

# Corporate Presentation

Jun 24, 2021

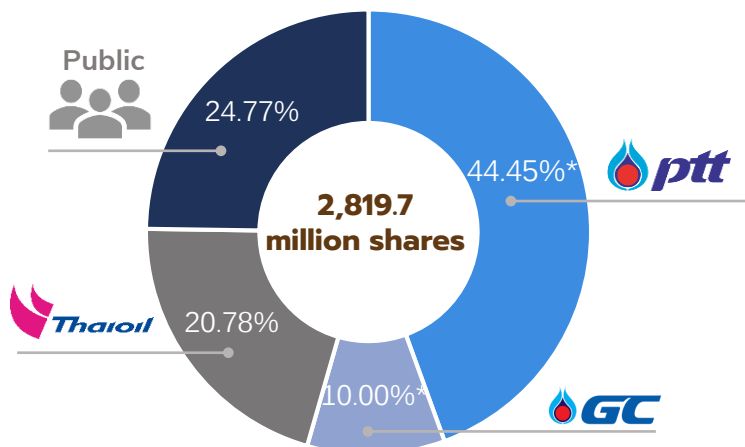




## The power flagship of PTT Group

*"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



\* PTT stake includes 1.91% hold via SMH, a wholly-owned indirect subsidiary of PTT. The transaction was completed on June 8, 2021.

### COMPANY INFORMATION (as of June 11, 2021)

**Business Type** | Energy & Utilities listed on SET

**Paid-up Capital** | THB 28,197 million

**Market Cap.** | THB 212,889 million

### CREDIT RATINGS

BBB-

S&P Global

AA-



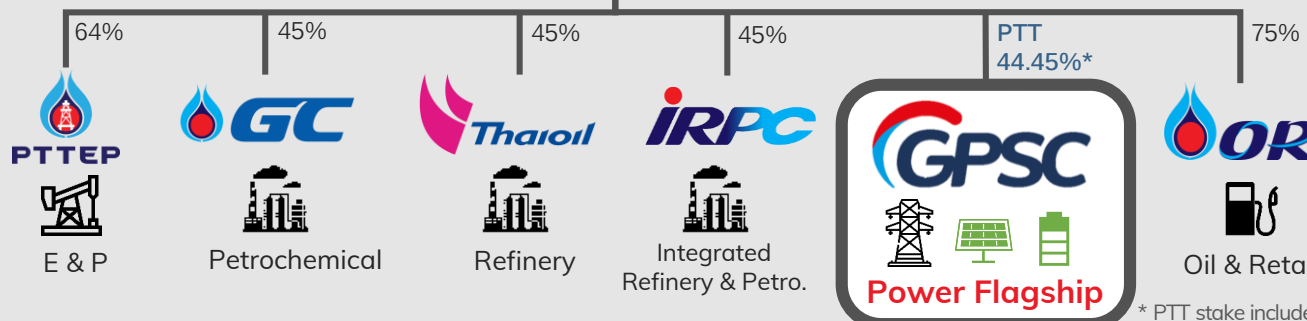
A+(tha)

FitchRatings



*"Creates value through business chain"*

**PTT  
Group's  
Business**

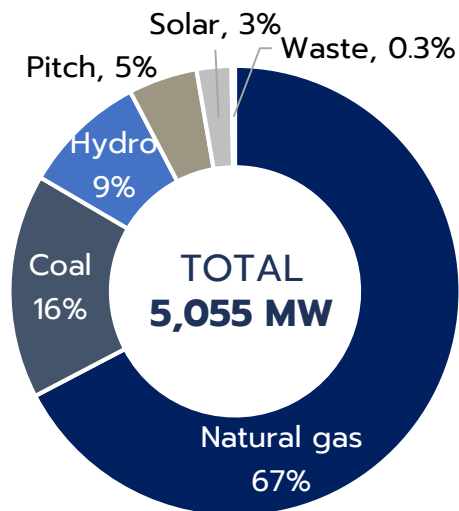


\* PTT stake includes 1.91% hold via SMH

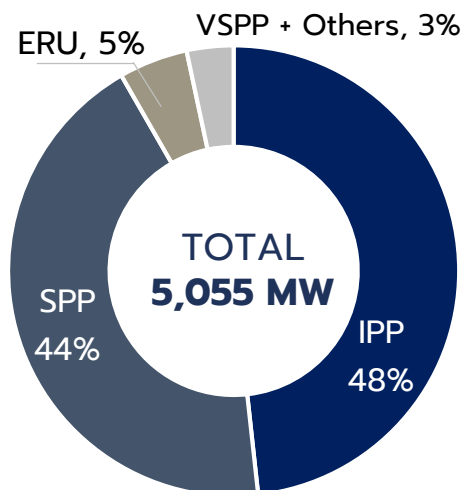
# GPSC's Current business portfolio

## Equity capacity (%)

By Fuel type



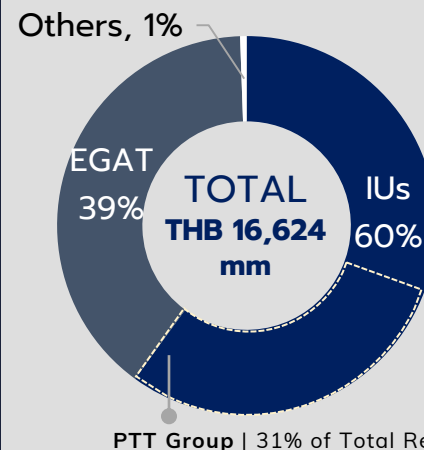
By Plant type



## Customer portfolio & services

Revenue by customer

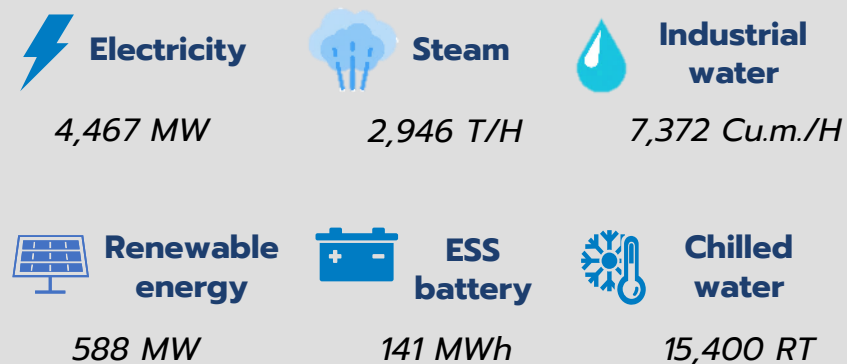
Q1/2021 Revenue by Customers | THB million, %



### LT OFF-TAKE CONTRACTS

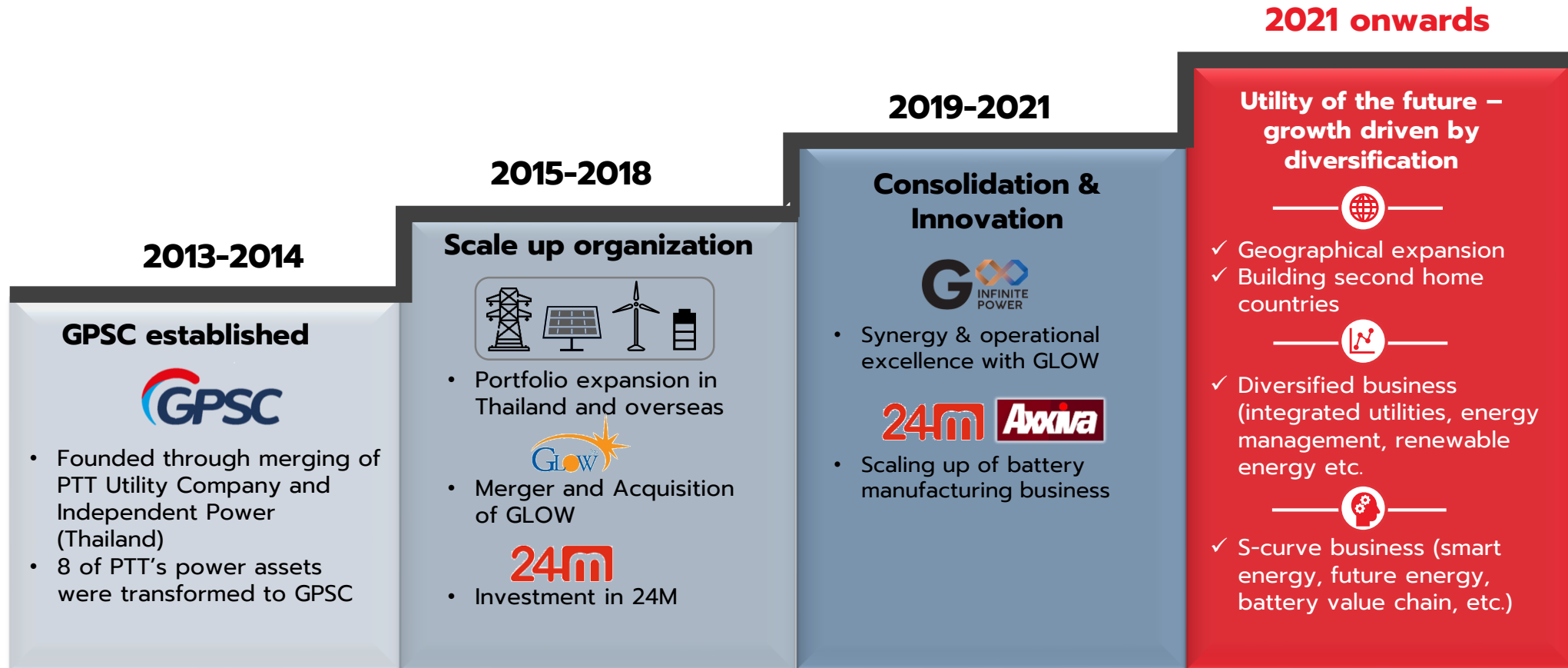
- ✓ Guaranteed market and source of revenue
- ✓ Guarantee a minimum level of profit in regards to their investment
- ✓ Price adjustment formula, varying with fuel price

Product / Services



Note: \*Total equity capacity includes GRP restructuring which GPSC sold 50% of GRP's shares to PTT's subsidiary.

