



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



# Corporate Presentation

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**THE INNOVATIVE POWER FLAGSHIP OF PTT GROUP**

*Non-Deal Roadshow in Japan*

**MARCH 12-15<sup>th</sup>, 2019**

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# Industry Overview

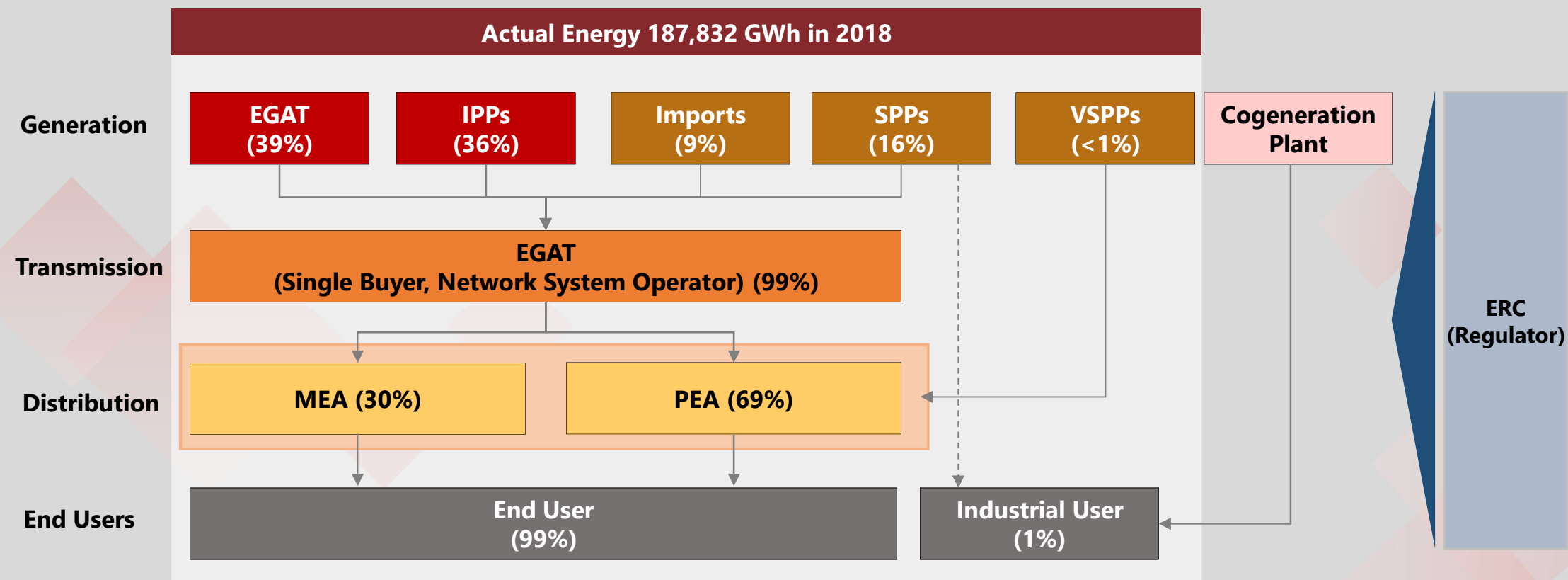
Company Overview

Investment in Affiliates

Financial Performance

# 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

# Summary of Power Development Plan (PDP) 2018



## Reliability

- **Consider the whole country electric system** including generation, transmission and distribution
- **Give priority to renewable energy, import power and gas-fired generation** especially LNG
- **Increase system balance in regional level**
- **Maintain generation level of major power plants** for satiability to support increasing renewable energy
- **Increase grid flexibility**



## Economic

- **Electricity tariff from PDP 2018 will not be higher than current tariff**
- **Promote competitive cost generation**
- **Promote investment and stimulate regional economic** by expanding investment in power plant to regional level



## Social & Environment

- **Maintain generation from renewable energy** to comply with COP21
- **Promote waste to energy**
- **Promote residential solar**

# Thailand Power Development Plan : Power Generation by Fuel Source

(Unit: %)

Source of Fuel	PDP 2015 (in 2036)	New PDP 2018 (in 2037)
Natural Gas	37	53
Coal / Lignite	23	12
Hydro Power	15	9
Renewable	20	20
Nuclear	5	-
Others	0.1	0.06
Energy efficiency	-	6

Source: Ministry of Energy

Industry Overview

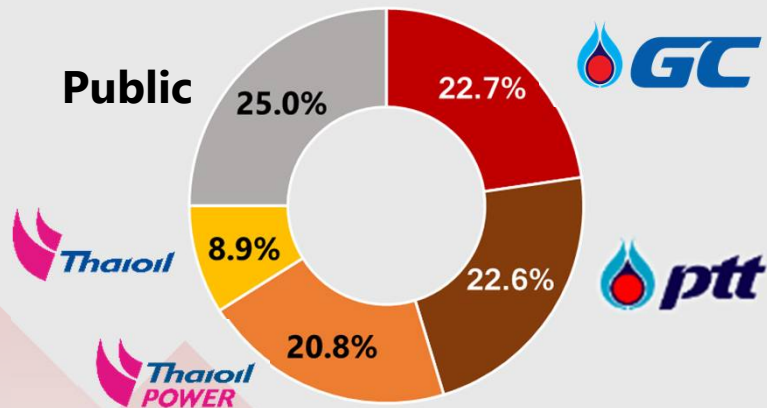
## **Company Overview**

Investment in Affiliates

Financial Performance

# GPSC Innovative Power Company at a Glance

## Shareholding Structure



Thai Oil Power is 73.99% held by Thai Oil and 24.01% by PTT  
As of March 2019

## Company Information

<b>Head Office</b>	555/2 Energy Complex Building B, 5th Floor, Vibhvedi-Rangsit Road, Chatuchak, Bangkok
<b>Business Type</b>	Energy & Utilities
<b>Registered Capital (Fully Paid)</b>	THB 14,983 million
<b>Market Cap (As of 7 March 2019)</b>	THB 91,770.09 million

## In 2019, Total Committed Generating Capacity Electricity 1,955 MWe, Steam 1,585 T/H



COMBINED CYCLE / COGENERATION

Electricity 1,550 MW  
Steam 1,585 T/H  
Industrial Water 2,080 Cu.m./H  
Chilled Water 12,000 RT



RENEWABLE ENERGY

Electricity 58 MW



HYDROELECTRIC

Electricity 347 MW



OTHER BUSINESSES

24M Technologies, Inc. (USA)  
Business Service Alliance Co.,Ltd.

Remark: Capacity includes projects under construction

# GPSC Customers' Profile



## 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



**53% PTT Group**



**38% EGAT**



**9% Industrial Users**

*\*2018 Revenue by Customers*

# Power Plant Definition and Revenue Structure

## IPP

### Independent Power Producer (IPP):

- A larger power producer who has electricity capacity more than 90 MW
- IPPs are obliged to sell their entire output to EGAT

## SPP

### Small Power Producer (SPP):

- A small power producer who sell their electricity no more than or equal to 90 MW to EGAT

#### SPP Type

- Firm : Contract Term > 5 Years  
Non-Firm : Contract Term ≤ 5 Years
- SPPs can sell their electricity and steam to industrial customers located next to the SPP plant

## VSPP

### Very Small Power Producer (VSPP):

- A very small generator whose power generating process is generated from renewable energy, specific fuels, and energy with no more than 10 MW of electricity capacity
- VSPPs are able to sell power to the Distribution Utility

**Availability Payment**

+

**Energy Payment**

Availability %  
x  
Availability Payment Rate (APR)

Energy cost regarding % Dispatch to EGAT

### EGAT (Power)

Firm	Capacity Payment	+	Energy Payment
Non-Firm	K factor (seasonal weight)	×	Energy Payment
<b>Industrial Customers</b>			
Electricity	PEA tariff TOU Rate 4.2*		
Steam	Steam Base Cost x (Gas index + CPI index)		

**Base Tariff**

+

**Ft**

+

**adder**

**Feed in Tariff**

\*<https://www.pea.co.th/Documents/Rate2015.pdf>  
Reference rate with conditions

# GPSC's Business Portfolio : 11 Affiliates in 4 Countries

## Combined Cycle / Cogeneration

### Sriracha Power Plant (IPP) 100%

- Electricity: 700 MW
- Industrial water: 80 Cu.m./h



### Rayong Power Plant (SPP Non-firm) 100%

#### CUP 1-3

- Electricity: 339 MW
- Steam: 1,340 T/H
- Industrial water: 2,000 Cu.m./h



#### CUP-3 Expansion (SCOD in Mar 2019)

- Electricity: 15 MW

#### Rayong Expansion (CUP-4) (SCOD in Q3/2019)

- Electricity: 45 MW
- Steam: 70 T/h

### IRPC Clean Power (SPP Firm) 51%

#### Total

- Electricity: 240 MW
- Steam: 300 T/h



#### Phase 1

- Electricity: 45 MW
- Steam: 170 T/h

#### Phase 2 (COD in Nov 2017)

- Electricity: 195 MW
- Steam: 130 T/h

### Combined Heat and Power Producing (VSPP) 100%

- Electricity: 5 MW
- Chilled water: 12,000 RT



### Nava Nakorn Electricity Generation (SPP Firm) 30%

- Electricity: 125 MW
- Steam: 30 T/h



#### Expansion Phase (SCOD in Q3/2020)

- Electricity: 60 MW
- Steam: 10 T/h

### Bangpa-in Cogeneration (SPP Firm) 25%

#### Phase 1

- Electricity: 117 MW
- Steam: 20 T/h

#### Phase 2 (COD in June 2017)

- Electricity: 117 MW
- Steam: 20 T/h



### Ratchaburi Power (IPP) 15%

- Electricity: 1,400 MW



## Renewable Energy

### Thai Solar Renewable (VSPP) 40%

- Electricity: 80 MW



### Ichinoseki Solar Power 99%

#### (COD in Dec 2017)

- Electricity: 20.8 MW



### CHPP Solar Cooperatives (VSPP) 100%

- Electricity: 5 MW



## Hydroelectric

### Xayaburi Power (IPP) 25%

#### (SCOD in Oct 2019)

- Electricity: 1,285 MW



### Nam Lik 1 Power 40%

#### (SCOD in Mar 2019)

- Electricity: 65 MW



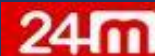
## Other Businesses

### Business Service Alliance

25%





### 24M Technologies



Project under construction   Project COD in 2017

# Q4/2018 Highlights

## GROWTH

- GLOW shares' acquisition (2,771 MW) 
- Solar power plants shares' acquisition (39.5 MW)
- Energy Recovery Unit project (250 MW) 
- Rayong Waste to Energy (9.8 MW)

## PROFIT

**2018 EBITDA Increased 30% and NI Increased 6% from 2017**

- ◇ The increase in electricity sales from the full operation of IRPC-CP Phase 2 and ISP1 since Q4/2017

## SUSTAINABILITY

- **2018 dividend payment of Baht 1.25 per share**
  - ◇ The interim dividend of Baht 0.45 per share was paid, the remaining dividend for 2H/2018 of Baht 0.80 per share will be paid after receiving approval from AGM 2019
- **AWARDS in Q4/2018**
  - ◇ CFO of the year excellence in technology & Treasury management transformation
  - ◇ TOP 50 ASEAN PLCs and Excellence Sustainability Report Award 2018

## CONTROL

**4 Projects to start COD in 2019-2020 as timeline**



Nam Lik1



Xayaburi



CUP-4



NNEG Expansion

# GLOW Energy PLC. Acquisition

## Transaction

- Acquire 69.11% of GLOW's shares (directly and indirectly) from Engie Global Developments B.V.
- Mandatory offer for 30.89% of shares through Tender Offer

