



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

# Corporate Presentation dbTISCO Thailand Corporate Day

*25<sup>th</sup> March 2016*



## 9.4% CAGR

committed growth 2016-2019

**P**  
*rofit*

## Bt 1.9 billion

Net profit increase 21% YoY

**S**  
*ustainability*

## 2015 Dividend 0.95 Bt

2015 dividend yield 4.28%

**C**  
*onstruction*

## IRPC-CP COD in Nov 2015

NNEG 93% completion, SCOD by Jun 16



Company Overview



Project Update



Financial Performance

1997 - 2012

2013

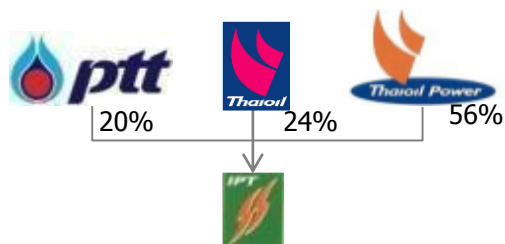
2013-2014

2015

## GPSC Operating Asset

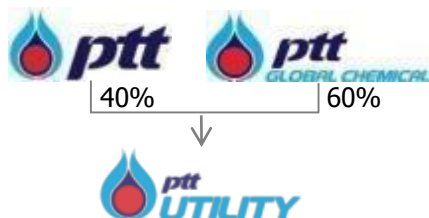
### Sriracha Power Plant (700 MW) (Independent Power (Thailand))

Established on 18 Nov 1997 at Chonburi Province. IPT was selected by EGAT to build and operate a combine cycle plant under the IPP program (700 MW)



### Rayong Power Plant (339 MW, steam 1,340 T/H) PTT Utility Company Limited

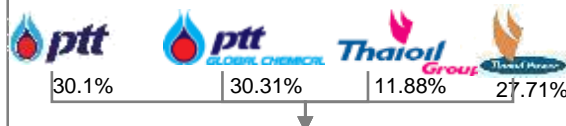
Established on 13 Jul 2004 at Rayong Province. This power plant serves the PTT group and other industrial users in industrial estates.



## Defragmentation

On 10<sup>th</sup> Jan 2013, PTT consolidated all its power assets under GPSC, creating a power flagship with 8,630 THB MM registered capital at the date of amalgamation.

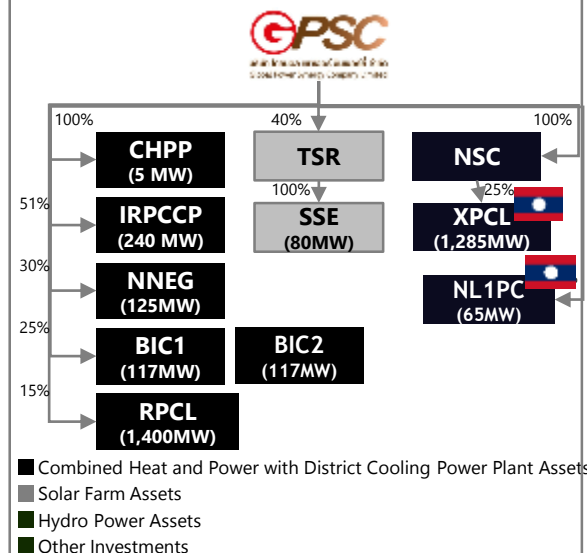
### PTT's Power Flagship



Effective MW: 1,039 MW

## Restructuring and Recapitalization

- Dec 2013 – Dec 2014, 8 of PTT's power assets were transferred to GPSC ramping up GPSC's effective equity MW.
- On 19 Dec 2013, GPSC raised additional capital through Right Offerings (RO).



Effective MW: 1,851 MW

## Power Flagship

On 26 Mar 2015, acquisition of 99% shareholding of Ichinoseki Solar Power 1GK with the capacity of 20.8 MW with tariff at 42 JPY per Kwh, located in Japan

On 18 May 2015, GPSC IPO 374.575 million shares or 25% of total post-IPO shares.

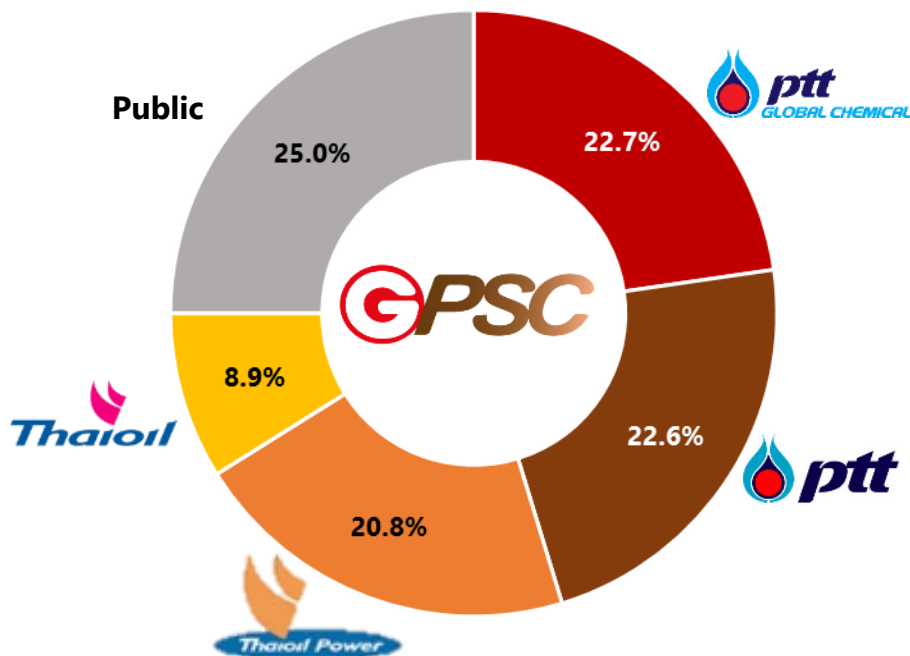
On 13 Aug 2015, the Board of Directors has approved a project investment of CUP-4

On 1 Nov 2015, Board of Director appointed Mr.Toemchai Bunnag as a director and president



Effective MW  
1,917 MW

GPSC's Shareholding Structure\*



## Vision

Global Best Practice in Power Business

## Mission

Being Power Flagship of PTT Group to Develop, Invest and Operate in Power Business Domestically and Internationally

## Goal

- Aims to reach secured capacity of 2,800 MW in 2019
- At least 10% Renewable of GPSC's Portfolio
- At least 30% International Assets in Portfolio
- Attain Top Quartile Performance through OEMS



## Combined Cycle / Cogeneration

### Sriracha Power Plant

100%

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



### Rayong Power Plant

100%

#### CUP 1-3

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



#### CUP-4

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

### IRPC Clean Power

51%

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



- Phase 1 COD**
- Electricity: 45 MW
- Steam: 170 T/h

**Phase 2** under construction

### Combined Heat and Power Producing

100%

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



### Nava Nakorn Electricity Generation

30%

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



### Bangpa-in Cogeneration

25%

#### Phase 1

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



#### Phase 2

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

### Ratchaburi Power

15%

- Electricity: 1,400 MW



## Renewable Energy

### Thai Solar Renewable

40%

- Electricity: 80 MW



### Ichinoseki Solar Power

99%

- Electricity: 20.8 MW



## Hydroelectric

### Xayaburi Power

25%

- Electricity: 1,285 MW



### Nam Lik 1 Power

40%

- Electricity: 65 MW



## Committed Capacity

### ELECTRICITY

1,917 MW

(operate 1,338 MW)



### STEAM

1,582 T/H

(operate 1,431.7 T/h)



### INDUSTRIAL WATER

Operate 2,080 Cu.m./h



### CHILLED WATER

Operate 12,000 RT



## Other Businesses

### Business Service Alliance

25%



### 24M Technologies

17%



## Project under construction



## Sriracha Power Plant

Chonburi Province (40 Rai leasehold land)



<b>Type</b>	Combined cycle
<b>Capacity</b>	<ul style="list-style-type: none"> <li>Electricity: 700 MW</li> <li>Industrial water: 80 Cu.m/h</li> </ul>
<b>Customer</b>	<ul style="list-style-type: none"> <li>Electricity: EGAT 700 MW</li> <li>Industrial water: Thaioil Power 50 Cu.m/h</li> </ul>
<b>Supplier</b>	<ul style="list-style-type: none"> <li>Natural Gas – PTT</li> <li>Raw Water – EASTW</li> <li>Power Back up – EGAT and TP</li> </ul>
<b>Construction</b>	2005 - 2010
<b>COD</b>	2006
<b>Contract</b>	<ul style="list-style-type: none"> <li>25 Years</li> <li>End: 2025</li> </ul>

### Shareholding



# Current Operating Asset (SPP): Rayong – Central Utility Plant 1-3 (CUP1-3)



**Rayong Power Plant**  
Rayong Province

CUP -1



CUP -2



CUP -3



<b>Type</b>	Cogeneration
<b>Capacity</b>	<p>CUP-1</p> <ul style="list-style-type: none"> <li>Electricity: 226 MW</li> <li>Steam: 890 T/h</li> <li>Industrial water: 720 Cu.m/h</li> </ul> <p>CUP-2</p> <ul style="list-style-type: none"> <li>Cu.m/H</li> <li>Industrial water: 510 Cu.m/h</li> </ul> <p>CUP-3</p> <ul style="list-style-type: none"> <li>Steam: 280 T/h</li> <li>Industrial water: 770 Cu.m/h</li> </ul>
<b>Customer</b>	<ul style="list-style-type: none"> <li>PTT Group</li> <li>Other IU Customers</li> <li>EGAT</li> </ul>
<b>COD</b>	2006-2009
<b>Contract</b>	<ul style="list-style-type: none"> <li>CUP-1: 10-15 years ++</li> <li>CUP-2: 15 years ++</li> <li>CUP-3: 15 years ++</li> </ul>

**Shareholding**







## Combined Heat and Power Producing Co., Ltd.

Bangkok Province

<b>Type</b>	Combined heat and power with district cooling (VSPP)
<b>Capacity</b>	<ul style="list-style-type: none"> <li>Electricity: 5 MW</li> <li>Chilled water: 12,000 RT</li> </ul>
<b>Customer</b>	<ul style="list-style-type: none"> <li>DAD 8,700 RT</li> </ul>
<b>COD</b>	<ul style="list-style-type: none"> <li>2008</li> <li>Electric Chiller Jan 1, 2009</li> </ul>
<b>Contract</b>	<ul style="list-style-type: none"> <li>30 Years</li> <li>End: 2038</li> </ul>



### Shareholding



## IRPC Clean Power Company Limited

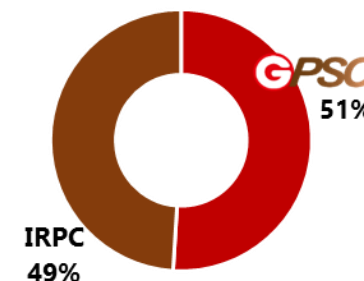
(IRPC-CP Phase 1)

Rayong Province (118 Rai)

<b>Type</b>	Cogeneration (SPP)
<b>Capacity*</b>	<ul style="list-style-type: none"> <li>Electricity: 240 MW</li> <li>Steam: 180-300 T/h</li> </ul>
<b>Customer*</b>	<ul style="list-style-type: none"> <li>Electricity: EGAT 2x90 MW (25 years), IRPC 60 MW (27 years)</li> <li>Steam: IRPC 180-300 T/h</li> </ul>
<b>COD</b>	2015
<b>Contract</b>	<ul style="list-style-type: none"> <li>25 Years</li> <li>End: 2030</li> </ul>



### Shareholding





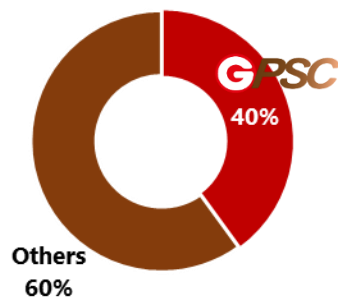
## Thai Solar Renewable Company Limited

Kanchanaburi and Suphanburi Province

Type	Solar
Capacity	<ul style="list-style-type: none"> <li>Electricity: 80 MW</li> </ul>
Customer	<ul style="list-style-type: none"> <li>PEA</li> </ul>
COD	2013-2014
Contract	<ul style="list-style-type: none"> <li>10 Years</li> <li>End: 2023</li> </ul>



Shareholding



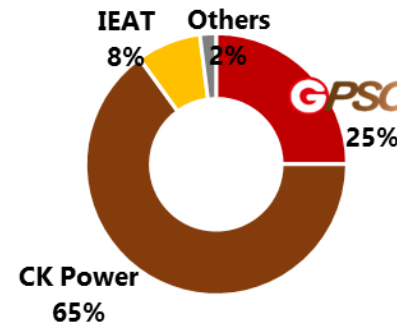
## Bangpa-in Cogeneration Company Limited

Ayutthaya Province

Type	Cogeneration (SPP)
Capacity	<ul style="list-style-type: none"> <li>Electricity: 117 MW</li> <li>Steam: 5 T/h</li> </ul>
Customer	<ul style="list-style-type: none"> <li>Electricity: EGAT 90 MW, IUs 27 MW</li> <li>Steam: 5 T/h</li> </ul>
COD	28 Jun 2013
Contract	<ul style="list-style-type: none"> <li>25 Years</li> <li>End: 2038</li> </ul>



Shareholding





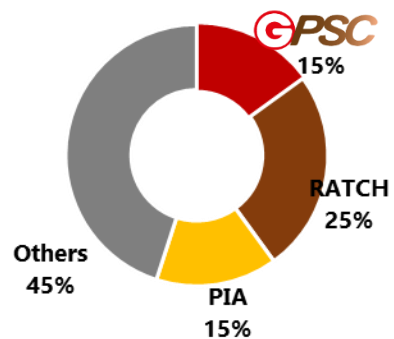
## Ratchaburi Power Company Limited

Ratchaburi Province

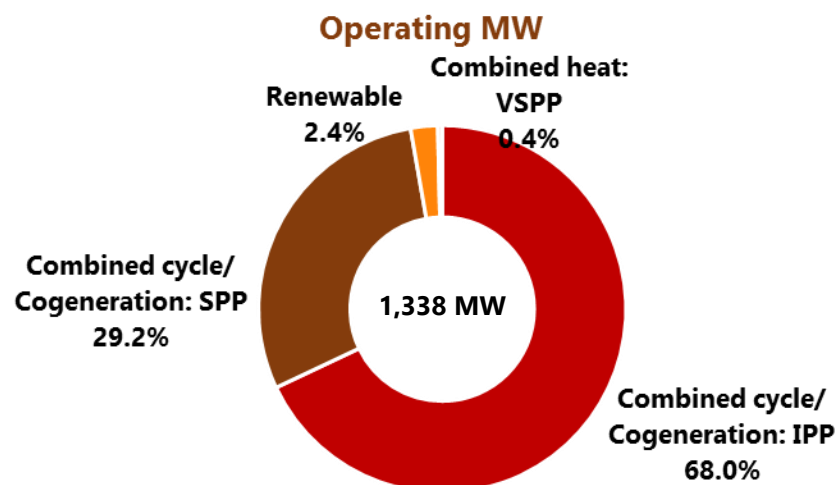
Type	Combined Cycle (IPP)
Capacity	<ul style="list-style-type: none"> <li>Electricity: 1,400 MW</li> </ul>
Customer	<ul style="list-style-type: none"> <li>EGAT</li> </ul>
COD	Mar 2008
Contract	<ul style="list-style-type: none"> <li>25 Years</li> <li>End: 2033</li> </ul>



