



GLOBAL POWER SYNERGY PUBLIC
COMPANY LIMITED

FY2019 performance ANALYST MEETING

February 19th, 2020

**THE INNOVATIVE POWER
FLAGSHIP OF PTT GROUP**

2019 KEY HIGHLIGHTS

'GROWING PROFIT WITH SUSTAINABILITY AND CONTROL'



SIGNIFICANT GROWTH

- The acquisition of GLOW's shares was achieved on 14 Mar 2019. GPSC finished the Rights Offering process of Baht 74,000 million on 9 Oct 2019 and the debentures of THB 35,000 million on 8 Nov 2019
- GPSC completed the **Delisting Tender Offer of GLOW** on 2 Dec 2019 and GLOW has been **delisted from being listed on the SET** on 13 Dec 2019. On 31 Dec 2019, GPSC holds 99.83% of the total issued shares of GLOW.
- **TRIS Rating** assigns "AA-" with "stable" outlook to GPSC reflects company's strong credit profile

PROFIT



208% increase in EBITDA
EBITDA from 2018 due to contribution from GLOW and higher AP from Sriracha Power Plant



54% of Adjusted Net Income
increased from 2018 due to recognition of GLOW and the commencement of commercial operation of our investment projects in 2019



Value added from synergy
THB 1.6 bn ramp up with full EBITDA contribution by 2024
On 31 Dec 2019, GPSC was able to recognize the synergy value approx. **Baht 76 million**

SUSTAINABILITY

□ **Dividend THB 1.30 per share**

for the year 2019 and GPSC will pay the remaining dividend for 2H-19 at THB 0.80 per share on April 17, 2020

□ **Awards**

- CFO of the year award 2019 in Treasury, Trade, Supply chain and Risk management from 'The Asset' magazine
- The Asset corporate 2019 in ESG: Platinum Award, Best IR Award and Best Initiative award- Innovation: ESS solution
- Sustainability Excellence Award in Rising star and Thailand Sustainability Investment (THSI) award from SET Award 2019
- Best Cross-Border M&A Deal Award from 'The Asset' Triple A Country Award 2019
- Asian Excellence Award 2019: Asia's Best CEO and Best Investor Relations Company from Corporate Governance Asia Magazine

CONTROL

✓ **COD projects in 2019**



Namluk 1 was COD on 1 Jul 2019



CUP-4 was COD on 12 Sep 2019



Xayaburi was COD on 29 Oct 2019



CCE was COD on 7 Nov 2019

Project under construction



NNEG expansion phase expected to COD in 2020



WTE is expected to COD in 2021

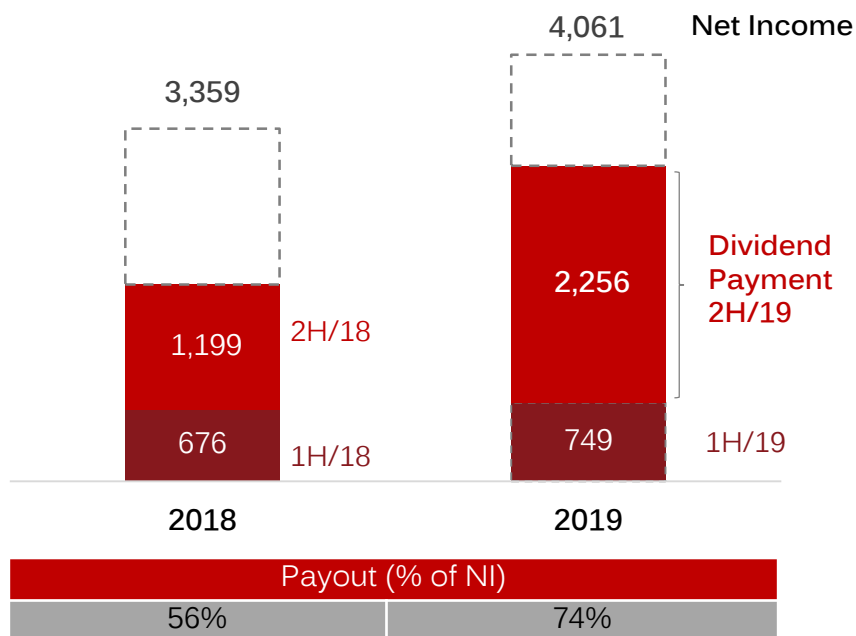


ERU jointly operate with Thaioil is expected to COD in 2023

GPSC Announce Dividend Payment 2019

Dividend Payment

(THB Million)



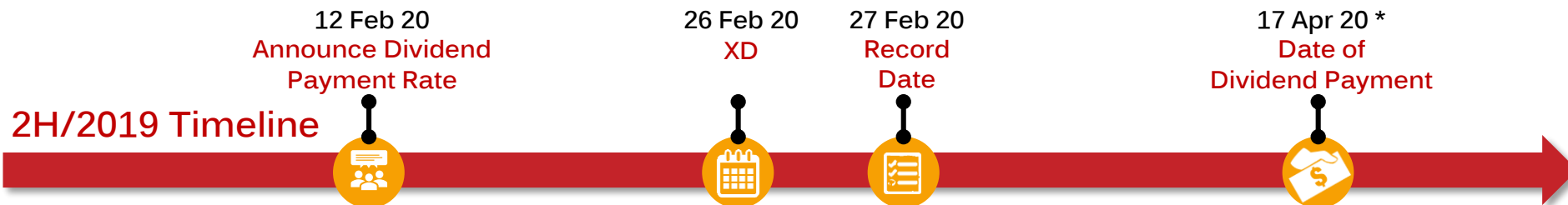
Dividend Policy: Minimum dividend at the rate of not less than 30 percent of the net profits according to the financial statements of the Company after the deduction of tax, reserved funds as required by law (with additional conditions)

GPSC announces 2019 dividend payment, at the rate of Baht 1.30 per share

1H-2019:	Baht 0.50 per share	Paid on 12-Sep-2019
2H-2019:	Baht 0.80 per share	Will be paid on 17-Apr-2020
*Subject to approval from the 2020 AGM		

The dividend payment is the result of:

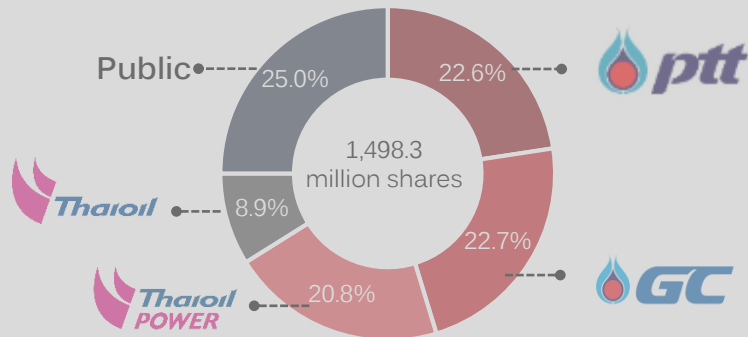
- ✓ Successful acquisition of GLOW
- ✓ The better operating performance in 2019 from continuous growth of 4 projects that is COD in 2019 and the higher Availability Payment (AP) and the increase in Contracted Availability Hours (CAH) as well as management of the maintenance contract of Sriracha Power Plant



GPSC Innovative Power Company at a Glance

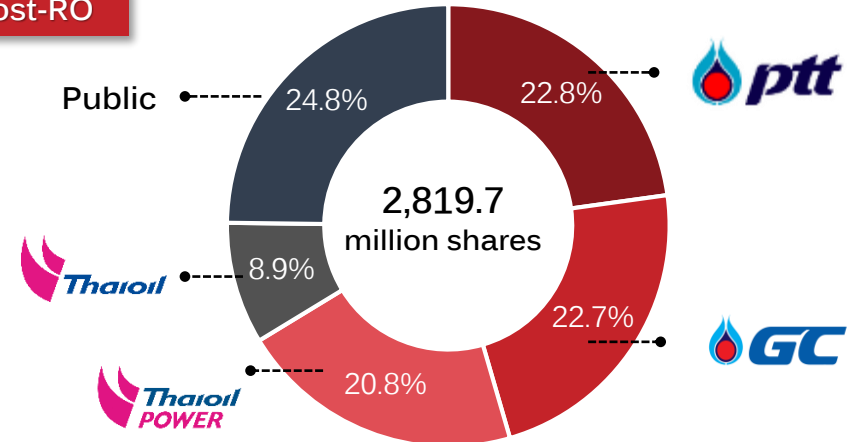
Shareholding Structure

Pre-RO



Thai Oil Power is 74% held by Thai Oil and 26% by PTT

Post-RO



Company Information

Head Office	555/2 Energy Complex Building B, 5th Floor, Vibhvardi-Rangsit Road, Chatuchak, Bangkok, Thailand
Business Type	Energy & Utilities
Registered Capital (Paid-up)	THB 28,197 million
Market Cap (As of 7 Feb 2020)	THB 219,233.96 million

TRIS RATING
FitchRatings

AA-

A+(tha)

STANDARD & POOR'S

BBB-

In 2019, Total Equity Capacity¹

⚡ Electricity 5,026 MWe

☁ Steam 2,876 T/H

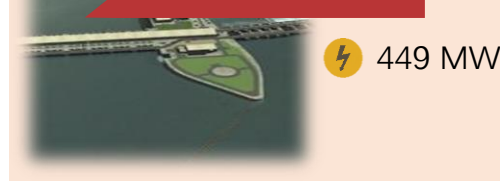
COMBINED CYCLE / COGENERATION / THERMAL²



RENEWABLE ENERGY



HYDROELECTRIC



OTHER BUSINESSES



Note: 1) Equity capacity includes 100% stake in GLOW, GRP and ERU

2) Equity capacity includes ERU



GPSC Growth and Strategic Direction



Update of projects

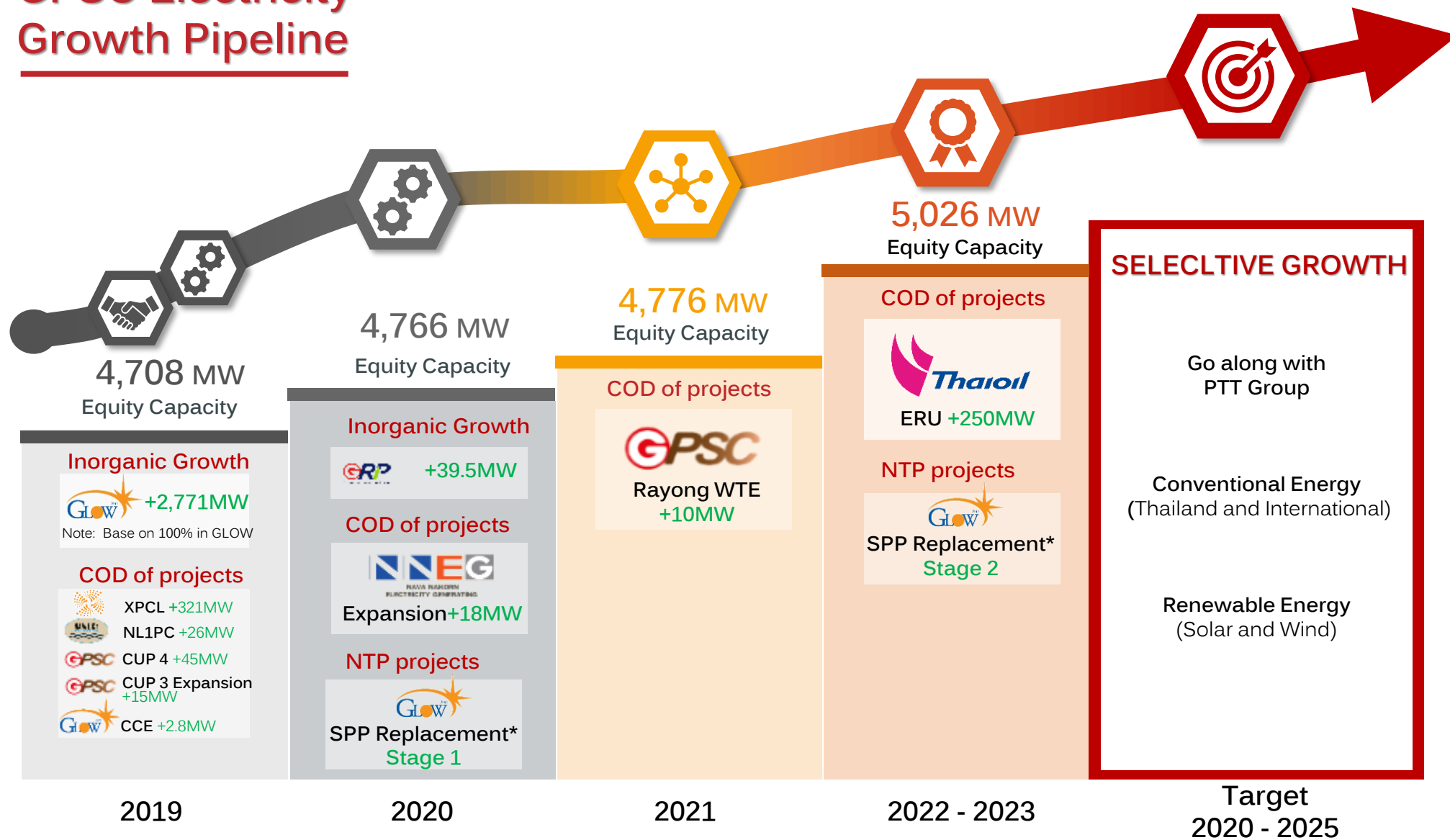


Financial Activities and Plans



Financial Performance

GPSC Electricity Growth Pipeline



Note: * As of end-2019, we received the confirmation of 6 EGAT PPAs. We approved the investment of SPP Replacement Stage 1 (New power plant for 2PPAs and IUs). Now, we're in the process of developing the SPP Replacement Stage 2.

