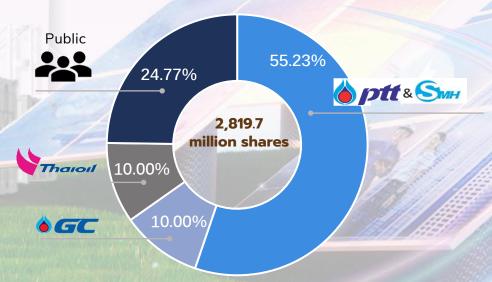




# VISION 🚳

The Global Leading Innovative and Sustainable **Power Company** 

#### GPSC's SHAREHOLDING STRUCTURE



# **ASPIRATION**

To be top 3 power company in Southeast Asia with more than half of MW from Green Portfolio

**CREDIT RATINGS** 

#### **COMPANY INFORMATION**

(as of May 22, 2023)

**Business Type** Paid-up Capital Market Cap.

| Energy & Utilities listed on SET

THB 28,197 million

| THB 167,069 million (3rd in power sector)

AA+

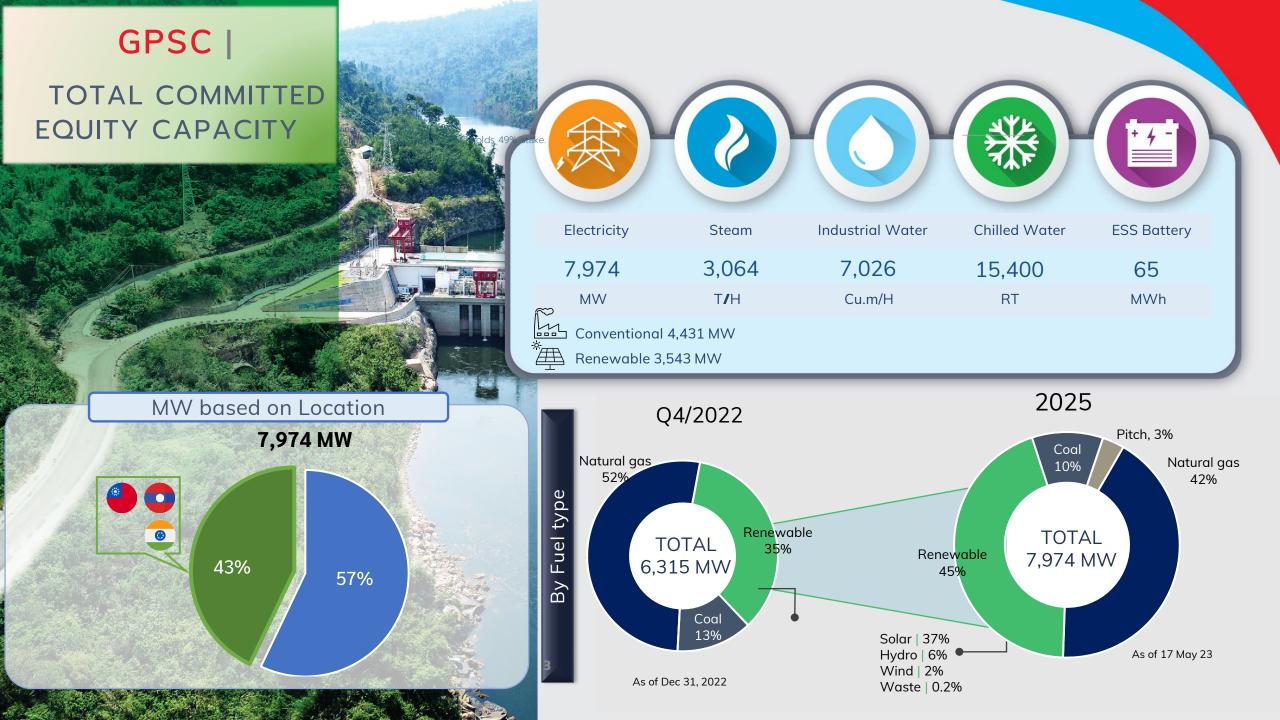
**Fitch**Ratings

A+(tha)

**BBB-**

Dow Jones Sustainability Indices Powered by the S&P Global CSA





# **4S** STRATEGY





#### STRENGTHEN & EXPAND THE CORE

- Best in class operations
- Customer-centric utility
- Expansion into adjacencies (e.g., water)





