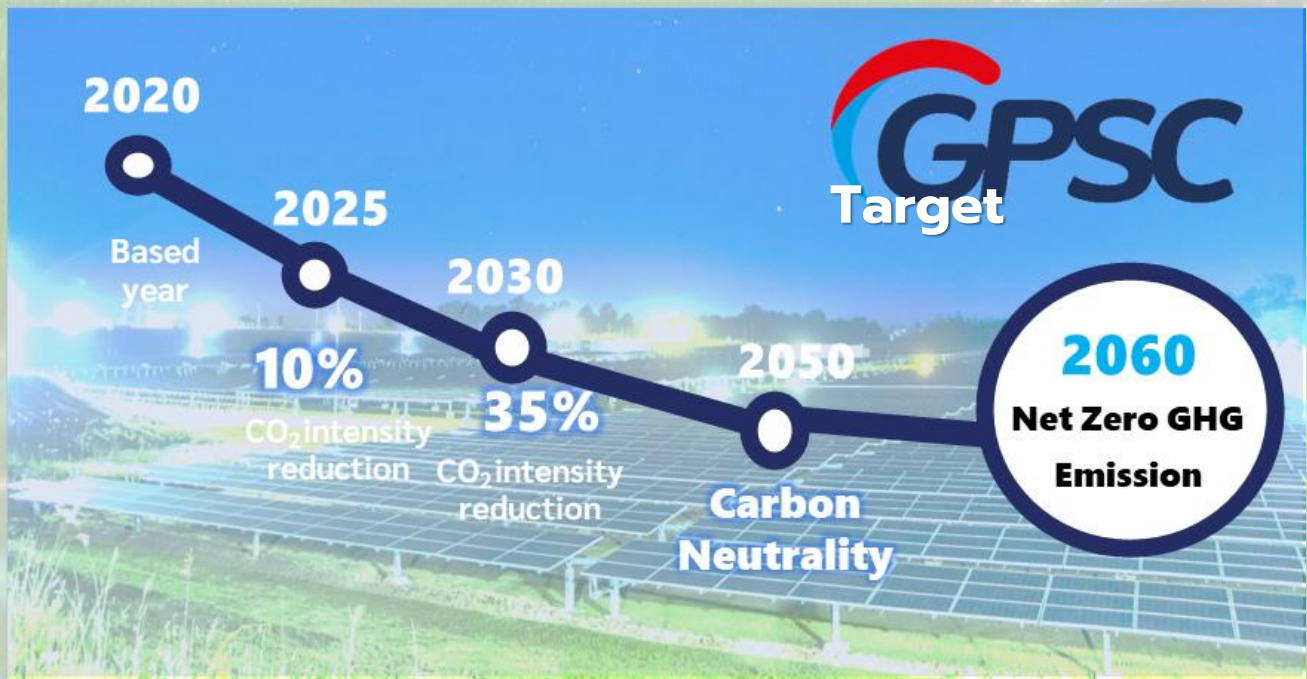
Corporate Strategy | Sustainability



Thailand Target

- 2030** Reduce greenhouse gas emissions by 40% (with international support)
- 2050** Carbon Neutrality (RE in electricity generation by at least 50%)
- 2065** Net Zero GHG Emission

'Environment Minister Varawut Silpa-archa'



Listed in DJSI 2022



Set-up GCSC and task force to drive Roadmap and implement to NET ZERO GHG

2023 Core Business Growth



As a result of Thai economic recovery and new contracts execution, Electricity and Steam sales to industrial customers are expected to grow **~10% YoY** and **grow ~3% YoY**, respectively

2023 Committed MW Growth in Pipeline

 **> 350 MW**

2023 Additional MW Growth

> 300 MW



- RE growth in Thailand along new **PDP 2022** bidding and through **Third Party Access (TPA)**
- RE Growth in India along **AEPL platform**, as well as other related opportunities
- Growth through **GRP platform** in key APAC countries
- Growth in battery business through **NUOVO PLUS**

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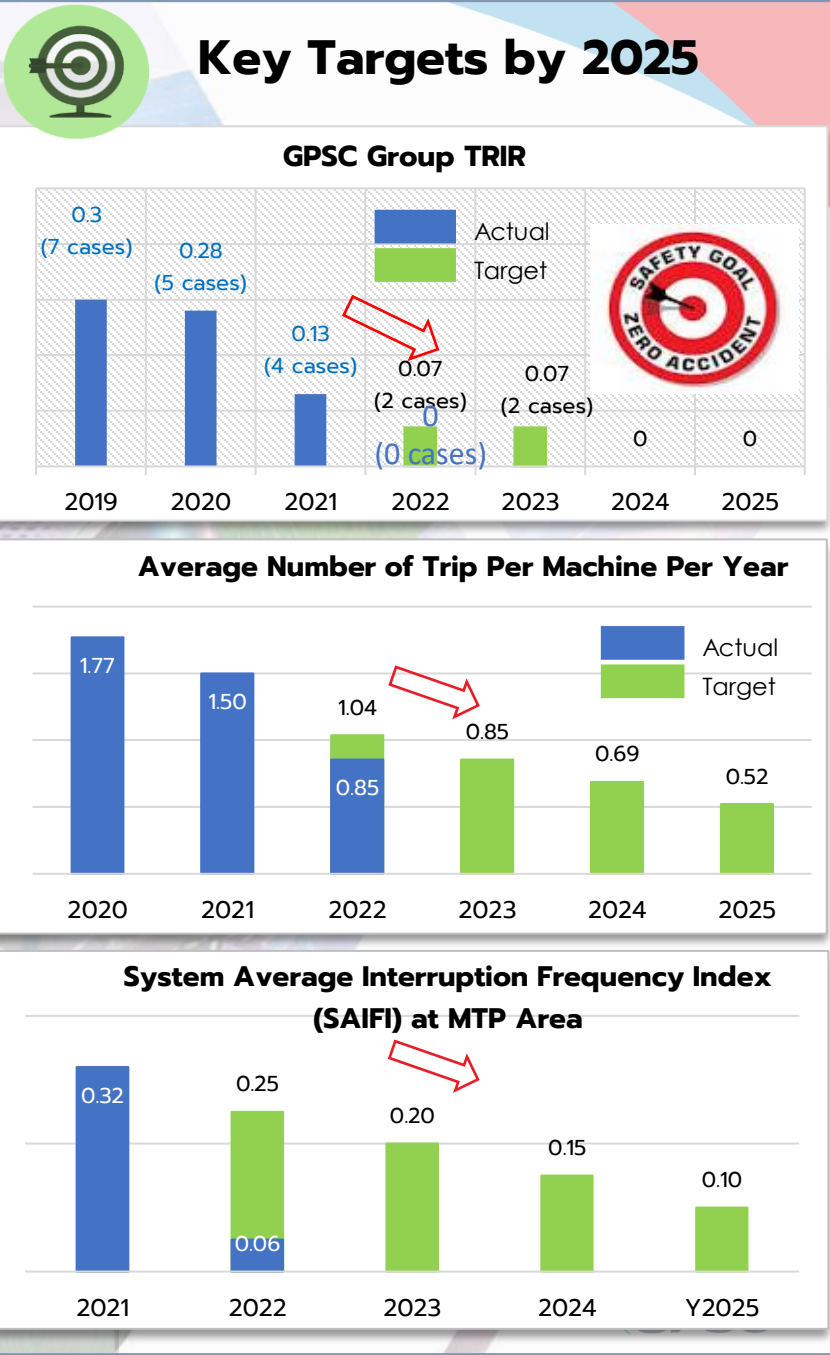
Financial Performance



Operational Excellence Strategy | Best in Class Target by 2025



Operational Best in Class 2025 Pathway



Operational Excellence Strategy | Best in Class Target by 2025

Stakeholder Satisfaction

Operational Best in Class by 2025

Safety

Reliability

Profitability

Sustainability

SAFETY

■ Here We Safe Culture

■ Individual Plant Trip Elimination

■ Net Zero

■ Water Demand-Supply Management

■ Transmission System Improvement

■ Engineering Redesign (single point failure and New Build)