## Transaction Amount

- Less than THB 140 Billion

## Condition Precedent

- GLOW divests SPP1 to third party

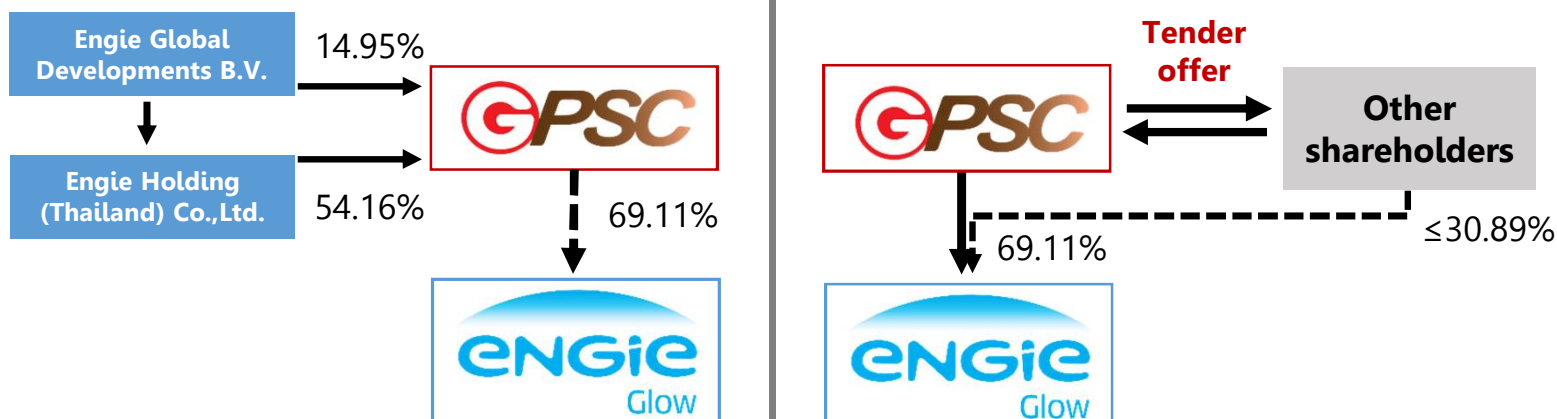
## Funding

- Short-term bridge financing (35,000 shareholder loan & syndicated banks)
- Long-term take out plan with capital structure of 52% equity offering and 48% Debt

## Expected Deal Closing

- Q1/2019

## Share Purchase Transaction from Engie Group /Tender Offering

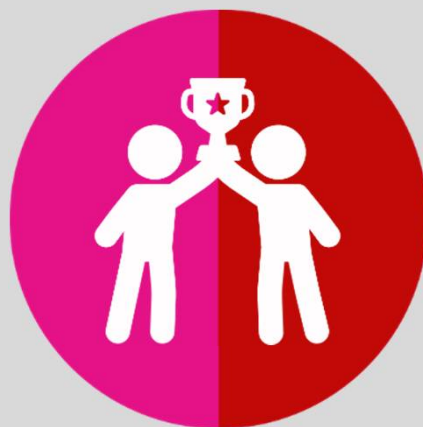


<b>Project Description</b>	<ul style="list-style-type: none"><li>• As a power and steam supporting unit of CFP Near Laem Chabang Port</li><li>• The CFP project will improve effectiveness in the production process and transform fuel oil and bitumen into jet fuel and diesel</li></ul>
<b>Investment Cost</b>	<ul style="list-style-type: none"><li>• Approximately USD 757 mm</li></ul>
<b>Condition Precedent</b>	<ul style="list-style-type: none"><li>• Approval from AGM 2019</li></ul>
<b>Construction Period</b>	<ul style="list-style-type: none"><li>• 4 years</li></ul>
<b>SCOD</b>	<ul style="list-style-type: none"><li>• Q3 / 2023</li></ul>
<b>Electricity Demand</b>	<ul style="list-style-type: none"><li>• 200 MW (Installed Capacity 250 MW)</li></ul>
<b>Steam Demand</b>	<ul style="list-style-type: none"><li>• 175 T/H</li></ul>

# Strategic Position & Payment Term



- Reduce overall CAPEX of CFP Project
- Reduce D/EBITDA ratio and increase liquidity to future investment
- Benefit from higher IRR for CFP Project after carve out
- Maintain Competitiveness in Reliability, Safety, Efficiency & Plant Optimization

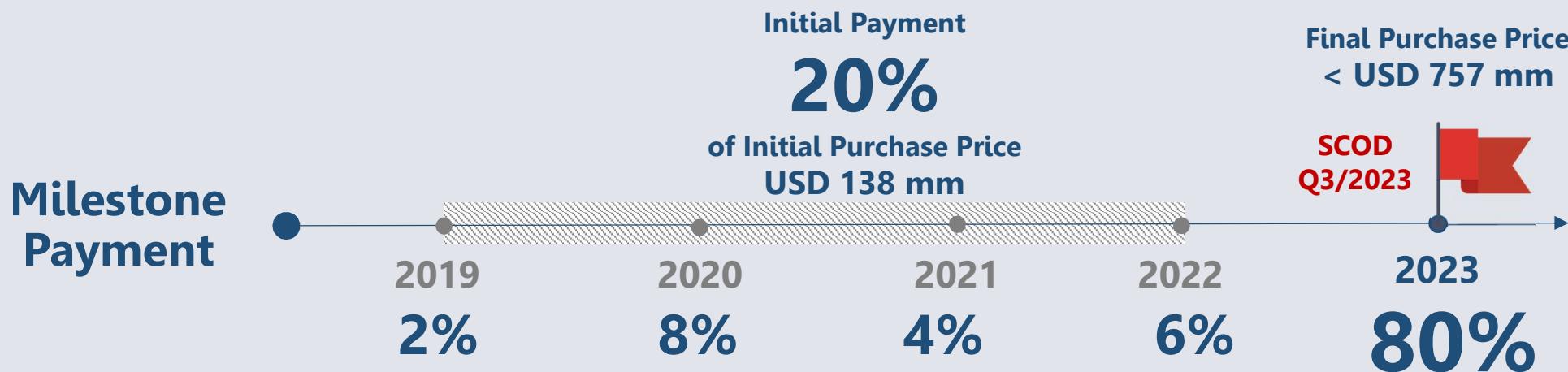


Expert and skillful in power business

Understands the operation of oil refinery petrochemical business

Familiarity with the company's staff ensures smooth and efficient communications

Strong and stable financial position ensures capability to support large investment



# Global Renewable Power Company Limited Transaction Overview

## Transaction Structure

- GPSC has entered into SPA to acquire 100% shares from Brookfield Renewable Partners
- The operating solar power plant of 3 companies (NPS Star Group Co., Ltd., World X Change Asia Co., Ltd., and PP Solar Ltd.) together with long term PPA with off-taker PEA, total capacity of 39.5 MW
- Terra Form Operating (Thailand) Co., Ltd., that provide operation and maintenance service for solar power plants.

## Transaction size

- Total value of the transaction is 3,070 MTHB which divided into the share purchasing for 2,325 MTHB and the loan from the original shareholders for 745 MTHB.

## Condition Precedent

- ERC approval

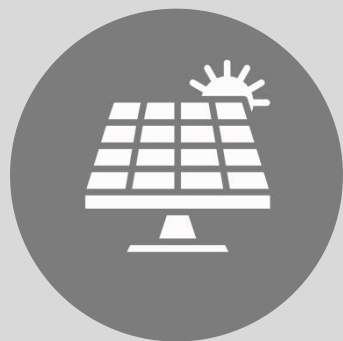
## Acquisition Funding

- 70% bridge and shareholder loans

## Tentative timeline



# Global Renewable Power Portfolio



## NP Star

## World Exchange Asia

## PP Solar

## TerraForm Operating

	NP Star	World Exchange Asia	PP Solar	TerraForm Operating
<b>Capacity (MW)</b>	18 (6*3)	17.9 (5.96*3)	3.6 (1.2*3)	N/A (Service Company)
<b>Off-taker</b>	PEA	PEA	PEA	
<b>Remaining PPA Tenor (Years)</b>	22	22	22	
<b>Tariff Scheme</b>	FiT at 5.66 THB/KwH	FiT at 5.66 THB/KwH	Adder at 8 THB/KwH (adder 6-7 years)	
<b>COD</b>	Dec 2015	Dec 2015	Mar 2014/Mar 2015	
<b>Location</b>	Pichit, Suphanburi and Lopburi	Pichit	Khon Kaen	
<b>Registered Capital</b>	293.7	293.7	82	
<b>D/E</b>	3:1	3:1	3:1	3:1

# GPSC Electricity Growth Pipeline

Operating Capacity (MWe)

**5,026**  
**+81% CAGR by 2023**

**1,530**

**+435**

**1,955**

**+3,071**

## Current Capacity

**Electricity 1,530 MW**  
**Steam 1,512 T/H**  
**Industrial Water 2,080 Cu.m./H**  
**Chilled Water 12,000 RT**

## Under Construction

### COD in 2019

- CUP3 expansion (Steam Turbine Generator): 15 MW
- XPCL Hydro Power Plant: 321 MW
- NL1PC Hydro Power Plant: 26 MW
- Rayong Power Plant Expansion (CUP4) : 45 MW + 70 T/h

### COD in 2020

- NNEG Expansion: 18 MW + 3 T/h

## Projects on Progress

### Operating Solar Project

- 39.5 MW
- Expected closing in Q1/19

### Glow Energy PLC.

- 2,771 MW (exclude SPP1)
- Expected closing in Q1/19

### ERU Project

- 250 MW + 175 T/h
- Pending for AGM approval

### Rayong Waste to Energy

- 9.8 MW
- Pending for PPA

## Future Growth

### Growth along with PTT

- Business expansion along with PTT Group

### International Power Project

- Myanmar: GTP projects
- New opportunities in others countries

### Renewable Projects

- Explore new opportunities of renewable business
- Explore more in international opportunities

### Battery and System Integrator

- Samples testing to Industrial Users
- Expand ESS business to Non-PTT Group

# Strategic Direction and Growth Strategy



## Strategic Direction

The global leading innovative and sustainable power company



### Operational Excellence

- Maximize Core Business
- Manage Invested companies



### 3 Growth Engines

- Growth along with PTT Group
- International market
- Renewable



### New S-curve

- Battery
- Energy Storage System Integrator
- Energy Management Solution Provider

Digitalization

Sustainability

Finance Support

Human Resource & Corporate Value

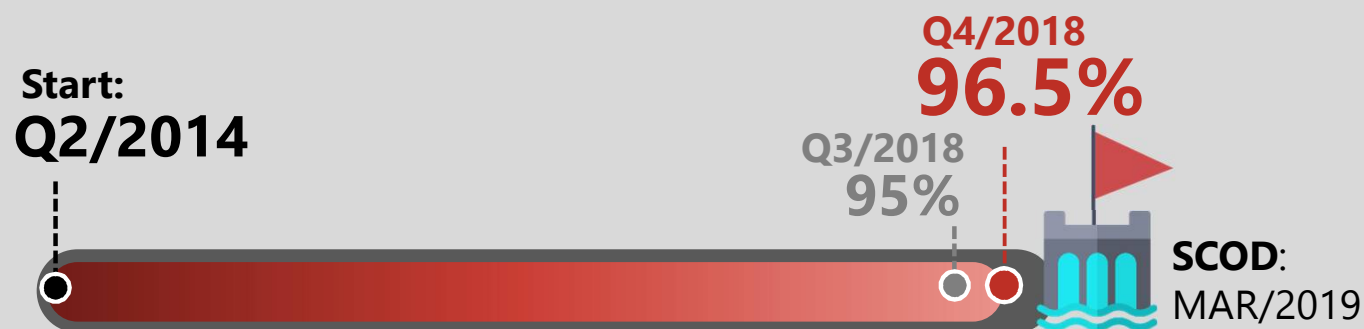


Industry Overview

Company Overview

**Investment in Affiliates**

Financial Performance

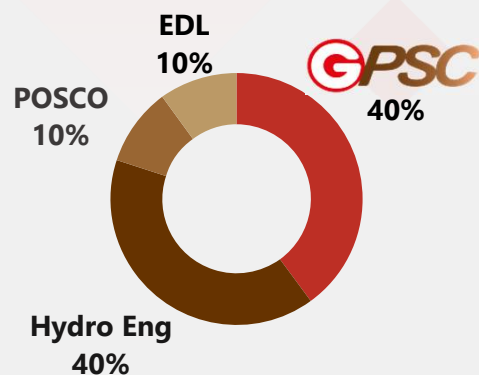


**Type:** Run-of-River Hydropower

**Electricity:** 64.5 MW

**Customer:** EDL (25 years PPA)

## Shareholding:



## Progress update:

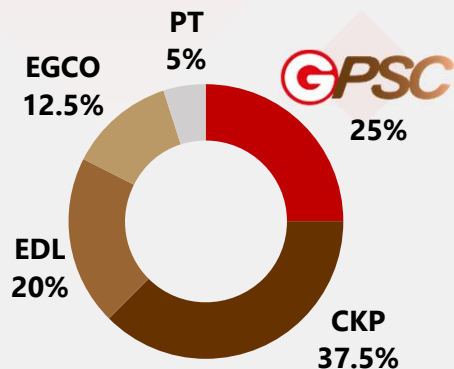
- As of Q4/2018, the construction progress of NL1PC as appraised by technical advisor was at 96.5%.
- The main activities such as start pre-commissioning phase of Turbine Unit 2, The tie-in of 115 kV transmission line to Hin Heup substation has been executed.