#### SCALE-UP GREEN ENERGY

- Solar power scale-up
- Wind power scale-up
- ESS-RE hybrid power entry





#### S-CURVE & BATTERIES

- Energy storage systems
- EV & Mobility batteries
- New S-Curves





# SHIFT TO CUSTOMER-CENTRIC SOLUTIONS

- Distributed generation
- District cooling
- Energy management services



# Agenda

1 Q1/23 Business Progress

Financial Performance

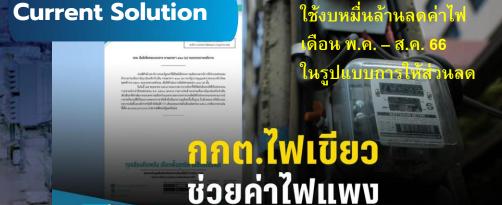


#### **Power Market Update**

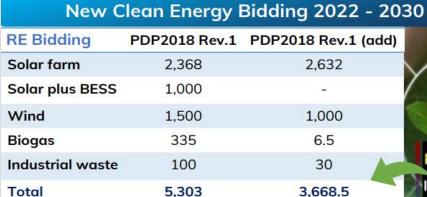


**Challenges: Election "Power Politics"** 





# **Opportunities**











**Pursue Opportunity** 

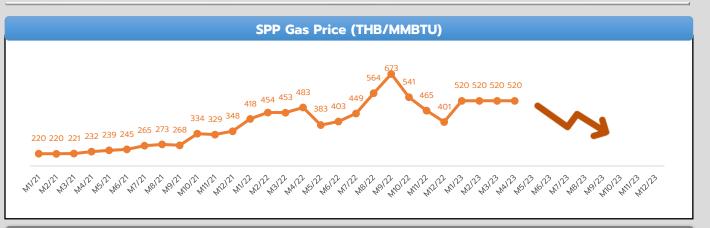
ปี 2022

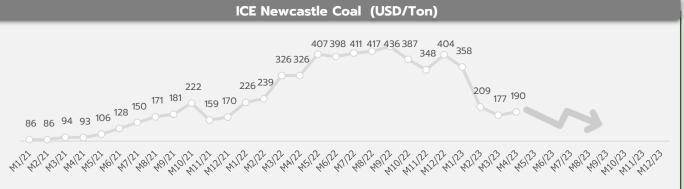
Reduce Risk

# 2023 Year of Recovery

# **Downtrend of LNG and coal costs**

# **External Factor: Fuel Prices are Falling Again**





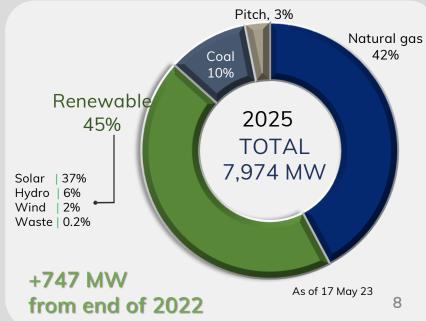


# TOTAL COMMITTED EQUITY CAPACITY

#### **Internal Factor: Accelerated Business Growth**







#### **GPSC Outlook: The Year of Business Recovery**



Strengthen operational performance:

GE phase 5 and Gheco-1 has been fixed so plant availability significantly improved





The ongoing decline in energy costs: Coal & Natural gas





IU contract capacity is continuously growing to offset EGAT PPA reduction



**GPSC's New Growth Driver for Coping with Uncertainty** 



V

No. 1 leading Utility-Scale developers in India during Jan - Dec 2022



Improving business performance along with additional capacity



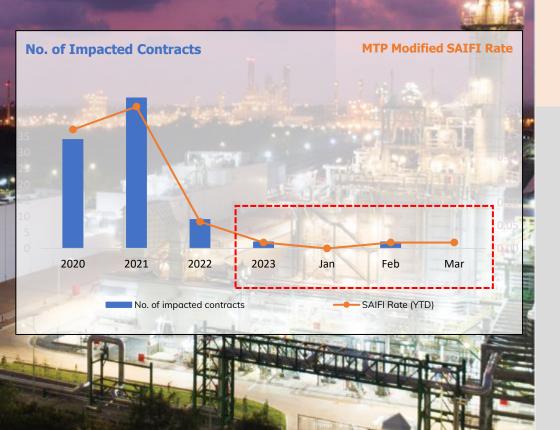
Expected to record share of profit from AEPL > 200 MB in 2023



Continue growing RE MW with justified return both in Thailand and abroad

# S1 & EXPAND THE CORE

Operational Excellence
Customer-centric utility
Expansion into adjacencies



#### The Operational Excellence Management System (OEMS)

is designed to elevate GPSC's operations to a world-class standard

#### Q1/2023



**Strong operations for Cogen Power Plants** (no interruptions)

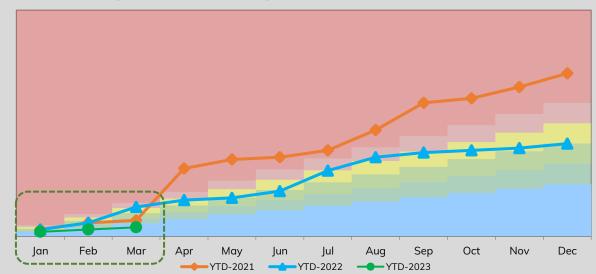


Preventing high-consequence incidents and impacts



Providing a reliable source of electricity to connected loads

#### **GPSC Group No. Of Unit Trip**



# S1# Update of Projects | Expansion capacity in 2023 - 2025

#### **Glow Energy Phase 2**





(ton/hr.)

