



Analyst Meeting Q2/2018 & 1H/2018

PTT Auditorium
15 August 2018



Overview

Performance

Outlook

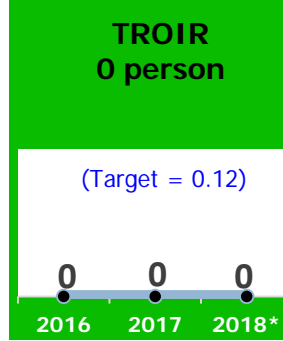
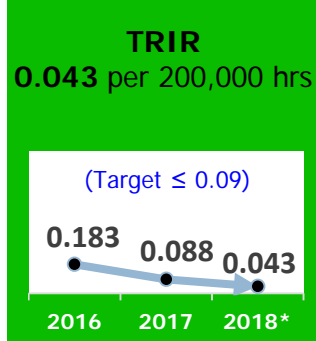
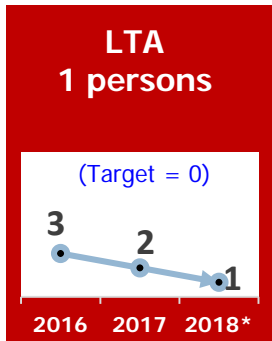
- Overview
- Q2/2018 & 1H/2018 Performance
- Outlook 2018

Health & Safety Performance 2018

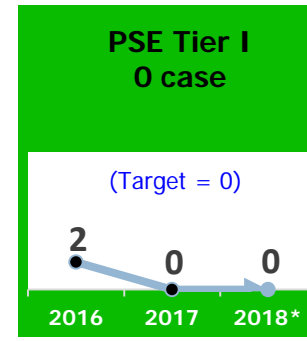


Employee

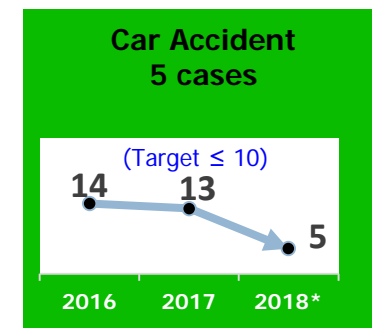
Personal Safety



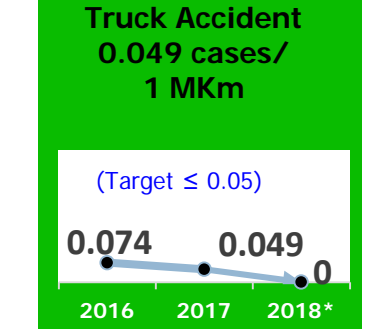
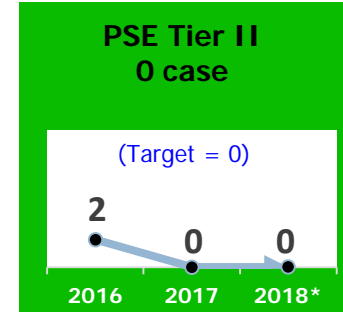
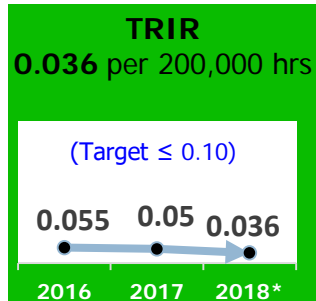
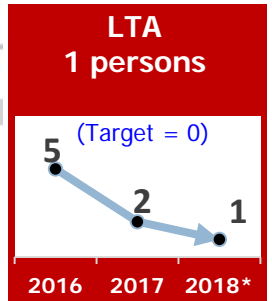
Process Safety



Road Safety



Contractor



LTA (Loss Time Accident)
PSE Tier 1 (Process Safety Event Tier 1)

TRIR (Total Recordable Injury Rate)
TROIR (Total Recordable Occupational Illness)

PTT PUBLIC COMPANY LIMITED

REWARDS & RECOGNITIONS

Marketeer

The No. 1 Brand Thailand 2017-2018

(8th consecutive years)

- Gas Station
- Coffee Shop
- Engine Oil Car



สมาคมผู้สื่อข่าว
คณะพาณิชยศาสตร์และการบัญชี
แห่งประเทศไทย
แห่งจุฬาลงกรณ์มหาวิทยาลัย

Drive Award 2018

- The Best of Drive Award
- Management Excellence Award 2018



มูลนิธิต่อต้านการทุจริต
Anti-Corruption Foundation

The Shield of Anti - Corruption

โล่เกียรติคุณจากมูลนิธิ
ต่อต้านการทุจริต



CAC Anti - Corruption Member
(2th consecutive years)

Corporate Governance Asia

Asian Excellence Awards 2018

- Asia's Best CEO (IR)
- Asia's Best CFO (IR)
- BEST Investor Relations Company



กระทรวงวัฒนธรรม

Excellence of Reforestation

โล่ยกย่องเชิดชูเกียรติในฐานะ
องค์กรที่ประสบความสำเร็จใน
การปลูกป่า



IFLA
INTERNATIONAL FEDERATION
OF LANDSCAPE ARCHITECTS

Outstanding Award

- Metro Forest Learning Center
- Award of Excellence
- Wang - Chan Learning Center



8th Annual Corporate Awards 2018 & 12th Annual Best Financial Institution Awards

- Best Strategic Corporate Social Responsibility
- Best Senior Management IR Support
- Most Consistent Dividend policy
- Most Organized IR

Key Business Drivers:

Oil and gas prices continue to rise



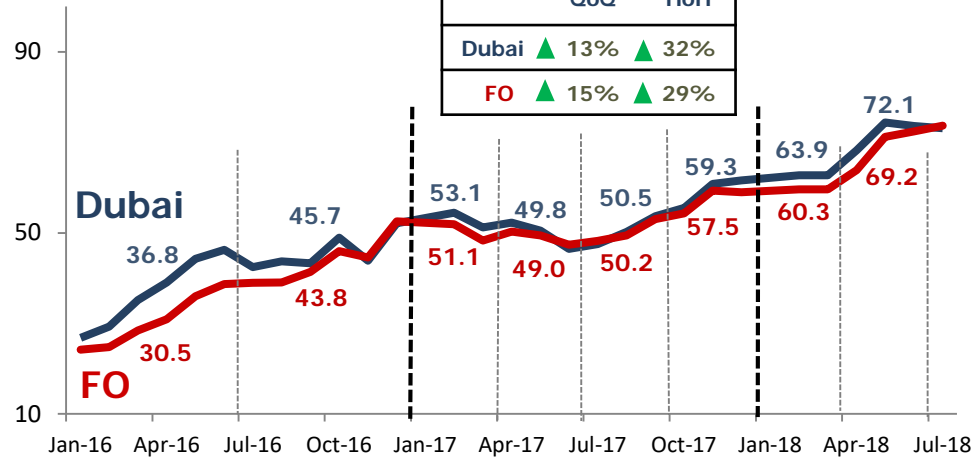
Overview

Performance

Outlook

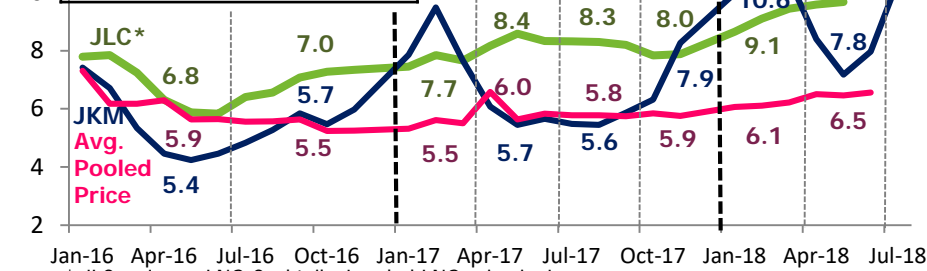
Dubai vs FO (\$/BBL)

	QoQ	HoH
Dubai	▲ 13%	▲ 32%
FO	▲ 15%	▲ 29%



NG Prices (\$/MMBTU)

