



บริษัท โกลบอล เพาเวอร์ ซินเนอร์ยี จำกัด (มหาชน)  
Global Power Synergy Public Company Limited

**Q1 | 2020**

# Corporate Presentation

**THE INNOVATIVE POWER FLAGSHIP OF PTT GROUP**

แท่นน้ำมันวิศวกรรมธุรกิจไฟฟ้ากลุ่ม ปตท.

# Petroleum Authority of Thailand PLC (PTT)

## GPSC's parent company: the largest energy conglomerate in Thailand












### Upstream

### Intermediate

### Downstream

### Technology & Engineering

Business Area	Company	PTT's Holding (%)	Activities
 E&P	PTTEP	65.29%	Exploration and production
 Coal	PTT Global Management	100%	Coal business
 LNG	PTT Global LNG PTT LNG	50% 100%	LNG value chain LNG receiving terminal
 Gas	Gas Pipeline*	100%	Sole owner/operation of the transmission pipeline
	S&M*	100%	Supply & marketing of natural gas
	GSP*	100%	Extracting hydrocarbon contents in natural gas for petrochemical's feedstock
 Trading	Trading*	100%	Import/Export/Out-out trading of petroleum and petrochemical products
 Oil Marketing	PTTOR**	100%	Retail service stations and commercial marketing
 Petrochemical & Refining	PTTGC	48.18%	Petrochemical flagship
	TOP	48.03%	Refinery flagship
	IRPC	48.05%	Integrated refinery & petrochemical
 Power		22.81%	Power flagship New S-Curve business of PTT group

**Note:**

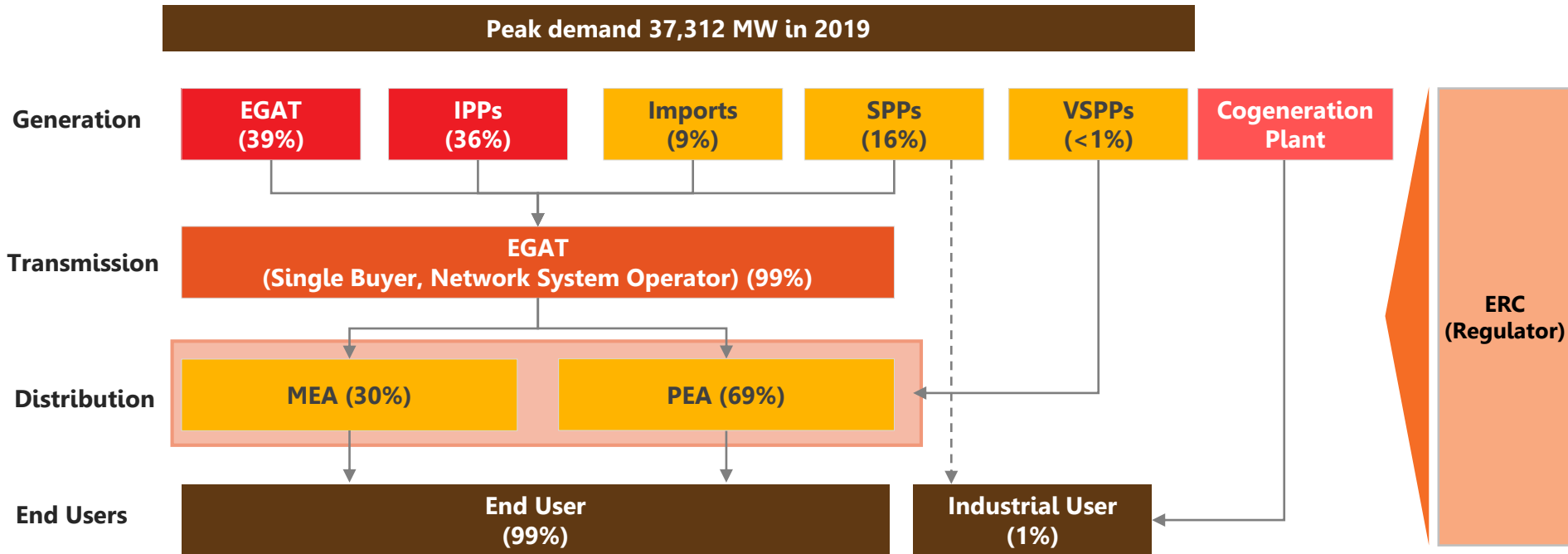
\*Businesses directly operated by PTT PLC

\*\*Transferred asset to PTTOR on July 1, 2018

Source: PTT's Investor Update May 2019

# Current power industry structure in Thailand

- **EGAT and IPPs dominate electricity generation market**, with the combined market share 75%.
- EGAT is the sole purchaser for almost all of the electricity generated, while VSPPs sell electricity directly to the MEA and PEA
- SPPs sell electricity to both EGAT and directly to industrial users



## Definition

- EGAT Electricity Generating Authority of Thailand (State-owned entity)  
 IPP Independent Power Producers  
 SPP Small Power Producers  
 VSPP Very Small Power Producers  
 MEA Metropolitan Electricity Authority (State-owned entity)  
 PEA Provincial Electricity Authority (State-owned entity)  
 ERC Energy Regulatory Commission

# Power plant definition and revenue structure

## IPP

### Independent Power Producer (IPP):

- A large power producer who has entered into the Power Purchase Agreement (PPA) with contracted capacity more than 90 MW
- IPPs are obliged to sell their entire output to EGAT

## SPP

### Small Power Producer (SPP) / Cogeneration (Cogen):

- A small power producer who sell their electricity to EGAT\* and sell their electricity and utilities (e.g. steam, industrial water, chilled water) to Industrial customers (IUs)

#### Contract Type:

EGAT:

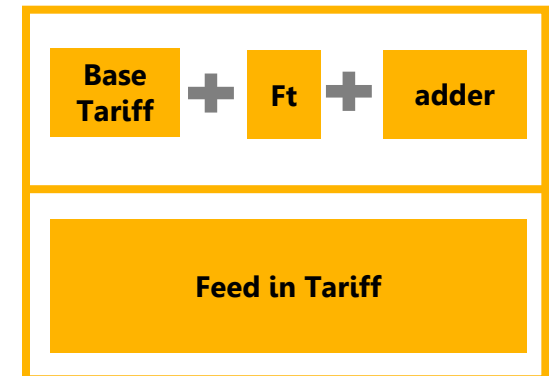
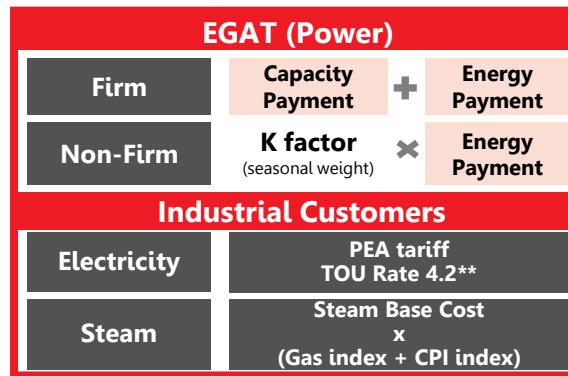
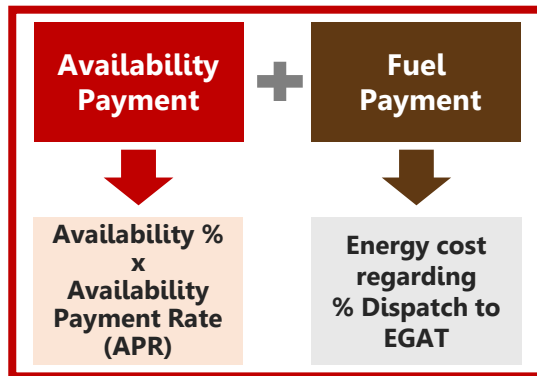
- Firm: Contract term > 5 years ; CP + EP (+ FS)\*\*
- Non-Firm: Contract term ≤ 5 Years; Only EP<sub>NF</sub>

IUs: Commercial contract as agreed.

## VSPP

### Very Small Power Producer (VSPP):

- A very small generator whose power generating process is generated from renewable energy, cogeneration, biogas, biomass, waste heat, etc. with contracted capacity no more than 10 MW of electricity capacity
- VSPPs are able to sell power to the Distribution Utility Authority only



\* Under various type of contracts.

\*\* Fuel Saving (FS)

\*\*\* Reference rate with conditions:

<https://www.pea.co.th/Documents/Rate2015.pdf>



# GPSC's vision and mission

## VISION



## MISSION



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

- Create long-term shareholders' value with **profitable growth**
- **Deliver reliable energy** through operational excellence to customers
- Conduct business with **social and environmental responsibility**
- Seek **innovation in power and utility** efficiency management through energy storage technology

# GPSC Customers' Profile in Q1/2020



## LONG TERM OFF TAKE CONTRACTS

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



**51% Industrial Users**



**48% EGAT**

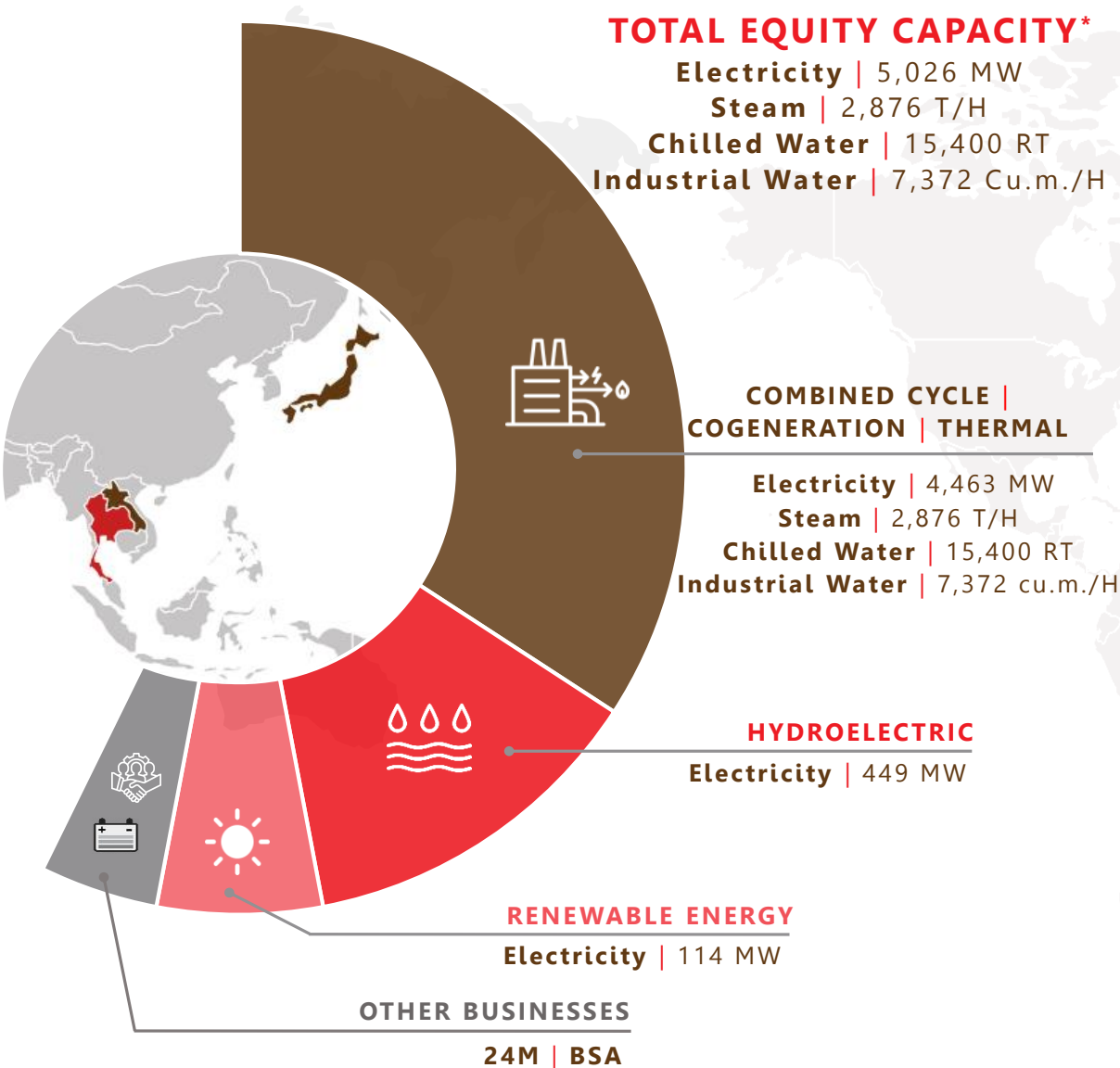


**1% Others**

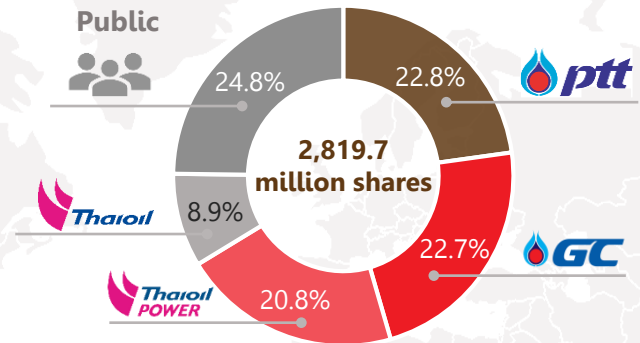
**\*Q1/2020 revenue by customers**

# GPSC Innovative Power Company at a Glance

as of 8 May 2020



## SHAREHOLDING STRUCTURE



## COMPANY INFORMATION

**Business Type** | Energy & Utilities  
**Paid-up Capital** | THB 28,197 million  
**Market Cap.** | THB 191,741.6 million  
**Listed on** | Stock Exchange of Thailand

## CREDIT RATINGS

**BBB-** S&P Global

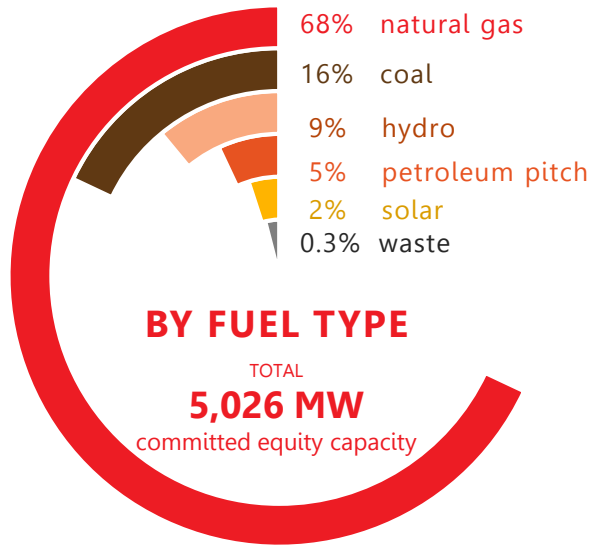
**AA-**

**TRIS**  
RATING

**A+ (tha)** FitchRatings

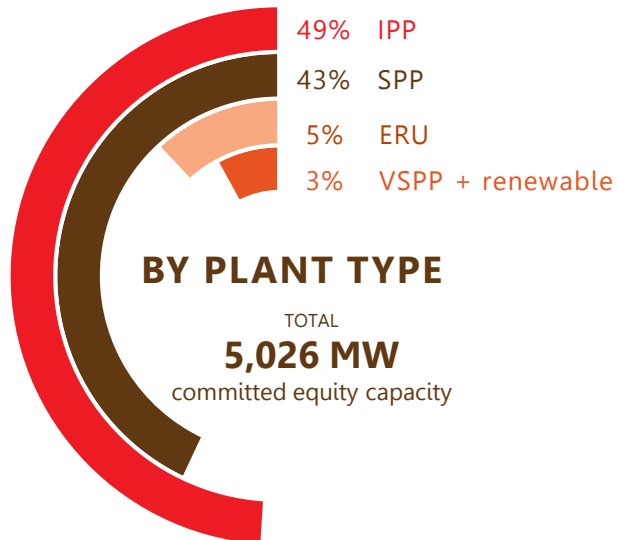
**Note:** \*Committed equity capacity

# GPSC's Business Portfolio by Fuel and Plant Type | as of Q1/2020



## BY FUEL TYPE

FUEL TYPE	INSTALLED MW			EQUITY MW		
	total capacity	in operation	%	total capacity	in operation	%
natural gas	5,047	4,987	63%	3,399	3,381	68%
hydro	1,502	1,502	19%	449	449	9%
coal	1,045	1,045	13%	814	814	16%
petroleum pitch	250	-	3%	250	-	5%
solar	149	109	2%	101	101	2%
waste	18	9	0.2%	13	3	0.3%
<b>TOTAL</b>	<b>8,011</b>	<b>7,691</b>	<b>100%</b>	<b>5,026</b>	<b>4,748</b>	<b>100%</b>



