



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

Corporate Presentation

SET Thailand Corporate Day in London

10th May 2017

STANDARD
& POOR'S

FitchRatings

BBB-

A+(tha)



GPSC stock's performance

THB / Share

GPSC's Stock Price (May 15 – Apr 17)

Ranked "Excellent" for CGR Scoring
(26 Oct 2016)



STANDARD
& POOR'S

BBB-

Fitch Ratings

A+(tha)

Credit Rating
(25 Jan 2017)

SET50/SET100 Index

Calculated from the stock price of the top 50 and top 100 listed companies on SET in term of :

- ✓ Large market capitalization
- ✓ High liquidity
- ✓ High turnover
- ✓ Compliance with requirements regarding the shares distribution of minority shareholders (Free float ≥ 20%)

Global Small Cap Indexes
(30 Nov 2015)



Included in SET100
(4 Jan 2016)



ESG 100
(29 Apr 2016)



Best CFO Award
(15 Jul 2016)



Investors' Choice Award
(27 Jul 2016)

Included in SET50
(4 Jul 2016)



Asia Pacific ex
Japan Small Cap
(19 Sep 2016)

First trading Day
(18 May 2015)

May-15 Jun-15 Jul-15 Aug-15 Sep-15 Oct-15 Nov-15 Dec-15 Jan-16 Feb-16 Mar-16 Apr-16 May-16 Jun-16 Jul-16 Aug-16 Sep-16 Oct-16 Nov-16 Dec-16 Jan-17 Feb-17 Mar-17 Apr-17

- IPO in May 2015, GPSC has been growing business with continuously increase market capitalization.
- Starting from November 2015 where GPSC has been included in the Global standard, namely **MSCI Index** and in September 2016, GPSC was included in **FTSE Index**.
- GPSC was classified to be in **SET100** in January 2016 and then in July 2016, progressed to be included in **SET50**.
- In April 2016, GPSC has been shortlisted in **ESG 100** with sustainable business awarded by Thaipat Institute. In 2H/2016, GPSC's CFO received **Best CFO Award** from Investment Analysts Association. The company also received **Investors' Choice Award** from Thai Investors Association, **ranked "Excellent" for CGR Scoring** by Thai Institute of Directors and GPSC received **Most Progress in IR Award** from IR Magazine.
- Recently in December 2016, GPSC has been initially ranked **BBB- rating by S&P's** and **A+(tha) by Fitch Ratings** with **Investment Grade and Stable Outlook**. These are the results of confidence on GPSC performance from all stakeholders.



Thailand Power Industry

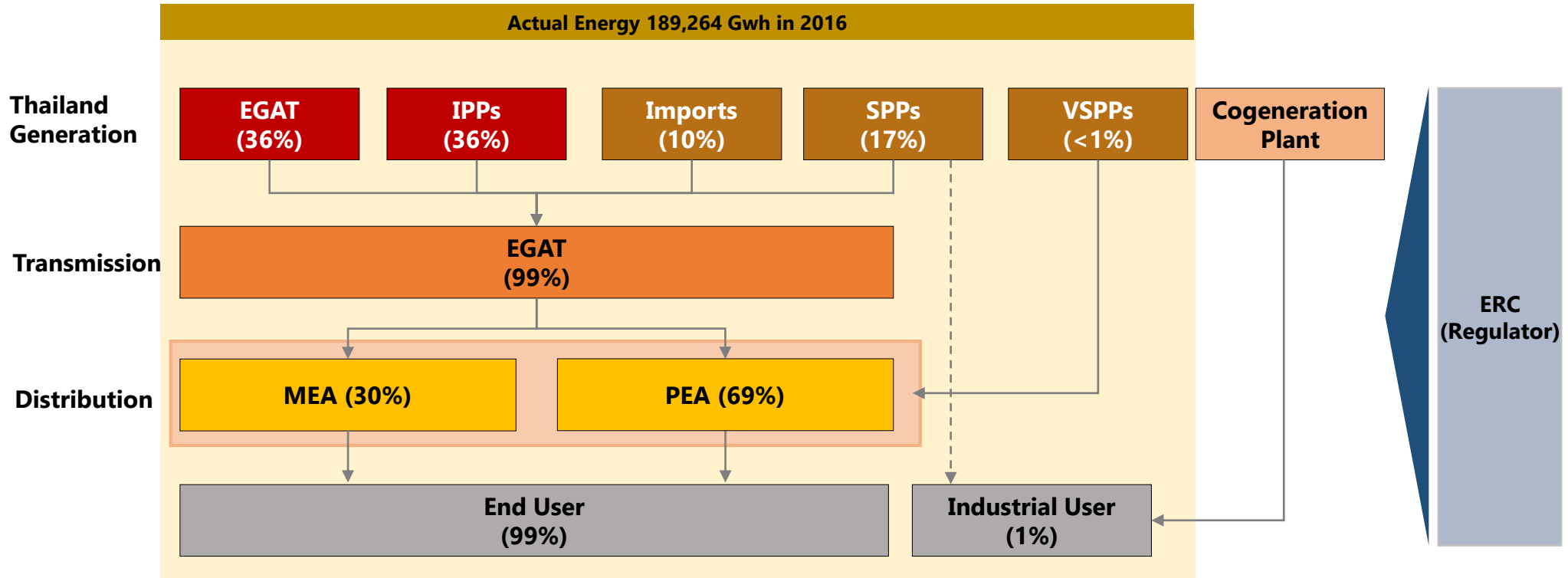


Company Overview



FY 2016 Financial Performance

- **EGAT and IPPs dominate electricity generation market**, with the combined market share 72%.
- 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
IPP	Independent Power Producers
SPP	Small Power Producers
VSPP	Very Small Power Producers
MEA	Metropolitan Electricity Authority
PEA	Provincial Electricity Authority

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

Industrial Customers

Electricity	PEA tariff TOU Rate 4.2*
Steam	Steam Base Cost x (Gas index + CPI index)

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

Base Tariff



Ft



adder

Feed in Tariff

GPSC's Business Portfolio

 Sriracha 700 MW	 Rachaburi Power 1,400 MW	 Xayaburi Power 1,285 MW
 Nava Nakorn Electricity Generation 125 MW 30 T/h	 Bangpa-in Cogeneration Phase 1 : 117 MW Phase 2 : 117 MW 20 T/h 20 T/h	 IRPC Clean Power 240 MW 300 T/h
 CUP 1-4 384 MW 1,410 T/h		
 Chantaburi's Shrimp Farmer Cooperative 5 MW	 Thai Solar Renewable 80 MW	

Japan : ISP1 20.8 MW

Lao PDR : NL1PC 65 MW

Pricing Structure

IPP/Import = Availability Payment + Energy Payment

Investment cost	• Equity Return • Financing Cost • Fix O&M	• Fuel Cost • Variable O&M
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SPP (firm) = Capacity Payment + Energy Payment

• Vary by type of fuel & Contract Period • FX adjustment	• Vary by type of fuel • Fuel adjustment
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Cogen (SPP non-firm) = K factor(seasonal weight) x EP

Cogen (Sell to IU) = Electricity + Steam

• Base Tariff (PEA : TOU 4.2) + Ft	• Cost Plus Basis
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VSPP Renewable = Base tariff + Ft + Adder

VSPP Renewable = FiT

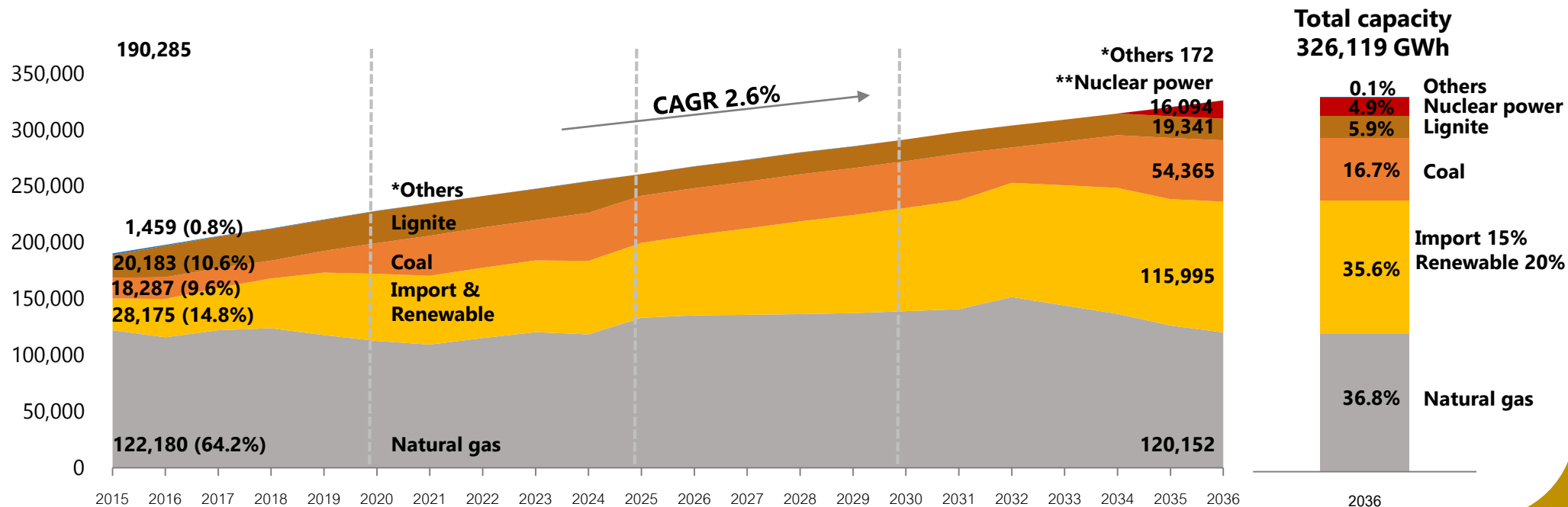
Renewable = FiT

Renewable = Fixed Rate with escalation

Natural gas and Renewable will be major sources of fuel in Thailand in 2036, together accounted for over 70%

- According to Thailand's Power Development Plan 2015 (PDP - by Energy Policy and Planning Office (EPPO), Ministry of Energy), power plant capacity in **Thailand will generate 326,119 GWh of electrical energy by the end of 2036, which accounted for 2.6% CAGR**
- Natural gas will still be a major source of fuel, accounted for 36.8% of total energy production
- The reserve margin from 2016 – 2031 is higher than EGAT's suitable reserve margin of 15%; implying that in the next 15 years the demand of electricity will significantly increase
- Thus, electricity generating need to be prepared to ensure an appropriate level of country's electricity demand and supply

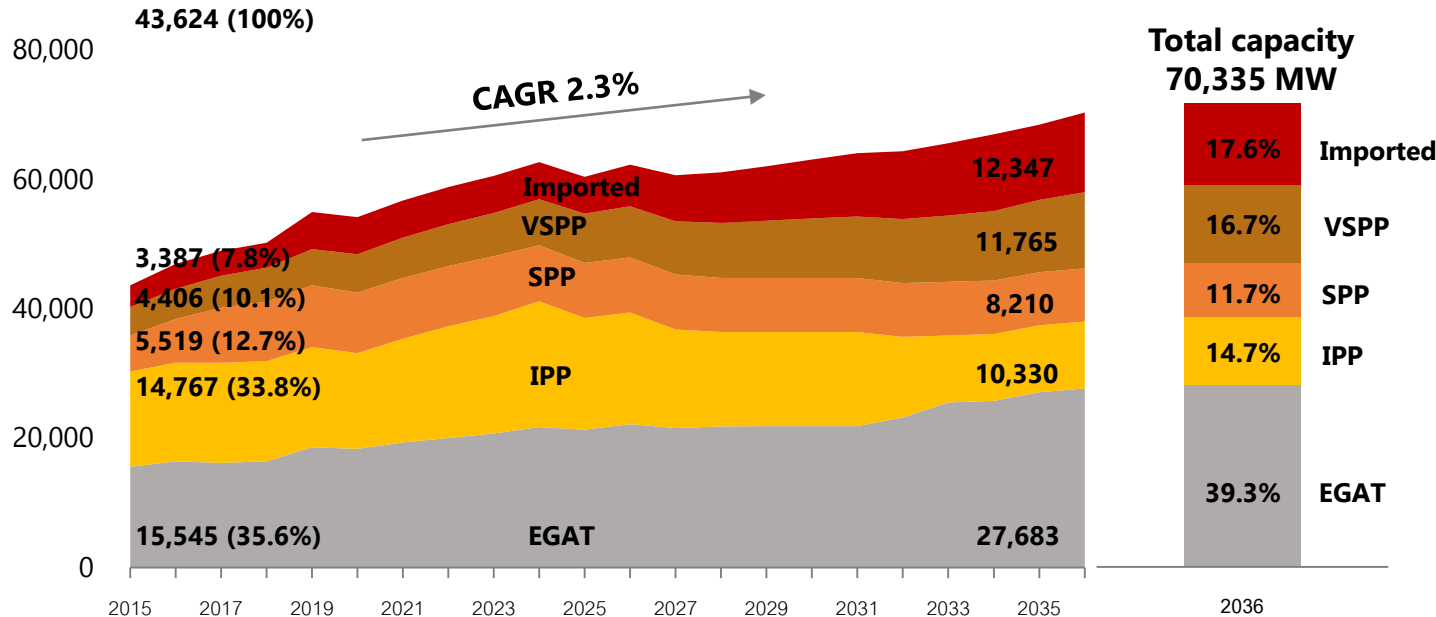
Projected Electricity Generating by source of fuel (GWh)



Remark: *Others are Fuel oil, Diesel, Thai-Malaysian gas pipeline which account for less than 1% of total capacity; **New clear power is added into plan in 2035 with projected capacity of 8,024 GWh
Source: Power Development Plan 2015 - Energy Policy and Planning Office (EPPO), Ministry of Energy

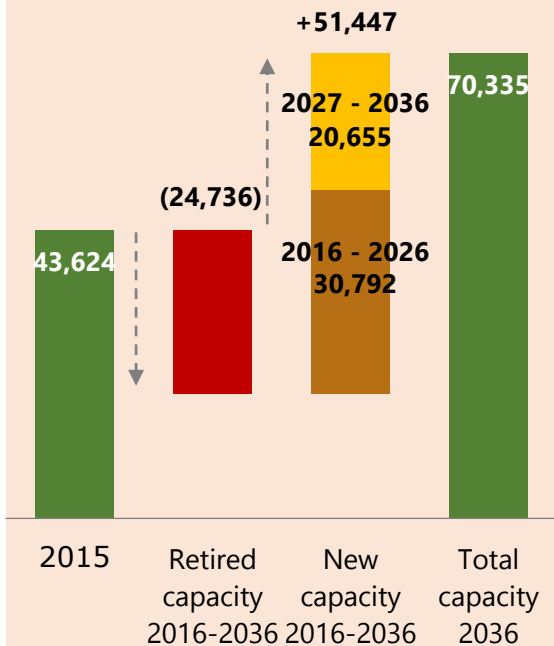
Large opportunity for GPSC to tap in those expected capacity

Projected Power Plant Capacity by producer type (MW)



Thailand's power contract capacity during 2016-2036 (new and retired)

Unit: MW



- **2.3% CAGR** of the power generating capacity by producer type is expected in PDP 2015
- **By 2036, Imported & VSPP will increase its portion to 34.3%** of the total generating capacity which is nearly to EGAT's at 39.3%
- During 2027 – 2036 there is a large amount of **new contract capacity at 20,655 MW for GPSC to tap in**
- **Peak demand in 2016 occurred at night** because more than 1,200 MW of electricity produced from solar power plants in day time that distributed to MEA and PEA replaces production from EGAT IPP which this portion of electricity is not recorded by EGAT to accumulate the peak demand causing peak demand to shift from day to night time.

Thai government policy advocates growth of energy and electricity sectors



- **Ensure consistency and security of electricity and energy** supply by seeking energy from neighboring countries



- **Improve electricity and energy infrastructure** to enhance competitiveness especially in transmission line in regional areas



- **Diversify sources of energy**, esp. the alternative energy such as clean coal, to maintain self-sufficiency



- **Ensure price affordability** to stabilize the energy sector and help end-consumers



- **Energy policies is more environmental-concerned**, supported by the use of clean-coal energy and other non-fuel sources



- **Promote research and development in energy sector**, especially exploration of new energy sources and technologies



Thailand Power Industry



Company Overview



FY 2016 Financial Performance

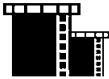
Petroleum Authority of Thailand PCL (PTT), GPSC's parent company, is the largest energy conglomerate in Thailand

PTT-Operated Business



Gas Business Unit

- The entire chain of natural gas from exploration and production, procurement, transportation to gas separation and marketing of natural gas



Oil Business Unit

- Engaging in marketing and distribution of refined fuels, LPG and lubricating products



International Trading Business Unit

- A fully international trading business covering procurement, international trading of crude oil, condensate, petroleum, petrochemical products as well as other specialty substances



Infrastructure Business Unit

- Engaging in maximizing efficiency of infrastructural asset management and promote proficiency in professional project management such as land development businesses, standards and operating systems for sustainability, engineering and maintenance services etc.

Business invested through PTT Group companies



Petroleum exploration and production (E&P)

- PTT conducts the exploration and production business (domestic and international) through PTT Exploration and Production PCL (PTTEP)



Coal Business

- PTT invests in the coal business and coal mining business in Indonesia for sale to China, Korea, Japan, and Taiwan through PTT Energy Resources Co., Ltd (PTTER)



Power Business

- PTT engages in the power business through Global Power Synergy PCL (GPSC)
- As PTT's power-business flagship, GPSC produces public utilities (electricity, steam, demineralized water, chilled water) for industrial users and Electricity Generating Authority of Thailand (EGAT)



Petrochemical & Refining Business

- PTT invests through 10 subsidiaries in doing Petrochemical & Refining Business
- The scope is from fuel processing, production and sales of upstream, intermediate, and downstream petrochemicals, together with various polymers, worldwide marketing business, and integrated logistical services





Introduction to GPSC, a “PTT Group’s Power Flagship”

GPSC has been founded to be the power flagship of PTT Group. In 2013-2014, PTT Group were restructured and transferred Power Assets to GPSC. The integration results in a total generating capacity of 1,851 MW of electricity; thereafter GPSC has acquired more to have 1,922 MW of committed electricity, 1,582 tons per hour of steam, 2,080 cubic meters per hour of industrial water and 12,000 refrigeration tons of chilled water.