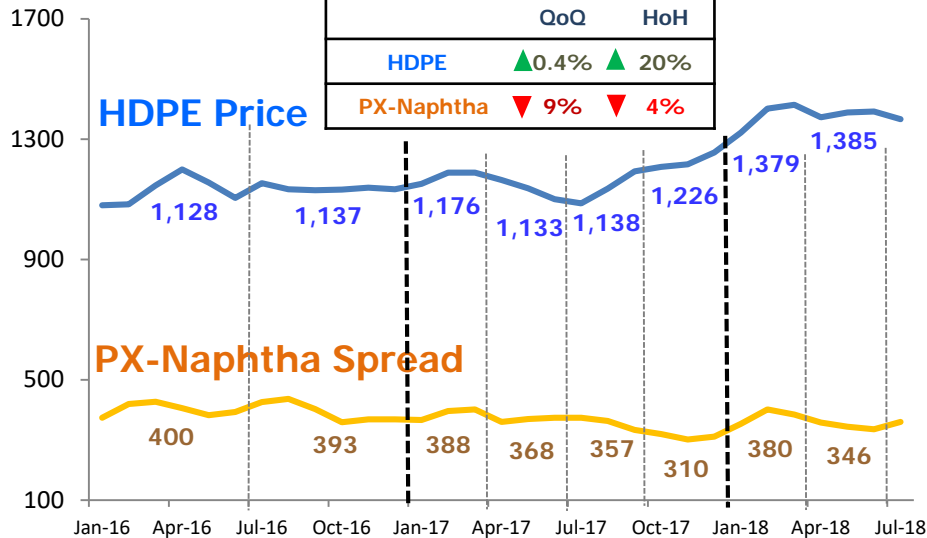
	QoQ	HoH
JLC*	▲ 6%	▲ 16%
JKM	▼ 26%	▲ 31%
Avg. Pooled	▲ 7%	▲ 13%



Jan-16 Apr-16 Jul-16 Oct-16 Jan-17 Apr-17 Jul-17 Oct-17 Jan-18 Apr-18 Jul-18
* JLC = Japan LNG Cocktail : Landed LNG price in Japan

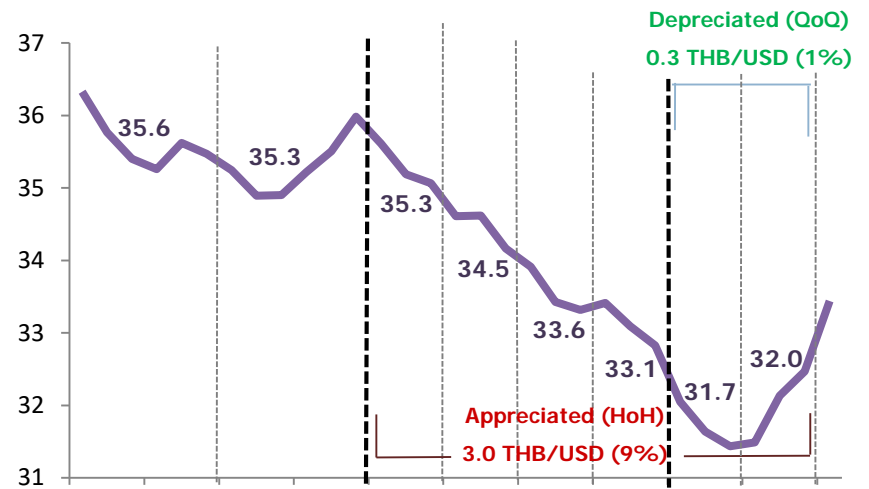
Petchem (\$/Ton)

	QoQ	HoH
HDPE	▲ 0.4%	▲ 20%
PX-Naphtha	▼ 9%	▼ 4%



Note: Figures are average & Naphtha (MOPJ)

FX (USD/THB)



Activities Highlights :



Key Events Update (Q2'18)

- **PTT**
 - NGV Public price uplifted 0.62 bath/kg (16 May 18)
 - Transferred Oil BU's assets to PTTOR
- **PTTEP**
 - Bongkot acquisition (22.22%)
 - Divestment 100% stakes of assets in Montara
- **PTTGC** Signing SPA for PTA and PET business (Aug'18)
- **TOP** FID Clean Fuel Project (CFP)
- **GPSC** BOD approved to acquire GLOW (69.11% & tender offer 30.89%)

- **PTTGC**
 - TOCGC (Planned T/A 12 days)
 - Phenol I (Planned T/A 16 days)
- **TOP**
 - CDU 1 (Planned T/A 21 days)
- **IRPC**
 - HDPE (Planned T/A 30 days)

Performance (HoH)

Business		Performance
Upstream	PTTEP	▼
	Coal	▼
Midstream	Gas	▲
Downstream	Oil	▼
	Trading	▲
	Petchem	▲
Infrastructure	Refinery	▲
	Power	▲

Finance (Q2'18)

- ### Loan Repayment (PTT Group)
- PTTEP: USD 575 MM
 - PTTGC & Sub: THB 489 MM / USD 518 MM/ EUR 14 MM
 - TOP: THB 431 MM / USD 611 MM
 - IRPC: THB 500 MM
 - GPSC sub: THB 468 MM
- ### Loan Drawdown
- PTTGC sub: THB 1,650 MM/ USD 498 MM /EUR 11 MM
 - TOP Sub: THB 88 MM/ USD 611 MM/ VND 57,946 MM
 - GPSC: THB 2,000 MM

1H/18 Performance:

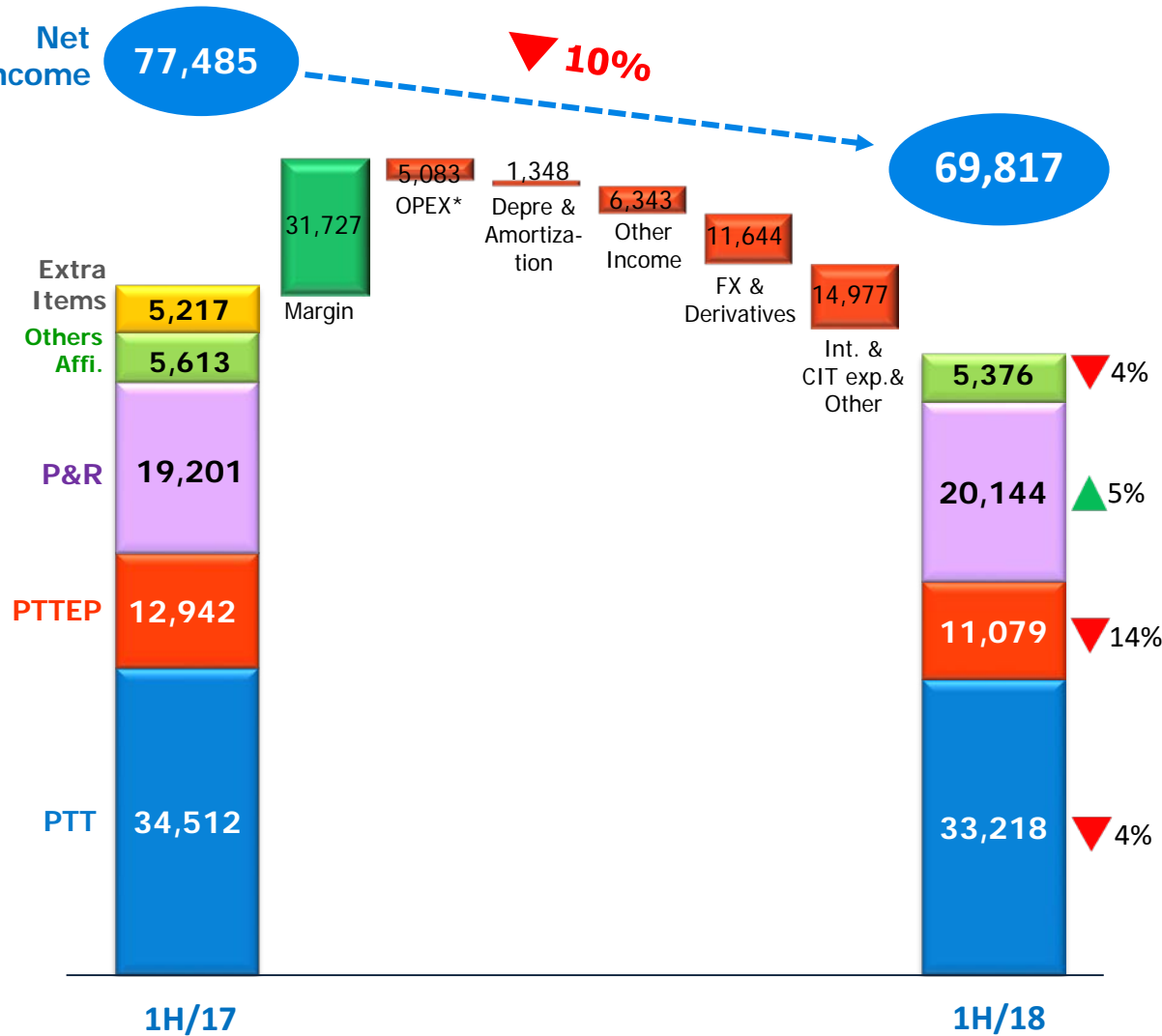
Healthy operating performance, lowered by no EPIF receipt and tax exposures