Type:	Run-of-River Hydropower
Electricity:	1,285 MW
Customer:	EGAT 1,220 MW, EDL 60 MW

## Shareholding:



## Progress update:

- The main construction tasks such as power house, intermediate block, fish ladder and 500 kV transmission line were mostly completed.
- The commissioning of Generator Unit 1 has started since December 2018 as scheduled.





# Central Utility Plant 4 : CUP4 (Thailand)



Start:  
Q4/2017

Q3/2018  
39.7%

Q4/2018  
**60.3%**



SCOD:  
Q3/2019

**Type:** Gas-fired Cogeneration

**Electricity:** 45 MW

**Steam:** 70 T/h

**Customer:**

- PTT Group
- Non-PTT Group
- EGAT

## Shareholding:



## Progress update:

- As of Q4/2018, the progress of site construction was over 33%.
- The construction of control building and high voltage substation have been started.
- All of main power plant equipment have been procured. The first module will arrive in the beginning of 2019.



# Nava Nakorn Electricity Generation (NNEG) Expansion Project



Start:  
Q3/2018

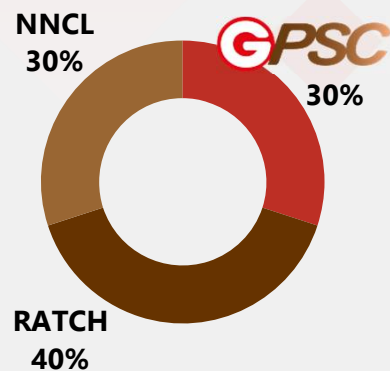
Q4/2018  
**12%**



SCOD:  
Q3/2020

Type:	Gas-fired cogeneration
Electricity:	60 MW
Steam:	10 T/h
Customer:	• Non-PTT Group

## Shareholding:



## Progress update:

- As of Q4/2018, the project progress has reached 12%.
- Main tasks such as site preparation and procurement for main machines and equipment were executed as planned.



Industry Overview

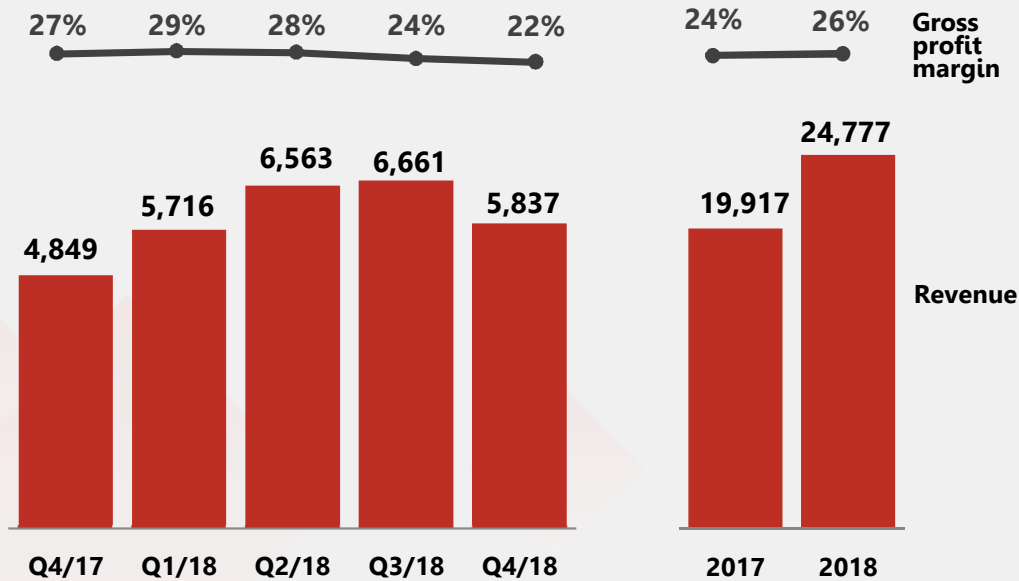
Company Overview

Investment in Affiliates

**Financial Performance**

# Q4/2018 Financial Performance Summary (1/2)

## Revenue & Gross Profit Margin (THB Million,%)



### Q4/18 vs Q4/17 YoY

▲ Rev. +988 / +20%  
▼ GPM -5%

### Q4/18 vs Q3/18 QoQ

▼ Rev. -824 / -12%  
▼ GPM -2%

### 2018 vs 2017 12M

▲ Rev. +4,860 / +24%  
▲ GPM +2%

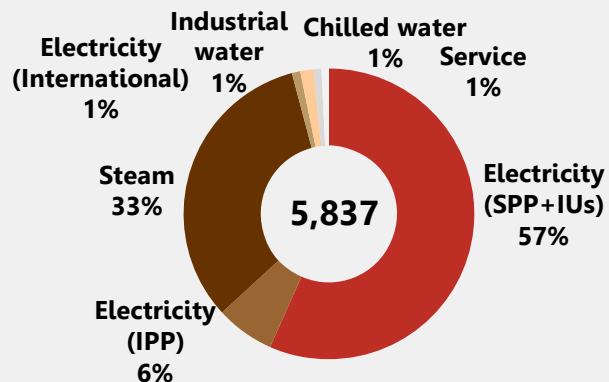
### Revenue:

- **YoY, 12M:** Higher revenue from an increase sales from the COD of IRPC-CP Phase 2 and ISP1 since Q4/2017 and solar rooftops EPC service of CHPP
- **QoQ:** The decrease was from major overhaul of Sriracha plant and planned maintenance shutdown of IRPC-CP in Q4/2018

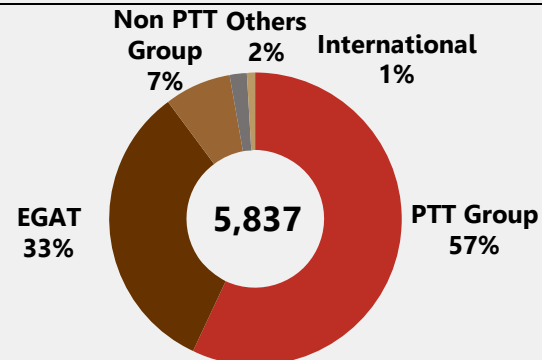
### Gross Profit Margin:

- **YoY, QoQ :** Gross Profit Margin decreased due to a rise in natural gas prices while Ft rate remained unchanged
- **12M:** Gross Profit Margin slightly increased from full operation of IRPC-CP and ISP1

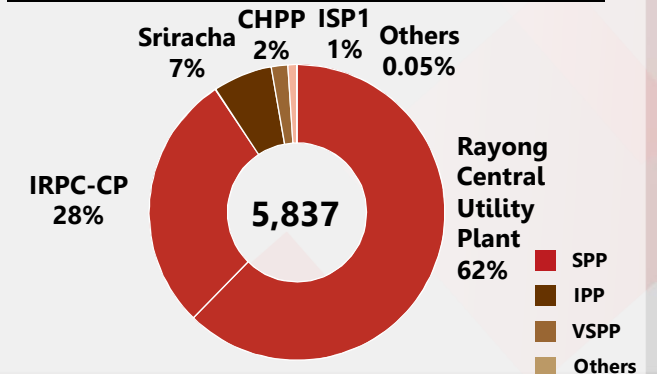
### Q4/18 Revenue by product (THB Million)



### Q4/18 Revenue by customer (THB Million)

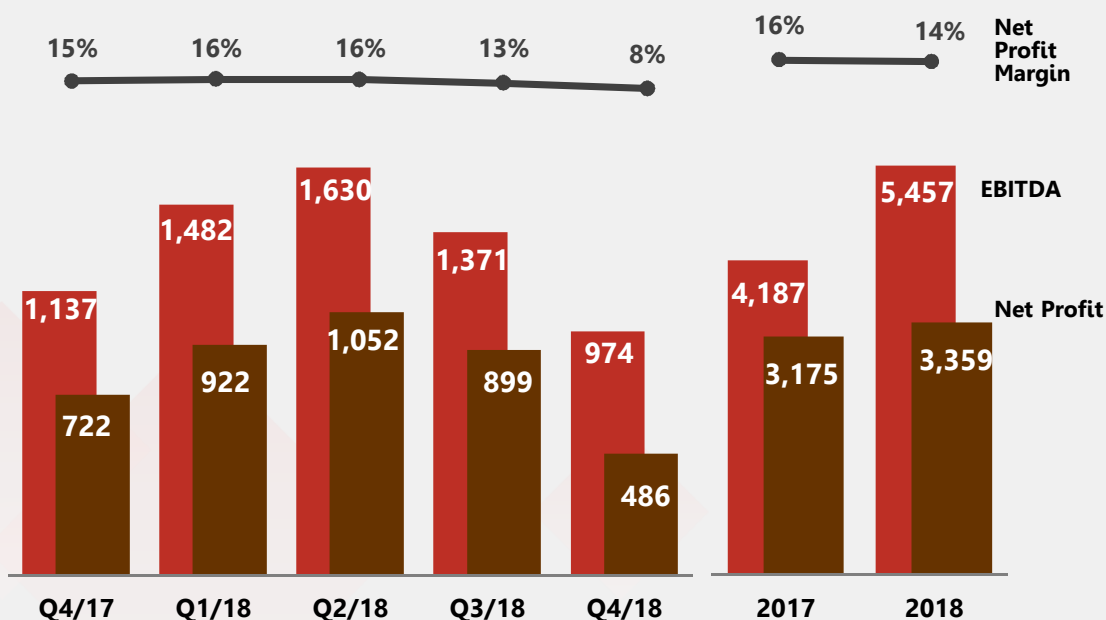


### Q4/18 Revenue by plant (THB Million)



# Q4/2018 Financial Performance Summary (2/2)

## EBITDA, Net Profit\* and Net Profit Margin (THB Million,%)



### Q4/18 vs Q4/17 YoY

▼ NPM -7%  
▼ EBITDA -163 / -14%  
▼ NP -236 / -33%

### Q4/18 vs Q3/18 QoQ

▼ NPM -5%  
▼ EBITDA -397 / -29%  
▼ NP -413 / -46%

### 2018 vs 2017 12M

▼ NPM -2%  
▲ EBITDA +1,270 / +30%  
▲ NP +184 / +6%

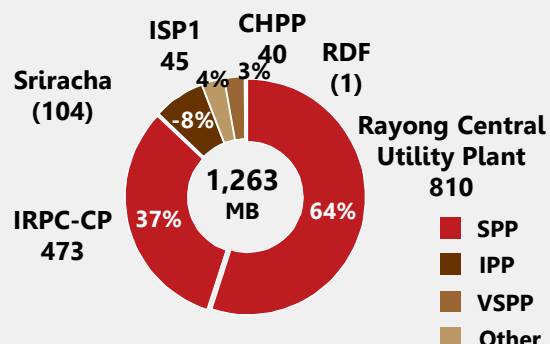
### EBITDA & Net Profit:

- **YoY, QoQ:** EBITDA & Net Profit decreased due to higher natural gas prices while Ft remained unchanged, major overhaul of Sriracha plant and planned maintenance shutdown of IRPC-CP
- **12M:** EBITDA & Net Profit increased due to the rise in electricity sales from the COD of IRPC-CP Phase 2 and ISP1 since Q4/2017 and higher share of profits from BIC & NL1PC

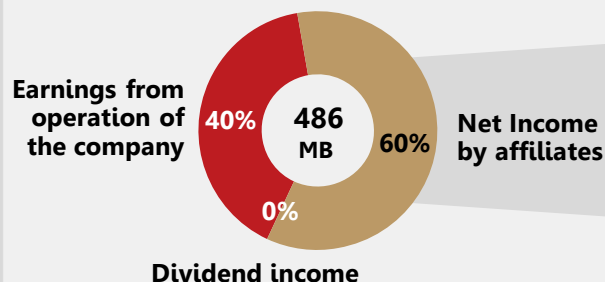
### Net Profit Margin:

- **12M:** Net profit margin decreased from the drop in dividend income from RPCL and the increase in depreciation of IRPC-CP Phase 2 and ISP1
- **YoY, QoQ:** Net profit margin decreased due to significant rise in natural gas prices and major overhaul of Sriracha plant

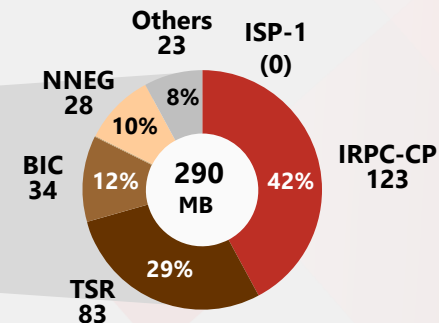
## Q4/18 Gross Profit by plant (THB Million)