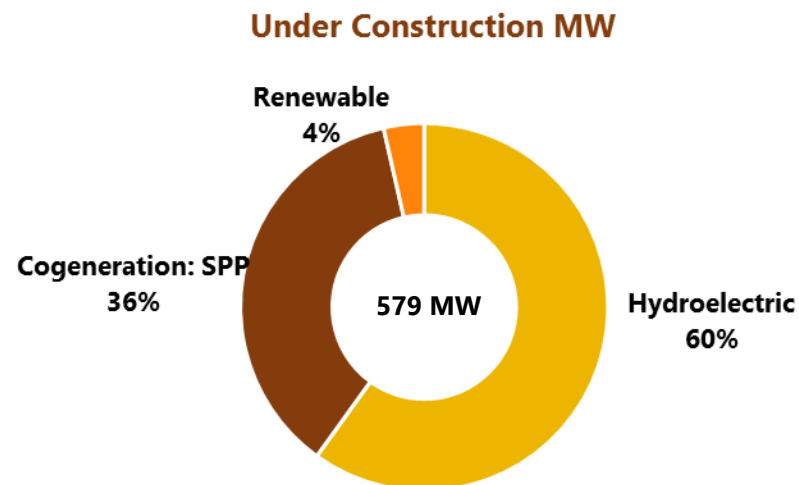
### Shareholding



# Electricity: Operating capacity of 1,338 MW, with another 579 MW in pipeline

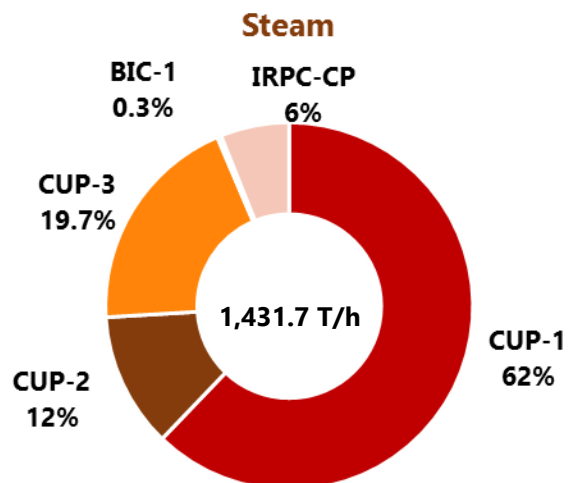


Name	Type	GPSC's share %	Total capacity (MW)	Equity capacity (MW)
Sriracha	IPP	100%	700	700
CUP-1	SPP	100%	226	226
CUP-2	SPP	100%	113	113
CHPP	VSPP	100%	5	5
IRPC-CP Phase 1	SPP	51%	240	122 (Phase 1: 23 MW)
TSR	Solar	40%	80	32
BIC-1	SPP	25%	117	29.25
RPCL	IPP	15%	1,400	210
<b>Total</b>				<b>1,338</b>

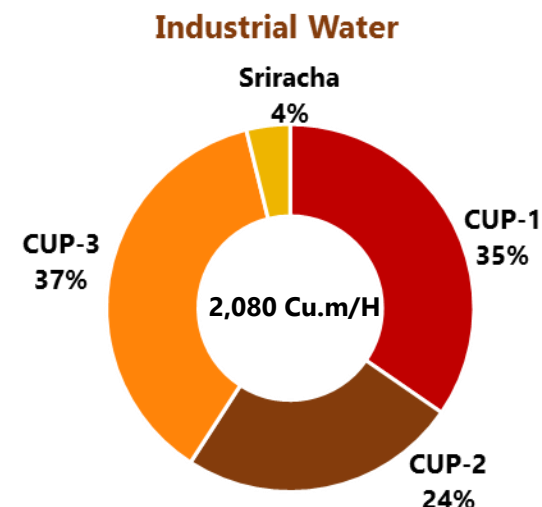


Name	Type	GPSC's share %	Total capacity (MW)	Equity capacity (MW)	SCOD
CUP-4	SPP	100%	45	45	2018
ISP-1	Solar	99%	20.8	20.6	2017
IRPC-CP Phase 2	SPP	51%	240	122 (Phase 2: 99 MW)	2017
NL1PC	Hydro	40%	65	26	2017
NNEG	SPP	30%	125	38	2016
BIC-2	SPP	25%	117	29.25	2017
XPCL	Hydro	25%	1,285	321	2019
<b>Total</b>				<b>579</b>	

# Operate 1,432 T/h of Steam and 2,080 Cu.m./h of Industrial Water



Name	Operating capacity (T/h)	Under construction Capacity (T/h)
CUP-1	890	
CUP-2	170	
CUP-3	280	
BIC-1	5	
IRPC-CP Phase 1	86.7	
CUP-4		70
IRPC-CP Phase 2		66.3
NNEG		9
BIC-2		5
<b>Total</b>	<b>1,431.7</b>	<b>150.3</b>

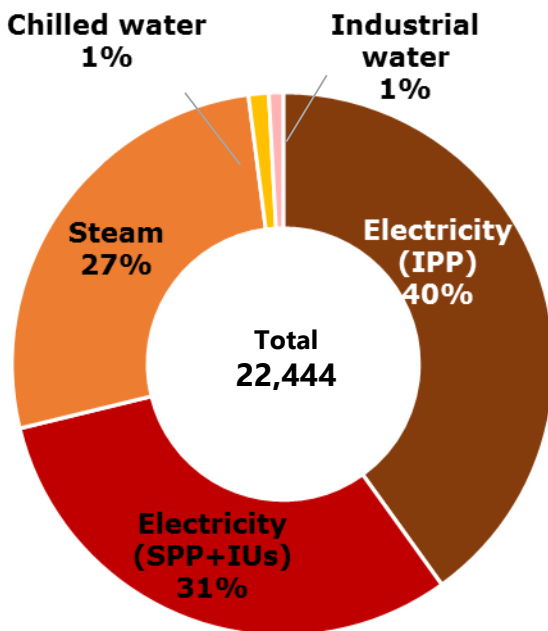


Name	Operating capacity (Cu.m/h)
Sriracha	80
CUP-1	720
CUP-2	510
CUP-3	770
<b>Total</b>	<b>2,080</b>



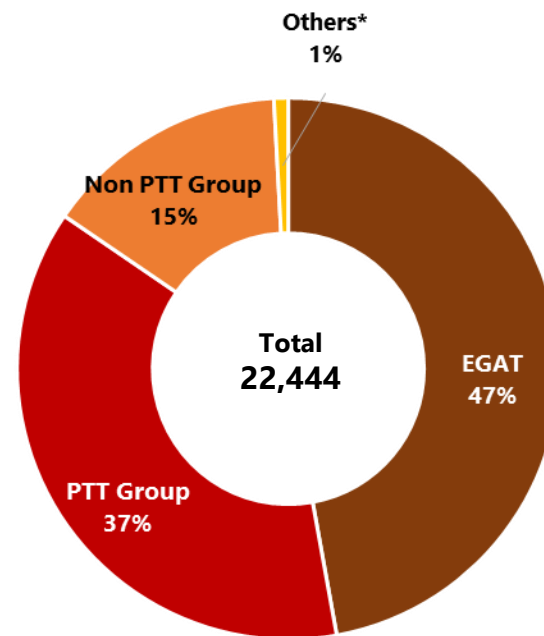
# 70% of GPSC's revenue is from electricity, EGAT is GPSC's largest power customer...

**2015 Revenue by product**  
(THB million)



- Electricity and Steam are major source of GPSC's revenue, accounted for 95% of total revenue.

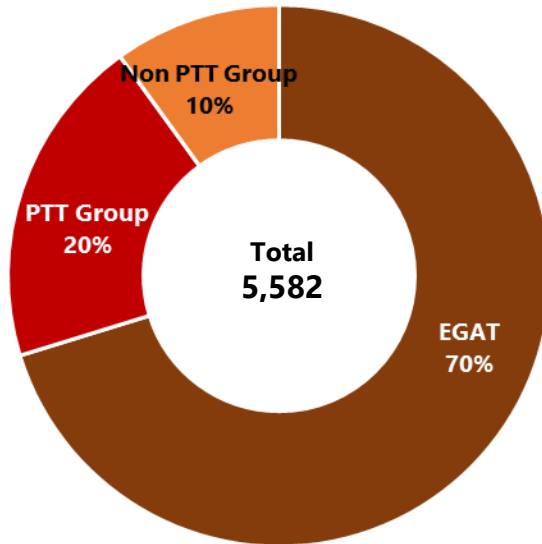
**2015 Revenue by customer**  
(THB million)



- Accounted for almost 50% of total revenue, EGAT is the largest customer of GPSC

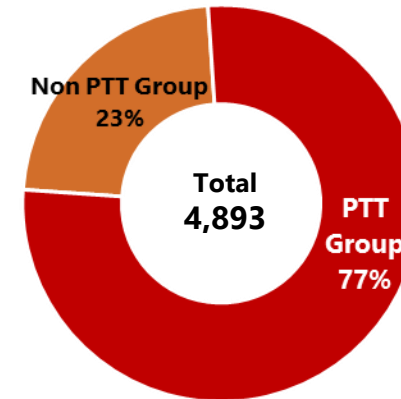
# ...while PTT Group is a major customer for steam and industrial water

**2015 Electricity sales volume**  
(GWh)

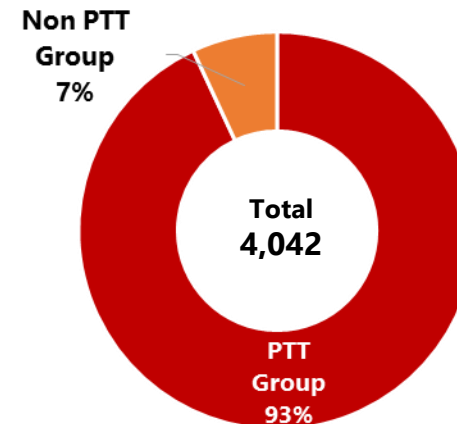


- EGAT is a major customer of Electricity, which accounted for 70% of total electricity sales volume
- PTT Group is a major customer for steam (77%) and industrial water (93%)