460

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

#### **Energy Recovery Unit (ERU)**





#### **Glow SPP2**





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 50.41% and the project is in the process of concrete foundation and equipment work on boiler components, exhaust, structural works, and electrical control buildings.

#### **Project updates:**

- > The project is in the process of the construction of foundation
- > Overall, the project has reached 89.48%.

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

# S2 SCALE-UP GREEN ENERGY Scale-up Solar & Wind **ESS-RE** hybrid power entry **Target: Enhancing Green portfolio** > 50% in 2030

#### **Scale Up Oversea Investment**

**Solar Power Platform** in India









**Contracted Capacity** 

3,744 MW As of Jul 2021 6,520 MW As of 17 May 2023

**AEPL Target** 11 **GW** in 2026



Rapid capacity growth with a huge Opportunity in India



+ 1,886 MW during Jan - May 2023;

To be signed PPA in the next coming 3-6 months + SCOD in 18 months



#### Pursue new opportunities in Thailand



GPSC group won in bidding 16 MW for RE biglot under PDP (2 solar power projects)



Preparing for a new auction of RE under PDP with 3.66 GW capacity (Expected to be announced Q2/23 - Q3/23)

# S2# Update of Projects | Expansion capacity in 2023 - 2025

#### **CFXD: Offshore wind in Taiwan**



The construction has reached 59.6%, the first power has started in November 2022. The project expected to start full commercial operation in Q1/2024.

#### **Avaada Energy Private Limited (AEPL)**



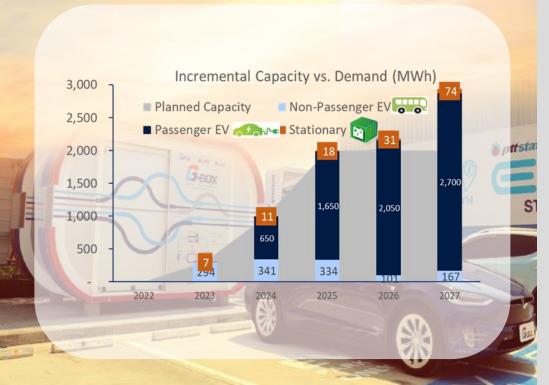


Contracted Capacity 6,520 MW

Project	Electricity Capacity (MW) as of 13 Jul 21	Electricity Capacity (MW) as of 17 May 23	COD
Operating	1,392 (13 projects)	3,987 (29 projects)	-
Under construction	2,352 (8 projects)	583 (4 projects)	2023–2024
Under development		1,950 (8 projects)	2023-2024
Total	3,744	6,520	

# S3 S-CURVE & BATTERIES

Energy storage systems
EV & Mobility batteries
New S-Curves



# **Battery Business**

# AXXIVA



#### **Next-Gen EV Battery Manufacturing**



The main construction is completed, and the facility installation is ongoing



1 GWh battery manufacturing plant for EV is expected to SOP in 2023

# **M**GOTION





#### Module and pack assembly plant business



NV Gotion will operate the business of importing, assembling, and distributing battery modules and battery packs



<u>Capacity</u>: Module and pack assembly

- 1st Phase 1 GWh, expansion up to 2 GWh
- Available land for potential expansion to cell plant or new pack line

Location: Siam Eastern Industrial Park 2, Rayong



Expected SOP in Dec 2023



Focusing on serving battery for passenger EV





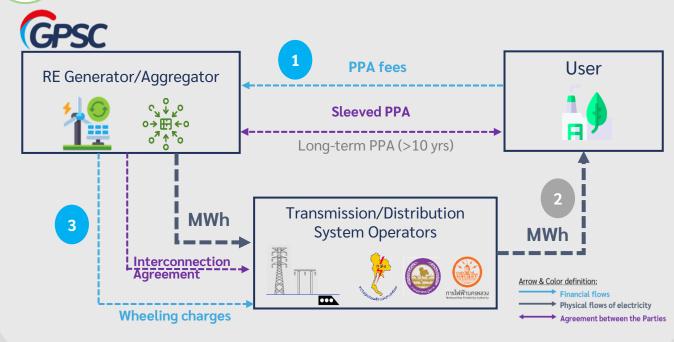
# **ERC Sandbox 2**



On process of negotiation with a potential customer



**RE aggregating & trading platform** 



**Third party access (TPA)** is a key enabler to expedite RE development plan for GPSC throughout Thailand to achieve green energy target





REDUCE FOSSIL PORTFOLIO



GROW RENEWABLES



ENHANCE INFRASTRUCTURE



TRADING & OFFSET



Net Zero GHG Emissions by 2060

**FARGET** > Carbon Neutrality by 2050

> Carbon intensity reduction 10% by 2025 & 35% by 2030

#### **Energy Efficiency**



Continuously implement process **improvement & optimization to existing fossil-fuel power plants**, reduce fuel and energy consumption.