Strategic Direction and Growth Strategy

3S Strategy

SYNERGY & INTEGRATION



Synergy Capture



Operation Excellence
& Asset Optimization



Corporate & Business
Infrastructure

SELECTIVE GROWTH



Go along with
PTT Group



Domestic and
International



Renewable

S-CURVE



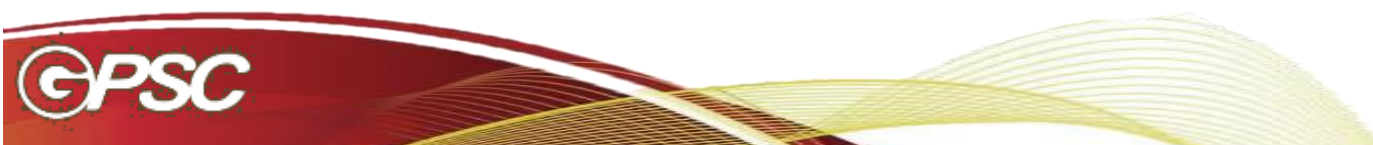
Battery Business



Energy Storage
System Integrator



Energy Management
Solution Provider



Strategic Direction and Growth Strategy Synergy & Integration



**SYNERGY &
INTEGRATION**



Synergy Capture



**Operation Excellence
& Asset Optimization**



**Corporate & Business
Infrastructure**

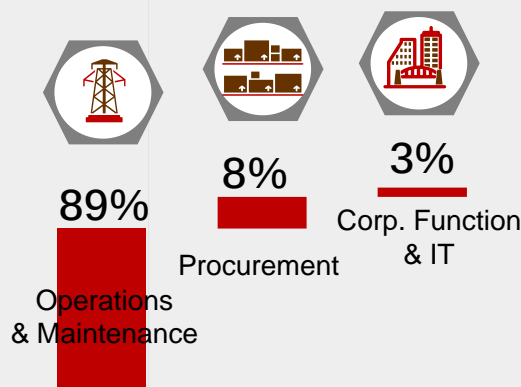
Synergy and Integration Implementation



Working as
one team to
deliver synergy



Recurring EBITDA synergy value based on current portfolio



**THB+1.6 bn
per year**

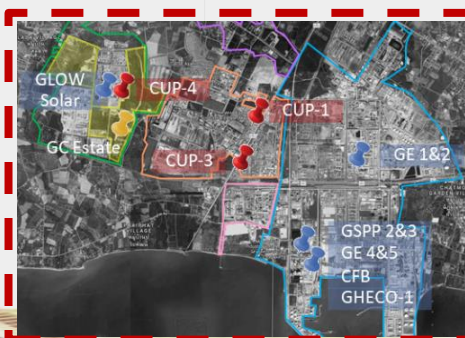
*Ramp up with full
EBITDA¹ contribution
by 2024*

THB - 4.0 bn
*One-time
initial investment*

2019 endorse selected initiatives to lock-in value

On 31 Dec 2019, GPSC was able to recognize the synergy value of approx. Baht 76 million from

- The cash management following the GPSC Group policy
- Increasing the efficiency of procurement
- Managing and reducing inventory costs by applying digital systems such as the E-Auction



**In 2020, focus will move from identifying
the potential to delivering the promise**



Execution focus : Move to monitoring and controlling



Speed of delivery : Prioritization and Planning



Enablement & Ownership transfer

Strategic Direction and Growth Strategy

Selective Growth



Go along with
PTT Group



Domestic and
International

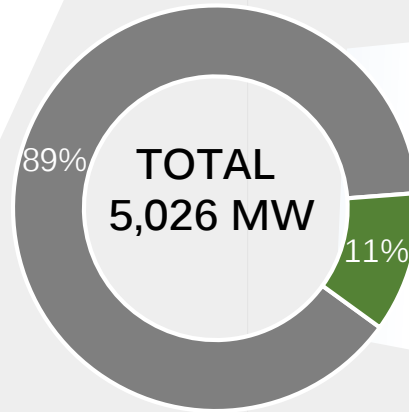


Renewable

Sustainability Strategy & Commitment

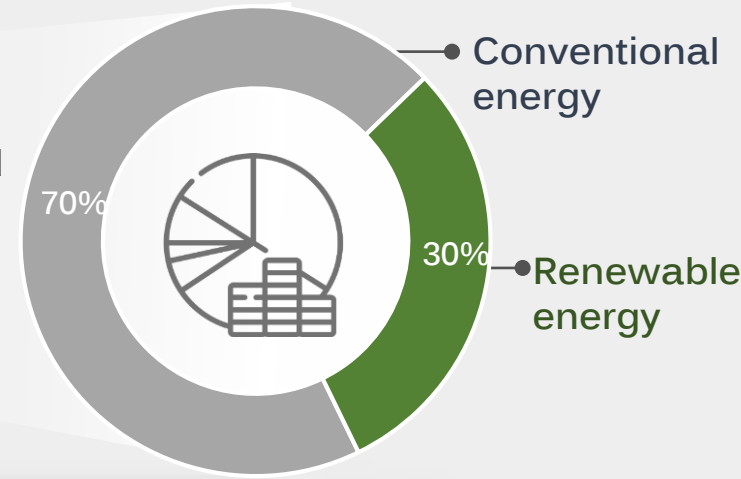


- To be listed in **DJSI by 2022**
- Increasing renewable energy up to **30% of GPSC's installed capacity**



Committed Equity Capacity
2019-2023

Way forward
to
Sustainable
growth



Long Term Target



Note: Renewable energy included solar, wind, waste, hydro, etc.

Strategic Direction and Growth Strategy S-curve



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



Battery Business



Energy Storage System Integrator



Energy Management Solution Provider

VISTEC









Smart Energy Management (Phase II: Q2/2020)



- ✓ 1.2 MW Renewable Energy (Solar Roof + Floating)
- ✓ 1.2 MWh ESS for backup & renewable optimization, and zero-Import Building
- ✓ P2P Trading using Block-chain



GPSC Energy Storage System Projects Information and Status:

Type	Customer	Capacity	Status
 Residential	Chiang Mai U	10kW/17kWh	
 Industrial	GCL	625kW/625kWh with 2MWp solar	
 Industrial	GC	250kW/1.5MWh	
 Smart City	VISTEC	1MW/1MWh	

 Complete  Constructing



ESS for GC's Innovation Center (Completion : Dec-2019)



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





GPSC Growth and Strategic Direction



Update of projects



Financial Activities and Plans



Financial Performance

Nam Lik 1 Power Company Limited (NL1PC)



COD: 1-Jul-2019

PROJECT SUMMARY

TYPE



Run-of-River
Hydropower
Plant

ELECTRICITY (MW)

64.7

LOCATION

Northern of
Vientiane, Lao PDR

CUSTOMER



• Electricite Du Laos (EDL)
(63.8 MW for 30 years from
signing date)

GPSC holds

40%

Of total share



Rayong Central Utility Plant 4 : CUP-4



COD: 12-Sep-2019



PROJECT SUMMARY

TYPE



Gas-fired
Cogeneration



ELECTRICITY (MW)

45

STEAM (T/h)

70

LOCATION

Asia Industrial
Estate, Rayong

CUSTOMER



Industrial users in
Asia Industrial Estate
and neighboring
industrial estate



GPSC's Operating Asset

100%

Xayaburi Power Company Limited (XPCL)



COD Project



COD: 29-Oct-2019

PROJECT SUMMARY

TYPE



Run-of-River
Hydropower
Plant

ELECTRICITY (MW)

1,285

LOCATION

Lao PDR

CUSTOMER



• EGAT
(1,220 MW)



• Electricite
Du Laos
(EDL)
(60 MW)

GPSC holds

25%

Of total share


Chonburi Clean Energy (CCE)




COD Project



PROJECT SUMMARY

TYPE	ELECTRICITY (MW)	Industrial Waste (T/day)
 Waste	8.6	270

LOCATION	CUSTOMER
WHA CIE	 • Provincial Electricity Authority (PEA) 

GLOW holds

33%

Of total share

Nava Nakorn Electricity Generation (NNEG) Expansion Project



Project under construction

SCOD: Q3/2020



% Progress

4Q19

85.7%

PROJECT SUMMARY

TYPE	ELECTRICITY (MW)	STEAM (T/h)
Gas-fired Cogeneration	Expansion 60	10
	Total 185	40
LOCATION	CUSTOMER	
Nava Nakorn Industrial Promotion Zone, Pathumthani	• Industrial User	• EGAT (SPP Firm 90 MW for 25 years)
GPSC holds	PROJECT UPDATE	
30% Of total share	<ul style="list-style-type: none"> Main tasks such as the engineering design, construction and procurement of main machinery and equipment are on schedule. 	

Rayong Waste to Energy (WTE)



Project under construction



SCOD: Q2/2021

% Progress

4Q19

36.80%

PROJECT SUMMARY

TYPE



Waste

ELECTRICITY (MW)

9.8

RDF (T/day)

300

LOCATION

Rayong

CUSTOMER



• Provincial Electricity Authority (PEA)



GPSC's Operating Asset

100%

PROJECT UPDATE

- The RDF Project construction has been completed since 2018 while the RDF Power Plant Project construction began on April 2019.
- The project is expected to COD in Q2/2021.

Energy Recovery Unit Project (ERU)

Project under construction



SCOD: Q3/2023

PROJECT SUMMARY

ERU Project is a thermal power plant project that produces electricity and steam by using Petroleum Pitch obtained from RHCU (CFP Project) to be sent back for use in the CFP project, located in Thai Oil Refinery

TYPE



Pitch

ELECTRICITY (MW)

250

STEAM (T/h)

175

And by products such as Sulfuric acid, Condensate Water

LOCATION

Thai Oil Refinery,
Sri Racha,
Chonburi

CUSTOMER



• **Thai Oil Public Company Limited**

With 25-year contracts of 200 MW and 175 T/h of Steam from Closing Date

GPSC holds

100%

Of total share in ERU co.

PROJECT UPDATE

- Engineering design work: P&ID Review
- Construction work: ERU site preparation, Back filling, Density test, Substation site preparation
- Purchasing machinery and equipment: Bid Evaluation / PO / P & ID
- Project progress as planned

4Q19
23.0%

% Progress

Project timeline

ERU Approval
(1-Apr-19)

SCOD
Q3'23

Project Construction Period

2019

2020

2021

2022

2023

Milestone Payment

2%

8%

4%

6%

80%

Initial Payment 20%
of Initial Purchase Price USD 138 mm

Final Purchase Price
< USD 757 mm



GPSC Growth and Strategic Direction



Update of projects

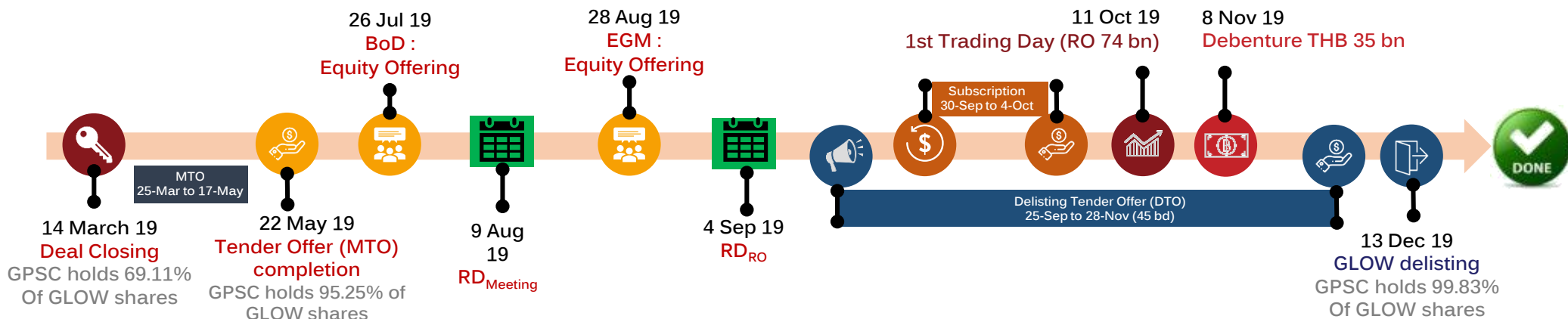


Financial Activities and Plans

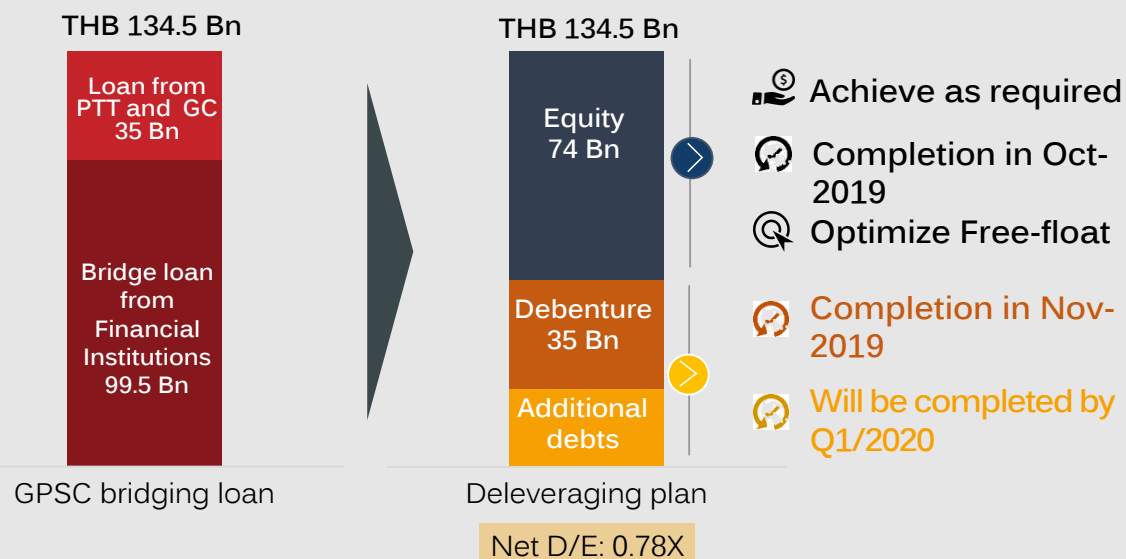


Financial Performance

2019 Key activities highlight



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 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)



GPSC Growth and Strategic Direction



Update of projects



Financial Activities and Plans



Financial Performance

2019 Key Financial Highlights

Key financial highlights



Growing performance is mainly due to:

- ✓ The recognition of GLOW's performance from 14th March 2019
- ✓ The COD of projects in 2019 which are NL1PC, CUP-4, XPCL and CCE
- ✓ The finance expense decreased resulting from the short-term loan repayment which received from the Rights Offering of Baht 74,000 million and debenture issuance of Baht 35,000 million in Q4/2019.
- ✓ GLOW's power plants have reached the Contracted Availability Hours set out in the PPA in Dec 2019
- ✓ The performance of Sriracha power plant has increased after major overhaul in Q4/2018 while there was planned maintenance shutdown from Glow Energy Power Plants in Q4/2019.