**2015 Steam sales volume**  
(‘000 tons)



**2015 Industrial water sales volume**  
(‘000 Cu.m.)





Company Overview



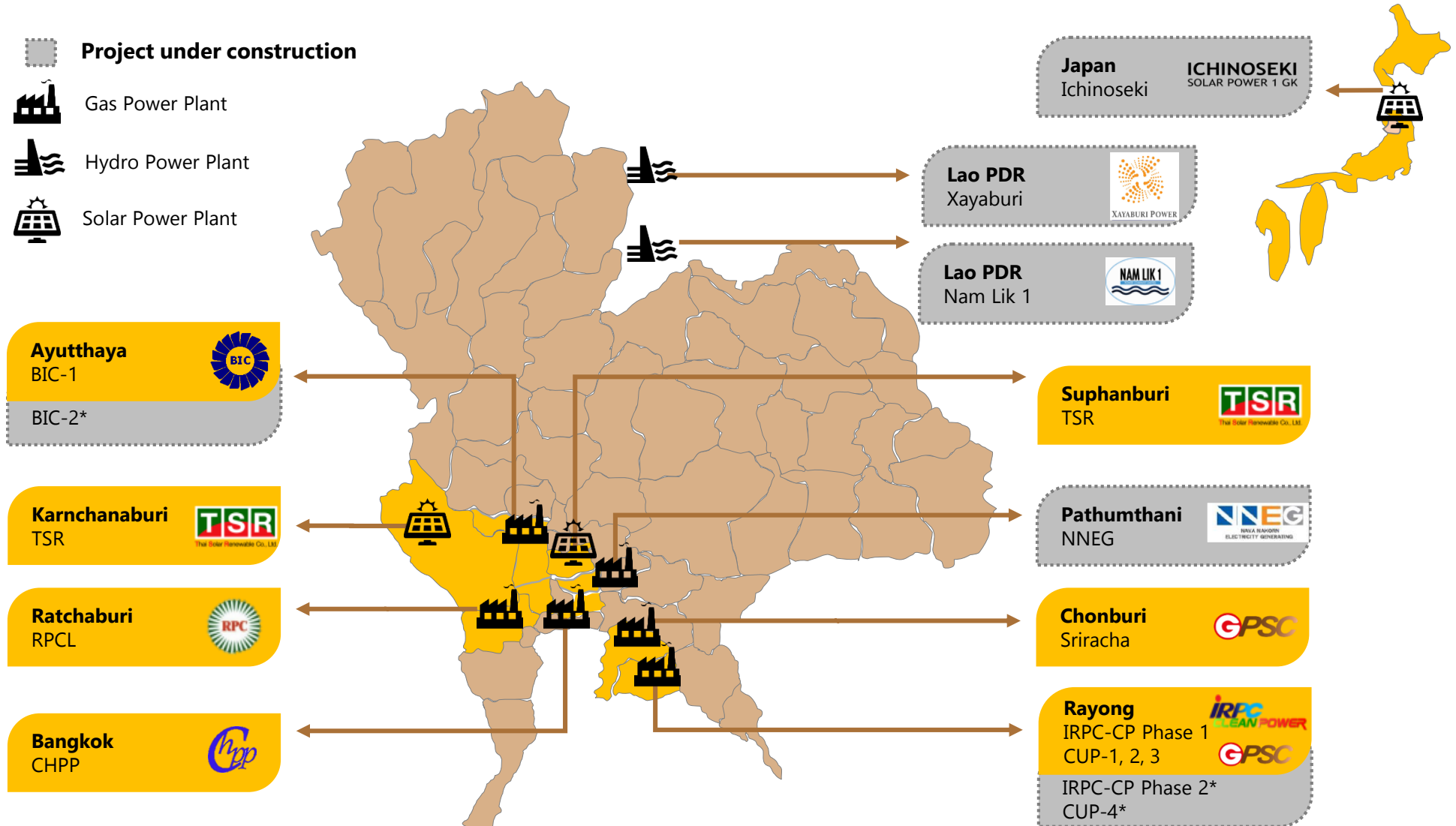
**Project Update**



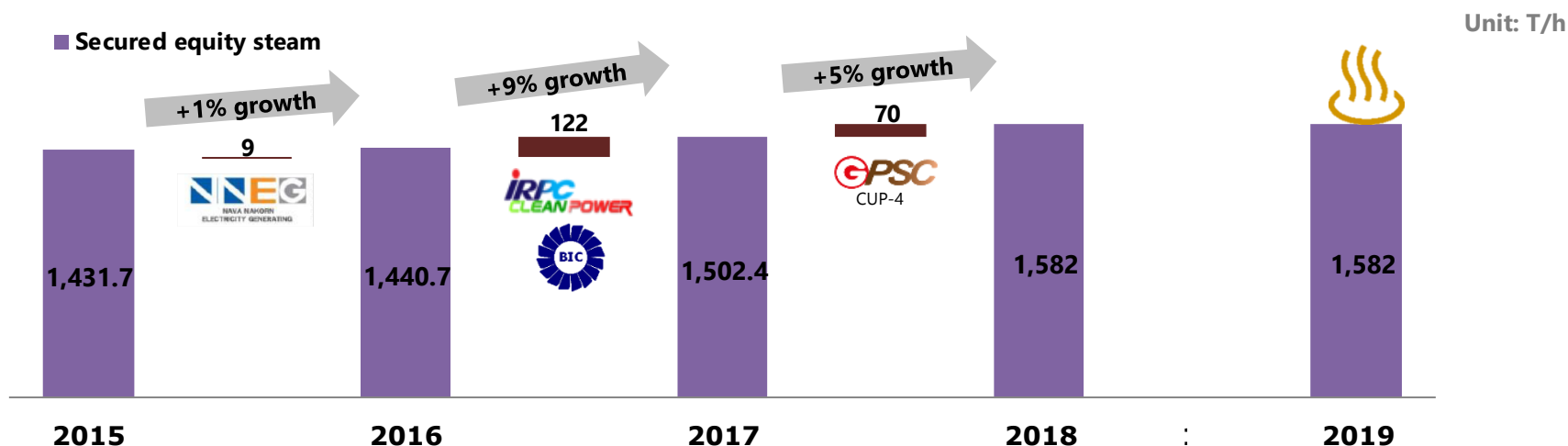
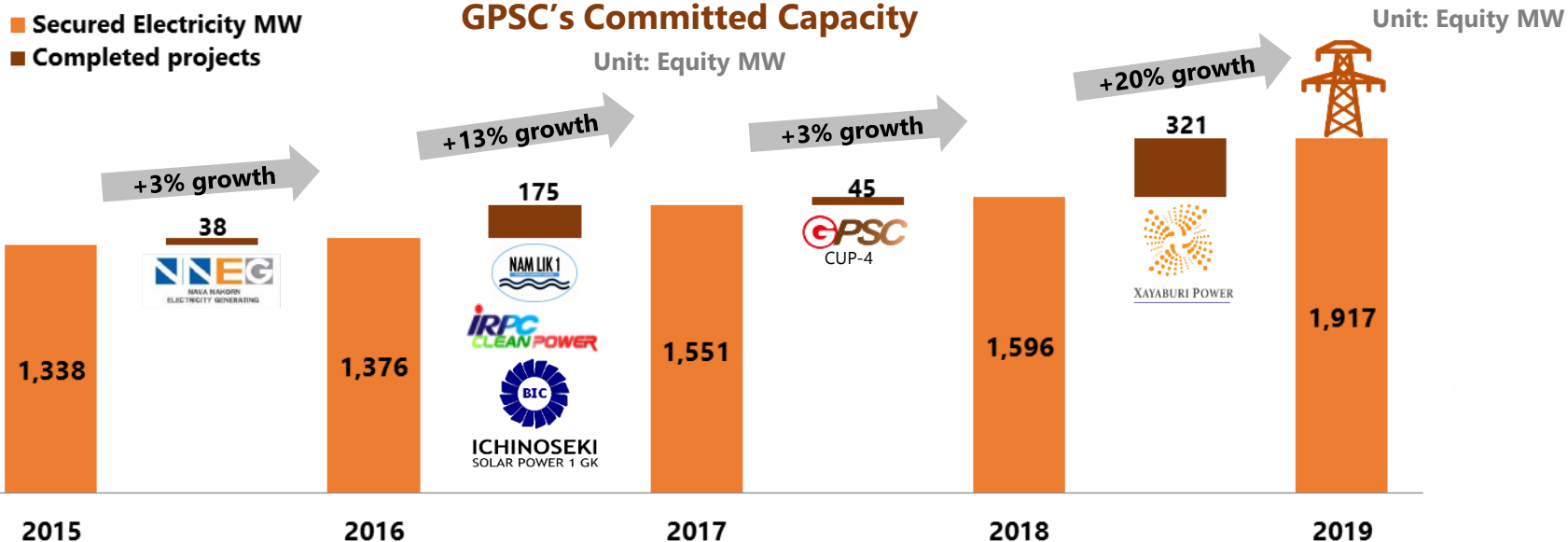
Financial Performance

Name	Type	Location	Fuel Type	Technology	GPSC's share %	Total capacity (MW)	Equity capacity (MW)	Steam (T/h)	Industrial water (Cu.m/h)	COD	Tenure/ Expiry year
IN OPERATION											
Sriracha	IPP	Chonburi	Natural gas	Combined cycle	100%	700	700	-	80	2006	25/2025
CUP-1	SPP	Rayong	Natural gas	Cogeneration	100%	226	226	890	720	2006	10-15/2021++
CUP-2	SPP	Rayong	Natural gas	Cogeneration	100%	113	113	170	510	2008	15/2022++
CUP-3	SPP	Rayong	Natural gas	Cogeneration	100%	-	-	280	770	2009	15/2023++
CHPP	VSPP	Rayong	Natural gas	Combined heat and power with district cooling	100%	5	5	-	-	2008	30/2038
IRPC-CP Phase 1	SPP	Rayong	Natural gas	Cogeneration	51%	240	122 (Phase 1: 23 MW)	86.7	-	2015	25/2030
TSR	VSPP	Suphanburi & Karnchanaburi	Solar	Solar	40%	80	32	-	-	2013	10/2023
RPCL	IPP	Ratchaburi	Natural gas	Combined cycle	15%	1,400	210	-	-	2008	25/2033
BIC-1	SPP	Ayutthaya	Natural gas	Cogeneration	25%	117	29.25	5	-	2013	25/2038
Total operating							1,338	1,431.7	2,080		
UNDER CONSTRUCTION											
CUP-4	SPP	Rayong	Gas-fired Cogeneration	Cogeneration	100%	45	45	70		2018	-
ISP1	Solar	Japan	Solar	Solar	99%	20.8	20.6	-		2017	20/2037
IRPC-CP Phase 2	SPP	Rayong	Natural gas	Cogeneration	51%	240	122 (Phase 1: 99 MW)	66.3		2017	25-27/2044
NL1PC	Hydro	Lao PDR	Hydro	Run-of-river	40%	65	26	-		2017	27/2044
NNEG	SPP	Pathum-thani	Natural gas	Cogeneration	30%	125	38	9		2016	25/2041
BIC-2	SPP	Ayutthaya	Natural gas	Cogeneration	25%	117	29.25	5		2017	25/2042
XPCL	IPP	Lao PDR	Hydro	Run-of-river	25%	1,285	321	-		2019	29/2048
Total under construction							579	150.3			
Total capacity							1,917	1,582	2,080		

- Project under construction**
- Gas Power Plant
- Hydro Power Plant
- Solar Power Plant



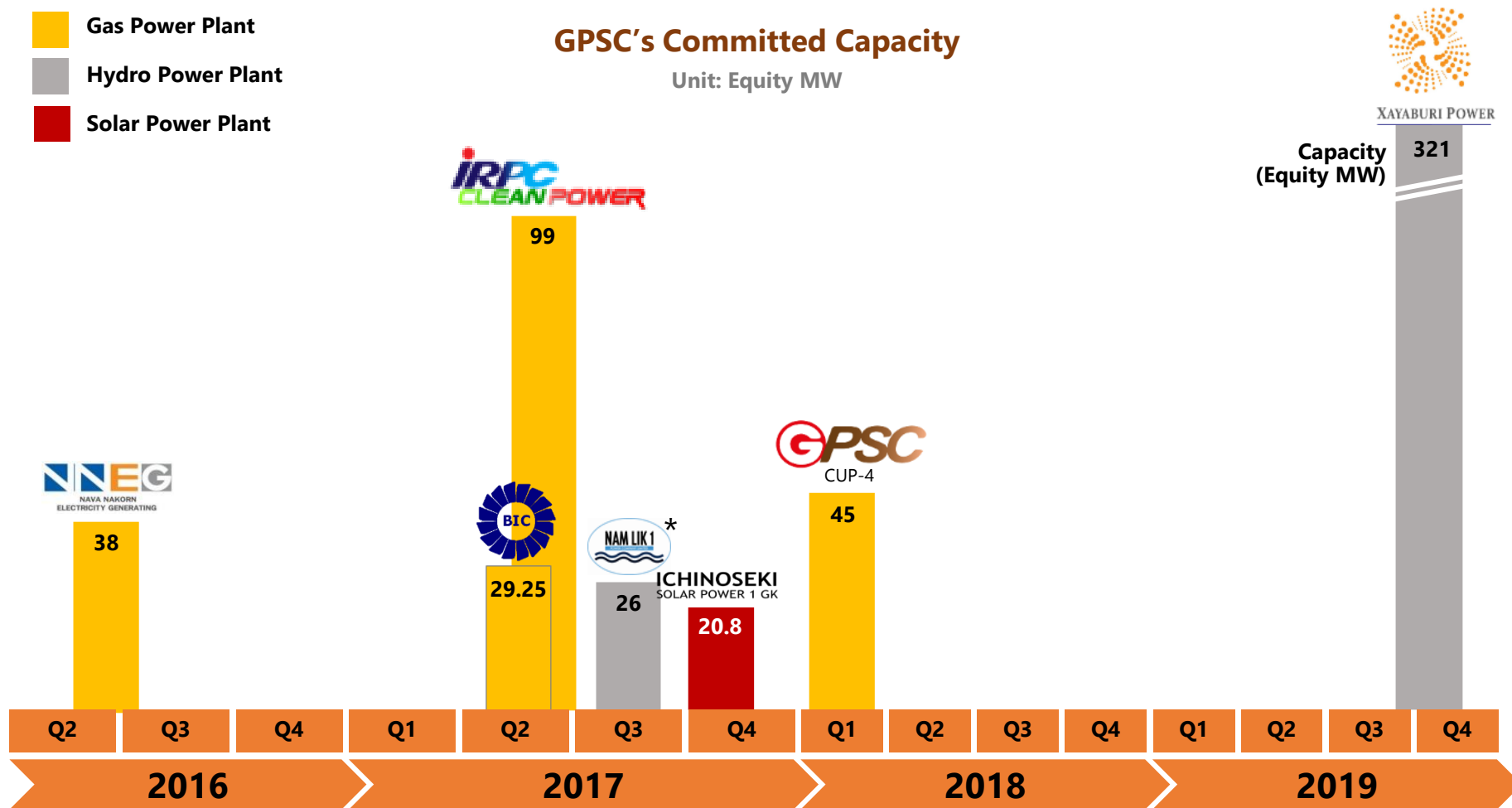




- Gas Power Plant
- Hydro Power Plant
- Solar Power Plant

## GPSC's Committed Capacity

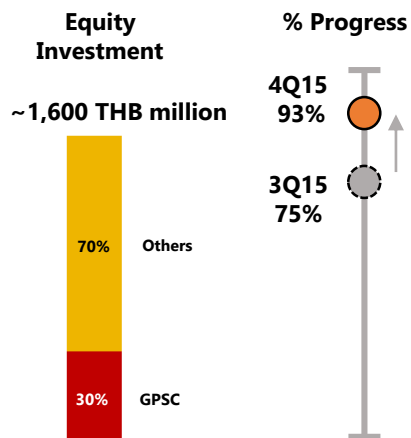
Unit: Equity MW





**Nava Nakorn Electricity Generating Company Limited (NNEG)**

Pathumthani Province

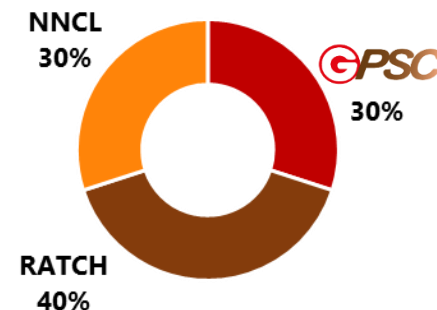


<b>Type</b>	SPP Cogeneration
<b>Capacity</b>	<ul style="list-style-type: none"> <li>Electricity: 125 MW</li> <li>Steam: 30 T/h</li> </ul>
<b>Customer</b>	<ul style="list-style-type: none"> <li>Electricity: EGAT 90 MW (25 years), IUs 35 MW</li> <li>Steam: IUs</li> </ul>
<b>SCOD</b>	June, 2016
<b>Total Investment</b>	~6,400 THB million
<b>D/E</b>	3:1

## Progress update

- NG&MRS construction progress 100%
- Secure MOU with IUs 38MW and 41T/h
- LTSA was signed
- O&M service agreement was completed

## Shareholding





## IRPC Clean Power Company Limited (IRPC-CP)

In IRPC Industrial Zone at Choeng Noen, Rayong Province (118 Rai)

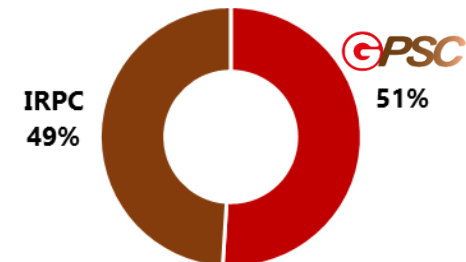
<div><div><div><div><div>Equity Investment</div><div>~3,400 THB million</div><div><div><div>49%</div><div>Others</div></div><div><div>51%</div><div>GPSC</div></div></div></div><div><div><div>% Progress</div><div><div>4Q15 62%</div><div>3Q15 48%</div></div><div><div></div><div></div></div></div></div></div></div></div>	<table><tr><td>Type</td><td>SPP Cogeneration</td></tr><tr><td>Capacity*</td><td><ul style="list-style-type: none"><li>Electricity: 240 MW</li><li>Steam: 300 T/h</li></ul></td></tr><tr><td>Customer*</td><td><ul style="list-style-type: none"><li>Electricity: EGAT 2x90 MW (25 years), IRPC 60 MW (27 years)</li><li>Steam: IRPC 180-300 T/h</li></ul></td></tr><tr><td>SCOD</td><td>June, 2017</td></tr><tr><td>Total Investment</td><td>~13,600 THB million</td></tr><tr><td>D/E</td><td>3:1</td></tr></table>	Type	SPP Cogeneration	Capacity*	<ul style="list-style-type: none"><li>Electricity: 240 MW</li><li>Steam: 300 T/h</li></ul>	Customer*	<ul style="list-style-type: none"><li>Electricity: EGAT 2x90 MW (25 years), IRPC 60 MW (27 years)</li><li>Steam: IRPC 180-300 T/h</li></ul>	SCOD	June, 2017	Total Investment	~13,600 THB million	D/E	3:1
Type	SPP Cogeneration												
Capacity*	<ul style="list-style-type: none"><li>Electricity: 240 MW</li><li>Steam: 300 T/h</li></ul>												
Customer*	<ul style="list-style-type: none"><li>Electricity: EGAT 2x90 MW (25 years), IRPC 60 MW (27 years)</li><li>Steam: IRPC 180-300 T/h</li></ul>												
SCOD	June, 2017												
Total Investment	~13,600 THB million												
D/E	3:1												