## Q4/18 Net Profit by source (THB Million)



## Q4/18 Net Profit by Affiliates (THB Million)



Remark: \*Net profit-Owners of the company

# Sriracha Power Plant : Revenue & Gross Profit

## Revenue

(THB Million, %)

Q4/18 vs Q4/17  
YoY

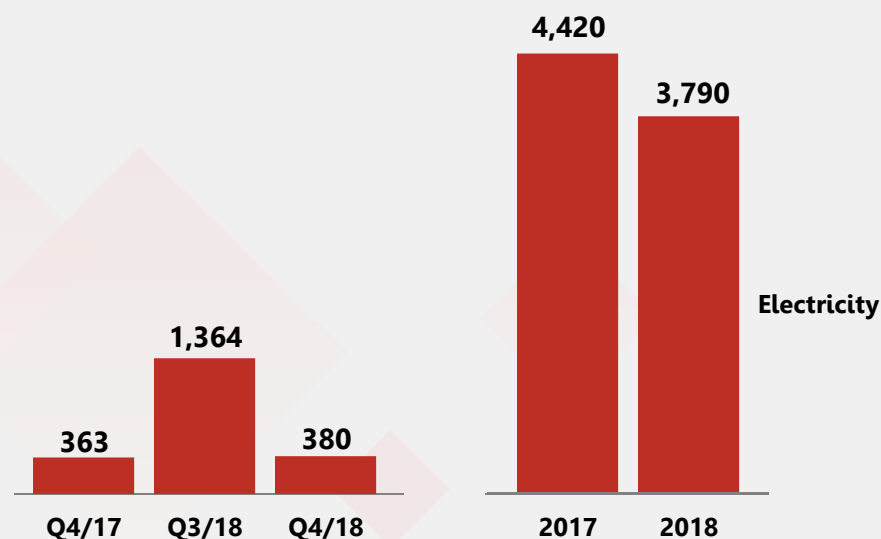
▲ Rev. +17 / +5%

Q4/18 vs Q3/18  
QoQ

▼ Rev. -984 / -72%

2018 vs 2017  
12M

▼ Rev. -630 / -14%



- **QoQ, 12M : Total revenue decreased** due to major overhaul and the adjustment of finance lease receivable according to TFRIC4
- **YoY: Total revenue increased** from reserved shutdown in Q4/2017

## Gross Profit & Gross Profit Margin

(THB Million, %)

Q4/18 vs Q4/17  
YoY

▼ GP -131 / -484%

▼ GPM -34%

Q4/18 vs Q3/18  
QoQ

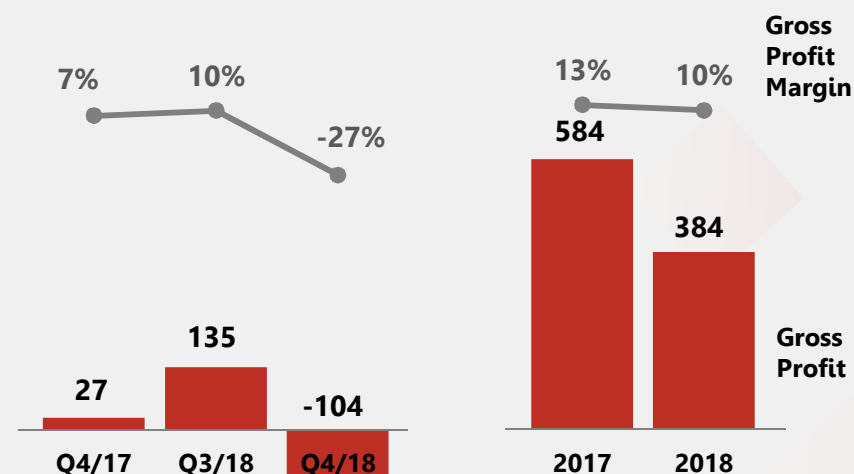
▼ GP -239 / -177%

▼ GPM -37%

2018 vs 2017  
12M

▼ GP -200 / -34%

▼ GPM -3%

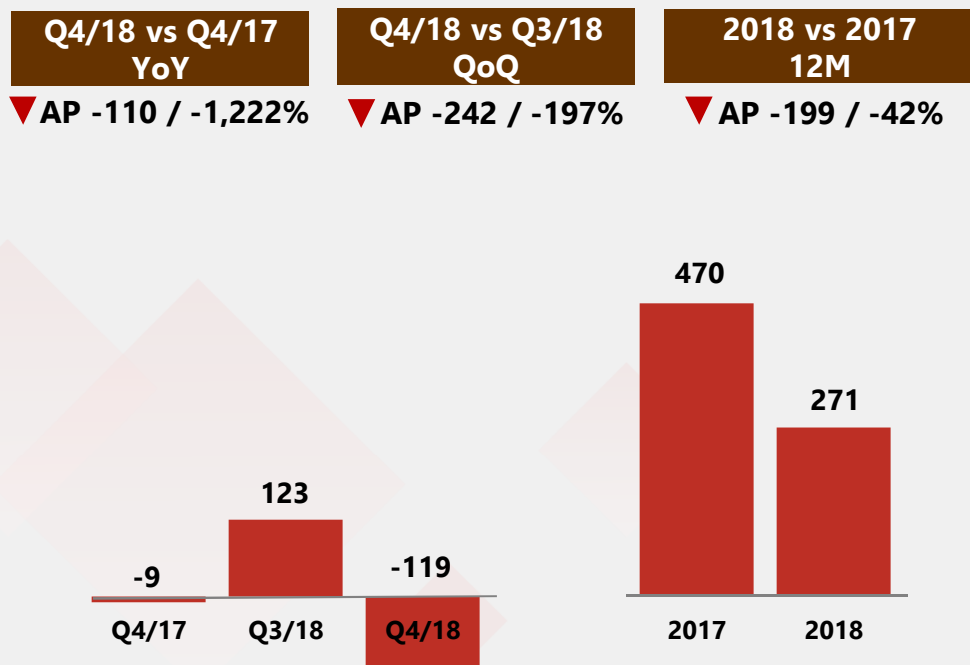


- **QoQ: Gross profit decreased** due to the drop in revenue from Availability Payment (AP) from major overhaul and lower Weight factor in Q4/2018
- **YoY, 12M: Gross profit decreased** due to major overhaul and the adjustment of finance lease receivable according to TFRIC4

Remark: \*Revenue from Electricity (IPP) includes income from electricity sales and finance lease

# Sriracha Power Plant : Availability Payment (AP)

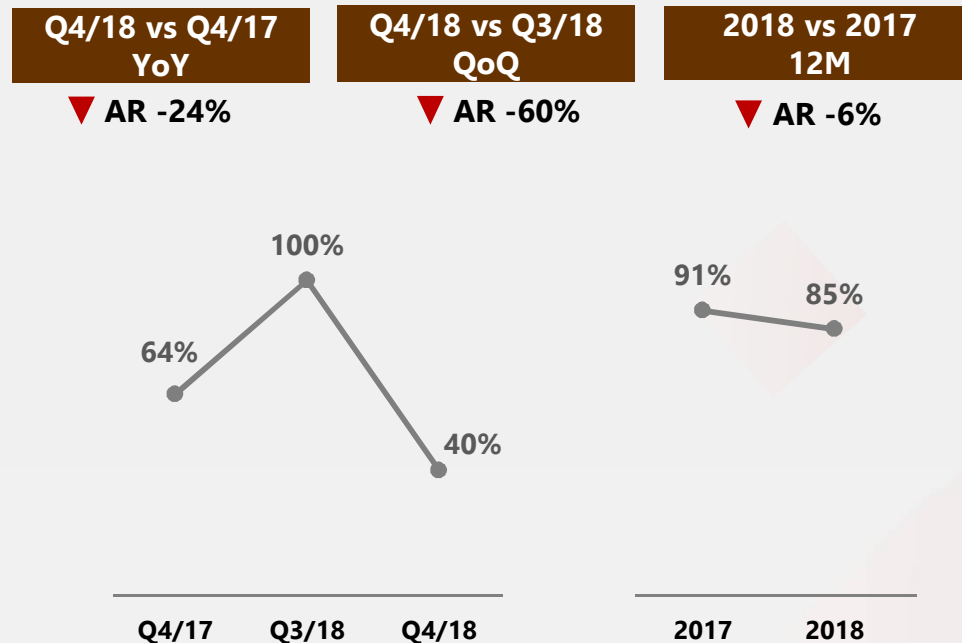
## Revenue from AP (THB million)



### Revenue from AP

- **QoQ: AP decreased** from major overhaul and lower Weight factor
- **YoY, 12M: AP decreased** due to major overhaul and the adjustment of finance lease receivable according to TFRIC4

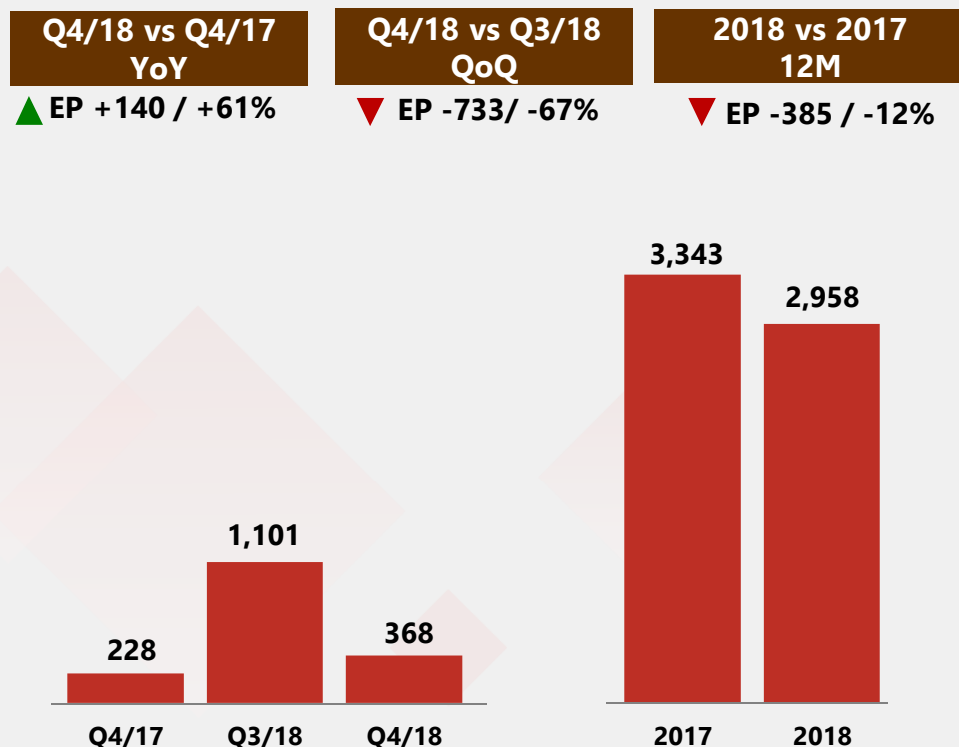
## Availability Rate(%)



- **QoQ, YoY, 12M: Availability rate decreased** from major overhaul in Q4/2018

# Sriracha Power Plant : Energy Payment (EP)

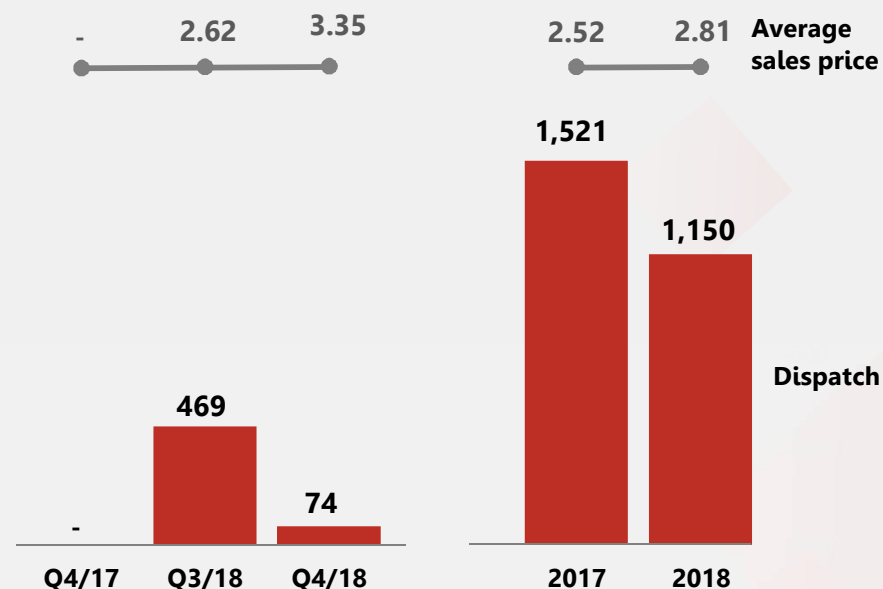
## Revenue from EP (THB million)