# **GPSC milestones** | transforming to “Utility of the Future”





# Sustainability at GPSC

## Strategic Directions (3S)

- Synergy and Integration
- Selective Growth
- S-Curve

## Outlook

## Q&A



# Move towards sustainability

## Sustainability & Climate Change Strategy

### Sustainability Management Framework

**Power Accessibility**

Enhance stability of access by investing in distributed energy technologies and infrastructure



**Quality of Life**

Empower better living by providing occupational training program, light for a better life program and zero-waste village



**Eco - system**

Eco-system of driving clean energy, cultivating the Circular Economy concept and easing environmental impacts



**Sustainable Innovation**

Sustainable Innovation for the corporation to drive improvement initiatives through Artificial Intelligence (AI) and Blockchain, innovation culture and youth social innovation



### Long Term Values Creation Innovative & Sustainable Energy



To be Listed in  
DJSI



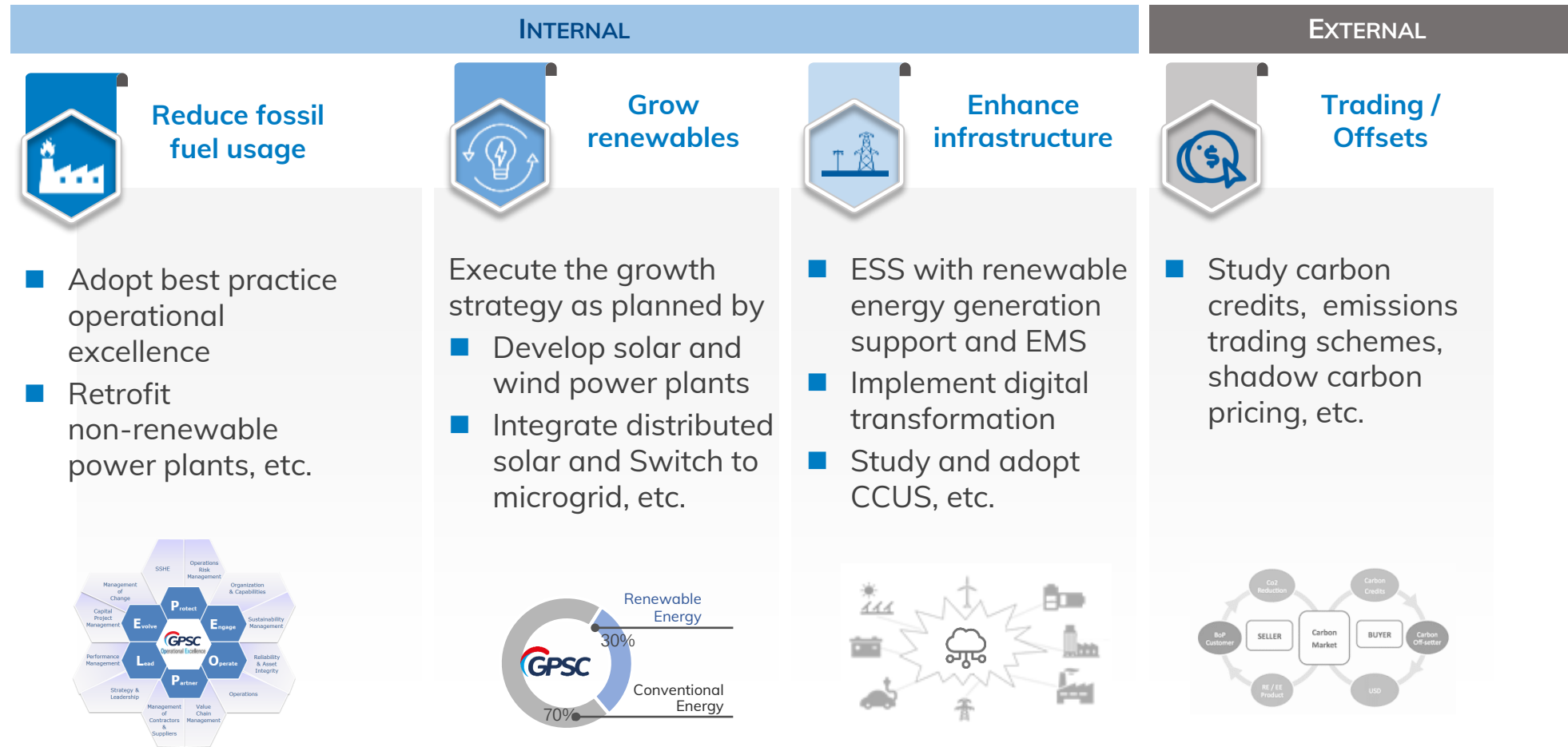
Aim to  
NET ZERO





# Sustainability | Net Zero Framework

## The route to net zero for utilities



**Note:** ESS : Energy Storage System  
EMS : Energy Management System  
CCUS : Carbon Capture, Utilization and Storage

# Sustainability at GPSC

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# Strategic Directions and Growth Strategy | 3S Strategy



## SYNERGY & INTEGRATION



## SELECTIVE GROWTH



## S-CURVE BUSINESS

 Synergy Capture

 Customer Centric

 ROE Uplift

 Thailand Business Development

 International Business Development

 Co-investment with PTT

 New Businesses

 Battery manufacturer with own R&D

 System Integrator

 Digital Energy

# S1 Synergy and Integration

## Synergy and Integration

**Q1/2021**, the recognized synergy value is approx.

**THB 224 mm** (After tax)

mainly from operation and maintenance, the management of power and steam network integration and coal ash management

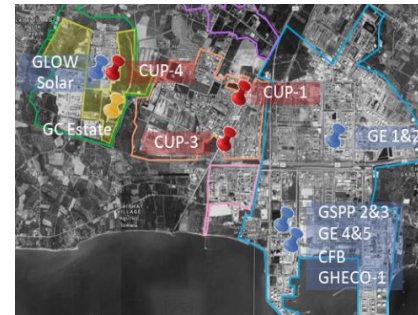


**THB >1.6 bn per year**  
recurring synergy from



**Ramp up with full synergy value** contribution by 2024

## Key Synergy Initiatives



- **Enhance reliability** in Maptaput via Power and Steam Integration
- Aligning **best practice** to increase maintenance and procurement **productivity and cost saving**
- Corporate Function & IT Synergy

## Operational Excellence (OpEx)



“To be **Top of Operational Excellence** in power and utilities business”

### Strengthen the core = Foundation for future

- Best-in-class operation
- Customer-centric utility service provider

### Explore & Innovate

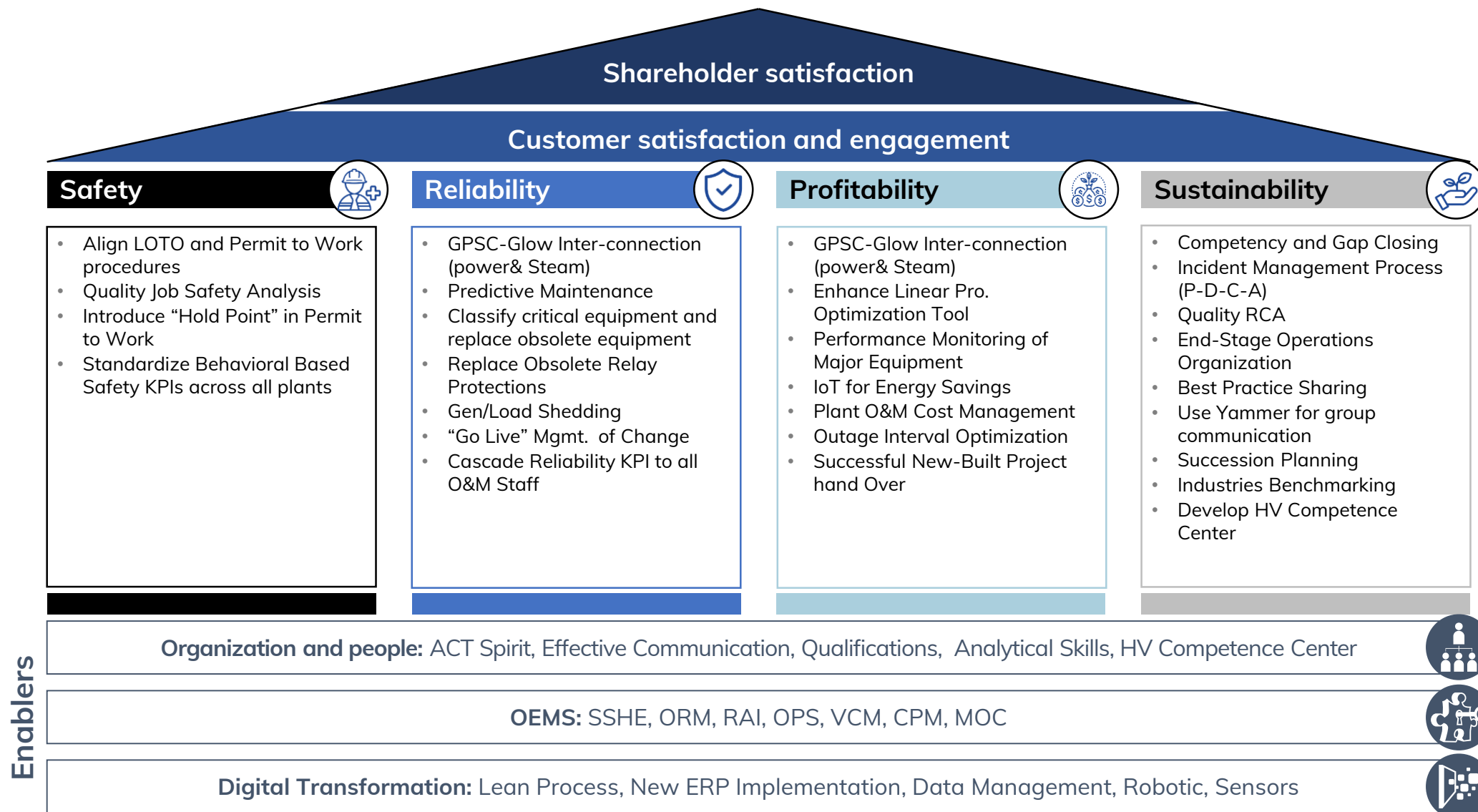
- Build capabilities
- Setup and scale up S-curve and new business