Overview

Performance

Outlook

MMTHB



Extra Items ▼

- Dividends from mutual fund (EPIF)

Others Affi ▼

- Coal BU from tax penalty
- + Higher revenue from LNG Terminal 1 Phase 2

Petrochem & Refining ▲

- + Higher stock gain in 1H/18
- + Better Olefins from product price & sale vol.
- Aromatics decreased esp. BZ spreads
- Weaken Mkt. GRM from higher crude premium

PTTEP ▼

- Higher tax expense from FX depreciation
- + Improved ASP & Sales Vol. from oil price recovery

Gas ▲

- + GSP increased vol. and LPG margin
- + TM increased from TDC vol.
- + S&M margin rose

Oil ▼

- Lower margin
- + Higher volume
- + Gas stations & Café Amazon expansion

Trading ▲

- + Vol. increased from lower refineries shutdown
- + Higher margin from domestic condensate & out-out

HO

- Higher CIT
- Tax expense on land sale

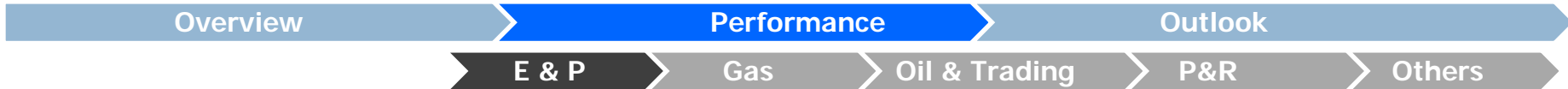
* including petroleum exploration expenses and royalties

Overview

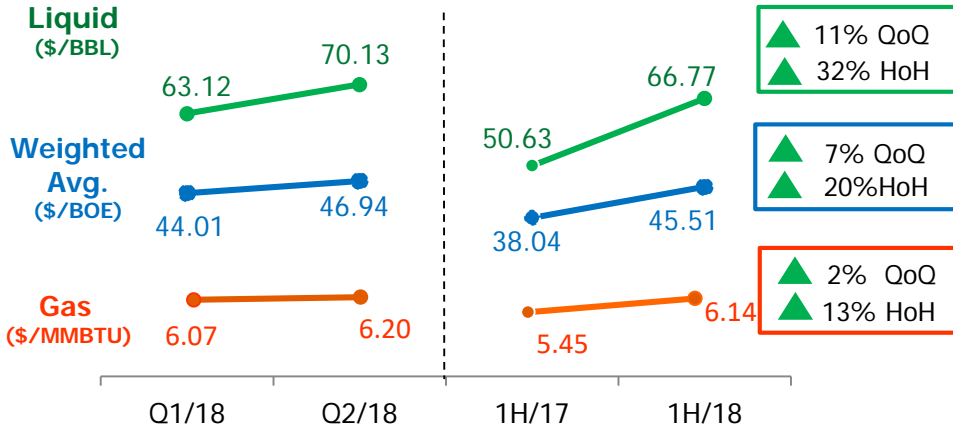
Performance

Outlook

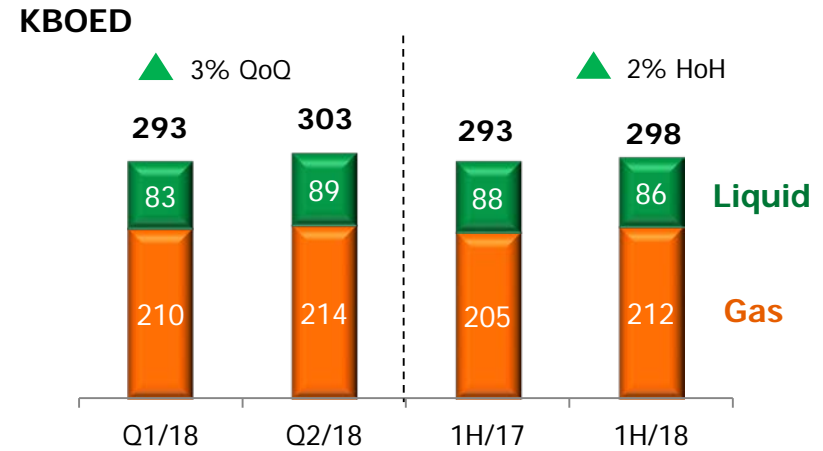
- Overview
- **Q2/2018 & 1H/2018 Performance**
- Outlook 2018



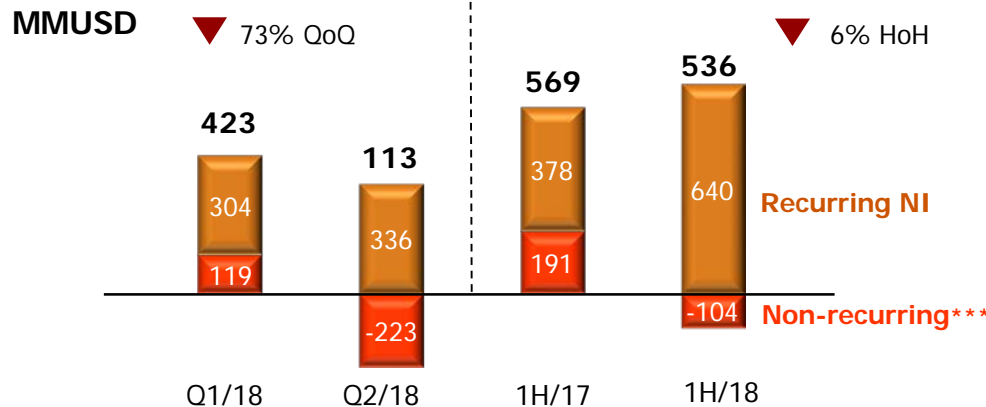
Product Prices



Sales Volume



Net Income (100%)



Key Highlights

QoQ

- ASP edged up by 7% due to rise of oil price.
- Sales vol. increased mainly from Zawtika and Sinphuhorm Projects.
- Recurring NI increased due to higher oil price and Vol, while NI decreased, primarily from increase in tax expense due to FX depreciation.

HoH

- ASP increased from rising in oil price
- Sales vol. increased from Contract 4 and MTJDA projects.
- NI declined from higher tax expense, despite Vol & ASP increased.

*** Includes Deferred tax from Functional currency, Current Tax from FX Revaluation, Gain/loss from Financial instruments, Gain/(loss) on FX, H1 incident Insurance Claim, and etc.