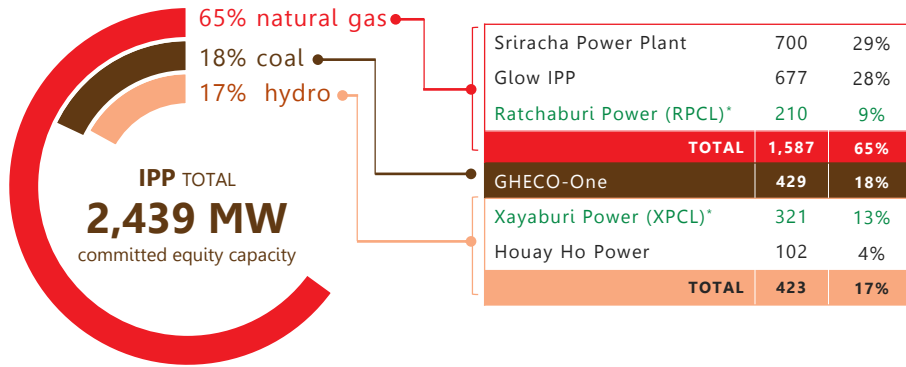
## BY PLANT TYPE

PLANT TYPE	INSTALLED MW			EQUITY MW		
	total capacity	in operation	%	total capacity	in operation	%
IPP	4,910	4,910	61%	2,440	2,440	49%
SPP	2,614	2,554	33%	2,192	2,174	43%
ERU	250	-	3%	250	-	5%
VSPP + renewable	237	227	3%	144	134	3%
<b>TOTAL</b>	<b>8,011</b>	<b>7,691</b>	<b>100%</b>	<b>5,026</b>	<b>4,748</b>	<b>100%</b>

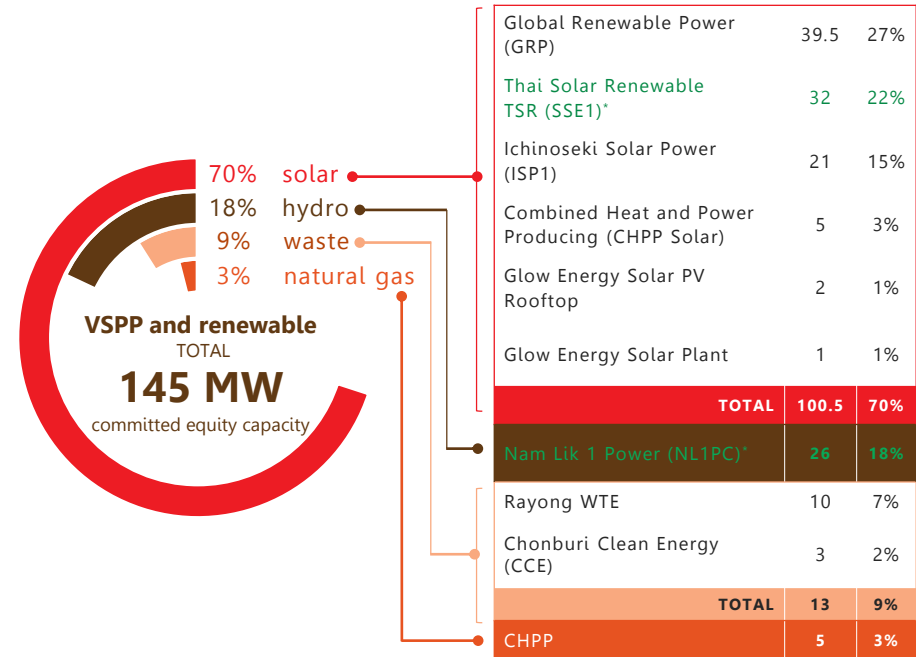


# GPSC's Business Portfolio by Plant Type | as of Q1/2020

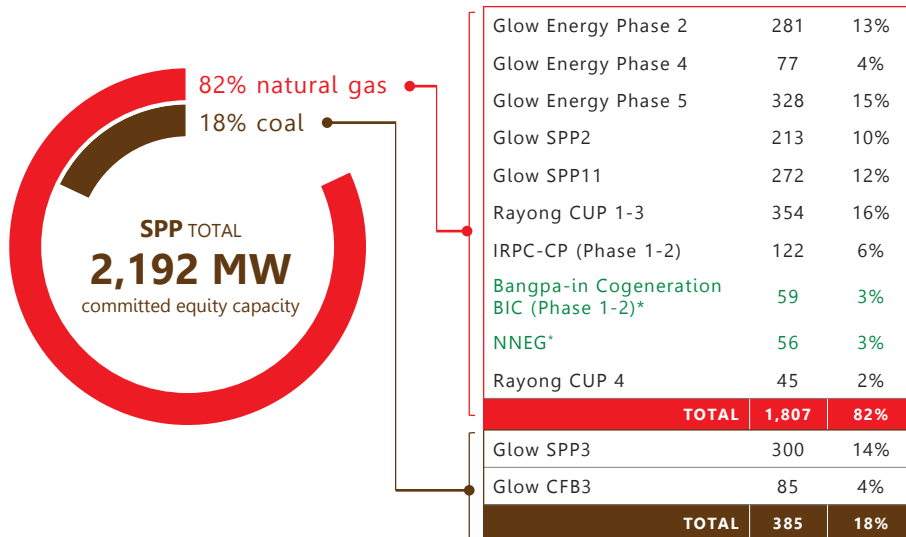
## IPP | 49%



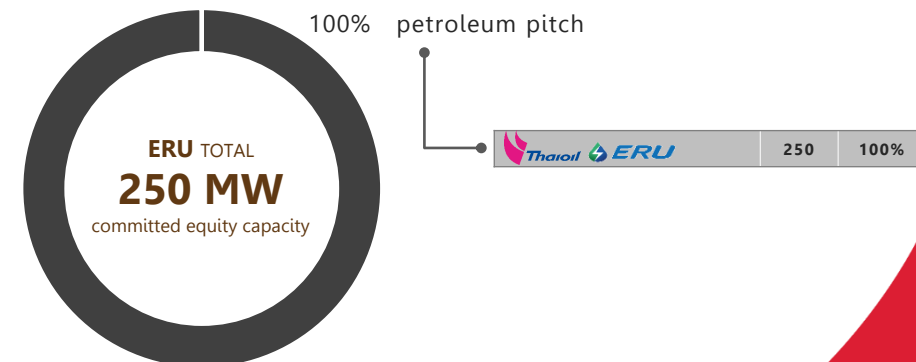
## VSPP and renewable | 3%



## SPP | 43%



## ERU | 5%



Note: \*GPSC associates and Joint Ventures

# Q1 | 2020 KEY HIGHLIGHTS

"Growing profit with sustainability and control"



## SIGNIFICANT GROWTH

### Integration & move forward with the new organizational

GLOW acquisition completed and new organization structure implemented since 1 Apr 2020 to ensure synergy target and group's vision are supported

### Bridging Loan Fully Repaid

GPSC's bridging loan of THB 134.5 billion fully repaid in Q1/2020 as planned by capital increase of THB 74 billion and debenture issuance of THB 35 billion completed in Q4/2019 and new bank loans of THB 12 billion obtained in Q1/2020

### Closing of 39.5 MW Solar Project

Completed M&A of 39.5 MW solar project through GRP on 26 Mar 2020



## PROFIT

### 107% Increase in Adjusted Net Income, YoY

due to full contribution from Glow and higher AP from Sriracha Power Plant due to THB depreciation against USD

### 27% QoQ increase from Q4/2019

due to increased AP and EP from EGAT and decreased cost of SPP natural gas and maintenance

### No Significant COVID-19 Impact

Q1/2020 started off with strong operational performance. However, any delayed impact on industrial customers demand being closely monitored



## SUSTAINABILITY

### 2<sup>nd</sup> Interim Dividend

2019 2<sup>nd</sup> interim dividend payment of THB 0.80 per share made on 17 Apr 2020

### Awards



Best Cross-Border M&A deal from the THB 134.6 billion acquisition deal of Glow Energy PLC from Engie Development BV



2019 Bond Deal of the Year from the issuance of THB 35 billion bonds



## CONTROL

### Projects Under Construction



Expansion phase, 92.3% construction progress, SCOD in 2020



WTE, 57.5% construction progress, SCOD in 2021

ERU, jointly operated with Thaioil, 29% construction progress, SCOD in 2023



### SPP Replacement, replacement of:

- **GE Phase 2 (Stage 1):** under construction with SCOD in 2022
- **GSPP2 and GSPP3 (Stage 2):** under feasibility study for internal investment approval

# Due to COVID-19 situation, 2<sup>nd</sup> interim dividend announced instead of 2019 annual dividend

On 30 March 2020 the BoD approved 2<sup>nd</sup> interim dividend payment instead of the annual dividend payment to reduce impacts from postponement of AGM from 1 April 2020 to 4 June 2020 as part of precautionary measures during COVID-19 outbreak.

## Dividends from 2019 performance totaling THB 1.30 per share

1H/2019: THB 0.50 per share Paid on 12 Sep 2019

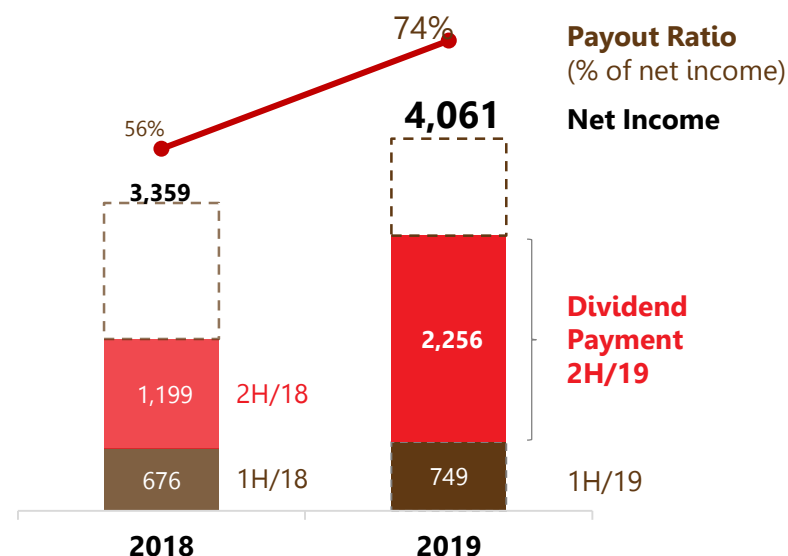
2H/2019: THB 0.80 per share Paid on 17 Apr 2020

\*to be acknowledged by the AGM held on 4 Jun 2020

## The dividend payment is a result of:

- ✓ Successful acquisition of GLOW
- ✓ Better operating performance in 2019 from continuous growth of 4 projects that started COD in 2019 and higher Availability Payment (AP)

## DIVIDEND PAYMENT | THB million



## DIVIDEND POLICY

Minimum dividend of not less than 30 percent of the net profit according to the financial statements of the Company after the deduction of tax, reserved funds as required by law (with additional conditions)

## Key Timeline

26 Feb 2020

XD



17 Apr 2020  
Dividend  
Payment Date



15 May 2020  
Record date  
for AGM



4 Jun 2020  
New AGM Date







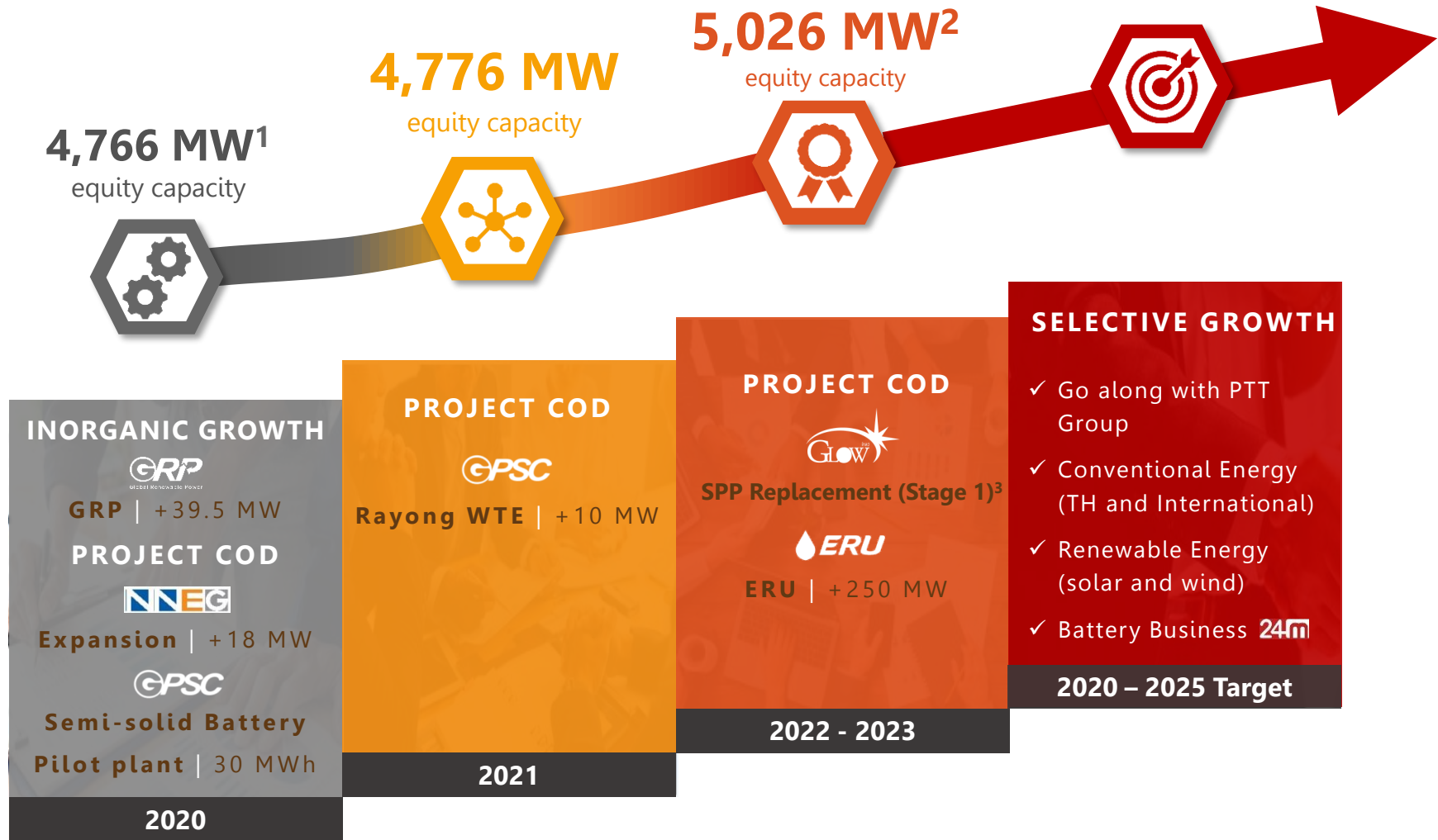
# **G**rowth and Strategic Directions

**Update of Projects**

**Financial Activities and Plans**

**Financial Performance**

# GPSC Electricity Growth Pipeline



**Notes:** 1. Consisting of operating projects 4,708 MW (COD before 2020), GRP 39.5 MW and NNEG Expansion 18 MW)  
 2. Maintain original capacity of Glow Cogeneration plants  
 3. **SPP Replacement Stage 1:** Glow Energy Phase 2 (new plant with 2 PPAs with EGAT, total capacity of 192 MW electricity and 300 T/h steam, SCOD in 2022; and  
**SPP Replacement Stage 2:** Glow SPP2 and Glow SPP3 is under feasibility study for internal investment approval.