# S1 Synergy and Integration

To drive “Operational Excellence” across all assets of GPSC





## S2 Selective Growth

### GPSC Selective Growth

#### Thailand



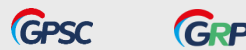
Conventional & Renewable



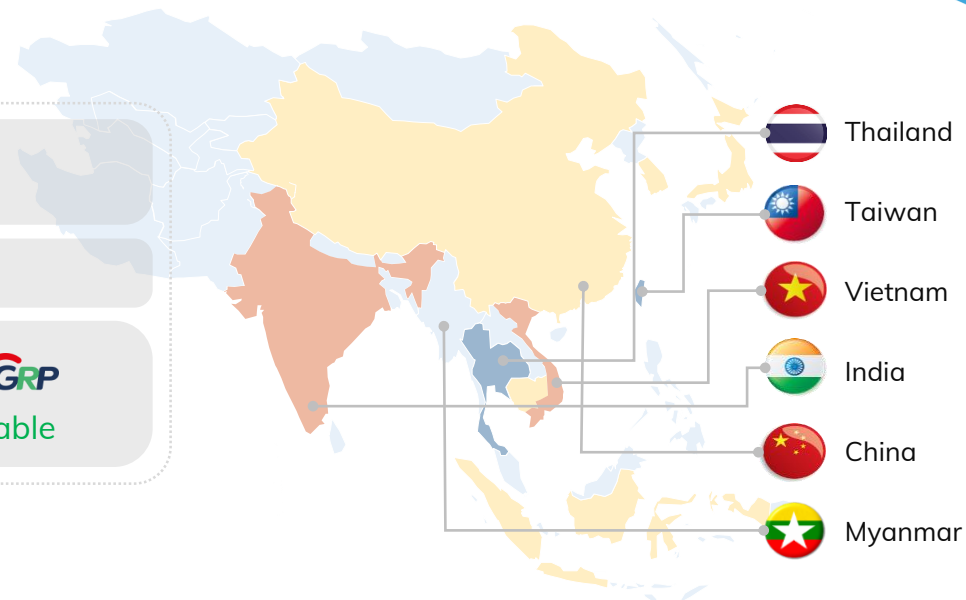
#### International



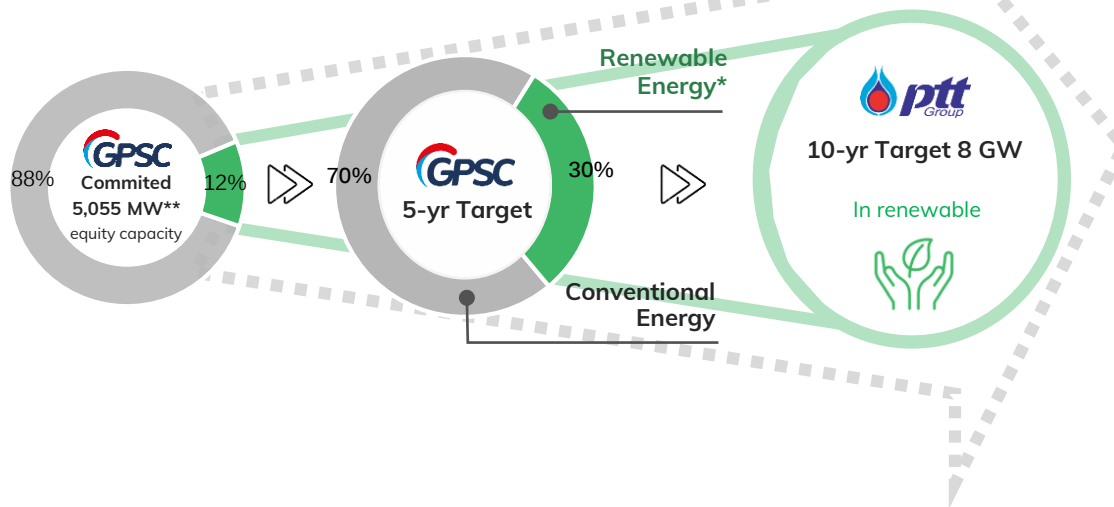
Conventional



Renewable



### Way forward to sustainable growth



Focusing on power plant projects  
by **Leveraging PTT Group's Networking**

**GRP** will be a “new energy platform”  
for PTT Group Investing especially in renewable energy  
businesses internationally through:



Pooling assets,  
resources & Expertise

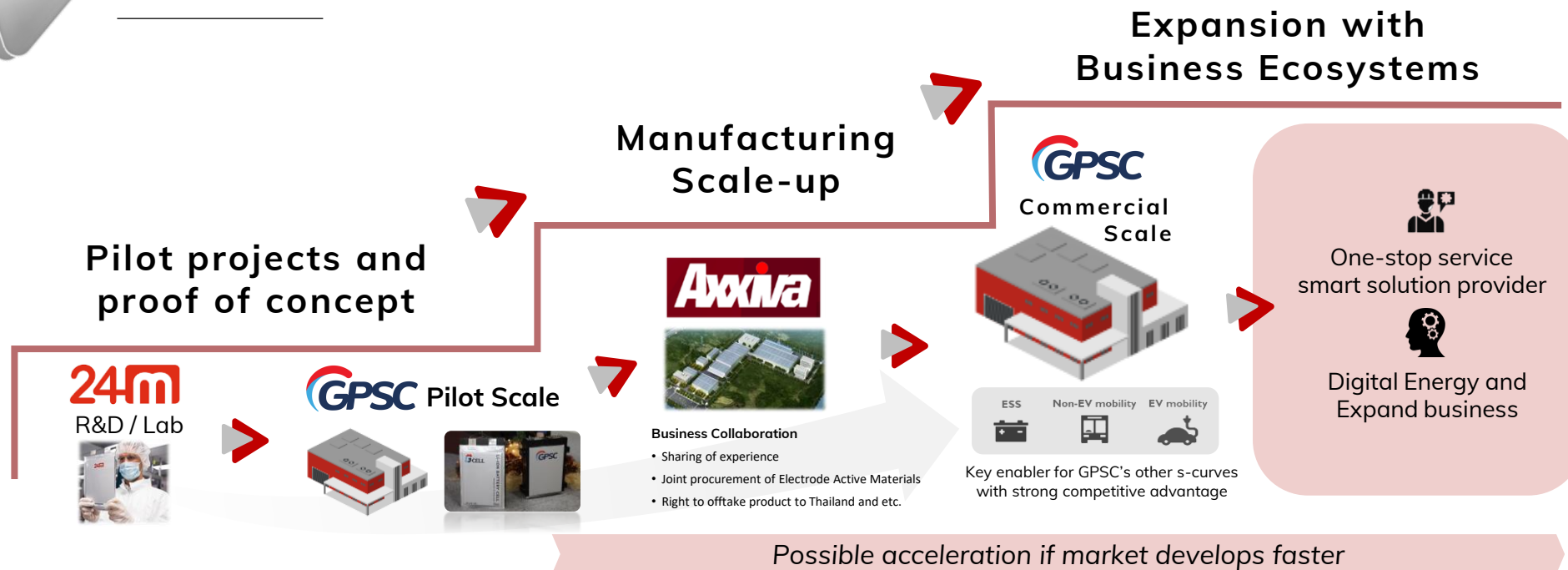


Financial capability

**Note:** \* Renewable energy mentioned on this page covers energy from solar, wind, waste, hydro, etc.



## S3 S-Curve Business



## Development and Achievements



**24 February 2021 :**  
GPSC and OR unveiled G-BOX

150 kWh G-Box, a Battery Energy Storage System at PTT station



**26 March 2021:**

Collaboration with **Swap & Go** for swappable battery packs of motorcycles



**29 April 2021 :**

MOU with **9 companies** to develop a **common battery pack** and to develop a **battery swapping platform** for charging stations.

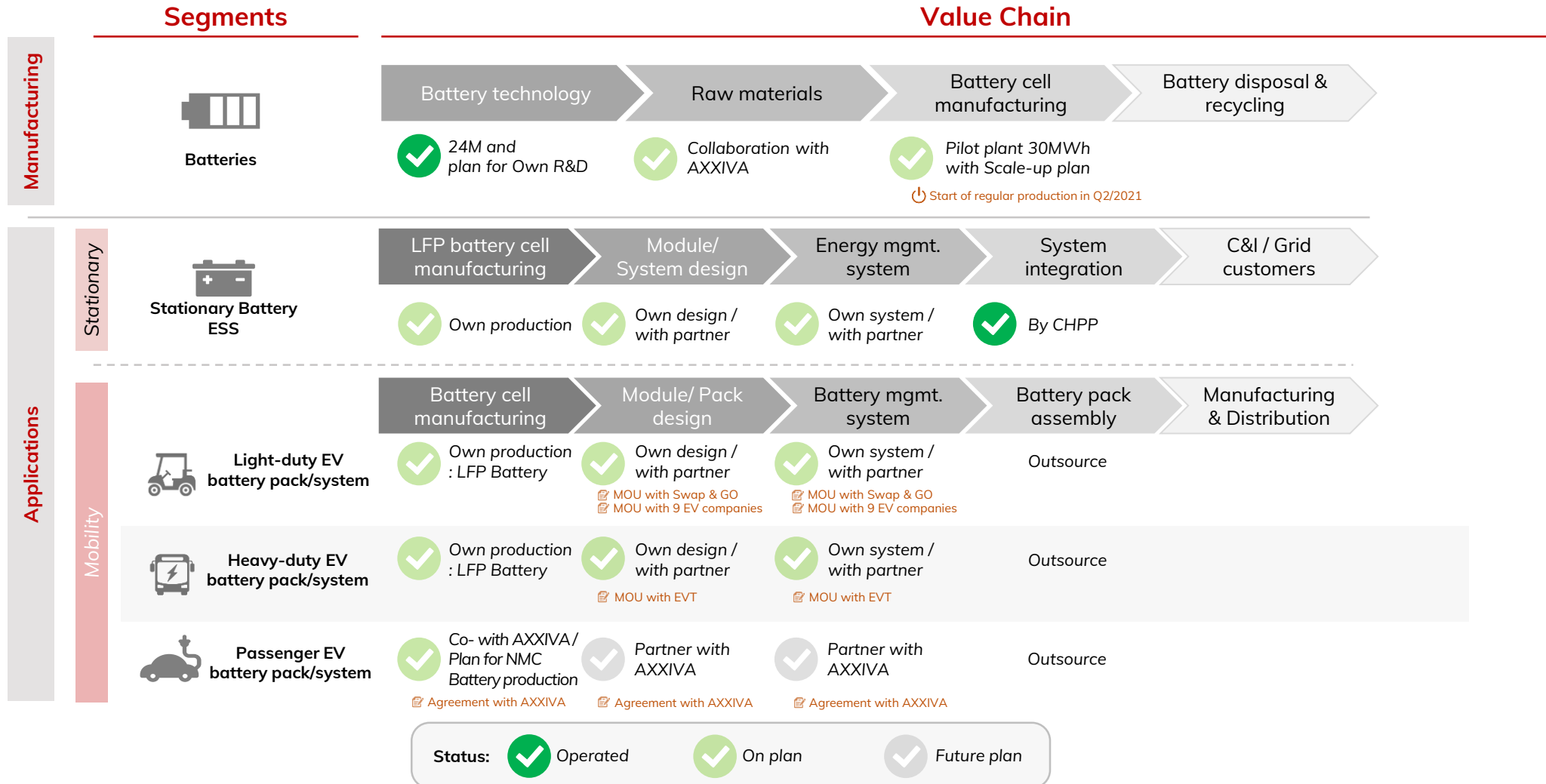


**18 May 2021:**

Partners up with **Electrify** to develop and implement a P2P energy trading platform