Overview

Performance

Outlook

E & P

Gas

Oil & Trading

P&R

Others

Financial Outlook

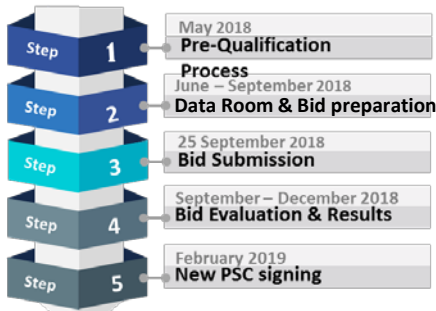
Q3'18 FY2018

	Avg. Sales Vol. (KBOED)	~308	<u>310</u>
	Avg. Gas Price (\$/MMBTU)	~6.5	<u>~6.5</u>
	Unit Cost (\$/BOE)	~31-32	~30-31
	EBITDA margin (% of Sale Rev.)	~70-75	

*Based on FY2018 Dubai oil price at 70 \$/BBL

1st Priority on the Bidding of Expiring Concessions in GoT

Process and Timeline



Bidding Obligations

Facility bonus	Minimum DCQ	Gas price formula
G1/61: 350 MMTHB G2/61: 175 MMTHB Decommissioning	• G1/61: 800MMSCFD • G2/61: 700MMSCFD	Commit under fixed formula in TOR
Must be obligated all infrastructure / facilities both new and transferred per PSC agreement		

Strengthen Focus areas, Reposition Non-core

M&A

Geographical: SEA, Middle East and other potential areas

Target: Focus on producing or near-producing

Size: 500 – 1,000 MMUSD

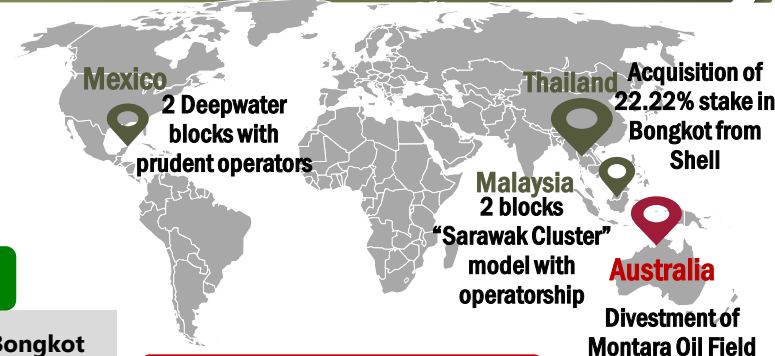
Impact to performance

After 22.22% stake acquisition of Bongkot and divestment of Montara field

Financial Position: Cash flow from stake in Bongkot & Enhance overall profitability

Reserves life: Neutral to R/P ratio

Strengthen Focus



Reposition of Non Core

Divesting 100% stake in Montara field In Jul'18

Rationale: Divest non-core area and reduce exposure on mature and high cost operating assets

Key Pre-Development Projects

	Interest	Production	Operator	Status	Expected Start-up
Mozambique Area 1	8.5%	12 MMTPA	Anadarko	progress on SPA negotiation underway with 6.7 MTPA of announce deals	2023
Ubon (Contract 4)	60%	25 -30 KBPD	Chevron	Preparing the POD with partners	2022
Algeria HBR	24.5%	50 - 60KBPD	PTTEP	Approved POD, finalizing documents with partners for FID	2024
Southwest Vietnam	7-8.5%	490 MMSCFD	Petro Vietnam	Finalizing commercial agreements	2021

PTT EBITDA Breakdown by BU's

Overview

Performance

Outlook

(Unit: MMTHB)

Business Unit	Q1/18	Q2/18	QoQ	1H/17	1H/18	HoH
Gas- EBITDA	23,244	24,999	↑ 8%	41,631	48,243	↑ 16%
• S&M	4,274	4,133	↓ 3%	7,606	8,407	↑ 11%
• TM	9,294	9,271	↔ 0%	17,400	18,565	↑ 7%
• GSP	8,208	9,763	↑ 19%	14,738	17,971	↑ 22%
• NGV	(812)	(1,314)	↓ 62%	(2,280)	(2,126)	↑ 7%
• Others*	2,280	3,146	↑ 38%	4,167	5,426	↑ 30%
Oil- EBITDA	6,318	3,943	↓ 38%	10,472	10,261	↓ 2%
Trading** - EBITDA	1,095	2,422	↑ 121%	2,805	3,517	↑ 25%
Total***	30,657	31,364	↑ 2%	54,908	62,021	↑ 13%

* Others include PTT LNG, PTT NGD, and PTT GL
(restructured by excluding GPSC, PTES, PTT Digital and ENCO)

** MIS

*** Included subsidiaries from all BUs

Gas BU: Continual rising pooled gas, NG volume maintained

Overview

Performance

Outlook

E & P

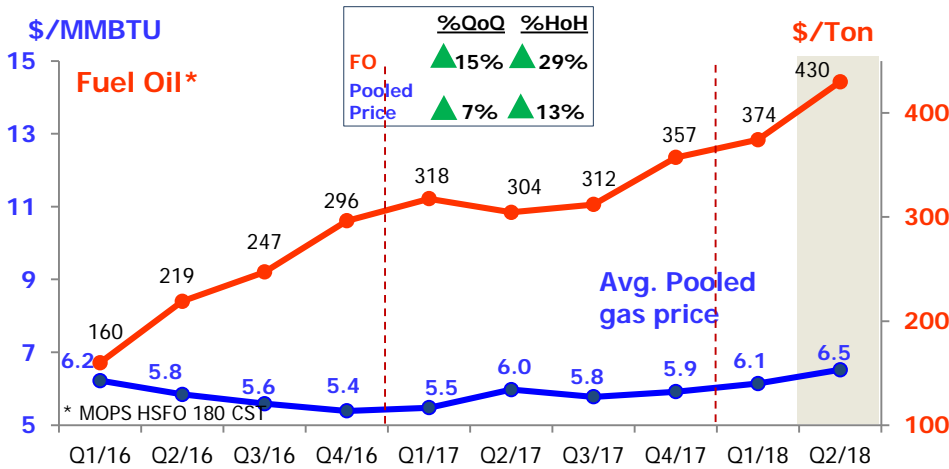
Gas

Oil & Trading

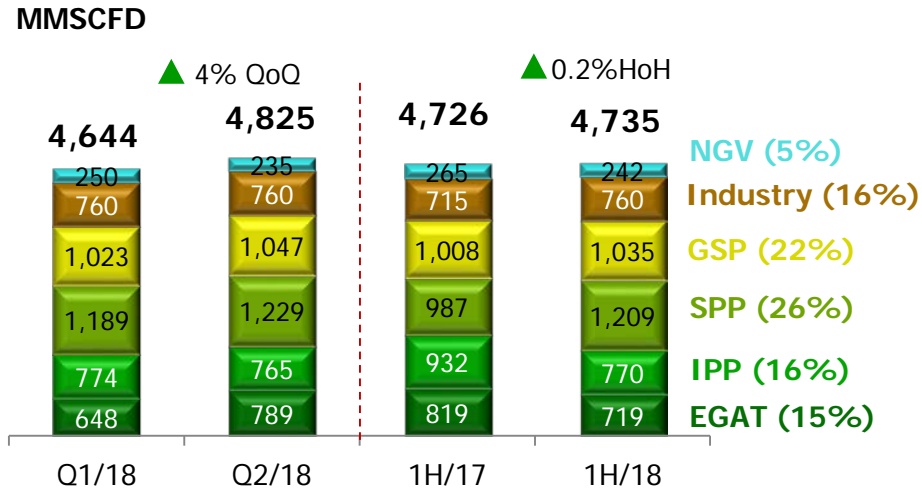
P&R

Others

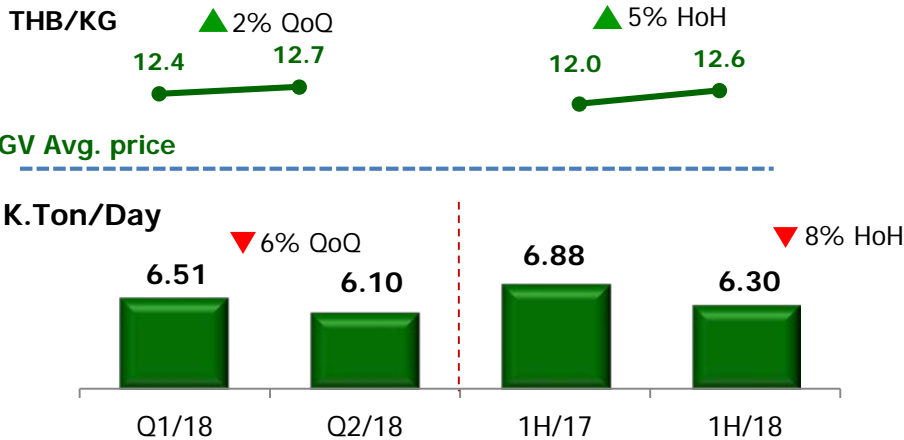
NG Price VS FO



NG Customer Breakdown



NGV Price/Sales Volume



Key Highlights

QoQ

- Gas cost and F/O price continue to rise
- NG sales vol. increased from power demand due to summer
- NGV vol. decreased despite avg. selling price rose

HoH

- NG sales vol. maintained from lower power demand offsetting Industry and GSP vol.
- NGV vol. dropped from demand switching to diesel and gasoline