KEY MILESTONES



Established Rayong Power Plant (339 MW, SPP)

Transferred 8 of PTT’s power assets to GPSC



Asia Pacific ex Japan



Complete COD of total electricity capacity of 1,922

1997

2004

2013

2014

2015

2016

2019



Established Sriracha Power Plant (700 MW, IPP)



Consolidated all PTT’s power asset under GPSC



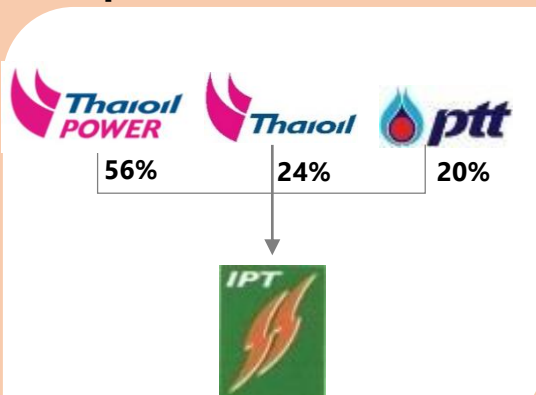
PTT Group’s Power Flagship,
Listed on Stock Exchange of Thailand



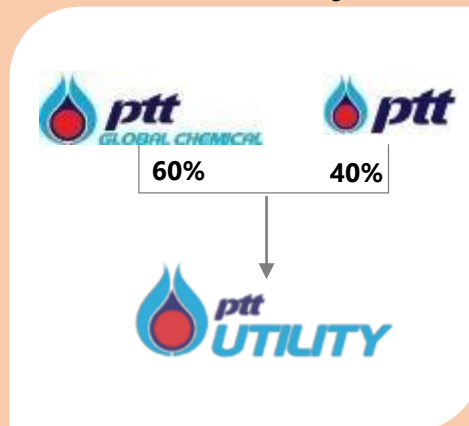
Global Small Cap Indexes

Market Cap* USD 1.50 BN
or 0.3% of SET

Independent Power (Thailand)



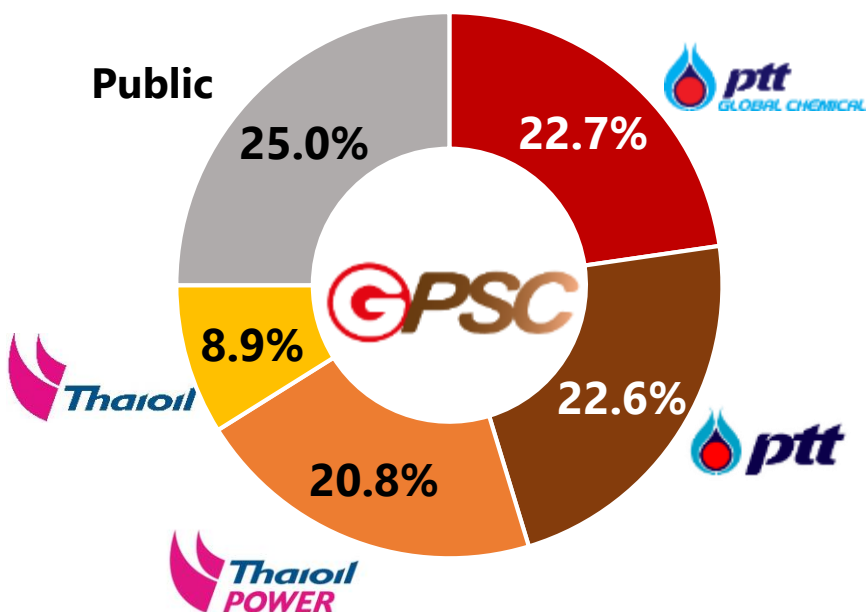
PTT Utility



GPSC’s Pre-listed Shareholding



GPSC's Shareholding Structure



Vision

'The Global Leading innovative and sustainable power company'

Mission

- Create long term shareholders value with **profitable growth**.
- **Delivery reliable energy** through operation excellent to customer.
- Conduct business with **corporate governance, social and environmental responsibility**
- Seek for innovation in power and utility efficient management through **Energy Storage Technology/ Smart Grid/Smart City**



GPSC's facilities produce electricity of 1,922 Equity MW

(2,318 Equity MW equivalent ; electricity 1,922 Equity MW , steam 1,582 T/H)

BUSINESS PORTFOLIO



Combined Cycle / Cogeneration

- Electricity 1,517 MW
- Steam 1,582 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.

Capacity

ELECTRICITY

1,922 MW (operate 1,381 MW,
under constriction 541 MW)

STEAM

1,582 T/H
(operate 1,441 T/H)

INDUSTRIAL WATER

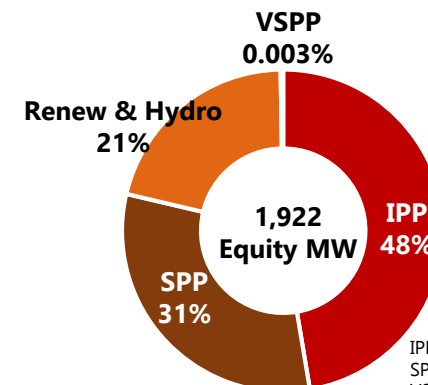
2,080 Cu.m./H

CHILLED WATER

12,000 RT

ELECTRICITY CAPACITY BREAKDOWN

Unit: Megawatt



IPP Independent Power Producers
SPP Small Power Producers
VSPP Very Small Power Producers

Electricity 1,922 Equity MW, Steam 1,582 T/H
(or equivalent to 2,318 Equity MW)



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



Rayong Expansion

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

IRPC Clean Power (SPP Firm) 51%

Total

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



Phase 1 COD

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

Phase 2 under construction (SCOD in 2017)

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



Bangpa-in Cogeneration (SPP Firm) 25%

Phase 1

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



Phase 2 (SCOD 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%

(SCOD in Q4/2017)

- Electricity: 20.8 MW



CHPP Solar Cooperatives (VSPP) 100%

- Electricity: 5 MW



Hydroelectric

Xayaburi Power (IPP) 25%

(SCOD in October 2019)

- Electricity: 1,285 MW



Nam Lik 1 Power 40%

(SCOD in 2019)

- Electricity: 65 MW



Other Businesses

Business Service Alliance 25%



24M Technologies 18%



- Project under construction
- Upcoming COD by 2017

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
CHPP (Solar)	VSPP	100%	5	5			2016	2041
Consolidate to Financial Statement				1072	1427	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
RPCL	IPP	15%	1,400	210		-	2008	25/2033
Share of Profit / Dividend Income				309	14			
Total operating				1,381	1,441	2,080		
UNDER CONSTRUCTION								
CUP-4	SPP	100%	45	45	70			-
ISP1	Solar	99%	20.8	20.6			2017	20/2037
IRPC-CP Phase 2	SPP	51%	195	99.4	66.3		2017	25-27/2044
NL1PC	Hydro	40%	65	26			2019	27/2044
BIC-2	SPP	25%	117	29.25	5		2017	25/2042
XPCL	IPP	25%	1,285	321			2019	29/2048
Total under construction				541.3	141.3			
Total capacity				1,922	1,582	2,080		

Presently, GPSC's business portfolio is located in Thailand, Lao PDR and Japan

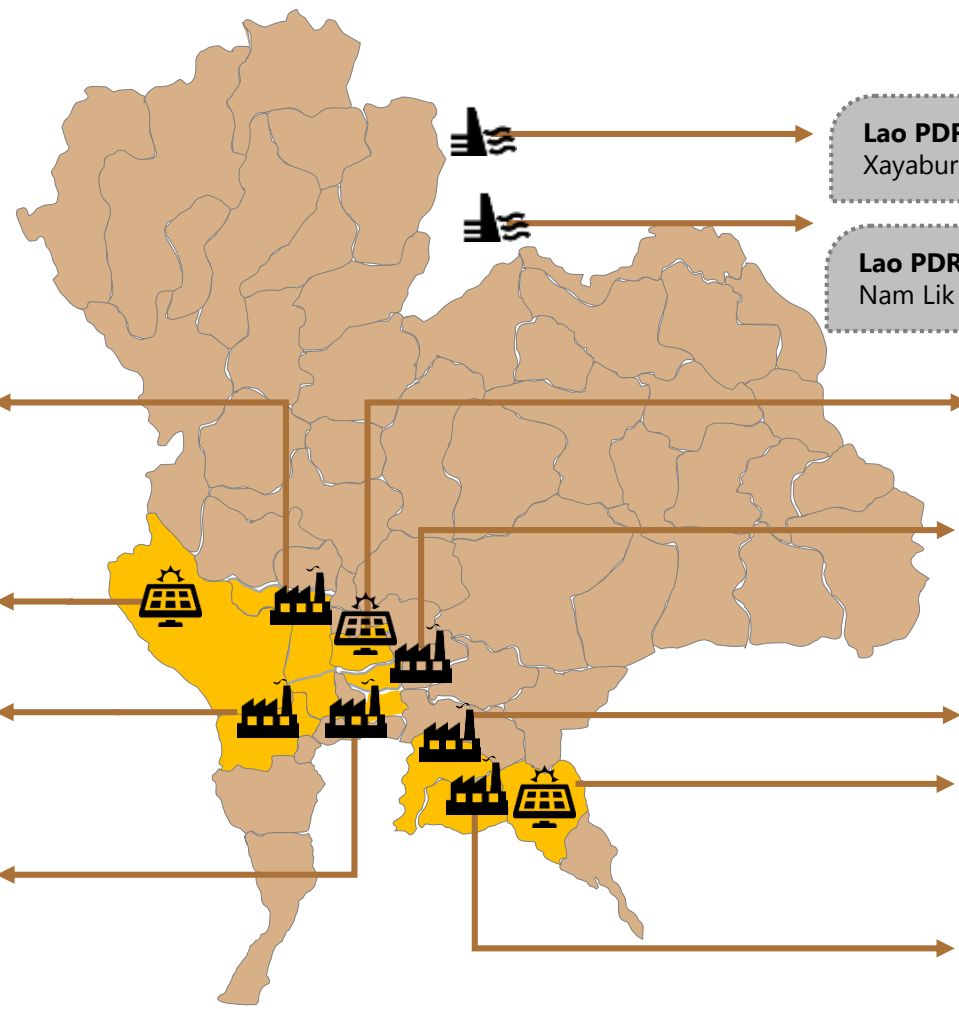
- Project under construction
- Gas Power Plant
- Hydro Power Plant
- Solar Power Plant

Ayutthaya
BIC-1
BIC-2*

Karnchanaburi
TSR

Ratchaburi
RPCL

Bangkok
CHPP



Lao PDR
Xayaburi

Lao PDR
Nam Lik 1

Suphanburi
TSR

Pathumthani
NNEG

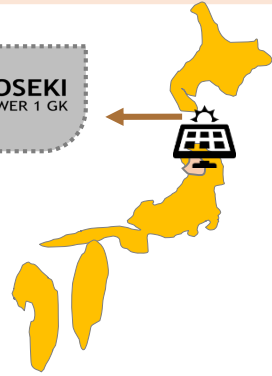
Chonburi
Sriracha

Chanthaburi
CHPP (Solar)

Rayong
IRPC-CP Phase 1
CUP-1, 2, 3
IRPC-CP Phase 2*
Rayong Expansion*

Japan
Ichinoseki

ICHINOSEKI
SOLAR POWER 1 GK



rowing *Profit* with *Sustainability* and *Control*

Growing progress of power plants and adjacencies

Three power plants are expected to COD by 2017 while another three power plants are under construction and expected to COD within 2019. Once the under-constructing power plants COD, GPSC will secure 1,922 equity megawatts following growth roadmap. The management also seeks for adjacent opportunity in growing business.



THB 2,700 million in annual profit, 42% increase from FY 2015

GPSC's annual **net profit** increased by THB 794 million from 2015 thanks to the business expansions which include **IRPC-CP Phase 1** and **NNEG** plants that started COD in Nov'15 and Jun'16, respectively. The favorable profit was also resulted from growing sales volumes to existing and new customers supported by efficient cost management at **Rayong plants**.



Credit ratings endorse GPSC's Stable & Sustainability

GPSC is ranked **A+(tha)** rating with **Investment Grade** and **Stable Outlook** by Fitch Ratings (Thailand) and **BBB-** rating by Standard & Poor's (S&P's). These recognitions reflect GPSC's financial creditability due to the strong financial status and stability from the low level of risks compared to GPSC's counterparties who are operate in the same industry.



NNEG and CHPP achieved milestones

As planned, **NNEG** started COD in June 2016 which generated shares of profit of THB 44 million in 2016 to GPSC. **CHPP Solar Cooperatives** is another project that achieved COD as planned in December 30, 2016 with operating capacity of 5 MW and securing FiT at 5.66 Baht/kWh. Q1 2017 will be the first quarter to consolidate CHPP's performance to GPSC's financial statements.

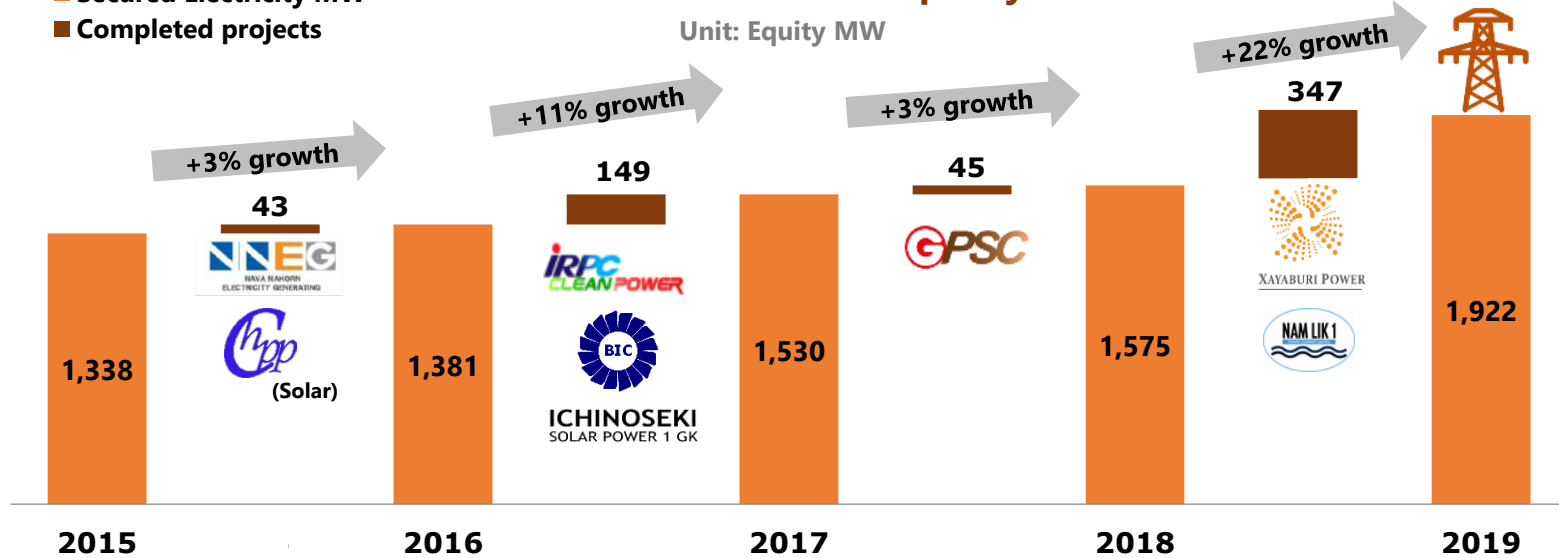
GPSC will deliver outstanding growth during 2017-2019

- Secured Electricity MW
- Completed projects

GPSC's Committed Capacity

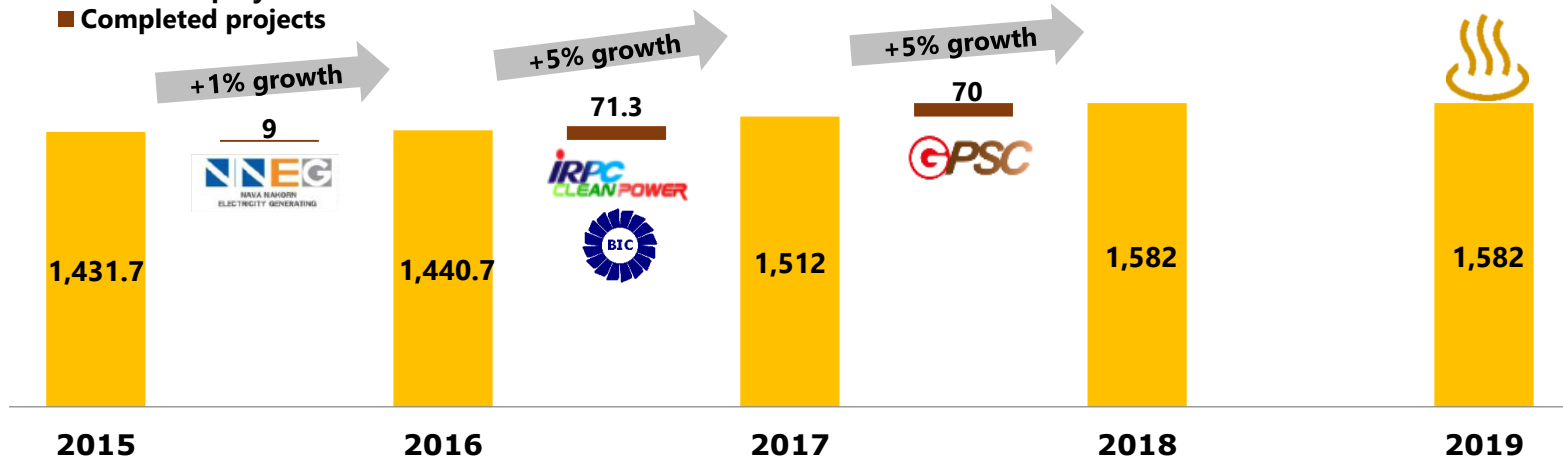
Unit: Equity MW

Unit: Equity MW



- Secured equity steam
- Completed projects

Unit: T/h



Maximize

Optimize and Manage cost on existing operating asset

Manage

Project Management / Portfolio Management

Move

3 Growth Engines

Grow with PTT & Domestic



- Be PTT Group's power supplier of choice
- New customers in Thailand
- Positioned for new Energy Policy

International Business



- Focus countries
- Enhance country knowledge and relationship
- Strategic partners

Future Energy



- Leverage 24M partnership
- Smart grids for smart cities

New Organization / Process to support the model

GPSC 24M at A Glance

24M Technologies, Inc. is a Boston-based “startup company” in the field of Lithium-ion battery (LiB) technology. Founded and led by some of the battery industry’s foremost inventors, scientists and entrepreneurs.



24M’s Innovation

24M’s semisolid lithium-ion battery cell design and begets an advanced manufacturing process, when fully implemented, will reduce the cost of today’s lithium-ion batteries by 50% and improve the performance of lithium-ion batteries.

Founded

2010 by 3 Founders

- Dr. Yet-Ming Chiang : Dr. Chiang is a professor of Material Science and Engineering at MIT and one of the top battery researchers in the world.
- Dr. W. Craig Carter : Dr. Carter is a Professor in the Materials Science and Engineering department at MIT.
- Throop M. Wilder : Mr. Wilder is a veteran entrepreneur with roots in communications and networking technologies.

Headquarters

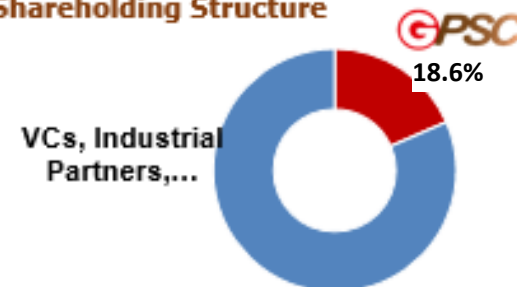
Cambridge, Massachusetts (MA), USA

Recent Development

- **Industry Recognitions :**
 - Bloomberg New Energy Finance : **2016 Energy Innovation Pioneers**
 - IHS Energy CERAWEK : **2016 New Energy Pioneers**
 - MIT Technology Review : **50 Smartest Companies 2016**
 - World Economic Forum : **Technology Pioneers 2016**
- **Government Grant & Funding :**

The United States Advanced Battery Consortium (USABC) Awards \$7 Million Contract to 24M to Develop lower cost EV batteries manufacturing process. The competitively bid contract award is 50 percent cost share-funded by the U.S. Department of Energy (DOE).