GPSC Customers' Profile on Q4/2019



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



55% Industrial Users



44% EGAT



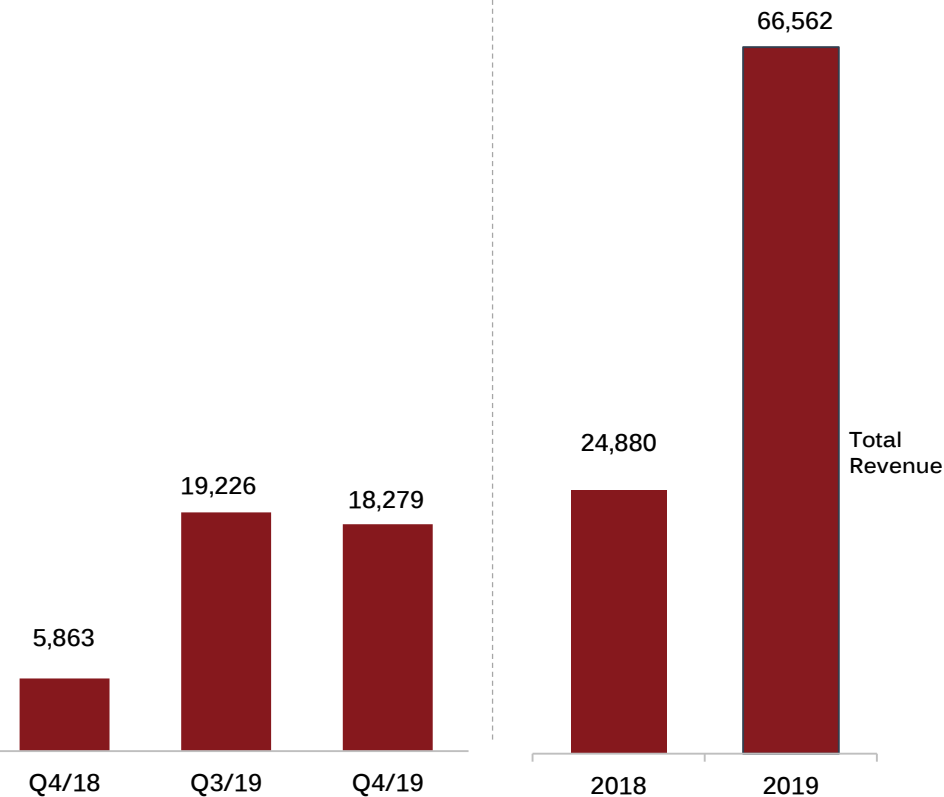
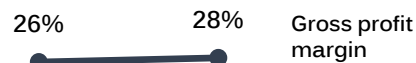
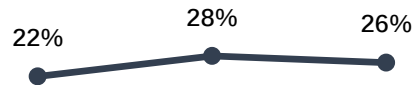
1% Others

Q4/2019 Revenue by Customers

Q4/2019 Financial Performance Summary (1/2)

Revenue & Gross Profit Margin

(THB Million, %)



Gross Profit Margin

QoQ

▼ 2%

YoY

▲ 4%

12M

▲ 2%

QoQ: Decreased due to:

- 1) IPP and SPP performance decreased due to the planned maintenance shutdown from Sriracha Power Plant and Glow Energy Power Plants respectively
- 2) GHECO-One plant has reached the Contracted Availability Hours in December 2019.

YoY and 12M: Increased due to the recognizing performance from GLOW.

Revenue

QoQ

▼ 5%

YoY

▲ 212%

12M

▲ 168%

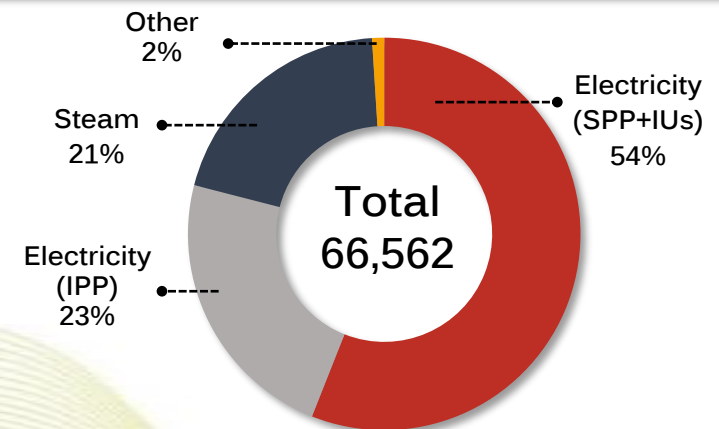
QoQ: Decreased due to:

- 1) Lower AP of Sriracha power plant caused by the planned maintenance shutdown for 10 days and decrease in EP from the lower dispatch volume as EGAT instruction.
- 2) GHECO-One has reached the Contracted Availability Hours in December 2019
- 3) Glow Energy power plants has planned maintenance shutdown

YoY and 12M: Increased due to the recognition of GLOW's performance

2019 Revenue by product

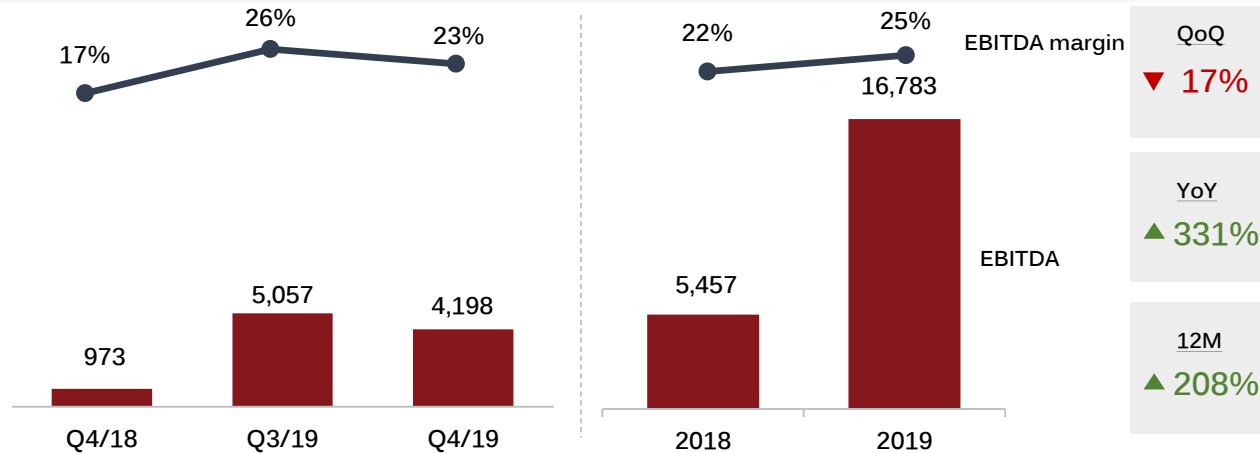
(THB Million, %)



Q4/2019 Financial Performance Summary (2/2)

EBITDA and EBITDA Margin

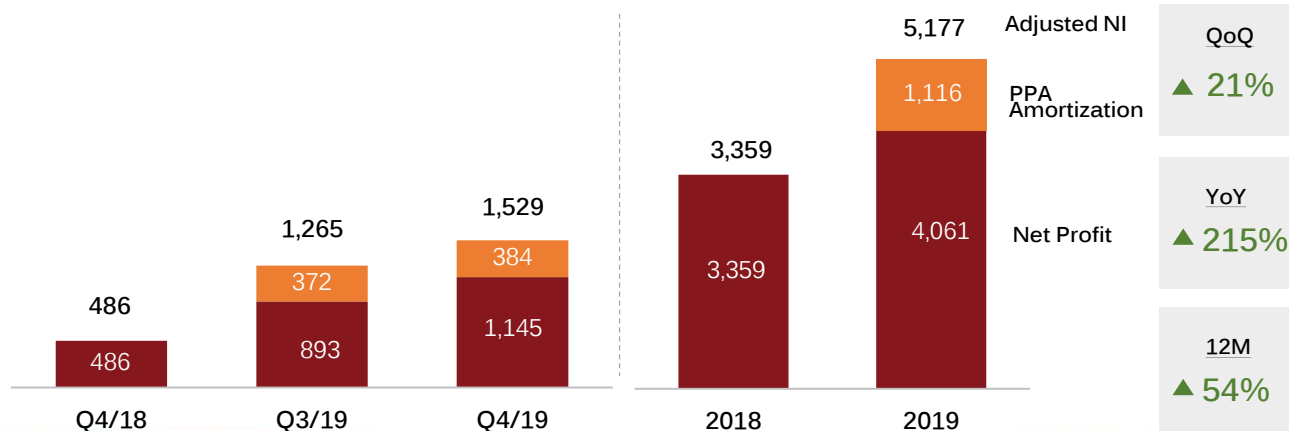
(THB Million, %)



- **QoQ:** Decreased due to
 - 1) GHECO-One and GLOW IPP Power plants have reached the Contracted Availability Hours set out in the PPA in December 2019.
 - 2) The planned maintenance shutdown from Glow Energy Power Plants.
- **YoY and 12M:** Increased due to the full contribution of GLOW's performance

Net Profit and Adjusted Net Income

(THB Million)

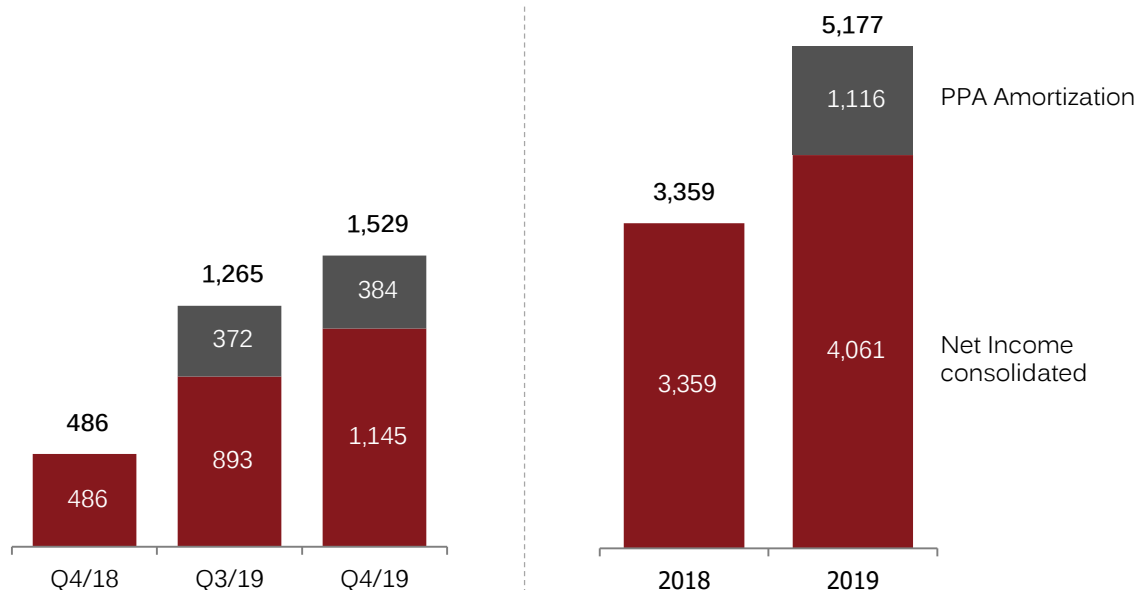


- **QoQ:** Adjusted Net Income increased due to
 - 1) The decrease in finance costs from the company's financial deleveraging plan.
- **YoY and 12M:** Adjusted Net Income increased mainly from
 - 1) The recognition of GLOW's performance from 14th March 2019
 - 2) An increase of Siracha Power Plant's performance after major overhaul maintenance shutdown in Q4/2018

Adjusted Net Income (To reflect company's true earnings)

Net Profit and Adjusted Net Income

(THB Million)



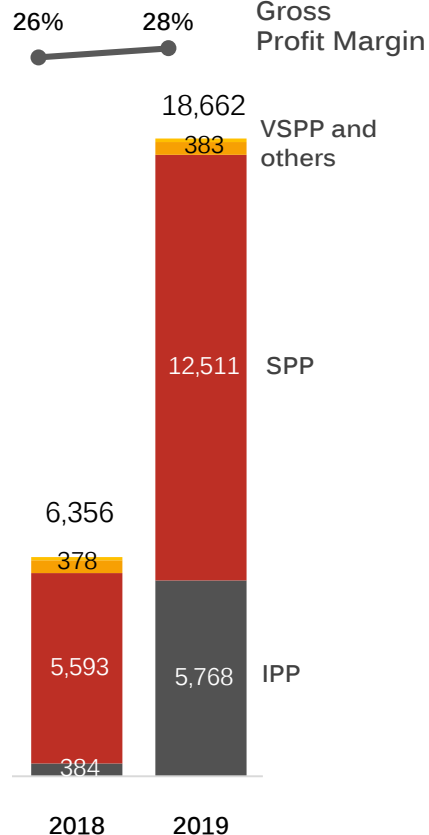
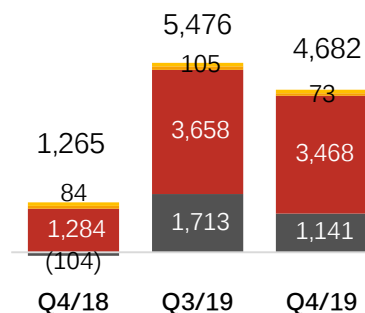
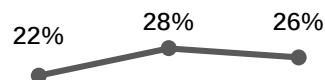
Adjusted Net Income, the net profit attribute to the company adjusted to *reflect the company's true earnings from its normal operations* which excludes:

- The fair value of intangible asset from the acquisition of GLOW (PPA Amortization)

Adjusted Net Income	Q4/18	Q3/19	Q4/19	Change + / (-)		2018	2019	Change + / (-)
(Unit: Million Baht)				QoQ	YoY			
Net Profit for the Company	486	893	1,145	28%	136%	3,359	4,061	21%
Add back: Amortization of assets acquired from the acquisition of GLOW	0	372	384	3%	n/a	0	1,116	n/a
Adjusted Net Income	486	1,265	1,529	21%	215%	3,359	5,177	54%

Gross Profit and Gross Profit Margin has slightly decreased due to the planned maintenance shutdown

Gross profit and Gross profit margin by type of plant (THB Million, %)



Total Gross Profit

QoQ
▼ 14%

YoY
▲ 270%

12M
▲ 194%

- **QoQ:** Decreased mainly from GHECO-One has reached the Contracted Availability Hours and Sriracha Power Plant has planned maintenance shutdown, together with the fall in selling electricity of ISP1.
- **YoY and 12M:** Increased mainly due to recognizing gross profit of both GPSC and GLOW Power plants and the increase in AP from Sriracha Power Plant after major overhaul maintenance shutdown in Q4/2018

IPP Gross profit

QoQ
▼ 33%

YoY
▲ 1,196%

12M
▲ 1,404%

- **QoQ:** Decreased due to the decrease in AP corresponding to planned maintenance shutdown from Sriracha Power plant for 10 days and GHECO-One has reached the Contracted Availability Hours in the mid of December 2019.
- **YoY and 12M:** Increased mainly due to the recognition of gross profit from all 3 of GLOW's IPP Power plants.