GPSC has built capabilities across different segments of the value chain, with focus on stationary battery ESS and light duty EV battery pack





# S3 GPSC Battery : G-CELL and Applications

## G-CELL Core Values



Safer

Greener

Reliable



## Semi-Solid Battery Unique Design



Shorter  
Process



Remove **40%**  
Inactive Material



**No** binder  
Needed



**Low Risk**  
of Contamination

## Application and Manufacture Development for Semi-Solid Energy Storage Unit (30 MWh p.a.)

### Energy Storage



### E-Mobility



### Target applications

#### Commercial & Industrial

- Charging station
- Industrial Estate

#### Micro-Grid

- Remote Area

#### Residential (RESS) and others

- Property Development
- ESS Mobility and others

#### E-Mobility

- Battery for EVs
- Battery swapping



Lead Acid Replacement



EV-Bus



ESS x EV Charger



Battery Swapping  
& Car Charging



Battery Pack  
for EV



Energy  
Platform

## S3 Applications and Achievement in Renewable & Smart Energy Projects



### SMART ENERGY MANAGEMENT

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



### 6 MW Smart Energy Project at Suranaree University To create a low carbon university

1.74 MW  
Solar Rooftop

4.312 MW  
Floating Solar

100-200 kWh  
Lithium-ion BESS

AI &  
Smart Energy  
Platform

- ✓ High efficiency BESS with management of solar power generation
- ✓ Blockchain-based smart grid and AI
- ✓ Cutting-edge innovation and smart energy platform



### @Wangchan Valley Smart Natural Innovation Platform



#### SMART Energy Management



Clean Energy Generation



Flexibility Distributed  
Generation



Cost Efficient No Clean  
Energy Shedding



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



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



### First offshore floating solar farm 100 kW installed capacity for seaside of PTT Tank



- ✓ **PTT Tank** : Cut the electricity cost and reduce carbon dioxide emission
- ✓ **GC** developed special plastic "InnoPlus HD8200B"
- ✓ **CHPP** designed and installed the floating solar system



# Sustainability at GPSC

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## Q&A



# 2021 Outlook

## Performance Outlook

- ▲ **Synergy value** from acquisition of GLOW is expected to be THB >800 million (after tax) in 2021.
- ▲ Demand of electricity and steam in the MTP area increased by 4%, approximately.
- ▼ In 2021, average gas price is expected to be higher 5% from Q1/2021 and coal price is expected to go up from Q1/2021.
- GLOW Energy Phase 5 Plant resumed to normal operation in 2-Apr-2021. Insurance payment claim is ongoing.
- 🎯 GPSC is in the process of sharpening our strategic plan for responding and dealing with the challenges.

## Project Closing and COD in 2021



Solar projects of 25 MW in Taiwan expected to closing in Q2/2021

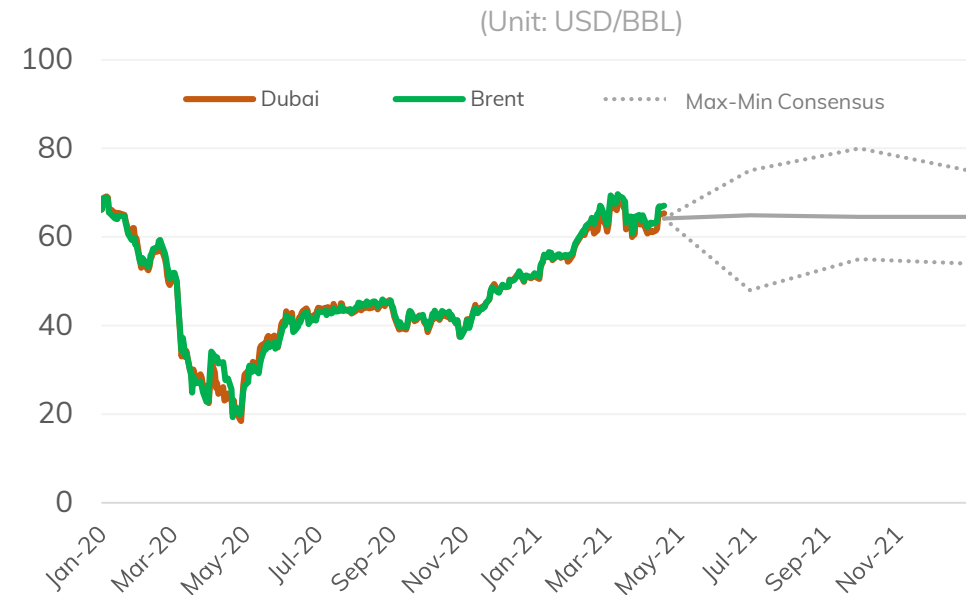


Rayong Waste to Energy Project has COD on 28-May-2021



Energy Storage Unit 30 MWh p.a. expected Start of regular production in Q2/2021

## Key Assumptions (Unit: USD/BBL)



- **Natural gas price** is forecasted to increase slightly in the same direction with crude oil with lag time 6 – 12 months.
  - NG price increased slightly in Q1/2021.
  - Blended gas cost of SPP portfolio is expected 10% increase at year-end.
- **Coal price**
  - Coal price spiked in Q2/2021.
  - Coal price range is expected about US\$ 95-100 per ton (NewCastle) at year-end.

## Q&A SESSION

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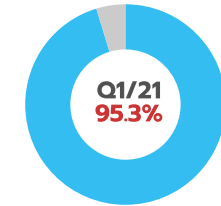
# Update of Projects

## Rayong Waste to Energy (WTE)



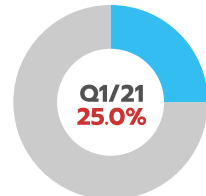
Electricity (MW) 9.8

## Semi-Solid Energy Storage Unit | 30 MWh



Capacity (MWh/yr.) 30

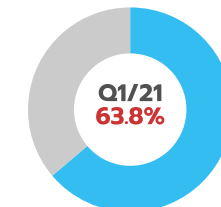
## SPP Replacement - Stage 1 | Glow Energy Ph. 2



Electricity (MW) 192

Steam (ton/hr.) 300

## Energy Recovery Unit (ERU)

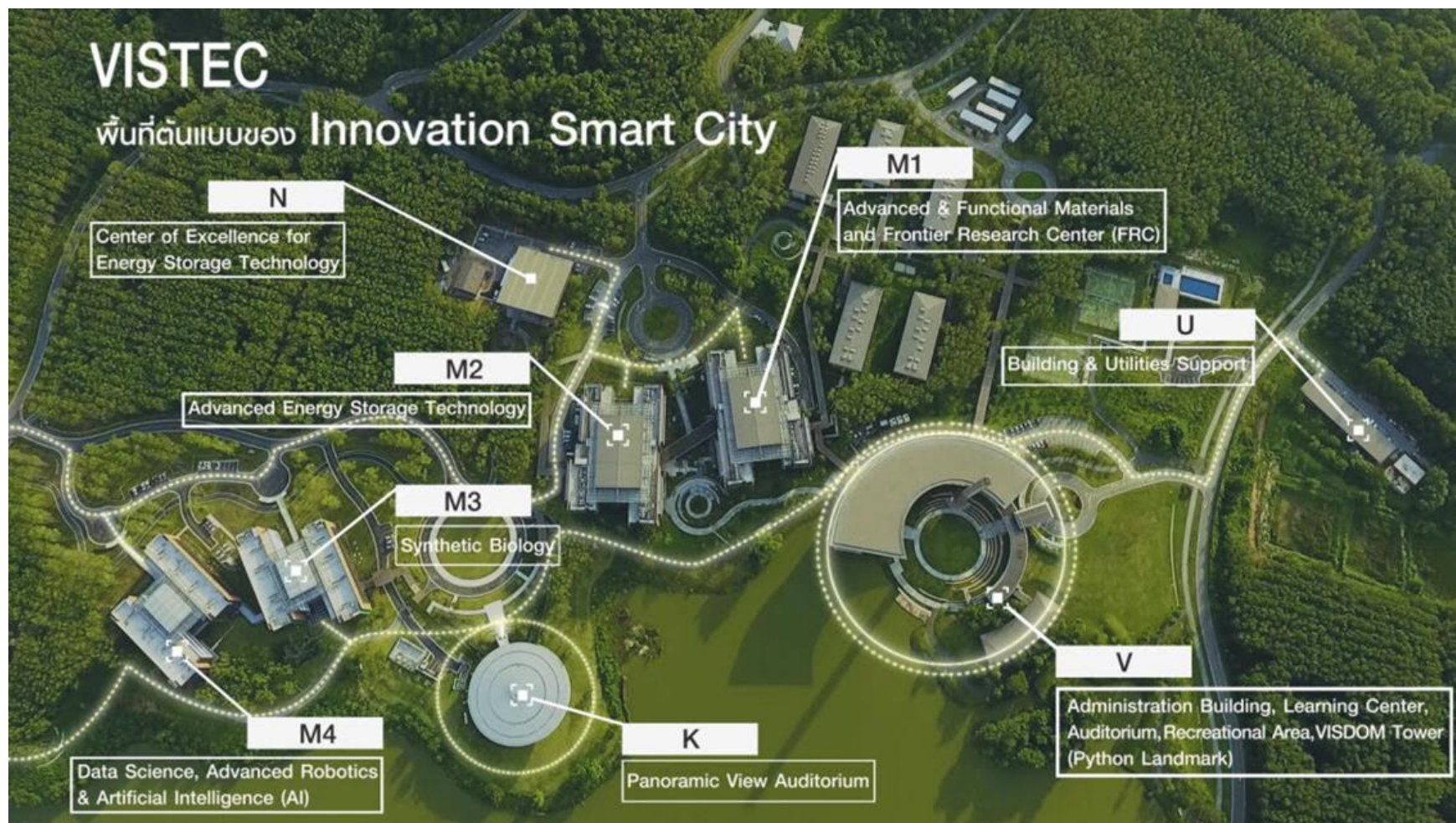


Electricity (MW) 250

Steam (ton/hr.) 175



## VISTEC Project : One of the most completed sets of **Smart Energy Management** in Thailand



### Smart Energy Technologies

- 1.39MWp Solar Rooftop
- 0.1MWp Solar Floating
- 1.2MWh Energy Storage
- EV Chargers
- Artificial Intelligence
- Blockchain P2P Energy Trading

### Zero Solar Shedding

100% of solar energy generated will be utilized.