Gas BU: Performance improved in all segments



Overview

Performance

Outlook

E & P

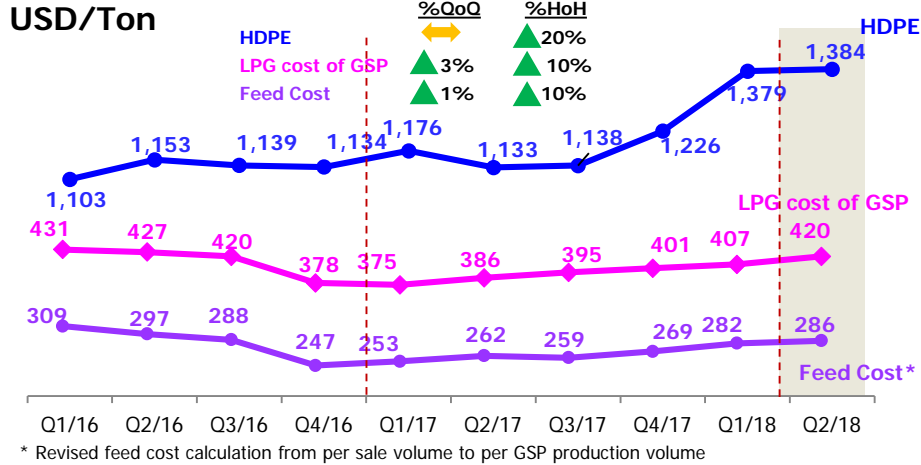
Gas

Oil & Trading

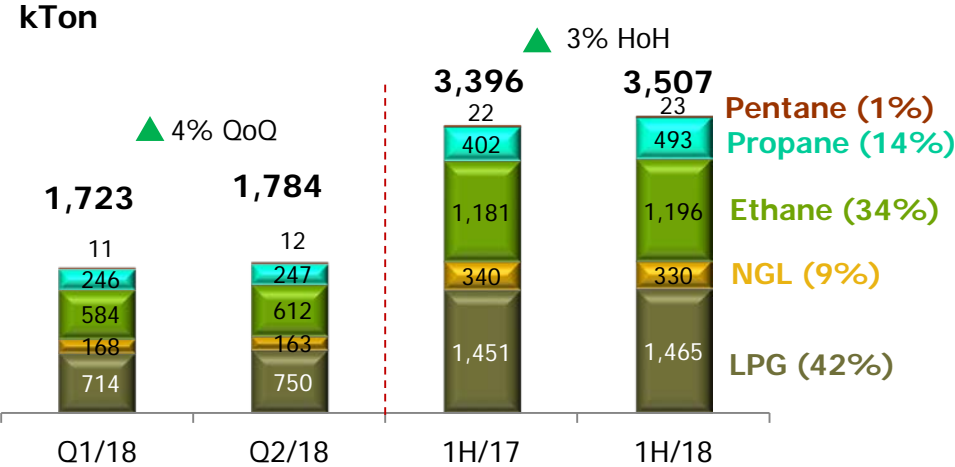
P&R

Others

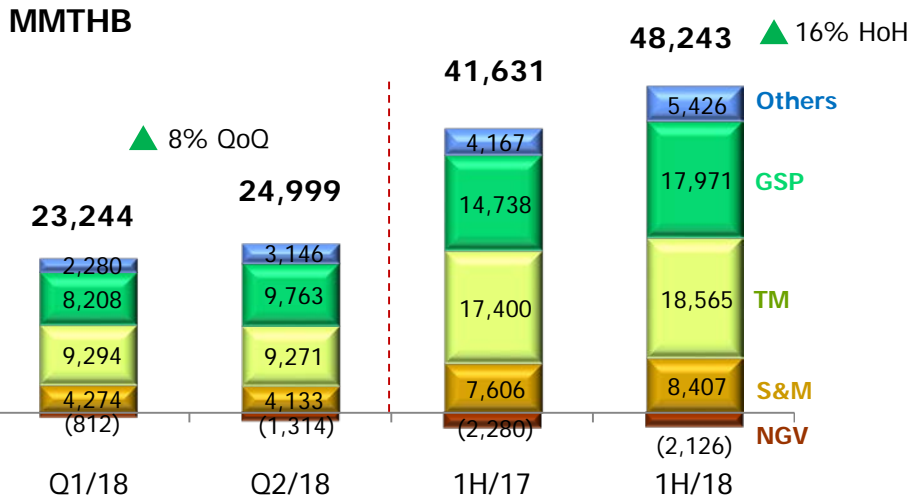
GSP Feed Cost vs Petchem price



GSP Sales Volume



Gas - EBITDA



Key Highlights

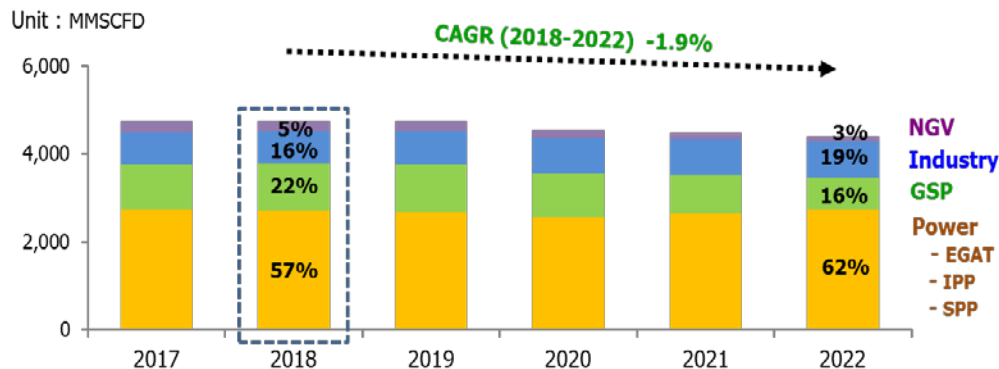
QoQ

- GSP increased from higher vol. and avg. selling price
- NGV higher loss from rising feed cost higher than avg. selling price
- S&M decreased from squeezed margin

HoH

- GSP greatly improved from increased vol. & selling price
- TM increased due to rising demand
- S&M margin increased from higher pooled price and vol.
- NGV loss less from price lifting in gas quality adjustment in Sep 17

Country: Projected Gas Volume



Gas Facilities Expansion

New Project	LNG Ph#2	LNG Terminal#1 - Extension			LNG Terminal#2	
LNG Capacity (MTA)	10	10	11.5	11.5	11.5	19.0

Major Project COD	<ul style="list-style-type: none"> 4th onshore Midline Comp. 	<ul style="list-style-type: none"> Nakhon Ratchasima 	<ul style="list-style-type: none"> Comp Wang noi 	<ul style="list-style-type: none"> 5th Pipeline RA#6-Ratchburi Pipeline
-------------------	--	---	---	--

LNG Projects

LNG Terminal 1 Phase 2 :

- COD December 2017

New LNG projects :

1) LNG Terminal 1 phase 2 Extension : (Capacities expansion from 10 MTA to 11.5 MTA)

- Approved by Cabinet 12 Jul 2016
- Expansion capacity: 1.5 MTA
- Construction completed 99.82% (as of Jun 18)
- COD : 2019

2) LNG Terminal 2 (Onshore LNG Terminal No.2)

- Approved by Cabinet 11 Apr 2017
- Capacity: 7.5 MTA
- Approved by EIA
- Award of Contract 24 May 2018
- COD : 2022

• Additional LNG projects (submitted studies to CEPA and NEPC on July 2017)