- Adopt best practice operational excellence
- Retrofit fossil-fuel plants
- Fuel & Energy consumption reduction
- Internal renewable energy consumption

Target>> 100,000 Tonnes CO2e Reduction by 2023

#### **Grow Renewables**



Phasedown fossil-fuel power plant and grow renewable in both domestic and international

- Phasedown fossil-fuel based power plant (priority on coal)
- Invest renewables through new, M&A projects focusing on solar and wind energy
- Fuel switching from fossil fuel into renewables
- Green hydrogen (new plants)
- Biomass with and W/O CCUS

Target>> RE portion more than 50 % by 2030

#### CCUS & Hydrogen Technology



Facilitate direct GHG sink and removal from fossil-based operations

- Blue and Green Hydrogen (existing plants) (with CCUS)
- CCUS integration (Coal/natural gas with post combustion carbon capture)

#### Reforestation & Carbon Pricing



Initiate nature-based solution and generate additional values through EAC participation

- Carbon sink through nature-based solution
- Environmental Attribution Certificates (EACs) participation
  - Renewable Energy Certificates (RECs) trading
  - Carbon credit trading
- Biomass with and W/O CCUS

Target>> Reforestation 10,000 rai by 2030
Internal carbon Pricing : Investment criteria

16

# Agenda

1 Q1/23 Business Progress

Financial Performance



# Q1/2023 Highlights & Lowlights



# **Highlights**

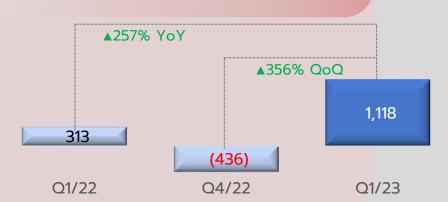
- + Strong operations for Cogen Business (no interruptions)
- **Higher Ft** (increase THB 0.6149 THB/kWh to THB 1.5492 per unit for other electricity users (excluding households)
- + Natural gas and coal prices trend are steadily declining
- + Higher share of profit from AEPL

# Lowlights

- Planned outage of GHECO-One: 54 days from 15 Jan to 9 Mar 23
- Lower share of profit from XPCL
- Lower steam demand

	vs Q1/22	vs Q4/22
IU Power	(12%)	+2%
IU Steam	(18%)	(5%)

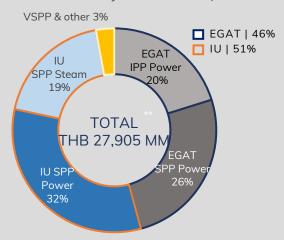
# EBITDA (THB MM) **▲88% YoY** ▲147% QoQ 4,568 2,428 1,849 Q1/22 Q4/22 Q1/23 NI (THB MM)



# **Company's Performance**

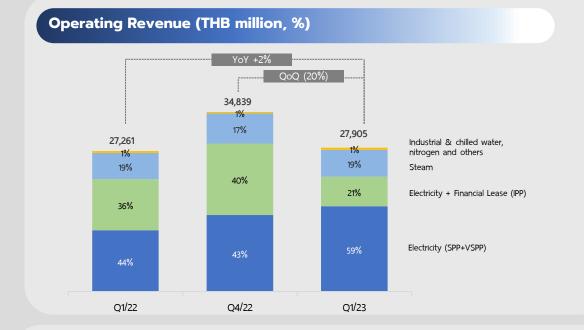
Customer Portfolio

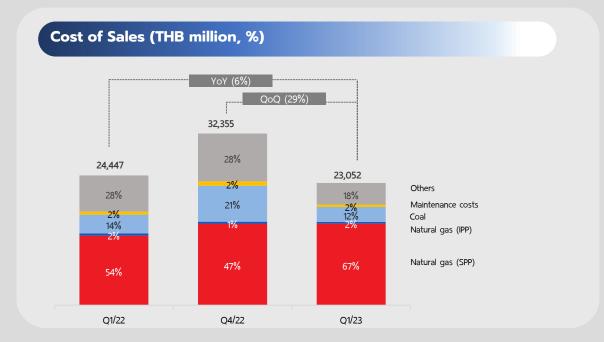
Q1/2023 Revenue by Customers | THB MM, %

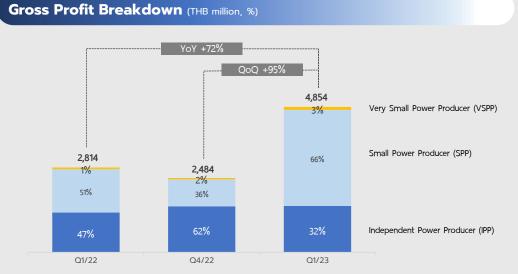


#### LT OFF-TAKE CONTRACTS

- ✓ Guaranteed market and source of revenue
- ✓ Guarantee a minimum level of profit in regard to their investment
- Price adjustment formula, varying with fuel price