### Zero Import Building

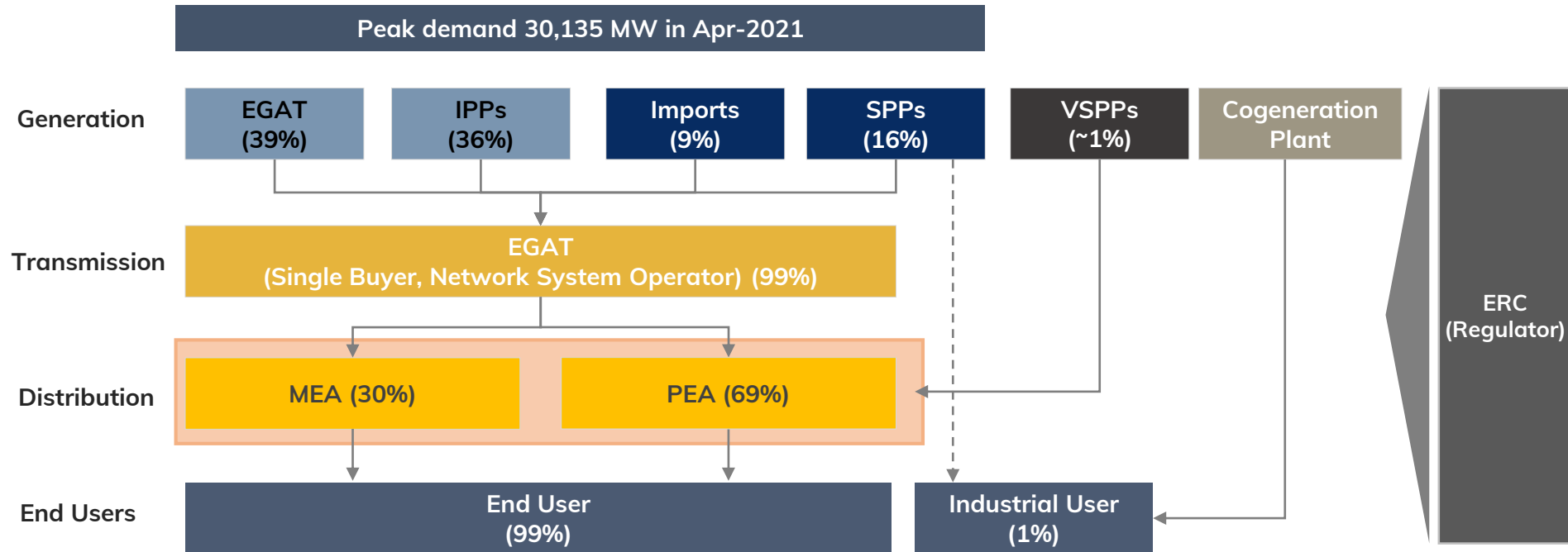
M4 will use 100% renewable energy on most days.

### Peer to Peer Energy Trading

Each building can share energy surplus & demand.

# 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 & 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:

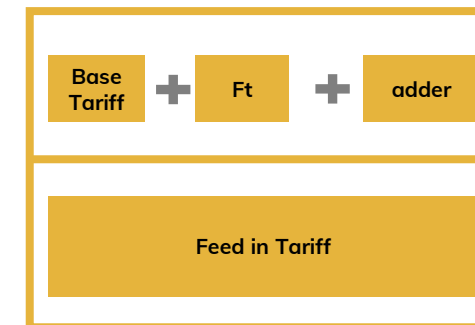
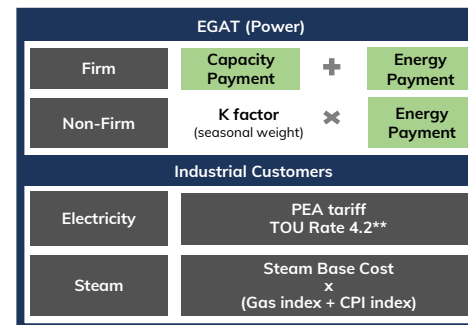
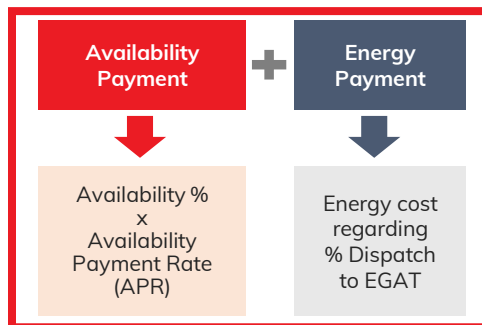
EGAT:

- 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/>

## Embedded sustainability to our strategy to build “Long Term Value Creation, Innovation & Sustainable Energy”

### LIGHT FOR BETTER LIFE

Small-scale Solar PV in remote areas

#### Solar Rooftop to Schools in Rayong



- GPSC delivered Solar Rooftop System to 3 schools (25.9 kW) in Wangchan Valley in Rayong
- Lower emission of green house gas 93.5-187 tons of carbon/year

#### Solar Rooftop to Hospital in Koh Sichang



- GPSC and Thailoil delivered Solar Rooftop System (53.46 kW) to Koh Sichang Hospital to improve energy security of the hospital

#### Solar Rooftop to Hospital in Mae Hong Son



- GPSC and TOP delivered Solar Rooftop System (40.5 kW) to Thanyarak Hospital in Mae Hong Son

### GPSC YOUNG SOCIAL INNOVATOR



2 golden prizes and 1 silver prize from 2020 The 6th World Invention Innovation Contest (WiC) in Seoul

### ZERO WASTE VILLAGE

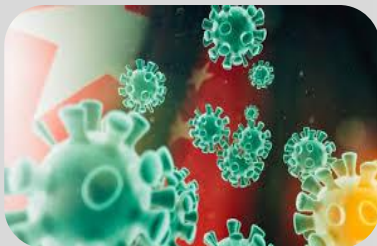


Delivering a waste management learning center to Baan Phai community in Rayong

# Q1/2021 | Highlight

## Challenges and Concerns

### COVID-19



### Energy Transition



### Climate Change



## Operational Excellence and Readiness to move forward



### Strengthen the Core ➤ To ensure stability and continuity of utilities to supply IUs

- **Measures against COVID-19** : The highest control measures have been implemented e.g. safe house for operators (Golden Man), refrain external parties to access the offices and operating areas.
- **Business Continuity Plans (BCP)** to give confidence that the company will be able to manage and continually operate production, without any interruption
- **Operational Excellence** : Best-in-class operation for reliability and security of the network and continuous Improvement



### Growth ambitions ➤

- Follow the **growth plan** to invest in conventional and renewable
- Increased **focus on renewables**
- Increased present **outside of Thailand**



### New Businesses ➤

- **Battery value chain**
- Expansion in **S-curve** and adjacent businesses



# Q1/2021 | Highlight

## Q1/21 Events & Highlights



Stable demand from industrial customers



Strong performance from affiliates



Sales of 50% shares in GRP  
(ownership 100% → 50%)



GLOW Energy Phase 5 resumed normal operation  
since 2-Apr-21



Focus on battery's value chain & Continue develop  
S-Curve business

GPSC and OR unveiled G-BOX



MOU with 9 companies



Collaboration with Swap & Go



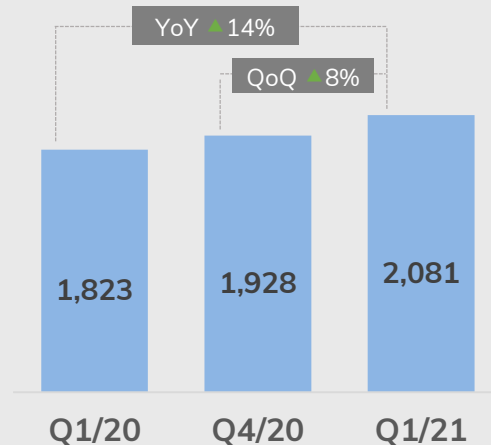
Partners up with Electrify



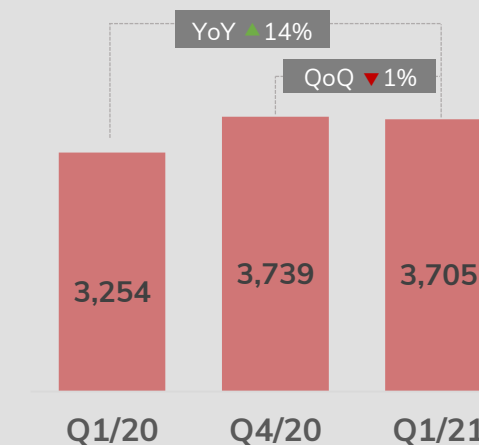
## Q1/21 Performance

### Sales Volume of Industrial Customers (IUs)

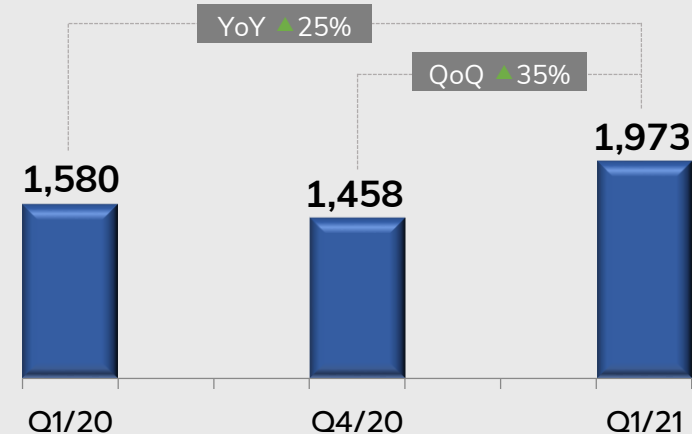
#### Electricity sales volume (GWh)