## SYNERGY & INTEGRATION



Synergy Capture



Operation Excellence & Asset Optimization



Corporate & Business Infrastructure



## SELECTIVE GROWTH



Go along with PTT Group



Domestic and International



Renewable



## S-CURVE



Battery Business



Energy Storage System Integrator



Energy Management Solution Provider

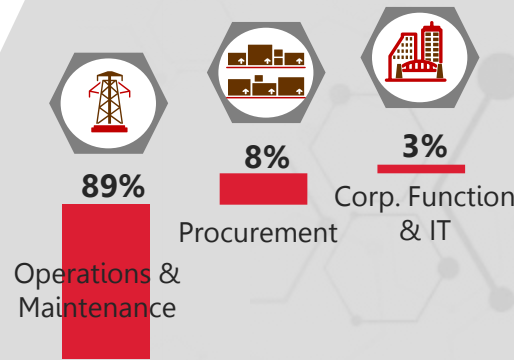
# Strategic Direction and Growth Strategy | Synergy and Integration

## SYNERGY AND INTEGRATION IMPLEMENTATION



*"working as one team  
to deliver synergy"*

## RECURRING SYNERGY VALUE BASED ON CURRENT PORTFOLIO



**THB+1.6 bn  
per year**

*Ramp up with full  
synergy value  
contribution by 2024*

**THB - 4.0 bn**  
*One-time  
initial investment*

## 2020 ENDORSED SELECTED INITIATIVES TO LOCK-IN VALUE

As of Q1/2020, GPSC was able to recognize the synergy value of approx. THB 121 mm from:

- **O&M** : Maintenance productivity optimization & Change from time based to activities based
- **Procurement** : Reduce total cost of power plant, indirect spend and coal management
- **Corporate Functions** : Optimize financing costs, insurance and working capital management

## 2020 FOCUS MOVED FROM IDENTIFYING POTENTIAL TO DELEVERING PROMISES

- ✓ **Execution Focus** | Move to monitoring and controlling
- ✓ **Speed of Delivery** | Prioritization and planning
- ✓ **Enablement & Ownership Transfer**



## SYNERGY & INTEGRATION



Operation Excellence &  
Asset Optimization

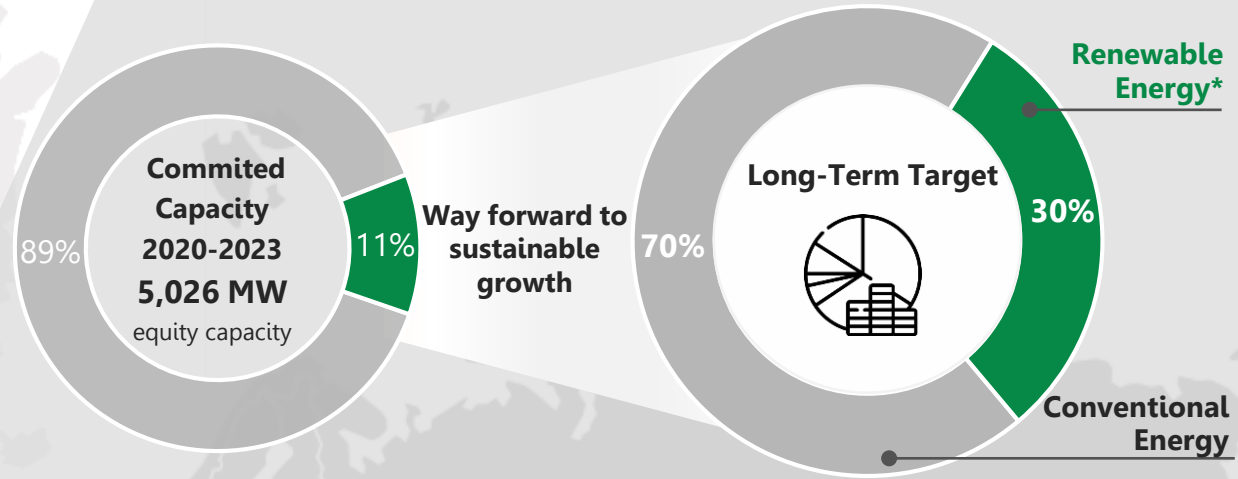


Corporate & Business  
Infrastructure




# Strategic Direction and Growth Strategy | Selective Growth

## SUSTAINABILITY STRATEGY & COMMITMENT

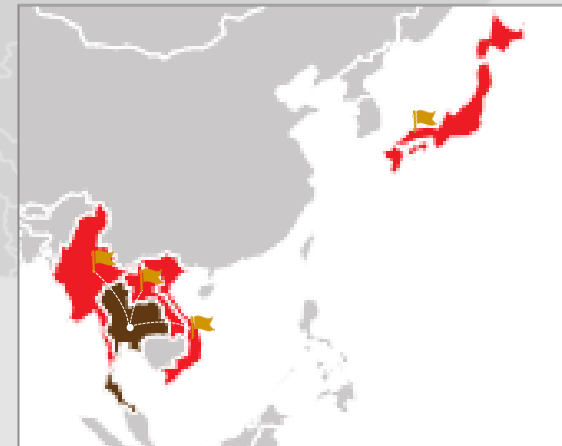
- ✓ To be listed in **DJSI by 2022**
- ✓ Increasing renewable energy up to **30% of GPSC's installed capacity**



## SELECTIVE GROWTH

-  Go along with PTT Group
-  Domestic and international
-  Renewable

*"Continuously seeking more international growth opportunities"*



**Note:** \*Renewable energy includes solar, wind, waste, hydro, etc.



# Strategic Direction and Growth Strategy | S-Curve

## THE JOURNEY OF PTT AND GPSC NEW S-CURVE

Smart Energy Management & Solution Provider

Energy Storage & System Integration

Battery Business

Distributed Energy Resources

Transformation Enablement

Digital Energy



### S-CURVE



Battery Business



Energy Storage & System Integrator



Smart Energy Management & Solution Provider

**VISTEC**  
VIDYASIRIMEDHI  
INSTITUTE OF SCIENCE AND TECHNOLOGY

**SMART ENERGY MANAGEMENT**  
(Phase II: Q4/2020)



- ✓ 1.39 MW renewable energy (solar roof + floating)
- ✓ 1.2 MWh ESS for backup, renewable optimization and zero-import building
- ✓ Blockchain P2P energy trading
- ✓ EV chargers
- ✓ Artificial Intelligence



**ESS FOR GC's INNOVATION CENTER**  
(Launched: Feb 2020)



- ✓ Increase gas engine efficiency
- ✓ Peak shift with ESS
- ✓ 250kW/1.5MWh
- ✓ Emergency backup power

### GPSC ENERGY STORAGE SYSTEM PROJECT INFORMATION AND STATUS

Types	Customers	Capacity	Status
Residential	Chiang Mai University	10kW/17kWh	■
Industrial	GCL	625kW/625kWh with 2MWp solar	■
Industrial	GC	250kW/1.5MWh	■
Smart City	VISTEC	1MW/1MWh	■

■ Completed ■ Contracting

# S-Curve Business | Shift Design to Decide

## BATTERY MANUFACTURE



## The New Energy Economy



## Location

Map Ta Phut Industrial Estate



Plot No. :  
S-7



Size :  
12-1-3.63 Rai



Area : General Industrial  
Area, Map Ta Phut  
Industrial Estate



Land Owner :  
Industrial Estate Authority  
of Thailand (IEAT)



Investment :  
1.1 Billion THB

## BATTERY MANUFACTURE DEVELOPMENT



**First Battery Cell by End of 2020**



A large industrial facility, possibly a refinery or chemical plant, is shown at dusk. The sky is a deep purple and red, with some clouds. The facility features a tall, cylindrical distillation column on the left, various pipes, and a large, flat-roofed building in the center. In the background, other industrial structures and distant mountains are visible under the twilight sky.

**Growth and Strategic Directions**

**Update of Projects**

**Financial Activities and Plans**

**Financial Performance**

# Global Renewable Power Company Limited (GRP)

M&A project



PROJECT CLOSING | 26 MAR 2020

TYPE

ELECTRICITY (MW)



Solar Power Plants

39.5



GPSC's HOLDING

CUSTOMERS

100%  
(through GRP)



Provincial Electricity Authority (PEA)




	N.P.S Star Group	World X Change Asia	P.P. Solar	Global Renewable Power Operating
<b>Capacity</b> (MW)	18 (6*3)	17.9 (5.96*3)	3.6 (1.2*3)	 Service Company 
<b>Off-taker</b>	PEA	PEA	PEA	
<b>Tariff Scheme</b>	FiT at 5.66 THB/kWh	FiT at 5.66 THB/kWh	Adder at 8 THB/kWh	
<b>COD</b>	Dec 2015	Dec 2015	Mar 2014/Mar 2015	
<b>Location</b>	Pichit, Suphanburi and Lopburi	Pichit	Khon Kaen	

# Nava Nakorn Electricity Generation (NNEG) Expansion

Project under construction



SCOD | Q3/2020

TYPE	ELECTRICITY (MW)	STEAM (T/h)
 <b>Gas-fired Cogeneration</b>	Expansion 60	10
	Total <b>185</b>	<b>40</b>
LOCATION	CUSTOMERS	
Nava Nakorn Industrial Promotion Zone, Pathumthani	 <b>Industrial Users</b>	 <b>EGAT</b> (SPP Firm, 90 MW, 25-yr)
GPSC's HOLDING	PROJECT UPDATE	

Q1/2020 progress  
**92.3%**

**30%**  
of total share

- Main tasks e.g. engineering design, construction and procurement of main machinery and equipment are on schedule.



# 30 MWh Semi-Solid Battery Pilot Plant

Project under  
construction



SCOD | DEC/2020



TYPE



Semi-solid  
battery

PLANT CAPACITY (MWh/year)

30

LOCATION

Map Ta Phut  
Industrial Estate,  
Rayong, Thailand

CUSTOMERS



Mobility – E Bus/Tuktuk



BESS – Residential / C&I



Overseas Orders

PROJECT UPDATE

Q1/2020  
progress  
8.2%

100%

operating assets  
under GPSC

- Land lease with IEAT signed
- EPC contract signed on 19 Feb 2020
- Purchase orders for all critical equipment issued
- Project progress: 8.20% (on schedule)

# Rayong Waste to Energy (WTE)

Project under  
construction



SCOD | Q2/2021

TYPE



Waste

ELECTRICITY (MW)

9.8

RDF (T/day)

300

LOCATION

Rayong, Thailand

CUSTOMERS



Provincial Electricity Authority (PEA)

Q1/2020  
progress  
**57.5%**

**100%**  
operating assets  
under GPSC

PROJECT UPDATE

- The RDF Project construction been starting to sort waste to produce RDF energy since 2018
- The RDF Power Plant Project construction progress is 57.5% and on schedule



# SPP Replacement | Stage 1 : Glow Energy Phase 2

Project under construction



SCOD | Q4/2022

TYPE



Gas-fired  
Cogeneration

ELECTRICITY (MW)

192

STEAM (T/h)

300

LOCATION

Map Ta Phut  
Industrial Estate  
Rayong, Thailand

CUSTOMERS



Industrial Users



EGAT  
(SPP Firm, 2\*30 MW, 25-yr)

GPSC's HOLDING

100%

of total share

PROJECT UPDATE

- Demolition work from 1 April to 31 July 2020
- Expected construction of new plant on 1 August 2020

# Energy Recovery Unit (ERU)

Project under construction



SCOD | 2023



**ERU Project** is a thermal power plant project that produces electricity and steam by using petroleum pitch which is a result of the refinery of Clean Fuel Project (CFP) of Thaioil. The electricity and steam produced are sent back to the CFP at the Thai Oil Refinery.

TYPE

ELECTRICITY (MW)

STEAM (T/h)



Petroleum Pitch

250

175

BY PRODUCTS | Sulfuric acid, condensate water

LOCATION

Thai Oil Refinery,  
Sriracha, Chonburi,  
Thailand

CUSTOMERS



**Thai Oil Public Company Limited**

(25-year, 200 MW of electricity and 175 T/h of steam)

GPSC's HOLDING

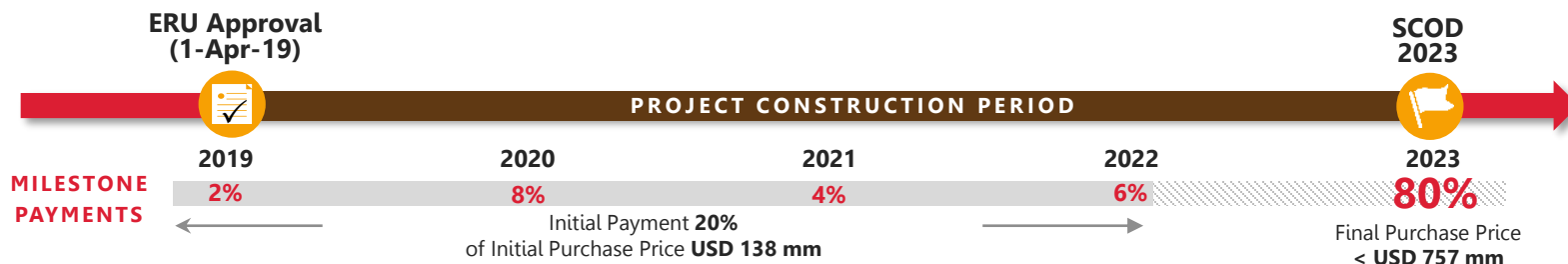
100%

of total share in ERU co.

PROJECT UPDATE

- **Engineering design work:** Engineering Design, Process Review, 3D Model Review
- **Construction:** Foundation work, Major Equipment Foundation
- **Procurement of main machinery and equipment:** purchase, manufacturing plan, PIM can proceed according to plan

## PROJECT TIMELINE & MILESTONE PAYMENTS



A wide-angle photograph of an industrial complex, likely a refinery or chemical plant, taken at dusk. The sky is a deep purple and pink. In the foreground, a tall, cylindrical distillation column with a spiral staircase is illuminated. To its right, a large, flat-roofed storage tank is visible. In the background, numerous other industrial structures, including distillation columns and storage tanks, are lit up, creating a glowing effect against the dark sky. The overall scene conveys a sense of industrial activity and scale.

**Growth and Strategic Directions**

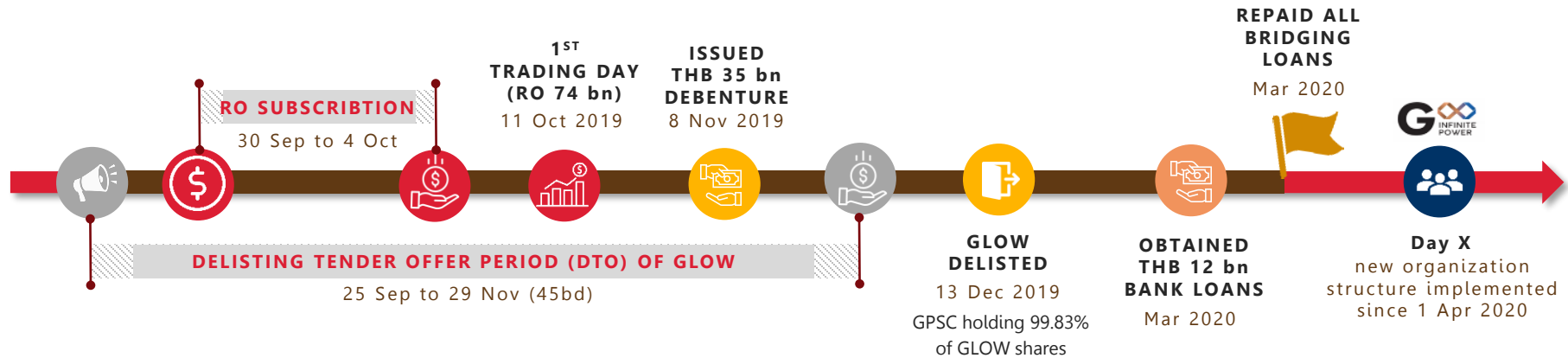
**Update of Projects**

**Financial Activities and Plans**

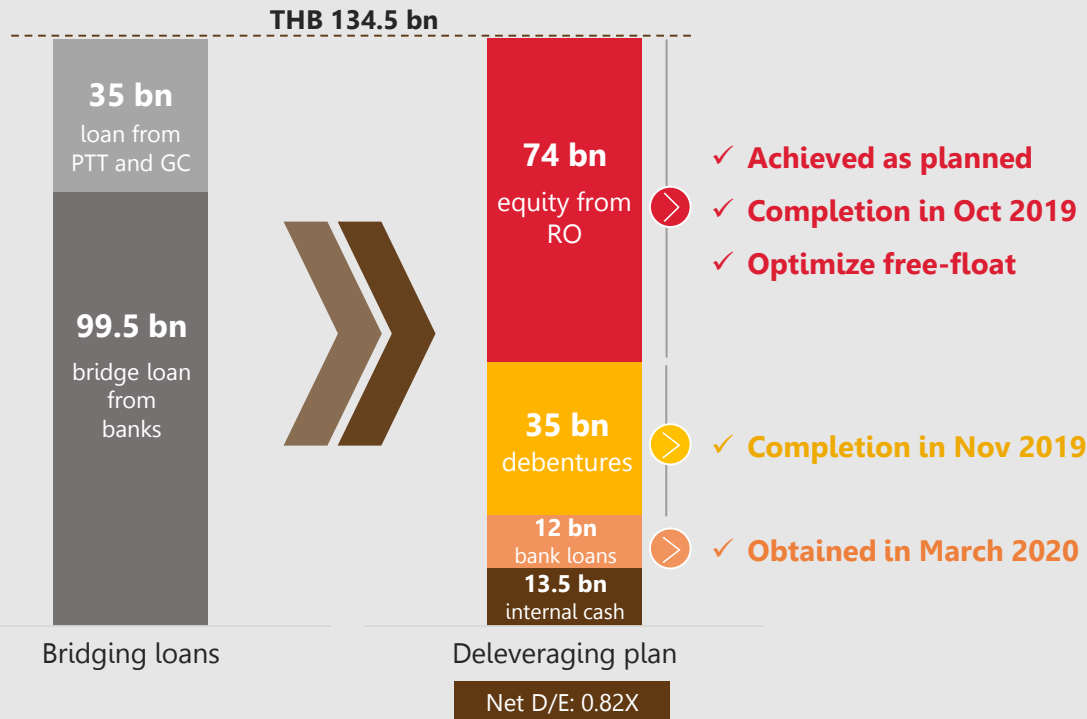
**Financial Performance**



# Q1/2020 Key Financial Activities



## SOURCE OF FUND AND DELEVERAGING PLAN FOR FUTURE GROWTH



### GPSC's PRUDENT FINANCIAL POLICY

- 1 Net Debt to Equity  $\leq 1.0x$**
- 2 Net Debt to EBITDA  $\leq 4.0x$**
- 3 Dividend Policy | Minimum dividend at the rate of not less than 30% of the net profit**

according to the financial statements of the Company after the deduction of tax, reserved funds as required by law (with additional conditions)

A wide-angle photograph of an industrial facility, likely a refinery or chemical plant, taken at dusk. The sky is a deep purple and pink. In the foreground, a tall, cylindrical distillation column with a spiral staircase is illuminated. To its right, a large, flat-roofed storage tank is visible. In the background, numerous other industrial structures, including distillation columns and storage tanks, are lit up, creating a glowing effect against the dark sky. The overall scene conveys a sense of industrial activity and scale.