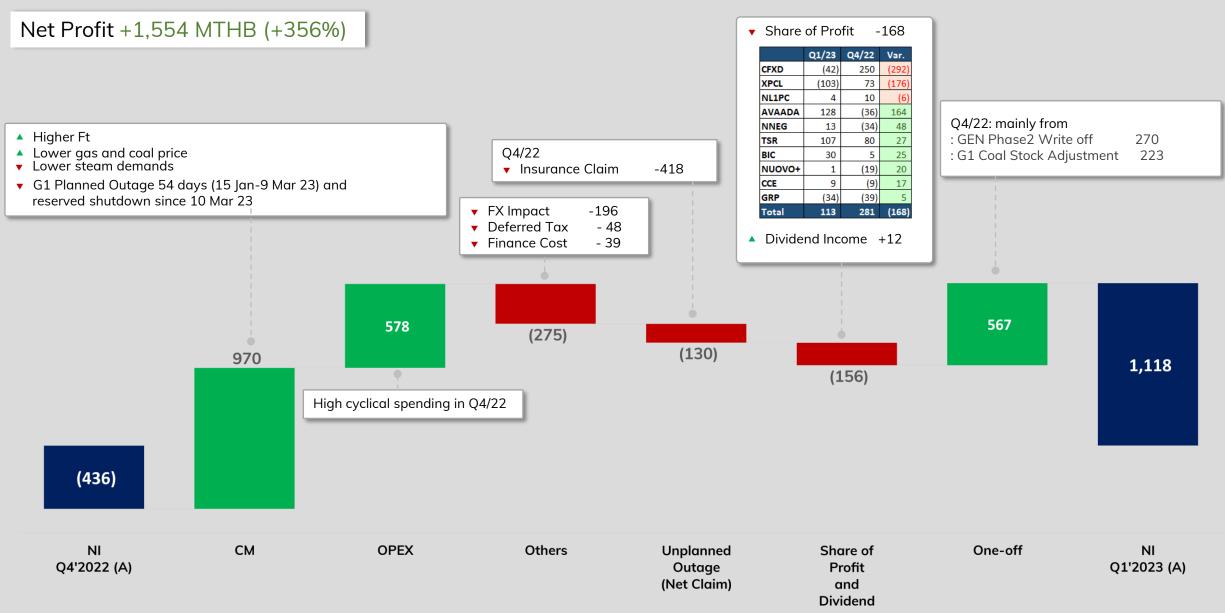






Higher Ft could help increasing the margin in selling electricity to industrial customers while GHECO-One has planned outage for 54 days.

# Q1/2023 vs Q4/2022 (QoQ) Net Profit



20

# **Q&A SESSION**

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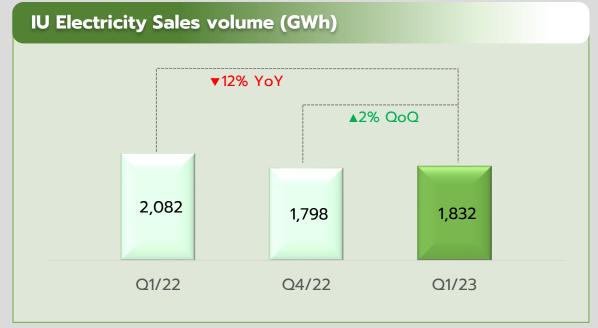
Appendix

### **Key Macro Factors (as of Mar 2023)**

#### **Electricity Sales volume (GWh)**

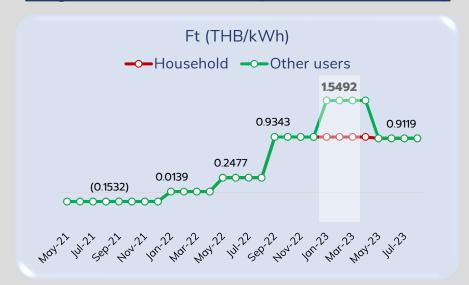








#### **Key Macro Factors (as of Mar 2023)**

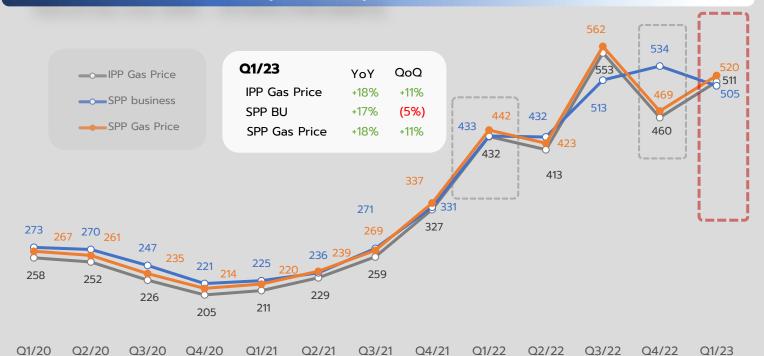


IPP's Availability	Q1/22	Q4/22	Q1/23	Change +/(-)			
Rate (%)				YoY	QoQ		
Sriracha	84%	76%	97%	13%	20%		
GIPP	99% 96%		89%	(9%)	(7%)		
GHECO-One	76%	87%	41% (34%)		(46%)		