### Progress update

#### Phase2 Under Construction

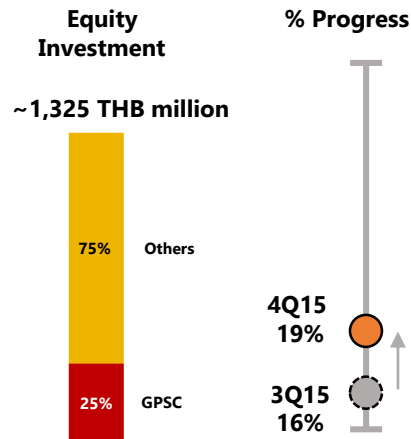
- Progress 62%

### Shareholding





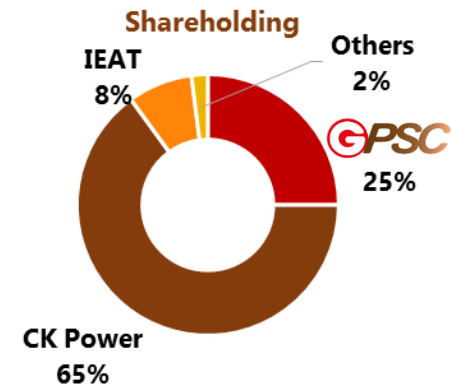
## Bangpa-In Cogeneration Company Limited (Phase 2) Ayutthaya Province



<b>Type</b>	Gas-Fired Power Plant
<b>Capacity</b>	<ul style="list-style-type: none"> <li>Electricity: 117 MW (gross)</li> <li>Steam: 20 T/h</li> </ul>
<b>Customer</b>	<ul style="list-style-type: none"> <li>Electricity: EGAT 90 MW (25 years), IUs 27 MW</li> <li>Steam: IUs 20 T/h</li> </ul>
<b>SCOD</b>	June, 2017
<b>Total Investment</b>	~5,300 THB million
<b>D/E</b>	3:1

### Progress update

- EIA has been approved
- BOI has been approved
- Commenced construction in February 2015
- Power and steam sales is under negotiation with IUs within industrial estates



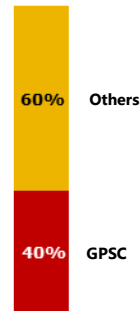




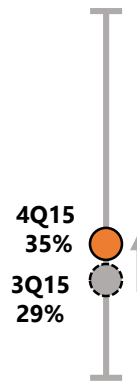
## Nam Lik 1 Power Company Limited (NL1PC)

Lao PDR

**Equity Investment**  
~37.50 USD million



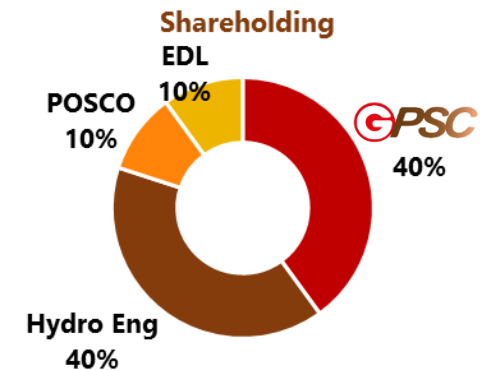
**% Progress**



Type	Run-of-River Hydropower
Capacity	• Electricity: 65 MW
Customer	• Electricity: EDL 60 MW (26 years PPA)
SCOD	3Q2017
Total Investment	~125 USD million
D/E	70:30

### Progress update

- The overall project progress until Dec15, was 35%
- The construction works for the period were related to dam excavation, diversion works, permanent access road and operator's village
- Construction Progress 9.4%





**ICHINOSEKI**  
SOLAR POWER 1 GK

**Ichinoseki Solar Power (ISP1)**  
Japan

**Equity Investment**  
~2,000 YEN million



**% Progress Site preparation**

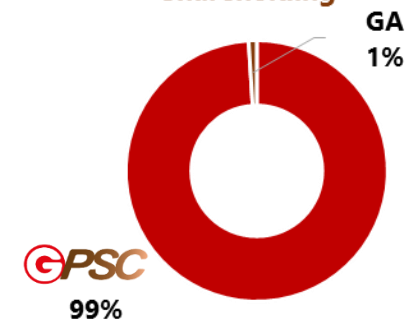


Type	Solar
Capacity	• Electricity: 20.8 MW
Customer	• Tohoku Electric Power (20 years)
SCOD	October, 2017
Total Investment	~10,000 YEN million
D/E	4:1

## Progress update

- Project received permission to expand power capacity to 20.8 MWAC
- Already received relevant licenses including Grid Connection Agreement
- PPA contract with Tohoku Electric Power Company is almost concluded.
- EPC contracts and Credit facility agreement are almost finished
- **Plan to start construction on Jan-March 2016**

## Shareholding





## Central Utility Plant Project 4 (CUP-4)

PTT's WEcoZi, Asia Industrial Estate (AIE) Rayong Province



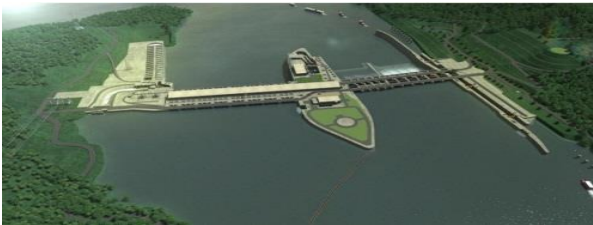
<b>Type</b>	Gas-fired Cogeneration Power Plant/Utilities
<b>Capacity</b>	<ul style="list-style-type: none"> <li>Electricity: 390 MW (Phase 1: 45 MW)</li> <li>Steam: 900 T/h (Phase 1: 70 T/h)</li> </ul>
<b>Customer</b>	<ul style="list-style-type: none"> <li>Electricity: IUs 35 MW</li> <li>Steam: IUs 120 T/h</li> </ul>
<b>SCOD</b>	1Q2018
<b>Total Investment</b>	~4,000 THB million

### Progress update

- EIA has been approved
- Under apply all permits/ licences
- Secure agreements with IUs 35 MW, 120T/H and waiting for another 20-mw non-firm SPP contract with EGAT
- Under negotiating on Land, new pipelines laydown with PTT
- Under evaluating OE for ITB-EPC
- GPSC BOD have approved on 13 Aug 2015
- PMC has been awarded
- Plan to award EPC in Mar-Apr 2016
- Plan to start construction in later 1Q/2016
- SCOD: Later 1Q/2018

### Shareholding





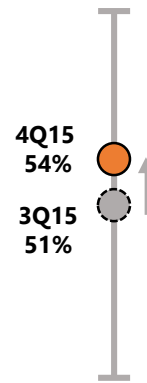
## Xayaburi Power Company Limited (XPCL)

Xayaburi, Lao PDR

**Equity Investment**  
~28,750 THB million



**% Progress**

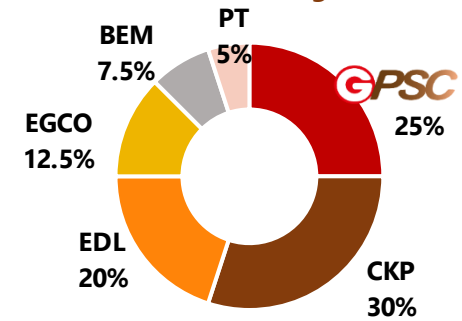


Type	Run-of-River Hydropower
Capacity	• Electricity: 1,285 MW
Customer	• Electricity: EGAT 1,220 MW (29 years), EDL 60 MW (29 years)
SCOD	October, 2019
Total Investment	~115,000 THB million
D/E	3:1

### Progress update

- Concrete work at intermediate block, powerhouse and Fish Ladder can continue with no interruption
- Hydro-Mechanical work and Electro-Mechanical work progressed as plan
- Erection of 500kV transmission line tower at section 2-3 work progressed as plan

### Shareholding







## 24M Technologies, Inc. (24M)

Cambridge, Massachusetts (MA), USA



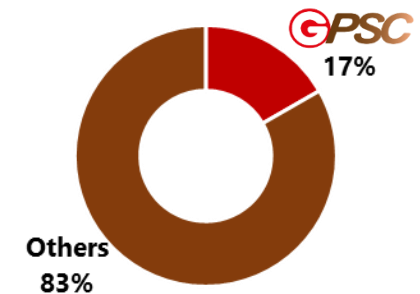
<b>Business</b>	Lithium-Ion Battery (LFP) technology
<b>Application</b>	<ul style="list-style-type: none"> <li>Energy Storage System (ESS)</li> </ul>
<b>Status</b>	<ul style="list-style-type: none"> <li>Series B: Pilot Plant</li> </ul>
<b>Next Step</b>	<ul style="list-style-type: none"> <li>Series C: High Volume Manufacturer</li> </ul>
<b>Total Investment</b>	~15 USD million*



### Progress update

- During process of Lithium-ion cells chemistry and Manufacturing process optimization for enhance the battery cells life cycle and the cells bill of materials cost
- In addition, 24M has been starting in small project in EV battery according to US DOE's grant
- Jun 2015; 24M was out of stealth mode to present the low cost Semisolid Lithium-Ion battery
- Oct 2015; 24M Announced the company signed a MOU whereby 24M has agreed to supply its semisolid lithium-ion cells for use in NEC Energy Solutions' integrated storage systems

### Shareholding







## Croco

<b>Location</b>	Thanlyin, Myanmar
<b>Type</b>	Combined Cycle Gas Turbine
<b>Capacity</b>	Approx. 400 MW (Phase 1: approx. 140MW)
<b>Customer</b>	• MEPE
<b>SCOD</b>	• 2020
<b>Status</b>	• FSR Clarification & MOA Negotiation

## X-Cite

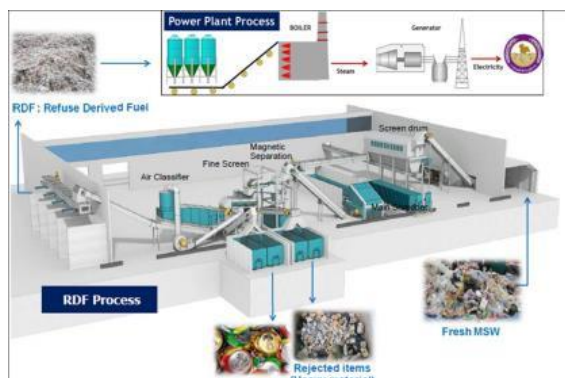
<b>Location</b>	Myeik, Myanmar
<b>Type</b>	Coal-Fired Power Plant
<b>Capacity</b>	2,500 MW
<b>Customer</b>	• MEPE • EGAT
<b>SCOD</b>	• 2021 - 2022
<b>Status</b>	• MOA Negotiation

## L

<b>Location</b>	Kyaiklat, Myanmar
<b>Type</b>	Combined Cycle Gas Turbine
<b>Capacity</b>	Approx. 500 MW
<b>Customer</b>	• MEPE
<b>SCOD</b>	• 2020
<b>Status</b>	• MOA Execution



## Waste Management Project Rayong Province



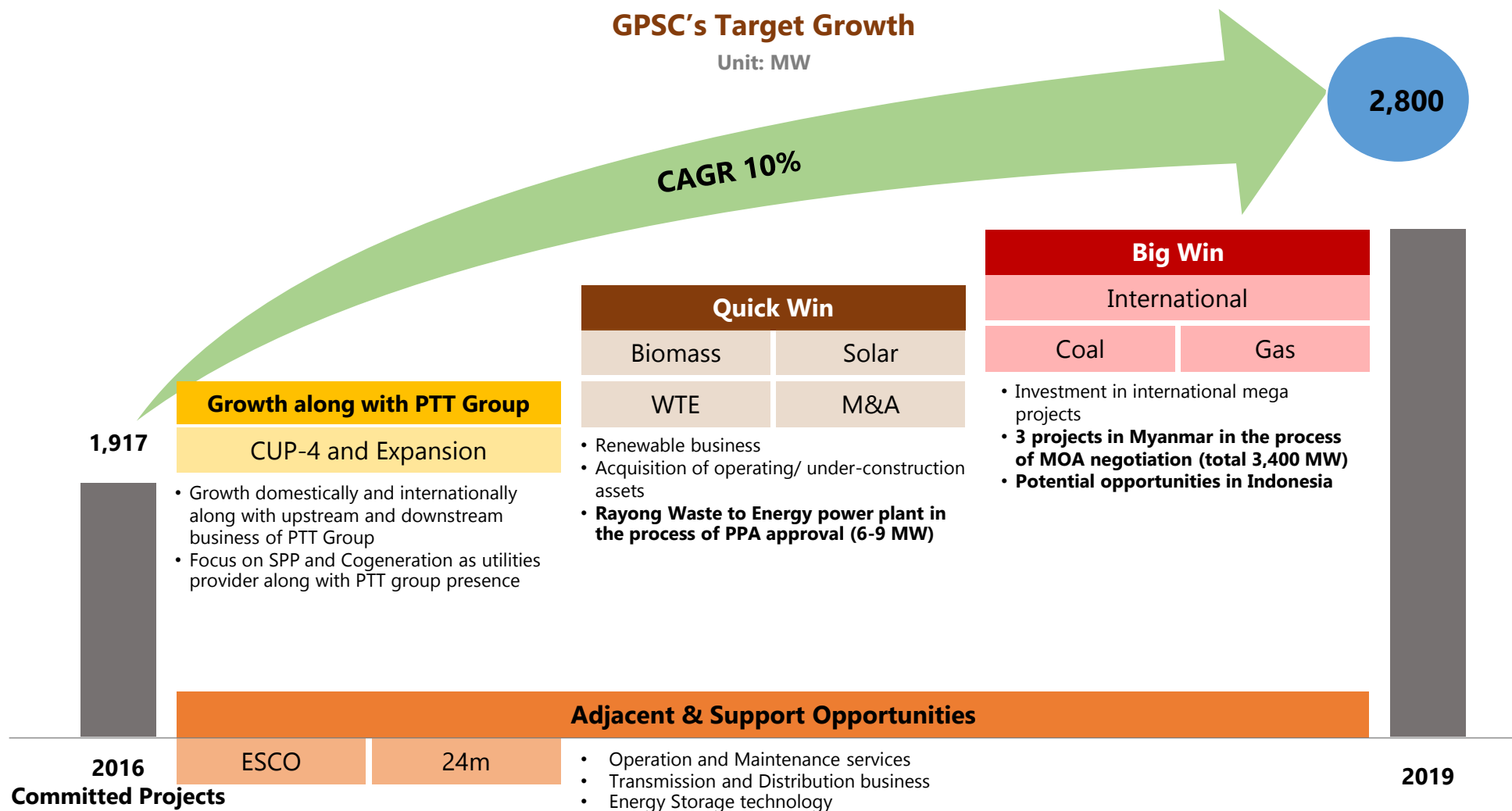
<b>Type</b>	Biomass Power Plant (MSW and RDF)
<b>Capacity</b>	• 6 – 9 MW
<b>Customer</b>	• PEA
<b>Total Investment</b>	~1,500 – 2,000 THB million

### Progress update

- Finished Basic Engineering Design Package (BED)
- Finished PQ EPC
- Completed ITB
- In a process of PPA approval from ERC.