### Revenue from EP

- **YoY: EP increased** due to maintenance shutdown and reserved shutdown in Q4/2017
- **QoQ, 12M: EP decreased** due to major overhaul in Q4/2018

## Average sales price & dispatch (Baht/kWh, GWh)

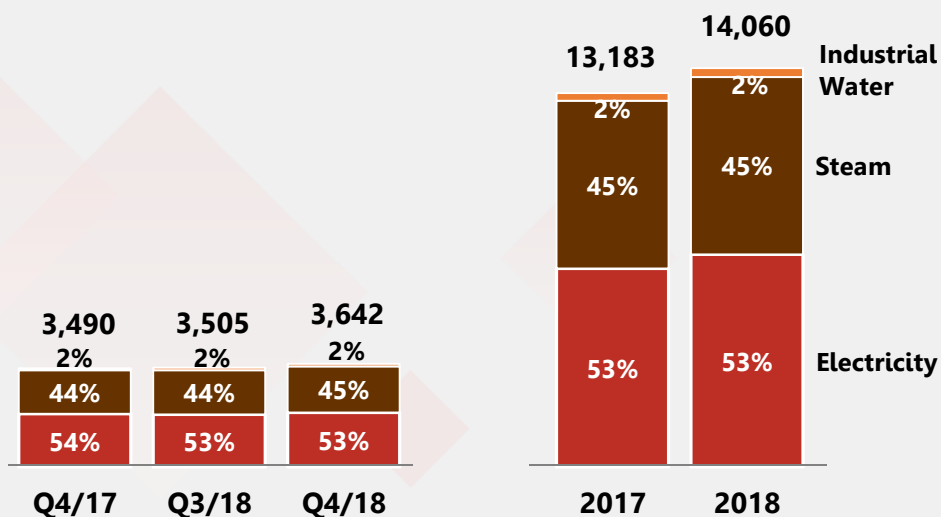


- **QoQ, 12M: Average sales price increased** due to the decrease in dispatched volume to EGAT as instructed
- **Dispatched volume: increased YoY but decreased QoQ and 12M** according to EGAT's dispatch instruction and major overhaul

# Rayong Power Plant (Cogeneration) : Revenue & Gross Profit

## Revenue (THB Million, %)

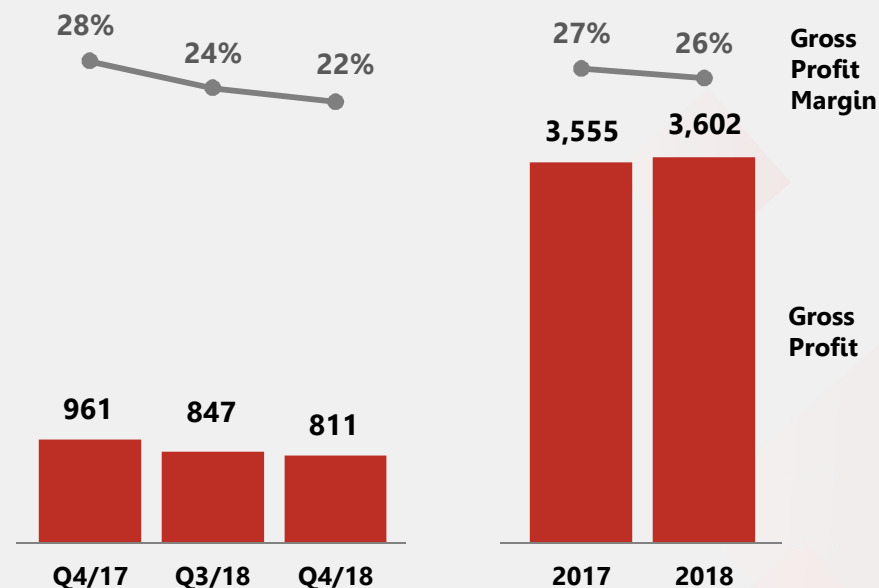
Q4/18 vs Q4/17 YoY	Q4/18 vs Q3/18 QoQ	2018 vs 2017 12M
▲ Rev. +152 / +4%	▲ Rev. 137 / 4%	▲ Rev. +877 / +7%



- **QoQ, 12M: Total revenue increased** from higher sales volume due to maintenance shutdown of gas turbines, and higher sales prices in line with higher natural gas prices
- **YoY: Total revenue increased** from higher sales prices in line with higher natural gas prices

## Gross Profit & Gross Profit Margin (THB Million, %)

Q4/18 vs Q4/17 YoY	Q4/18 vs Q3/18 QoQ	2018 vs 2017 12M
▼ GP -150 / -16%	▼ GP -36 / -4%	▲ GP +47 / +1%
▼ GPM -6%	▼ GPM -2%	▼ GPM -1%



- **YoY, QoQ: Gross profit decreased** due to the increase in natural gas prices while Ft rate remained unchanged
- **12M: Gross profit slightly increased** because sales volume increased but the increase in natural gas prices was more than Ft rate, thus small increase in gross profit was observed

# Rayong Power Plant (Cogeneration) : Power Sales

## Power sales volume (GWh)

**Q4/18 vs Q4/17  
YoY**

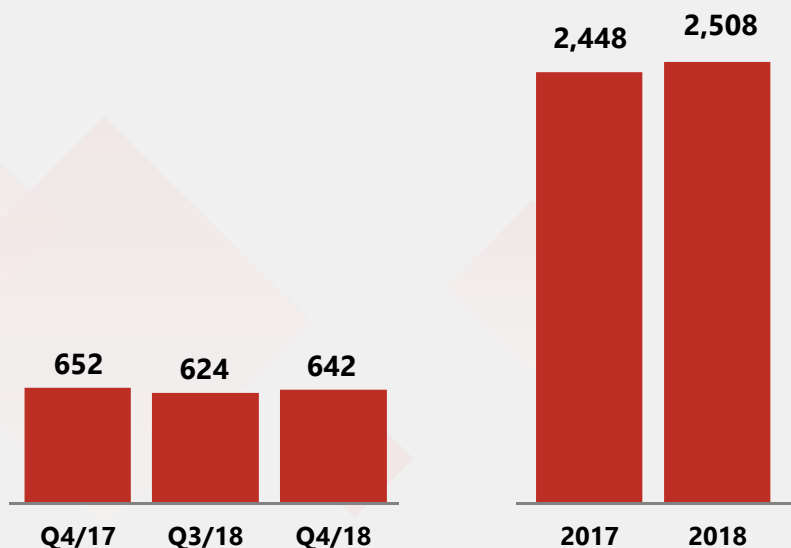
▼ Sales -10 / -2%

**Q4/18 vs Q3/18  
QoQ**

▲ Sales +18 / +3%

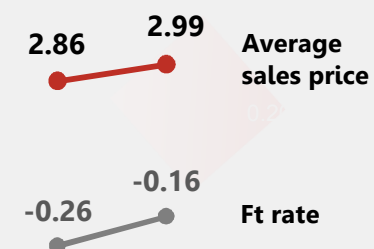
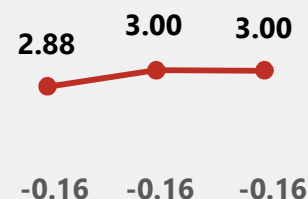
**2018 vs 2017  
12M**

▲ Sales +60 / +2%



- **QoQ, 12M: Power sales volume slightly increased** from the expansion of industrial users and gas turbine maintenance shutdown in Q3/2018
- **YoY: Power sales volume slightly decreased** due to maintenance shutdown of industrial users in Q4/2018

## Average sales price & Ft rate (THB/kWh, THB)



- **YoY, 12M: Average sales price increased** in line with the increasing trend of Ft rate and natural gas prices
- **QoQ: Average sales price was stable**

# Rayong Power Plant (Cogeneration) : Steam Sales

## Steam sales volume ('000 tons)

Q4/18 vs Q4/17  
YoY

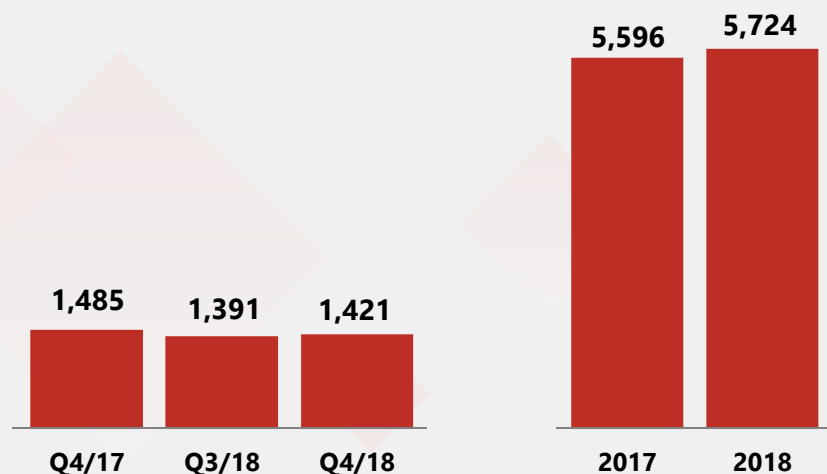
▼ -64 / -4%

Q4/18 vs Q3/18  
QoQ

▲ +30 / +2%

2018 vs 2017  
12M

▲ +128 / +2%



- **QoQ, 12M: Steam sales volume increased** due to maintenance shutdown of customers in 2017
- **YoY: Steam sales volume slightly decreased** in line with the variation of demand from industrial users

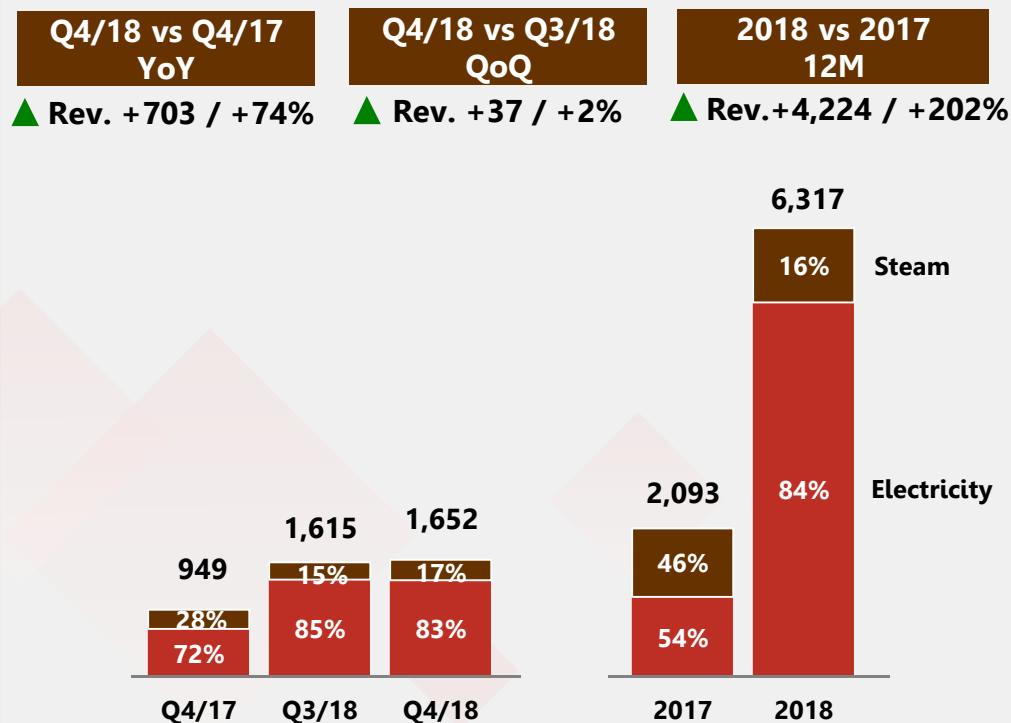
## Average sales price & Average natural gas price (THB/ton, THB/MMBTU)



- **YoY, QoQ, 12M: Average sales price increased** in line with the upward trend of natural gas prices