**Growth and Strategic Directions**

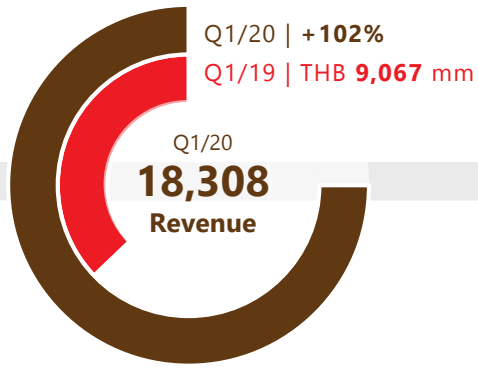
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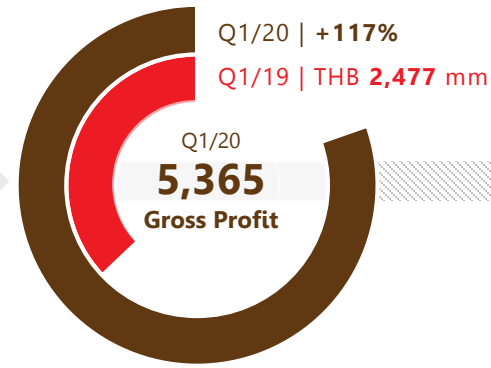
**Financial Performance**



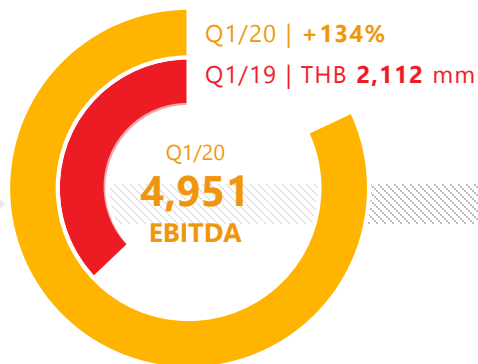
# Q1/2020 Key Financial Highlights | million THB



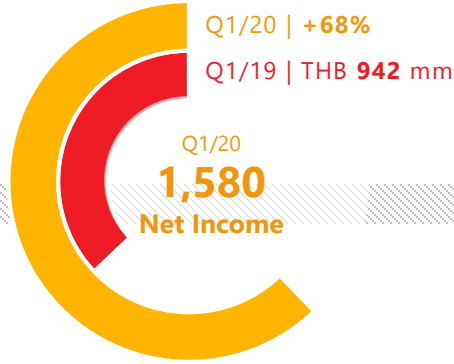
- **Group:** Revenue increased YoY mainly due to full quarter recognition of GLOW's revenue in Q1/2020
- + **Excluding GLOW contribution (IPP):** Increased revenue from EGAT due to higher electricity dispatch and higher AP due to depreciation of THB against USD
- **Excluding GLOW contribution (SPP):** Decreased IUs electricity and steam sales revenue due to lower dispatch as a result of IU's planned maintenance



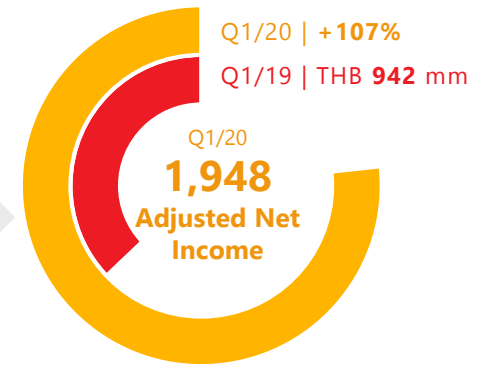
- **Group:** Gross profit increased YoY mainly due to full quarter recognition of GLOW's gross profit in Q1/2020
- + **SPP:** Lower average coal and natural gas price



- **Group:** Increased SG&A YoY mainly due to full quarter recognition of GLOW's SG&A in Q1/2020



- **Group:** Increased depreciation and amortization, finance cost YoY mainly due to full quarter recognition of GLOW's contribution in Q1/2020
- **Group:** Increased deferred tax expenses due to implementation of TFRS 16 despite utilization of tax loss carried forward from 2019 high finance costs
- **Group:** FX loss implementation of TFRS 9



# Accounting Impact on Q1/2020 Consolidated Financial Statements

## NEW ACCOUNTING STANDARDS IMPLEMENTED IN 2020

New Thai Financial Reporting Standards (TFRS) implemented in 2020 with significant impact are:

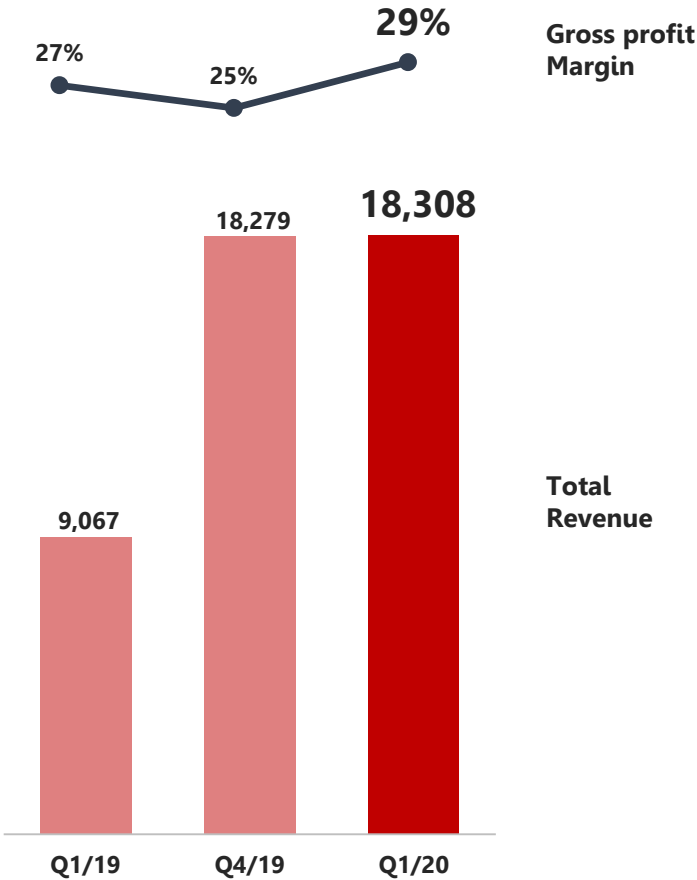
- The standards for financial instruments (TAS 32 and TFRS 9); and
- The standard for lease agreements (TFRS 16)

### IMPACT ON GPSC BALANCE SHEET | THB million

Balance Sheet Component	As of 31 Dec 2019	Impact			As of 1 Jan 2020
		TAS 32 and TFRS 9	TFRS 16	Total impact	
Asset	252,017	(548)	2,233	1,685	253,510
Liability	141,841	1,312	2,514	3,826	145,475
Equity	110,176	(1,860)	(281)	(2,141)	108,035

# Q1/2020 Financial Performance Summary (1/2)

## REVENUE & GROSS PROFIT MARGIN | THB million, %



## GROSS PROFIT MARGIN

QoQ  
+4%

**QoQ:** Increased due to:

- 1) Higher AP from THB depreciation against USD and no planned maintenance shutdown of IPP power plants in Q1/2020;
- 2) Decreased in natural gas and coal price and the lower maintenance cost due to no maintenance shutdown of SPP plants

YoY  
+2%

**YoY:** Increased due to full quarter recognition of GLOW's performance and other factors similar to QoQ

## REVENUE

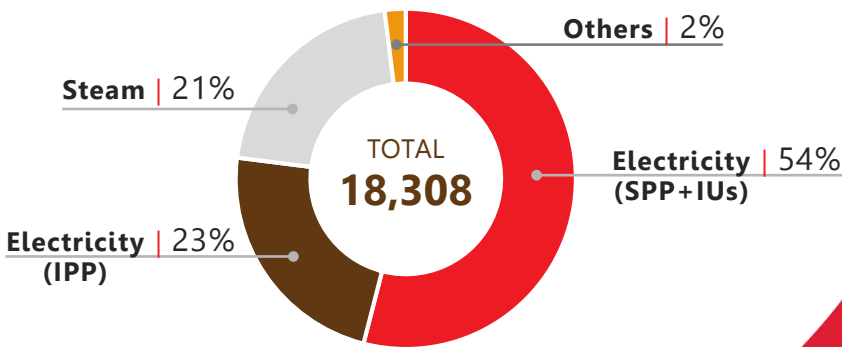
QoQ  
+0.2%

**QoQ:** Increased due to higher dispatch volume due to EGAT instruction and higher AP in Q1/2020 as IPP plants reached the Contracted Availability Hours (CAH) in Dec 2019 despite decrease in electricity and steam sales revenue of SPP plants to industrial customers due to customers' planned maintenance

YoY  
+102%

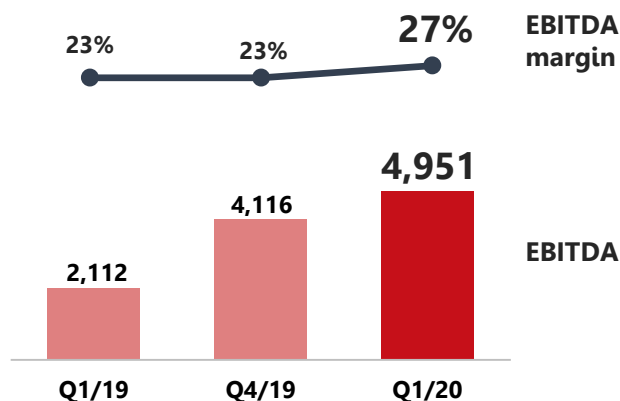
**YoY:** Increased due to full quarter recognition of GLOW's performance

## Q1/2020 REVENUE BY PRODUCT | THB million, %



# Q1/2020 Financial Performance Summary (2/2)

## EBITDA & EBITDA MARGIN | THB million, %



QoQ  
+20%

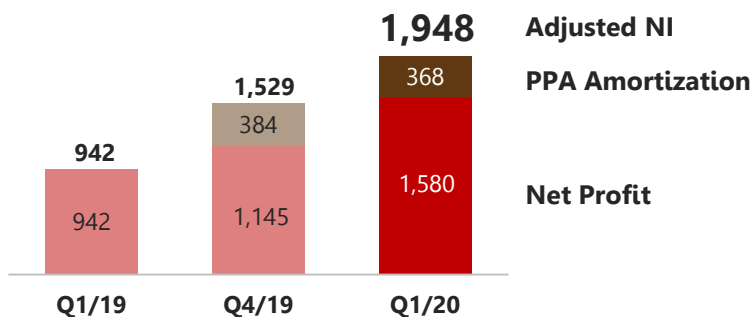
YoY  
+134%

**QoQ:** Increased due to:

- 1) Increased AP from THB depreciation against USD and no planned maintenance shutdown in Q1/2020.
- 2) Decreased natural gas and coal price and the lower maintenance costs
- 3) Lower SG&A which mainly from the acquisition of GLOW

**YoY:** Increased due to full quarter recognition of GLOW's performance and other factors similar to QoQ

## NET PROFIT & ADJUSTED NET INCOME\* | THB million



QoQ  
+27%

YoY  
+107%

**QoQ: Adjusted Net Income** increased due to:

- 1) Increased in AP of Sriracha Power Plant and GHECO-One due to no planned maintenance shutdown in Q1/2020 and depreciation of THB against USD
- 2) Decreased in cost of natural gas and coal
- 3) Decreased in finance costs from the company's financial deleveraging plan

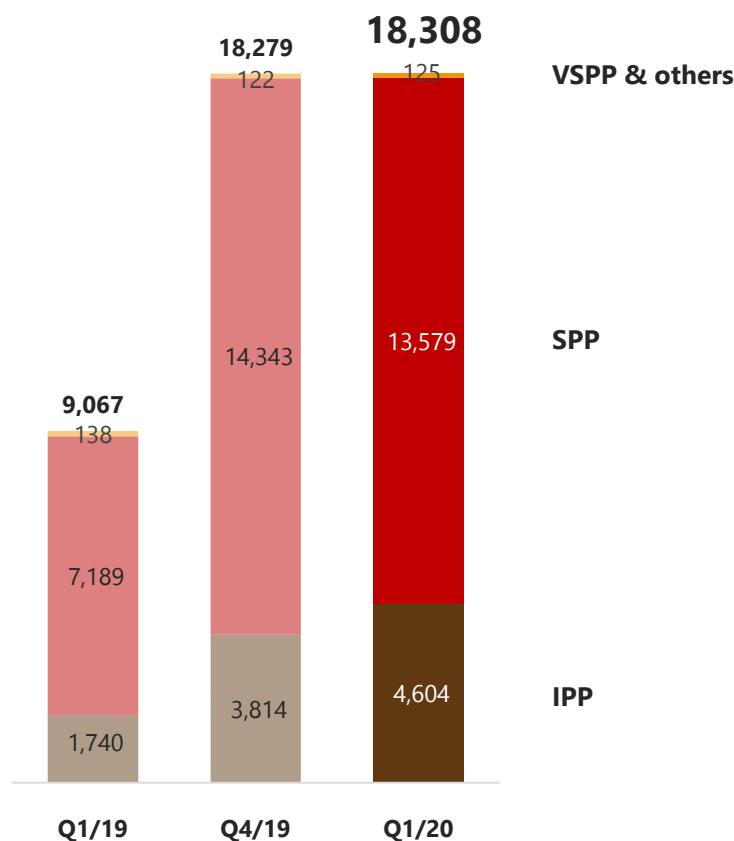
**YoY: Adjusted Net Income** increased due to full quarter recognition of GLOW's performance and other factors similar to QoQ

**\*Adjusted Net Income** is net profit attributed to the company adjusted to *reflect the company's true earnings from its normal operations* which excludes:  
fair value of intangible asset from the acquisition of GLOW (PPA Amortization).