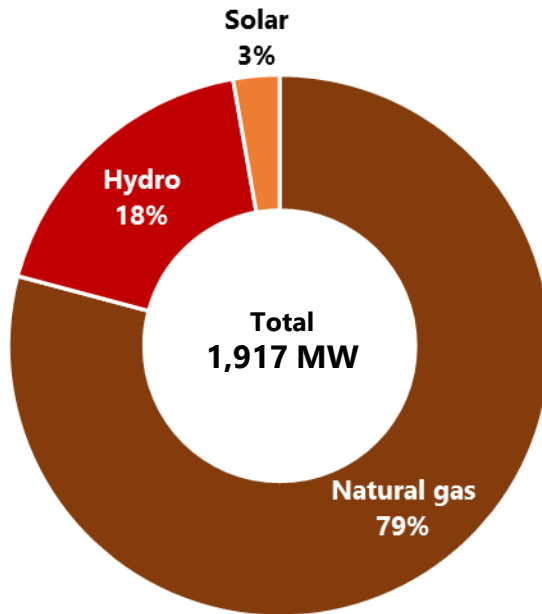
### Shareholding





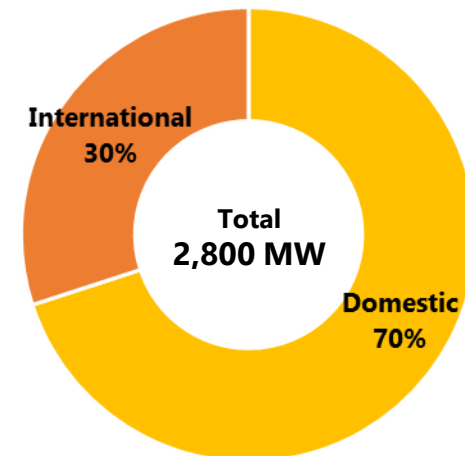
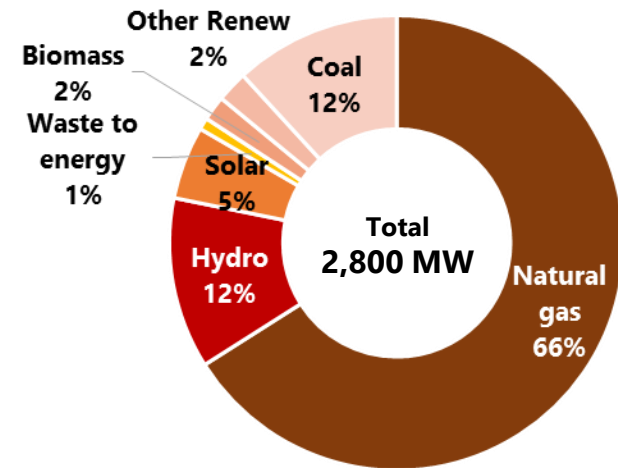
# Target 10% of Renewable energy and 30% of International projects in 2019 GPSC's Portfolio

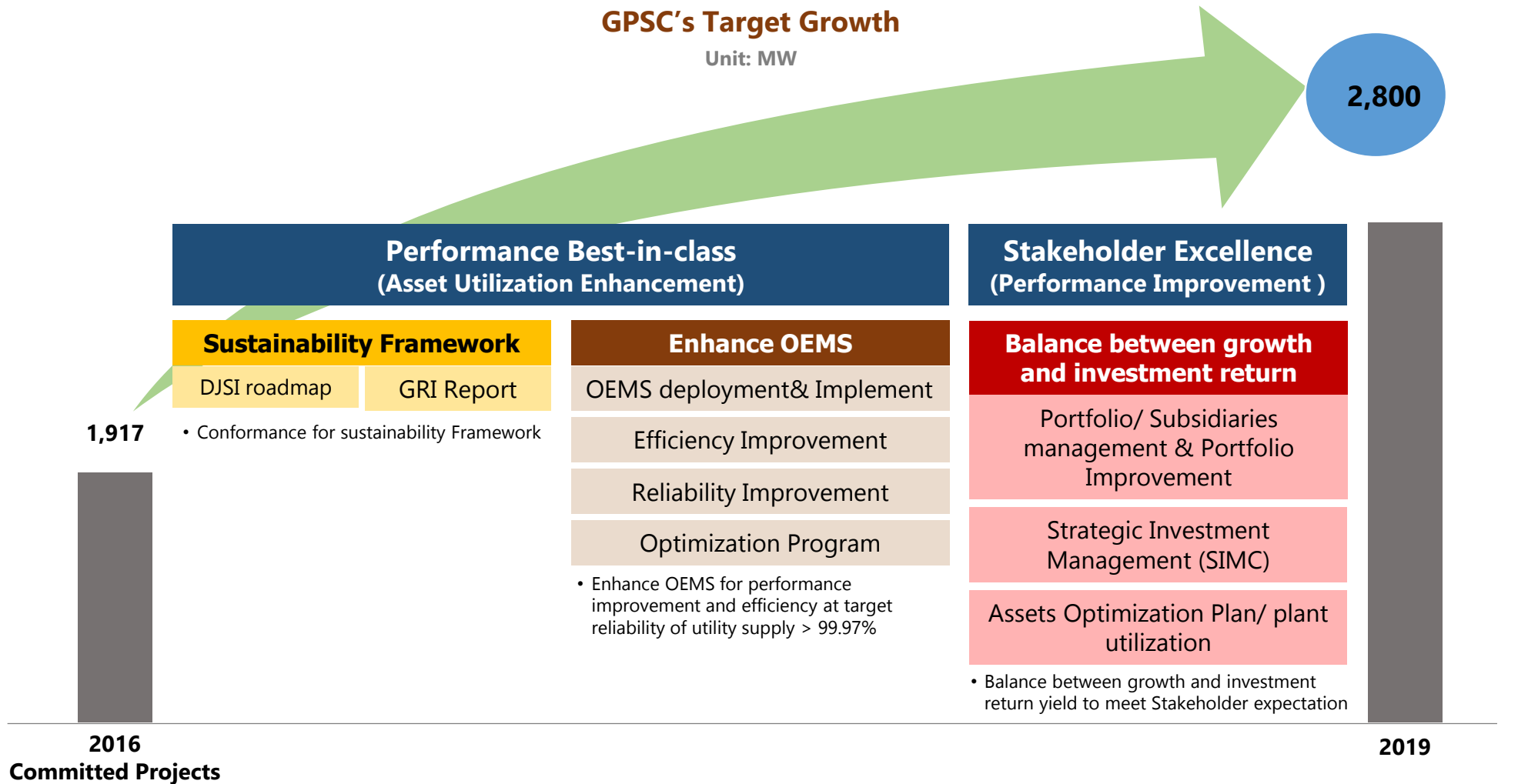
**2015 Committed Portfolio (MW)**



- GPSC target's "Total Renewable capacity 10% of 2,800 MW" lead to investment plan in various type in Renewable projects approx. 200~300 MW in both domestic and international
- GPSC target's "International Portfolio 30% of 2,800 MW" lead to investment plan in various type in both Conventional and Renewable projects approx. 850 MW

**2019 Committed Portfolio (MW)**







Company Overview



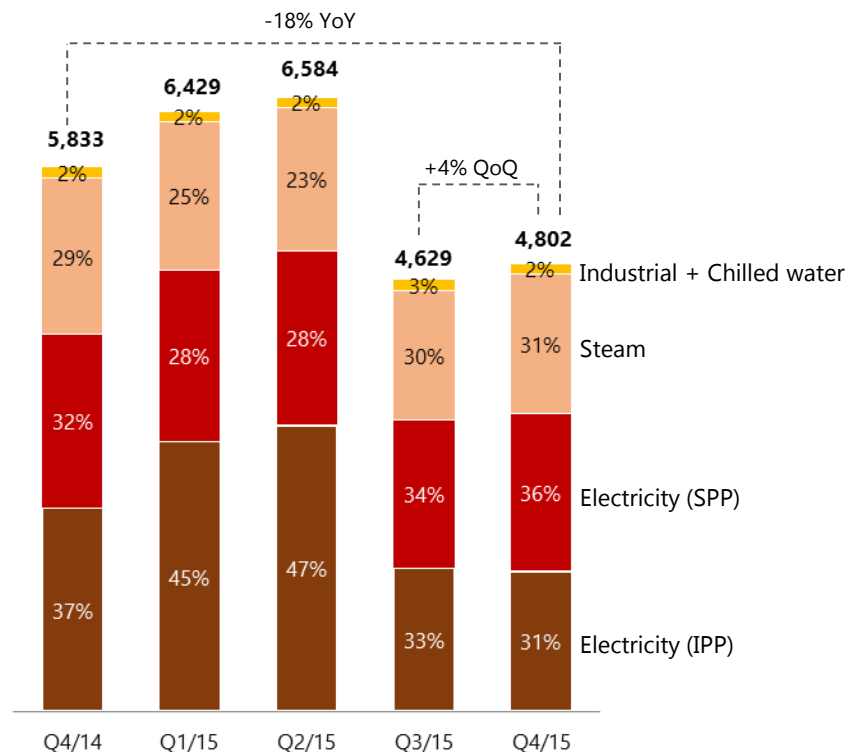
Project Update



**Financial Performance**

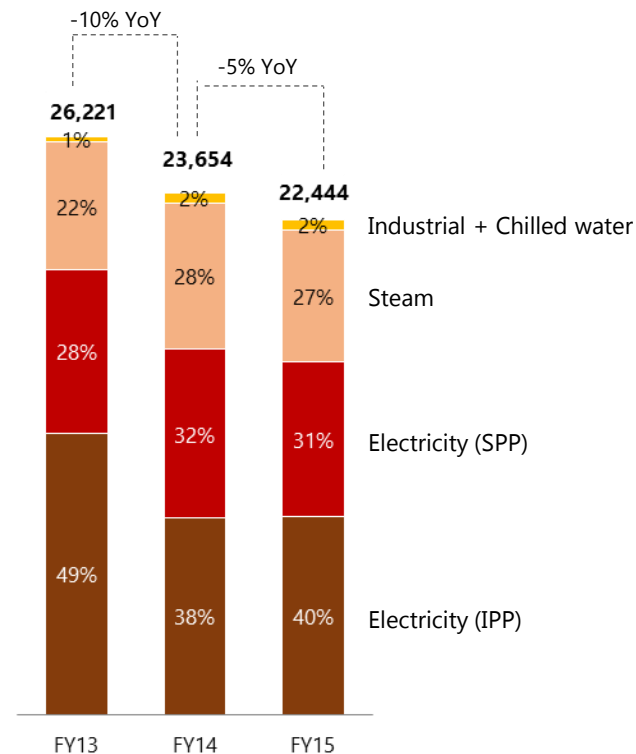


## Quarterly revenue (THB million)



■ Q4/15: Revenue increased by 4% QoQ mainly from additional income from IRPC-CP Phase 1 of 264 THB million (SPP-COD in November 2015)

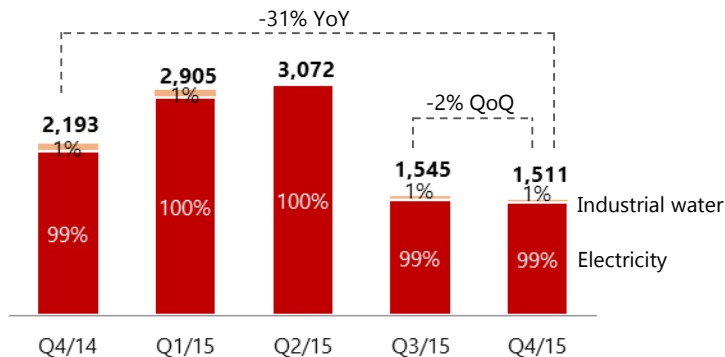
## Annual revenue (THB million)



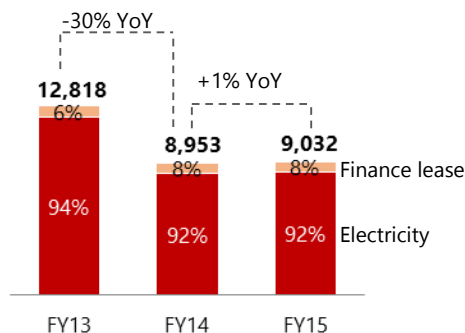
■ FY15: Revenue decreased by 5% YoY due to decrease in Rayong Plant revenue (SPP), caused by CUP-2's minor inspection and several customers' maintenance shutdown

## Quarterly revenue (THB million)

IPP: Sriracha Power Plant



## Annual revenue (THB million)

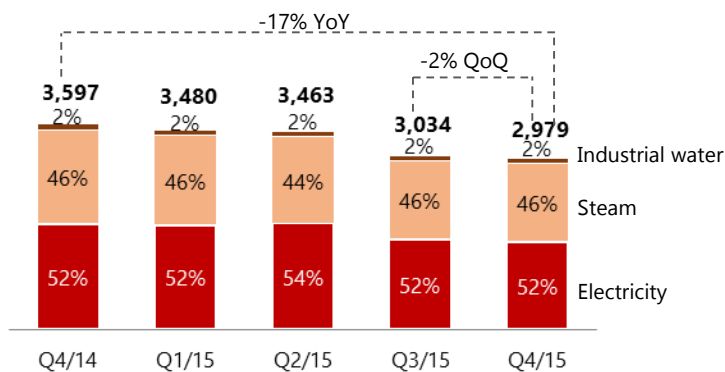


Q4/15: Revenue from IPP decreased by 2% QoQ mainly due to a lower demand for electricity consumption at the end of the year. In addition revenue decreased by 31% YoY mainly due to a half block dispatch from EGAT.

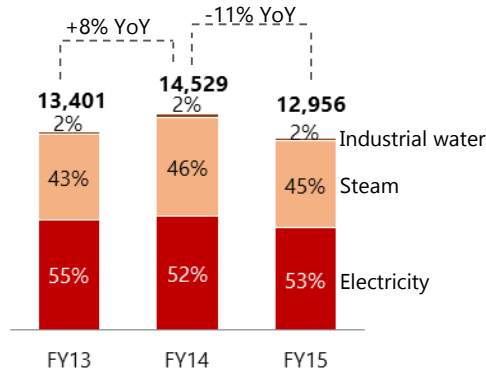
FY15: Revenue from IPP increased by 1% YoY thanks to an increase in revenue from AP.