■ HV Maintenance Procedure

■ GPSC-Customer Technical Coordination

■ Asset Management

- Integrity Management
- Control & Command Center
- Asset Optimization

Digitalization

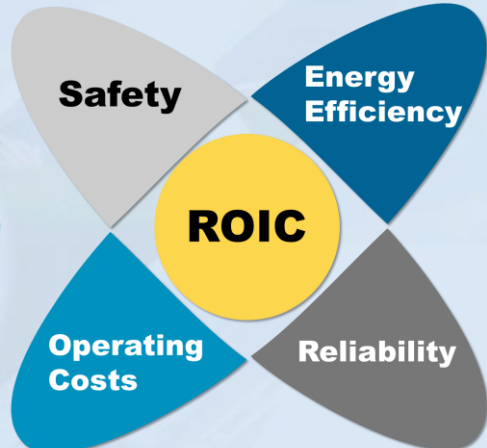
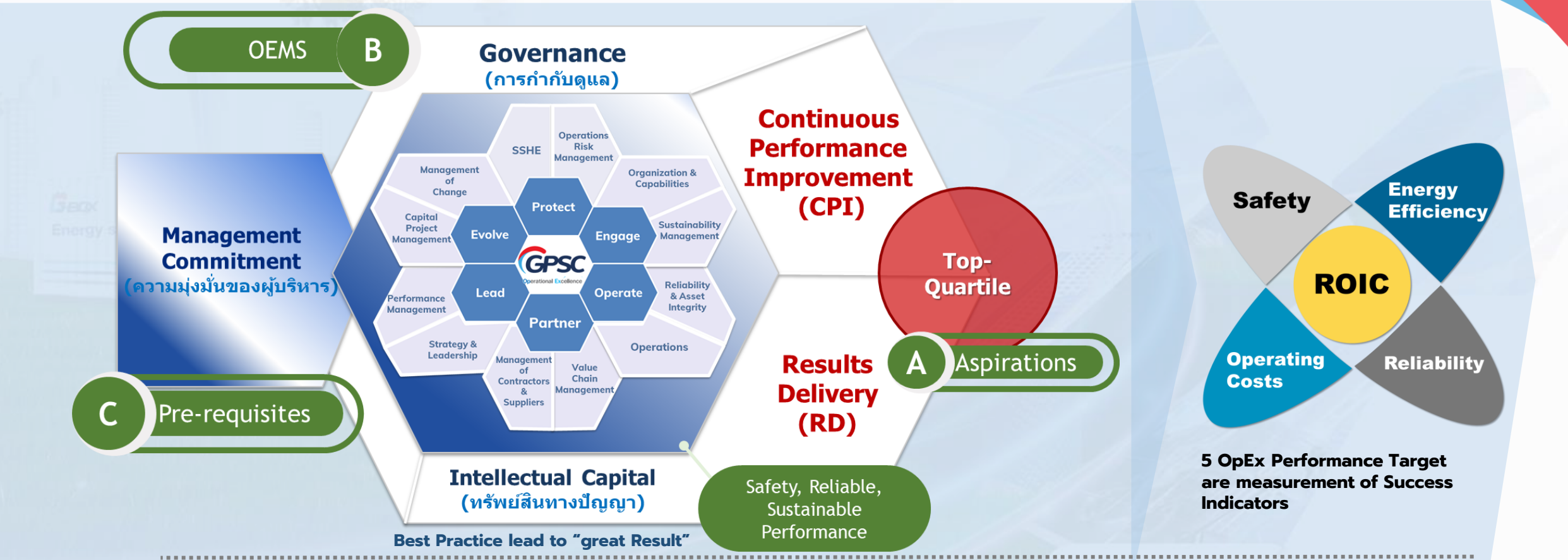
Operation Excellence Management System (OEMS)

COO Reorganization : Asset Management Focus / High Performance Organization

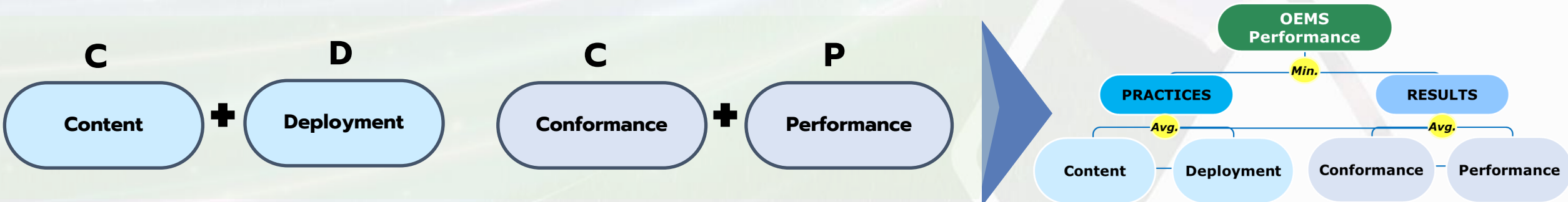
Enablers



OEMS | Operational Excellence Architecture



5 OpEx Performance Target are measurement of Success Indicators



OEMS | Operational Excellence Management System



Drive to Operation Excellence

To be Best in class in Operation (Power /Utility Business)

"OEMS" is Tools to Success!!

2020-2021

OEMS Re-boost

- **Maturity Assessment :**
Gap Closing (Major Health Check-up)
- **More Share More Benefits**
(New Initiative)
- **OEMS Framework for all**
(Expansion)
- Operation process improvement with **5 OpEx KPIs (Set-up KPI Target & Roadmap)**



5 OpEx KPIs

2022-2023

Driving Executions

- **Performance Benchmarking**
with power peer (5 OpEx KPIs)
- **Continuous Performance Improvement**
(Productivity Improve, Efficiency Uplift)
- **Standardization**
(Establish Content & Deployment)
- **Pre-Maturity Assessment (2.7)**
(SME & Pre-Health Check-up)



Continuous performance improvement (CPI)



5 OpEx KPIs

2024-2025

To be Best in class

- **Operation Performance Excellence**
Achievement in 5 OpEx KPIs Target (Top Quartile)
- **3rd Maturity Assessment (3.0)**
(Major Health Check-up)
- **Strengthen in Operation**
- **Expand OEMS**
(New area & Subsidiary)



Best in class



5 OpEx KPIs



5 OpEx Dimensions

- **Safety**
- **Reliability**
- **Energy Efficiency**
- **Cash Cost**
- **ROIC**

Unplanned Outage Factor (UOF) and Action Planned

GHECO1 UOF 2022

- ❑ **68% from Material Defect**
- ❑ **23% from Generator Breaker PM Delayed from COVID-19**
- ❑ **9% from Unusual Coal Specification**

Action Planned

- ❑ **GHECO1 has maintenance schedule during 15 Jan – 10 Mar 2023**
- ❑ **On process of Mid Life Assessment for High Temperature Boiler Component**
- ❑ **Upgrade Submerged Drag Chain Conveyor (SDCC)**

GE Phase5 UOF 2022

- ❑ **2020 Turbine Incident: Part Technical issue, replaced new part.**
- ❑ **2021 Generator Incident: Replaced new Generator.**
- ❑ **2022 Cable Terminator Incident: Replaced new Terminators.**

Action Planned

- ❑ **Schedule shutdown in Jun 23 will conduct Mid Life Assessment.**
- ❑ **Phase 5 Reliability Improvement**
 - **Announce of taskforce team for Phase5 Integrity uplift which will be completed study by Q2-2023.**

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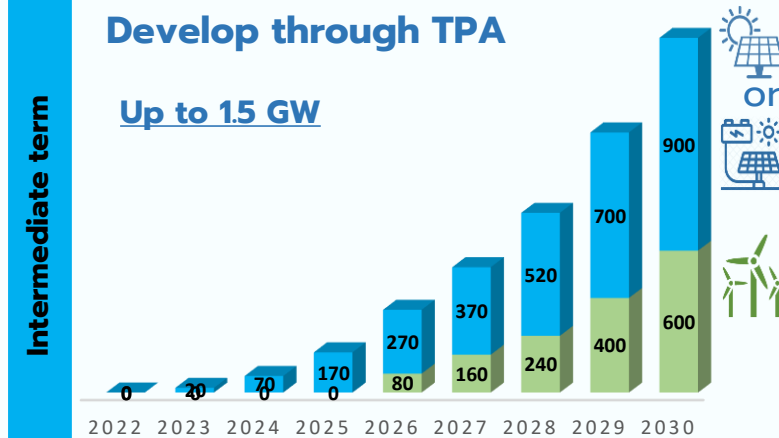
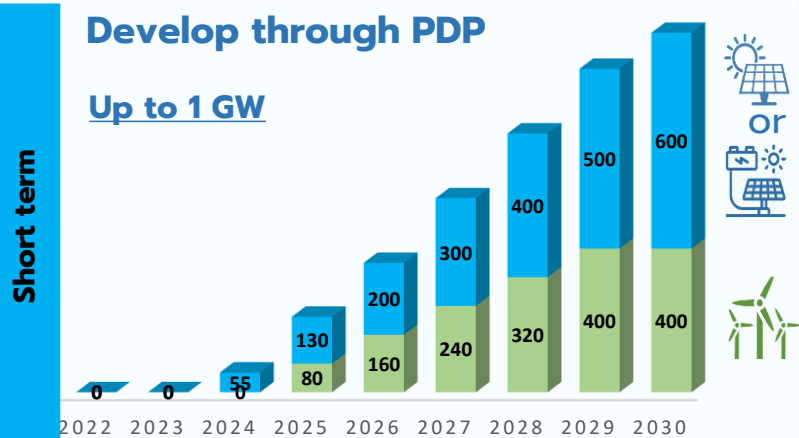
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Financial Performance



Investments opportunities | Go Greener (Thailand)

With our aspiration to have 50% of electricity generation from renewable energy, we are developing wind and solar projects in Thailand to support Thai's Power Development Plan (PDP) and prepare for the realization of Third-Party Access (TPA).