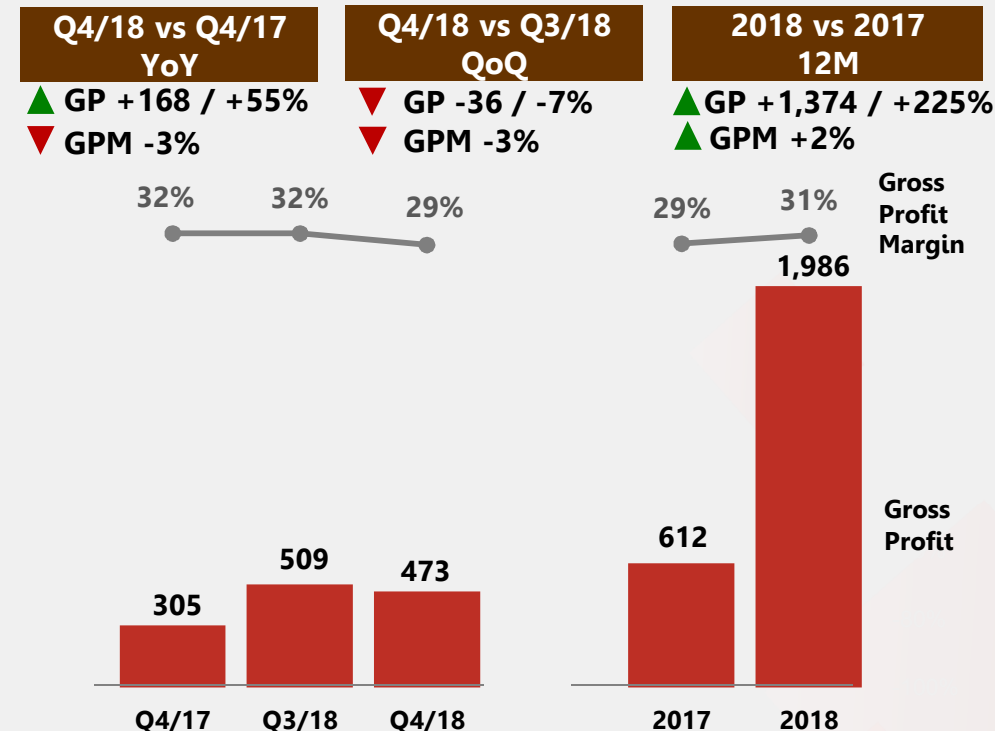
# IRPC-CP Power Plant (SPP) : Revenue & Gross Profit

## Revenue (THB Million, %)



- **YoY, 12M: Total revenue increased** from the COD of both phases in November 2017 and higher sales price in line with the increase in natural gas prices
- **QoQ: Total revenue slightly increased** despite planned maintenance shutdown in Q4/2018, higher steam sales from auxiliary boiler helped increased in revenue

## Gross Profit & Gross Profit Margin (THB Million, %)



- **YoY, 12M: Gross profit increased** from higher electricity sales due to the COD of both phases since November 2017
- **QoQ: Gross profit decreased** from the increase in natural gas prices while Ft rate remained unchanged

# IRPC-CP Power Plant (SPP) : Power Sales

## Power sales volume (GWh)

Q4/18 vs Q4/17  
YoY

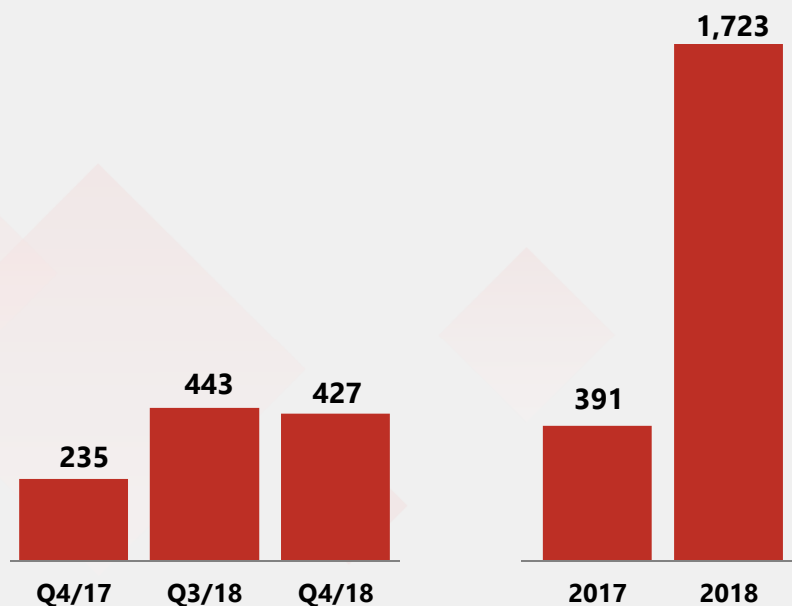
▲ +192 / +82%

Q4/18 vs Q3/18  
QoQ

▼ -16% / -4%

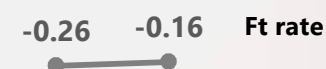
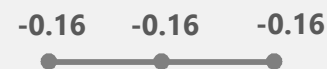
2018 vs 2017  
12M

▲ +1,332 / +341%



- **YoY, 12M: Power sales volume** increased from the COD of both phases since November 2017
- **QoQ: Power sales volume slightly decreased** from planned maintenance shutdown in Q4/2018

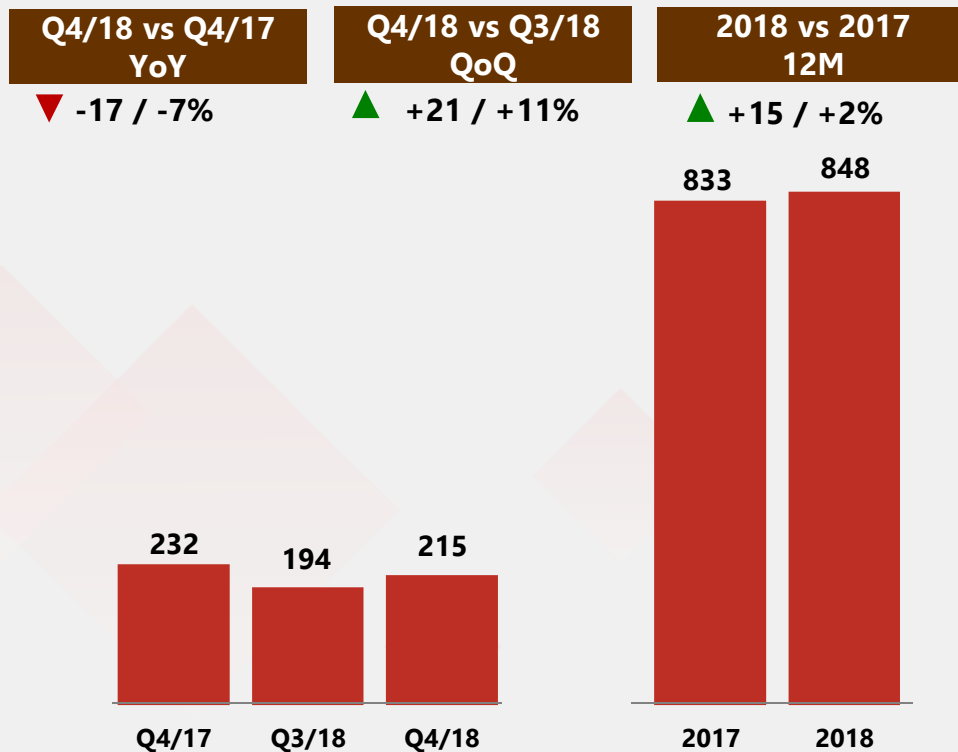
## Average sales price & Ft rate (THB/kWh, THB)



- **YoY, QoQ, 12M: Average sales price** increased in line with the increasing trend of natural gas prices

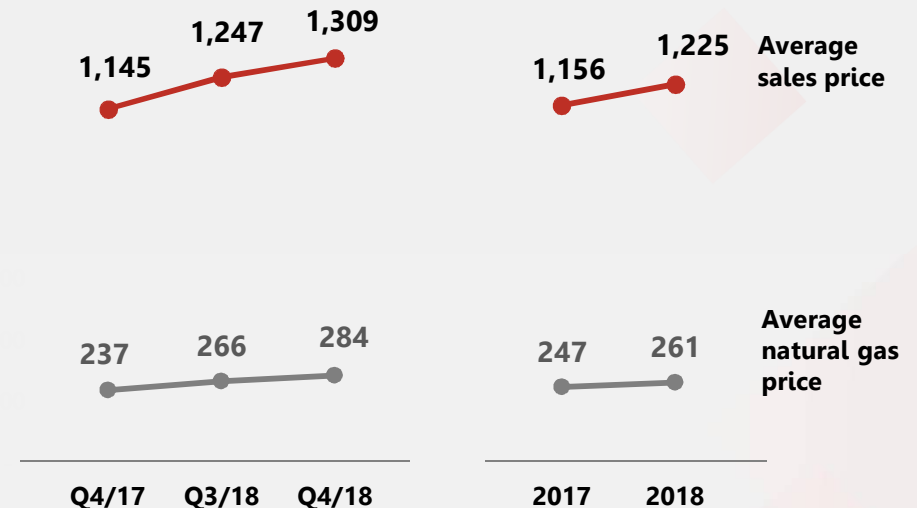
# IRPC-CP Power Plant (SPP) : Steam Sales

## Steam sales volume (‘000 tons)



- **YoY: Steam sales volume decreased** from planned maintenance shutdown in Q4/18
- **QoQ: Steam sales volume increased** in line with the variation of demand of industrial users
- **12M: Steam sales volume increased** from the COD of both phases since November 2017

## Average sales price & Average natural gas price (THB/ton, THB/MMBTU)

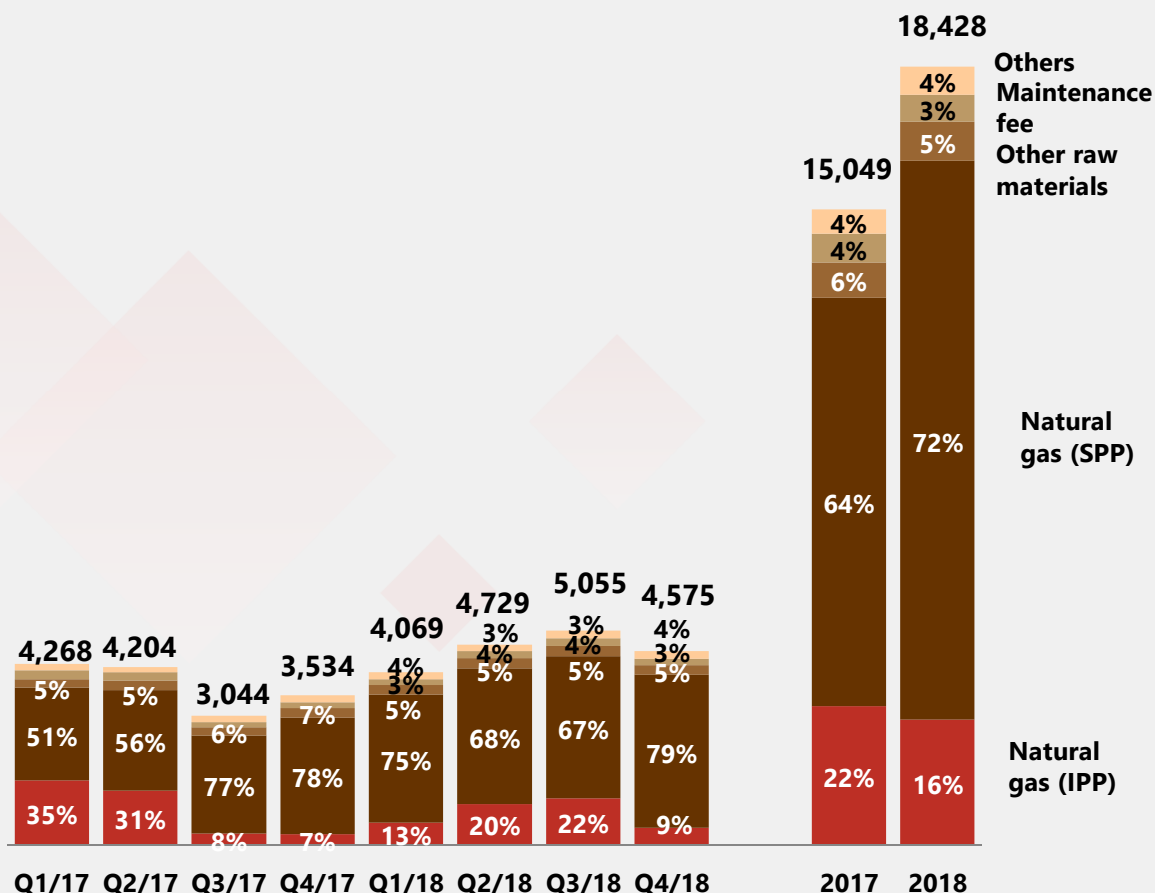


- **QoQ, YoY, 12M: Average sales price** increased in line with the upward trend of natural gas prices