SPP Gross profit

QoQ
▼ 5%

YoY
▲ 170%

12M
▲ 124%

- **QoQ:** decreased due to the maintenance cost increased from Glow Energy Power plants following the planned maintenance shutdown despite the sales volume from Rayong Central Utility plants (CUP) increased due to the higher industrial users demand.
- **YoY and 12M:** Increased mainly due to the recognition of GLOW's SPP plants and increase in electricity and steam sales from Rayong Central Utility plants (CUP)

VSPP and Others Gross profit

QoQ
▼ 31%

YoY
▼ 14%

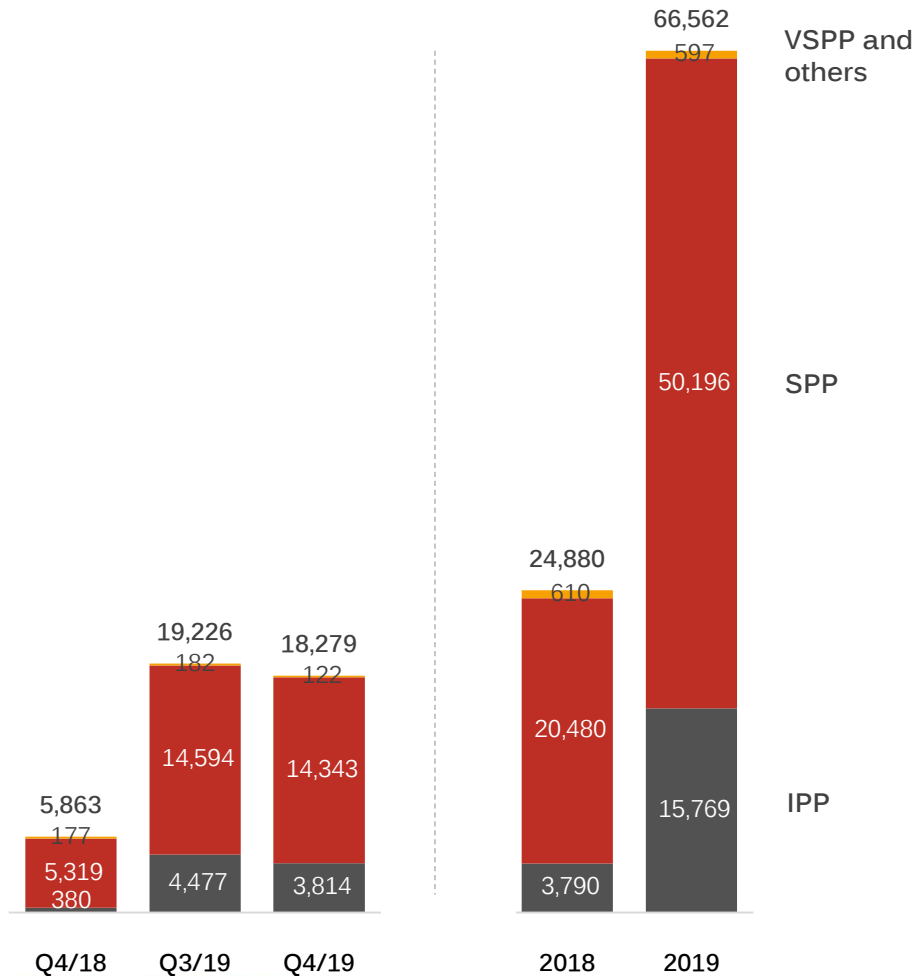
12M
▲ 1%

- **QoQ and YoY:** Decreased mainly due to lower light intensity following the seasonality effect from ISP1, together with the decrease in revenue from CHPP due to the demand of IUs was lower from weather condition.
- **12M:** Increased mainly due to the increase in revenue from selling electricity and chilled water from ISP1 and CHPP respectively

Total revenue has slightly decreased due to planned maintenance shutdown

Revenue by type of plant

(THB Million)



Total Revenue

QoQ

▼ 5%

YoY

▲ 212%

12M

▲ 168%

- **QoQ:** Decreased mainly due to GLOW IPP Plant and GHECO-One plant have reached the Contracted Availability Hours in December, together with the decrease of GLOW's SPP revenue as a result of planned maintenance shutdown. In addition, selling electricity of VSPP Power plant decreased as seasonality effect in the fourth quarter.
- **YoY and 12M:** Increased due to the recognition of revenue from GLOW's Power plants.

IPP Revenue

QoQ

▼ 14%

YoY

▲ 908%

12M

▲ 316%

- **QoQ:** Decreased mainly from
 - GHECO-One and GLOW IPP Power plant have reached the Contracted Availability Hours in the mid of December.
 - Sriracha power plant has planned maintenance shutdown for 10 days and lower dispatch instruction by EGAT.
- **YoY and 12M:** Increased from the contribution of GLOW's performance and higher AP from Sriracha power plant after major overhaul maintenance shutdown in Q4/2018.

SPP Revenue

QoQ

▼ 2%

YoY

▲ 169%

12M

▲ 145%

- **QoQ:** Decreased mainly due to the decrease in electricity and steam sales volume since the maintenance shutdown from Glow Energy power plants.
- **YoY and 12M:** Revenue increased due to the recognition of electricity and steam sales of GLOW SPP's power plants as well as the increase in the electricity and steam sales of GPSC's SPP.

VSPP and Others Revenue

QoQ

▼ 22%

YoY

▼ 26%

12M

▼ 2%

- **QoQ, YoY and 12M:** Decreased mainly from the selling electricity from Ichinoseki Solar Power 1 GK (ISP1) due to lower light intensity as seasonality effect in Q4/2019 as well as the decrease in revenue from solar cell installation from CHPP corresponding to the implementing projects.

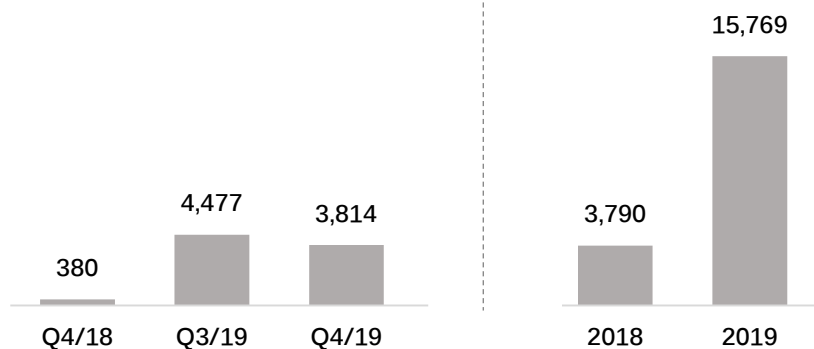


IPP Revenue: decreased by 14% QoQ due to reached Contracted Availability Hours, YoY increased from contribution from GLOW

Revenue

(THB Million)

IPP Power Plants



Sriracha



GIPP



GHECO-ONE



HHPC

*GLOW IPPs consists of GIPP, GHECO-ONE and HHPC

Total Revenue

QoQ
▼ 14%

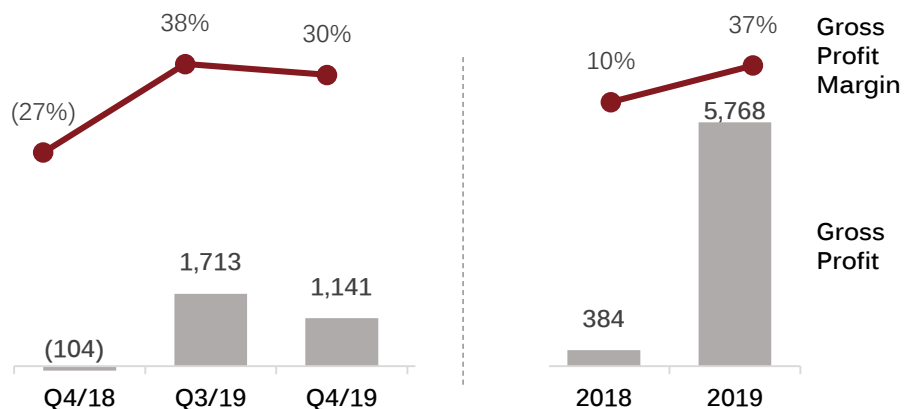
YoY
▲ 908%

12M
▲ 316%

- **QoQ: Decreased due to**
 - GHECO-One has reached the Contracted Availability Hours in the first half of December resulting in lower AP and EP.
 - Sriracha Power Plant has planned maintenance shutdown for 10 days resulting in lower AP and fall in EP following the lower dispatch instruction by EGAT
- **YoY, 12M: Increased due to**
 - The recognition of GLOW's performance
 - An increase in revenue due to higher Contracted Availability Hours (CAH) than 2018 from Sriracha Power Plant.

Gross Profit & Gross Profit Margin

(THB Million, %)



Gross profit

QoQ
▼ 33%

YoY
▲ 1,196%

12M
▲ 1,404%

- **QoQ: Decreased mainly from**
 - AP and EP dropped from GHECO-One plant due to reached the Contracted Availability Payment in December
 - Sriracha power plant has planned maintenance shutdown from for 10 days resulting in higher maintenance cost.
- **YoY, 12M: Increased mainly from**
 - The recognition of gross profit from all 3 of GLOW's IPP plants
 - Revenue from Sriracha power plant increased after major overhaul maintenance shutdown in Q4/2018 and increase in AP due to the higher Contracted Availability Hours than 2018.

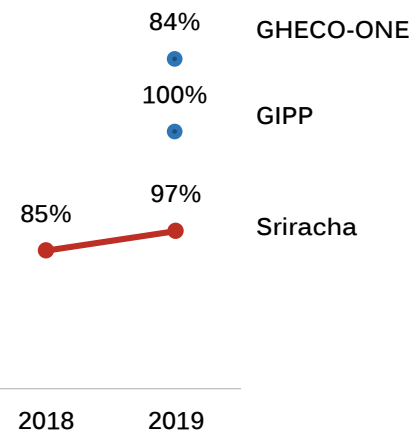
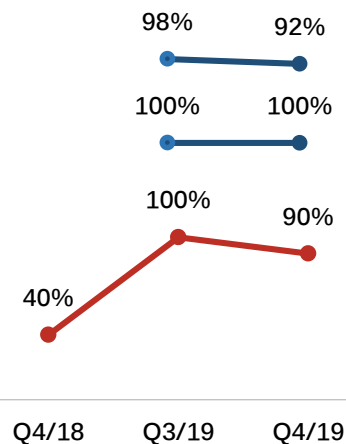
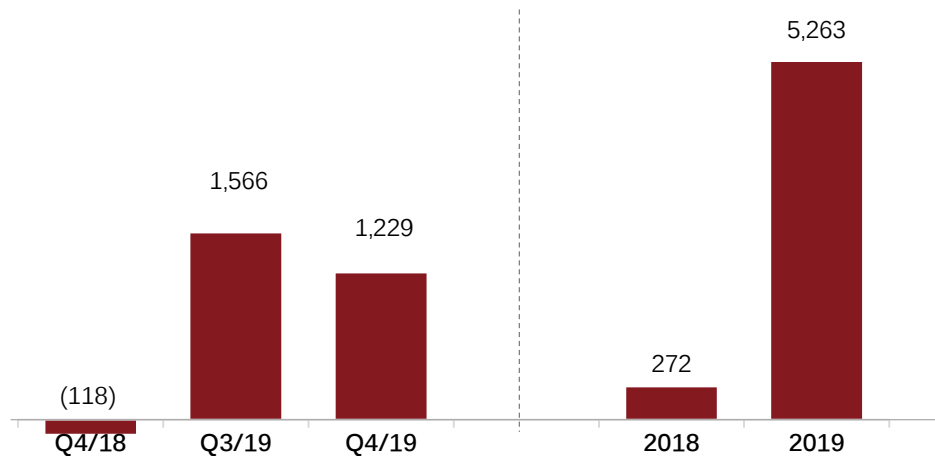
Availability Payment: Decreased by 22% QoQ from planned maintenance

Availability Payment

(THB Million)

Availability Rate

(%)



QoQ

▼ 22%

YoY

▲ 1,151%

12M

▲ 1,840%

- QoQ: Availability Payment (AP) decreased due to Sriracha power plant has maintenance shutdown for 10 days .
- GHECO-One power plant has reached the Contracted Availability Hours in December 2019
- YoY, 12M: Availability Payment increased mainly due to
 - The full recognition of GLOW performance
 - An increase in AP from Sriracha power plant since the Contracted Availability Hours is higher than 2018, together with had major overhaul in Q4/2018.

AR-Sriracha

- QoQ: AR slightly decrease due to planned maintenance for 10 days,
- YoY: AR increase after major overhaul maintenance shutdown in Q4/2018

AR-GIPP

- AR of GIPP remained at 100%

AR-GHECO ONE

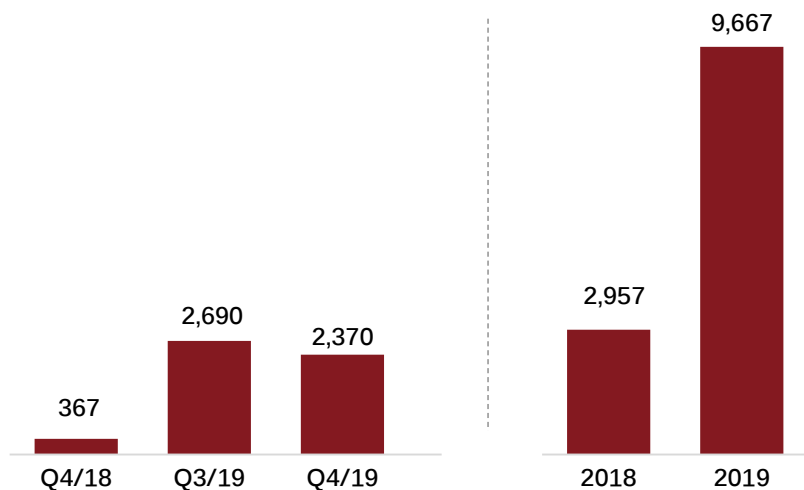
- QoQ: AR slightly dropped due to reached the Contracted Availability Hours in December 2019



Energy Payment: Decreased 12% QoQ and Increased 546% YoY

Energy Payment

(THB Million)