Shareholding Structure

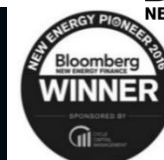


Total Investment of GPSC Portion

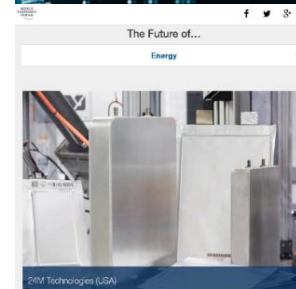
~22 USD million

*Outstanding (Non-Fully Diluted basis) share as of 2016 year end

Recognitions:



Bloomberg
NEW ENERGY FINANCE
“THE FUTURE OF ENERGY” SUMMIT



IHS ENERGY CERAWEK
35th Executive Conference and Related Events

MIT Technology Review
50 Smartest Companies 2016
Our editors pick the 50 companies that best combine innovative technology with a reflective business model.
June 21, 2016



24M Technologies, Inc. (24M)

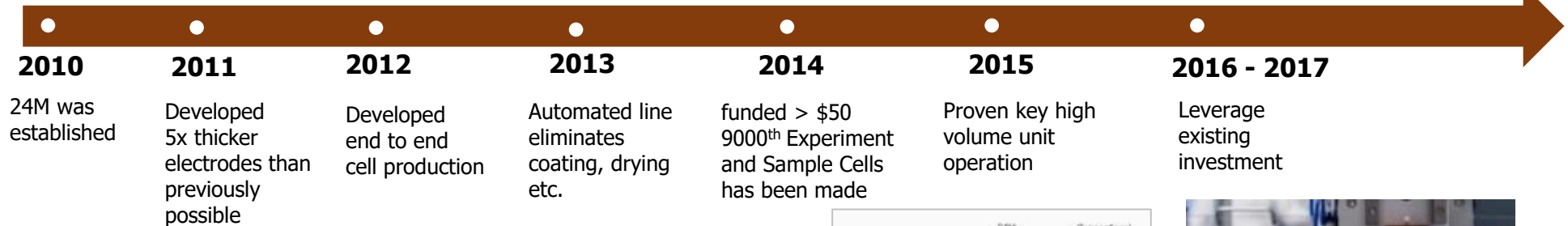
Cambridge, Massachusetts (MA), USA

Business

Lithium-Ion Battery technology

Application

•Energy Storage System (ESS)

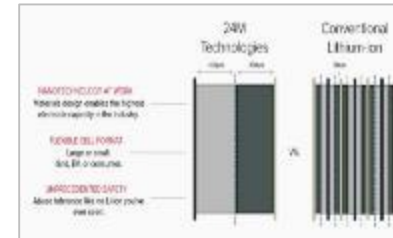


Progress update

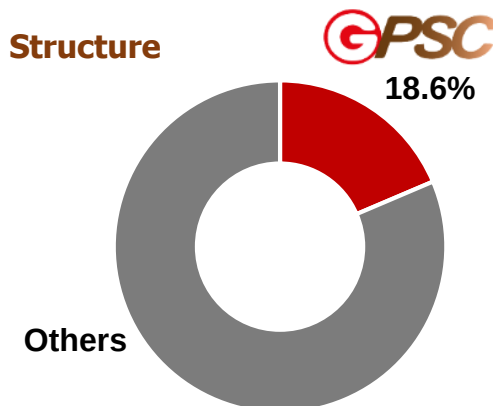
- On October'16, 24M Delivers Initial Quantity of Production-size Semisolid Lithium-ion Cells to NEC Energy Solutions (NECES) for Testing and Validation.
 - Currently, 24M is working on the **developing of High Volume Manufacturing production line.**

Awards & Recognition

- Throughout 2016, 24M has received many awards and recognition. For example :
 - 2016 Energy Innovation Pioneers: CERAWEK**, HIS Energy
 - 2016 New Energy Pioneers: Future of Energy Summit**, BENF
 - Listed in **"50 Smartest Companies 2016"**: MIT Technology Review
 - 2016 Platts Global Energy Awards finalists** : Breakthrough Solution of the Year
 - 2016 Zayed Future Energy Prize finalists**



Shareholding Structure



Total Investment of GPSC Portion

~22 USD million



Thailand Power Industry



Company Overview

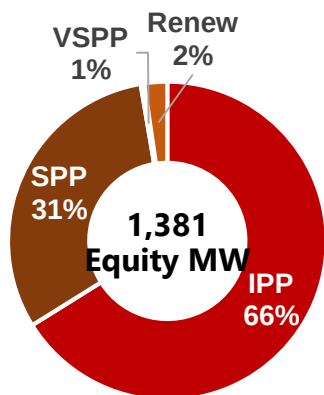


FY 2016 Financial Performance

Majority of GPSC's revenue is from electricity, PTT Group is GPSC's major customer

ELECTRICITY CAPACITY BREAKDOWN

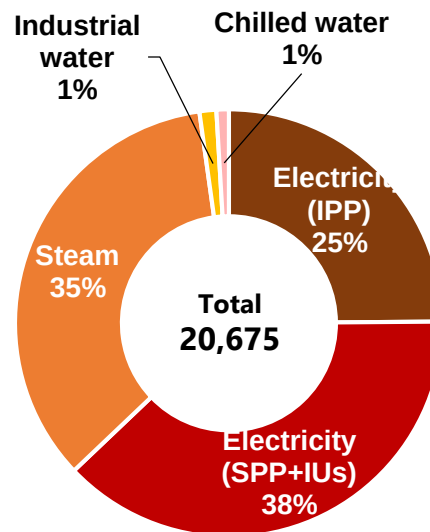
Unit: Equity Megawatt



Name	Type	GPSC's share %	Total capacity (MW)	Equity capacity (MW)	Steam (T/H)
IN OPERATION					
Sriracha	IPP	100%	700	700	
CUP-1	SPP	100%	226	226	890
CUP-2	SPP	100%	113	113	170
CUP-3	SPP	100%	-		280
CHPP	VSPP	100%	5	5	
IRPC-CP Phase 1	SPP	51%	45	23	86.7
CHPP (Solar)	VSPP	100%	5	5	
Consolidate to Financial Statement				1072	1427
TSR	Renew	40%	80	32	
NNEG	SPP	30%	125	38	9
BIC-1	SPP	25%	117	29.25	5
RPCL	IPP	15%	1,400	210	
Share of Profit / Dividend Income				309	14
Total operating				1,381	1,441

FY16 Revenue by product

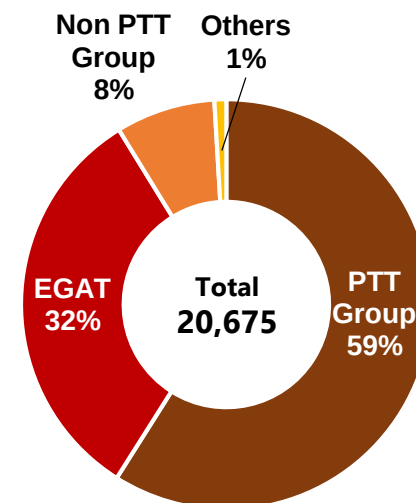
(THB million)



- Electricity and Steam are major source of GPSC's revenue, accounted for 98% of total revenue.

FY16 Revenue by customer

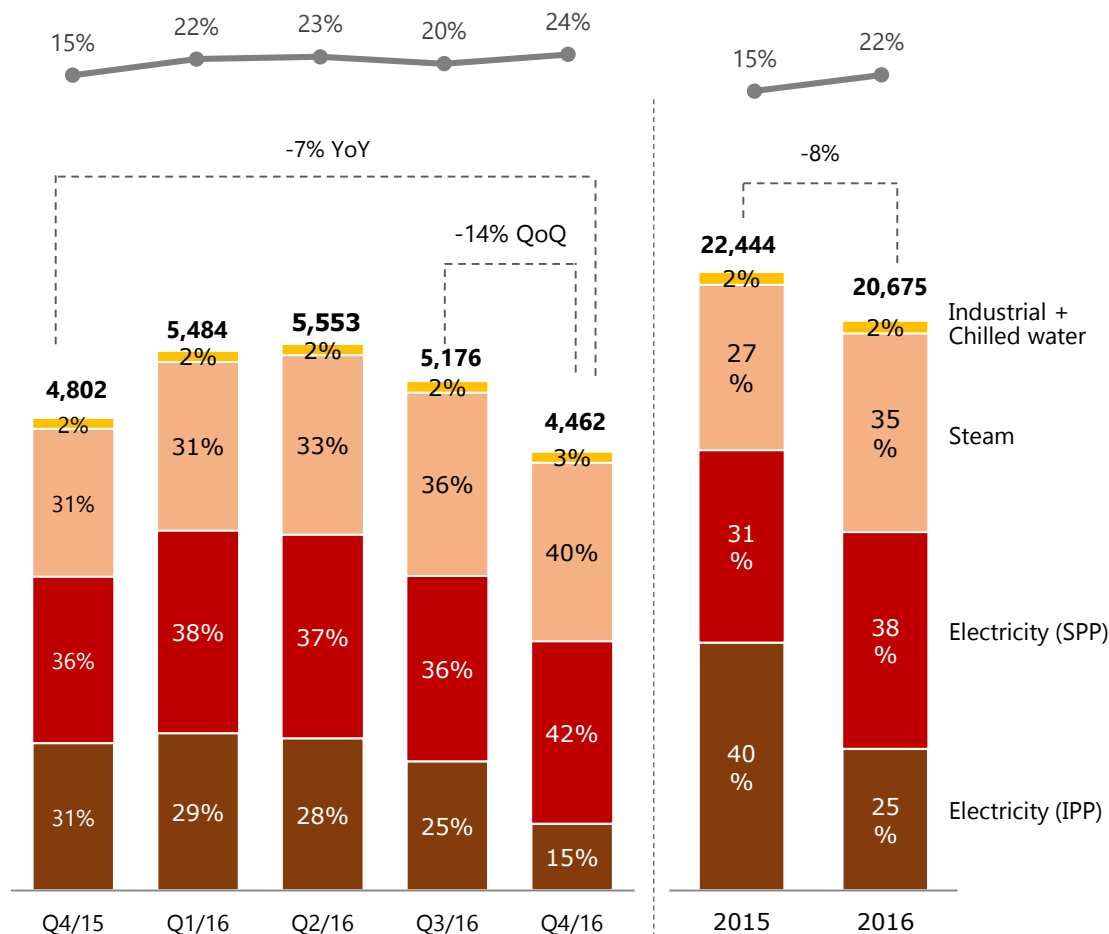
(THB million)



- Accounted for more than 50% of total revenue, PTT Group is the largest customer of GPSC in FY16.

Quarterly revenue and Gross profit margin*

(THB million, %)



Q4/16 VS Q3/16 (QoQ)

- Operating revenue in Q4/16 decreased by THB 714 million or 14%.
- The decrease was due to the decline in revenue from Energy Payment (EP), from the lower EGAT's dispatch volume of Sriracha power plant.

Q4/16 VS Q4/15 (YoY)

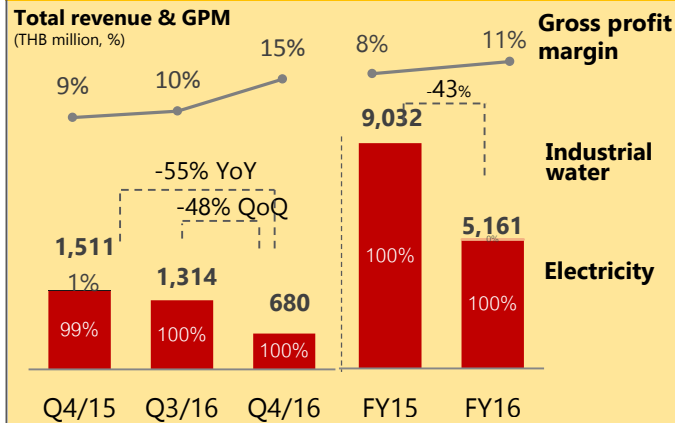
- Operating revenue in Q4/16 decreased by THB 341 million or 7%.
- The decrease was due to lower sales volume of Sriracha power plant.

2016 VS 2015

- Operating revenue in year 2016 decreased by THB 1,769 million or 8% from lower sales volume to EGAT of Sriracha power plant and the declining in the sales price followed the reduction in gas price.

Sriracha Plant (IPP)

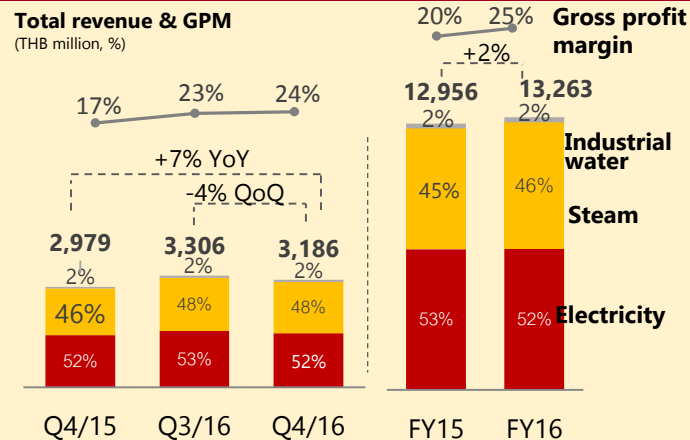
Total revenue & GPM
(THB million, %)



- **QoQ:** Total revenue was lower by 48% mainly from the drop in the dispatch volume according to EGAT's instruction and the decline of the revenue from the Availability Payment, caused by the annual maintenance.
- **YoY:** Total revenue decreased by 55%, mainly from electricity submitted volume to EGAT and a drop in natural gas price together with an annual maintenance which caused lower Availability Payment.
- **12M:** Total revenue dropped by 43% because of the reductions in electricity sales volume submitted to EGAT by 45% and sales price by 1%.

Rayong Plant (SPP)

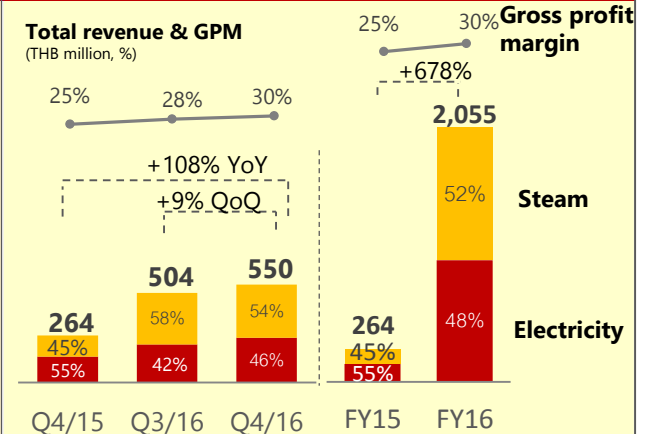
Total revenue & GPM
(THB million, %)



- **QoQ:** Total revenue was lower by 4% due to average selling price of electricity and steam which caused accordingly by lower natural gas price and k-factor.
- **YoY:** Total revenue slightly increased by 7%, mainly from rises in sales volumes of steam and electricity caused by the increasing of industrial customer demand.
- **12M:** Total revenue slightly increased by 2%, contributed from the increases in demand of electricity and steam from industrial customers which increased sales volume for 13% and 20% for electricity and steam, respectively.

IRPC-CP Phase 1 Plant (SPP)

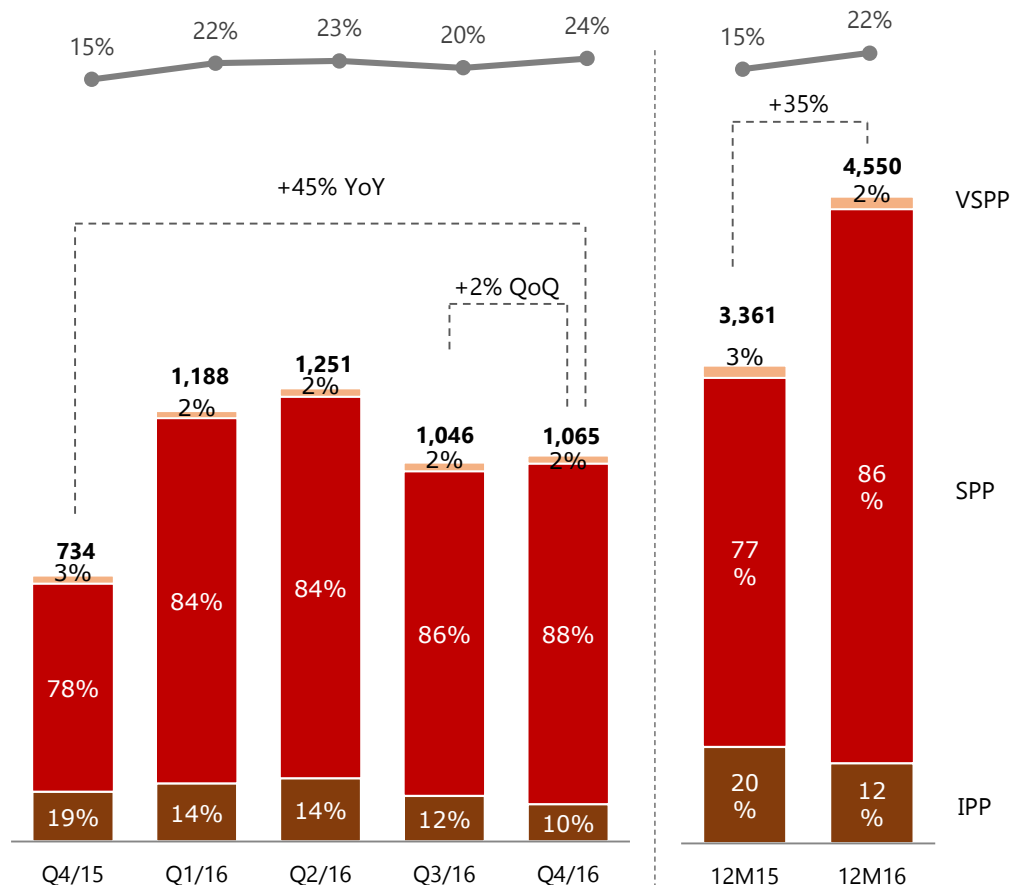
Total revenue & GPM
(THB million, %)



- **QoQ:** Total revenue increased by 9% mainly due to the increase in demand of electricity from customers and in Q4/2016 there was fewer maintenance shutdowns at IRPC-CP Phase 1 than in Q3/2016.
- **YoY:** The revenue of IRPC-CP Phase 1 in 2016 increased from 2015 mainly because the longer operating periods in 2016 than in 2015 considering the start of COD in November 2015.

Gross profit improved 35% from 2015, GPM improved to 22% from higher SPP's sales volume and better cost management

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



Q4/16 VS Q3/16 (QoQ)

- Gross profit in Q4/16 was THB 1,065 million increased by THB 19 million or 2%.
- This mainly due to the decrease in cost of natural gas and higher sales volume.

Q4/16 VS Q4/15 (YoY)

- Compare with Q4/15, gross profit increased by THB 331 million or 45%.
- The increase was from higher sales volume from Rayong Plant since there was customers maintenance shutdown in Q3/15.
- Moreover, the COD of IRPC-CP Phase 1 in Nov 2015 also enhanced company's gross profit.