# Total Revenue | Slightly increased due to depreciation of THB against USD and higher AP

## REVENUE BY TYPE OF POWER PLANT | THB million



## TOTAL REVENUE

QoQ  
+0.2%

**QoQ:** Increased due to higher dispatch volume due to EGAT instruction and higher AP in Q1/2020 as IPP plants reached the Contracted Availability Hours in Dec 2019 despite decrease in electricity and steam sales revenue of SPP plants to industrial customers due to customers' planned maintenance

YoY  
+102%

**YoY:** Increased due to full quarter recognition of GLOW's performance

## IPP REVENUE

QoQ  
+21%

**QoQ:** Increased mainly from:

- 1) Higher AP from depreciation of THB against USD
- 2) No planned maintenance shutdown of Sriracha Power Plant and GHECO-One in the mid-December

YoY  
+165%

**YoY:** Increased due to full quarter recognition of GLOW's performance and higher AP from depreciation of THB against USD

## SPP REVENUE

QoQ  
-5%

**QoQ:** Decreased mainly from lower electricity and steam sales volume from the maintenance shutdown of industrial customers and decreased in natural gas price during Q1/2020

YoY  
+89%

**YoY:** Increased due to full quarter recognition of GLOW's performance

## VSPP AND OTHERS' REVENUE

QoQ  
+2%

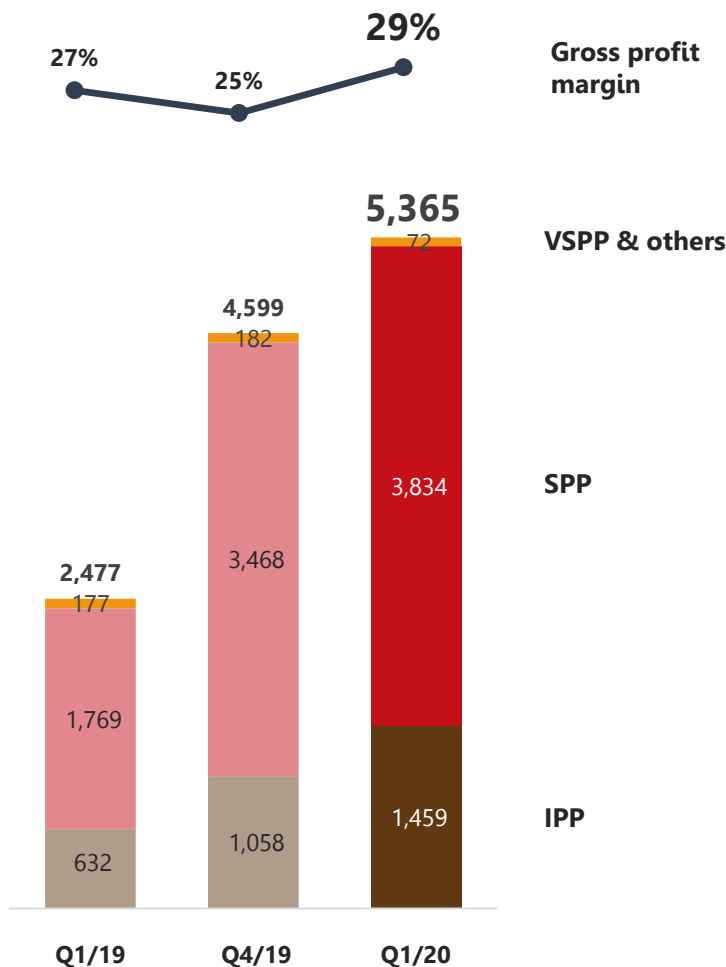
**QoQ:** Increased from electricity sales of ISP1 and higher sales volume of chilled water of CHPP

YoY  
-9%

**YoY:** Decreased mainly from lower revenue from solar cell installation business unit of CHPP

# Gross Profit & Gross Profit Margin | increased due to higher AP and low fuel costs

## GROSS PROFIT & GROSS PROFIT MARGIN BY TYPE OF POWER PLANT | THB million, %



## TOTAL GROSS PROFIT

QoQ  
**+17%**

**QoQ:** Increased due to:

- 1) Higher AP from THB depreciation against USD and no planned maintenance shutdown of IPP plants in Q1/2020
- 2) Lower natural gas and coal price and the lower maintenance cost due to no maintenance shutdown of SPP power plants

YoY  
**+117%**

**YoY:** Increased due to full quarter recognition of GLOW's performance

## IPP GROSS PROFIT

QoQ  
**+38%**

**QoQ:** Increased due to the higher AP due to no planned maintenance shutdown of Sriracha Power Plant and GHECO-One and depreciation of THB against USD in Q1/2020

YoY  
**+131%**

**YoY:** Increased due to full quarter recognition of GLOW's performance and depreciation of THB against USD in Q1/2020

## SPP GROSS PROFIT

QoQ  
**+11%**

**QoQ:** Increased due to lower natural gas and coal price and lower maintenance cost due to no major maintenance shutdown in Q1/2020

YoY  
**+117%**

**YoY:** Increased due to the full quarter recognition of GLOW's performance

## VSPP AND OTHERS' GROSS PROFIT

QoQ  
**-1%**

**QoQ:** Decreased mainly from higher cost of sales and lower revenue received from solar cell installment business unit of CHPP

YoY  
**-5%**

**YoY:** Decreased mainly from lower revenue received from solar cell installment business unit of CHPP and high operating cost of RDF power plant

## IPP POWER PLANTS

\*GLOW IPPs consist of GIPP, GHECO-One and HHPC



Sriracha



GIPP

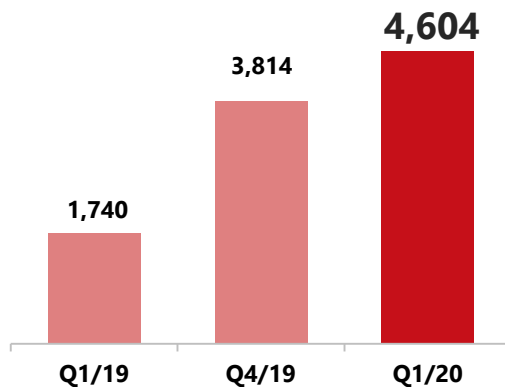


GHECO-One

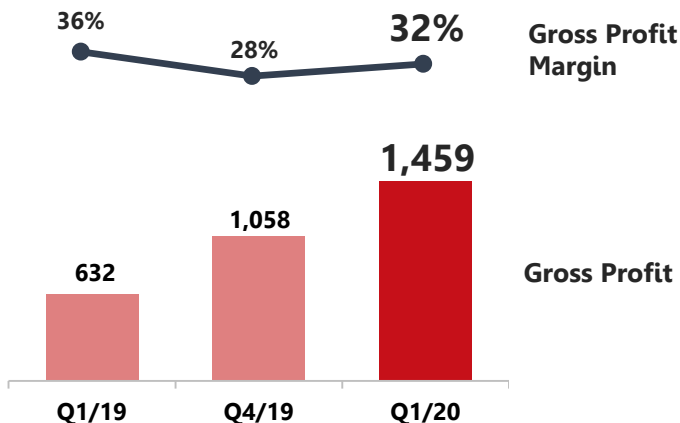


HHPC

## REVENUE | THB million



## GROSS PROFIT & GROSS PROFIT MARGIN | THB million, %



## TOTAL REVENUE

QoQ  
+21%

YoY  
+165%

QoQ: Increased mainly from:

- 1) Higher AP from depreciation of THB against USD
- 2) No planned maintenance shutdown of Sriracha Power Plant and GHECO-One in the mid-December

YoY: Increased due to full period recognition of GLOW's performance and higher AP from depreciation of THB against USD

## GROSS PROFIT

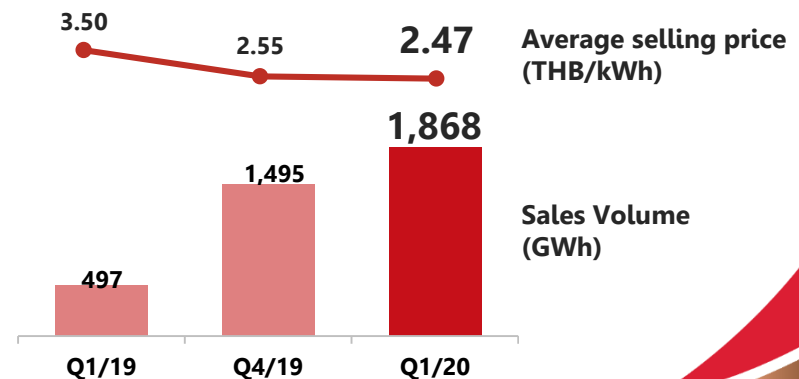
QoQ  
+38%

YoY  
+131%

QoQ: Increased due to the higher AP due to no planned maintenance shutdown of GHECO-One and Sriracha Power Plant and depreciation of THB against USD in Q1/2020

YoY: Increased due to the full quarter recognition of GLOW's performance and depreciation of THB against USD in Q1/2020

## SALES VOLUME | GWh

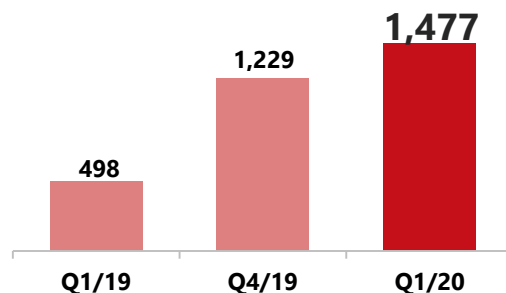


# Availability Payment and Energy Payment



## AVAILABILITY PAYMENT | THB million

Availability Payment increased due to depreciation of THB and no planned maintenance in Q1/2020



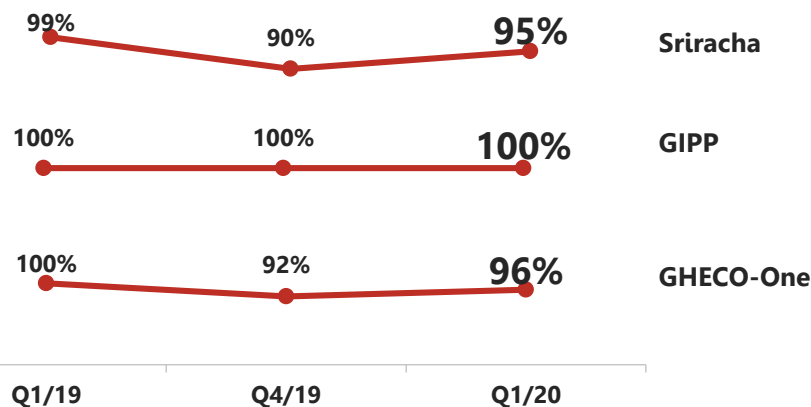
**QoQ**  
**+20%**

**QoQ:** AP increased due to depreciation of THB against USD and no planned maintenance shutdown of Sriracha Power Plant and GHECO-One in Q1/2020

**YoY**  
**+197%**

**YoY:** Increased due to the full period recognition of GLOW's performance and higher AP from depreciation of THB against USD.

## AVAILABILITY RATE | %



**AP**  
**Sriracha**

**QoQ:** AR slightly increased due to planned maintenance for 10 days in December 2019

**YoY:** AR slightly decreased due the shutdown of the plant

**AP**  
**GIPP**

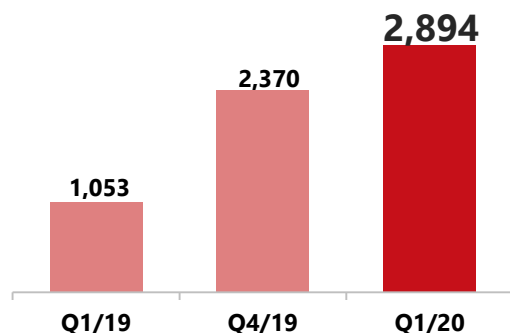
AR of GIPP maintained at 100%

**AP**  
**GHECO-One**

**QoQ:** AR increased due to the plant reached the Contracted Availability Hours (CAH) in mid-December 2019

**YoY:** AR slightly decreased due the shutdown of the plant

## ENERGY PAYMENT | THB million



**QoQ**  
**+22%**

**QoQ:** EP increased due to higher energy dispatch

**YoY**  
**+175%**

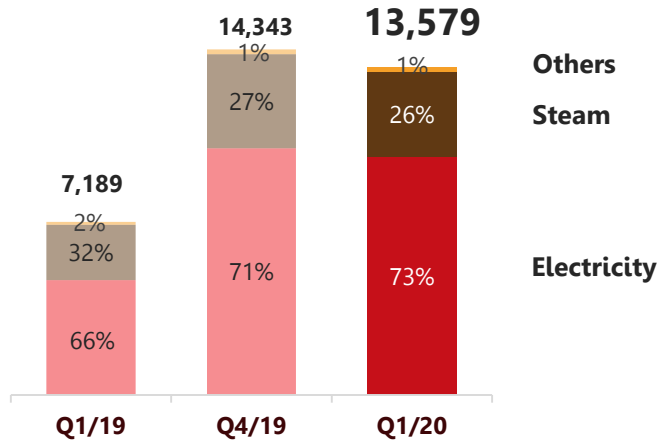
**YoY:** Increased due to

- 1) Full quarter recognition of EP from all 3 Glow's IPP plants in Q1/2020 while in Q1/2019, only EP from 18 days was recognized.
- 2) No planned maintenance of GHECO-One in 2020

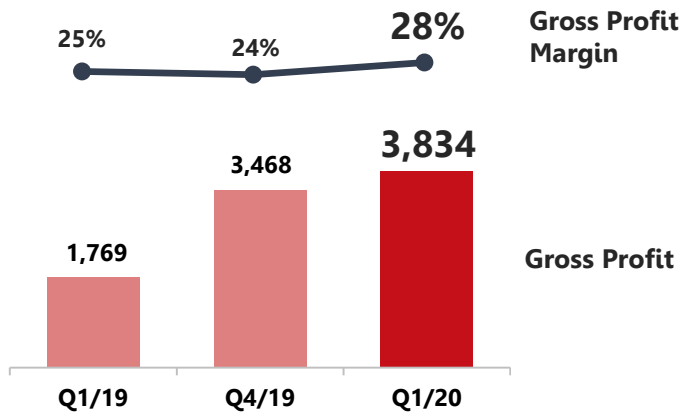
Energy Payment increased 175% YoY and 22% QoQ



## SPP REVENUE | THB million



## GROSS PROFIT & GROSS PROFIT MARGIN | THB million, %



## SPP POWER PLANTS



## TOTAL REVENUE

QoQ  
-5%

**QoQ:** Decreased due to lower electricity and steam sales volume to industrial users due to their planned maintenance shutdown.

YoY  
+89%

**YoY:** Increased due to full quarter recognition of revenue from electricity and steam sales of all Glow's SPP plants in Q1/2020 (in Q1/2019, only revenue from 18 days was recognized) despite a drop in revenue from GPSC's SPPs.

## GROSS PROFIT

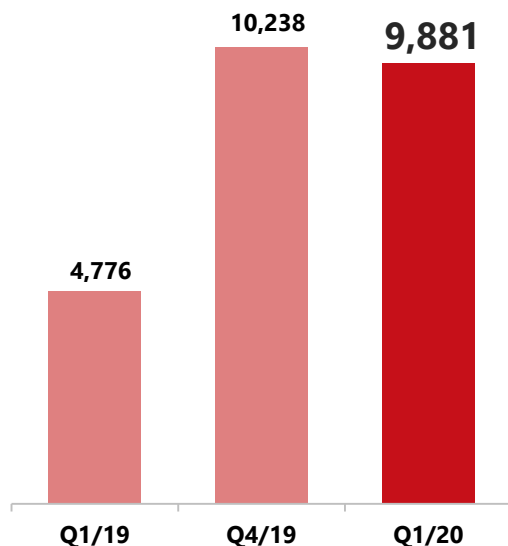
QoQ  
+11%

**QoQ:** Increased due to decreased cost of natural gas and maintenance due to no major maintenance shutdown in Q1/2020 of Glow SPPs despite decreased gross profit from GPSC's SPPs.

YoY  
+117%

**YoY:** Increased due to full quarter recognition of gross profit of Glow's SPPs in Q1/2020 (in Q1/2019, only gross profit from 18 days was recognized) despite a drop in gross profit from GPSC's SPPs.

## POWER SALES | THB million



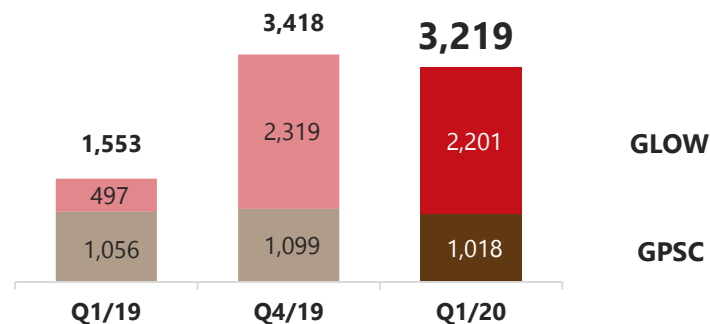
**QoQ**  
-3%

**YoY**  
+107%

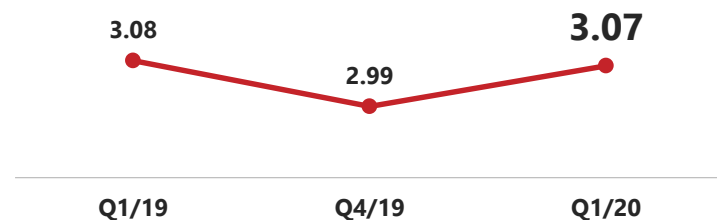
**QoQ:** Power sales decreased mainly due to lower sales volume to industrial users due to their planned maintenance shutdown despite slight increase in average selling price.

**YoY:** Power sales increased mainly due to full quarter recognition of power sales volume of all Glow's SPP plants in Q1/2020 (in Q1/2019, only power sales from 18 days was recognized) despite a drop in power sales from GPSC's SPPs.