QoQ
▼ 12%

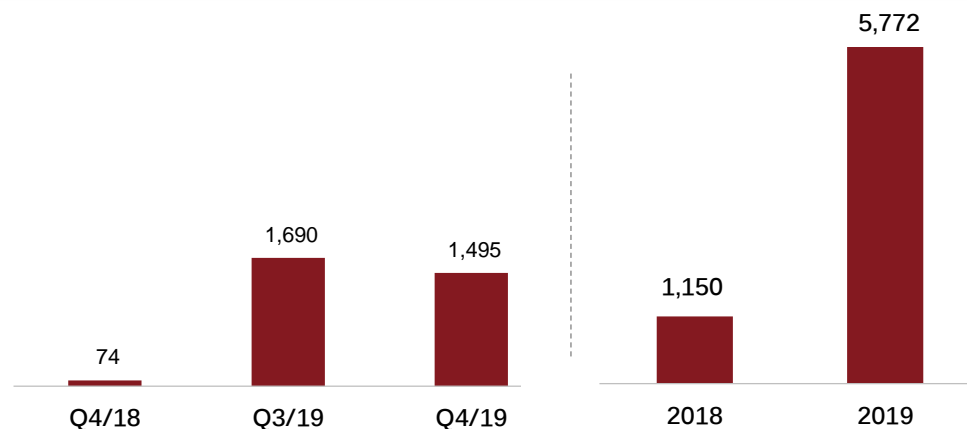
YoY
▲ 546%

12M
▲ 227%

- QoQ: Decreased due to
 - EP from Sriracha Power Plant corresponding to lower dispatch instruction by EGAT.
 - Lower power generation from GHECO-One power plant after reached the Contracted Availability Hours in December 2019
- YoY, 12M: Increased mainly due to the full recognition of GLOW performance

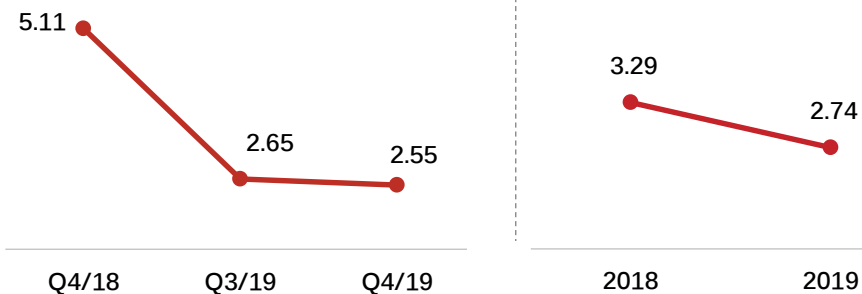
Sales Volume

(GWh)



Average Total Selling Price*

(THB/kWh)



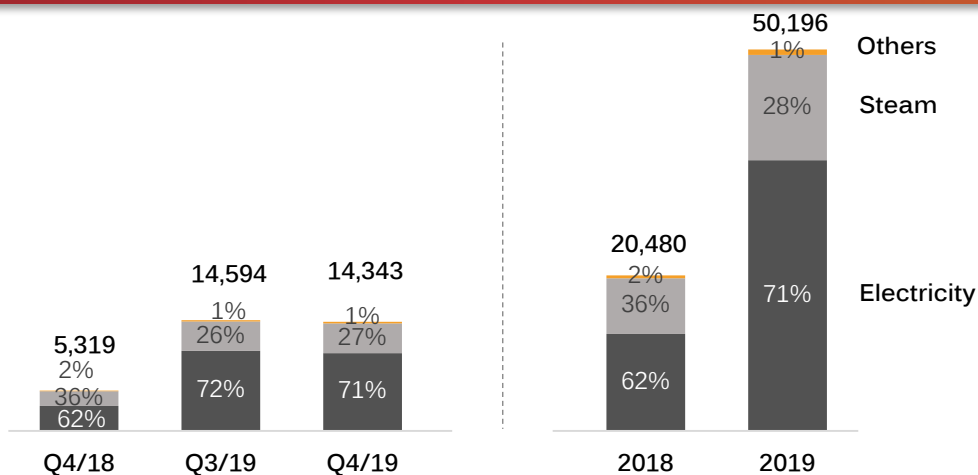
Note: *Average Total Selling Price is derived from the revenue of Availability Payment (AP) and Energy Payment (EP)



SPP Revenue: Increase 169% YoY and Decreased 2% QoQ due to planned maintenance shutdown

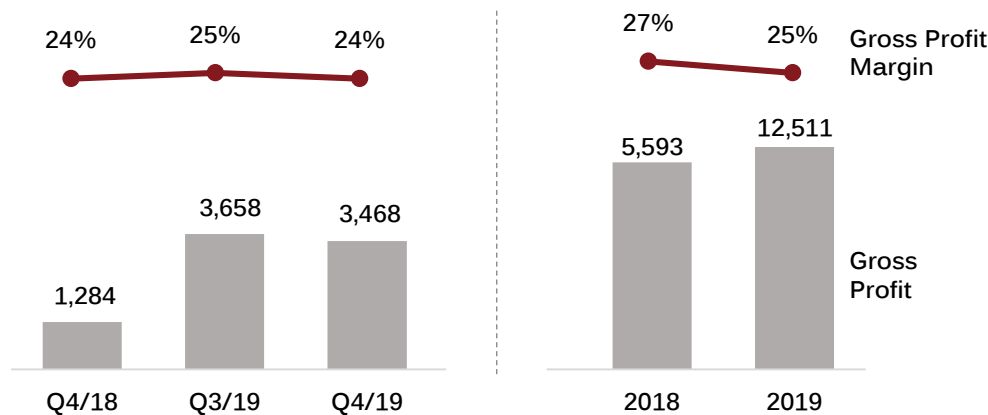
SPP Revenues

(THB Million, %)



Gross Profit & Gross Profit Margin

(THB Million, %)



GPSC SPP Powerplants



Total Revenue

QoQ

▼ 2%

YoY

▲ 169%

12M

▲ 145%

- QoQ: Total Revenue decreased mainly due to planned maintenance shutdown from Glow Energy Power plant while the revenue from Rayong Central Utility plant increased due to the increase in demand from industrial users.
- YoY and 12M: Revenue increased due to the recognition from GLOW's SPP power plant as well as the increase in the electricity and steam sales of GPSC's SPP due to higher sales.

Gross profit

QoQ

▼ 5%

YoY

▲ 170%

12M

▲ 124%

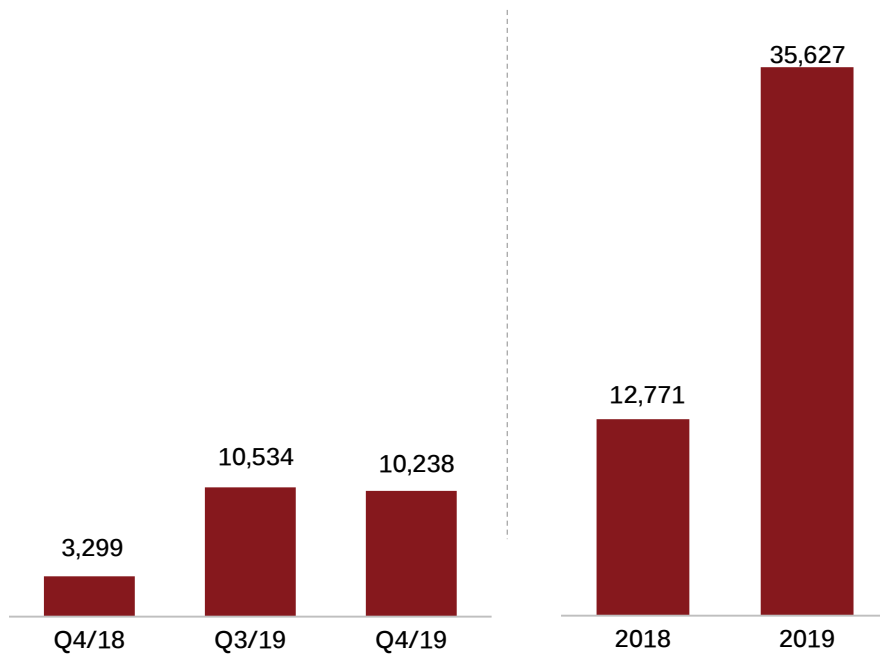
- QoQ: Total gross profit decreased mainly due to increase in electricity sales as result of industrial users returns its normal operation after maintenance shutdown from Rayong Central Utility plants (CUP) while decreased from Glow Energy plants due to planned maintenance shutdown, resulting in higher maintenance cost.
- YoY and 12M: Increased mainly due to the recognition of GLOW's performance while natural gas cost increase following the higher volume of natural gas used



SPP Power Sales: Increased 210% YoY and Decreased 3% QoQ

Power Sales

(THB million)



QoQ

▼ 3%

YoY

▲ 210%

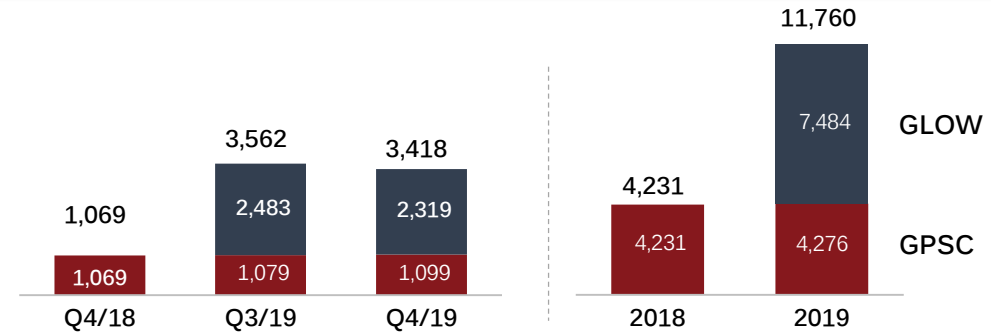
12M

▲ 179%

- QoQ: Power sales decreased due to maintenance shutdown from Glow Energy power plants
- YoY and 12M: Power sales increased mainly due to the recognition of GLOW's performance and the higher sales volume as a result of the increased in demand from industrial users.

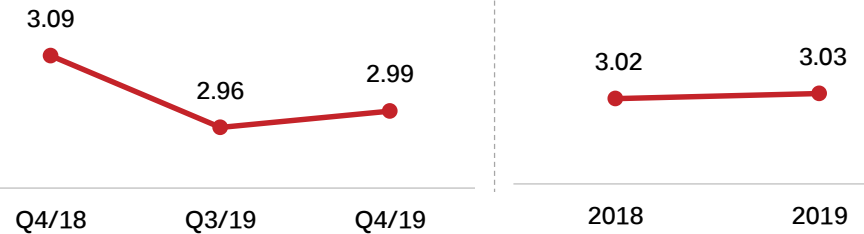
Power Sales Volume

(GWh)



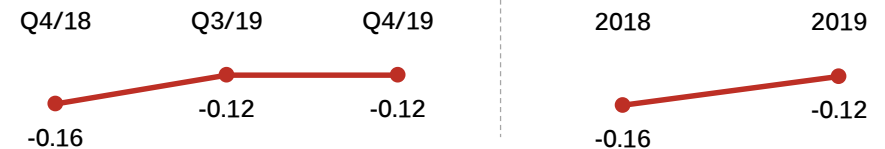
Average Selling Price

(THB/kWh)



Ft rate

(THB)





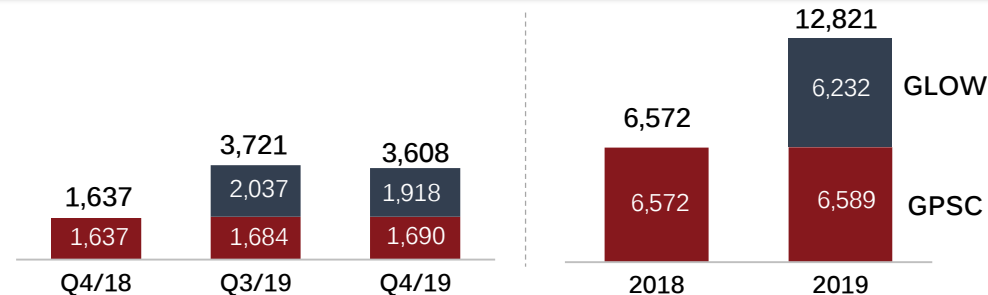
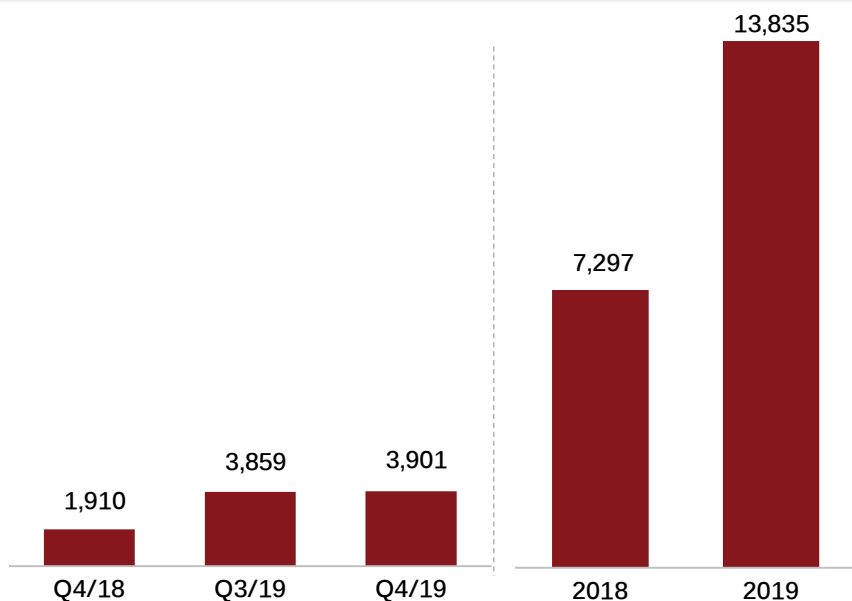
SPP Steam Sales: Increased 1% QoQ and 104% YoY

Steam Sales

(THB Million)

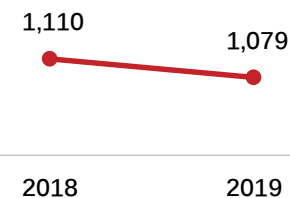
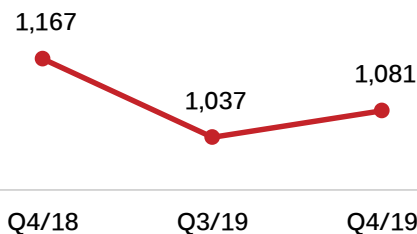
Steam Sales Volume

('000 tons)



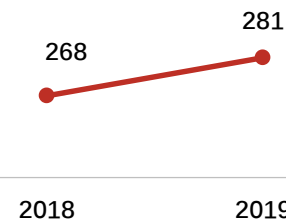
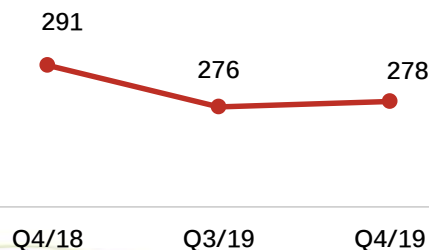
Average Steam Selling Price