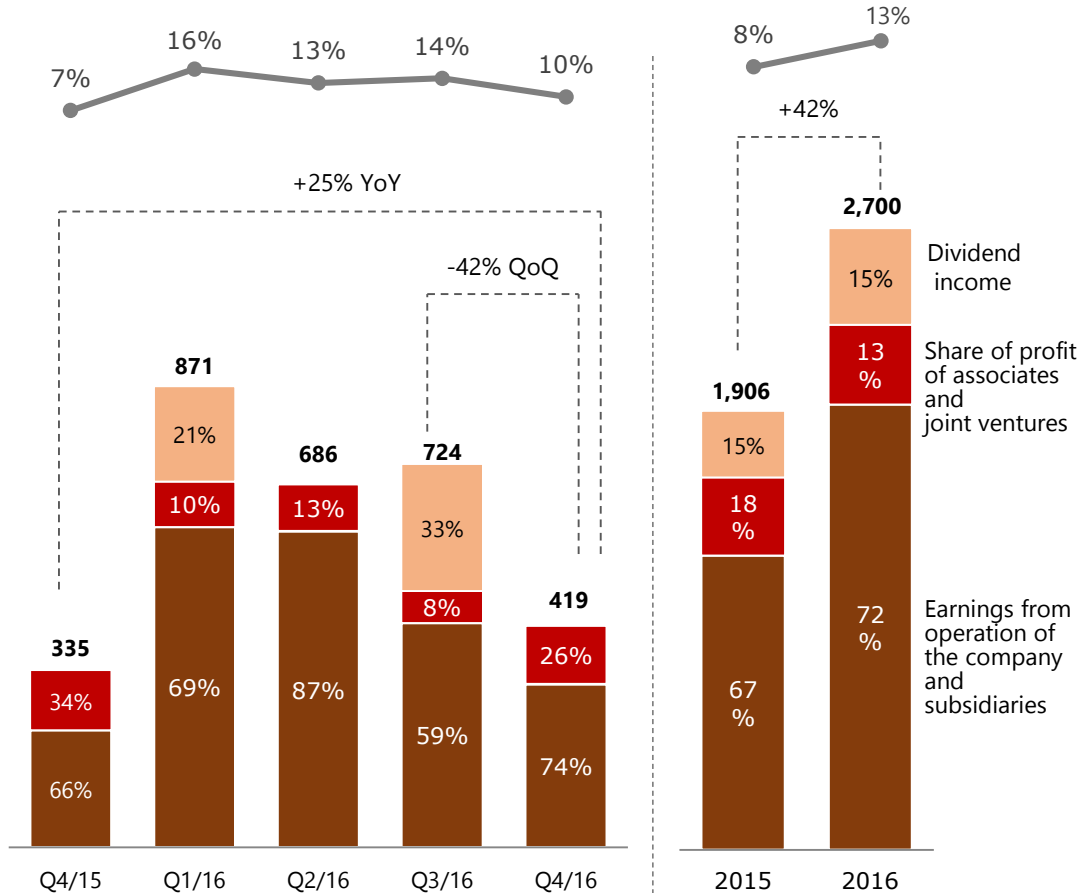
2016 VS 2015

- Gross profit in 2016 significantly increased by THB 1,189 million or 35%.
- The better cost management and revenue recognition from the SPP power plants (higher margin) were the main contribution of the significant increase in the gross profit and GPM in 2016.

Net profit for 2016 for the company increased outstandingly from better operating results and dividend income

Quarterly net profit and net profit margin

(THB million, %)



Q4/16 VS Q3/16 (QoQ)

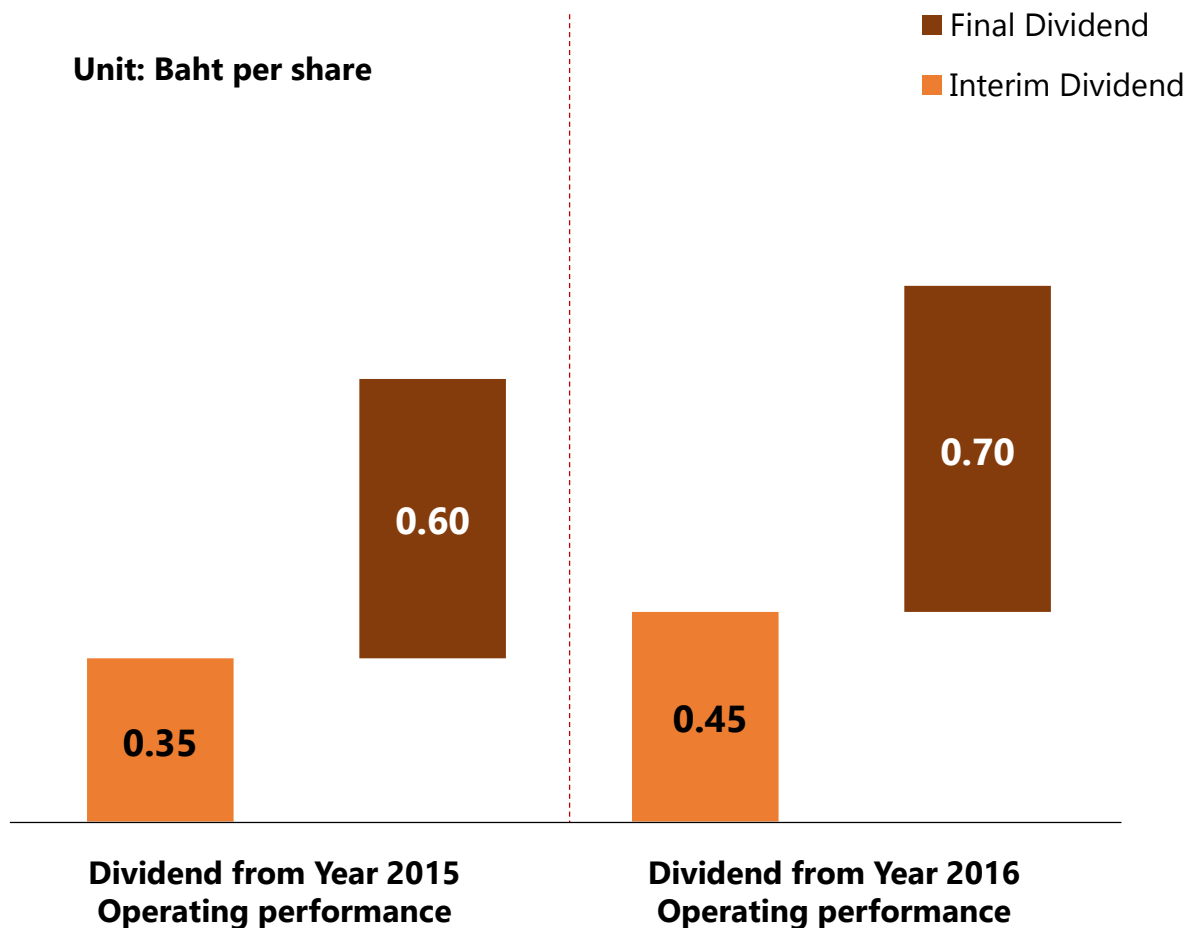
- Net profit for the company in Q4/16 was THB 419 million decreased by THB 305 million or 42%.
- The decrease was because the company was no dividend income from RPCL as in Q3/16.

Q4/16 VS Q4/15 (YoY)

- Net profit for the company increased by THB 84 million or 25%.
- The increase was due to the increase in demand of electricity and steam consumptions from the existing and new customers.

2016 VS 2015

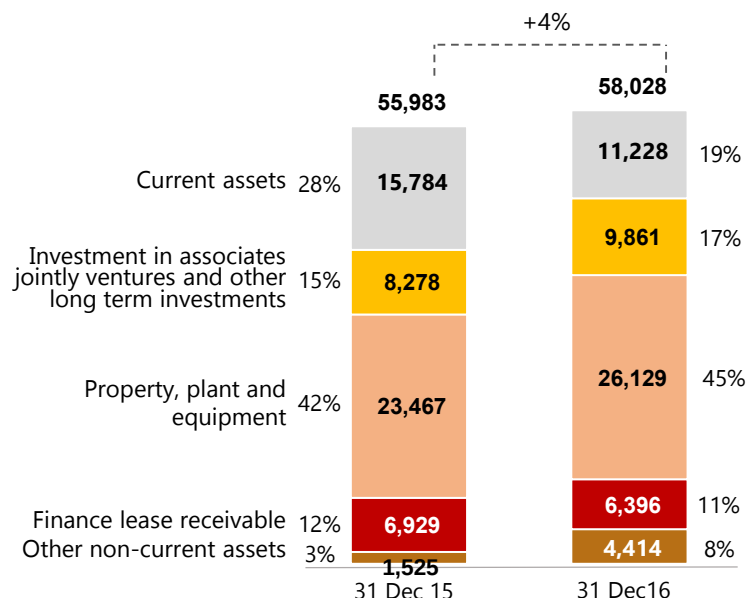
- Net profit in 2016 significantly increased by THB 794 million or 42%.
- The increase in net profit came from the increase in sales volume of Rayong plant also, it is the first year that IRPC-CP operated for the whole year. Moreover, the company realized an increase in the share of profit from NNEG that COD in June 2016 also, the company received significant amount of dividend income from RPCL.



- On 9 February 2017, BOD passed a resolution for the payment of dividend for 2016 at **Baht 1.15 per share** which is higher than 2015 dividend, resulting from the better operating results.
- The **dividend per share for 2H/16 is 0.70 Baht**
- The **Record Date was on 24 February 2017** for the right to receive the dividend.
- The **dividend payment date was on 11 April 2017** after obtaining approval from 2017 AGM.
- The dividend was paid from the tax exemption profit portion wherein **individual shareholders shall not include as taxable income** and not be entitled to a dividend tax credit at the rate of **Baht 0.52 per share**, and from profit with 30% Corporate Income Tax wherein individual shareholders are entitled to a tax credit at the rate of **Baht 0.18 per share**

- **Dividend Policy :**
Minimum of 30% of net income according to a financial statement, after deductions of tax, reserve capital requirement (with additional conditions)

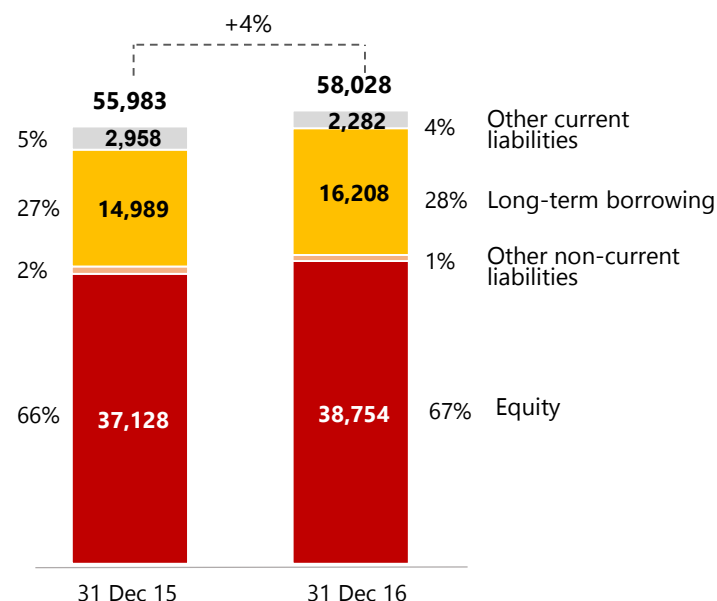
Total Assets (THB million)



Total assets were THB 58,028 million, increased by 4% from THB 55,983 million.

- The increase was mainly from
 - increases in investments from the better operating result of the associates and JV and
 - increase in the fixed assets of the power plants that were constructed during 2016.

Total Liabilities & Shareholders equity (THB million)

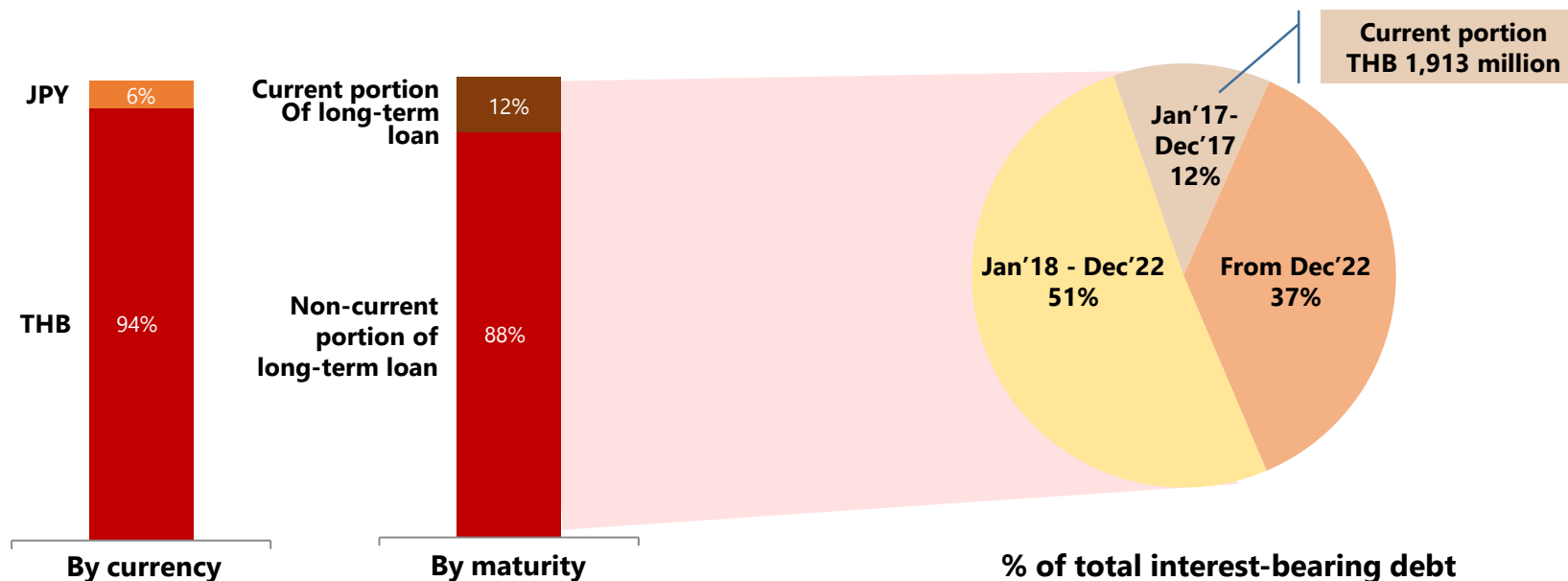


- Total liabilities were THB 19,274 million increased by THB 419 million or 2% mainly from the additional drawdowns of long-term loans for power plant constructions.
- Equity were THB 38,754 million increased by THB 1,626 million or 4% mainly from an increase in the unappropriated retained earnings.

Debt profile

Debt repayment plan

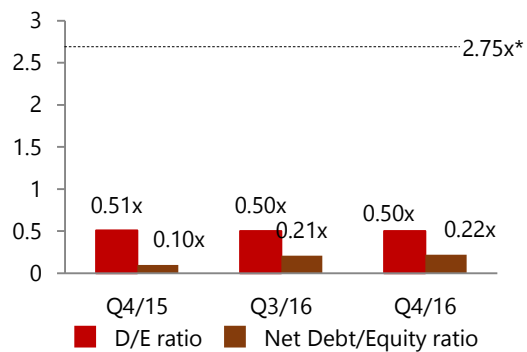
Total interest-bearing debt: THB 16,208 million



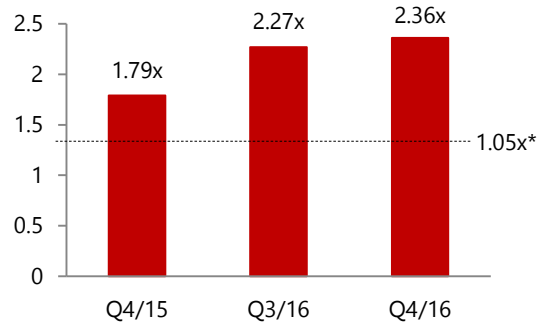
- All debt balance as at 31 December 2016 is in THB and JPY currency.
- 100% of total interest-bearing debt is long-term loan which includes 12% of current portion.

- Non-current portion of long-term debt equals to THB 14,295 million while current portion equals to THB 1,913 million.
- 51% of total interest-bearing debt will be repaid between January 2018 – December 2022.

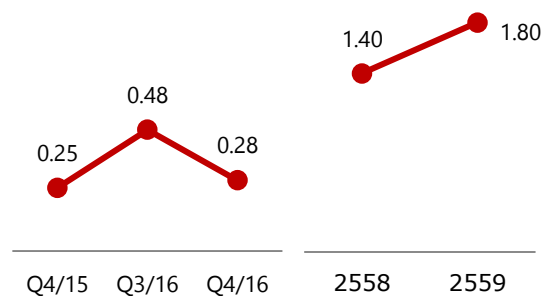
Total D/E and Net Debt/ Equity ratio (Times)



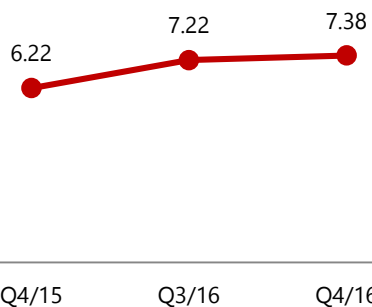
DSCR (Times)



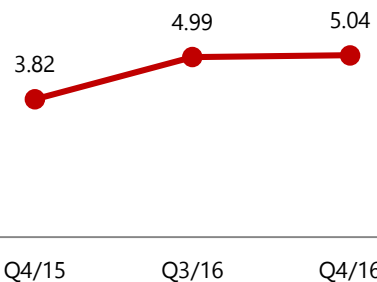
Earning per share (EPS) (Baht/share)



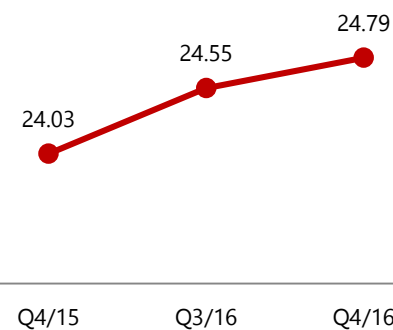
ROE (%)



ROA (%)



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



THANK YOU

Global Power Synergy Public Company Limited

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Vibhavadi Rangsit Rd. Chatuchak, Bangkok 10900