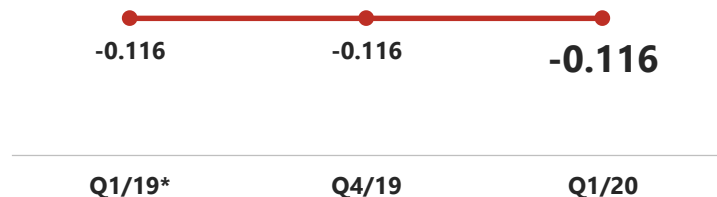
## POWER SALES VOLUME | GWh



## AVERAGE SELLING PRICE | THB/kWh



## Ft RATE | THB

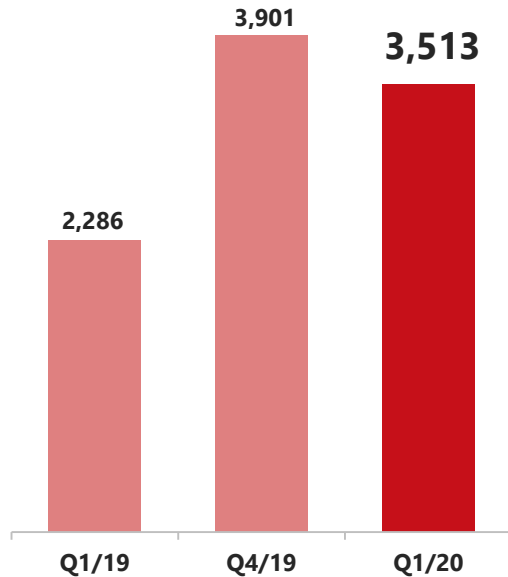


**Note:** \* -0.159 in Jan 2019, -0.116 in Feb and Mar 2019

# SPP Steam Sales | increased 54% YoY and decreased 10% QoQ



## STEAM SALES | THB million



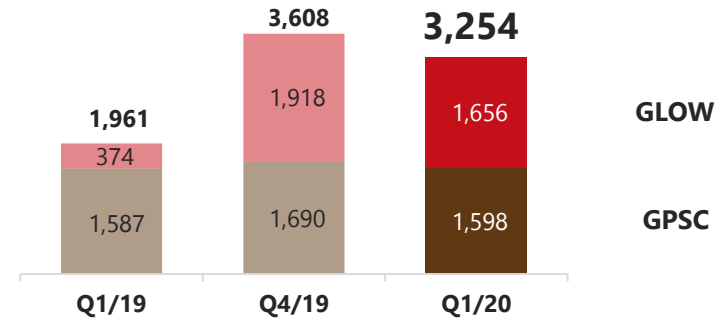
**QoQ**  
-10%

**YoY**  
+54%

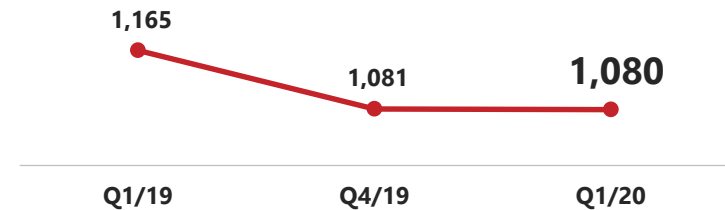
**QoQ:** Steam sales decreased mainly due to lower sales volume due to industrial users' maintenance shutdown and slight decrease in average selling price.

**YoY:** Steam sales increased mainly due to full quarter recognition of steam sales volume of all Glow's SPP plants in Q1/2020 (in Q1/2019, only steam sales from 18 days was recognized) and slight increase in steam sales volume from GPSC's SPPs.

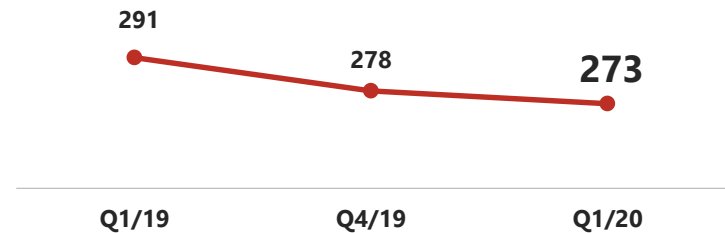
## STEAM SALES VOLUME | '000 tons



## AVERAGE STEAM SELLING PRICE | THB/ton

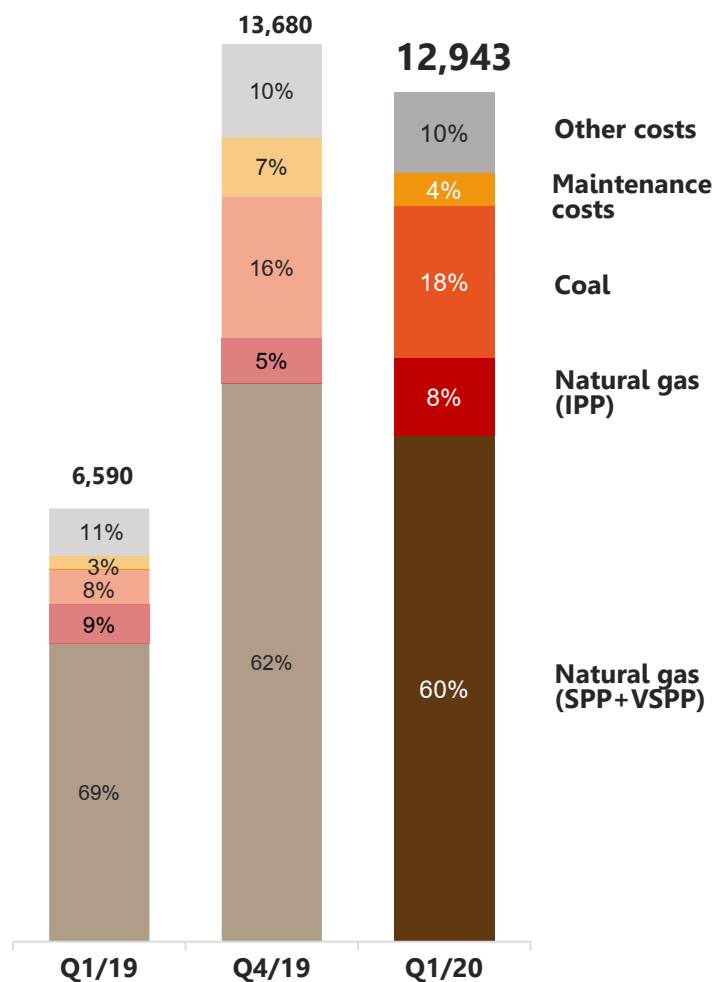


## AVERAGE NATURAL GAS PRICE | THB/MMBTU



# Total Costs of Sales and Services

**TOTAL COSTS OF SALES AND SERVICES\*** | THB million, %



**Note:** \*excluding depreciation and amortization

## TOTAL COSTS

**QoQ**  
**-5%**

**QoQ:** Decreased mainly due to lower average natural gas price and consumption volume of SPP plants

**YoY**  
**+96%**

**YoY:** Increased mainly from the full recognition of costs of GLOW's power plants in Q1/2020 comparing to only 18-day recognition in Q1/2019.

## NATURAL GAS COST

**QoQ**  
**-3%**

**QoQ:** Decreased mainly due to lower average natural gas price and consumption volume of SPP plants despite increase in natural gas costs of IPP plants corresponding to higher dispatch to EGAT.

**YoY**  
**+73%**

**YoY:** Increased mainly due to full recognition of GLOW's costs in Q1/2020 and higher dispatch to EGAT from Sriracha Power Plant despite decrease in average natural gas price.

## COAL COST

**QoQ**  
**+7%**

**QoQ:** Increased due to higher coal consumption of both GHECO-One (GHECO-One has reached the Contracted Availability Hours in mid-December 2019) and Glow's SPPs in Q1/2020.

**YoY**  
**+339%**

**YoY:** Increased mainly due to the recognition of GLOW's power plants.

## MAINTENANCE COST

**QoQ**  
**-46%**

**QoQ:** Maintenance cost decreased due to no planned maintenance shutdown in Q1/2020 comparing to planned maintenance shutdown from both of Glow energy plants and Sriracha power plant in Q4/2019.

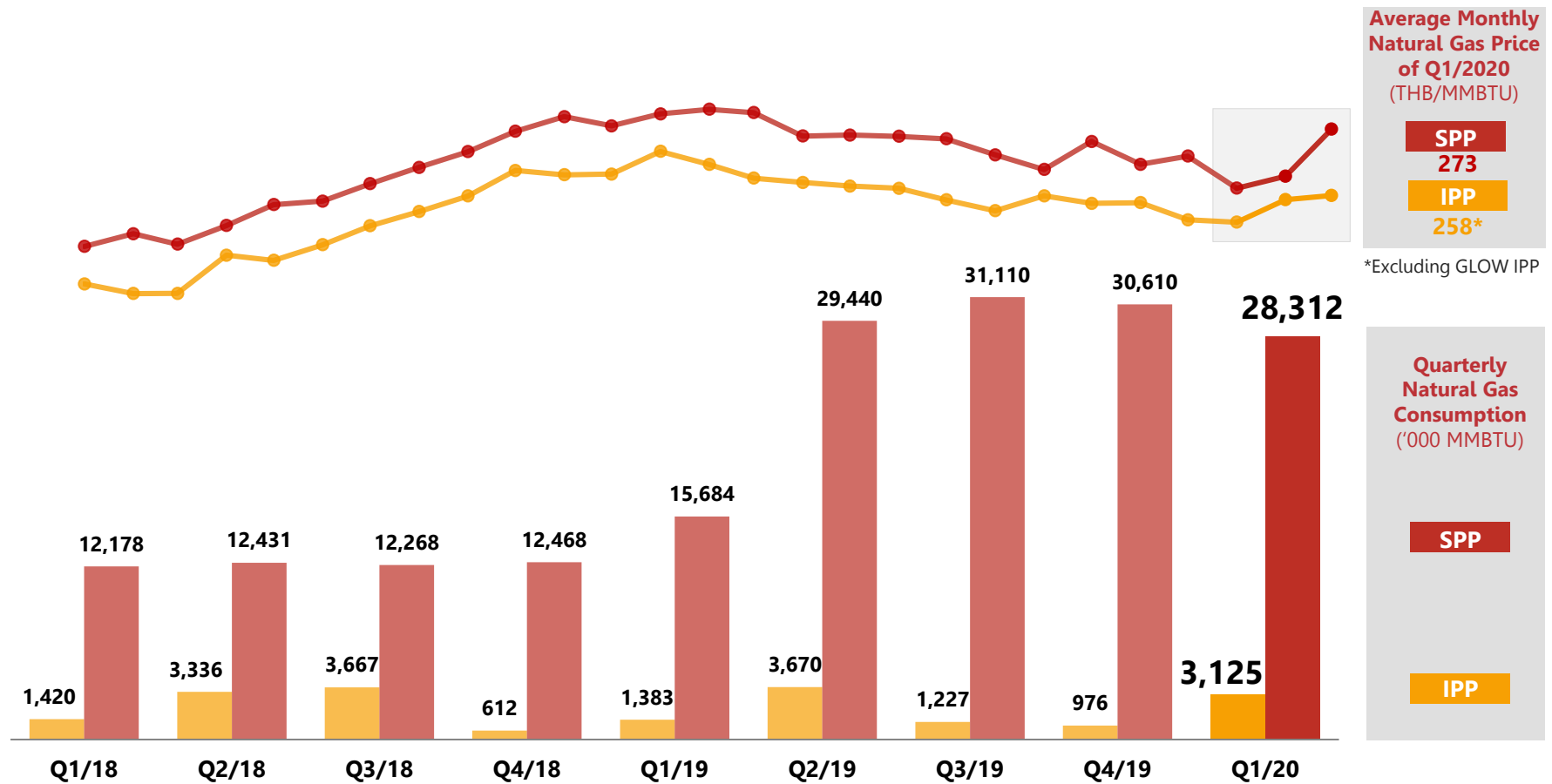
**YoY**  
**+130%**

**YoY:** maintenance cost increased due to full recognition of maintenance cost of Glow's facilities in Q1/2020 (2019 planned maintenance of GHECO-One ended before acquisition of GPSC)



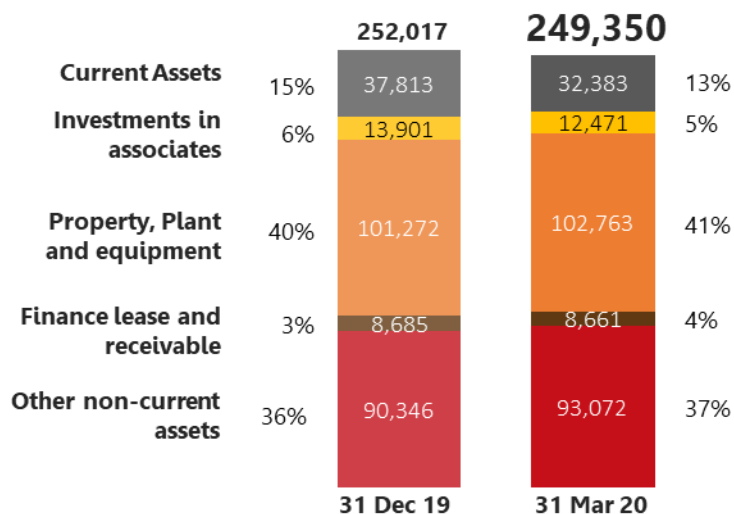
# Natural Gas Consumption VS Price Trends | as of Q1/2020

QUARTERLY NATURAL GAS CONSUMPTION & MONTHLY NATURAL GAS PRICE | '000 MMBTU, THB/MMBTU



# Financial Position of GPSC and Subsidiaries

## TOTAL ASSETS | THB million,%

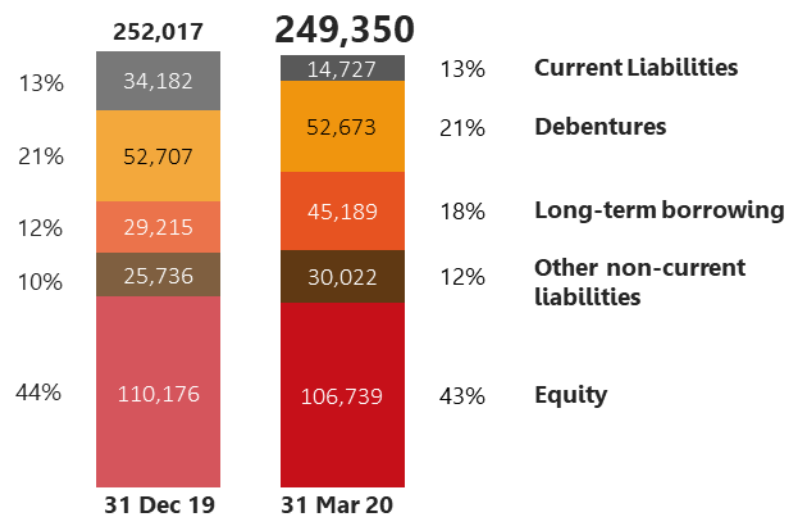


### ASSETS -1%

**Total assets** slightly decreased mainly from:

- **Current assets:** decreased by THB 5,430 million mainly due to the decrease of cash and cash equivalent by THB 5,569 million
- **Property, plant and equipment:** increased by THB 1,491 million mainly from the acquisition of the solar power plant on 26 March 2020
- **Other non-current assets:** increased by THB 2,726 million mainly due to the increase of right of use assets in the amount of THB 2,644 million

## TOTAL LIABILITIES & SHAREHOLDERS EQUITY | THB million,%



### LIABILITIES +1%

**Total liabilities** increased mainly from:

- **Current liabilities** decreased by THB 19,455 million mainly from decrease in short-term loans by THB 15,253 million due to repayment
- **Long-term borrowing** increased by THB 15,940 million mainly from long-term loans with banks to repay short-term loans
- **Other non-current liabilities** increased by THB 4,286 million mainly from the recognition of long-term lease liabilities (implementation of TFRS16) of THB 2,527 million and from the recognition of derivative liabilities (implementation of TFRS9) of THB 2,187 million.