(THB/Ton)



Average Natural Gas Price

(THB/MMBTU)



QoQ

▲ 1%

YoY

▲ 104%

12M

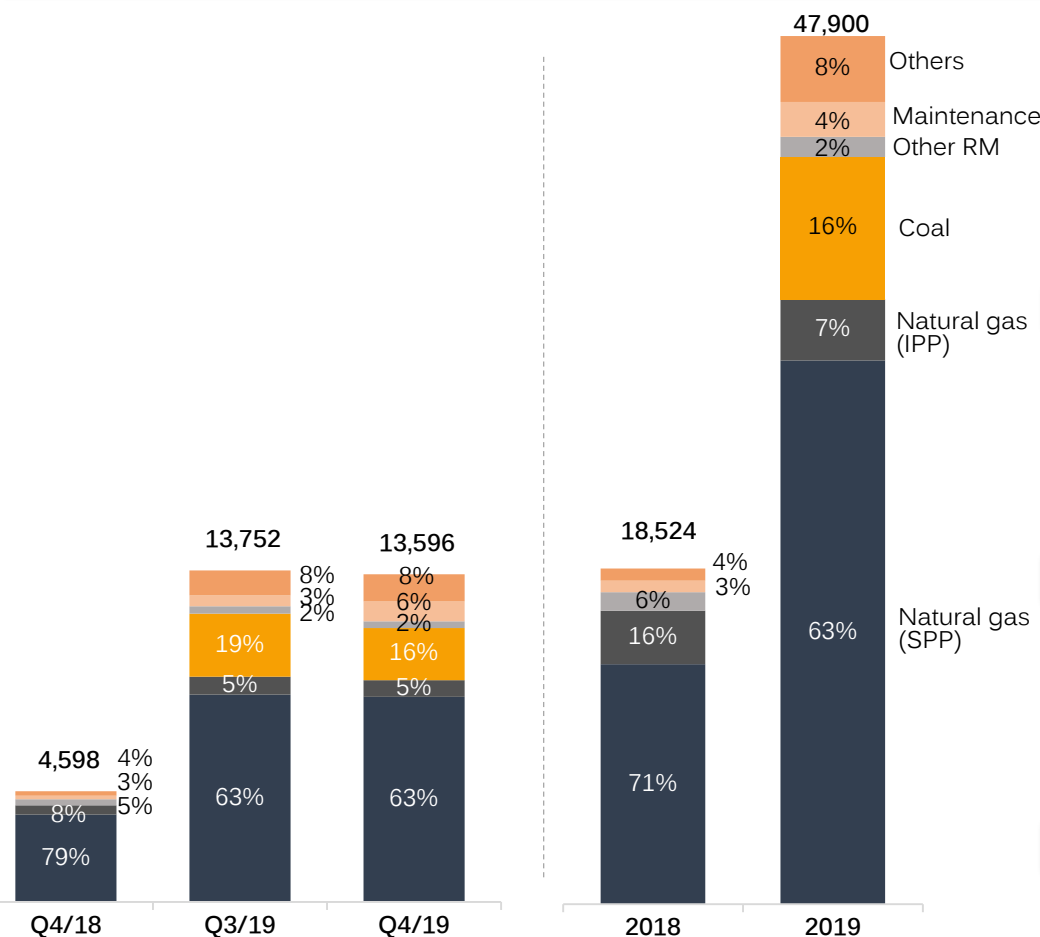
▲ 90%

- QoQ: Steam sales increased mainly due to increase in volume corresponding to industrial users demand
- YoY and 12M: Steam sales increased due to the recognition of GLOW's performance as well as higher volume of steam sales from Rayong Central Utility Plant (CUP) and IRPC-CP

Total Cost of Sales and Services

Total Costs of sales and services*

(THB Million, %)



Note: exclude depreciation and amortization

Total Costs

QoQ
▼ 1%
YoY
▲ 196%
12M
▲ 159%

- QoQ: Total costs decreased mainly due to the lower cost of natural gas from lower dispatch volume of Sriracha Power Plant and decrease coal cost following to GHECO-One plant has reached the Contracted Availability Hours
- YoY and 12M : Total costs increased mainly from the consolidation of GLOW's power plant corresponding to sales volume as well as higher maintenance costs arising from planned maintenance shutdown from Rayong Central Utility

Natural Gas

QoQ
▼ 2%
YoY
▲ 129%
12M
▲ 106%

- QoQ : Natural gas costs decreased mainly due to the lower dispatch instruction by EGAT from Sriracha Power Plant
- YoY and 12M: Natural gas costs increased mainly due to higher dispatch volume according to EGAT's instruction.

Coal and Other Raw Materials

QoQ
▼ 16%
YoY
▲ 868%
12M
▲ 772%

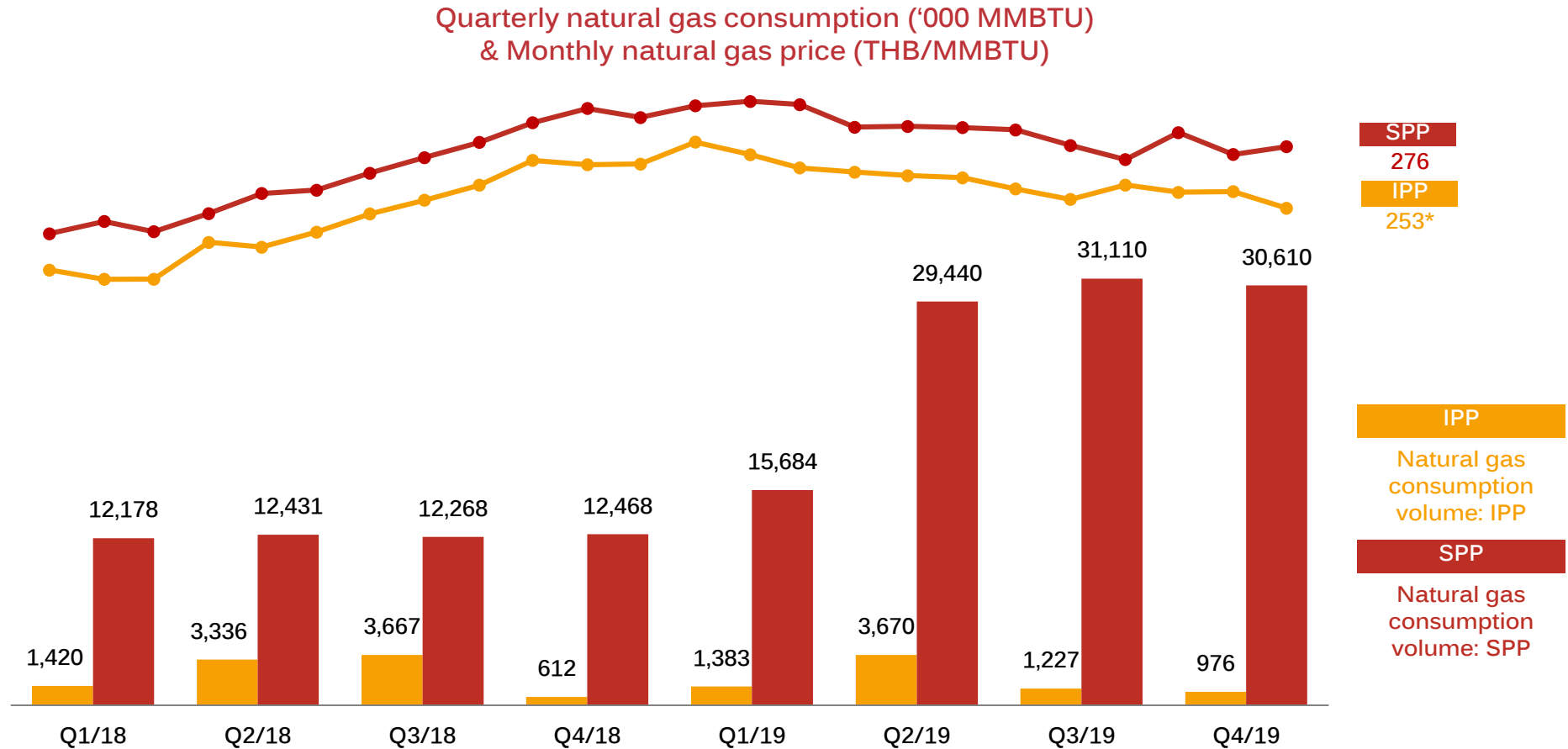
- QoQ: Coal cost decreased due to GHECO-One has reached the Contracted Availability Hours in December
- YoY and 12M: Coal cost increased mainly due to the recognition of GLOW's power plants.

Maintenance cost and Others

QoQ
▲ 32%
YoY
▲ 491%
12M
▲ 326%

- QoQ, YoY and 12M: Maintenance costs and other costs increased due to the contribution of GLOW as well as the increase in maintenance cost due to the planned maintenance shutdown from both of Glow energy plants and Sriracha power plant.

Natural Gas Consumption vs Price Trend



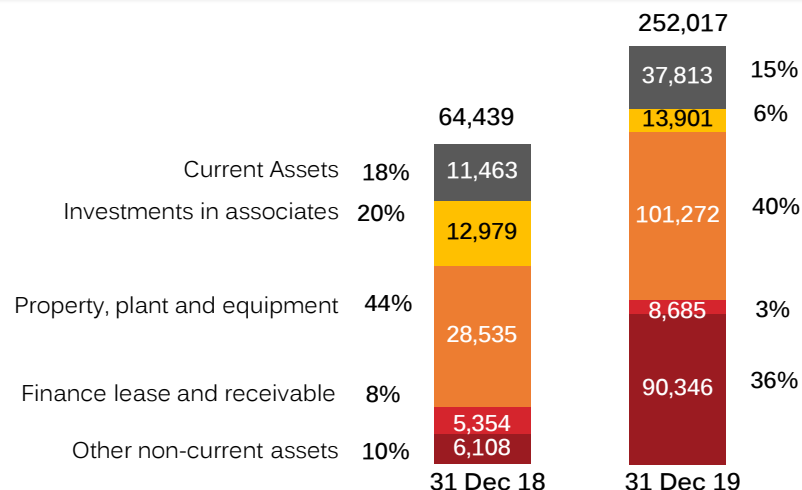
Remark: Latest price as of 31 Dec 2019

Note: *Excluded GLOW IPP

Financial Position of GPSC and Subsidiaries

Total Assets

(THB Million, %)



Assets

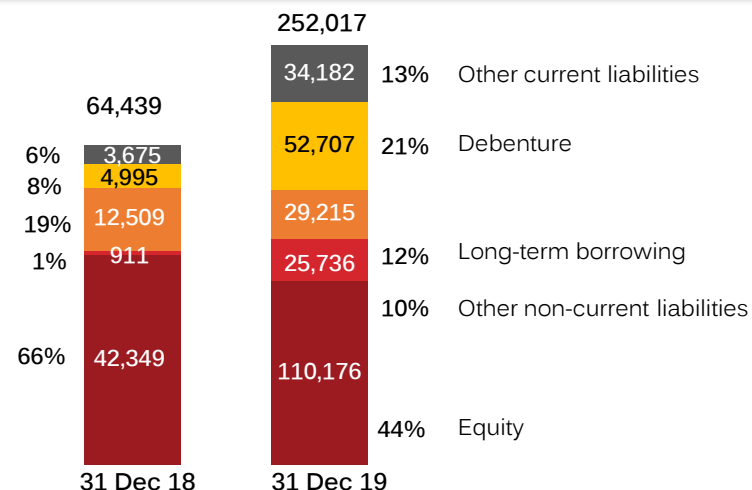
▲ 291%

Total assets increased mainly from:

- **Other non-current assets** increased by Baht 84,238 million mainly due to the increase of goodwill from the acquisition of GLOW and the intangible assets for the right in the Power Purchase Agreement from the acquisition of GLOW.
- **Property, plant and equipment** increased by Baht 72,737 million mainly due to the increase of book value in property, plant and equipment of GLOW and recording the fair value of property, plant and equipment from the purchase of GLOW.
- **Finance lease and receivable net:** increased by Baht 3,331 million in which GLOW financial lease and receivable, and recording the fair value of financial lease from the acquisition of GLOW.

Total Liabilities & Shareholders Equity

(THB Million, %)



Liabilities

▲ 542%

Total liabilities increased mainly from:

- **Current liabilities** increased by Baht 30,507 million mainly from an increase in short-term loan from financial institution for the acquisition of GLOW.
- **Other non-current liabilities** increased by baht 24,826 million mainly due to the increase in GLOW's other non-current liabilities and deferred tax liabilities from recording the fair value of net asset from the acquisition of GLOW.
- **Long-term borrowing and debentures** increased by Baht 64,418 million from GLOW's long-term borrowing and debenture.

Equity

▲ 160%

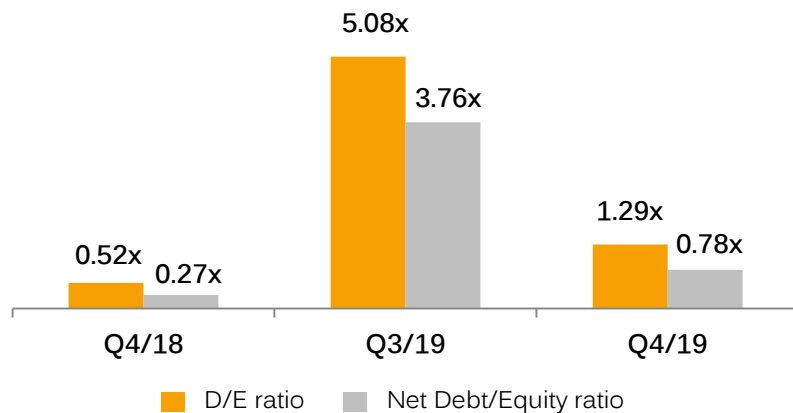
Total Equity decreased mainly from:

- The company paid up capital of Baht 74,000 million.
- The increase in retained earnings during the period of Baht 1,469 million and the difference from the change of investment portion in subsidiary of Baht 14,992 million.