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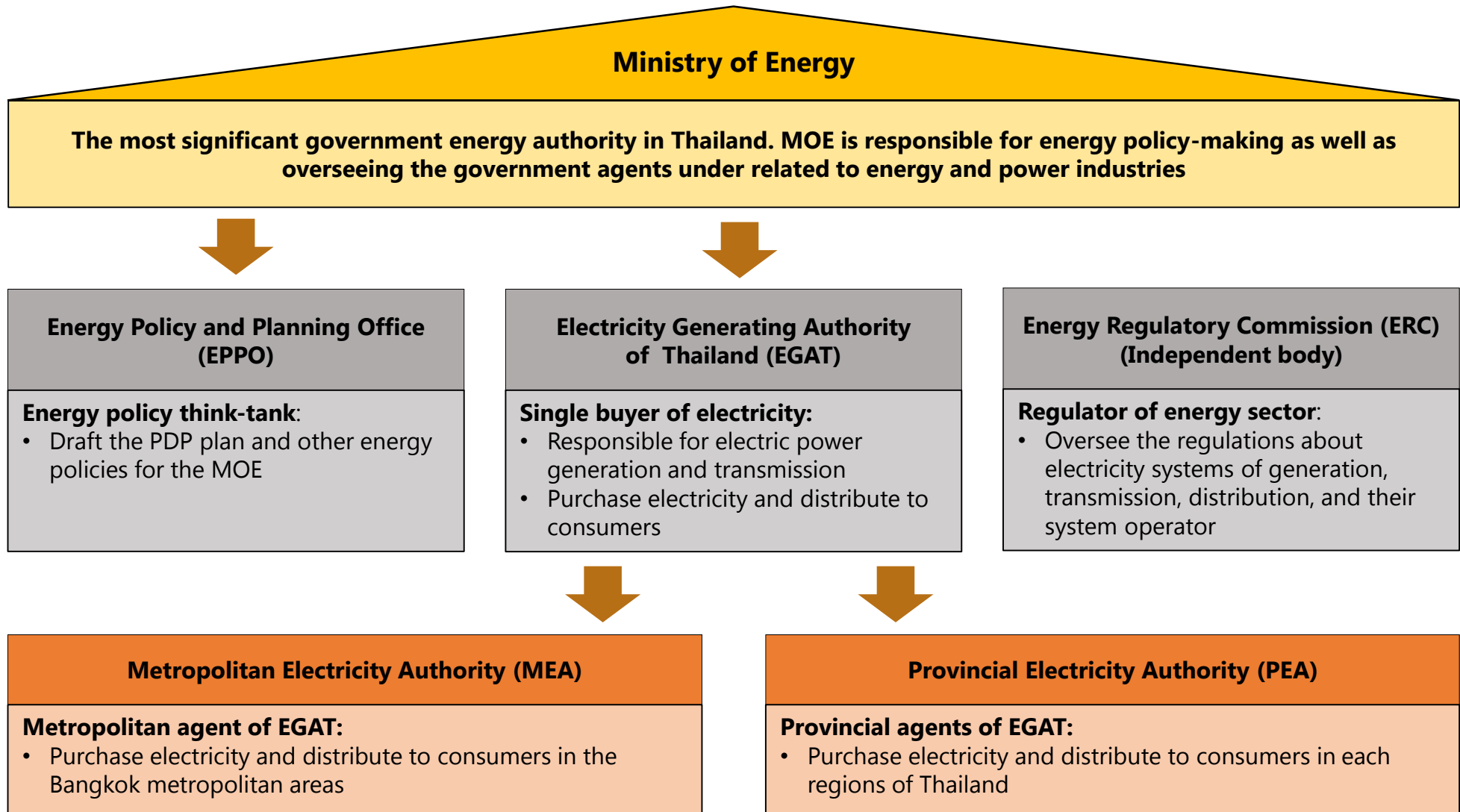
www.gpscgroup.com



Appendix

- Thailand Power Industry Overview
 - **Government Policy & Key Power Authorities**
- GPSC's Overview

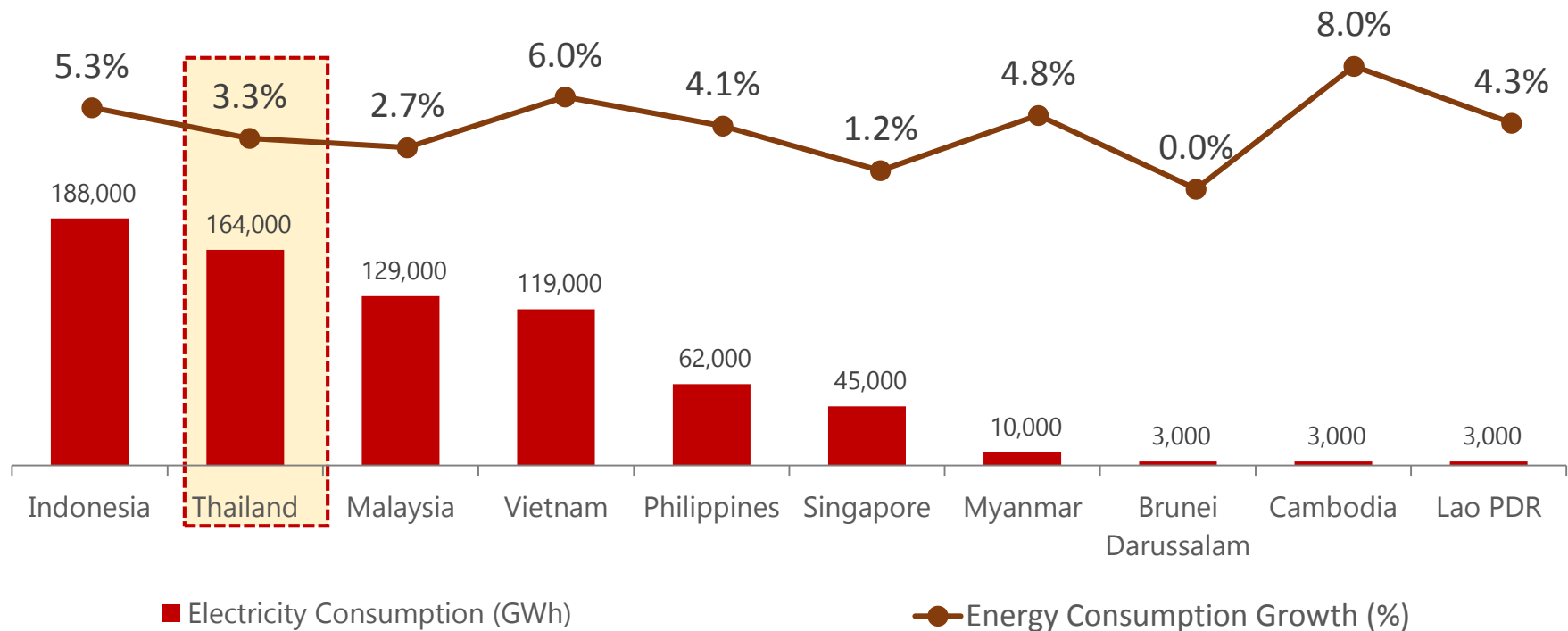
Roles and Authorities in Energy Sector in Thailand



Thailand is the second largest electricity consumer in ASEAN, with energy consumption growth of 3.3% CAGR in next 20 years

- **Thailand is the second largest consumer of electricity in ASEAN**, second only to Indonesia.
- Considering GPSC profile, whose portfolio is mainly in Thailand, Laos PDR, and potential projects in Myanmar; the company is located in one of the current largest consumers (Thailand) as well as in the emerging and potential consumers of the region (Myanmar and Laos PDR)

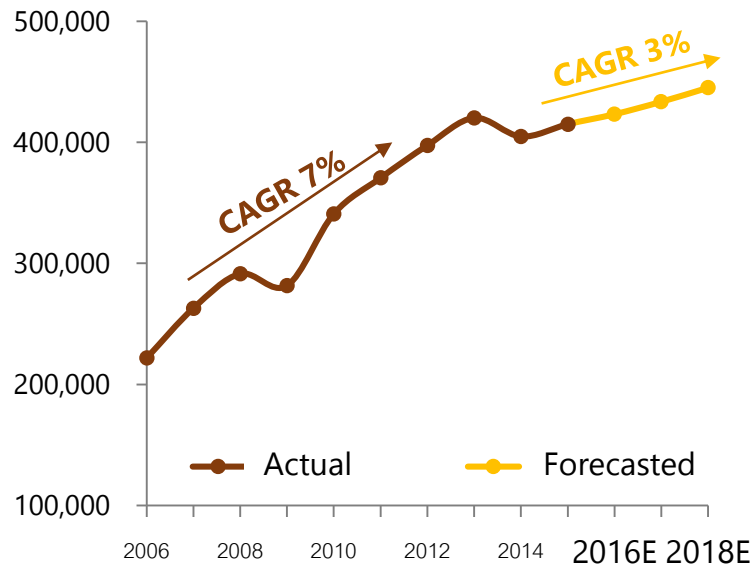
Electricity Consumption & Forecasted Energy Consumption Growth (CAGR 2015-2035) (GWh)



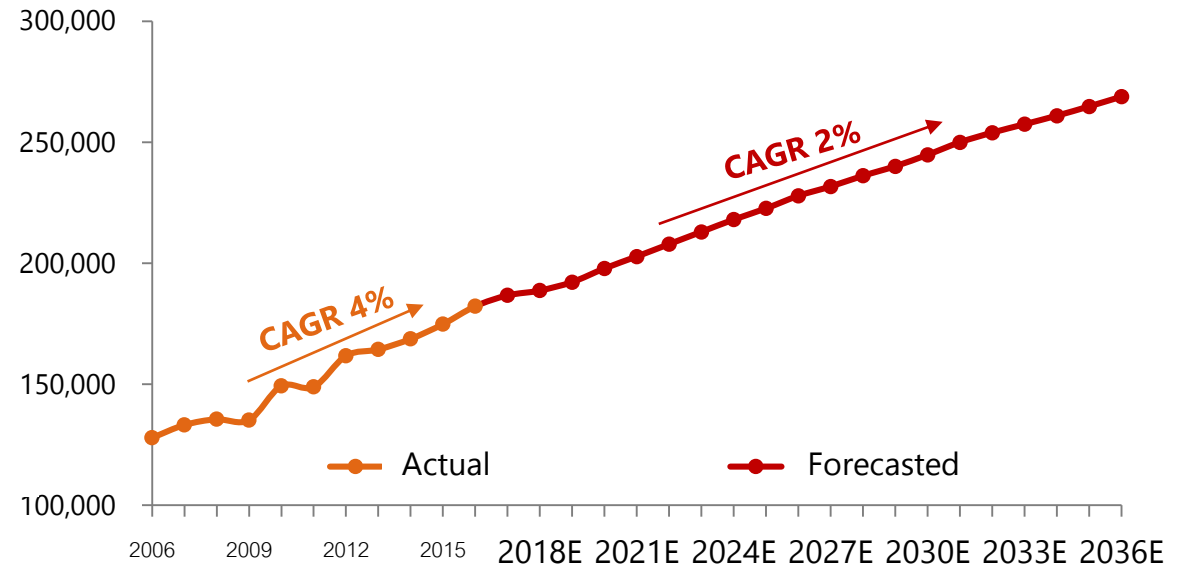
Thailand's electricity consumption grows in tandem with economic growth

- Historically, Thailand's electricity power consumption has been driven by economic growth
- Thailand's GDP and Energy Consumption has expanded in tandem, **it is forecasted that GDP will grow at 3% CAGR (2016 onwards) and Electricity Power Consumption will grow at 2% CAGR (2016-2036).**
- Given higher economic growth in the future, there will be higher demand for electricity in Thailand

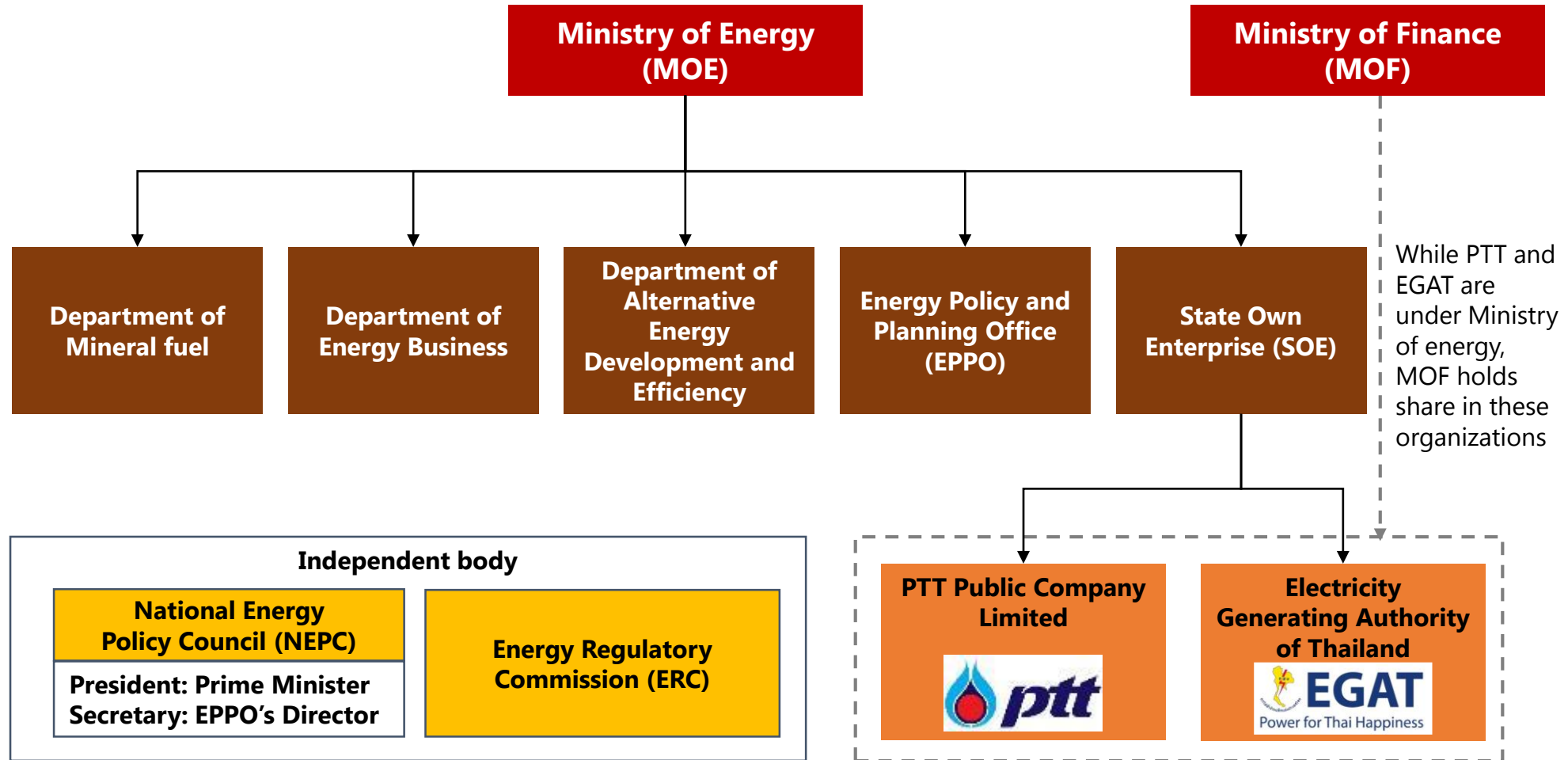
Thailand's historical and forecasted GDP (USD million)



Thailand's Electricity Power Consumption (GWh)

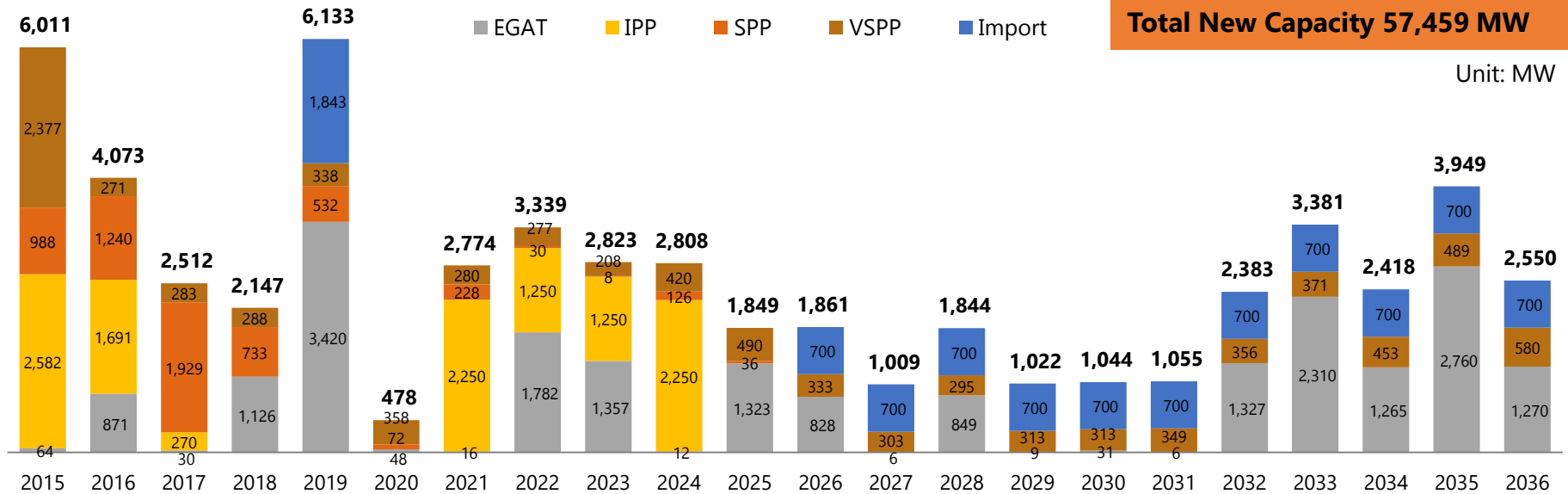


Relationship among Energy Authorities

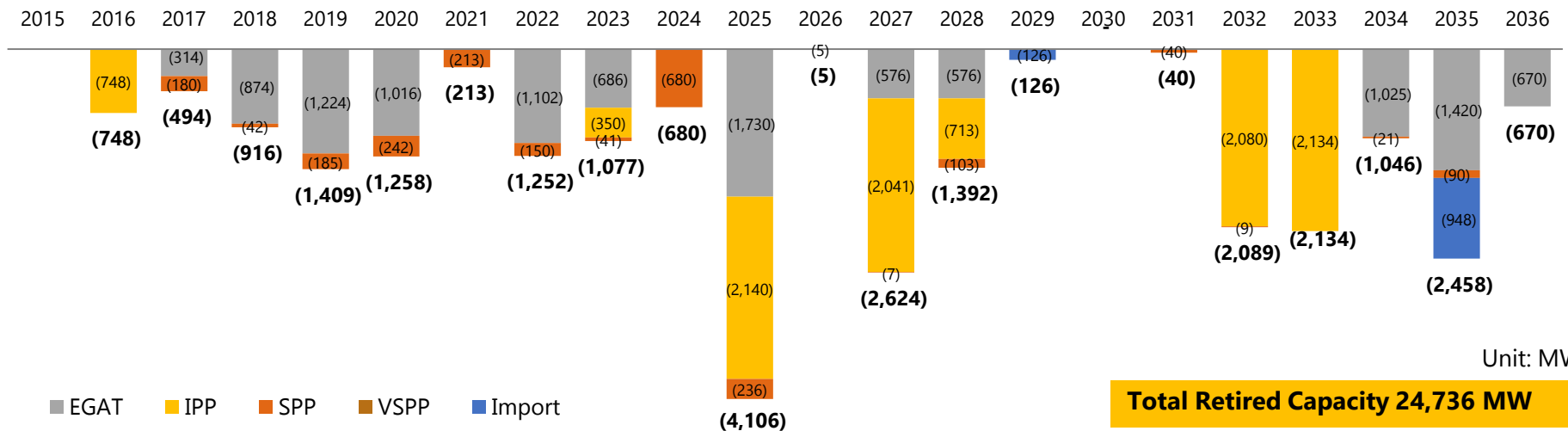


Most of total new and retired power capacity during 2015-2036 are from EGAT and IPP, respectively

Thailand's power new capacity during 2015-2036



Thailand's power retired capacity during 2015-2036





Appendix

- Thailand Power Industry Overview
 - Government Policy & Key Power Authorities
- **GPSC's Overview**



Sriracha Power Plant

Chonburi Province (40 Rai leasehold land)



Type	Combined cycle
Capacity	- Electricity: 700 MW - Industrial water: 80 Cu.m/h
Customer	- Electricity: EGAT 700 MW - Industrial water: Thaioil Power 50 Cu.m/h
Supplier	- Natural Gas – PTT - Raw Water – EASTW - Power Back up – EGAT and TP
COD	2000
Contract	25 Years - End: 2025