- Myanmar-Thailand LNG Terminal
- FSRUs (domestic)
- Onshore LNG Terminal 3

Oil BU : Softer performance from lower margin despite higher sales volume

Overview

Performance

Outlook

E & P

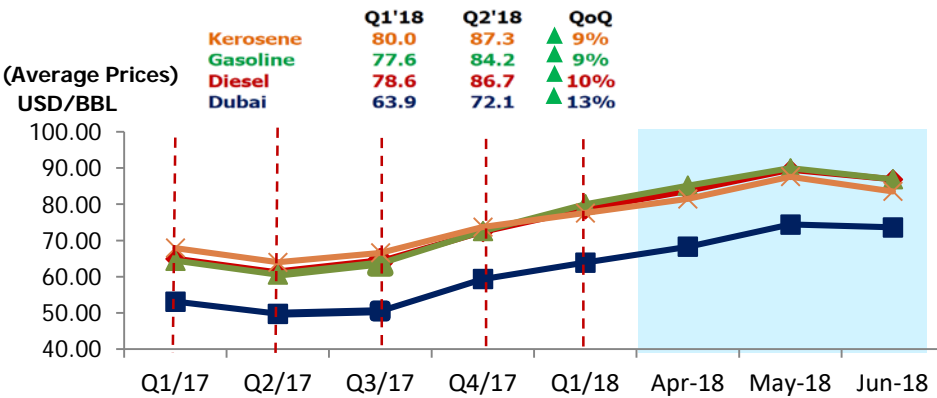
Gas

Oil & Trading

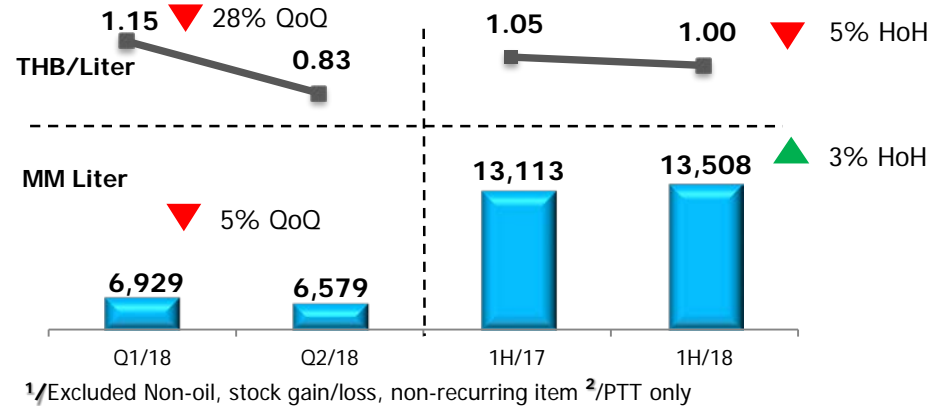
P&R

Others

Petroleum Prices

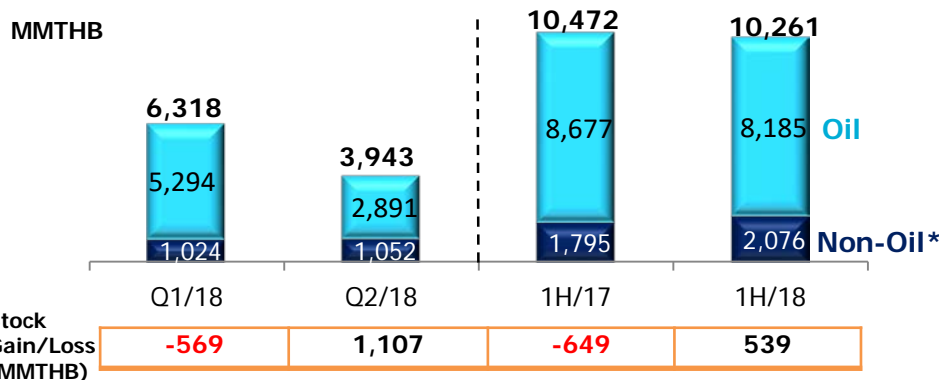


Gross margin¹/Sales volume²



Oil - EBITDA

	QoQ	HoH
Oil	▼ 45 %	▼ 6%
Non-oil	▲ 3%	▲ 16%



Key Highlights

QoQ

- Sales vol. decreased from
 - Diesel mainly from high competition
 - Aviation fuel due to seasonal demand
- Lower gross margin & EBITDA from
 - Aviation fuel due to pricing structure & low season
 - Diesel due to price competition

HoH

- Sales vol. increased from
 - Aviation fuel after ICAO lifts red flag & economic expansion
 - Gasoline & Diesel from station expansion
- Lower gross margin & EBITDA from Aviation fuel

Trading BU: Improved performance from higher sales volume and margin

Overview

Performance

Outlook

E & P

Gas

Oil & Trading

P&R

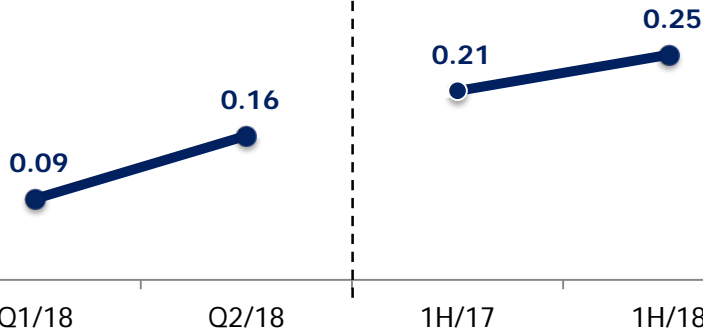
Others

Gross Margin¹

Gross Margin (THB/Liter)

▲ 78% QoQ

▲ 19% HoH



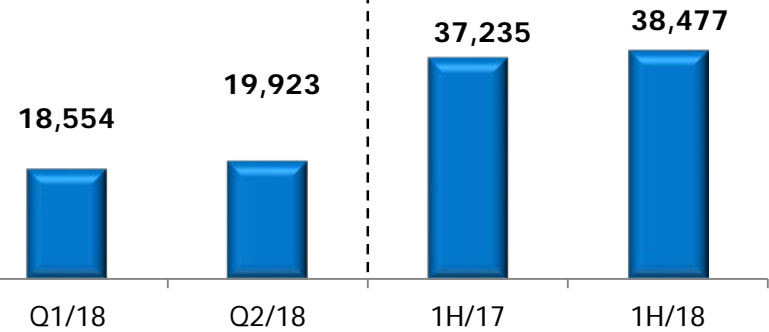
¹ PTT Trading BU + trading subsidiaries: FX Adjusted + derivatives

Sales Volume²

MM Liter

▲ 7% QoQ

▲ 3% HoH



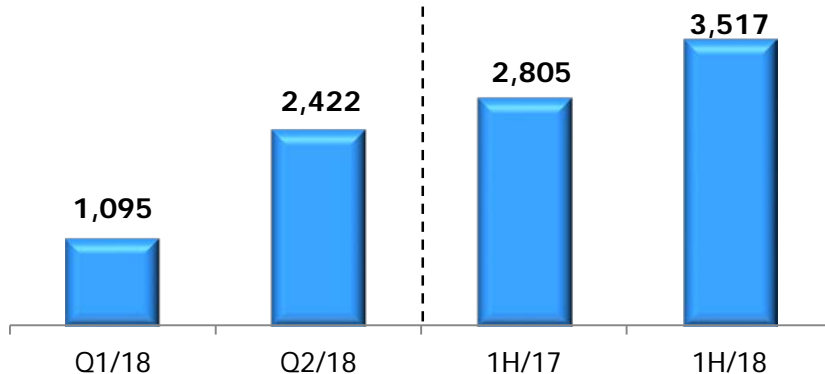
² PTT Trading BU + trading subsidiaries

Trading – EBITDA¹

MMTHB

▲ 121% QoQ

▲ 25% HoH



¹ PTT Trading BU + trading subsidiaries: FX Adjusted + derivatives

Key Highlights

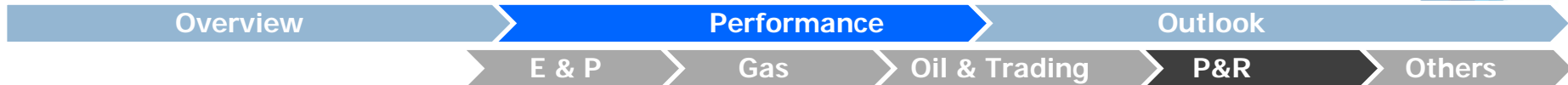
QoQ

- Sales vol. increased from higher Out – Out transaction of all products.
- Gross margin & EBITDA increased from loss of paper mismatch in Q1/2018.