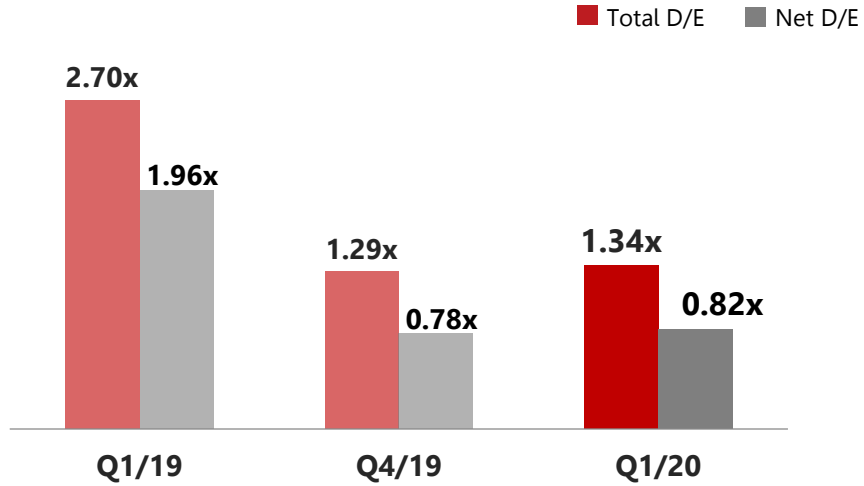
### EQUITY -3%

**Total Equity** decreased mainly from:

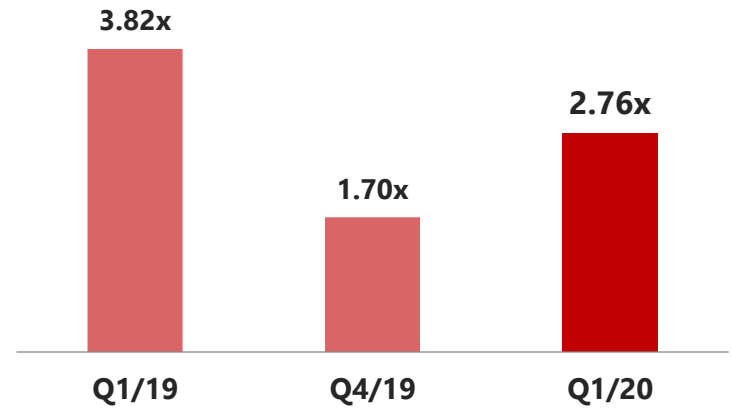
- dividend payout of THB 2,256 million (that will be paid in Q2/2020)
- decrease in other components of shareholders' equity of THB 1,980 million due to implementation of TFRS 9

# Key Financial Ratios

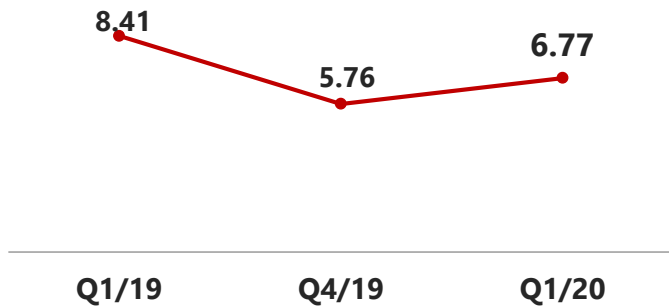
## TOTAL D/E & NET D/E | times



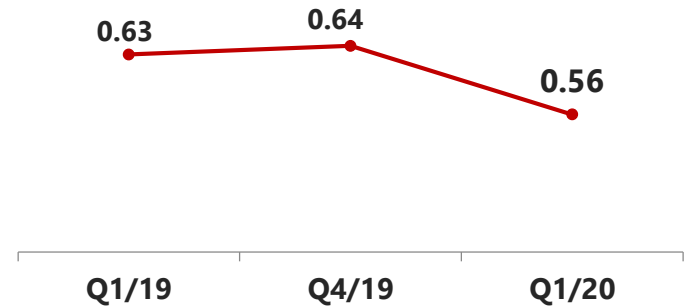
## INTEREST COVERAGE RATIO | times



## ROE | %



## EARNING PER SHARE (EPS) | THB/share



# Outlook 2020

## Economic Outlook

- The world economy is projected to experience a sharp contraction and business downturn from the spread of COVID-19
- Despite of fiscal stimulus with a historic relief package, the economic growth is projected to slowly rebound in 2H/2020

## Key assumptions

- **Oil price** : Dubai crude oil price is expected to average US\$30-40 per barrel in 2020. Shrink demand is expected to recover in 2H/2020.
- **NG & Coal** : Natural gas and coal are forecasted to slightly decrease in the same direction with crude oil with lag time 6 – 12 months
- **Ft rate** : Ft maintains in Jan-Aug 2020 and assumed to be slightly decreased in line with average national fuel prices
- The Ministry of Energy expects the Thailand's electricity usage in 2020 will decrease by 0.7% from the previous predicted to grow by 2-3 %

## Performance outlook

- ▼ The demand of industrial users is overall close to the previous year but **the economic downturn may cause the industrial customers to be affected in the future**. The company expect the utilization rate in 2020 at 95 - 100%
  - ▲ The lower price of natural gas trend in line with the crude oil price **will have a positive impact on the company** in the short term
  - ▲ The additional operating results contributed from our power plants and affiliated including **GRP, 39.5 MW of solar projects**
  - ▲ The company expects to be able to recognize the **synergy value from the merger of approximately Baht 400 million in 2020**
- The drought situation:
- ▼ **Hydro power plants in Lao**: Still lower-than-average water flow in Q2/2020
  - **Operation of SPP plants**: Closely monitor the drought situation and various plans are being prepared
  - ▼ **PPA amortized** cost continued to impact P/L as scheduled amortization profile
- Accounting impacts:
- **TFRS 9 , TFRS 16** : Accounting impact to the statement of financial position and comprehensive income statement
  - **Effect from adjustment of exchange rates of financial lease receivables of 2 IPPs (Sriracha and GIPP)**. The company has recognized the accumulated historical transactions to the retained earnings and recognize the current revalued transactions to the Statement of Income at the end of the accounting period, subsequently.





## Q&A SESSION

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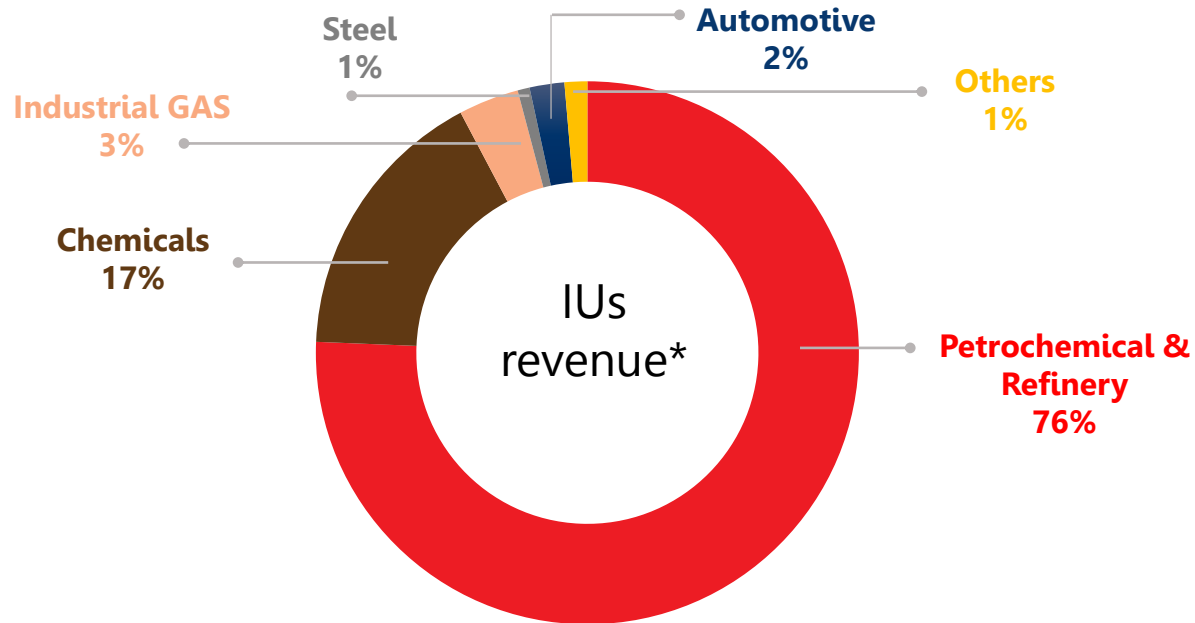
[www.gpscgroup.com](http://www.gpscgroup.com)

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POWER FLAGSHIP  
OF PTT GROUP



# Industrial Users by sector

## Revenue breakdown | by sector



### Key monitoring

- + **Petrochemical:** continue to operate the plant as normal
- **Automotive:** some car maker factories are closed and some customers stopped operation and no overtime

*\*Based on power and steam sales which included GLOW from 1 Jan - 31 Dec 2019 for illustration only*

# Measures to Prevent the Spread of COVID-19 Virus of GPSC Group

GPSC recognizes and gives priority to the **safety of all employees** and **strives for generating electricity and utilities** to continuously meet the customers' requirement

GPSC established **G-COVID Monitoring and Surveillance Center of GPSC Group** to monitoring the situation, defining plans and preventive measures, as well as providing and supporting necessary supplies

## G-COVID Monitoring and Surveillance Center of GPSC Group



Monitor internal and external situations with PTT Group



Specifying measures and making plans to prevent the outbreak



Procure and support necessary resources



Performance report to the management



Establish a GPSC Group Communication Center



# Measures to Prevent the Spread of COVID-19 Virus of GPSC Group



## Employee Care Measures

- Classify employees into surveillance groups
- Give advice on conduct
- Set travel abroad measures
- Implement work from home policy
- Travel measures across provincial areas
- Communication and counseling measures
- Provide COVID-19 life insurance for all employees
- Provide alcohol gel and masks



## Workplace Management Measures

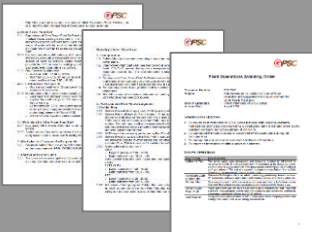
- Setting screening point in all areas with temperature checks at the entrance
- Make sure to clean all risk surfaces
- Measures for organizing rally activities
- Provide alcohol gel and necessary medical equipment
- Measures to take care of all workplaces and non-workplaces areas



## Operation & Process Measures

- Identify the employees required for the operation “Golden Man” and manpower management
- Preparing special controlled workplaces or “safe houses” for Golden Man and necessary staffs
- Prohibit unauthorized persons enter into the production process areas and control rooms
- Manpower mobilization planning in case of an employee infected with COVID-19 virus
- Customer coordination plan and related parties in case of Safe Shutdown
- Medical check up for Golden Man staff

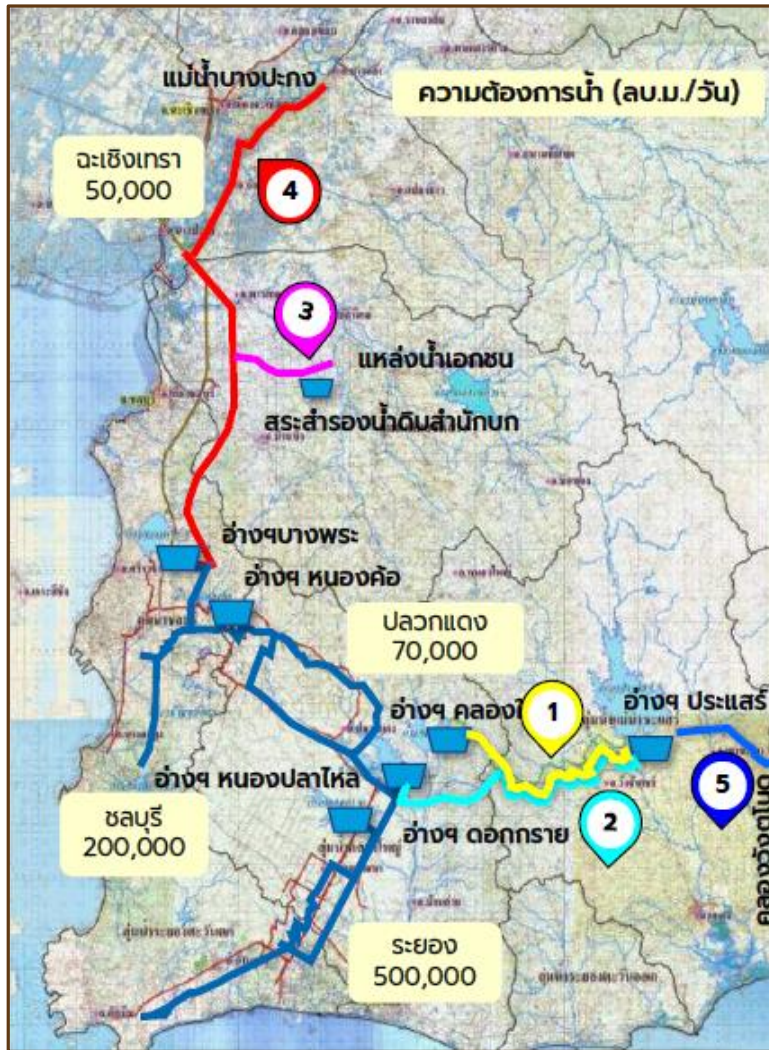
## Plant Operation Standing Order



Countermeasures  
against COVID-19



# Drought Situation | Impacts and Mitigation Plan



- 1 สูบผันน้ำจากอ่างเก็บน้ำประแสร์ – อ่างเก็บน้ำคลองใหญ่
- 2 สูบผันน้ำจากอ่างเก็บน้ำประแสร์ – อ่างเก็บหนองปลาไหล
- 3 ใช้น้ำจากแหล่งน้ำเอกชนเข้ามาเสริมในพื้นที่ชลบุรีและฉะเชิงเทรา
- 4 สำรองน้ำจากแม่น้ำบางปะกงเข้า อ่างเก็บน้ำบางพระ ช่วงเดือน ส.ค. – พ.ย.
- 5 สูบผันน้ำจากคลองวังโตนด – อ่างเก็บน้ำประแสร์ ในช่วงฤดูฝน มี.ย. – ต.ค.
- 6 ปฏิบัติการฝนหลวง
- + มาตรการภาครัฐและเอกชนอื่นๆ

ภาครัฐ-เอกชน ผันกำลังสร้างความมั่นใจ

- มาตรการของภาครัฐสามารถดำเนินการผันน้ำจากเครือข่ายและอ่างเก็บน้ำต่างๆ ในพื้นที่ใกล้เคียงเป็นไปอย่างมีประสิทธิภาพ
- ผู้ประกอบการภาคอุตสาหกรรมในพื้นที่ภาคตะวันออกต่างในความร่วมมือกับภาครัฐในการประหยัดน้ำลง 10% และยังคงดำเนินมาตรการต่อไปจนกว่าสถานการณ์จะคลี่คลาย

## PSC MITIGATION PLAN

- ✓ **Setup PTT Group's** Business Continuity Plan
- ✓ **3Rs:** Reduce, Reuse, Recycle
- ✓ Increase **operation efficiency** and cooling water cycle
- ✓ Use clarified water **from waste water treatment** process
- ✓ Additional **initiatives**

### Sea Water RO

@Rayong : water production will be ready in May-2020



### Mobile RO

Waste Water Recycling @Sriracha : Ready to use



*"Closely monitor the drought situation and various plans are being prepared"*

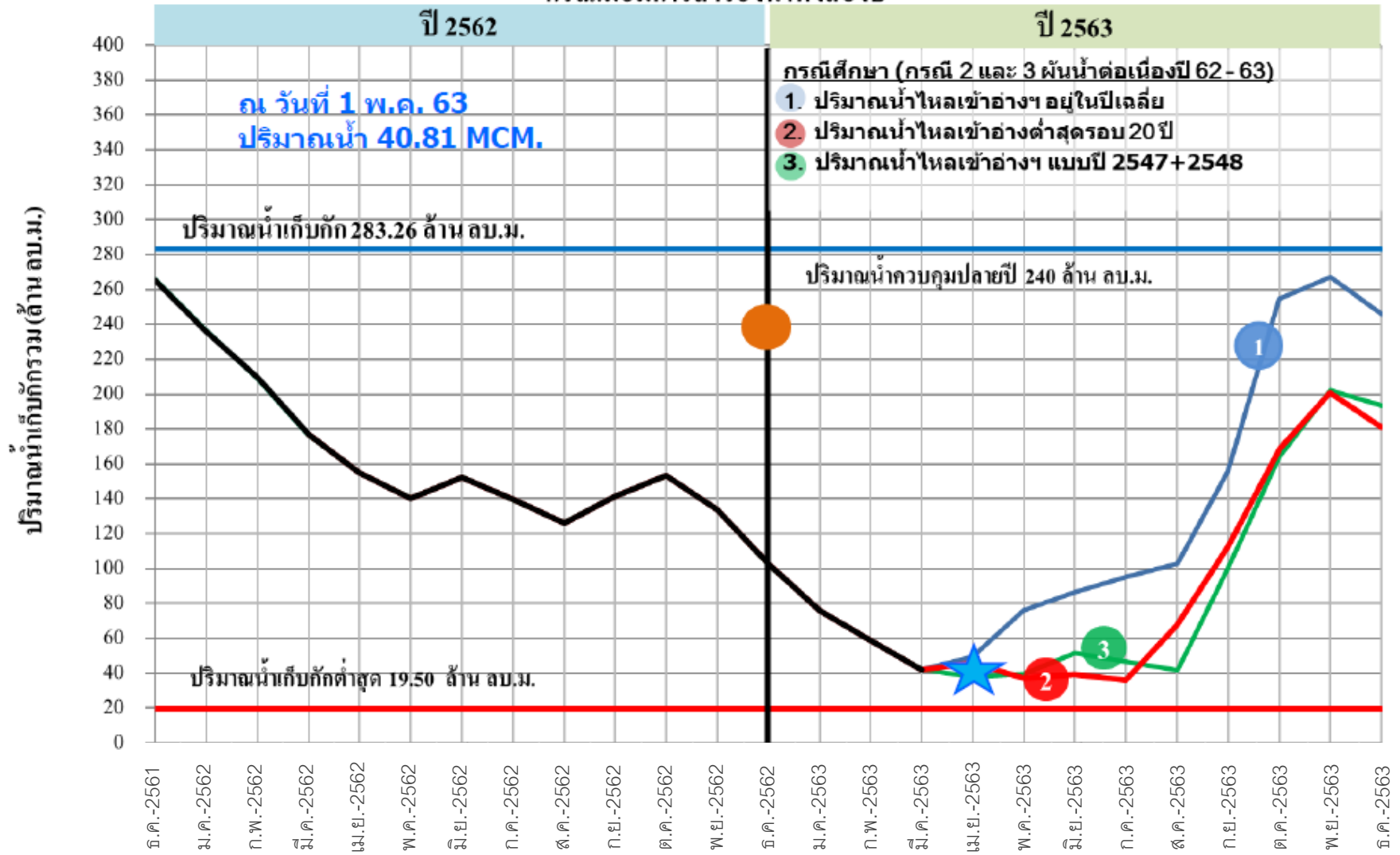
ที่มา: บริษัท จัดการและพัฒนาทรัพยากรน้ำภาคตะวันออก จำกัด (มหาชน) (EW),  
สำนักงานคณะกรรมการนโยบายเขตพัฒนาพิเศษภาคตะวันออก (สกพอ. หรือ EECO)