Shareholding



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



Rayong Power Plant
Rayong Province

CUP -1



CUP -2



CUP -3



Type	Cogeneration
Capacity	CUP-1 - Electricity: 226 MW - Steam: 890 T/h - Industrial water: 720 Cu.m/h CUP-2 - Cu.m/H - Industrial water: 510 Cu.m/h CUP-3 - Steam: 280 T/h - Industrial water: 770 Cu.m/h
Customer	- PTT Group - Other IU Customers - EGAT
COD	2006-2009
Contract	- CUP-1: 10-15 years ++ - CUP-2: 15 years ++ - CUP-3: 15 years ++

Shareholding





Combined Heat and Power Producing Co., Ltd.
Bangkok Province

Type	Combined heat and power with district cooling (VSPP)
Capacity	- Electricity: 5 MW - Chilled water: 12,000 RT
Customer	DAD 8,700 RT
COD	2008 - Electric Chiller Jan 1, 2009
Contract	30 Years - End: 2038



Shareholding

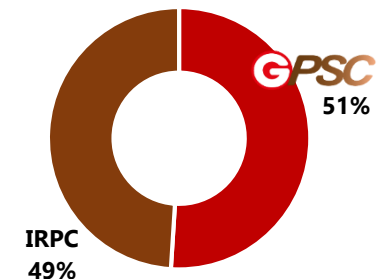


IRPC Clean Power Company Limited (IRPC-CP Phase 1)
Rayong Province (118 Rai)

Type	Cogeneration (SPP)
Capacity*	- Electricity: 240 MW - Steam: 180-300 T/h
Customer*	- Electricity: EGAT 2x90 MW (25 years), IRPC 60 MW (27 years) - Steam: IRPC 180-300 T/h
COD	2015
Contract	25 Years - End: 2040



Shareholding

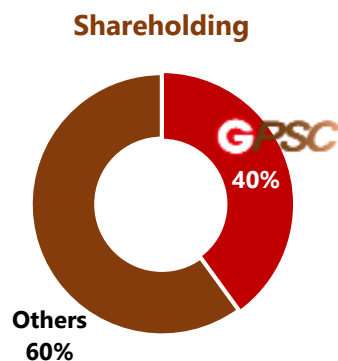




Thai Solar Renewable Company Limited

Kanchanaburi and Suphanburi Province

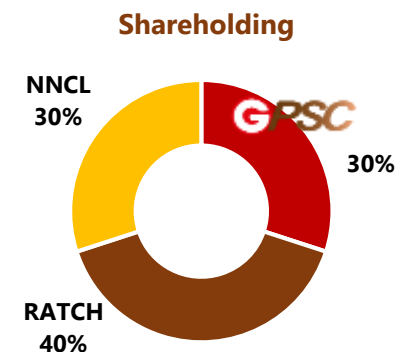
Type	Solar
Capacity	Electricity: 80 MW
Customer	PEA
COD	2013-2014
Contract	10 Years - End: 2023



Nava Nakorn Electricity Generating Company Limited (NNEG)

Pathumthani Province

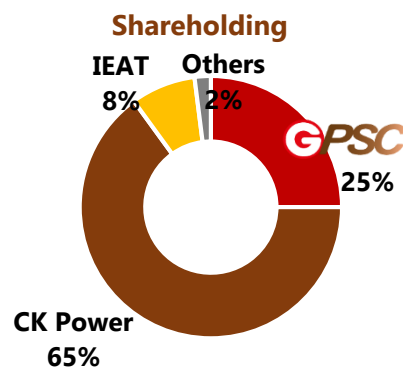
Type	SPP Cogeneration
Capacity	- Electricity: 125 MW - Steam: 30 T/h
Customer	- Electricity: EGAT 90 MW (25 years), IUs 35 MW - Steam: IUs
COD	June, 2016
Contract	25 Years - End: 2041





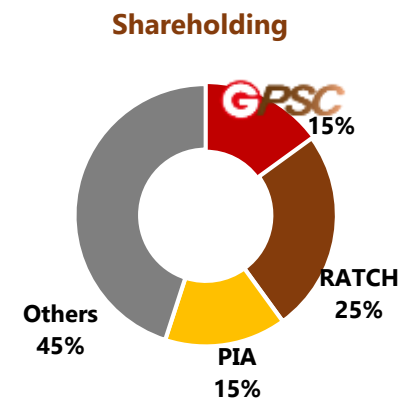
Bangpa-in Cogeneration Company Limited
Ayutthaya Province

Type	Cogeneration (SPP)
Capacity	- Electricity: 117 MW - Steam: 5 T/h
Customer	- Electricity: EGAT 90 MW, IUs 27 MW - Steam: 5 T/h
COD	28 Jun 2013
Contract	25 Years - End: 2038



Ratchaburi Power Company Limited
Ratchaburi Province

Type	Combined Cycle (IPP)
Capacity	Electricity: 1,400 MW
Customer	EGAT
COD	Mar 2008
Contract	25 Years - End: 2033



CHPP Solar Cooperatives has started COD as planned with the first full quarter to realize revenue in Q1 2017



CHPP Solar Cooperatives
Chanthaburi Province

- ✓ CHPP Solar Cooperatives starts **COD on 30 December 2016 as planned** with operating capacity of 5 MW
- ✓ Securing **Feed-in-Tariff (FiT) at 5.66 THB per unit** along 25 years of contract with Provincial Electricity Authority (PEA)
- ✓ Q1 2017 will be the first full quarter that performance of CHPP Solar Cooperatives will be consolidated to GPSC

Shareholding



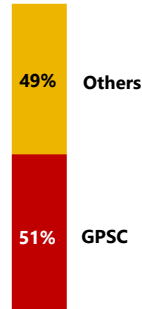


IRPC Clean Power Company Limited (IRPC-CP)

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



Equity Investment
3,400 THB Million



% Progress

1Q17
95%
4Q16
92%



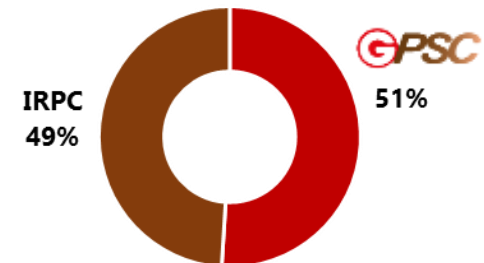
Type	SPP Cogeneration
Capacity*	- Electricity: 240 MW - Steam: 180-300 T/H
Customer*	- Electricity: EGAT 2x90 MW (25 years), IRPC 60 MW (27 years) - Steam: IRPC 180-300 T/H
SCOD	2017
Total Investment	13,600 THB Million
D/E	3:1

Progress update

Phase 2 Under Construction

- Construction progress of the project was 95%.
- Under construction of 230 kV transmission line.

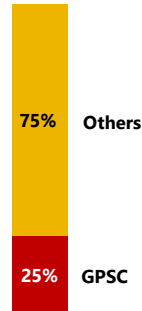
Shareholding





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

Equity Investment
1,335 THB million



% Progress

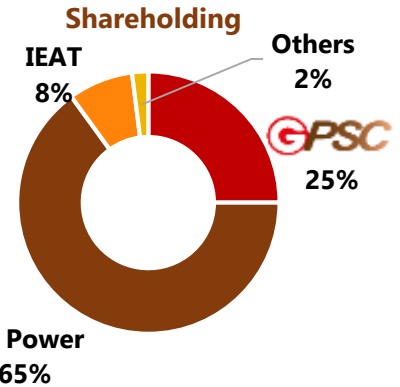
1Q16
86%
4Q16
84%



Type	SPP Cogeneration
Capacity	- Electricity: 117 MW (gross) - Steam: 20 T/h
Customer	- Electricity: EGAT 90 MW (25 years), IUs 27 MW - Steam: IUs 20 T/h
SCOD	2017
Total Investment	5,340 THB Million
D/E	3:1

Progress update

- Construction progress of the project was 86%.
- Fuel gas-introduced to gas compressor and gas turbine first firing test have been completed. Plant performance test and trial run plan will be proceeded for the next stage.



2015												2016												2017					
1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

ICHINOSEKI SOLAR POWER 1 GK

Ichinoseki Solar Power (ISP1) Ichinoseki City, Japan

Equity Investment
~2,080 YEN Million



% Progress

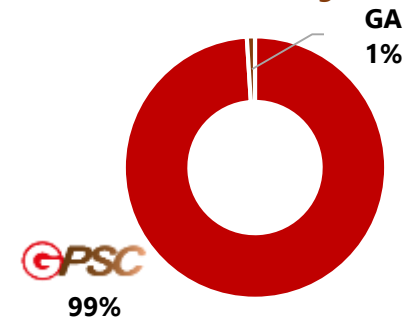


Type	Solar Farm
Capacity	• Electricity: 20.8 MWac
Customer	• Tohoku Electric Power (20 years)
SCOD	2017
Total Investment	~10,001 JPY million
D/E	4:1

Progress update

- Secure FiT at 42 JPY/kWh (exclude tax) for 20 years
- Foundation work and solar panel installation have already started in some area.
- GPSC first international project to COD in 2017
- The construction progress remained at 15% due to snow season.

Shareholding

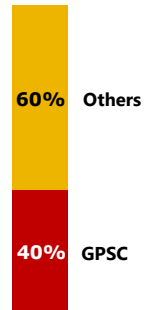




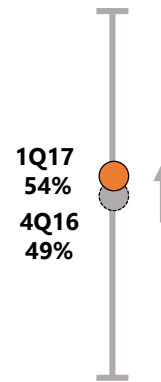
Nam Lik 1 Power Company Limited (NL1PC)
Lao PDR



Equity Investment
~37 USD Million



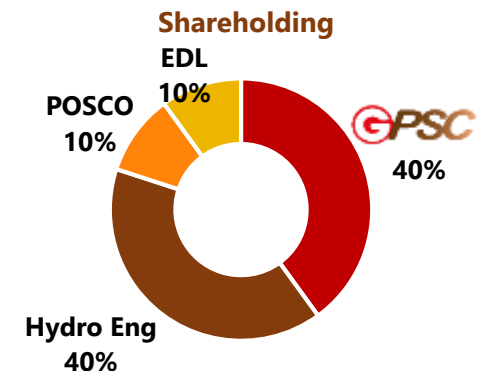
% Progress



Type	Run-of-River Hydropower
Capacity	• Electricity: 65 MW
Customer	• Electricity: EDL 63.8 MW (30 years PPA)
SCOD	Q1 2019
D/E	7:3

Progress update

- Construction progress of the project was 54%. NL1PC suggests EPC contractor to engage experience sub-contractor to be responsible for civil work.

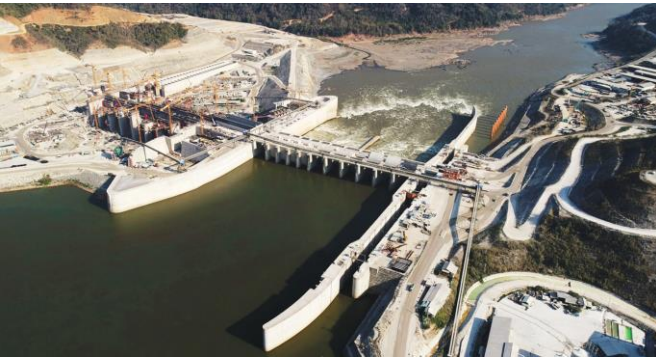




XAYABURI POWER

Xayaburi Power Company Limited (XPCL)

Xayaburi, Lao PDR



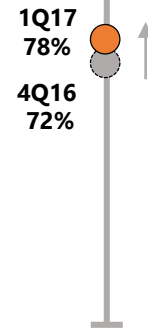
Equity Investment
28,821 THB Million



Shareholder Loan
17,241 THB Million



% Progress

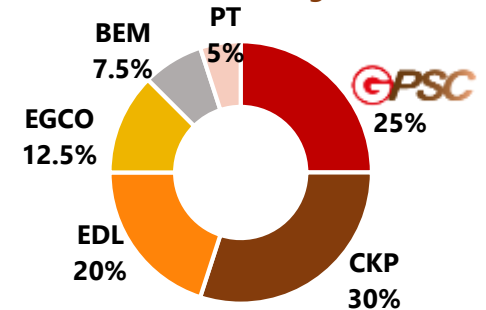


Type	Run-of-River Hydropower
Capacity	• Electricity: 1,285 MW
Customer	• Electricity: EGAT 1,220 MW (31 years), EDL 60 MW (31 years)
SCOD	2019
Total Investment	136,751 THB Million
D/E	3:1

Progress update

- Construction progress of the project was 78% evaluated by GOL's technical advisor, which concluded that the project is on schedule.
- The permanent structure such as powerhouse, intermediate block, fish passing facilities are progressing well.

Shareholding



XPCL Project improvement according to environmental concerns

Fish passing facilities



Powerhouse concrete work



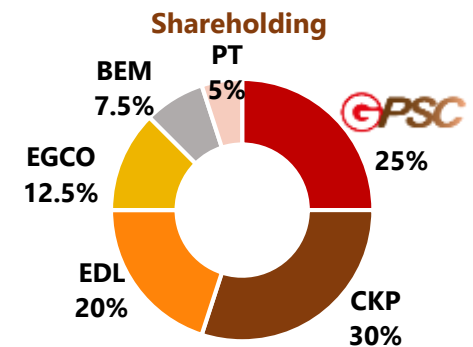
XAYABURI POWER

Xayaburi Power Company Limited (XPCL)

Xayaburi, Lao PDR

The additional requirements from Lao PDR's Government upon an environmental concerns in constructing XPCL power plant has caused an incremental construction costs . Therefore, the Government granted XPCL the compensations which are:

- ✓ **Decrease of corporate income tax**
- ✓ **Decrease of royalty fee**
- ✓ **Extend concession period for another 2 years** (after COD date);
Total 31 years





Rayong – Central Utility Plant 1-4 (CUP1-4)

Grow with PTT : Be PTT Group's Power in Petrochemical Complex



Rayong Power Plant
Rayong Province

CUP -1



CUP -2



CUP -3



Type	Cogeneration
Capacity	CUP-1 - Electricity: 226 MW - Steam: 890 T/h - Industrial water: 720 Cu.m/h CUP-2 - Cu.m/H - Industrial water: 510 Cu.m/h CUP-3 - Steam: 280 T/h - Industrial water: 770 Cu.m/h
Customer	- PTT Group - Other IU Customers - EGAT



Shareholding





Waste Management Project Rayong Province



Type	RDF	Waste to energy Power Plant (Future Development)
Capacity	Treat MSW at least 500 ton/day	Electricity 8 MW
Customer	RDF Power Plant/ Cement Plant	PEA
SCOD	2018	2019
Contract	Waste Management Contract between GPSC & Rayong PAO (Secured feedstock)	PPA under Feed-in-tariff scheme

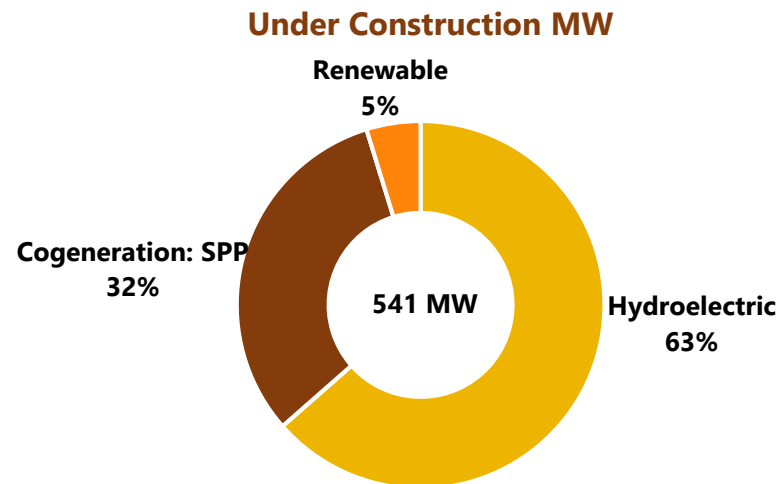
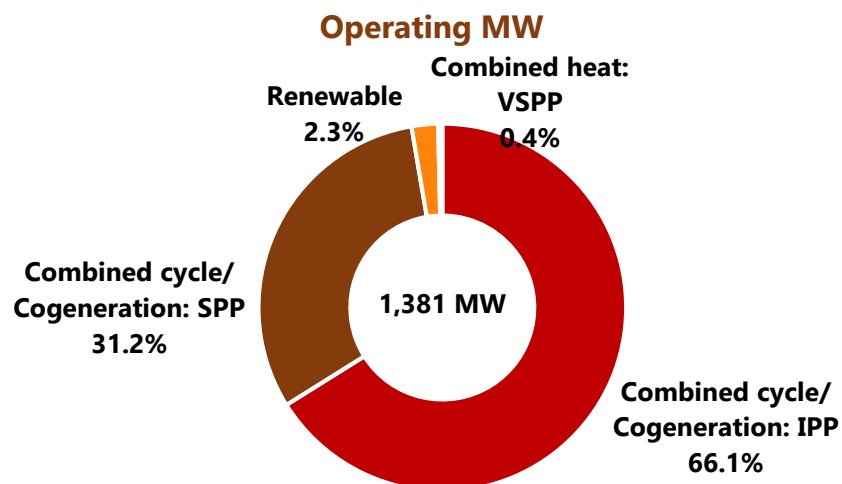
Progress update

- Under the Public and Private Partnership (PPP), the Waste Management Contract is being proved by the Attorney General Thailand
- During process of apply PPA under Feed-in-tariff scheme
- ESA/CoP has been finished
- Completed Basic Engineering Design Package (BED)
- **December 28, 2016, GPSC already signed the Rayong Integrated Waste Management by Private Operator Contract (by converting to RDF) with Rayong Provincial Administration Organization for 22 years**

Shareholding



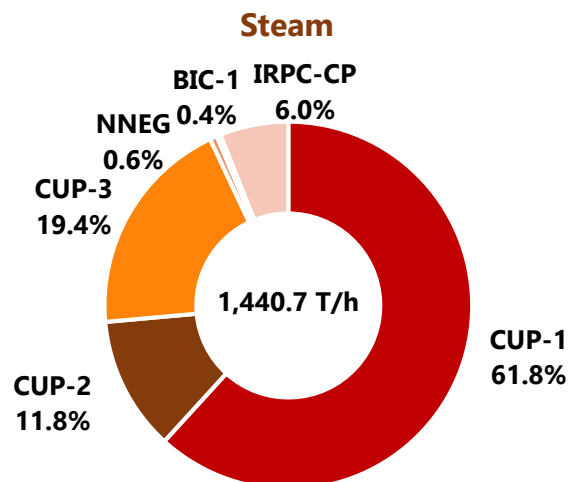
Electricity: Operating capacity of 1,381 MW, with another 541MW in pipeline



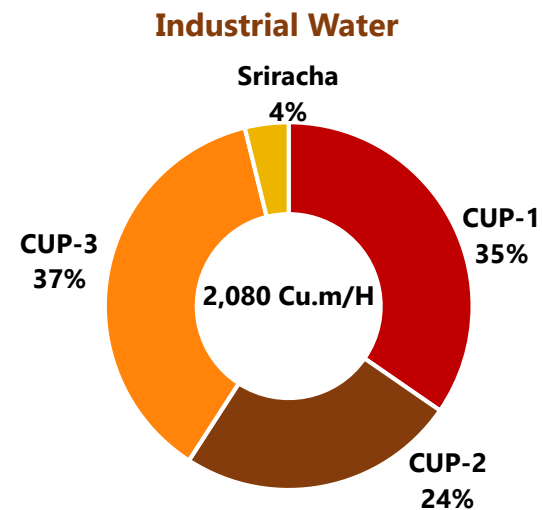
Name	Type	GPSC's share %	Total capacity (MW)	Equity capacity (MW)
Sriracha	IPP	100%	700	700
CUP-1	SPP	100%	226	226
CUP-2	SPP	100%	113	113
CHPP	VSPP	100%	5	5
CHPP (Solar)	Solar	100%	5	5
IRPC-CP Phase 1	SPP	51%	240	122 (Phase 1: 23 MW)
NNEG	SPP	30%	125	38
TSR	Solar	40%	80	32
BIC-1	SPP	25%	117	29.25
RPCL	IPP	15%	1,400	210
Total			1,381	