#### Steam sales volume ('000 tons)

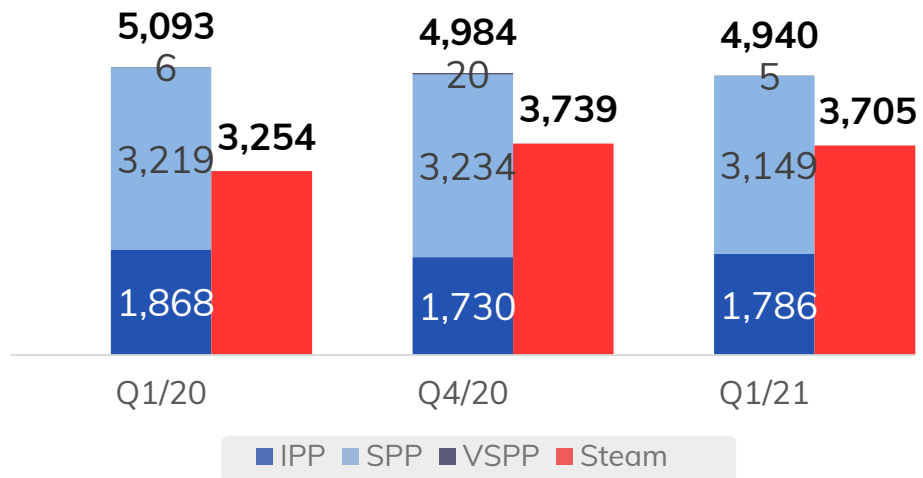


### Net Income (THB MM)

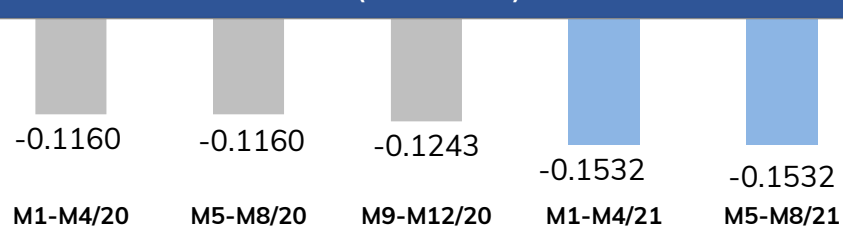


# Q1/2021 Key Drivers

Electricity Sales volume (GWh) & Steam Sales volume ('000 tons)



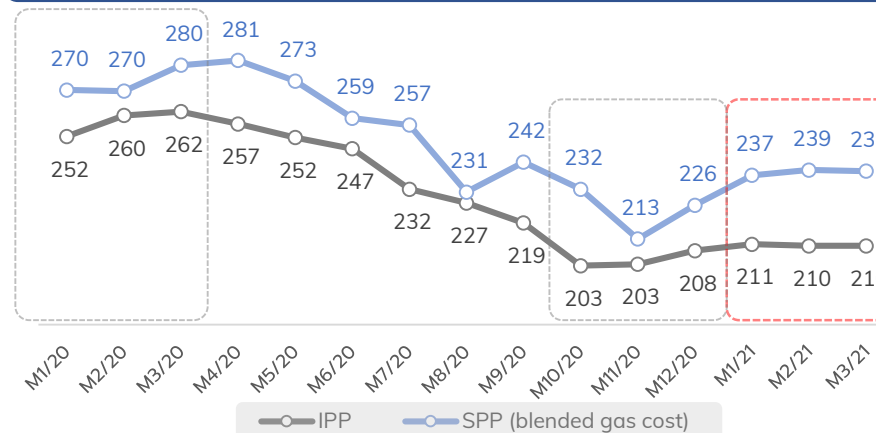
Ft (THB/kWh)



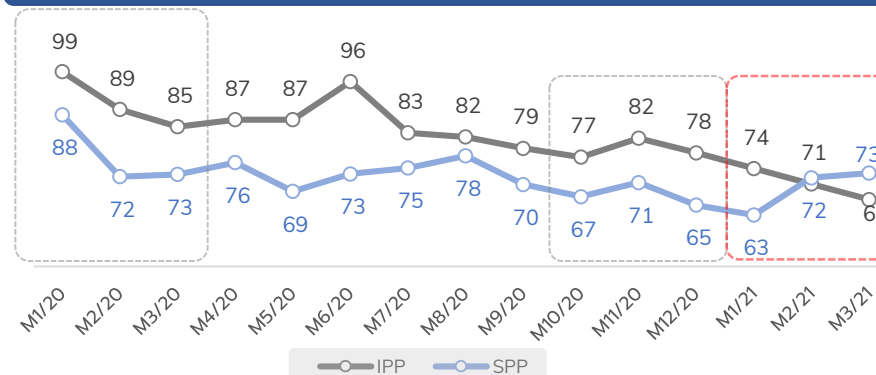
Ft for M1-M8/2021 is -15.32 Satang/unit.

IPP's Availability Rate (%)	Q1/20	Q4/20	Q1/21	Change +/-	
				YoY	QoQ
Sriracha Power Plant	95%	90%	99.8%	5%	10%
GIPP	100%	90%	76%	(24%)	(14%)
GHECO-One	96%	94%	59%	(37%)	(35%)

Natural Gas Cost 2020 - Q1'2021 (THB/MMBTU)



Coal Cost 2020 - Q1'2021 (USD/Ton JPU)



End-month FX (THB/USD)

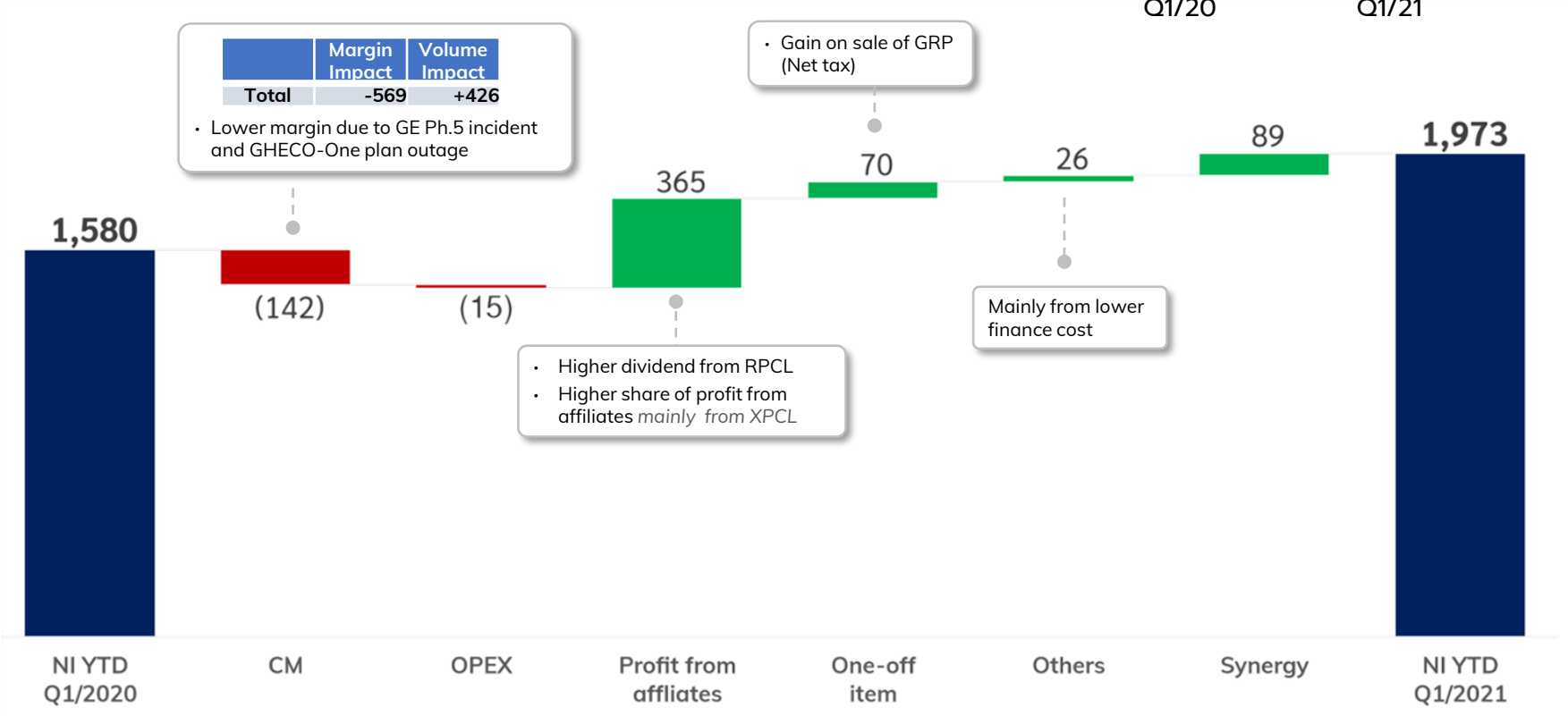
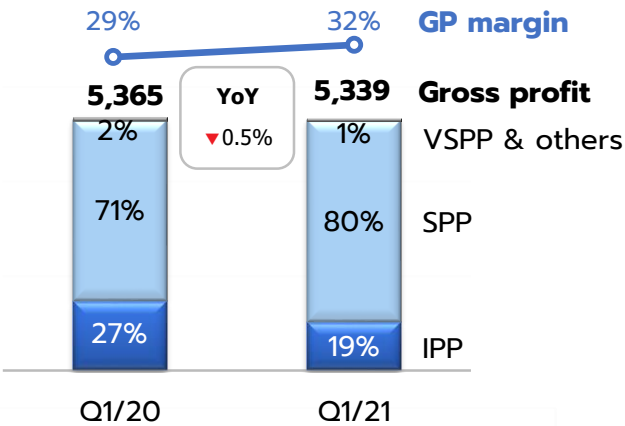
M1/20	31.30	M10/20	31.37	M1/21	30.17
M2/20	31.78	M11/20	30.45	M2/21	30.21
M3/20	32.83	M12/20	30.21	M3/21	31.51
Average		31.97	30.68	30.63	