## Quarterly revenue (THB million)

SPP: Rayong Power Plant



## Annual revenue (THB million)

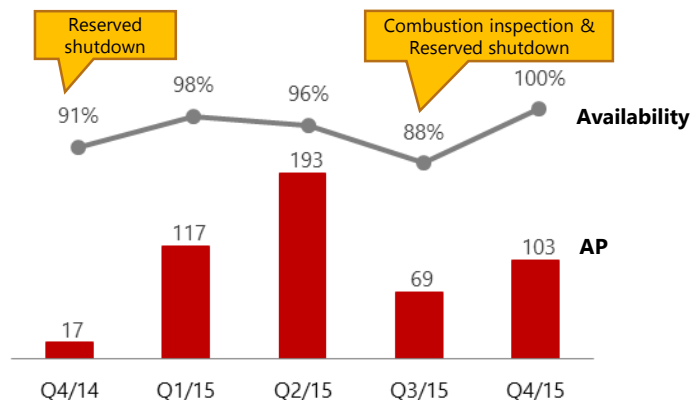


Q4/15: Revenue from SPP decreased by 2% QoQ mainly due to lower average sales price of electricity and steam. In addition revenue decreased by 17% YoY mainly from customers' maintenance and unplanned shutdown.

FY15: revenue from SPP decreased by 11% YoY as there was a CUP-2 minor inspection in Q1/15 and several customers had scheduled maintenance..

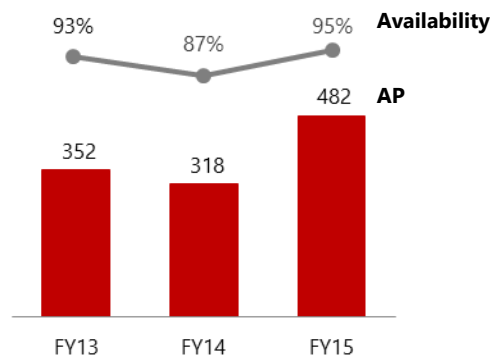
## Quarterly Availability & AP

(%, THB million)



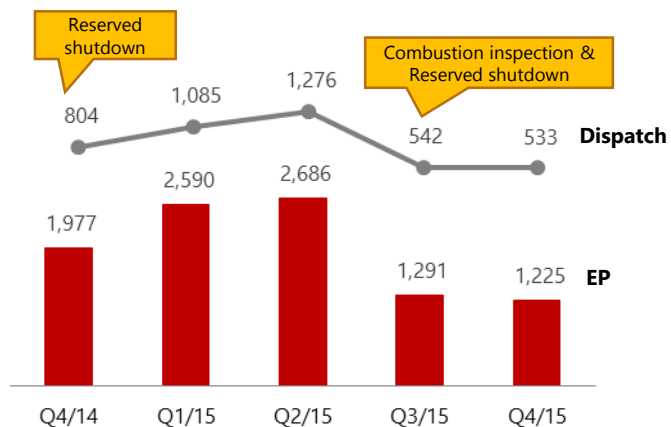
## Annual Availability & AP

(%, THB million)



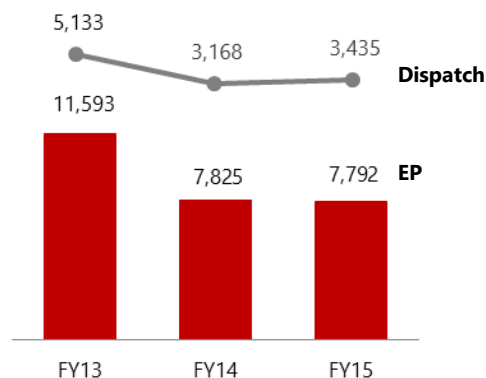
## Quarterly Dispatch & EP

(GWh, THB million)



## Annual Dispatch & EP

(GWh, THB million)



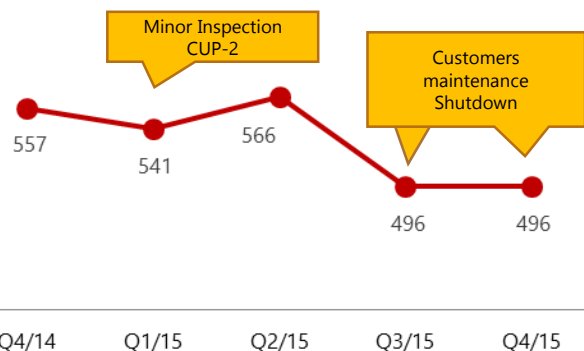
■ Q4/15: Revenue from AP increased by 49% QoQ thanks to a normal operation with 100% availability rate after a plant shutdown in Q3/15

■ FY15: Revenue from AP increased by 52% YoY from higher total Availability of 95%:  
 - No hot gas path inspection in 2015  
 - Baht depreciation against USD which is one of the factors for AP calculation

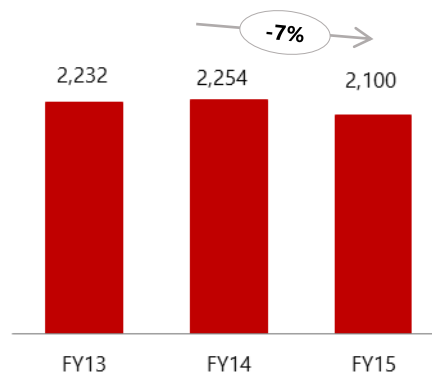
■ Q4/15: Revenue from EP decreased by 5% QoQ mainly due to lower electricity demand from seasonal consumption

■ FY15: Revenue from EP slightly decreased by 0.4% YoY while total dispatch increased mainly due to lower price of natural gas which is one of the factors for EP calculation

## Quarterly Power Sales Volume (GWh)

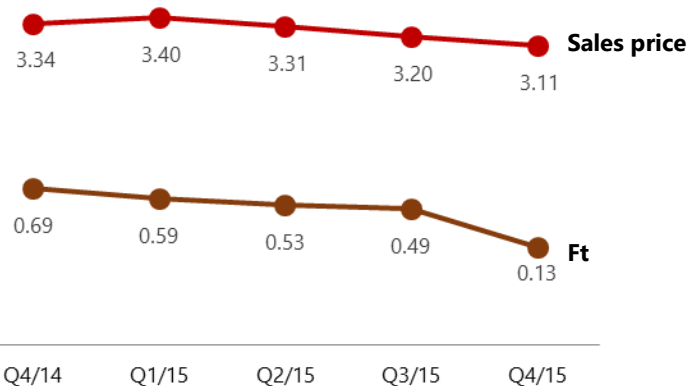


## Annual Power Sales Volume (GWh)

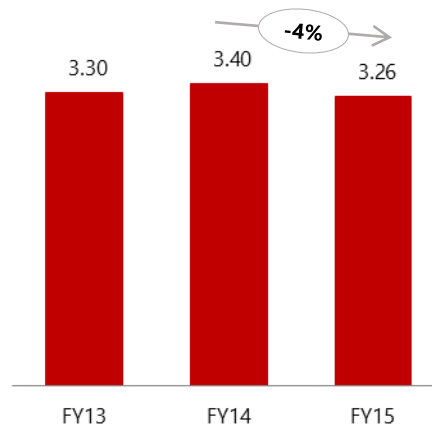


- Q4/15: Sales volume remained stable, compared with Q3 due to customer maintenance shutdown
- FY15: Sales volume decreased by 7% YoY mainly due to
  - CUP-2 minor inspection in Q1/15
  - Several customers' scheduled maintenance

## Quarterly Average Sales Price & Average Ft price (THB/KWh)



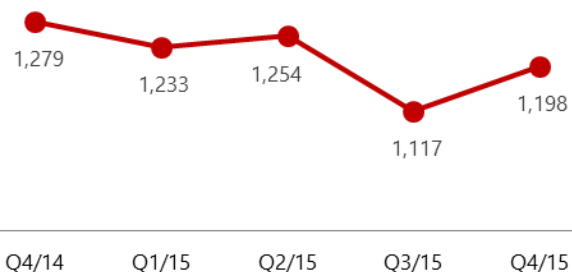
## Annual Average Sales Price (THB/KWh)



- Q4/15: Average sales price decreased by 3% QoQ due to drop in sale price per unit which was in line with a sale price to EGAT, referred to the Power Purchase Rate announcement for SPP
- FY15: Average sales price decreased by 4% YoY which was in line with a downtrend of Ft price

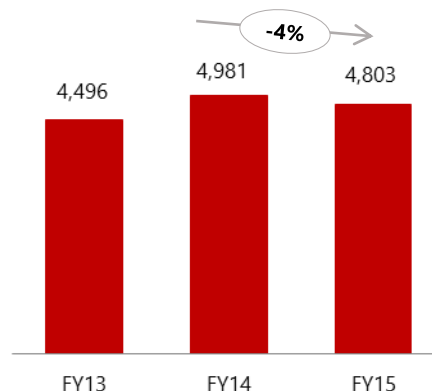
## Quarterly Steam Sales Volume

('000 tons)



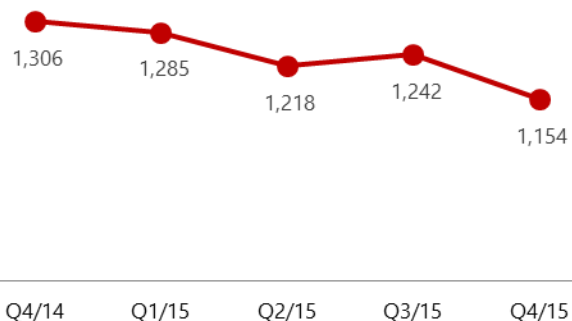
## Annual Steam Sales Volume

('000 tons)



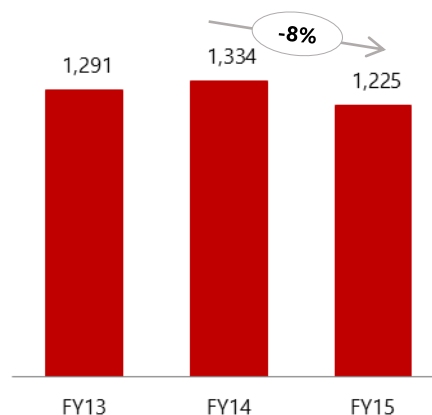
## Quarterly Average Sales Price

(THB/ton)



## Annual Average Sales Price

(THB/ton)



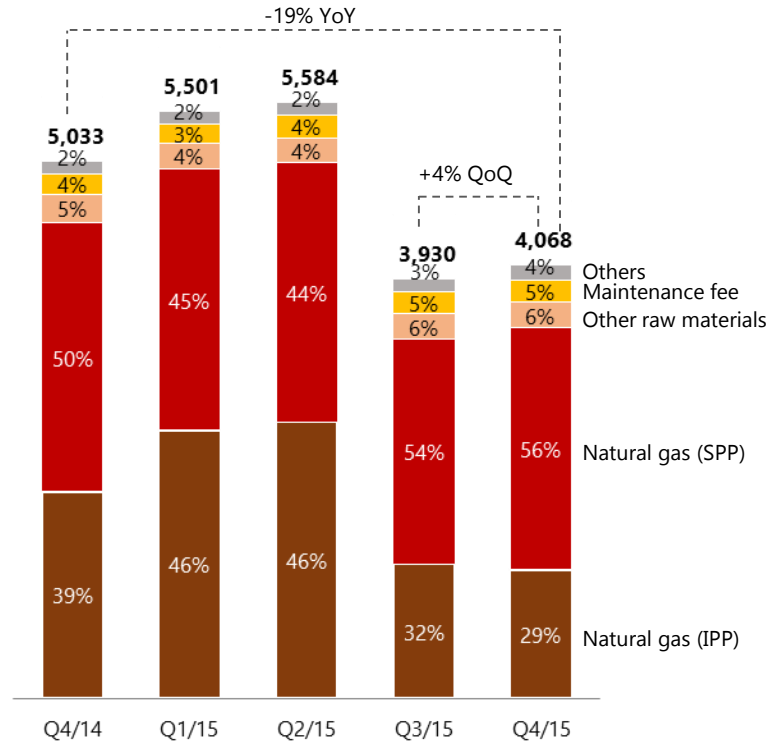
■ Q4/15: Sales volume increased by 7% QoQ as two customers that had scheduled maintenance in Q3 were back to buy steam product

■ FY15: Sales volume decreased by 4% YoY mainly due to  
 - CUP-2 minor inspection in Q1/15  
 - Several customers' scheduled maintenance

■ Q4/15: Average sales price decreased by 7% QoQ affected from lower price of natural gas

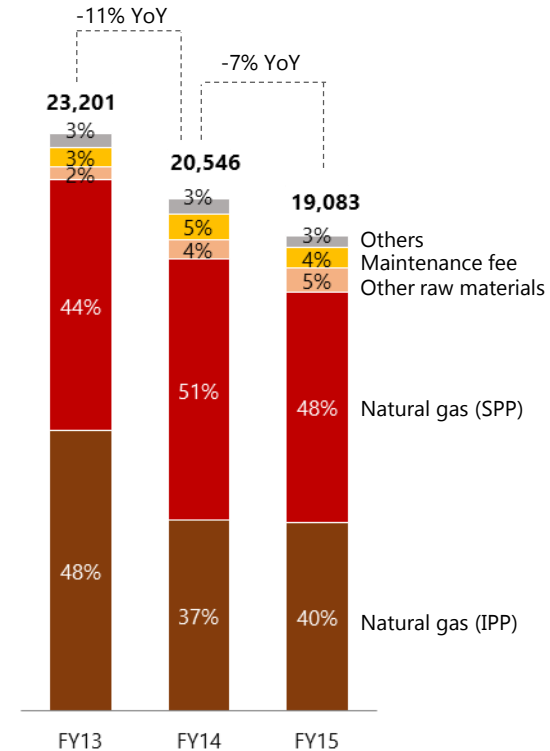
■ FY15: Average sales price decreased by 8% YoY which was in line with downtrend of natural gas price