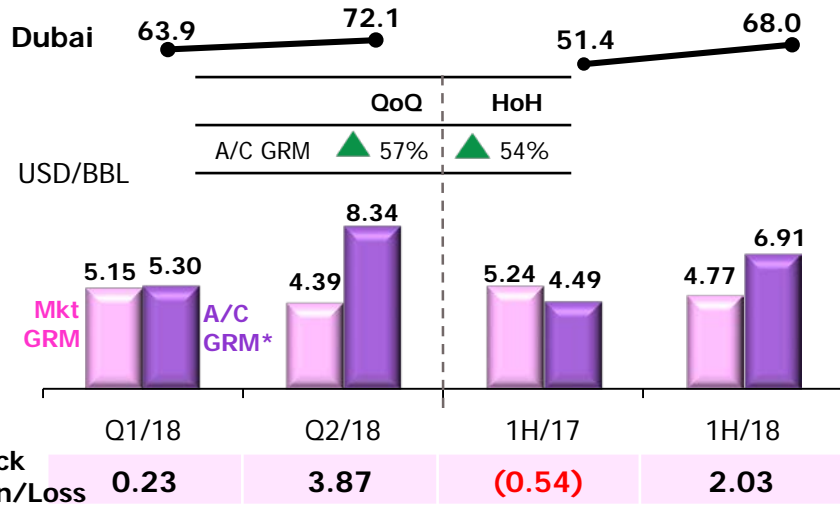
HoH

- Sales vol. increased from lower major shut down of refineries.
- Gross margin & EBITDA increased due to
 - higher domestic condensate margin from rising oil price
 - higher Out – Out transaction margin.

P&R BU : Improved performance from stock gain and olefins

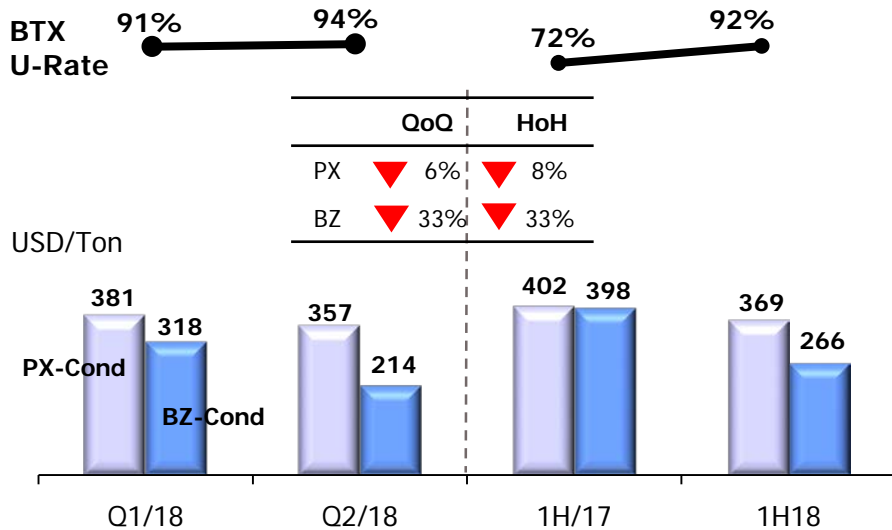


GRM

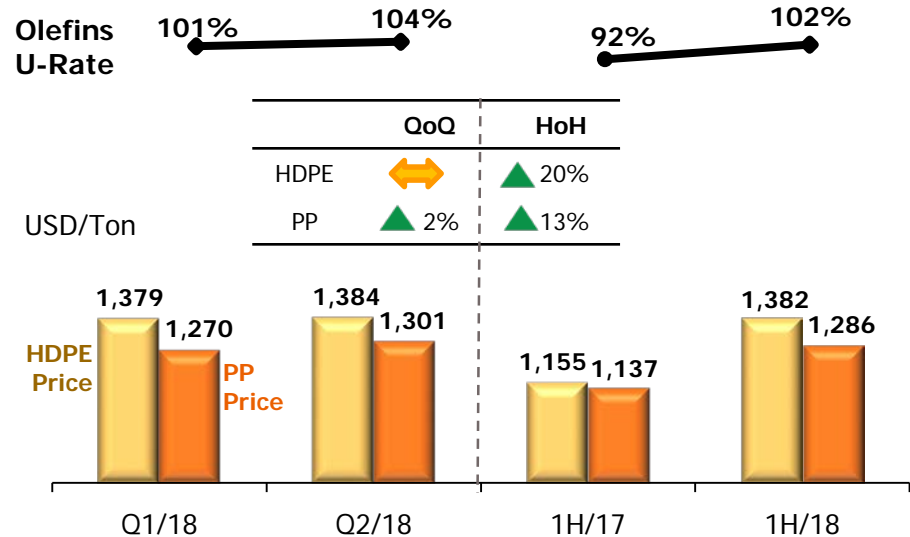


*A/C GRM and A/C GIM include effect from hedging gain/(loss)

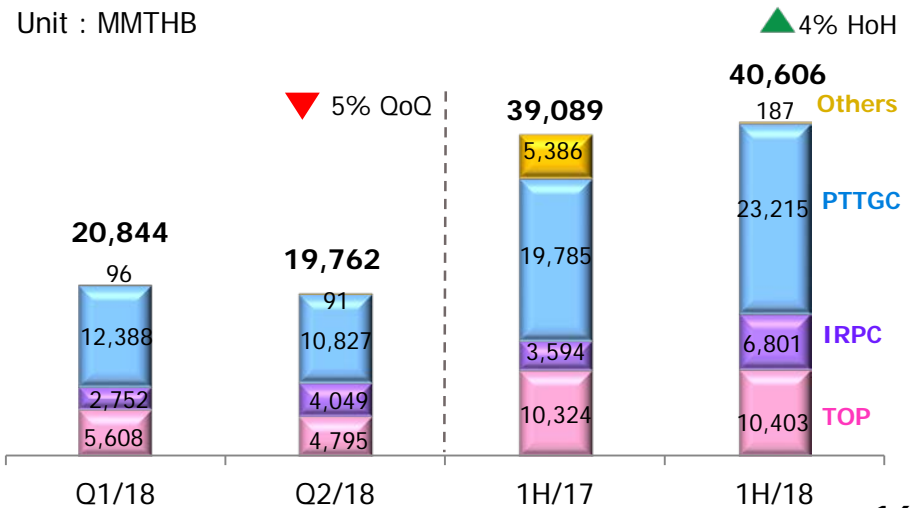
Aromatics



Olefins



Net Income (100%)



*On Jul 3, 2017, PTT transferred HMC to PTTGC

P&R : Upcoming Projects



Overview

Performance

Outlook

E & P

Gas

Oil & Trading

P&R

Others



ME plants2



PTA & PET



UHV Catalyst Cooler



PO/Polyols



MTP Retrofit



CFP



Maximize Aromatics

2018

2019

2020

2023

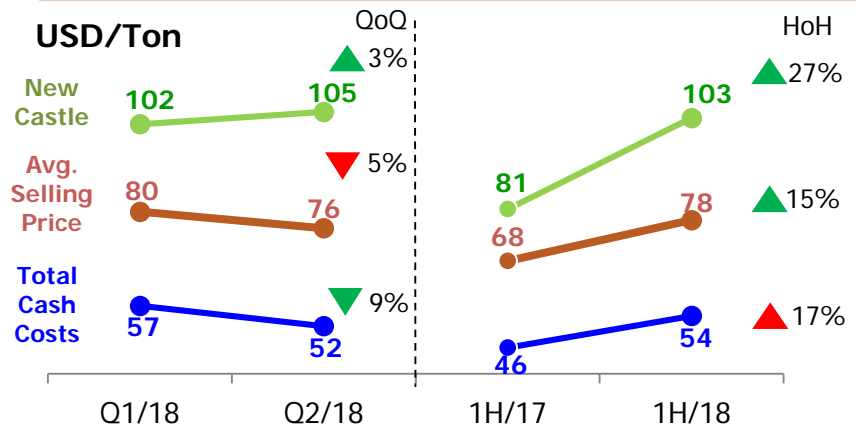
	ME plants2	PTA & PET	UHV Catalyst Cooler	PO/ Polyols	MTP Retrofit (Olefins Reconfiguration)	CFP (Clean Fuel Project)	MARS (Maximize Aromatics)
Objective /Capacity	<ul style="list-style-type: none"> Methyl Ester (200 KTA) 	<ul style="list-style-type: none"> Signed SPA to acquire share in SMPC (PTA) & TPRC (PET) businesses Enhance product portfolio & polymer business PTA (970 KTA) PET bottle (147 KTA) 	<ul style="list-style-type: none"> Flexibility of crude selection Lower utility cost from cracking heavy crude 	<ul style="list-style-type: none"> Create value added in Polyurethane chain PO (200 KTA) Polyols (130 KTA) 	<ul style="list-style-type: none"> Ethylene (500 KTA) Propylene (250 KTA) 	<ul style="list-style-type: none"> Upgrade lower value product → higher value product Ability to process heavier (cheaper) crude oil 	<ul style="list-style-type: none"> Utilize excess Naphtha/ Toluene/ Xylene as feedstock to maximize PX & BZ products Paraxylene (1,000 KTA) Benzene (300 KTA) Other Products (200 KTA)
CAPEX	47 MMUSD	4,148 MB (125 MMUSD)	1,320 MB (32 MMUSD)	888 MMUSD	985 MMUSD	4,174 MMUSD	1.0-1.1 Bn.USD
COD	Q3/18	Q4/18 (Closing Date)	Q1/19	2020 (FID Aug'17)	2H/20 (FID Jan'18)	Q1/23 (FID Jul'18)	Q1/23