Key takeaway from current PDP FiT bidding

	Quota (GW)	Proposal (GW)	Exceed (times)
	2.4	9.2	>3X
	1.0	2.1	>2X
	1.5	5.6	>3X

Key Success Factor



Partnering with CIP for technology expertise and collaborating with BAAC for wind farm development in agricultural areas.



Technology

Area



- Experts in wind business
- Knowledge of wind project construction

- Increase farmers' income
- Promote agricultural careers
- Sustainable community development



Partnering with credible landlord for solar development

Landlord



- Land ownership for potential site
- Local relationship
- Sustainable project development

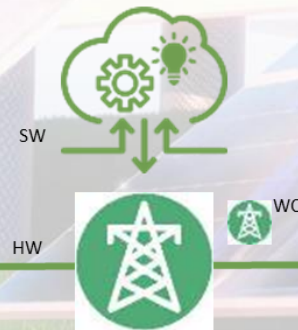
Investments opportunities | Go Greener (Thailand cont')

TPA is a key enabler to expedite RE development plan for GPSC throughout Thailand to achieve green energy target.



Applications

- **Bilateral** (Peer to Peer)
- **Aggregate** RE and whole sell for utility scale
- **Aggregate** RE and **selling REC**



Strategic for RE100 member



RE 100 Member
(volunteer)



Data Center Cluster



RE 100 Industry
(CBAM effected)

ERC Sandbox 2 - Main Objectives

- An opportunity to expand the RE supply business base of GPSC via TPA program
- Obtain business guidelines for platform development for energy trading in the future to create a new business model for GPSC



Generator & Aggregator



Trading Platform



New PPA
format

Target Customers



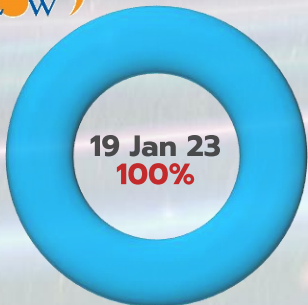
Update of Projects| Expansion capacity in 2023 - 2025

SPP Replacement Projects

Glow Energy Phase 2

SCOD | Q1/2023

Unit 1 : 29 Nov 2022 / Unit 2 : 19 Jan 2023



Electricity
(MW) **200**

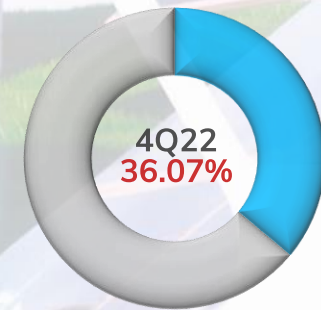
Steam
(ton/hr.) **300**

The project is fully commercial operation on Jan 19, 23.

Glow SPP2

SCOD | Q2/2024

Unit1 : Mar 2024 / Unit2 : Apr 2024



Projects	Electricity Capacity (MW)	Steam Production Capacity (t/h)	Contracted PPA with EGAT (MW)
GLOW SPP2 Replacement			
• Glow SPP2	98	230	60 (2 PPAs)

- The construction has reached 36.07% and the project is in the process of concrete foundation and equipment work on steam turbines, boilers and electrical control towers.

Update of Projects| Expansion capacity in 2023 - 2025

Renewable Power Plants

CFXD: Offshore wind in Taiwan

SCOD | 2022-2024

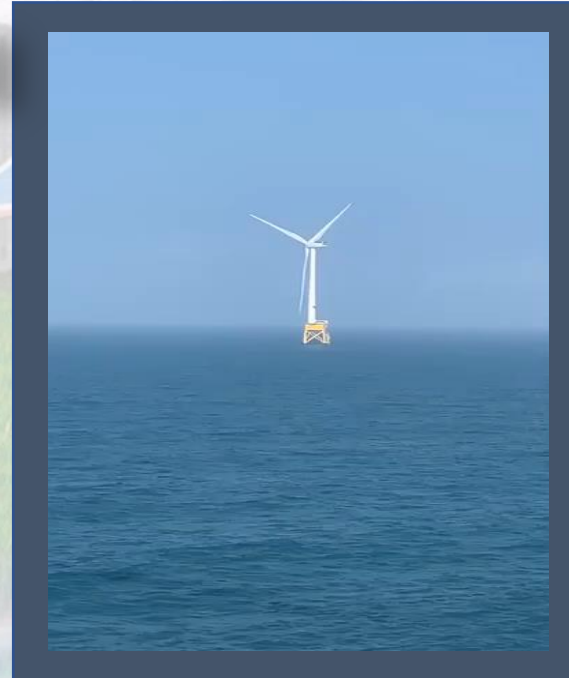
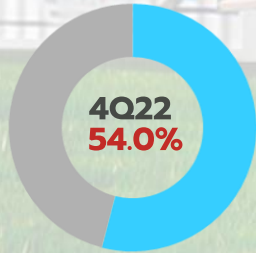
 CIP
Copenhagen Infrastructure Partners

CI II and CI III Hold
75% of shares

 GRSC

GRSC TW Holds
25% of shares

Contracted Capacity
595 MW



The construction has reached **54.0%**, the first power has started in **November 2022**. The project expected to start full commercial operation in Q1/2024.

Avaada Energy Private Limited (AEPL)

SCOD | 2021-2024



 AVAADA

GPSC Hold
42.93% of shares

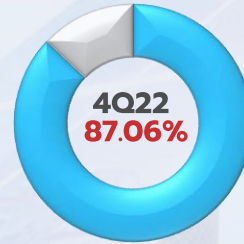
Contracted Capacity
4,634 MW

Project	Electricity Capacity (MW) as of 13 Jul 21	Electricity Capacity (MW) as of 31 Dec 22	COD
Operating	1,392 (13 projects)	3,842 (28 projects)	-
Under construction	2,352 (8 projects)	792 (7 projects)	2023 – 2024
Total	3,744	4,634	

Update of Projects| Expansion capacity in 2023 - 2025

Energy Recovery Unit (ERU)

SCOD | 2025¹



Electricity
(MW) 250

Steam
(ton/hr.) 175

Project updates:

- The project is in the process of the construction of foundation
- Overall, the project has reached 87.06%.

Note: 1. The project has been affected by the COVID-19 pandemic and is expected to start commercial operation in 2025.

Axxiva

SOP | 2023



100%

GPSCSG

10.31%



GPSC holds Axxiva's shares
through Nuovo Plus

AXXIVA operates a battery manufacturing business in China at production capacity of 1 GWh per annum by 24M Technologies

Project updates:

- Main plant meets the equipment installation conditions
- Complete installation in 1H2023

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Q4/2022 | Highlight



Key Events

- COD GE Phase2 Replacement:

: Contract-1 COD on 29 Nov 2022 and Contract-2 COD on 19 Jan 2023



Highlights

+ GE Phase5 and Gheco1 Insurance Claim 408 MTHB (Net Tax & NCI)

: Phase5 356 MTHB, G1 52 MTHB

+ EP Gain from SRC and GIPP Operating with Diesel Oil 226 MTHB

+ Received Dividend Income from RPCL 75 MTHB

+ Full Quarter FT Adjustment



Lowlights

- Write off GE Phase2 Gas Turbine

: Total amount 270 MTHB (Net Tax)