Key Financial Ratio

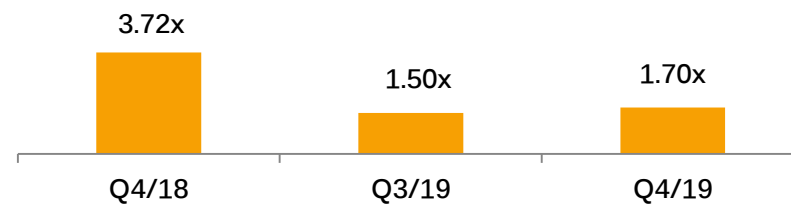
Total D/E and Net Debt/ Equity ratio

(Times)



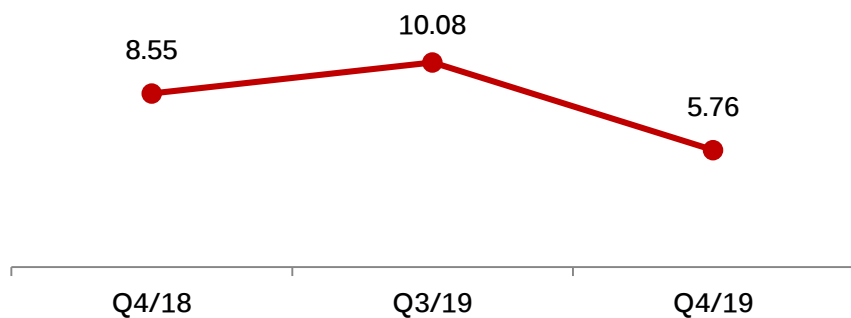
Interest Coverage Ratio

(Times)



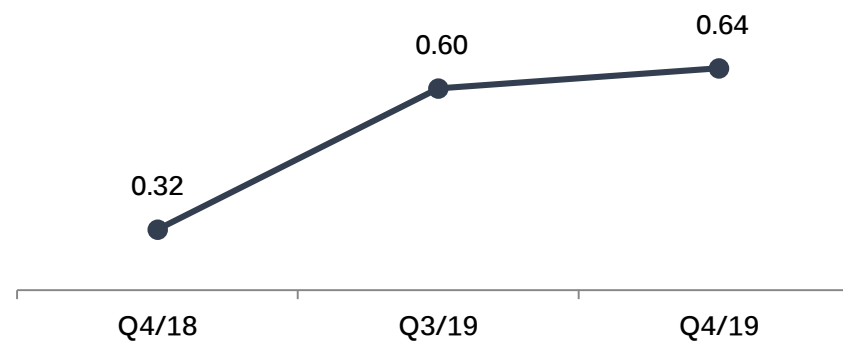
ROE

(%)



Earning per share (EPS)

(THB/share)



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

TFRS 16 (Accounting for lessees)

Profit & Loss	Current	TFRS 16	Balance Sheet	Current	TFRS 16
Revenue	-	-	Assets	Not recorded	Right-of-use assets
SG&A	Rent, Lease	-	Liabilities	Not recorded	Lease liabilities
EBITDA	-	↑	Off balance	Right-of-use assets and Lease liabilities	-
Depreciation	-	Depreciation			
EBIT	-	↑			
Finance cost	-	Interest from lease agreement			
EBT	-	↔			

Along The Journey of

ENERGY TRANSFORMATION

by  GPSC

S-CURVE BUSINESS

"Shift Design to Decide"

TO BE PTT GROUP'S FLAGSHIP OF ENERGY SOLUTION PROVIDER



Distributed Energy Resources

System Integrator (Developer in Micro-grid/ESS)

- ESS Projects (PTT Group and Non-PTT Group)
- Micro Grid
- Build Own Capability / Company Acquisition



Transformation Enablement

Battery Manufacture

- Joint Development with PTT Group
- Develop Battery Manufacture Pilot Plant 30 MWh (End of 2020)



Digital Energy

New Energy Platform

- Set Up Dedicated Team
- Create Investment Roadmap & Sandbox (Peer-to-Peer Trading)
- Identify Potential Opportunities for New Energy Platform

Product



Cheaper

Safer

Greener

24m Semi Solid Battery Unique Design



Shorter
Process



Remove **40%**
Inactive Material



No binder
Needed



Low Risk
of Contamination

First Product Specification (LFP*)

NOMINAL CAPACITY (C/10)	32 – 35 Ah
VOLTAGE (C/10)	3.2V
NOMINAL CONTINUOUS POWER	25 W
NOMINAL PEAK POWER (1C)	100 W
ROUNDTRIP ENERGY EFFICIENCY, C/4	92.5%
CYCLE LIFE (100% DOD, 80% Retention)	4,000 cycles
SAFETY (UN 38.3)	<=EUCAR 4
RECOMMENDED OPERATING TEMP.	15°C to 35°C
STORAGE TEMPERATURE	-25°C to 55°C

*LFP : Lithium Iron Phosphate

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

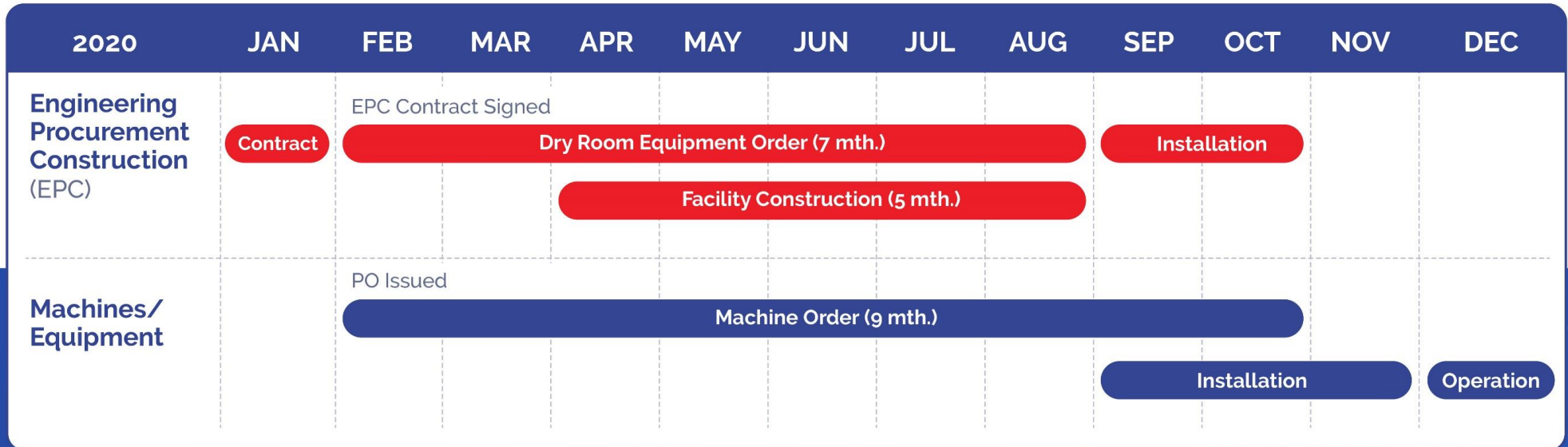


Land Owner :
Industrial Estate Authority
of Thailand (IEAT)



Investment :
1.1 Billion THB

Project Schedule



First Battery Cell
by the End of 2020



BATTERY

MANUFACTURE DEVELOPMENT



PRODUCT Development

- Increase Product Performance
- Product Variety for Different Application



PROCESS Development

- Scale Up Expertise
- Increase Process Performance
- Higher Yield, Higher Rate, Lower Cost



APPLICATION and Market Development

- Value Added by Vertically Integrated into the Final Product for End Users



VENTURE Capital



PRODUCT Licensing

SYSTEM INTEGRATOR



ESS at Cafe Amazon Wangnoi

- 13.5 kWh
- Application : Renewable Energy Integration, Time-Shift, & Back-up



GC Logistics

- 2MW Solar PV + 625 kWh ESS
- Application : Renewable Energy Integration, Peak-Shift



GC (Rayong Office)

- 1.44 MWh
- Application : Gas Turbine Efficiency Improvement, Time-Shift



Chiang Mai University (ERDi)

- 13.5 kWh
- Application : Renewable Energy Integration, Time-Shift, & Back-up

Wang Chan Valley (EECi)



Solar Rooftop : 0.5 MW/
Solar Floating : 0.7 MW



ESS
Increase Renewable Energy Consumption
: 1.2 MWh

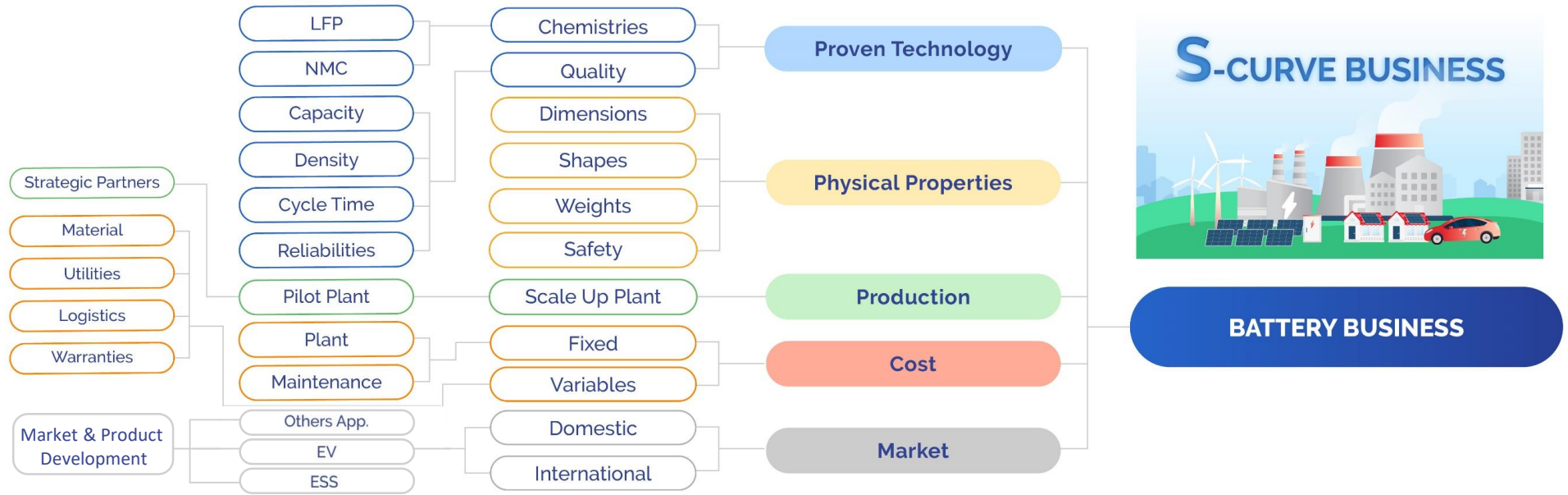


Energy Management + Trading
: Blockchain Peer to Peer (P2P)



EV Charger

THE JOURNEY OF PTT AND GPSC NEW S-CURVE

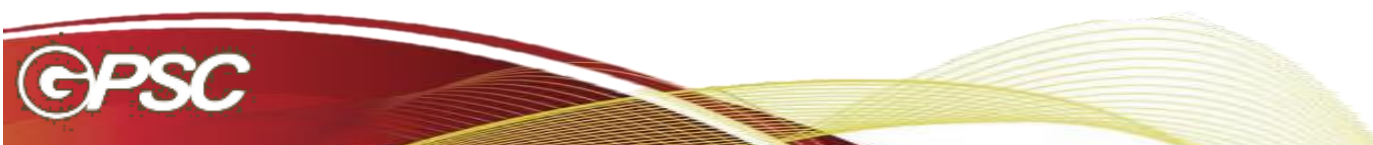


THANK YOU

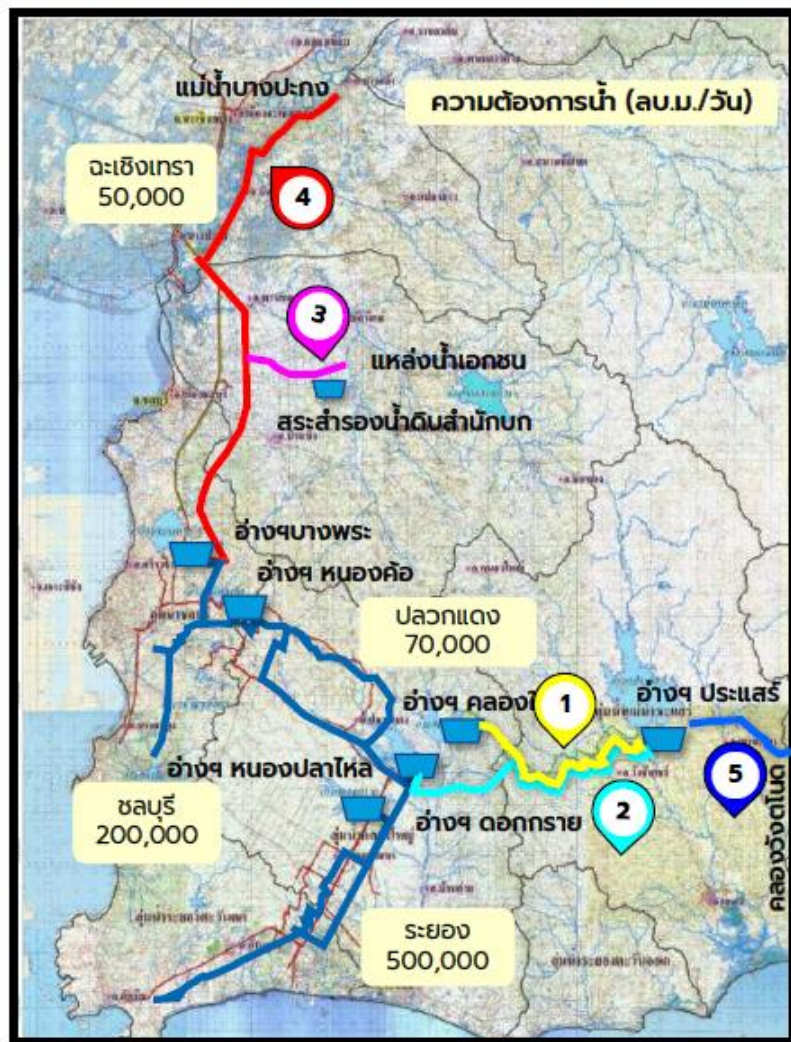
IR Contact

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Drought situation, Impacts and mitigation plan 2020



1 สูบผันน้ำจากอ่างเก็บน้ำประแสร์ – อ่างเก็บน้ำคลองใหญ่

2 สูบผันน้ำจากอ่างเก็บน้ำประแสร์ – อ่างเก็บหนองปลาไหล

3 ใช้น้ำจากแหล่งน้ำเอกชนเข้ามาเสริมในพื้นที่ชลบุรีและจะเชิงเทรา

4 สำรองน้ำจากแม่เจ้าบางปะกงเข้า อ่างเก็บน้ำบางพระ ช่วงเดือน ส.ค. – พ.ย.

5 สูบผันน้ำจากคลองวังไทร – อ่างเก็บน้ำประแสร์ ในช่วงฤดูฝน มี.ย. – ต.ค.