#### End-month FX (THB/USD)

Q1/22		Q4	/22	Q1/23			
Jan 22	33.60	Oct 22	38.19	Jan 23	32.77		
Feb 22	32.89	Nov 22	35.54	Feb 23	35.32		
Mar 22	33.46	Dec 22	34.73	Mar 23	34.26		
Avg.	33.32		36.15		34.12		

#### Natural Gas Cost 2020 - Q1/2023 (THB/MMBTU)



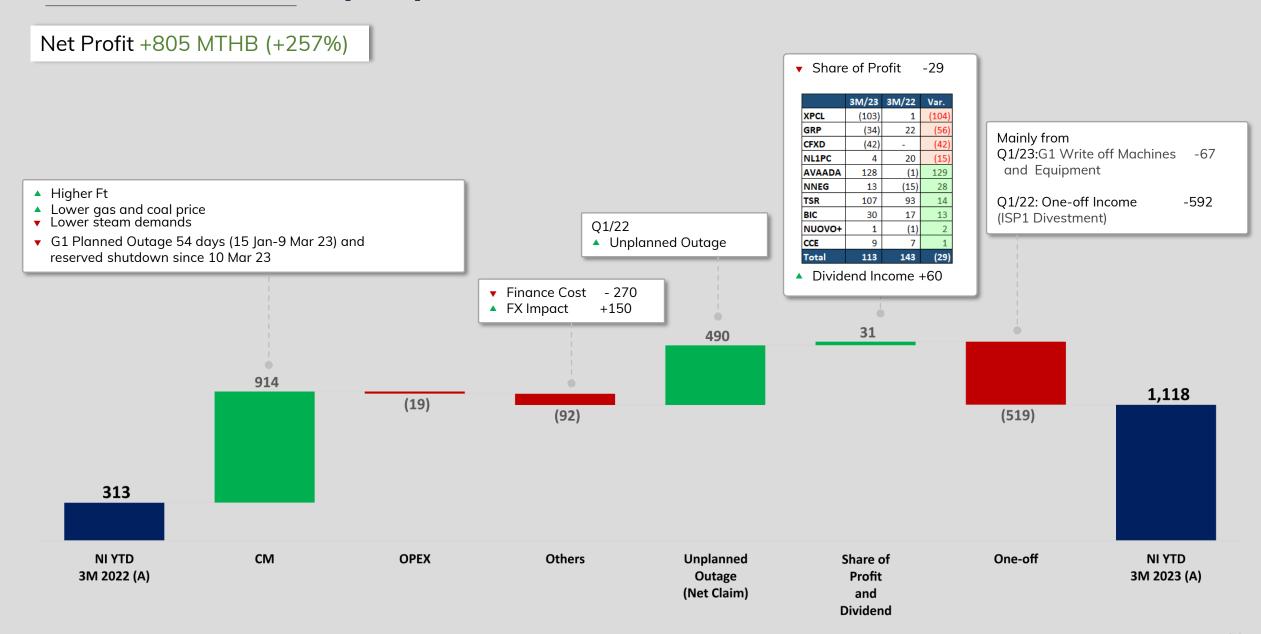
#### Coal Cost 2020 – Q1/2023 (USD/Ton JPU) (excluding freight costs)



# **Q1/2023 Operating Results**

Overall operating results of the Company	Q1/22	Q4/22	Q1/23	change +/(-)		
and its subsidiaries (unit: THB million)	QI/22	Q4/22	Q1/25	YoY	QoQ	
Operating revenue	27,261	34,839	27,905	2%	(20%)	
Cost of sales (excluding depreciation and amortization)	(24,447)	(32,355)	(23,052)	(6%)	(29%)	
Gross profit	2,814	2,484	4,854	72%	95%	
Selling and administrative expenses	(391)	(641)	(369)	(6%)	(42%)	
Other operating income	5	6	84	1,477%	1,399%	
EBITDA	2,428	1,849	4,568	88%	147%	
Depreciation and amortization	(2,135)	(2,156)	(2,206)	3%	2%	
EBIT	293	(307)	2,362	707%	868%	
Finance costs	(974)	(1,210)	(1,242)	28%	3%	
Other non-operating income and expenses	921	420	27	(97%)	(93%)	
Dividend received and shares of profit of associates and joint ventures	173	359	203	18%	(43%)	
Income tax expenses	34	238	(105)	413%	144%	
Profit before FX and extraordinary items	446	(501)	1,245	179%	349%	
Net foreign exchange gain (loss)	(68)	372	73	207%	(80%)	
Net profit	377	(128)	1,318	249%	1,127%	
Non-controlling interests	(64)	(308)	(201)	213%	(35%)	
Net profit for the Company	313	(436)	1,118	257%	356%	
Adjusted Net Income	771	21	1,571	104%	7,300%	
Gross profit margin (%)	10%	7%	17%	7%	10%	
Net profit margin (%)	1%	(1%)	4%	3%	5%	
Adjusted Net Income margin (%)	3%	0.1%	6%	3%	<b>6%</b>	