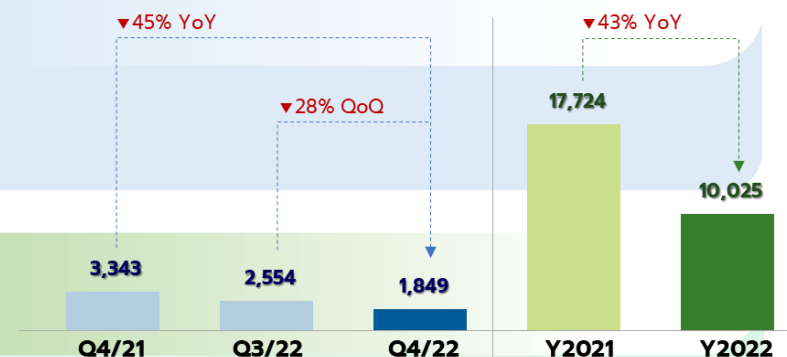
- Unplanned Outage at Phase5 and Gheco1

- Lower IU Demand due to customers' commercial shutdown

- Gheco1 Coal inventory adjustment

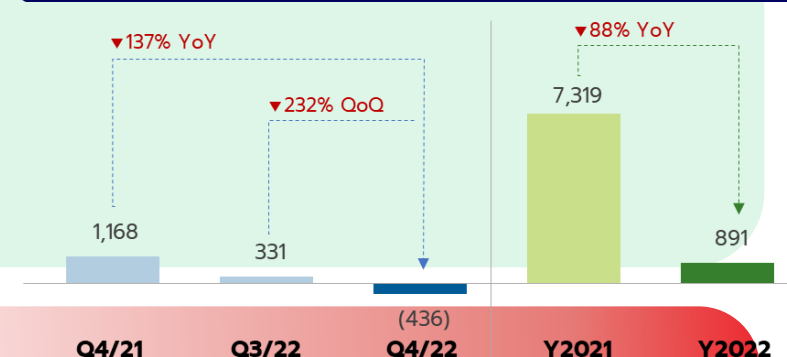
EBITDA

Unit: MTHB



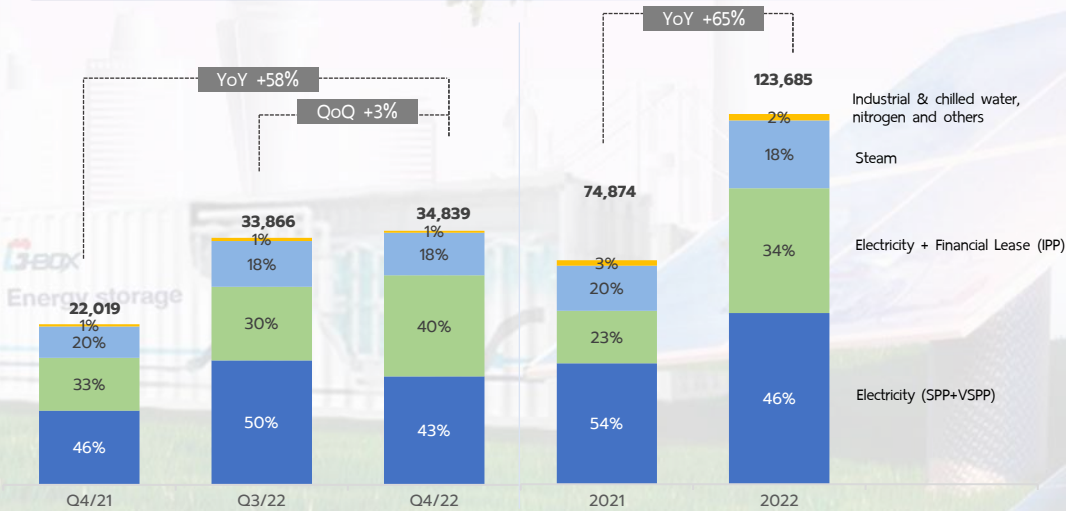
Net Income

Unit: MTHB

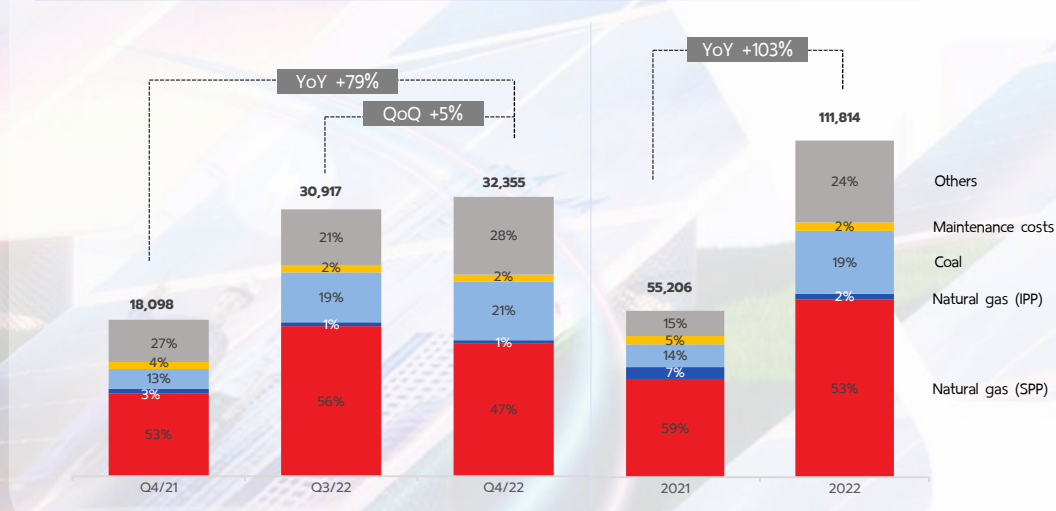


Comparison of Company's Performance

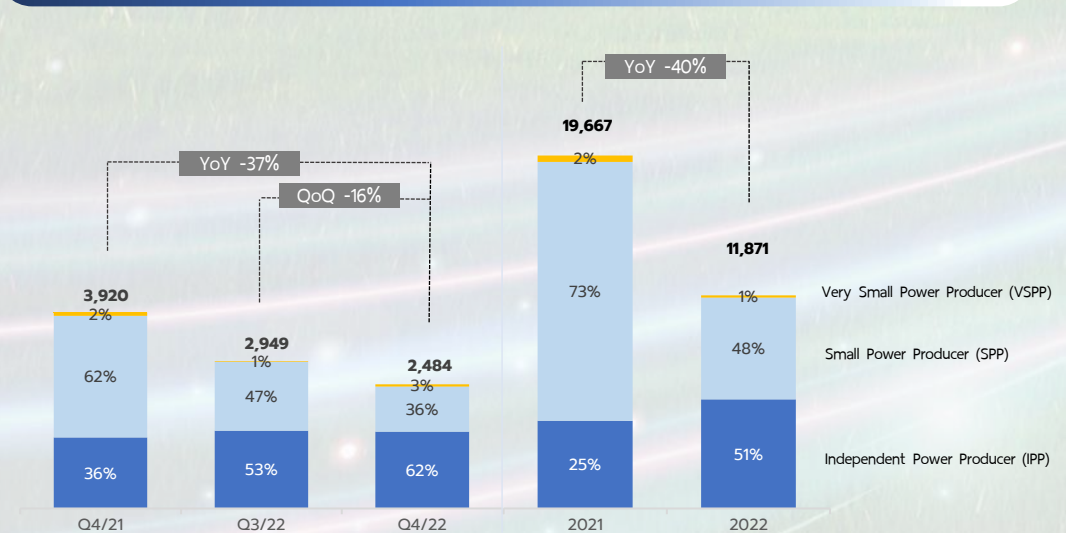
Operating Revenue (THB million, %)



Cost of Sales (THB million, %)



Gross Profit Breakdown (THB million, %)



Significantly higher natural gas and coal price, resulting in lower margin in selling electricity to industrial customers throughout the year.

Q4/2022 vs Q3/2022 (QoQ) Net Profit

Net Profit **-767 MTHB (-232%)**

- ▼ Lower Cogen Margin from lower demand due to customers' commercial shutdown
- ▲ SRC & GIPP EP gain +226 MTHB from operating with diesel oil

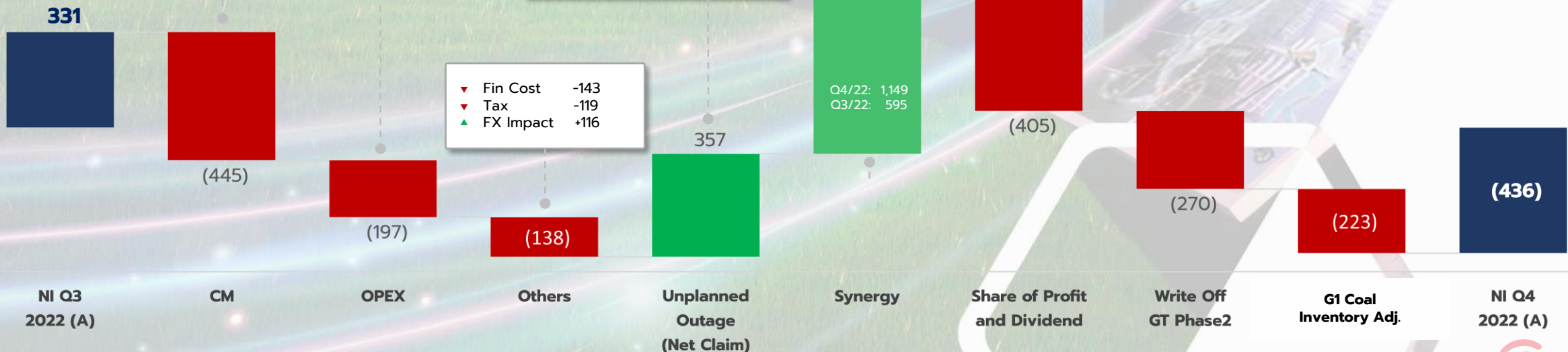
- ▼ SGA -133
- ▼ External Service -83
- ▼ Maintenance Cost -55
- ▲ Insurance +129

▲ Insurance Claim +397

- ▼ Fin Cost -143
- ▼ Tax -119
- ▲ FX Impact +116

- ▼ **Share of Profit -402**
- ▲ CFXD +250
 - ▲ AVAADA +74
 - ▲ NNEG +13
 - ▲ TSR +3
 - ▼ XPCL -668
 - ▼ GRP -49
 - ▼ CCE -15
 - ▼ Nuovo -6
 - ▼ NL1PC -4