6 ปฏิบัติการผันคลอง

⊕ มาตรการภาครัฐและเอกชนอื่นๆ

“ภาครัฐ ภาคเอกชน และเกษตรกร ผนึกความร่วมมือแก้ปัญหาขาดแคลนน้ำภาคตะวันออก ผันน้ำจากลุ่มน้ำวังไทร จังหวัดจันทบุรี มายังอ่างเก็บน้ำประแสร์ จังหวัดระยอง ... รองรับสถานการณ์ภัยแล้งในปี 2563 มั่นใจเพียงพอรองรับความต้องการใช้น้ำตลอดฤดูแล้งนี้”

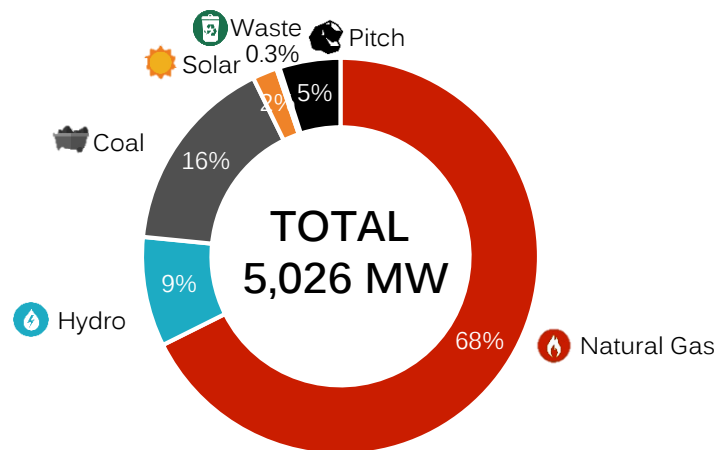


Mitigation Plan

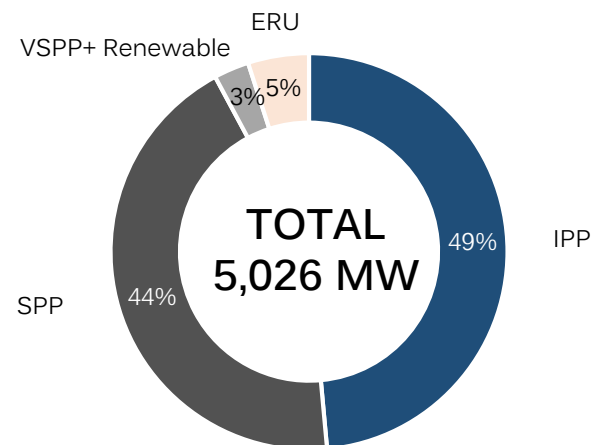
- 3Rs: Reduce Reuse Recycle
- Increase operation efficiency and water cycle
- Use clarified water from waste water treatment process
- A Temporary Desalination Plant

GPSC's Business Portfolio by Fuel and Plant Type

Equity Capacity by fuel types



Equity Capacity by Plant Type



Energy Type	Installed MW			Equity MW		
	Total capacity	%	In operation	Total capacity	%	In operation
Natural gas	5,047	63.00%	4,987	3,399	67.64%	3,381
Hydro	1,502	18.75%	1,502	449	8.94%	449
Coal	1,045	13.04%	1,045	814	16.20%	814
Solar	149	1.86%	109	101	2.00%	61
Waste	18	0.23%	9	13	0.25%	3
Pitch	250	3.12%	-	250	4.97%	-
Total	8,011	100%	7,652	5,026	100%	4,708

Energy Type	Installed MW			Equity MW		
	Total capacity	%	In operation	Total capacity	%	In operation
IPP	4,910	61.29%	4,910	2,440	48.54%	2,440
SPP	2,614	32.63%	2,554	2,192	43.61%	2,174
VSP+ Renewable	237	2.96%	188	144	2.87%	94
ERU	250	3.12%	-	250	4.97%	-
Total	8,011	100%	7,652	5,026	100%	4,708

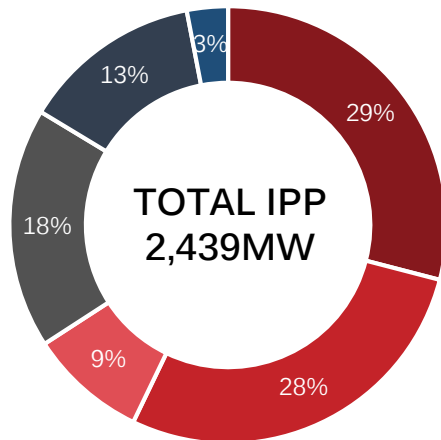
Note: Equity capacity includes 100% stake in GLOW, GRP and ERU
GPSC Portfolio as of end-2019



GPSC's Business Portfolio by Plant Type

IPP

(49%)



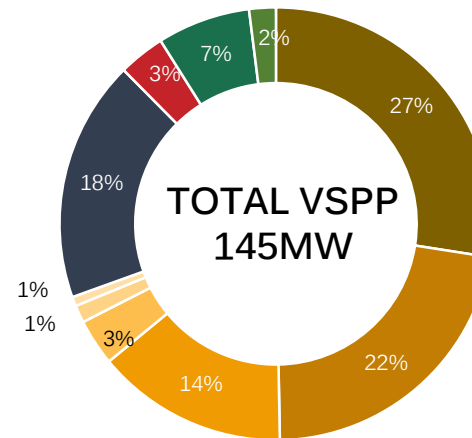
Natural gas		
Sriracha Power Plant	700MW	
GLOW IPP	677MW	
Ratchaburi Power (RPCL)	210MW	

Coal		
GHECO-ONE	429MW	

Hydro		
Xayaburi Power (XPCL)	321MW	
Houay Ho	102MW	

VSPP and Renewable

(3%)



Solar		
Global Renewable Power (GRP)	39.5MW	
Thai Solar Renewable TSR (SSE1)	32MW	
Ichinoseki Solar Power (ISP1)	21MW	
Combined Heat and Power Producing (CHPP Solar)	5MW	
Glow Energy Solar PV Rooftop	2MW	
Glow Energy Solar Plant	1MW	

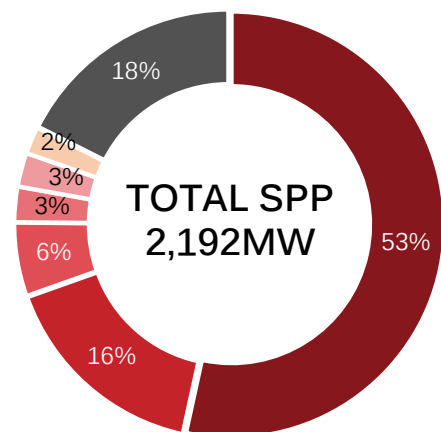
Hydro		
Nam Lik 1 Power (NL1PC)	26MW	

Natural gas		
CHPP	5MW	

Waste		
Rayong WTE	10W	
Chonburi Clean Energy (CCE)	3MW	

SPP

(43%)



Natural gas		
Glow Co-Generation	1,171MW	
Rayong CUP 1-3	354MW	
IRPC-CP (Phase 1-2)	122MW	
Bangpa-in Cogeneration BIC (Phase 1-2)	59MW	
NNEG	56MW	
Rayong CUP 4	45MW	

Coal		
Glow Co-Generation	385MW	

GPSC Associates and Joint Ventures

ERU

(5%)



Pitch		
Thaioil	250MW	

Note: Equity capacity includes 100% stake in GLOW, GRP and ERU
GPSC Portfolio as of end-2019



Power Plants Portfolio of GPSC

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
IN OPERATION									
IPP									
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
Total IPP		4,910	2,439	2,439	-	80			
SPP									
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
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++
Glow Energy CFB 3	SPP	85	85	85	79	-	GLOW (100%)	2010	-
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 Portfolio as of end-2019

Power Plants Portfolio of GPSC

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
IN OPERATION									
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	-
Total SPP		2,614	2,192	2,174	2,701	7,292			
VSPP and others									
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	-	-	-	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
Total VSPP and others		237	145	95	-	-			
ERU									
ERU	Cogen	250	250	-	175	-	GPSC (100%)	2023	25/2048
Total ERU		250	250	-	175	-			
Total capacity		8,011	5,026	4,708	2,876	7,372			

Note: Equity capacity includes 100% stake in GLOW, GRP and ERU
GPSC Portfolio as of end-2019

2019 Maintenance schedule: Sriracha and Rayong plants

Site	Description	Duration	2019											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CUP-1	GTG11/HRSG-11	8 Days	1 1Y 8											
	GTG16/HRSG16	8 Days	9 1Y 16											
	GTG14/HRSG14	14 Days	17 HGPI 30											
	Aux. Boiler.11	14 Days			15 3Y 28									
	GTG12/HRSG12	11 Days				7 1Y 17								
	GTG11/ HRSG11	24 Days					15/5 MI 7/6							
	GTG13/HRSG13	11 Days							12 1Y 22					
	GTG15/HRSG15	14 Days										14 HGPI 31		
CUP-2	GTG21/HRSG21	11 Days			9 1Y 19									
	GTG22/HRSG22	11 Days						12 1Y 22						
	Aux. Boiler.21	14 Days						1 3Y 14						
	Steam Turbine.21	-												
CUP-3	Aux. Boiler.31	11 Days							4 1Y 14					
	Aux. Boiler.33	11 Days										10 1Y 15		
	Aux. Boiler.32	11 Days									26/9 1Y 6/10			
	Steam Turbine.31	-												
SRC	GT11/HRSG#1	200 hours (8.33 days)										15	25 8	16
	GT12/HRSG#2											15 1YO	25	
	Steam Turbine.10													

Notes Rayong Site

GTG

HGPI Hot Gas Path Inspection for Gas Turbine 14 days
MI Major Inspection for Gas Turbine 22 days

STG

Minor Minor Inspection for Steam Turbine 15 days
1MO 2nd Major Overhaul for Steam Turbine 23 days
2MO 2nd Major Overhaul for Steam Turbine 27 days

AB

1Y One Year Inspection Aux. Boiler 11 days
3Y Three Year Inspection Aux. Boiler 13 days

HRSG

1Y One Year Inspection HRSG 11 days
3Y Three Year Inspection HRSG 14 days

Other

1Y One Year Inspection NG Station Test Online
5Y Five Year Inspection NG Station (NDT) Online
FO Forced Outage Depending on physical damage

Notes Sriracha Site

GTG

CI Combustion Inspection for Gas Turbine 8 days
HGPI Hot Gas Path Inspection for Gas Turbine 26 days
MO Major Overhaul for Gas Turbine 33 days
RCIE Rotor and Casting Inspection Evaluation 49 days

HRSG

1Y One Year Inspection HRSG 8 days
3Y Three Year Inspection HRSG 33 days

Other

1Y One Year Inspection NG Station Test Online
5Y Five Year Inspection NG Station (NDT) Online
FO Forced Outage Depending on physical damage

2020 Maintenance schedule: Sriracha and Rayong plants

2020														
Site	Description	Duration	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		

56

2019 & 2020 Maintenance schedule: IRPC-CP

Plant	Unit	2019			
		Q1 (A)	Q2 (A)	Q3 (A)	Q4 (F)
IRPC-CP	<u>Block 1</u>				
	CTG 21	4:58 hr.	1	1	1
	HRSG 21	4:58 hr.	1	1	1
	CTG 22	0:59 hr.	1	1	1
	HRSG 22	0:59 hr.	1	1	1
	STG 23	0:59 hr.			
	<u>Block 2</u>				
	CTG 31	0:44 hr.	1	1	1
	HRSG 31	0:44 hr.	1	1	1
	CTG 32	12:23 hr.	1	6	1
	HRSG 32	12:23 hr.	1	6	1
	STG 33			3	
	Aux. Boiler		7		

Plant	Unit	2020			
		Q1 (F)	Q2 (F)	Q3 (F)	Q4 (F)
IRPC-CP	<u>Block 1</u>				
	CTG 21	6	1	1	1
	HRSG 21	6	1	1	1
	CTG 22	6	1	1	1
	HRSG 22	6	1	1	1
	STG 23	6			
	<u>Block 2</u>				
	CTG 31	1	6	1	1
	HRSG 31	1	6	1	1
	CTG 32	1	1	1	6
	HRSG 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)

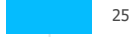



6 = 6 Days (144 hours)

7 = 7 Days (168 hours)



2019 & 2020 Planned Maintenance Schedule of Main Units from Glow

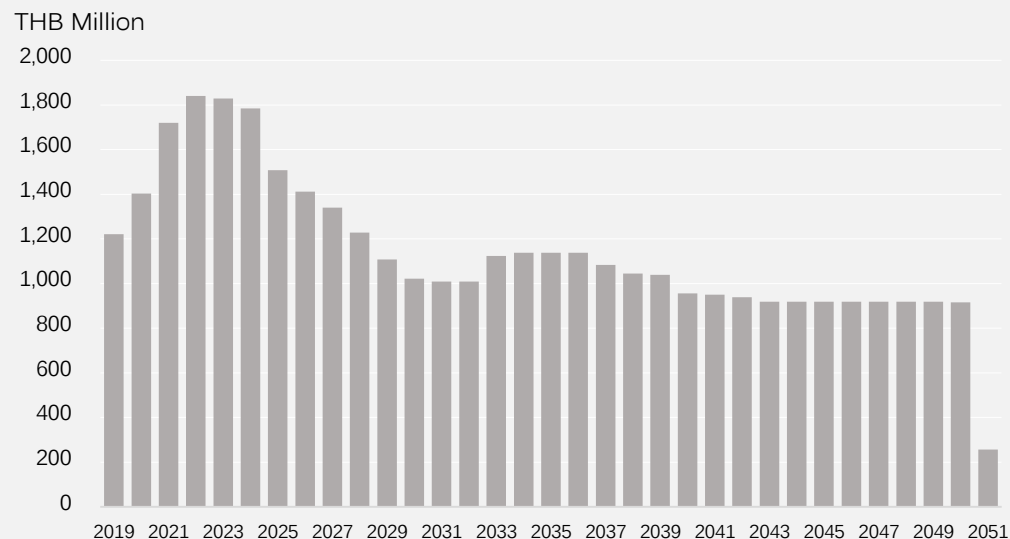
Main Units	Planned Maintenance Duration (Days)						
	2017	2018	2019	2019 by quarter			
				Q1	Q2	Q3	Q4
GHECO-One	36	-	39	 39			
GIPP: Unit 1	-	-	-				
GIPP: Unit 2	-	-	-				
CFB 1	38	27	5		 5		
CFB 2	27	5	21		 21		
CFB 3	7	26	45	 5		 40	
Phase 5	31	5	23				 23

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 the Acquisition of GLOW

Items	Book Value of GLOW (THB Million)	Fair Value of GLOW (THB Million)	Differential Value (THB Million)
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	

Amortization of Fair Value Measured from Net Assets acquired from GLOW during 2019 - 2051
(Computed based on 100% of GLOW shares)



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 follow:

- 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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