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
BIC-2	SPP	25%	117	29.25	2017
XPCL	Hydro	25%	1,285	321	2019
Total				541	

Operate 1,441 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	
NNEG	9	
BIC-1	5	
IRPC-CP Phase 1	86.7	
CUP-4		70
IRPC-CP Phase 2		66.3
BIC-2		5
Total	1,440.7	141.3

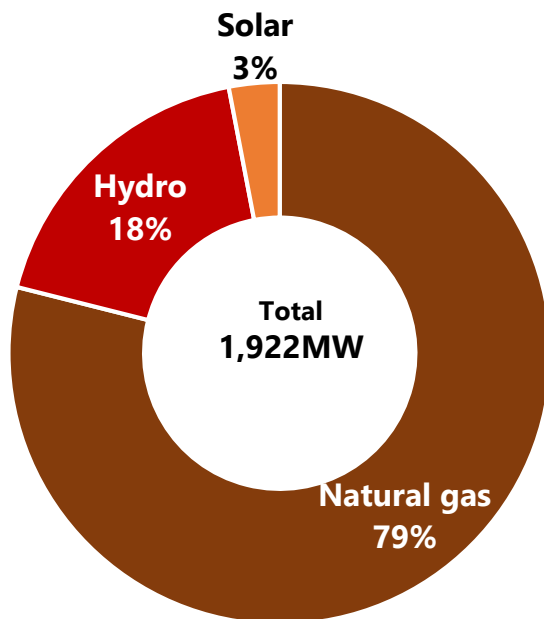


Name	Operating capacity (Cu.m/h)
Sriracha	80
CUP-1	720
CUP-2	510
CUP-3	770
Total	2,080

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

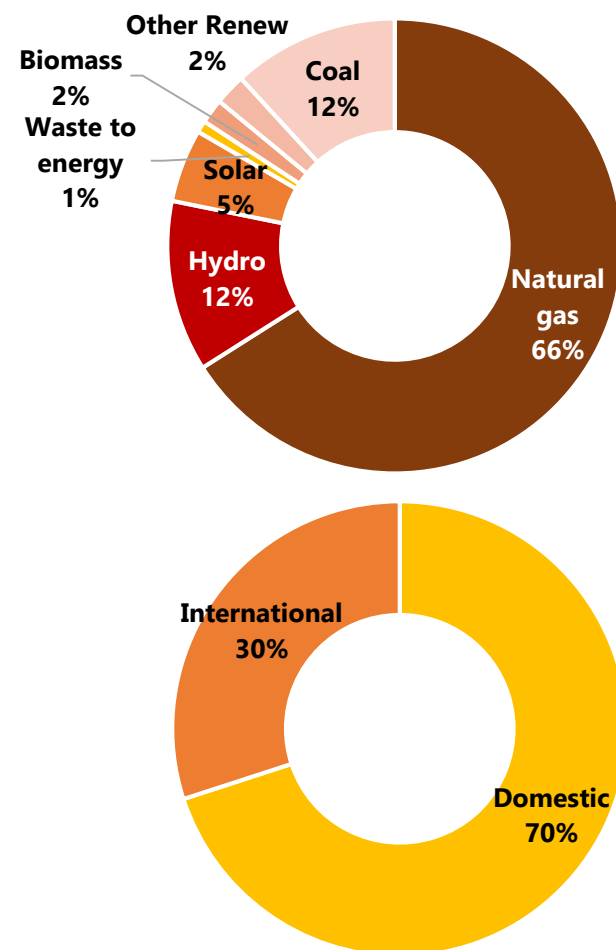
Committed Portfolio

(MW)



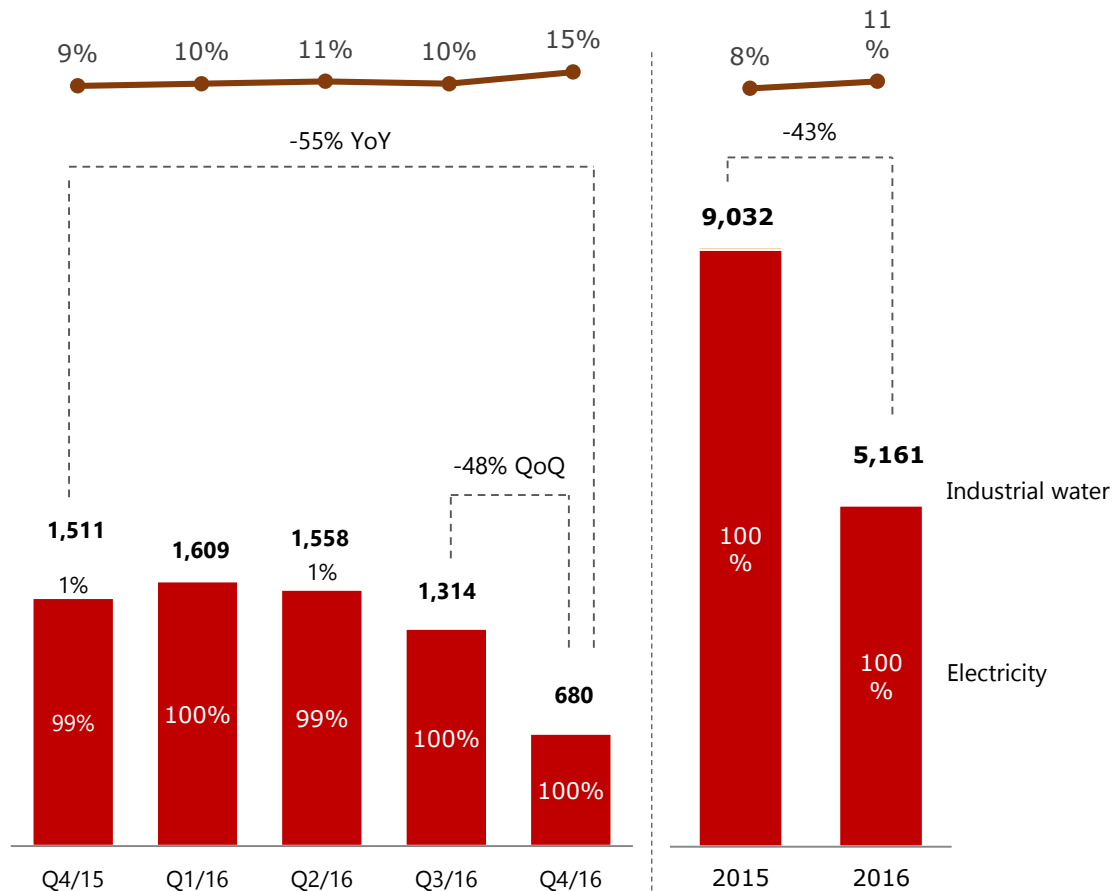
Expected Portfolio

(MW)



Quarterly revenue & gross profit margin

(THB million, %)



Q4/16 VS Q3/16 (QoQ)

- Total revenue in Q4/16 decreased by THB 634 million or 48% due to lower sales volume per EGAT's dispatch instruction and lower revenue from Availability Payment due to yearly maintenance in Q4/16.
- Gross profit margin increased by 5% mainly due to lower maintenance cost caused by the lower production volume.

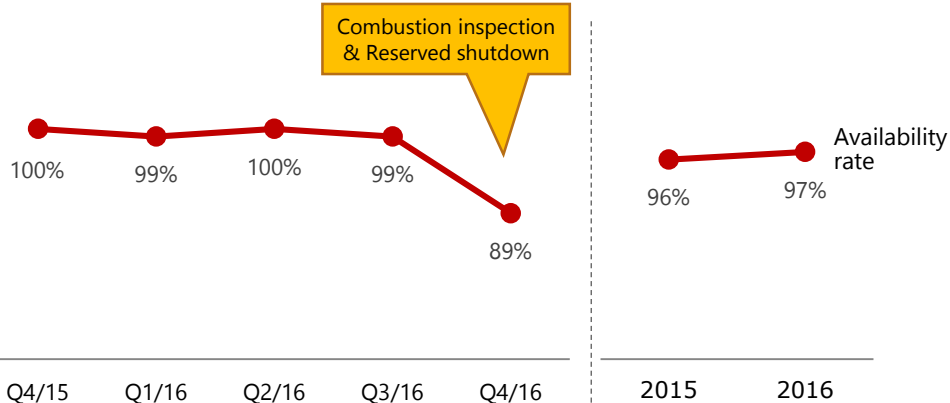
Q4/16 VS Q4/15 (YoY)

- Total revenue in Q4/16 decreased by THB 831 million or 55% from lower sales volume per EGAT's dispatch instruction and the lower sales price due to reduction of gas price.
- Gross profit margin increased by 6% mainly due to lower maintenance cost caused by the lower production volume.

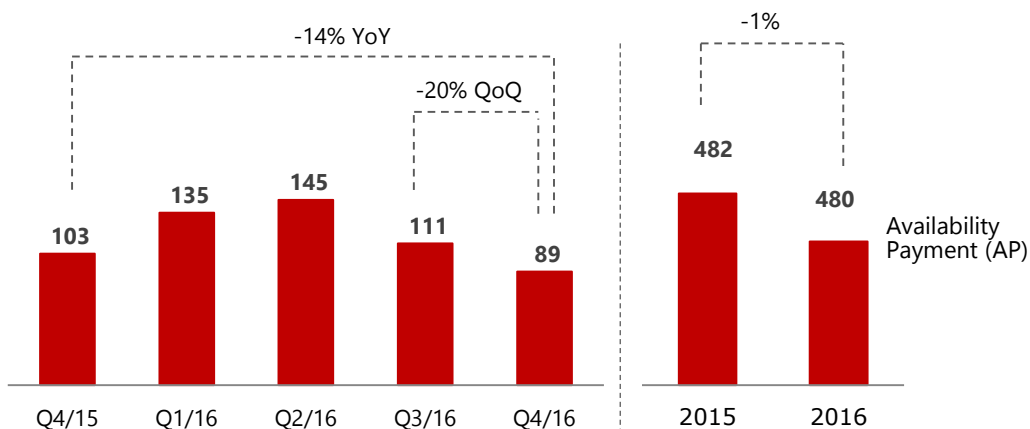
2016 VS 2015

- Total revenue in 2016 decreased by THB 3,871 million or 43% because of lower dispatch and sales prices.
- Gross profit margin increased by 3% resulted from the lower maintenance cost caused by the lower production volume.

Quarterly Availability Payment Rate (%)



Quarterly revenue from Availability Payment (AP) (THB million)



Q4/16 VS Q3/16 (QoQ)

- Availability rate in Q4/16 decreased from 99% to 89% due to yearly maintenance in Q4/16
- Revenue from Availability Payment (AP) in Q4/16 also decreased by THB 22 million or 20% from yearly maintenance.

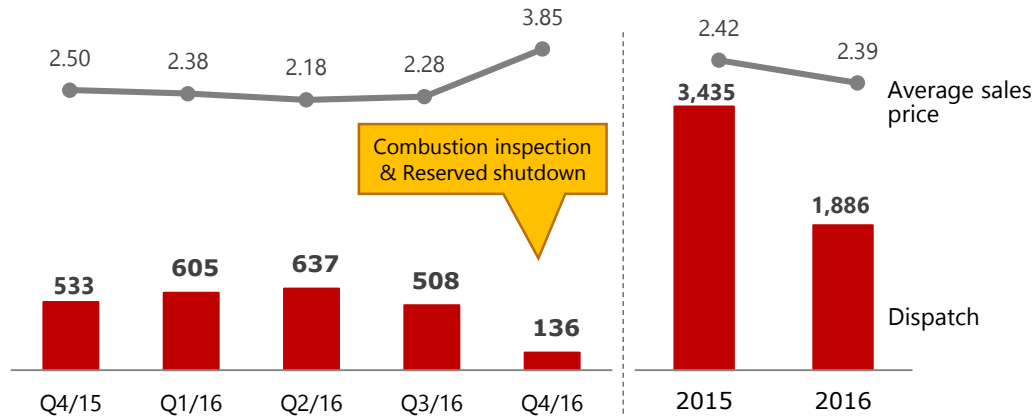
Q4/16 VS Q4/15 (YoY)

- Availability rate and revenue from Availability payment in Q4/16 decreased by 11% and THB 14 million, respectively due to yearly maintenance in Q4/16.

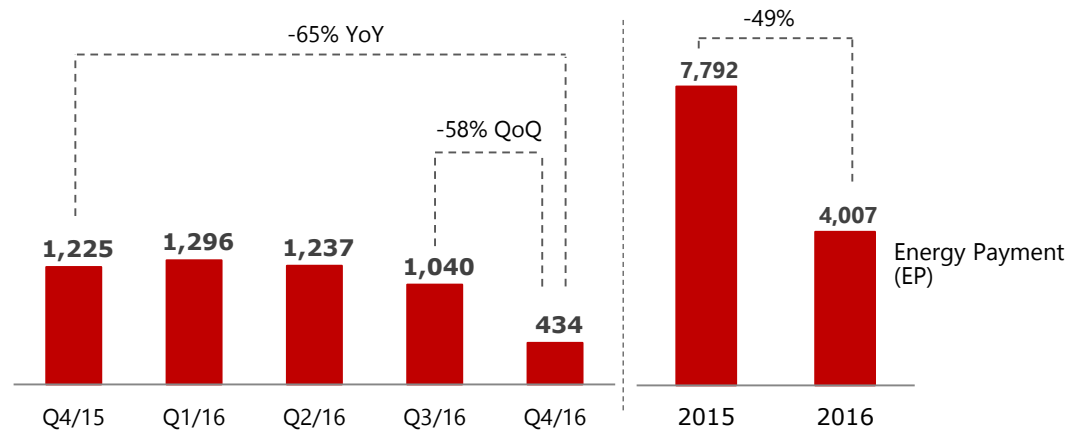
2016 VS 2015

- Availability rate in 2016 increased by 1%.
- Revenue from AP decreased by THB 2 million or 1% resulted from lower of weight factor.

Quarterly average sales price & dispatch (Baht/kWh, GWh)



Quarterly revenue from Energy payment (EP) (THB million)



Q4/16 VS Q3/16 (QoQ)

- Average sales price in Q4/16 increased by 1.57 Baht per kWh according to lower dispatch volume to EGAT.
- In Q4/16, dispatch volume decreased by 372 GWh or 73% because of the lower submitted electricity volume per EGAT's dispatch instruction.
- Revenue from Energy Payment (EP) decreased by THB 606 million or 58% according to dispatch volume decreased.

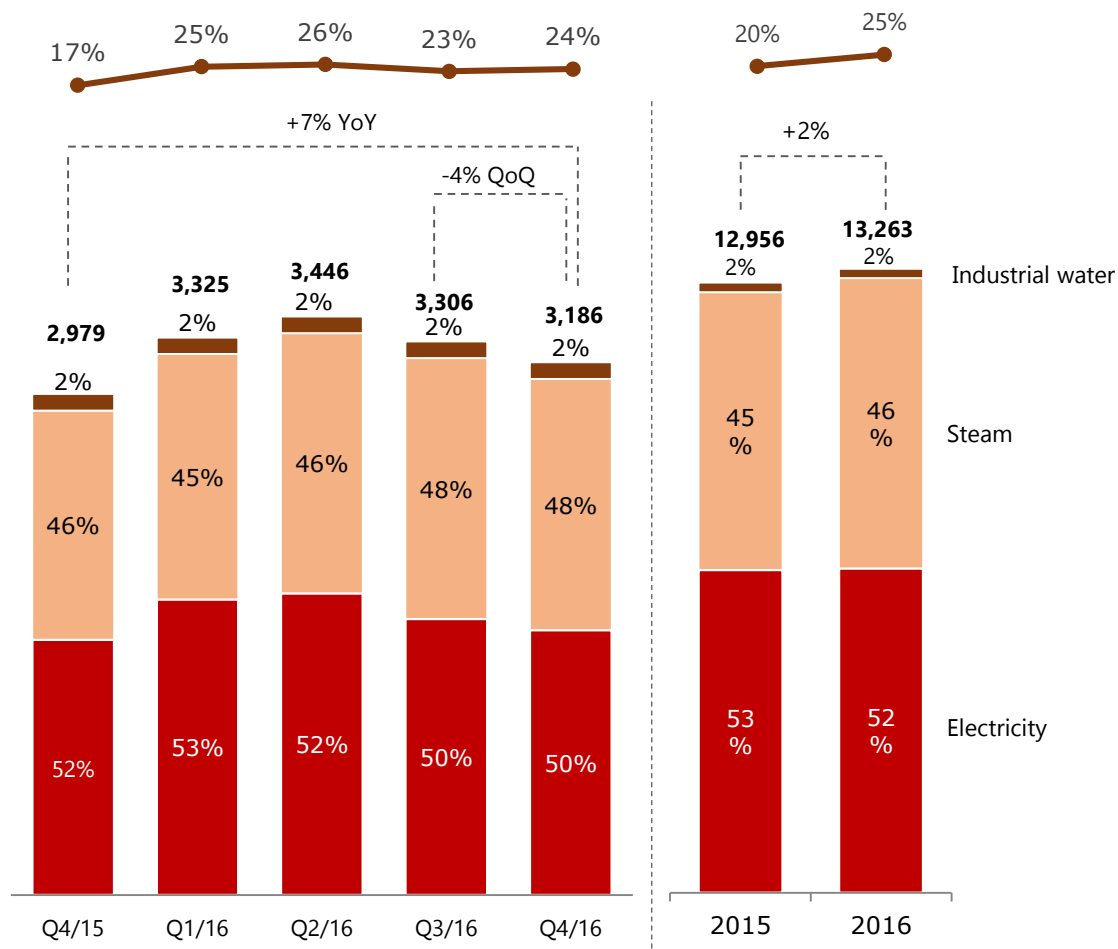
Q4/16 VS Q4/15 (YoY)

- Dispatch volume also decreased by 397 GWh or 74% resulted from the decrease in sales volumes per EGAT's instruction.
- As a result, revenue from EP decreased by THB 791 million or 65%.

2016 VS 2015

- Average sales price in 2016 decreased by 0.03 Baht per kWh or 1%, resulted from the decrease in gas price.
- Also, dispatch volume dramatically decreased by 1,549 GWh or 45%.
- Revenue from EP in 2016 decreased by THB 3,785 million or 49% from lower sales price and sales volume.

Quarterly revenue & gross profit margin (THB million, %)



Q4/16 VS Q3/16 (QoQ)

- Total revenue in Q4/16 decreased by THB 120 million or 4% from lower average sales price according to the drop in natural gas price and k-factor.
- Gross profit increased by THB 22 million or 3% and GPM increased by 1% due to the decline in cost of natural gas as a result of lower gas consumption volume and lower average price of natural gas.