- ▼ **Dividend Income -3**
- Q4/22: RPCL +75 & EFT +3
Q3/22: RPCL +81



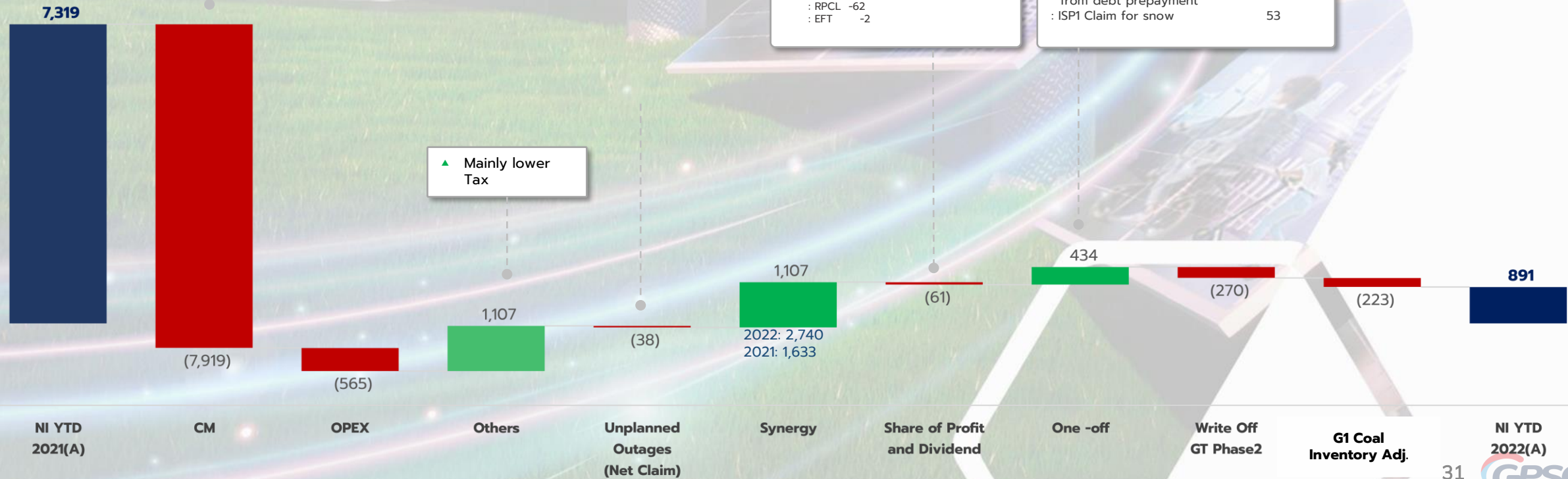
FY2022 vs FY2021 (YTD) Net Profit

Net Profit **-6,428 MTHB (-88%)**

- ▼ Energy Margin loss due to significant higher natural gas and coal price
- ▲ SRC & GIPP EP gain +1,833 MTHB from operating with diesel oil

▼ Share of Profit	+3
▲ XPCL	+330
▲ CFXD	+250
▲ GRP	+24
▲ TSR	+6
▼ AVAADA	-245
▼ NNEG	-216
▼ BIC	-80
▼ Nuovo	-43
▼ CCE	-15
▼ NL1PC	-8
▼ Dividend Income	-64
: RPCL	-62
: EFT	-2

2022: One-off Income	788
: ISP1	449
: Battery business	288
: CUP4 EPC Claim	51
2021: One-off Income/exp	354
: CUP4 EPC Claim	110
: Adjust GLOW PPA	98
: Reimburse Sunny exp.	74
: from debt prepayment	
: ISP1 Claim for snow	53



Q&A SESSION



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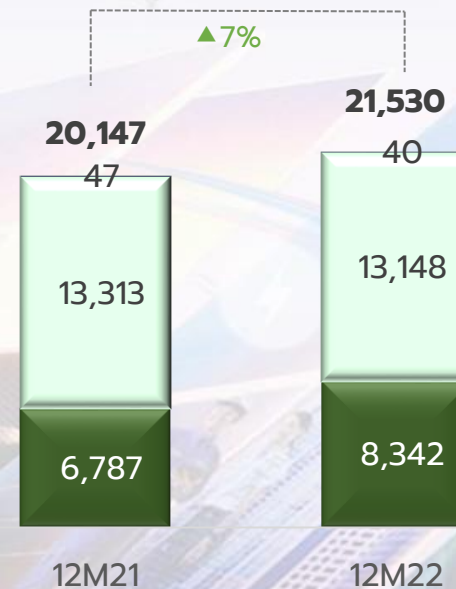
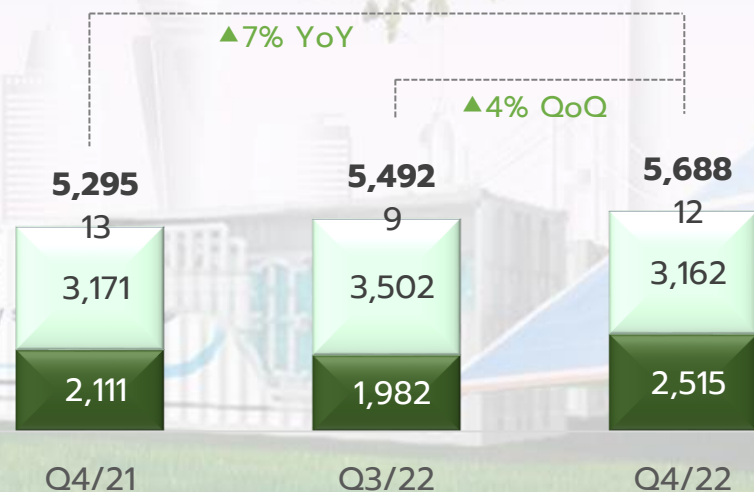
Appendix



Key Macro Factors (as of Dec 2022)

Electricity Sales volume (GWh)

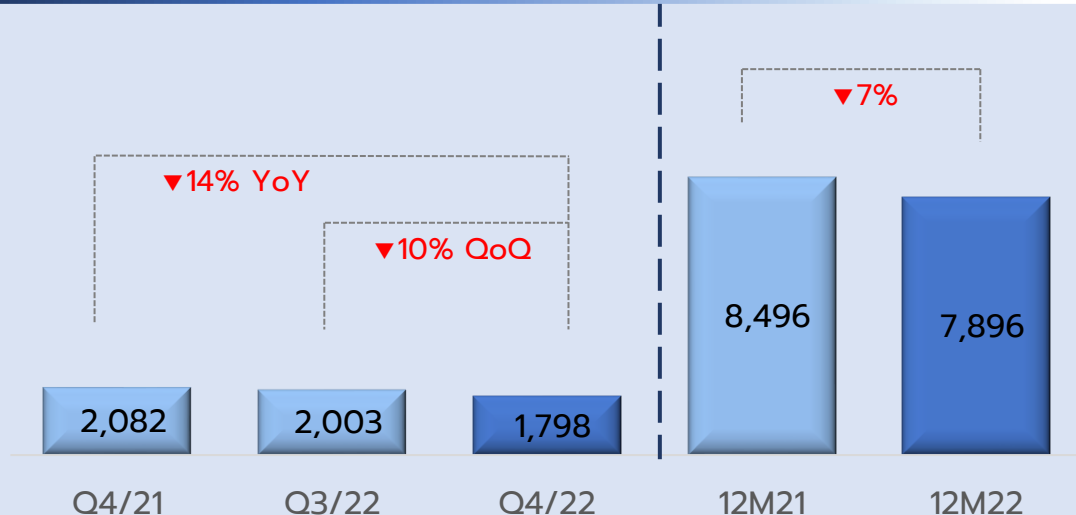
IPP SPP VSPP & Others



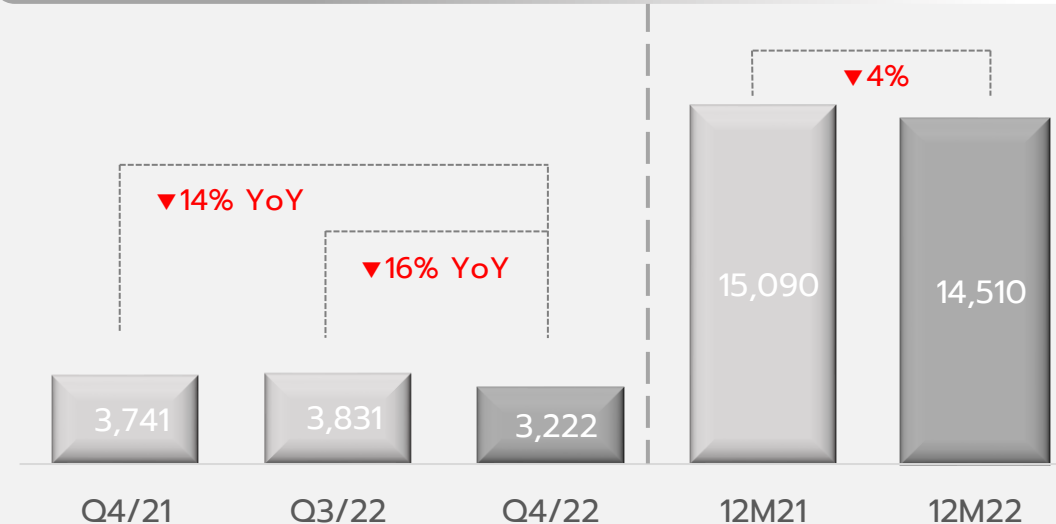
Q4/22	YoY	QoQ
Total	+7%	+4%
VSPP & Others	-14%	+35%
SPP	-0.3%	-10%
IPP	+19%	+27%