# Cost of Sales and Services

## Cost of sales and services\*

(THB Million)



Q4/18 vs Q4/17  
YoY

+1,041 / +29%

Q4/18 vs Q3/18  
QoQ

-480 / -9%

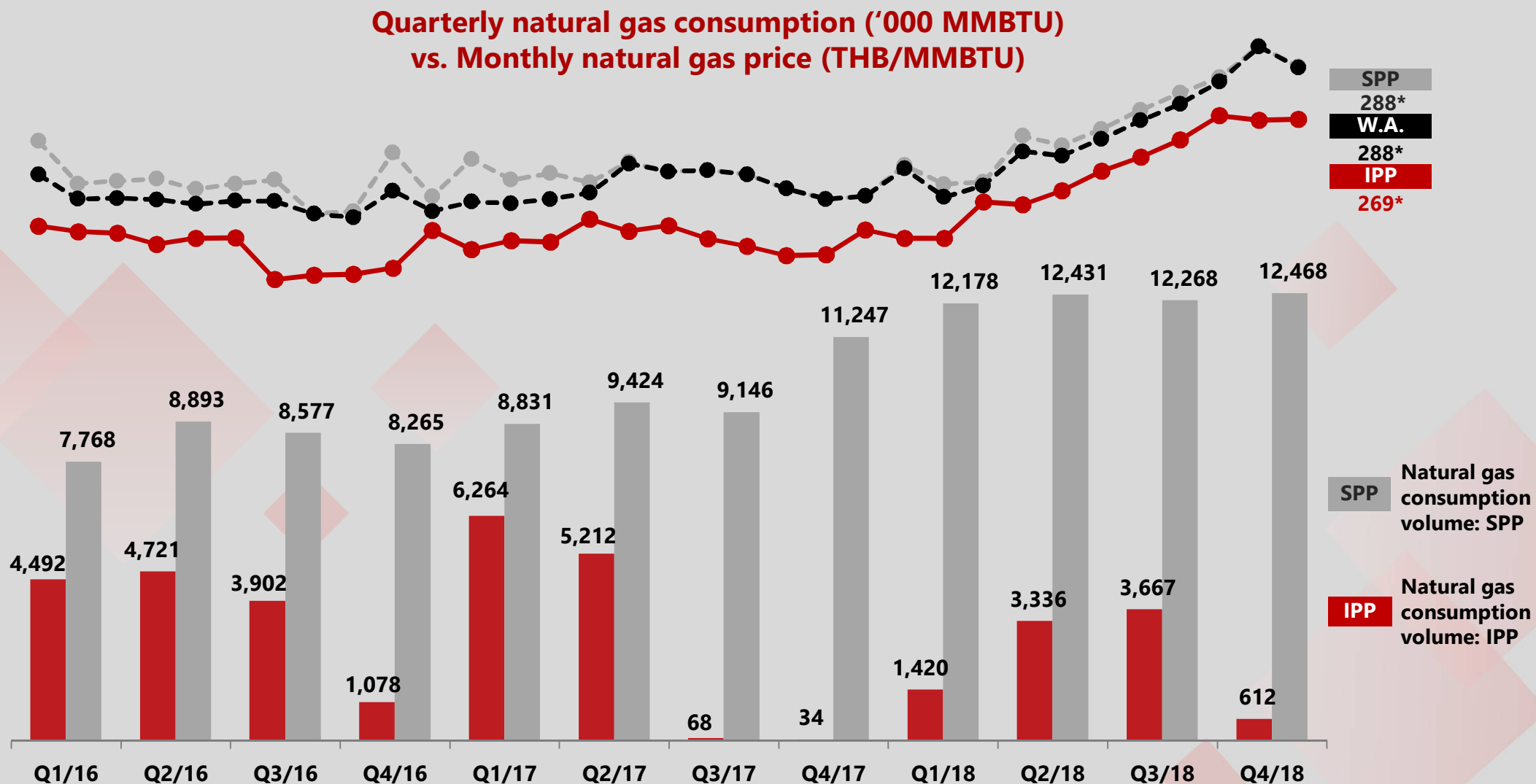
2018 vs 2017  
12M

+3,379 / +22%

- **YoY, 12M: Cost of sales and service increased** due to higher SPP natural gas consumption from full operation of IRPC-CP and higher natural gas prices
- **QoQ: Cost of sales and service decreased** due to lower natural gas consumption from Sriracha Power Plant which had a planned maintenance shutdown almost the whole of Q4/2018.

Remark: \*Cost of sales and services excludes depreciation and amortization expenses

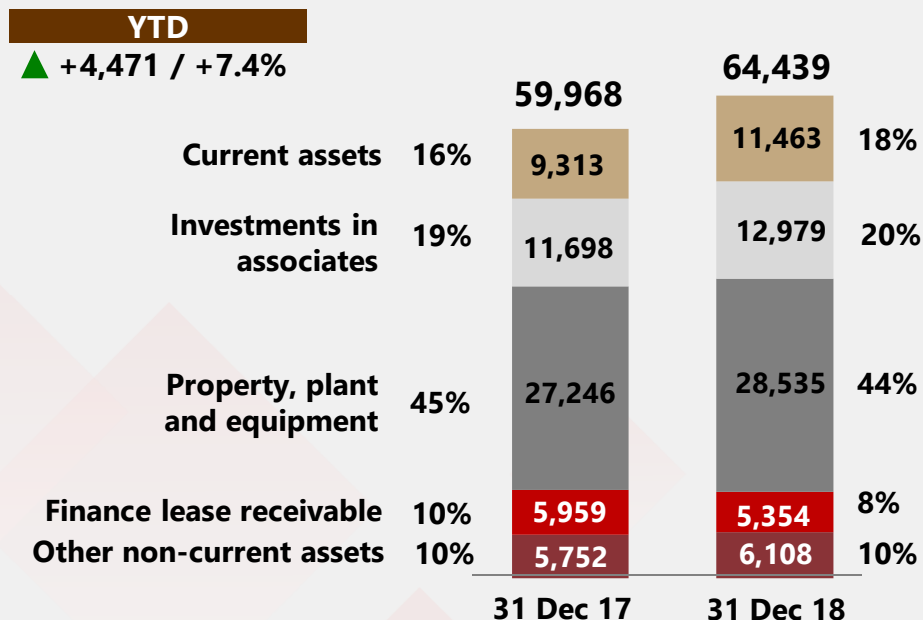
# Natural Gas Consumption vs Price Trend



Remark: \*Latest prices as of 31 December 2018

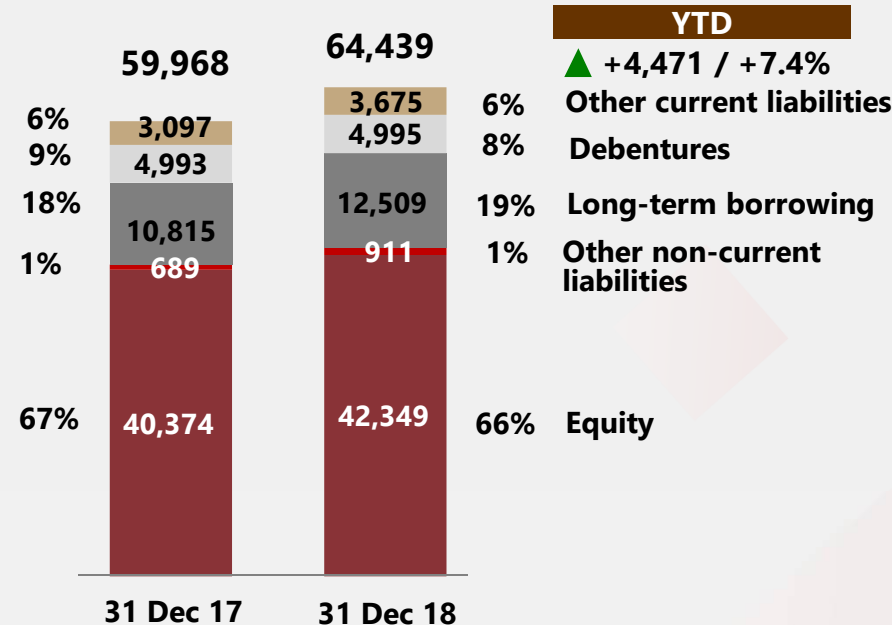
# Financial Position of GPSC and Affiliates

## Total Assets (THB Million)



- **Total assets** were Baht 64,439 million, increased by Baht 4,471 million or 7% from 31 December 2017.
- The main increase resulted from the increase in cash & cash equivalent from operation, account receivable from power sales, investment in associates from paid-up capital request (XPCL, NNEG, NL1PC) and PPE from land & asset under construction for CUP-4.

## Total Liabilities & Shareholders Equity (THB Million)

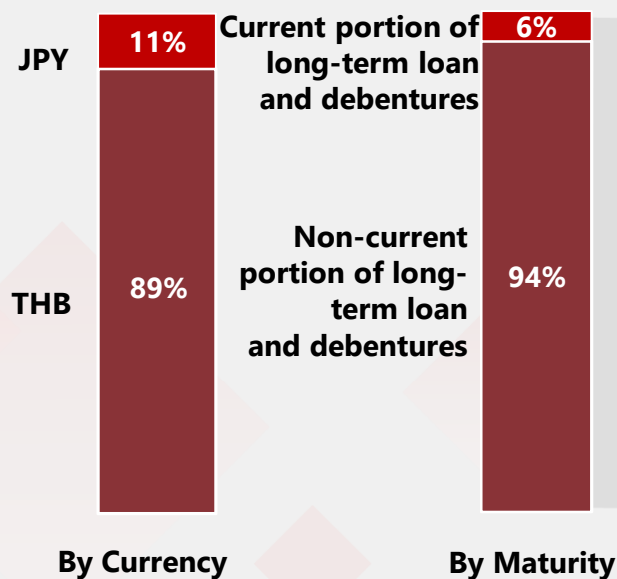


- **Total liabilities** were Baht 22,090 million, increased by Baht 2,495 million or 13% from 31 December 2017 mainly due to long-term loan for IRPCCP and CUP-4.
- **Equity** were Baht 42,349 million, increased by Baht 1,975 million or 5% from 31 December 2017, mainly from increase in the unappropriated retained earnings.

# Well-managed debt profile and continuous deleveraging

## Debt Profile

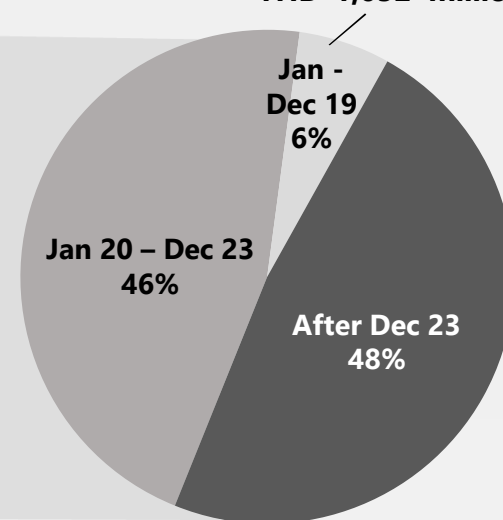
Total interest-bearing debt : THB 17,504 million



- As of 31 December 2018, total debt at was in THB and JPY currency.
- The interest-bearing debt is comprised of long-term loan and debentures which includes 6% of current portion.