# Q1/2023 vs Q1/2022 (YoY) Net Profit



Note: All numbers are after tax and NCI

#### **Q1/2023 Operating Results**

288,810

14,236

37,156

92,647

89,849

31 Dec 22

(1%)

287,282

20,941

28,450

94,165

4,859

89,637

31 Mar 23

7%

9%

13%

35%

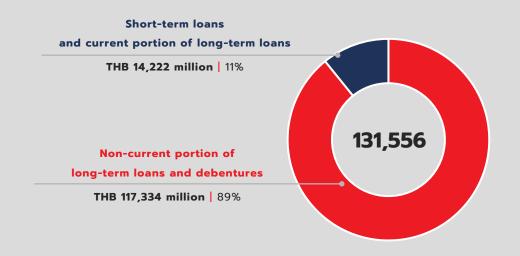
2%

34%

#### **Summary of Financial Position**

#### (1%) 287,282 288,810 ■ 5% Current Liabilities 15.781 20,736 18% Debentures 18% 26% Long-term borrowing 26% 74,064 9% Other non-current liabilities 10% 40% Equity 115,262 115,100 31 Dec 22 31 Mar 23

#### **Total Interest-Bearing Debt (THB million)**



#### Total assets: THB -1,528 MM

Cash and Cash equivalent 5%

Investment in associates 12% and others

Property, Plant

and equipment

Other non-current assets 34%

Current Assets 11%

Financial lease 2%

receivable

Cash and cash equivalents	+6,705
Other current assets	(8,706)
<ul> <li>Investment in associates and JV, mainly from the 24M</li> </ul>	(445)
• PPE	+1,518
• Financial lease receivable	(388)
Other non-current assets	(212)

#### Liabilities: THB -1,690 MM

Current liabilities

* Current habilities	(4,933)
<ul> <li>Long-term borrowings and</li> </ul>	
debentures	+3,564
Other non-current liabilities	(298)

(4 955)

Equity : THB +162 MM	
<ul> <li>NI for the period</li> </ul>	+1,318
<ul> <li>Dividend payment</li> </ul>	(891)
Others	(266)

#### **CREDIT RATINGS**

AA+



A+(tha) BBB-



# **GPSC** | Power Plant Portfolio (1/2)

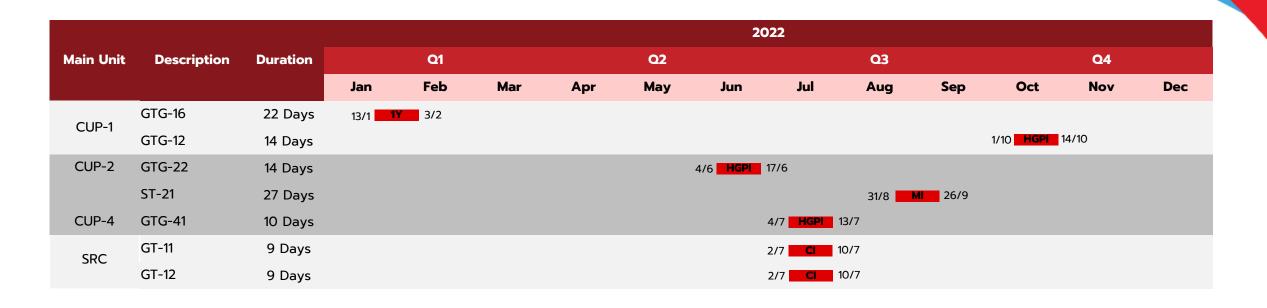
Name	Туре	Shareholding (%)	Total capacity (MW)	Equity Power capacity (MW)	Equity Operating Power capacity (MW)	Steam (T/H)	Industrial water (Cu.m/H)	COD	Tenor
IPP									
Sriracha	IPP	GPSC (100%)	700	700	700	-	80	2000	25
Glow IPP	IPP	GLOW (95%)	713	677	677	-	-	2003	25
Huay Ho	IPP	GLOW (67%)	152	102	102	-	-	1999	30
GHECO-One	IPP	GLOW (65%)	660	429	429	-	-	2012	25
XPCL	IPP	GPSC (25%)	1,285	321	321	-	-	2019	29
RPCL	IPP	GPSC (15%)	1,400	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%)	-	-	-	-	1,240	1994	-
Glow Energy Phase 2 (SPP replacement)	SPP	GLOW (100%)	200	200	200	460	934	2022-23	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	SPP	GLOW (100%)	213	213	213	190	-	1999	25
Glow SPP 3	SPP	GLOW (100%)	300	300	300	-	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, <b>637</b>	2, <b>160</b>	2, <b>115</b>	2,683	6,946		