12M22	YoY
Total	+7%
VSPP & Others	-15%
SPP	-1.2%
IPP	+23%

IU Electricity Sales volume (GWh)



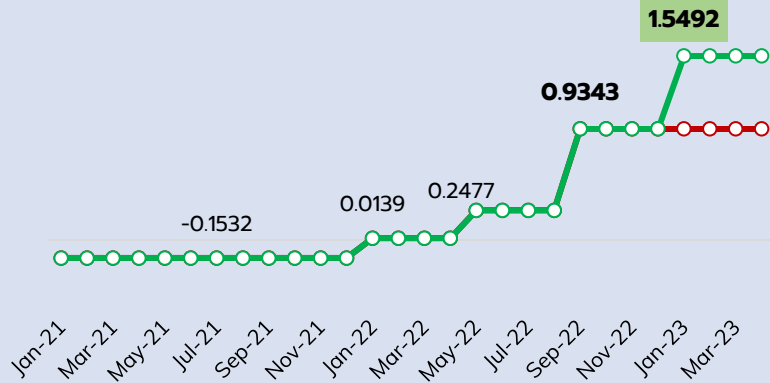
IU Steam Sales volume ('000 tons)



Key Macro Factors (as of Dec 2022)

Ft (THB/kWh)

○ Household ○ Other users



IPP's Availability Rate (%)	Q4/21	Q3/22	Q4/22	Change +/-(-)		12M21	12M22	Change +/-(-)
				YoY	QoQ			YoY
Sriracha	63%	45%	76%	14%	31%	91%	75%	(16%)
GIPP	93%	96%	96%	3%	1%	92%	97%	5%
GHECO-One	96%	78%	87%	(9%)	10%	75%	83%	8%

End-month FX (THB/USD)

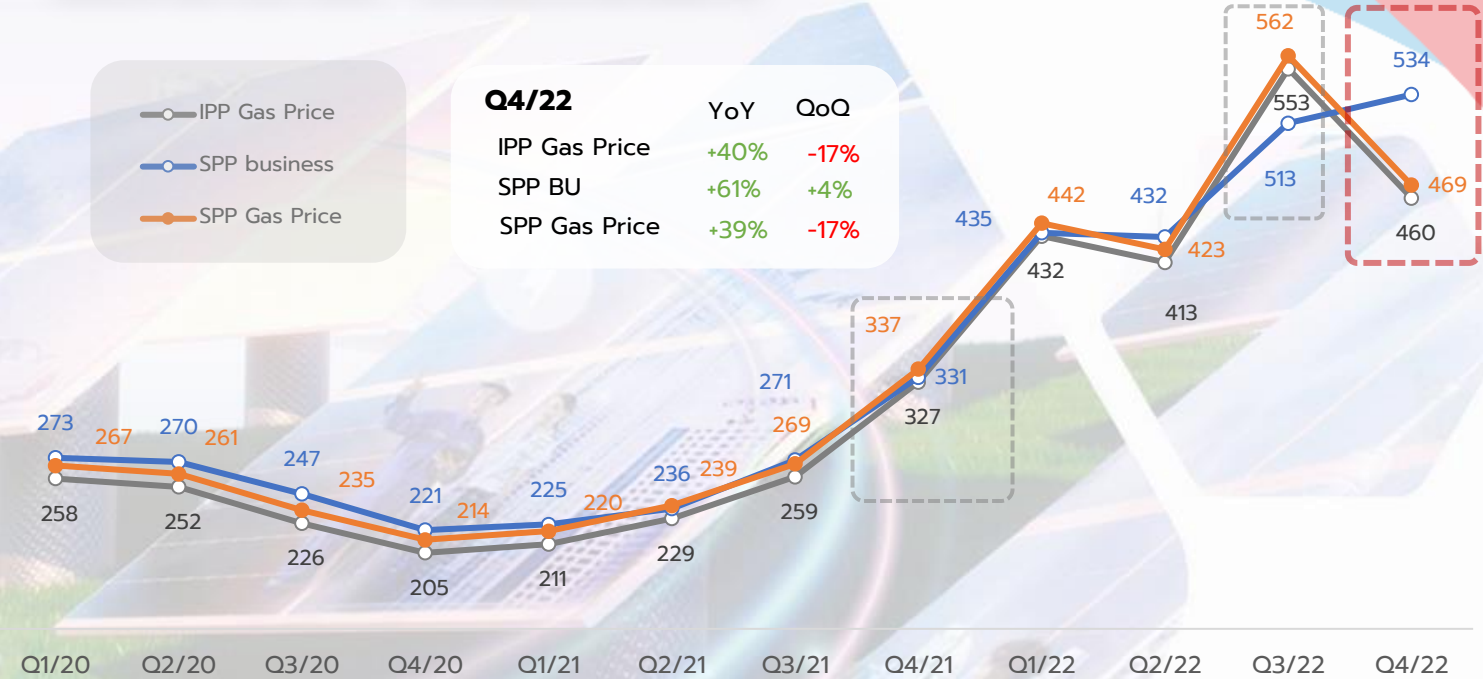
Q4/21		Q3/22		Q4/22	
Oct 21	33.35	Jul 22	36.82	Oct 22	38.19
Nov 21	33.86	Aug 22	36.50	Nov 22	35.54
Dec 21	33.59	Sep 22	37.92	Dec 22	34.73
Avg.	33.60		37.08		36.15

Natural Gas Cost 2020 – Q4/2022 (THB/MMBTU)

○ IPP Gas Price
○ SPP business
○ SPP Gas Price

Q4/22

	YoY	QoQ
IPP Gas Price	+40%	-17%
SPP BU	+61%	+4%
SPP Gas Price	+39%	-17%

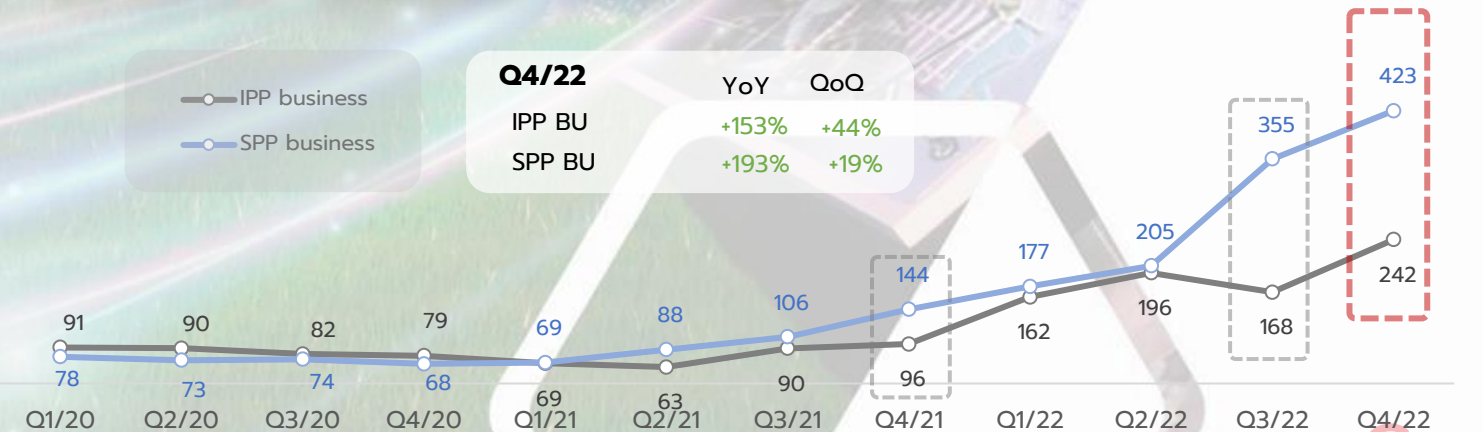


Coal Cost 2020 – Q4/2022 (USD/Ton JPU) (excluding freight costs)