# Q1/2021 vs Q1/2020 (YoY) Net Profit

(Unit : THB million)

Net profit **+393 MTHB (+25%)**

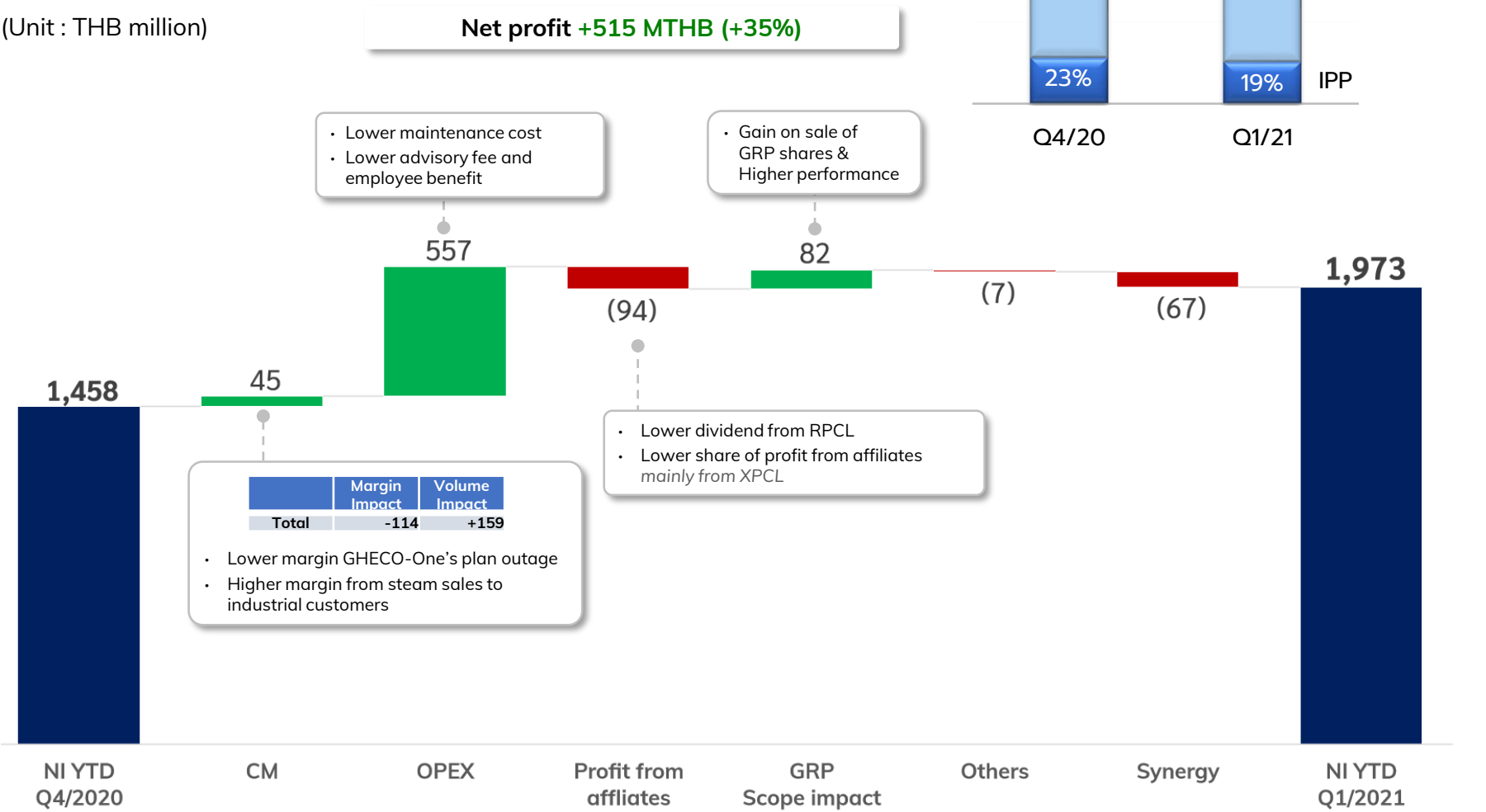
## Gross profit & GP margin





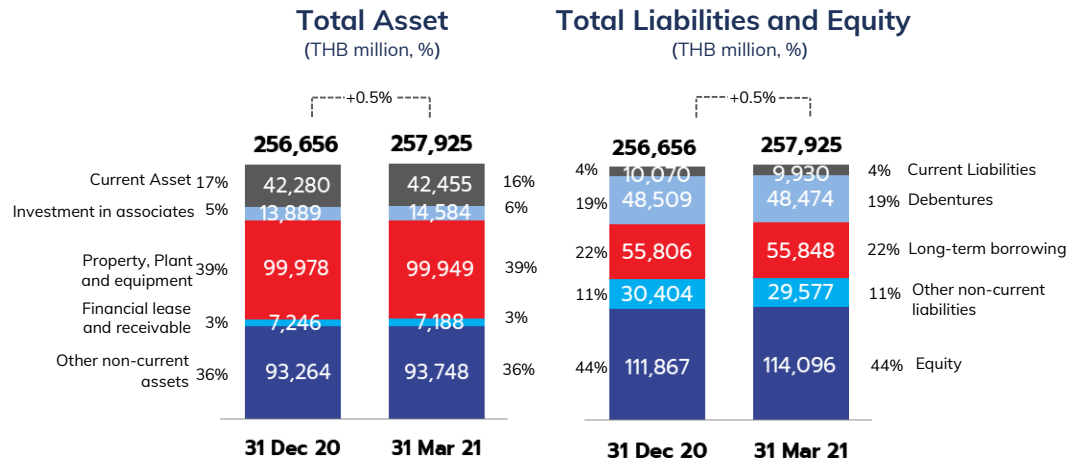
# Q1/2021 vs Q4/2020 (QoQ) Net Profit

(Unit : THB million)

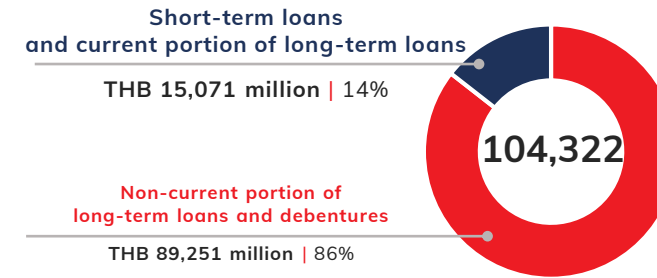


# Financial Positions and Debt Profile

## Summary of Financial Position



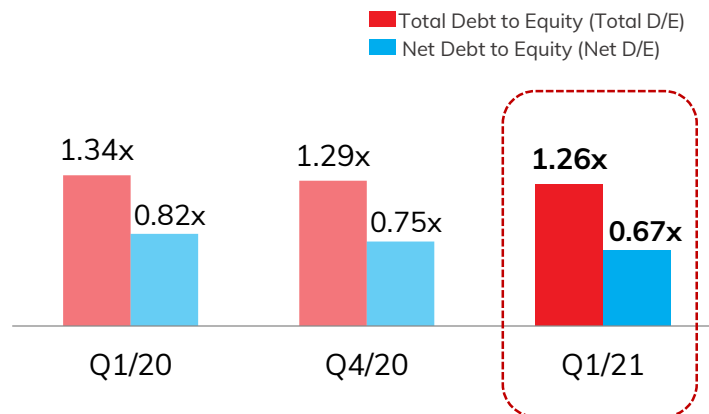
## Total Interest-Bearing Debt | THB million



As of Q1/2021:

- Average cost of debt: 3.06%
- Average remaining tenor: 5.3 year

## Total debt to equity and net debt to equity ratio | times



## Credit ratings

BBB- **S&P Global**

AA- **TRIS RATING**  
A Strategic Partner of S&P Global

A+(tha) **FitchRatings**

## Q1/2021 Operating Results

Overall operating results of the Company and its subsidiaries (unit: THB million)	Q1/20	Q4/20	Q1/21	change +/-	
				YoY	QoQ
Operating revenue	18,308	16,532	16,624	(9%)	1%
Cost of sales (excluding depreciation and amortization)	(12,943)	(11,601)	(11,285)	(13%)	(3%)
<b>Gross profit</b>	<b>5,365</b>	<b>4,931</b>	<b>5,339</b>	<b>(0.5%)</b>	<b>8%</b>
Selling and administrative expenses	(418)	(528)	(434)	4%	(18%)
Other operating income	4	5	5	25%	(8%)
<b>EBITDA</b>	<b>4,951</b>	<b>4,409</b>	<b>4,910</b>	<b>(1%)</b>	<b>11%</b>
Depreciation and amortization	(2,074)	(2,046)	(2,053)	(1%)	0%
<b>EBIT</b>	<b>2,877</b>	<b>2,362</b>	<b>2,856</b>	<b>(1%)</b>	<b>21%</b>
Finance costs	(1,041)	(965)	(974)	(6%)	1%
Other non-operating income and expenses	174	133	264	52%	98%
Dividend received and shares of profit of associates and joint ventures	(68)	367	297	537%	(19%)
Income tax expenses	(254)	(141)	(453)	78%	222%
<b>Profit before FX and extraordinary items</b>	<b>1,688</b>	<b>1,757</b>	<b>1,990</b>	<b>18%</b>	<b>13%</b>
Net foreign exchange gain (loss)	(30)	12	2	106%	(85%)
<b>Net profit</b>	<b>1,658</b>	<b>1,769</b>	<b>1,992</b>	<b>20%</b>	<b>13%</b>
Non-controlling interests	(78)	(311)	(19)	(76%)	(94%)
<b>Net profit for the Company</b>	<b>1,580</b>	<b>1,458</b>	<b>1,973</b>	25%	35%
<b>Adjusted Net Income</b>	<b>1,948</b>	<b>1,813</b>	<b>2,359</b>	<b>21%</b>	<b>30%</b>
<b>Gross profit margin (%)</b>	<b>29%</b>	<b>30%</b>	<b>32%</b>	<b>3%</b>	<b>2%</b>
<b>Net profit margin (%)</b>	<b>9%</b>	<b>9%</b>	<b>12%</b>	<b>3%</b>	<b>3%</b>
<b>Adjusted Net Income margin (%)</b>	<b>11%</b>	<b>11%</b>	<b>14%</b>	<b>3%</b>	<b>3%</b>