# Drought Situation | Raw water simulation for 2019 – 2020

การจำลองสถานการณ์น้ำในอ่างตกทรายหนองปลาไหล คลองใหญ่ปี 2562 - 2563

กรณีเมื่อมีการสำรองน้ำทั้งสองปี



# GPSC Power Plant Portfolio (1/2) | as of Q1/2020

Name	Type	Total capacity (MW)	Equity Power capacity (MW)	Equity Operating Power capacity (MW)	Steam (T/H)	Industrial water (Cu.m/H)	Direct shareholding (%)	COD	Tenor
<b>IN OPERATION</b>									
<b>IPP</b>									
Huay Ho	IPP	152	102	102	-	-	GLOW (67%)	1999	30
Sriracha	IPP	700	700	700	-	80	GPSC (100%)	2000	25/2025
Glow IPP	IPP	713	677	677	-	-	GLOW (95%)	2003	25
RPCL	IPP	1,400	210	210	-	-	GPSC (15%)	2008	25/2033
GHECO-One	IPP	660	429	429	-	-	GLOW (65%)	2012	25
XPCL	IPP	1,285	321	321	-	-	GPSC (25%)	2019	29/2048
<b>Total IPP</b>		<b>4,910</b>	<b>2,439</b>	<b>2,439</b>	<b>-</b>	<b>80</b>			
<b>SPP</b>									
Glow Energy Phase 1	SPP	-	-	-	250	1,340	GLOW (100%)	1994	-
Glow Energy Phase 2	SPP	281	281	281	300	1,180	GLOW (100%)	1996	3
Glow Energy Phase 4	SPP	77	77	77	137	2,050	GLOW (100%)	2005	25
Glow Energy Phase 5	SPP	328	328	328	160	-	GLOW (100%)	2011	-
Glow SPP 2/ GLOW SPP 3	SPP	513	513	513	190	150	GLOW (100%)	1999	25
Glow SPP 11 Phase 1	SPP	120	120	120	-	360	GLOW (100%)	2000	25
Glow SPP 11 Phase 3	SPP	42	42	42	-	-	GLOW (100%)	2006	-
Glow SPP 11 Phase 2	SPP	110	110	110	-	212	GLOW (100%)	2012	25
Glow Energy CFB 3	SPP	85	85	85	79	-	GLOW (100%)	2010	-
CUP-1	SPP	226	226	226	890	720	GPSC (100%)	2006	10-15/2021++
CUP-2	SPP	113	113	113	170	510	GPSC (100%)	2008	15/2022++
CUP-3	SPP	-	-	-	280	770	GPSC (100%)	2009	15/2023++
BIC-1	SPP	117	29.25	29.25	5	-	GPSC (25%)	2013	25/2038
BIC-2	SPP	117	29.25	29.25	5	-	GPSC (25%)	2017	25/2042
IRPC-CP Phase 1	SPP	45	23	23	86.7	-	GPSC (51%)	2015	25/2040
IRPC-CP Phase 2	SPP	195	99.4	99.4	66.3	-	GPSC (51%)	2017	25-27/2044

**Note:** Equity capacity includes 100% stake in GLOW, GRP and ERU

# GPSC Power Plant Portfolio (2/2) | as of Q1/2020

Name	Type	Total capacity (MW)	Equity Power capacity (MW)	Equity Operating Power capacity (MW)	Steam (T/H)	Industrial water (Cu.m/H)	Direct shareholding (%)	COD	Tenor
<b>IN OPERATION</b>									
NNEG	SPP	125	38	38	9	-	GPSC (30%)	2016	25/2041
NNEG Expansion	SPP	60	18	-	3	-	GPSC (30%)	2020	25/2041
Rayong Expansion (CUP-3)	SPP	15	15	15	-	-	GPSC (100%)	2019	n/a
Rayong Expansion (CUP-4)	SPP	45	45	45	70	-	GPSC (100%)	2019	-
<b>Total SPP</b>		<b>2,614</b>	<b>2,192</b>	<b>2,174</b>	<b>2,701</b>	<b>7,292</b>			
<b>VSPP and others</b>									
CHPP	VSPP	5	5	5	-	-	GPSC (100%)	2008	30/2038
CHPP (Solar)	VSPP	5	5	5	-	-	GPSC (100%)	2016	2041
Glow Energy Solar Plant	VSPP	1.55	1.55	1.55	-	-	GLOW (100%)	2012	20-25
TSR (SSE1)	VSPP	80	32	32	-	-	GPSC (40%)	2013	25/2038
Glow Energy Solar PV Rooftop	VSPP	0.87	0.87	0.87	-	-	GLOW (100%)	2019	15
Glow Energy Solar PV Rooftop	VSPP	1	1	1	-	-	GLOW (100%)	2019	15
ISP1	Solar	20.8	20.59	20.59	-	-	GPSC (99%)	2017	20/2037
GRP	VSPP	39.5	39.5	39,5	-	-	GPSC (100%)	2014-15	2039/2040
NL1PC	Hydro	65	26	26	-	-	GPSC (40%)	2019	27/2044
Chonburi Clean Energy (CCE)	VSPP	8.6	2.87	2.87	-	-	GLOW (33%)	2019	20
Rayong WTE	VSPP	9.8	9.8	-	-	-	GPSC (100%)	2021	18/2039
<b>Total VSPP and others</b>		<b>237</b>	<b>145</b>	<b>134.5</b>	<b>-</b>	<b>-</b>			
<b>ERU</b>									
ERU	Cogen	250	250	-	175	-	GPSC (100%)	2023	25/2048
<b>Total ERU</b>		<b>250</b>	<b>250</b>	<b>-</b>	<b>175</b>	<b>-</b>			
<b>Total capacity</b>		<b>8,011</b>	<b>5,026</b>	<b>4,748</b>	<b>2,876</b>	<b>7,372</b>			

**Note:** Equity capacity includes 100% stake in GLOW, GRP and ERU

# 2020 Maintenance Schedule | Sriracha and Rayong Plants

Site	Description	Duration	2020											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CUP-1	HRSG-11	8 Days					1Y							
	GTG16/HRSG16	14 Days	HGPI/3Y											
	HRSG14	8 Days	1Y											
	Aux. Boiler.11	8 Days			1Y									
	GTG12/HRSG12	22 Days				MI/3Y								
	HRSG13	8 Days							1Y					
	HRSG15	8 Days										1Y		
CUP-2	HRSG21	8 Days			1Y									
	GTG22/HRSG22	22 Days						MI/3Y						
	Aux. Boiler.21	8 Days							1Y					
	STG21	27 Days								2M				
CUP-3	Aux. Boiler.31	13 Days								3Y				
	Aux. Boiler.32	13 Days										3Y		
	Aux. Boiler.33	13 Days									3Y			
	Steam Turbine.31	-												
CUP-4	GTG41	5 Days												RM
	HRSG41	11 Days							1Y					
SRC	GT11	-												
	HRSG#1	8 Days											1Y	
	GT12	8.33 Days											1Y	
	HRSG#2	8 Days											1Y	
RDF	All Equipment	7 Days										1Y		

## Notes: Rayong Site

GTG	Hot Gas Path Inspection for Gas Turbine	14 days	HRSG	One Year Inspection HRSG	11 days
HGPI	Major Inspection for Gas Turbine	22 days	3Y	Three Year Inspection HRSG	14 days
STG			Others		
Minor	Minor Inspection for Steam Turbine	15 days	1Y	One Year Inspection NG Station Test	Online
1MO	2nd Major Overhaul for Steam Turbine	23 days	5Y	Five Year Inspection NG Station (NDT)	Online
2MO	2nd Major Overhaul for Steam Turbine	27 days	FO	Forced Outage	Depending on physical damage
AB					
1Y	One Year Inspection Aux. Boiler	11 days			
3Y	Three Year Inspection Aux. Boiler	13 days			

## Notes: Sriracha Site

GTG	Combustion Inspection for Gas Turbine	8 days	HRSG		
CI					
HGPI	Hot Gas Path Inspection for Gas Turbine	26	1Y	One Year Inspection HRSG	8 days
			3Y	Three Year Inspection HRSG	33 days
MO	Major Overhaul for Gas Turbine	33	Other		
			1Y	One Year Inspection NG Station Test Online	
RCIE	Rotor and Casting Inspection Evaluation	49	5Y	Five Year Inspection NG Station (NDT) Online	
			FO	Forced Outage Depending on physical damage	

# 2020 Maintenance Schedule | IRPC-CP

Plant	Unit	2020			
		Q1 (F)	Q2 (F)	Q3 (F)	Q4 (F)
IRPC-CP	<b><u>Block 1</u></b>				
	CTG 21	6	1	1	1
	HRSR 21	6	1	1	1
	CTG 22	6	1	1	1
	HRSR 22	6	1	1	1
	STG 23	6			
	<b><u>Block 2</u></b>				
	CTG 31	1	6	1	1
	HRSR 31	1	6	1	1
	CTG 32	1	1	1	6
	HRSR 32	1	1	1	6
	STG 33				6
	Aux. Boiler		7		

## Notes:

YI Yearly Inspection 5 days  
 YI Yearly Inspection Aux Boiler 15 days  
 1 = 1 Day (24 hours)  
 3 = 3 Days (72 hours)  
 6 = 6 Days (144 hours)  
 7 = 7 Days (168 hours)



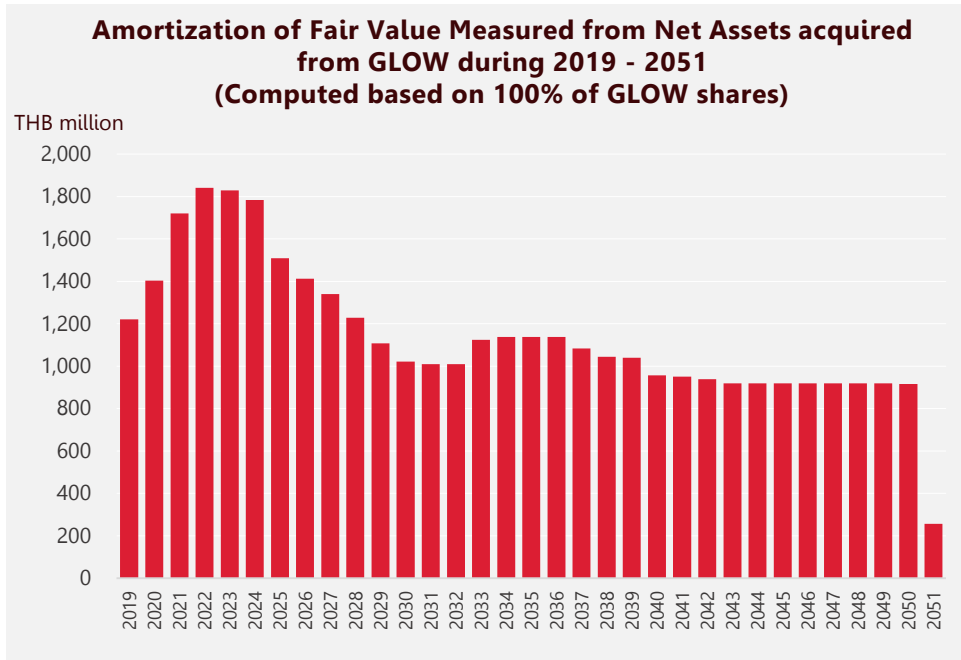
## 2020 Maintenance Schedule | Glow's Main Units

Main Units	Planned Maintenance Duration (Days)							
	2017	2018	2019	2020	2020 by quarter			
					Q1	Q2	Q3	Q4
GHECO-One	36	-	39	-				
GIPP: Unit 1	-	-	-	-				
GIPP: Unit 2	-	-	-	-				
CFB 1	38	27	5	25				25
CFB 2	27	5	21	23	2			21
CFB 3	7	26	45	3			3	
Phase 5	31	5	23	-				

# 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)
<b>Net Assets of GLOW at 14 March 2019</b>	<b>51,409</b>	<b>89,003</b>	<b>37,594</b>
<b>Non-Controlling interests at 30.89%</b>		<b>(32,092)</b>	
<b>Total Net Asset obtained GLOW at 69.11%</b>		<b>56,911</b>	
<b>Goodwill</b>		<b>36,090</b>	
<b>Proportion of acquisition cost 69.11%</b>		<b>93,001</b>	



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:

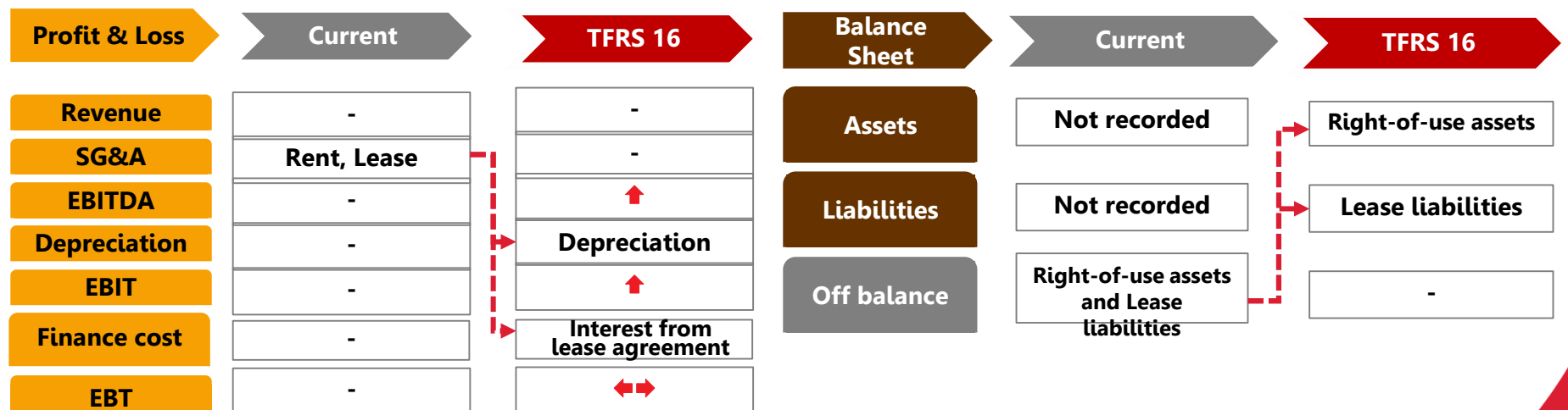
- The fair value uplift of THB 37,594 million from **Purchase Price Allocation (PPA)**
- **The fair value recognition of net assets** acquired from GLOW will be amortized yearly (based on the remaining period of the contract, 5 to 31 years).
- **Goodwill** will be subjected to an impairment test on a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

# Accounting Impacts in 2020

## TFRS 9

Assets	As-Is GPSC Policy	Impacts on TFRS 9
1. Derivatives (e.g. IRS ,CCS , FW)	<ul style="list-style-type: none"> <li>Disclosed in the notes to the financial information</li> </ul>	<ul style="list-style-type: none"> <li>Recorded at fair value</li> </ul>
2. Other long-term investments (e.g. RPCL, 24M)	<ul style="list-style-type: none"> <li>Recorded at cost</li> <li>Gain or loss on sale of assets are presented in the statement of income</li> </ul>	<ul style="list-style-type: none"> <li>Recorded at fair value</li> <li>Gain or loss on sale of assets are not presented in the statement of income</li> </ul>
3. Impairment of assets (e.g. receivables, loans)	<ul style="list-style-type: none"> <li>Impairment from historical information</li> </ul>	<ul style="list-style-type: none"> <li>Consider the future credit risk of the debtor which may cause impairment faster</li> </ul>

## TFRS 16 (Accounting for lessees)





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