○ IPP business
○ SPP business

Q4/22

	YoY	QoQ
IPP BU	+153%	+44%
SPP BU	+193%	+19%



Q4/2022 Operating Results

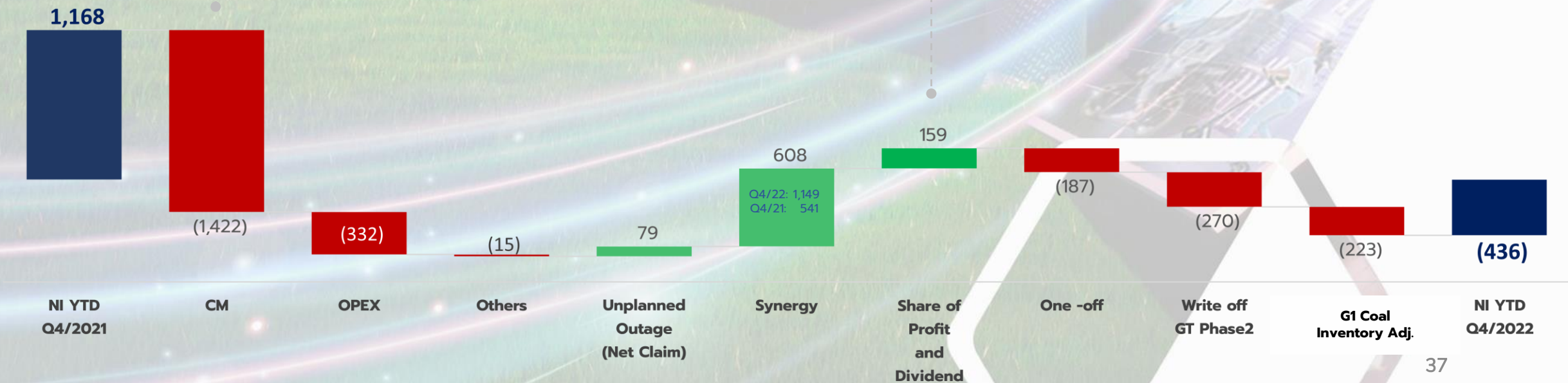
Overall operating results of the Company and its subsidiaries (unit: THB million)	Q4/21	Q3/22	Q4/22	change +/-		12M/21	12M/22	change +/-
				YoY	QoQ			YoY
Operating revenue	22,019	33,866	34,839	58%	3%	74,874	123,685	65%
Cost of sales (excluding depreciation and amortization)	(18,098)	(30,917)	(32,355)	79%	5%	(55,206)	(111,814)	103%
Gross profit	3,920	2,949	2,484	(37%)	(16%)	19,667	11,871	(40%)
Selling and administrative expenses	(582)	(401)	(641)	10%	60%	(1,963)	(1,868)	(5%)
Other operating income	5	6	6	10%	0%	20	23	14%
EBITDA	3,343	2,554	1,849	(45%)	(28%)	17,724	10,026	(43%)
Depreciation and amortization	(2,200)	(2,150)	(2,156)	(2%)	0.3%	(8,630)	(8,600)	(0.4%)
EBIT	1,143	404	(307)	(127%)	(176%)	9,094	1,425	(84%)
Finance costs	(901)	(1,068)	(1,210)	34%	13%	(3,860)	(4,299)	11%
Other non-operating income and expenses	1,063	205	420	(61%)	105%	2,100	2,164	3%
Dividend received and shares of profit of associates and joint ventures	201	764	359	79%	(53%)	1,792	1,731	(3%)
Income tax expenses	(97)	158	238	(345%)	50%	(1,192)	376	(132%)
Profit before FX and extraordinary items	1,409	462	(501)	(136%)	(208%)	7,934	1,398	(82%)
Net foreign exchange gain (loss)	68	(61)	372	(448%)	710%	(93)	59	(163%)
Net profit	1,477	401	(128)	(109%)	(132%)	7,840	1,457	(81%)
Non-controlling interests	(309)	(70)	(308)	(0.1%)	342%	(522)	(566)	8%
Net profit for the Company	1,168	331	(436)	(137%)	(232%)	7,319	891	(88%)
Adjusted Net Income¹	1,571	784	21	(99%)	(97%)	8,907	2,780	(69%)
Gross profit margin (%)	18%	9%	7%	(11%)	(2%)	26%	10%	(17%)
Net profit margin (%)	5%	1%	-1%	(7%)	(2%)	10%	1%	(9%)
Adjusted Net Income margin (%)	7%	2%	0.1%	(7%)	(2%)	12%	2%	(10%)

Q4/2022 vs Q4/2021 (YTD) Net Profit

Net Profit **-1,604 MTHB (-137%)**

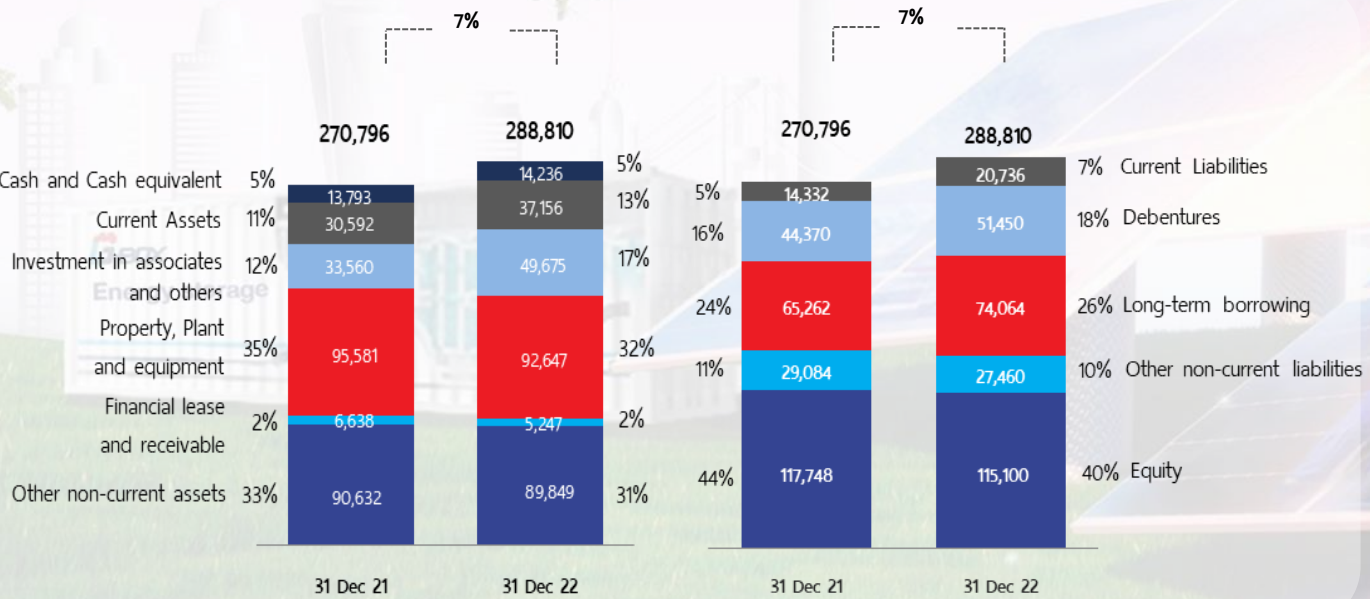
▼ Energy Margin loss due to significant higher natural gas and coal price

▲ Share of Profit	+161
▲ CFXD	+250
▲ XPCL	+36
▲ TSR	+15
▼ NNEG	-39
▼ GRP	-28
▼ NUOVO+	-20
▼ BIC	-18
▼ CCE	-14
▼ AVAADA	-11
▼ NL1PC	-10
▼ Dividend Income	-2
(EFT Q4/22 +3, Q4/21 +5)	



Q4/2022 Operating Results

Summary of Financial Position



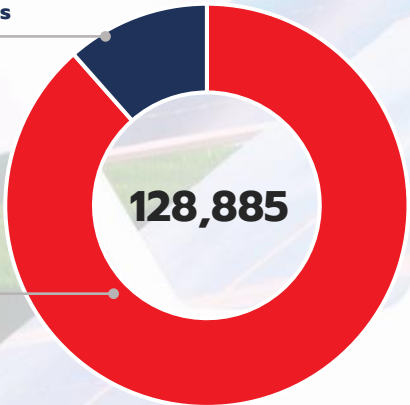
Total Interest-Bearing Debt (THB million)

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

THB 14,828 million | 12%

Non-current portion of long-term loans and debentures

THB 114,057 million | 88%



Total asset +18,014 MTHB

- Cash and cash equivalents +443
- Investment in associates and JV, mainly CFXD, and Nuovo Plus +16,114
- Other current assets +6,564
- PPE -2,934
- Financial lease and receivable -1,391
- Other non-current assets -783

Liabilities +20,662 MTHB

- Long-term borrowings and debentures +15,882
- Current liabilities +6,404
- Other non-current liabilities -1,625

Equity -2,647 MTHB

- NI for the period +1,457
- Dividend payment -3,524
- Other comprehensive income -580