# GPSC's Prudent Financial Policy

## GPSC's 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)

## 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
<b>IPP</b>									
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
<b>Total IPP</b>			<b>4,910</b>	<b>2,439</b>	<b>2,439</b>	<b>-</b>	<b>80</b>		
<b>SPP</b>									
CUP-1	SPP	GPSC (100%)	226	226	226	890	720	2006	10-15
CUP-2	SPP	GPSC (100%)	113	113	113	170	510	2008	15
CUP-3	SPP	GPSC (100%)	-	-	-	280	770	2009	15
Rayong Expansion (CUP-3)	SPP	GPSC (100%)	15	15	15	-	-	2019	n/a
CUP-4	SPP	GPSC (100%)	49	49	49	140	-	2019	Long-term
Glow Energy Phase 1	SPP	GLOW (100%)	-	-	-	250	1,340	1994	-
Glow Energy Phase 2	SPP	GLOW (100%)	281	281	281	300	1,180	1996	(extension)
Glow Energy Phase 4	SPP	GLOW (100%)	77	77	77	137	2,050	2005	25
Glow Energy Phase 5	SPP	GLOW (100%)	328	328	328	160	-	2011	10-20
Glow SPP 2/ GLOW SPP 3	SPP	GLOW (100%)	513	513	513	190	150	1999	25
Glow SPP 11 Phase 1	SPP	GLOW (100%)	120	120	120	-	360	2000	25
Glow SPP 11 Phase 3	SPP	GLOW (100%)	42	42	42	-	-	2006	10-20
Glow SPP 11 Phase 2	SPP	GLOW (100%)	110	110	110	-	212	2012	25
Glow Energy CFB 3	SPP	GLOW (100%)	85	85	85	79	-	2010	10-20
IRPC-CP Phase 1	SPP	GPSC (51%)	45	23	23	86.7	-	2015	25-27
IRPC-CP Phase 2	SPP	GPSC (51%)	195	99.4	99.4	66.3	-	2017	25

**Note:** Equity capacity includes 100% stake in GLOW, ERU and GRP1

## 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
NNEG	SPP	GPSC (30%)	125	38	38	9	-	2016	25
NNEG Expansion	SPP	GPSC (30%)	60	18	18	3	-	2020	21
BIC-1	SPP	GPSC (25%)	117	29.25	29.25	5	-	2013	25
BIC-2	SPP	GPSC (25%)	117	29.25	29.25	5	-	2017	25
Total SPP			2,618	2,196	2,196	2,771	7,292		
VSPP and others									
Rayong WTE	VSPP	GPSC (100%)	9.8	9.8	9.8	-	-	2021	18
Glow Energy Solar Plant	VSPP	GLOW (100%)	1.55	1.55	1.55	-	-	2012	25
CHPP	VSPP	GPSC (100%)	5	5	5	-	-	2008	30
CHPP (Solar)	VSPP	GPSC (100%)	5	5	5	-	-	2016	25
ISP1	Solar	GPSC (99%)	20.8	20.59	20.59	-	-	2017	20
GRP (NPS, WXA, PPS)	VSPP	GPSC (50%)	39.5	19.75	19.75	-	-	2014-15	25
GRP1 (Solar in Taiwan) (Under closing process)	Solar	GRP (90%)	55.8	25.11	-	-	-	2016-21	20
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
Private PPA	Solar	GPSC Gr. (100%)	21.90	21.90	4.08			2018-21	Long-term
Total VSPP and others			313	170	127	-	-		
ERU									
ERU (under construction)	Cogen	GPSC (100%)	250	250	-	175	-	2023	25
Total ERU			250	250	-	175	-		
Total capacity			8,091	5,055	4,762	2,946	7,372		

**Note:** Equity capacity includes 100% stake in GLOW, ERU and GRP1



# 2021 Maintenance Schedule | Sriracha and Rayong Plants

Site	Description	Duration	2021											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CUP-1	GTG-13	22 Days												
	HRSG-13	22 Days												
CUP-2	GTG-21	22 Days						12/7	MI	2/8				
	HRSG-21	22 Days						12/7	3Y	2/8				
CUP-4	GTG-41	5 Days			9	MI	30							
	HRSG-41	11 Days			9	3Y	30							
SRC	HRSG#1	14 Days						27/6	1Y	7/7				
	HRSG#2	14 Days										15/11	3Y	28/11
	Steam Turbine.10	25 Days										15/11	3Y	28/11
	GT-11	8.33 Days										15/11	CI	23/11
RDF	BMH Machine	7 Days									7	MNI	13	

Notes: Rayong Site						Notes: Sriracha Site					
<u>GTG</u>						<u>HRSG</u>					
HGPI	Hot Gas Path Inspection for Gas Turbine	14 days	1Y	One Year Inspection HRSG	11 days	CI	Combustion Inspection for Gas Turbine	8 days	1Y	One Year Inspection HRSG	8 days
MI	Major Inspection for Gas Turbine	22 days	3Y	Three Year Inspection HRSG	14 days	HGPI	Hot Gas Path Inspection for Gas Turbine	26 days	3Y	Three Year Inspection HRSG	33 days
<u>STG</u>						<u>Other</u>					
Minor	Minor Inspection for Steam Turbine	15 days	1Y	One Year Inspection NG Station Test	Online	MO	Major Overhaul for Gas Turbine	33 days	Other	1Y	One Year Inspection NG Station Test Online
1MO	2 <sup>nd</sup> Major Overhaul for Steam Turbine	23 days	5Y	Five Year Inspection NG Station (NDT)	Online	RCIE	Rotor and Casting Inspection Evaluation	49 days	5Y	Five Year Inspection NG Station (NDT) Online	Online
2MO	2 <sup>nd</sup> Major Overhaul for Steam Turbine	27 days	FO	Forced Outage	Depending on physical damage				FO	Forced Outage	Depending on physical damage
<u>AB</u>											
1Y	One Year Inspection Aux. Boiler	11 days									
3Y	Three Year Inspection Aux. Boiler	13 days									

# 2021 Maintenance Schedule | IRPC-CP

Main Unit	Description	Duration	2021											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Block 1														
CTG 21	B	20 Days				20								
HRSG 21	B	20 Days				20								
CTG 22	B	20 Days				20								
HRSG 22	B	20 Days				20								
STG 23	MI	20 Days				20								
Block 2														
CTG 31	B	20 Days					20							
HRSG 31	B	20 Days					20							
CTG 32	C	22 Days							22					
HRSG 32	C	22 Days							22					
STG 33	MI	20 Days							20					
Aux. Boiler	YI	15 Days						15						

## Notes:

MI Major Inspection

YI Yearly Inspection Aux Boiler 15 days

B CTG/HRSG Inspection Level B 20 days

C CTG /HRSG Inspection Level C 22 days

Excluded 1 Day maintenance

## 2021 Maintenance Schedule | GLOW's Main Units

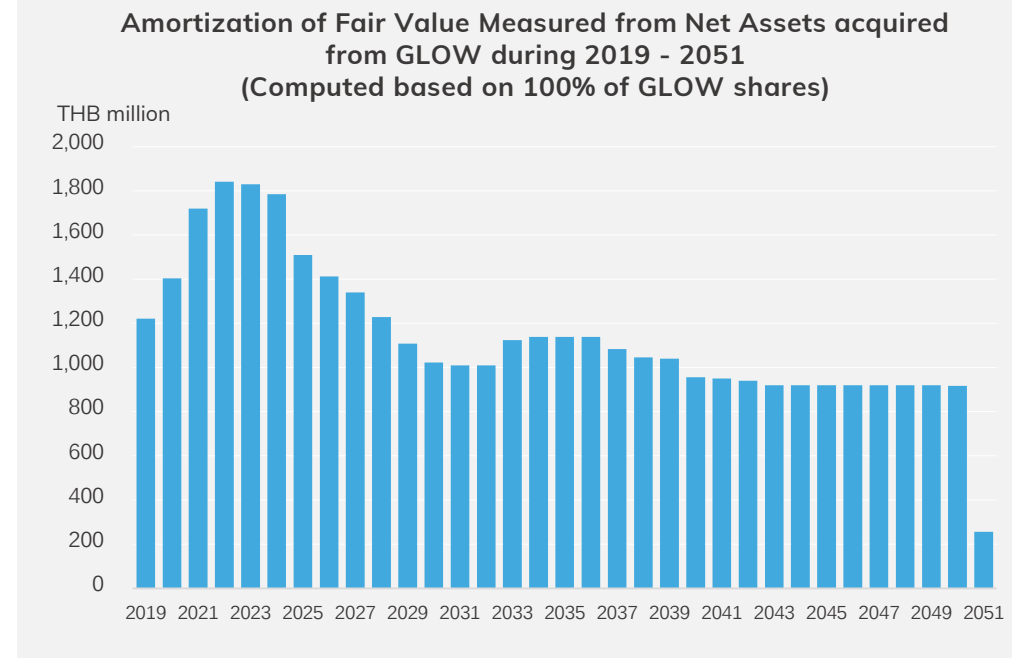
Main Units	Description	Duration	2021											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GHECO-ONE	Minor Inspection	37 Days 1/1	2Y	6/2										
GI PP: UNIT 1	Minor Inspection	5 Days									27/9	3Y	1/10	
GI PP: UNIT 2	Minor Inspection	5 Days										10	3Y	14
CFB 3	Minor Inspection	7 Days				22/4	3Y	12/5						
Phase 5	Minor Inspection	5 Days			29/3	1.25	2/4							
GSPP11 (Plant 2)	Minor Inspection	14 Days							18	3Y	31			
GSPP11 (Plant 2)	Major Inspection	5 Days										10	5.7Y	14



## 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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