## Quarterly cost of sales and services (THB million)



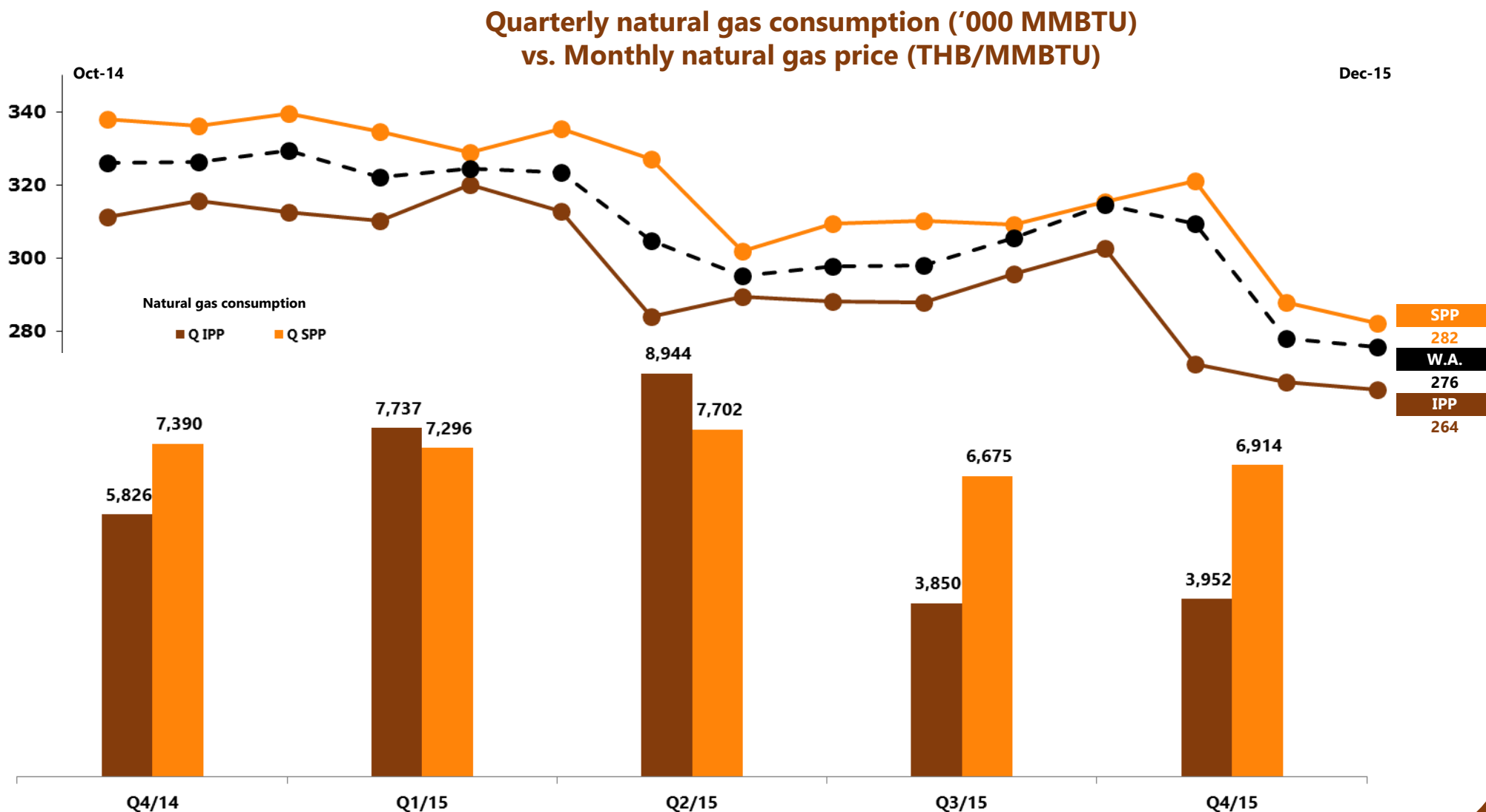
■ Q4/15: Cost increased by 4% QoQ which was in line with operating income

## Annual cost of sales and services (THB million)

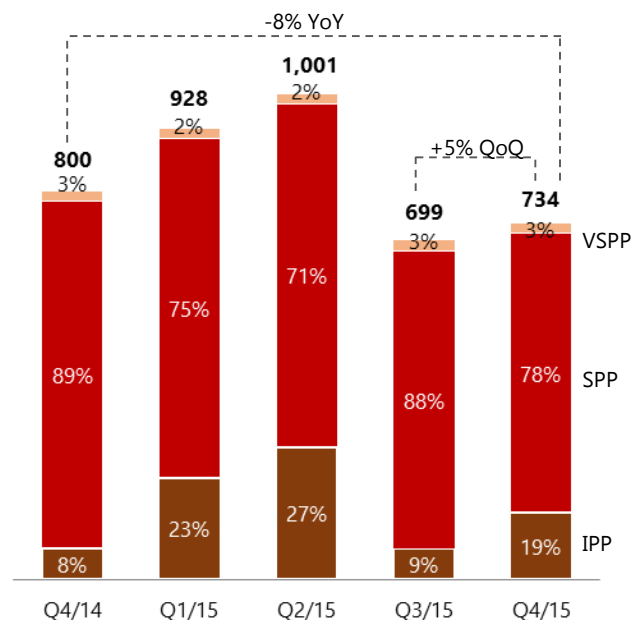


■ FY15: Cost decreased by 7% YoY from lower natural gas cost of SPP and lower maintenance expenses of Sriracha plant in 2015



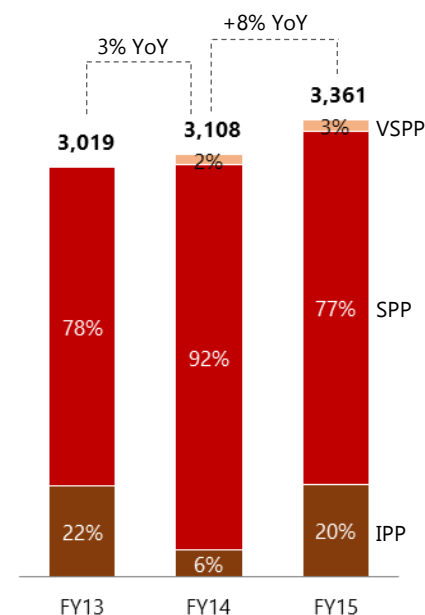


## Quarterly gross profit and gross profit margin (THB million, %)



- Q4/15: Gross profit increased by 5% QoQ mainly due to lower cost of natural gas and lower maintenance expense of IPP

## Annual gross profit and gross profit margin (THB million, %)

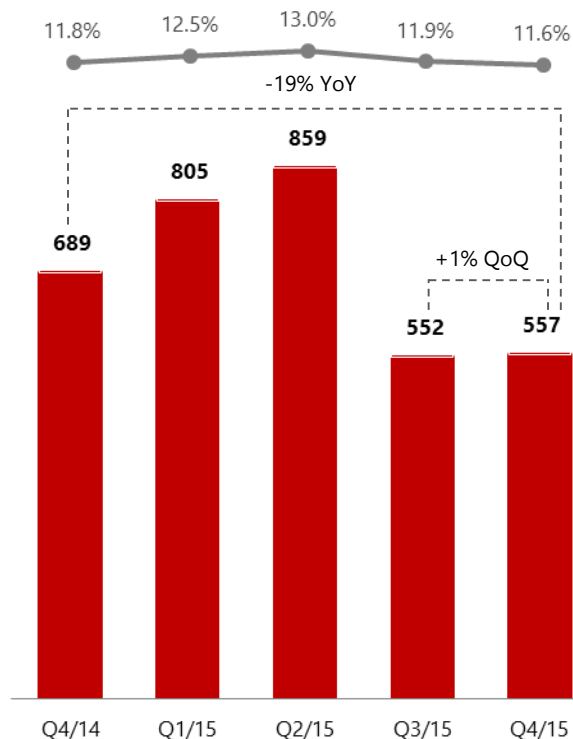


- FY15: Gross profit increased by 8% YoY mainly from better performance of Sriracha IPP plant (lower cost of natural gas and lower maintenance expense)

# 2015 EBITDA slightly increased 2% YoY with EBITDA margin of 12.3%

## Quarterly EBITDA and EBITDA margin

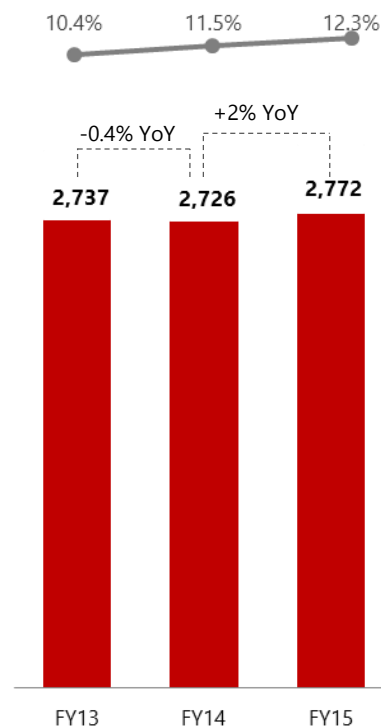
(THB million, %)



- Q4/15: EBITDA and EBITDA margin were quite stable QoQ

## Annual EBITDA and EBITDA margin

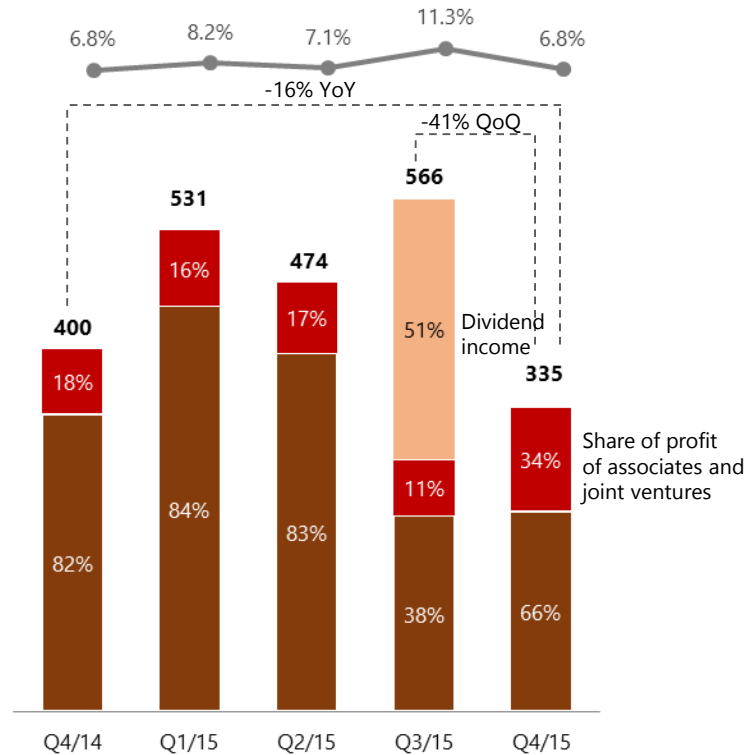
(THB million, %)



- FY15: EBITDA slightly increased by 2% YoY while gross profit increased 8% YoY mainly due to an increase in business development expenses

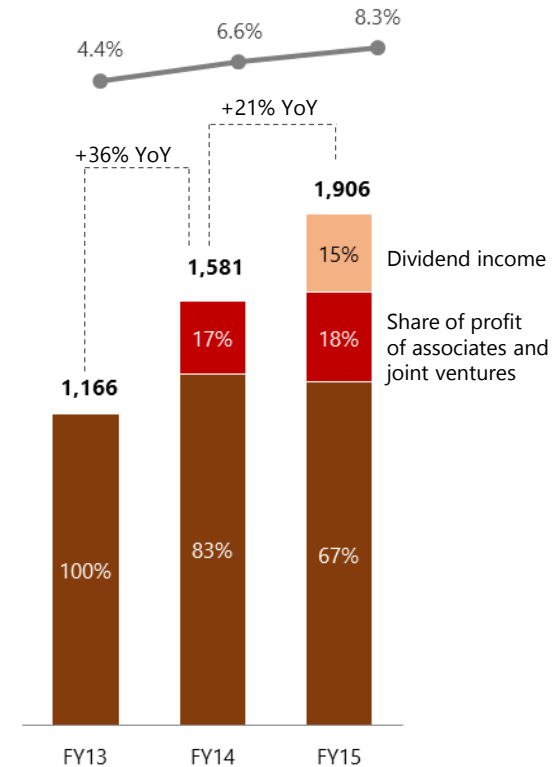
# 2015 Net profit significantly increased 21% YoY, with 8.3% net profit margin

**Quarterly net profit and net profit margin**  
(THB million, %)



■ Q4/15: Net profit decreased by 41% QoQ as GPSC received dividend income from RPCL of 288 THB million in Q3/15; however net profit before recognizing dividend income increased by 20.5%

**Annual net profit and net profit margin**  
(THB million, %)

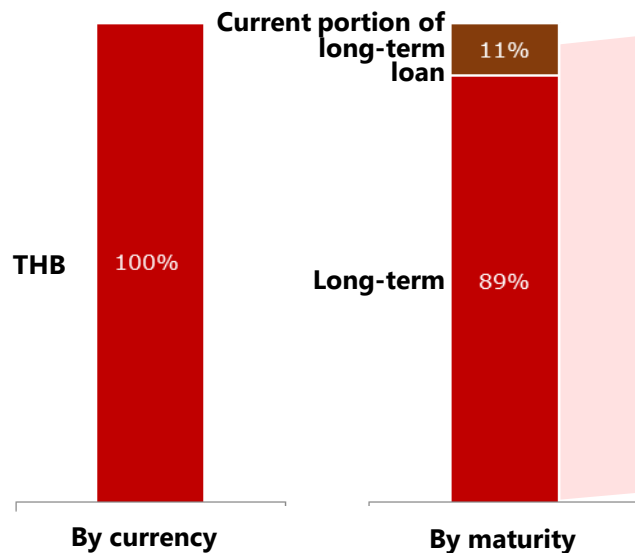


■ FY15: Net profit increased by 21% YoY thanks to

- Increase in IPP sale electricity as there was no minor maintenance (Hot Gas Path Inspection) in 2015
- Dividend income from RPCL in Q3/15
- Performance of IRPC-CP Phase 1 from COD in Q4/15

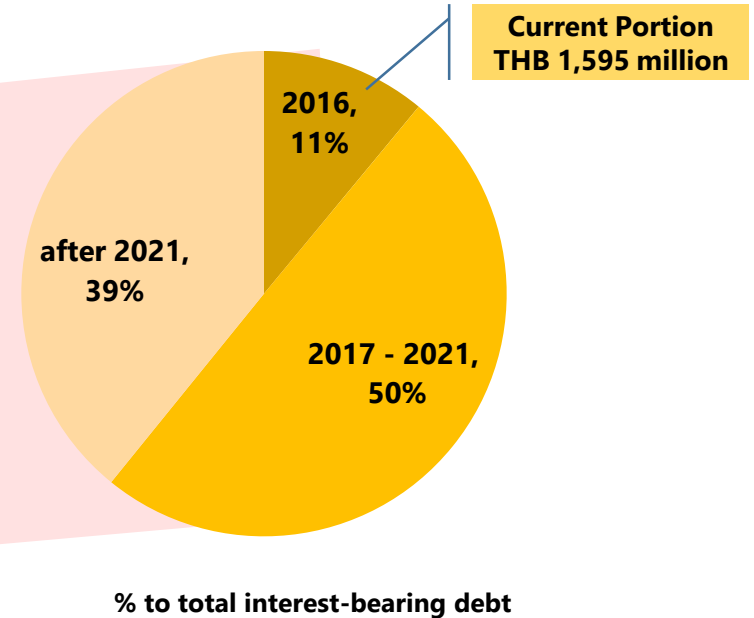
## Debt profile

Total interest-bearing debt: THB 14,989 million



## Long-term loan repayment plan

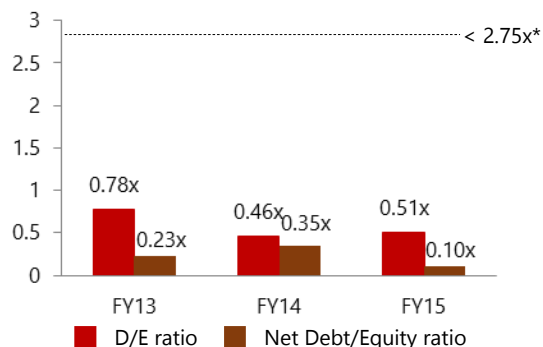
Total interest-bearing debt: THB 14,989 million



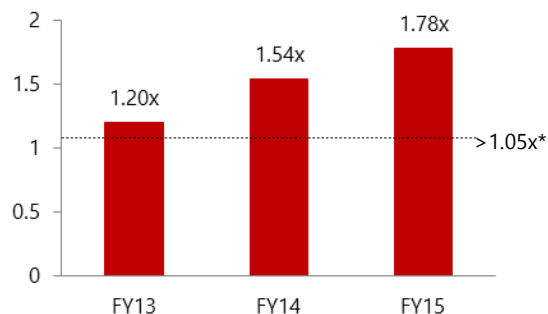
- All debt balance as at December 2015 is in THB currency.
- 100% of total interest-bearing debt is long-term debt which includes 11% current portion.