## Debt Repayment Plan

Current portion due within 1 year  
THB 1,052 million

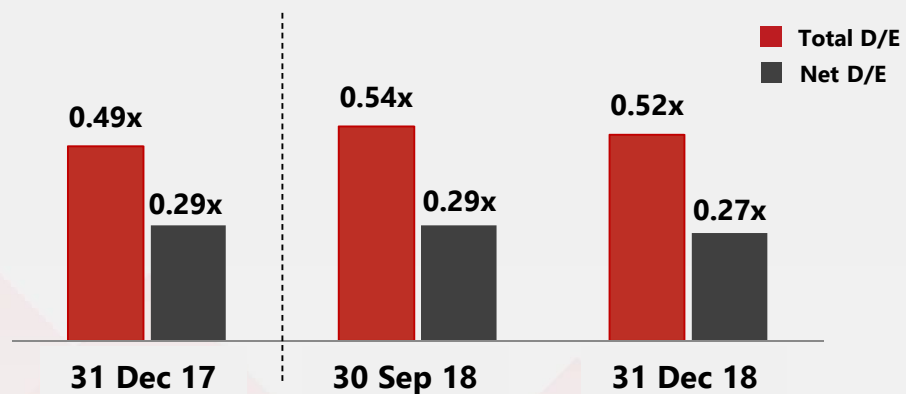


% of total interest-bearing debt

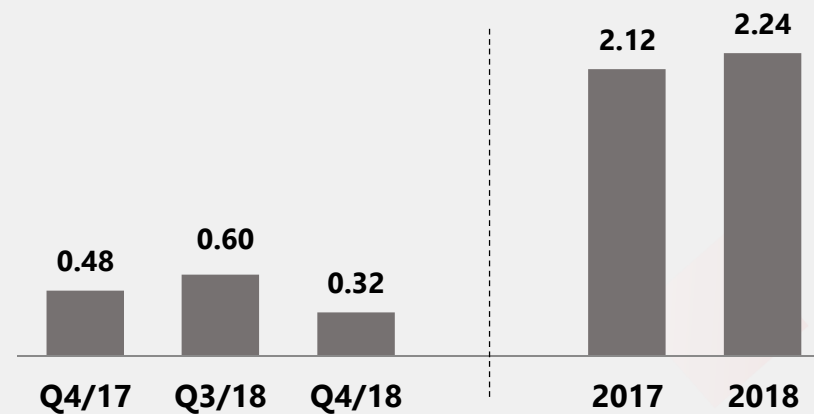
- Non-current portion of interest-bearing debt equals to THB 16,452 million while current portion equals to THB 1,052 million.
- 46% of total interest-bearing debt will be repaid between January 2020 – December 2023.

# Key Financial Ratios

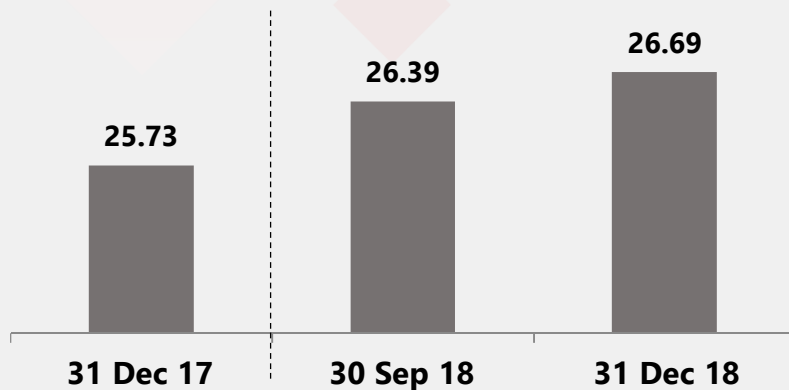
**Total D/E and Net Debt/ Equity ratio** (Times)



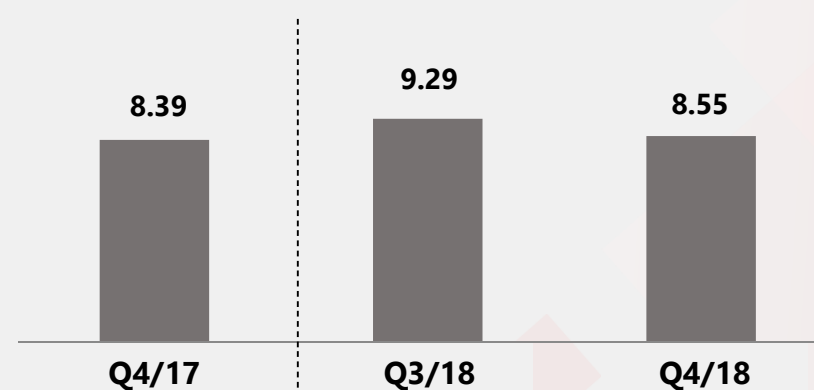
**Earning per share (EPS)** (Baht/share)



**Book value per share (BVPS)** (Baht/share)



**ROE** (%)



# THANK YOU

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# APPENDIX

## **Global Power Synergy Public Company Limited**

555/2 Energy Complex, Building B  
Vibhavadi Rangsit Rd. Chatuchak, Bangkok 10900

### **Disclaimer**

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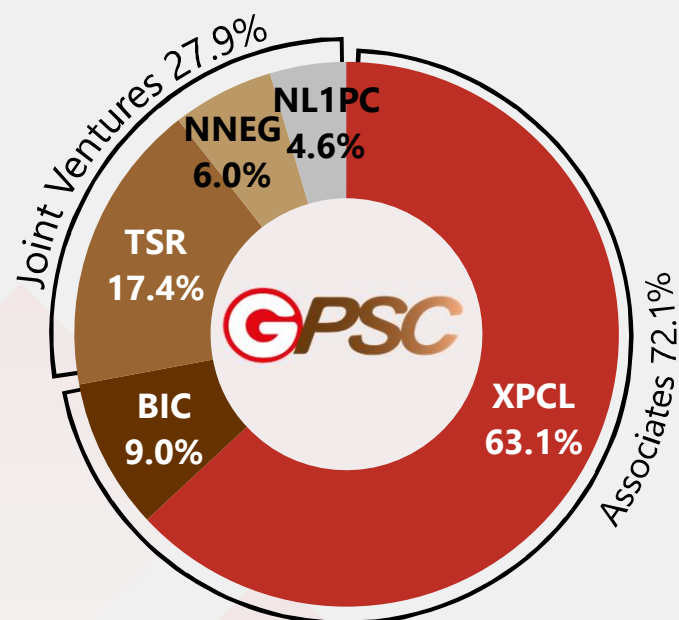
# Power Plants Portfolio of GPSC



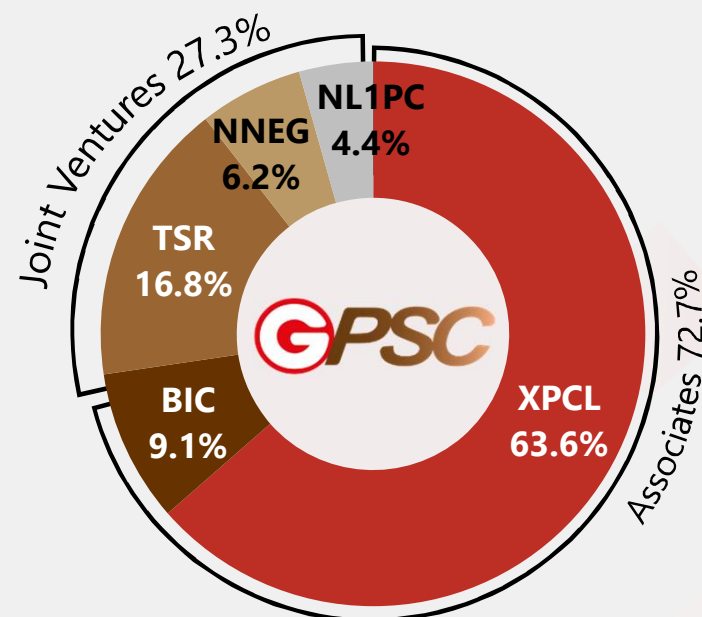
Name	Type	GPSC's share %	Total capacity (MW)	Equity capacity (MW)	Steam (T/H)	Industrial water (Cu.m/H)	COD	Tenor
IN OPERATION								
Sriracha	IPP	100%	700	700	-	80	2000	25/2025
CUP-1	SPP	100%	226	226	890	720	2006	10-15/2021++
CUP-2	SPP	100%	113	113	170	510	2008	15/2022++
CUP-3	SPP	100%	-	-	280	770	2009	15/2023++
CHPP	VSPP	100%	5	5	-	-	2008	30/2038
IRPC-CP Phase 1	SPP	51%	45	23	86.7	-	2015	25/2040
IRPC-CP Phase 2	SPP	51%	195	99.4	66.3	-	2017	25-27/2044
CHPP (Solar)	VSPP	100%	5	5	-	-	2016	2041
ISP1	Solar	99%	20.8	20.6	-	-	2017	20/2037
Consolidate to Financial Statement				1,192	1,493.3	2080		
TSR	Renew	40%	80	32		-	2013	25/2038
NNEG	SPP	30%	125	38	9		2016	25/2041
BIC-1	SPP	25%	117	29.25	5	-	2013	25/2038
BIC-2	SPP	25%	117	29.25	5		2017	25/2042
RPCL	IPP	15%	1,400	210		-	2008	25/2033
Share of Profit / Dividend Income				338.5	19			
Total operating				1,530	1,512.3	2,080		
UNDER CONSTRUCTION								
CUP-3 Expansion	SPP	100%	15	15	-	-	2019	
Rayong Expansion	SPP	100%	45	45	70	-	2019	
NL1PC	Hydro	40%	65	26	-	-	2019	27/2044
XPCL	IPP	25%	1,285	321	-	-	2019	29/2048
NNEG Expansion	SPP	30%	60	18	3	-	2020	25/2041
Total under construction				410	73			
Total capacity				1,955	1,585	2,080		

# Investment in Associates and joint ventures

Proportion of GPSC's investment in associates and joint ventures at Q3/18 and Q4/18 (THB Million, %)



**Q3/2018: Total of THB 9,472 million**



**Q4/2018: Total of THB 9,730 million**

- GPSC's investment in associates and joint ventures increased from THB 9,472 million at Q3/18 to THB 9,730 million at Q4/18 or **approximately THB 258 million or 2.72% increase.**
- The **increase in investment in Q3/18 was mainly from the investment in XPCl which increased by THB 206 million** while the share of profit from associates and joint ventures in Q4/18 contributed to an increase in the investments for THB 131 million.

# 2019 Maintenance schedule: Sriracha and Rayong plants

Plant	Tag no.	Description	2019											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CUP-1	H-13701	Aux. Boiler.11			15 <b>3Y</b> 28									
	N-13901	GTG11		12 <b>MI</b> 5										
	H-13702	HRSG11		12 <b>3Y</b> 5										
	N-13902	GTG12				07 <b>1Y</b> 17								
	H-13703	HRSG12				07 <b>1Y</b> 17								
	N-13903	GTG13							12 <b>1Y</b> 22					
	H-13704	HRSG13							12 <b>1Y</b> 22					
	N-13904	GTG14	17 <b>HG</b> 30											
	H-13705	HRSG14	17 <b>3Y</b> 30											
	N-13961	GTG15										16 <b>HG</b> 29		
	H-13761	HRSG15										16 <b>3Y</b> 29		
	N-13962	GTG16	3 <b>1Y</b> 13											
	H-13762	HRSG16	3 <b>1Y</b> 13											
CUP-2	H-23701	Aux. Boiler.21							1 <b>3Y</b> 13					
	N-23901	GTG21			9 <b>1Y</b> 19									
	H-23701	HRSG21			9 <b>1Y</b> 19									
	N-23902	GTG22						12 <b>1Y</b> 22						
	H-23702	HRSG22						12 <b>1Y</b> 22						
	N-23911	Steam Turbine21												
CUP-3	H-33701	Aux. Boiler 31							4 <b>1Y</b> 14					
	H-33711	Aux. Boiler 32									26 <b>1Y</b> 06			
	H-33712	Aux. Boiler 33										14 <b>1Y</b> 24		
SRC	11MB	GT11											15 <b>CI</b> 28	
	1-211-SG-101	HRSG#1											15 <b>1Y</b> 28	
	12MB	GT12											15 <b>CI</b> 28	
	1-211-SG-201	HRSG#2											15 <b>1Y</b> 28	
	STG	Steam Turbine 10												

## Notes Rayong Site

### GTG

HG 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 2<sup>nd</sup> Major Overhaul for Steam Turbine 23 days  
2MO 2<sup>nd</sup> 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

# 2018-2019 Maintenance schedule: IRPC-CP

Plant	Unit	2018				2019			
		Q1 (A)	Q2 (A)	Q3 (A)	Q4 (A)	Q1 (F)	Q2 (F)	Q3 (F)	Q4 (F)
IRPC-CP	<b>Block 1</b>								
	CTG 21	E			A	1	1	1	1
	HRSG 21	E			A	1	1	1	1
	CTG 22	E			A	1	1	1	1
	HRSG 22	E			A	1	1	1	1
	STG 23								
	<b>Block 2</b>								
	CTG 31	E			A	1	1	1	1
	HRSG 31	E			A	1	1	1	1
	CTG 32	B				1	1	6	1
	HRSG 32	B				1	1	6	1
	STG 33							3	
	Aux. Boiler		YI				7		

## Notes

YI	Yearly Inspection	5 days
YI	Yearly Inspection Aux Boiler	15 days
A	CTG Inspection Level A	5 days
B	CTG Inspection Level B	20 days
C	CTG Inspection Level C	24 days
E	EPC Inspection End of Warranty	3 days

\* For 2019: numbers on the table are number of maintenance days