Q4/16 VS Q4/15 (YoY)

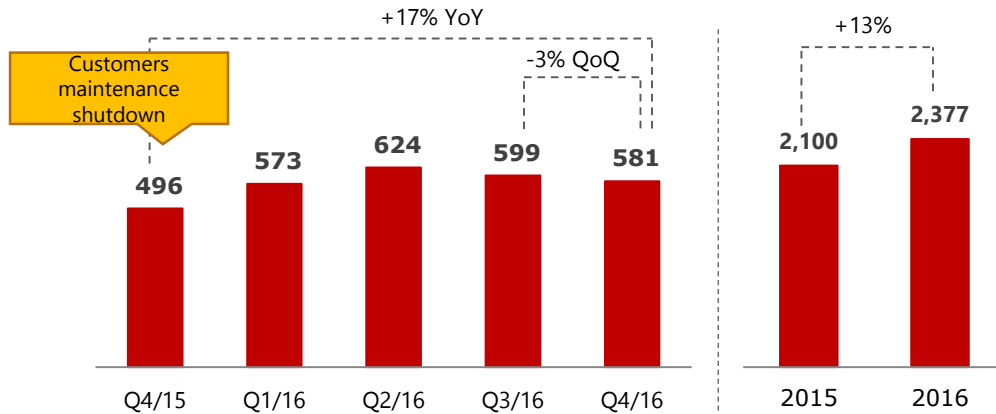
- Total revenue in Q4/16 increased by THB 207 million or 7% from higher sales volume due to the increase in number of customers and there was customers maintenance shutdown in Q4/15.
- Also, gross profit in Q4/16 increased by THB 207 million or 53% and GPM increased by 7%.

2016 VS 2015

- Total revenue in 2016 increased by THB 307 million or 2% from the increase in sales volume.
- Gross profit significantly increased by THB 749 million or 30% and GPM increased by 5% because of the increase in the sales volume and better cost management.

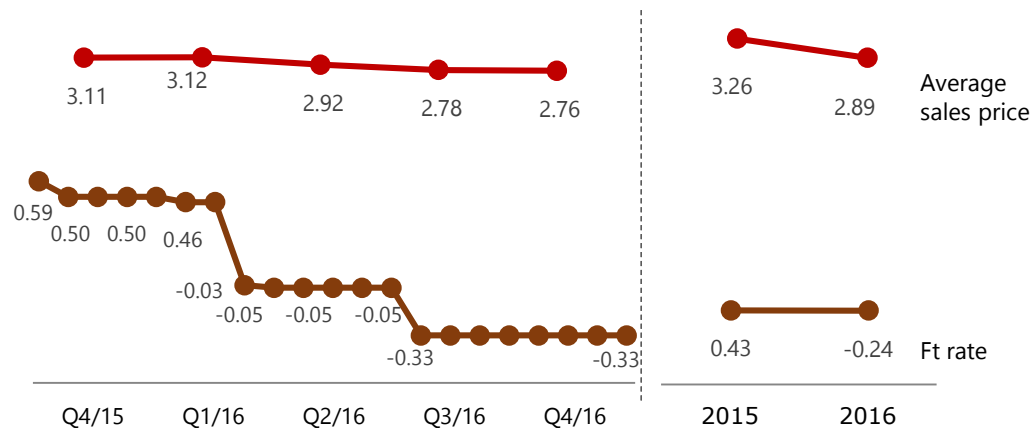
Quarterly power sales volume

(GWh)



Quarterly average sales price & Ft rate

(THB/kWh, THB)



Q4/16 VS Q3/16 (QoQ)

- Volume** : decreased by 18 GWh or 3% due to lower export to EGAT under SPP non-firm according to the decreased in average sales price and k-factor.
- Price** : decreased by 0.02 Baht per kWh or 1% due to the decreases in k-factor and natural gas price.

Q4/16 VS Q4/15 (YoY)

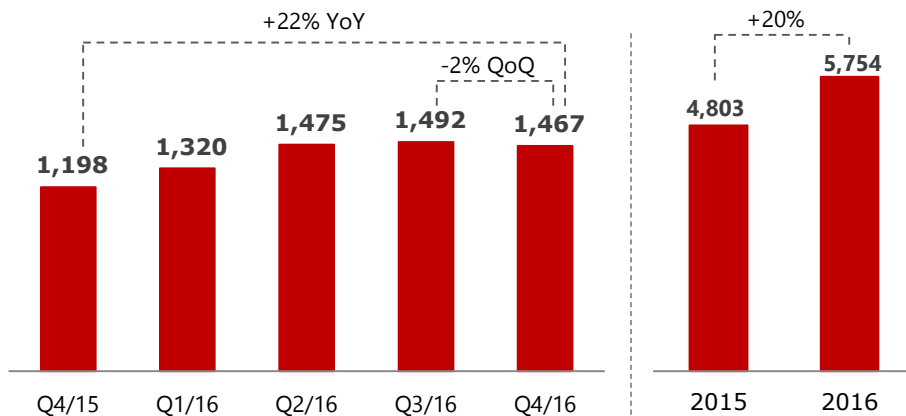
- Volume** : increased by 85 GWh or 17% resulted from higher demands from customers due to customers maintenance shutdown in Q4/15.
- Price** : decreased by 0.35 Baht per kWh or 11% due to the decreases in Ft rate and natural gas price.

2016 VS 2015

- Volume** : increased by 277 GWh or 13% from higher demands from existing and new customers while there was power plant shutdown for inspection in Q1/15 and customers maintenance shutdown in Q3/15.
- Price** : decreased by 0.37 Baht per kWh or 11% due to the decreases in Ft rate and natural gas price.

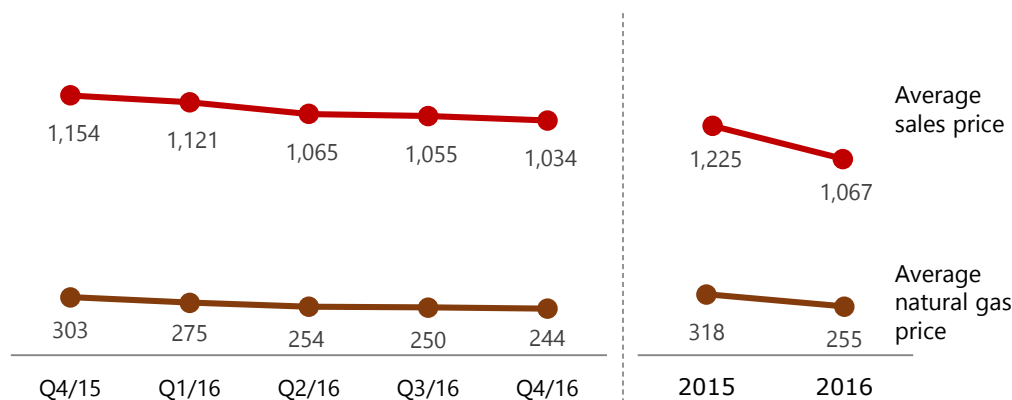
Quarterly steam sales volume

('000 tons)



Quarterly average sales price & average natural gas price

(THB/ton, THB/MMBTU)



Q4/16 VS Q3/16 (QoQ)

- Volume** : slightly decreased by 25 thousand tons or 2% in Q4/16.
- Price** : decreased by 21 Baht per ton or 2% in Q4/16 due to the decreases in natural gas price.

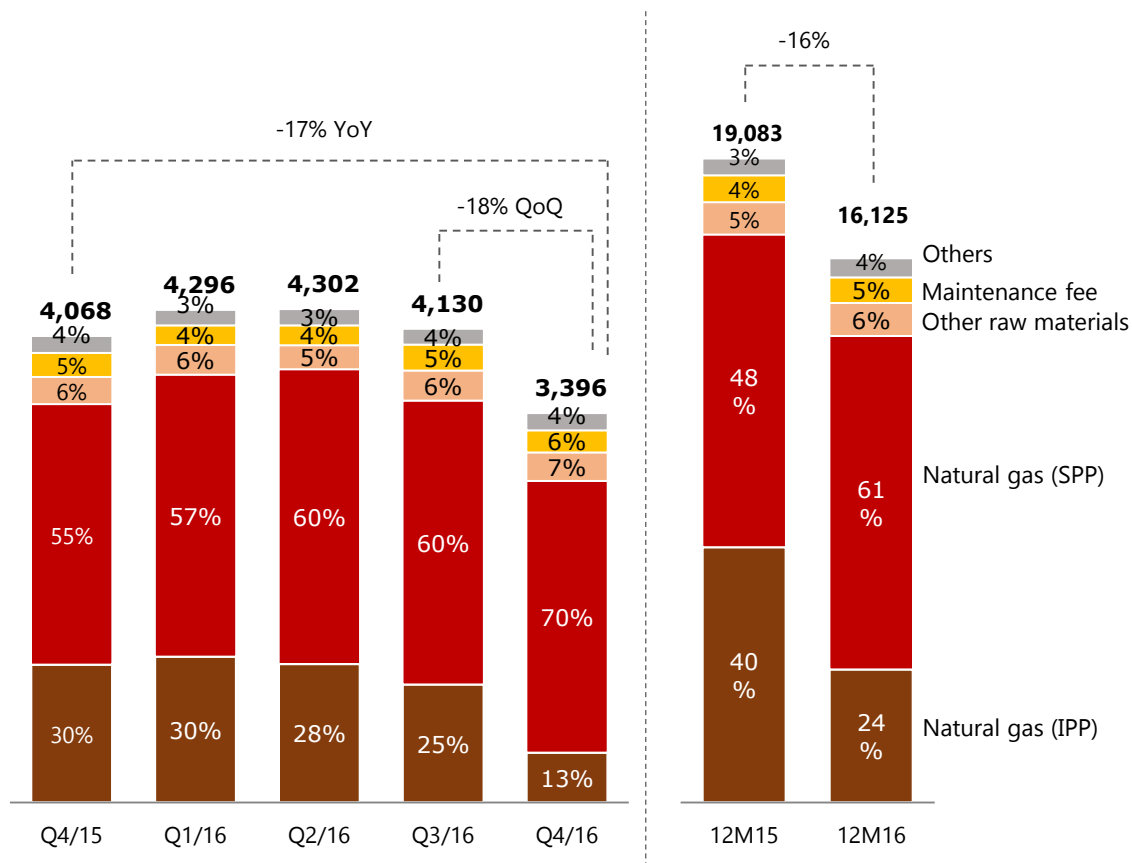
Q4/16 VS Q4/15 (YoY)

- Volume** : increased by 269 thousand tons or 22% from higher demands from the existing and new customers and there was customer's maintenance shutdown in Q4/15.
- Price** : decreased by 120 Baht per ton or 10% due to the decrease in natural gas price.

2016 VS 2015

- Volume** : increased by 951 thousand tons or 20% in 2016 resulted from higher demands from the existing and new customers.
- Price** : decreased by 158 Baht per ton or 13% following the decrease in natural gas price.

Quarterly cost of sales and services* (THB million)



Q4/16 VS Q3/16 (QoQ)

- Cost of sales and services in Q4/16 was decreased by THB 734 million or 18%.
- The decreased was caused by a drop in cost of natural gas and maintenance cost.

Q4/16 VS Q4/15 (YoY)

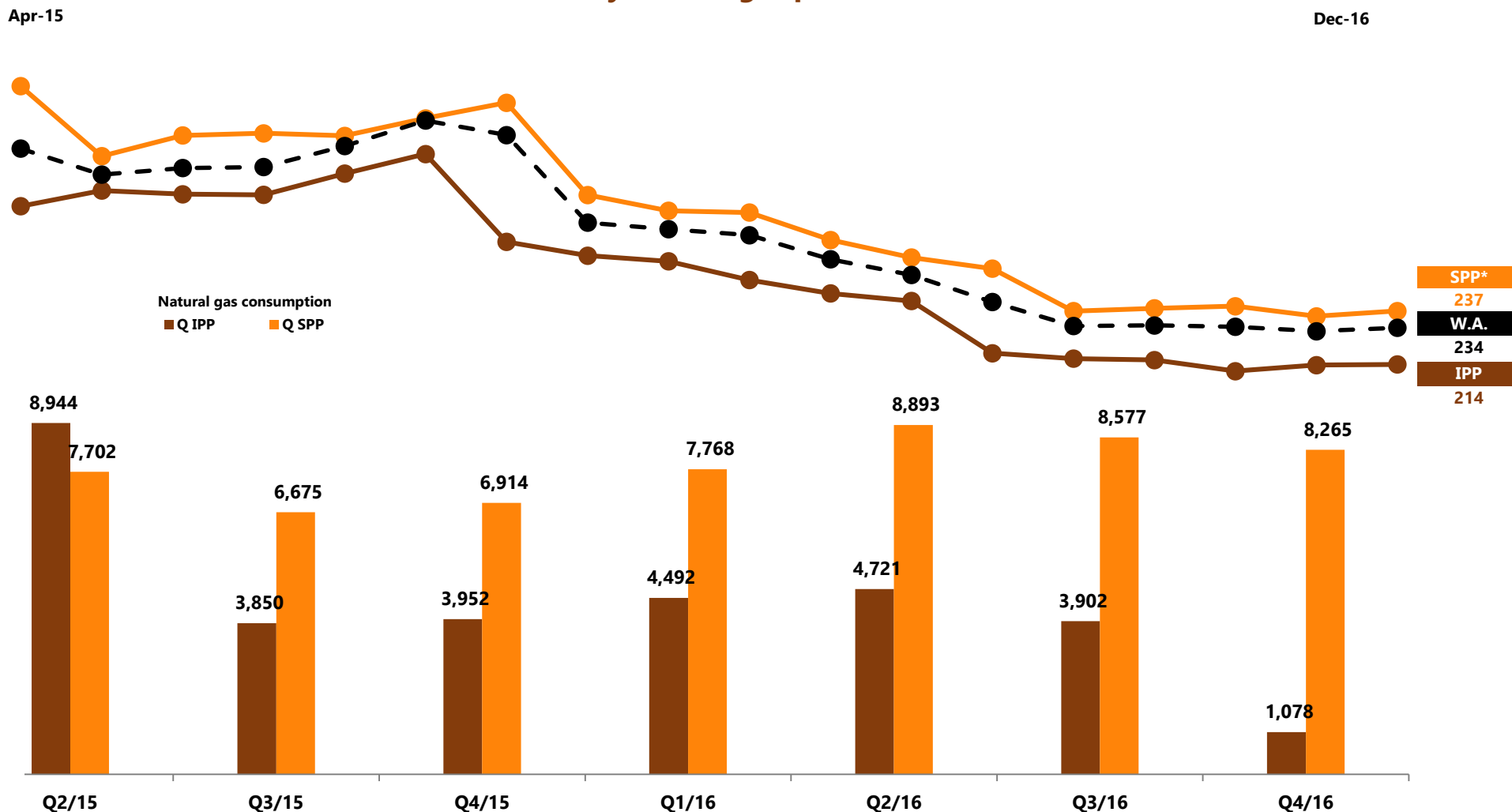
- When compared with Q4/15, cost of sales and services decreased by THB 672 million or 17%.
- The decrease was from lower of natural gas price and lower dispatch to EGAT.

2016 VS 2015

- Cost of sales and services in 2016 significantly decreased by THB 2,958 million or 16%.
- The decrease in natural gas price, following the declining of the oil price, is the main factor in the reduction reinforced with the reduces in variable maintenance cost that is affected by the fewer numbers of operating hours at Sriracha Power Plant according to the decline in electricity volume submitted to EGATthe dispatch volume.

Natural gas price and consumption

Quarterly natural gas consumption ('000 MMBTU)
vs. Monthly natural gas price (THB/MMBTU)



Ratios	Formula
Gross profit margin	$\frac{\text{Gross profit}}{\text{Revenue from sales of goods and service} + \text{Revenue from finance lease}}$
Net profit margin	$\frac{\text{Net profit}}{\text{Total Revenue}}$
Total Debt to Equity	$\frac{\text{Total liabilities}}{\text{Total shareholder's equity}}$
Net debt to Equity ratio	$\frac{\text{Interest bearing debts} - (\text{Cash and cash equivalents} + \text{Restricted cash} + \text{Current investments})}{\text{Total shareholder's equity}}$
DSCR	$\frac{\text{EBITDA for DSCR for the last 12 months}}{\text{Principal and Interest to be paid in the next 12 months}}$
Earning per share (EPS)	$\frac{\text{Net profit for the company}}{\text{Weighted average number of shares}}$
ROE	$\frac{\text{Net profit for the company}}{\text{Average shareholder's equity}}$
ROA	$\frac{\text{Net profit (last 12 months)}}{\text{Average assets}}$
Book value per share (BVPS)	$\frac{\text{Shareholder's equity for the company}}{\text{Average shareholder's equity for the company}}$



2017 Maintenance schedule: Sriracha and Rayong plants

Plant	Tag no.	Description	2017											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CUP-1	H-13701	Aux. Boiler.11			2 1Y 12									
	N-13901 H-13702	GTG11 HRSG11		18 1Y 28										
	N-13902 H-13703	GTG12 HRSG12			30/03 HG 12/04 30/03 3Y 12/04									
	N-13903 H-13704	GTG13 HRSG13			23 PSV 26				4 1Y 14					
	N-13904 H-13705	GTG14 HRSG14		3 1Y 13	23 PSV 26							15 1Y 25		
	N-13961 H-13761	GTG15 HRSG15												
	N-13962 H-13762	GTG16 HRSG16	8 MI 29 8 3Y 29											
CUP-2	H-23701	Aux. Boiler.21						16 1Y 26						
	N-23901 H-23701	GTG21 HRSG21						16 1Y 26						
	N-23902 H-23702	GTG22 HRSG22						16 1Y 29 16 3Y 29						
	N-23911	Steam Turbine21						16 MI 30						
CUP-3	H-33701	Aux. Boiler 31							1 3Y 13					
	H-33711	Aux. Boiler 32										1 3Y 13		
	H-33712	Aux. Boiler 33								15 3Y 27				
SRC	11MB 1-211-SG-101	GT11 HRSG#1											1Y	
	12MB 1-211-SG-201	GT12 HRSG#2											1Y	

Notes

MI Major Inspection for Gas Turbine 22 days
 HGPI Hot Gas Path Inspection for Gas Turbine 14 days
 MO 2nd Major Overhaul for Steam Turbine 27 days
 Mi Minor Inspection for Steam Turbine 15 days
 1Y One Year Inspection Aux. Boiler 11 days
 3Y Three Year Inspection Aux. Boiler 13 days
 1Y One Year Inspection HRSG 11 days
 3Y Three Year Inspection HRSG 14 days
 PSV Pressure Safety Valve Installation 4 days

Rayong Site

Major Inspection for Gas Turbine 22 days
 Hot Gas Path Inspection for Gas Turbine 14 days
 2nd Major Overhaul for Steam Turbine 27 days
 Minor Inspection for Steam Turbine 15 days
 One Year Inspection Aux. Boiler 11 days
 Three Year Inspection Aux. Boiler 13 days
 One Year Inspection HRSG 11 days
 Three Year Inspection HRSG 14 days
 Pressure Safety Valve Installation 4 days

Notes

CI
 1Y

Sriracha Site

Combustion Inspection for Gas Turbine 9 days
 One Year Inspection HRSG 8 days

Maintenance schedule: IRPC-CP

Plant	Unit	2016											
		Q1			Q2			Q3			Q4		
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
IRPC-CP	CTG 2B								22/09	A	30/09		
	HRS2B								22/09	YI	30/09		
	Aux. Boiler				23/05	YI	27/05						

Notes

A
YI

Level A inspection
Yearly inspection

5 days
5 days

Plant	Unit	2017											
		Q1			Q2			Q3			Q4		
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
IRPC-CP	CTG 2B	12/02	IRPC Turnaround	13/03			27/06	1st Synchronization/Commissioning			16/09		
	HRS2B	12/02	IRPC Turnaround	13/03			27/06	1st Synchronization/Commissioning			16/09		
	Aux. Boiler	7/02	IRPC Turnaround	7/03			26	SD	30				