- Long Term Portion THB 13,394 million
- 50% of total long-term debt will be repaid during 2017-2021

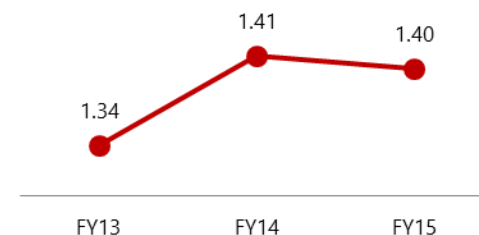
## D/E and Net Debt/ Equity ratio (Times)



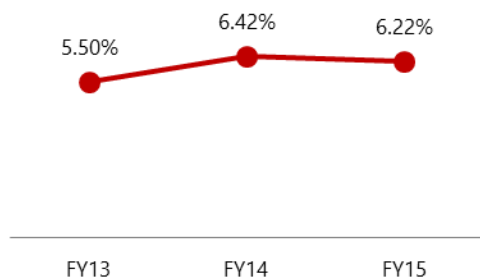
## DSCR (Times)



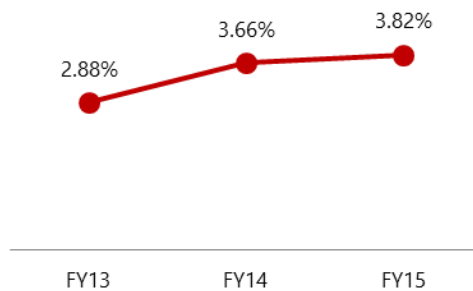
## EPS (Baht/share)



## ROE (%)

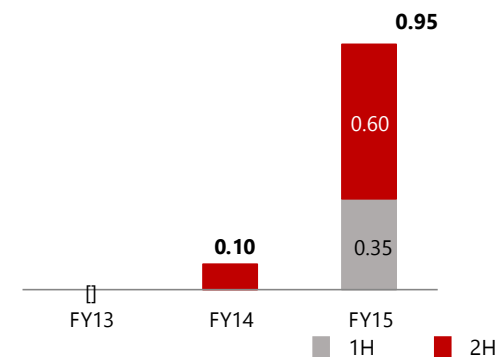


## ROA (%)



## Dividend (Baht/Share)

**\*Dividend yield: 4.28%**







## Appendix

## Sriracha Power Plant: IPP

Unit: THB million

Product/Service	Q4/14	Q3/15	Q4/15	+ / (-)		2014	2015	+ / (-)
				QoQ	YoY			
○ Revenue from electricity sales								
• Availability payment (AP)	17	69	103	49%	506%	318	482	52%
• Energy payment (EP)	1,977	1,291	1,225	(5%)	(38%)	7,825	7,792	(0%)
• Received money submitted to power development fund	8	5	5	0%	(38%)	32	34	6%
<u>Total revenue from electricity sales</u>	<u>2,002</u>	<u>1,365</u>	<u>1,333</u>	<u>(2%)</u>	<u>(33%)</u>	<u>8,175</u>	<u>8,308</u>	<u>2%</u>
○ Revenue from finance lease	178	170	167	(2%)	(6%)	730	686	(6%)
○ Industrial water	13	10	11	10%	(15%)	48	38	(21%)
<b>Total revenue</b>	<b>2,193</b>	<b>1,545</b>	<b>1,511</b>	<b>(2%)</b>	<b>(31%)</b>	<b>8,953</b>	<b>9,032</b>	<b>1%</b>
○ Natural gas	1937	1,260	1,203	(5%)	(38%)	7,651	7,566	(1%)
○ Water	12	11	11	0%	(8%)	21	51	143%
○ Other raw materials	28	22	22	0%	(21%)	124	90	(27%)
<u>Total cost of raw materials</u>	<u>1,977</u>	<u>1,293</u>	<u>1,236</u>	<u>(4%)</u>	<u>(37%)</u>	<u>7,796</u>	<u>7,707</u>	<u>(1%)</u>
○ Maintenance fee	111	142	85	(40%)	(23%)	729	460	(37%)
○ Others	41	47	52	11%	27%	235	184	(22%)
<b>Total cost of sales and services</b>	<b>2,129</b>	<b>1,482</b>	<b>1,373</b>	<b>(7%)</b>	<b>(36%)</b>	<b>8,760</b>	<b>8,351</b>	<b>(5%)</b>
<b>Gross profit</b>	<b>64</b>	<b>63</b>	<b>138</b>	<b>116%</b>	<b>119%</b>	<b>193</b>	<b>681</b>	<b>253%</b>

## Rayong Power Plant: SPP

Unit: THB million

Product/Service	Q4/14	Q3/15	Q4/15	+/( -)		2014	2015	+/( -)
				QoQ	YoY			
○ Revenue from electricity sales	1,859	1,587	1,543	(3%)	(17%)	7,653	6,841	(11%)
○ Steam	1,671	1,387	1,383	(0%)	(17%)	6,644	5,882	(11%)
○ Industrial water	67	60	53	(12%)	(21%)	232	233	0%
<b>Total revenue</b>	<b>3,597</b>	<b>3,034</b>	<b>2,979</b>	<b>(2%)</b>	<b>(17%)</b>	<b>14,529</b>	<b>12,956</b>	<b>(11%)</b>
○ <i>Natural gas</i>	<i>2,520</i>	<i>2,104</i>	<i>2,096</i>	<i>(0%)</i>	<i>(17%)</i>	<i>10,470</i>	<i>9,085</i>	<i>(13%)</i>
○ <i>Steam</i>	<i>150</i>	<i>119</i>	<i>105</i>	<i>(12%)</i>	<i>(30%)</i>	<i>344</i>	<i>460</i>	<i>34%</i>
○ <i>Water</i>	<i>31</i>	<i>33</i>	<i>36</i>	<i>9%</i>	<i>16%</i>	<i>127</i>	<i>136</i>	<i>7%</i>
○ <i>Other raw materials</i>	<i>30</i>	<i>38</i>	<i>39</i>	<i>3%</i>	<i>30%</i>	<i>116</i>	<i>132</i>	<i>14%</i>
<u>Total cost of raw materials</u>	<u>2,731</u>	<u>2,294</u>	<u>2,276</u>	<u>(1%)</u>	<u>(17%)</u>	<u>11,057</u>	<u>9,813</u>	<u>(11%)</u>
○ Maintenance fee	78	61	118	93%	51%	292	332	14%
○ Others	72	66	78	18%	8%	341	284	(17%)
<b>Total cost of sales and services</b>	<b>2,881</b>	<b>2,421</b>	<b>2,472</b>	<b>2%</b>	<b>(14%)</b>	<b>11,690</b>	<b>10,429</b>	<b>(11%)</b>
<b>Gross profit</b>	<b>716</b>	<b>613</b>	<b>507</b>	<b>(29%)</b>	<b>(17%)</b>	<b>2,839</b>	<b>2,527</b>	<b>(11%)</b>

## CHPP: VSPP

Unit: THB million

Product/Service	Q4/14	Q3/15	Q4/15	+ / (-)		2014	2015	+ / (-)
				QoQ	YoY			
<b>Revenue from chilled water</b>	<b>43</b>	<b>50</b>	<b>48</b>	<b>(4%)</b>	<b>12%</b>	<b>172</b>	<b>192</b>	<b>12%</b>
○ <i>Cost of electricity</i>	<i>18</i>	<i>21</i>	<i>20</i>	<i>(5%)</i>	<i>11%</i>	<i>70</i>	<i>78</i>	<i>11%</i>
○ <i>Other raw materials</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>	<i>0%</i>	<i>0%</i>	<i>1</i>	<i>1</i>	<i>0%</i>
<u>Total cost of raw materials</u>	<u>18</u>	<u>21</u>	<u>20</u>	<u>(5%)</u>	<u>11%</u>	<u>71</u>	<u>79</u>	<u>11%</u>
○ Maintenance fee	-	1	1	0%	100%	3	4	33%
○ Others	5	6	5	(17%)	0%	22	22	0%
<b>Total cost of sales and services</b>	<b>23</b>	<b>28</b>	<b>26</b>	<b>(7%)</b>	<b>13%</b>	<b>96</b>	<b>105</b>	<b>9%</b>
<b>Gross profit</b>	<b>20</b>	<b>22</b>	<b>22</b>	<b>0%</b>	<b>10%</b>	<b>76</b>	<b>87</b>	<b>14%</b>

## IRPC-CP1: SPP

Unit: THB million

Product/Service	Q4/14	Q3/15	Q4/15	+/( - )		2014	2015	+/( - )
				QoQ	YoY			
○ Revenue from electricity sales	-	-	145	NA	NA	-	145	NA
○ Steam	-	-	119	NA	NA	-	119	NA
<b>Total revenue</b>	<b>-</b>	<b>-</b>	<b>264</b>	<b>NA</b>	<b>NA</b>	<b>-</b>	<b>264</b>	<b>NA</b>
<i>Natural gas</i>	-	-	173	NA	NA	-	173	NA
<i>Steam</i>	-	-	0	NA	NA	-	0	NA
<i>Water</i>	-	-	2	NA	NA	-	2	NA
<i>Other raw materials</i>	-	-	4	NA	NA	-	4	NA
<u>Total cost of raw materials</u>	-	-	<u>179</u>	NA	NA	-	<u>179</u>	NA
○ Maintenance fee	-	-	4	NA	NA	-	4	NA
○ Others	-	-	14	NA	NA	-	14	NA
<b>Total cost of sales and services</b>	<b>-</b>	<b>-</b>	<b>197</b>	<b>NA</b>	<b>NA</b>	<b>-</b>	<b>197</b>	<b>NA</b>
<b>Gross profit</b>	<b>-</b>	<b>-</b>	<b>67</b>	<b>NA</b>	<b>NA</b>	<b>-</b>	<b>67</b>	<b>NA</b>

# Share of profit of associates and joint ventures

Unit: THB million

Company	Shareholding	Q4/2014	Q3/2015	Q4/2015	+ / (-)	
					QoQ	YoY
<u>Independent Power Producer (IPP)</u>						
- Xayaburi Power Company Limited (XPCL)	25%	(9)	(10)	(10)	NA	NA
<u>Small Power Producer (SPP)</u>						
- Bangpa-in Cogeneration Company Limited	25%	14	10	16	69%	12%
- Nava Nakorn Electricity Generating Company Limited (NNEG)	30%	(6)	(0)	2	NA	NA
- Nam Lik 1 Power Company Limited (NL1PC)	40%	(1)	(3)	31	NA	NA
Total small Power Producer		7	7	49	654%	583%
<u>Very Small Power Producer (VSPP)</u>						
- Thai Solar Renewable Company Limited (TSR)	40%	74	65	75	15%	1%
Total share of profit of associates and joint ventures		72	62	114	85%	59%





# Maintenance schedule

Plant	Tag no.	Description	2016											
			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> 27									
	N-13901	GTG11	5 <b>HG</b> 18											
	H-13702	HRSG11	5 <b>3Y</b> 18											
	N-13902	GTG12						2 <b>1Y</b> 12						
	H-13703	HRSG12												
	N-13903	GTG13						20 <b>1Y</b> 30						
	H-13704	HRSG13												
	N-13904	GTG14	31/01 <b>MI</b> 21/02											
CUP-2	H-13705	HRSG14	31/01 <b>3Y</b> 21/02											
	N-13961	GTG15							31/07 <b>MI</b> 21/08					
	H-13761	HRSG15							31/07 <b>3Y</b> 21/08					
	N-13962	GTG16										2 <b>MI</b> 23		
	H-13762	HRSG16		22/02 <b>1Y</b> 3/03								2 <b>3Y</b> 23		
	H-23701	Aux. Boiler.21						21/06 <b>3Y</b> 3/07						
	N-23901	GTG21												
	H-23701	HRSG21	26/01 <b>1Y</b> 5/02											
CUP-3	N-23902	GTG22												
	H-23702	HRSG22											26/11 <b>1Y</b> 6/12	
	N-23911	Steam Turbine21												
	H-33701	Aux. Boiler 31										6 <b>3Y</b> 18		
CUP-3	H-33711	Aux. Boiler 32								14 <b>3Y</b> 26				
	H-33712	Aux. Boiler 33									23/09 <b>3Y</b> 5/10			
	H-33712	Aux. Boiler 33												
SRC	11MB	GT11										16 <b>CI</b> 24		
	1-211-SG-101	HRSG#1				<b>3Y</b>								
	12MB	GT12										16 <b>CI</b> 24		
SRC	1-211-SG-201	HRSG#2				<b>3Y</b>								
	1-211-SG-201	HRSG#2												
	1-211-SG-201	HRSG#2												

## Notes

MI  
HGPI  
MO  
Mi  
1Y  
3Y  
1Y  
3Y

## Rayong Site

Major Inspection for Gas Turbine  
Hot Gas Path Inspection for Gas Turbine  
2nd Major Overhaul for Steam Turbine  
Minor Inspection for Steam Turbine  
One Year Inspection Aux. Boiler  
Three Year Inspection Aux. Boiler  
One Year Inspection HRSG  
Three Year Inspection HRSG

22 days  
14 days  
27 days  
15 days  
11 days  
13 days  
11 days  
14 days

## Notes

CI  
MO

## Sriracha Site

Combustion Inspection for Gas Turbine  
Major Overhaul for Gas Turbine

9 days  
33 days

Ratios	Formula
D/E ratio	Total liabilities/ Total shareholder's equity
Net Debt/ Equity ratio	( Interest bearing debt – Cash and cash equivalent – Restricted account – Current investment)/ Total shareholder's equity
DSCR	EBITDA/ ( Total debt obligations due within one year + Total interests due within one year)
ROE	Net profit/ Average total assets
ROA	Net profit/ Average total shareholder's equity
Dividend yield	Dividend per share)/ GPSC's share price (30 DEC 15)

# THANK YOU

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