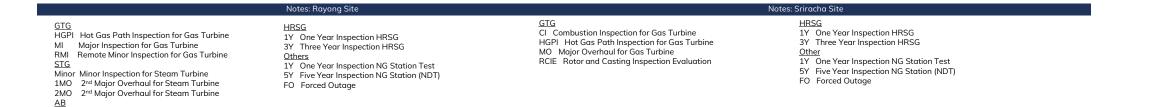
# **GPSC** | Power Plant Portfolio (2/2)

Name	Туре	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
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%)	6,520	2,799	1,712	-	-	2018-25	10-24
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)	Wind	GPSC (25%)	595	149	-	-	-	2022-24	20
Helios 3 – 4	Solar	GPSC (50%)	16	8	-	-	-	2030	25
Private PPA	Solar	GPSC Gr. (100%)	43.24	43.24	22.18	-	-	2018-24	Long-term
Total VSPP and others			7,163	3,125	1,860	-	-		
ERU									
ERU (Under construction)	Petroleum Pitch	GPSC (100%)	250	250	-	175	-	2025	25
	Total ERU		250	250	-	175	-		
Total capacity			14,960	7,974	6,414	2,858	7,026		

Note: - Total committed equity capacity as of May 17, 2023.
- Equity capacity includes 100% stake in GLOW, CFXD, Private PPA and ERU

# 2023 Maintenance Schedule | Sriracha and Rayong Plants





1Y

One Year Inspection Aux. Boiler Three Year Inspection Aux. Boiler

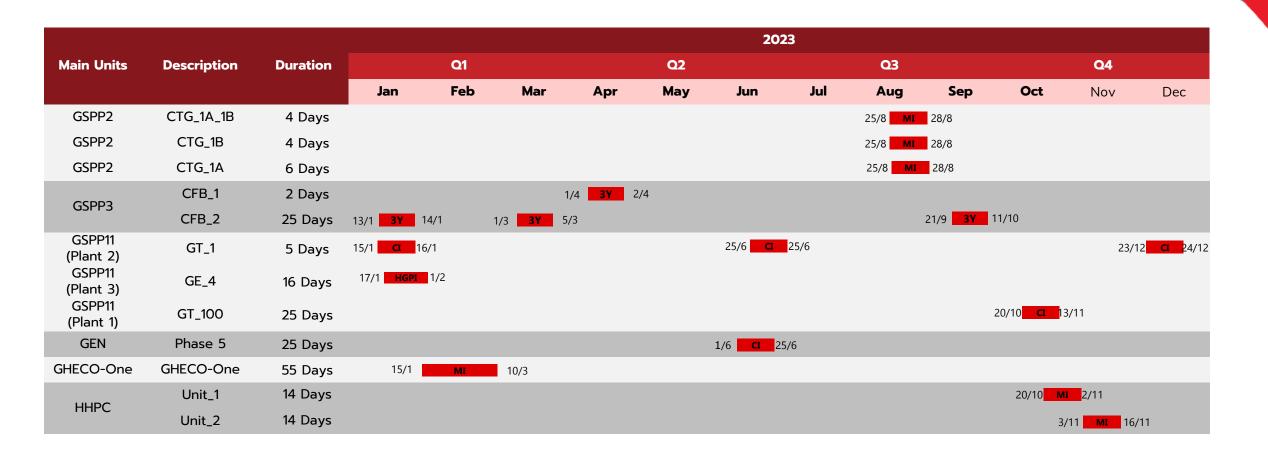
# **2023 Maintenance Schedule** | IRPC-CP

								20	23					
Main Unit	Description	Duration		Q1			Q2			Q3			<b>Q4</b>	
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Block 1														
CTG 21	А	5 Days								5				
HRSG 21	YI	5 Days								5				
CTG 22	Α	5 Days								5				
HRSG 22	YI	5 Days								5				
STG 23	YI	5 Days								5				
Block 2														
CTG 31	А	5 Days									5			
HRSG 31	YI	5 Days									5			
CTG 32	Α	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.

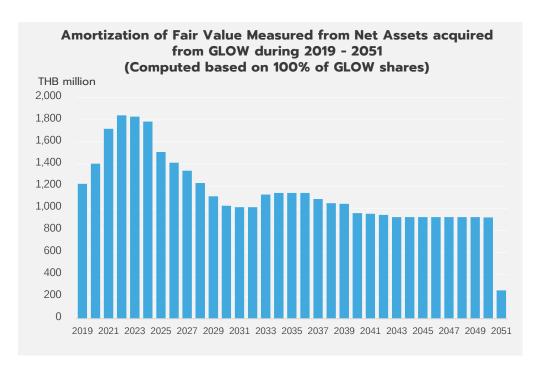
# **2023 Maintenance Schedule** | GLOW's Main Units



# 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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