CREDIT RATINGS

AA+

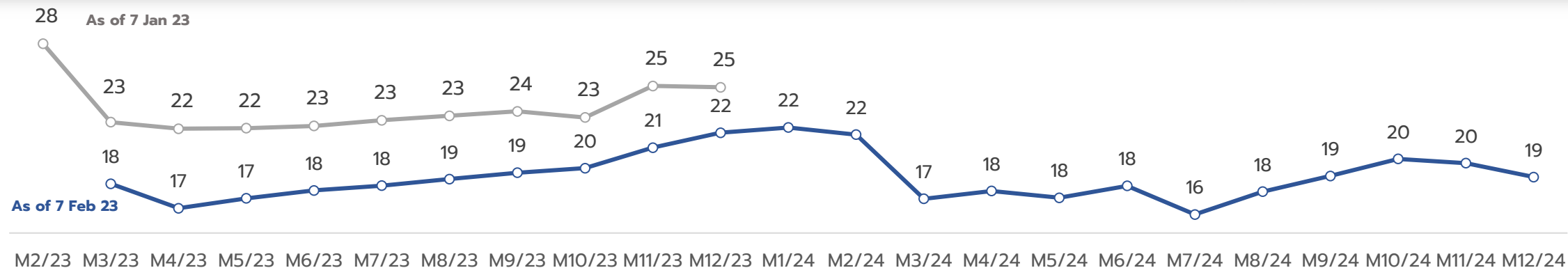
A+(tha)
BBB-



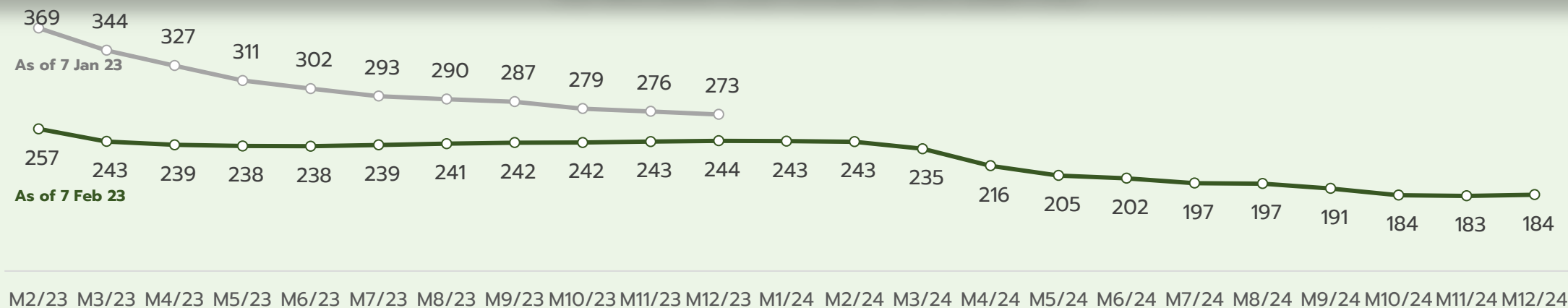
FitchRatings

Energy Price Outlook(2023 - 2024) : Fuel price will fall in 2023?

JKM Forward Curve (USD/MMBTU)



ICE Newcastle Coal Forward Curve (USD/Ton)



Award & Achievement

Sustainability Award Bronze Class 2022

S&P Global

S&P Global Sustainability Award in Bronze Class, distinction for Electric Utilities industry in the S&P Global Sustainability Yearbook 2022

**TRIS
RATING**

A Strategic Partner of S&P Global

AA+(Stable)
Tris rating



GPSC receives the Sustainability Excellence Award from SET AWARDS 2022



Low Carbon and Sustainable Business Award 2022

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%)	-	-	-	-	1,340	1994	-
Glow Energy Phase 2 + SPP replacement	SPP	GLOW (100%)	270	270	270	666	1,180	2023	25
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
IRPC-CP Phase 3	SPP	GPSC (51%)	70	35.7	-	-	-	2024	-
NNEG	SPP	GPSC (30%)	125	38	38	9	-	2016	25
NNEG Expansion	SPP	GPSC (30%)	60	18	18	3	-	2020	21
NNEG Expansion 2	SPP	GPSC (30%)	30	9	-	1.59	-	2024	-
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			2,707	2,230	2,085	2,889	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 Waste to Energy (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
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	-	-	-	2016-21	20
AEPL (Solar Power Platform)	Solar	GPSC (43%)	4,634	1,990	1,649			2018-24	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%)	42.45	42.45	15.28			2018-24	Long-term
Total VSPP and others			5,542	2,307	1,792	-	-		
ERU									
ERU (Under construction)	Petroleum Pitch	GPSC (100%)	250	250	-	175	-	2025	25
Total ERU			250	250	-	175	-		
Total capacity			13,409	7,227	6,316	3,064	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%

2023 Maintenance Schedule | Sriracha and Rayong Plants

			2022											
Main Unit	Description	Duration	Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CUP-1	GTG-16	22 Days	13/1	1Y	3/2									
	GTG-12	14 Days										1/10	HGPI	14/10
CUP-2	GTG-22	14 Days						4/6	HGPI	17/6				
	ST-21	27 Days									31/8	MI	26/9	
CUP-4	GTG-41	10 Days								4/7	HGPI	13/7		
SRC	GT-11	9 Days								2/7	CI	10/7		
	GT-12	9 Days								2/7	CI	10/7		

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2023 Maintenance Schedule | IRPC-CP

Main Unit	Description	Duration	2023											
			Q1				Q2			Q3			Q4	
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Block 1														
CTG 21	A	5 Days								5				
HRSG 21	YI	5 Days								5				
CTG 22	A	5 Days								5				
HRSG 22	YI	5 Days								5				
STG 23	YI	5 Days								5				
Block 2														
CTG 31	A	5 Days									5			
HRSG 31	YI	5 Days									5			
CTG 32	A	5 Days												5
HRSG 32	YI	5 Days												5
STG 33	YI	5 Days												5
Aux. Boiler	YI	7 Days							7					

- Notes:
- YI: Yearly Inspection, A: Inspection Level A
 - The duration of maintenance above does not include inspection by law.

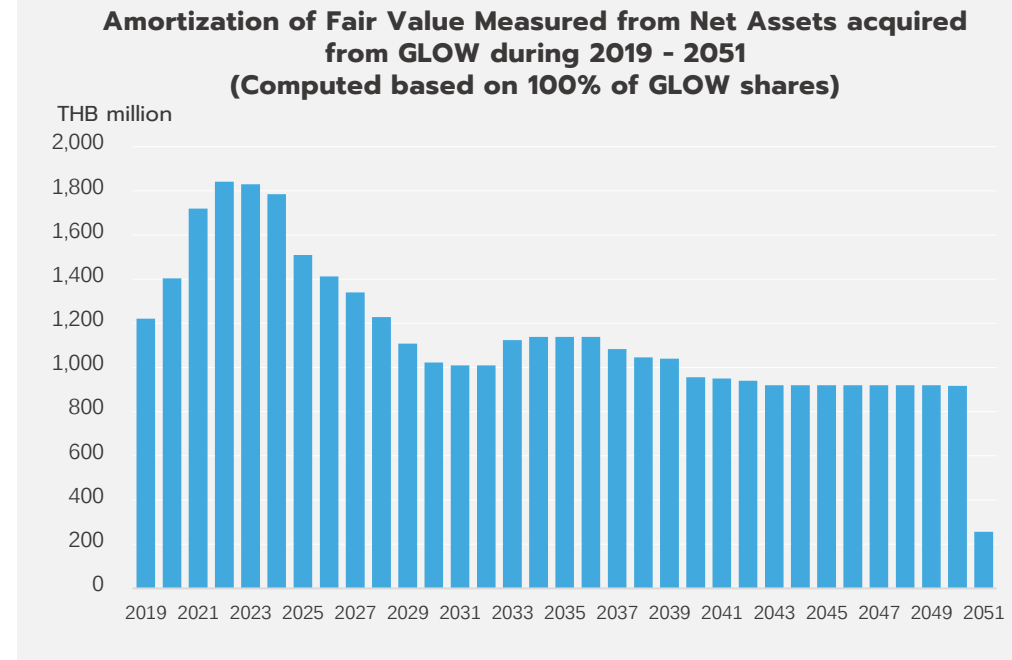
2023 Maintenance Schedule | GLOW's Main Units

Main Units	Description	Duration	2023											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GSPP2	CTG_1A_1B	4 Days								25/8 MI 28/8				
GSPP2	CTG_1B	4 Days								25/8 MI 28/8				
GSPP2	CTG_1A	6 Days								25/8 MI 28/8				
GSPP3	CFB_1	2 Days				1/4 3Y 2/4								
	CFB_2	25 Days	13/1 3Y 14/1		1/3 3Y 5/3						21/9 3Y 11/10			
GSPP11 (Plant 2)	GT_1	5 Days	15/1 CI 16/1					25/6 CI 25/6					23/12 CI 24/12	
GSPP11 (Plant 3)	GE_4	16 Days	17/1 HGPI 1/2											
GSPP11 (Plant 1)	GT_100	25 Days									20/10 CI 13/11			
GEN	Phase 5	25 Days						1/6 CI 25/6						
GHECO-One	GHECO-One	55 Days	15/1 MI 10/3											
HHPC	Unit_1	14 Days										20/10 MI 2/11		
	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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