Other Businesses : Coal - SAR

Performance declined from one-off tax penalty despite better coal price

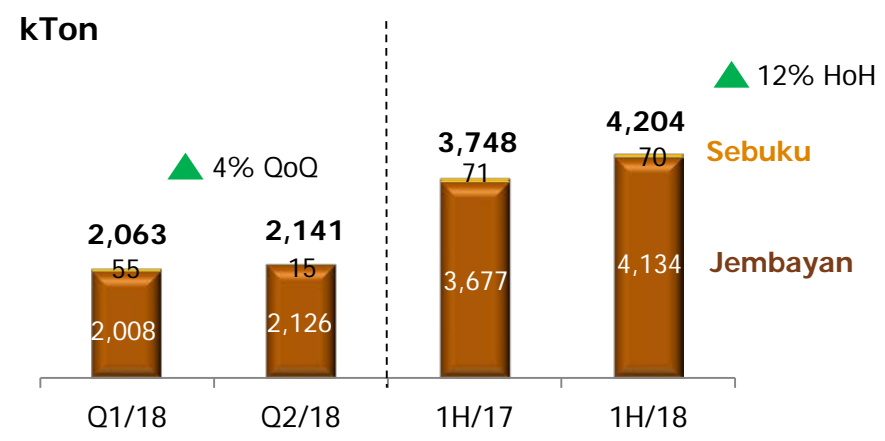


Avg. Selling Price* & Cash cost*

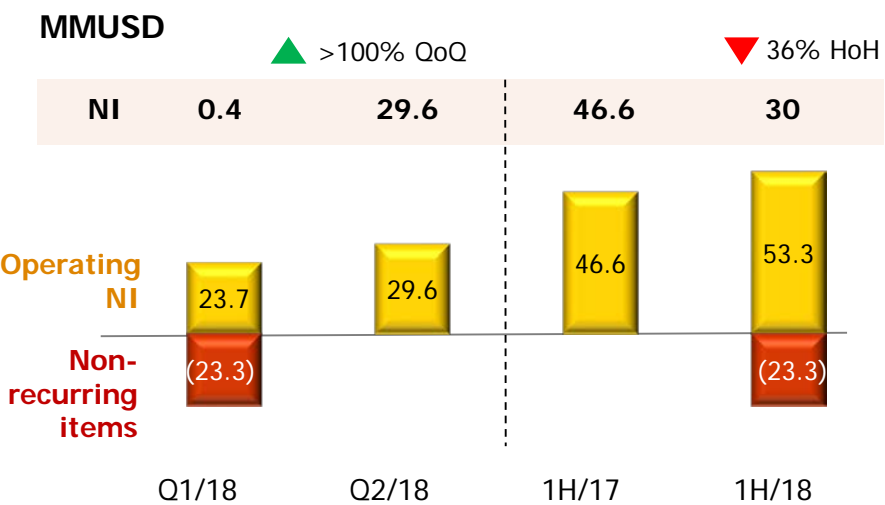


*Average Calorific value ~ 5,450 kcal/kg

Sales Volume



Net income



Key Highlights

- QoQ**
- Cash cost drop from lower amortization
 - ASP decreased from new domestic regulated cap price
 - Sales volume increased from contracted vol
 - Performance improved mainly from no tax penalty in Q2/18 & better margin (cash cost decreased more than the drop in ASP)
- HoH**
- Cash cost increased from royalties following coal price
 - Sales volume increased from higher Jembayan's sales contracts
 - Better margin from higher price & vol., despite higher cash cost
 - Performance declined from tax issue, despite better margin

Other Businesses : Power - GPSC

Enhanced Performance mainly from full operation of IRPC-CP

Overview

Performance

Outlook

E & P

Gas

Oil & Trading

P&R

Others

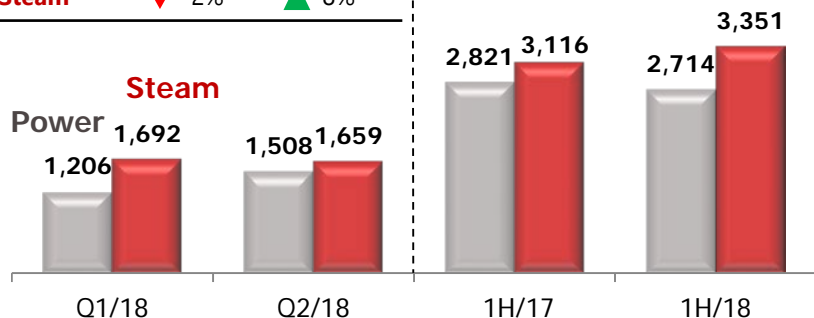
Sales Volume*

*sales vol. of Sriracha, Rayong, IRPC-CP, ISP1 power plants

QoQ HoH

Power	▲ 25%	▼ 4%
Steam	▼ 2%	▲ 8%

GWh
'000 Ton

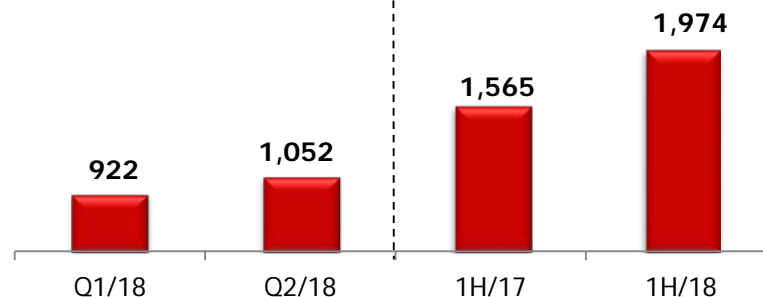


Net Income (100%)

MMTHB

▲ 14% QoQ

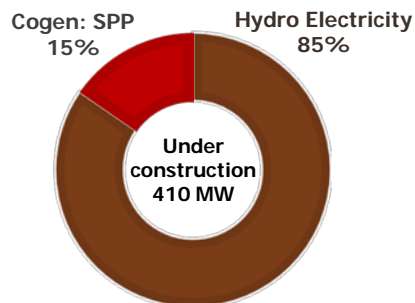
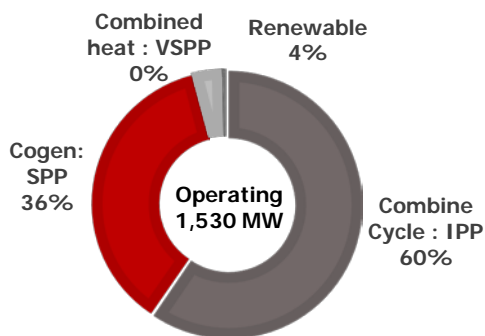
▲ 26% HoH



Committed Capacity

Present

2020



Key Highlights

QoQ

- Sales volume increased from Sriracha power sales vol. and from shutdown of main customers of Rayong Plants in Q1/2018.
- NI increased mainly from electricity sales of ISP1, and the increase in AP factor of Sriracha Plant.

HoH

- Operating revenue increase in steam sales and the maintenance schedule of main customers of Rayong Plant in Q2/2017.
- NI increased from the full operation of IRPC-CP (I.II), more sales vol. of Rayong Plant, and COD of ISP1.

ELECTRICITY
1,940 MW
(operate 1,410 MW)

STEAM
1,585 T/H
(operate 1,446 T/H)

INDUSTRIAL WATER
2,080 Cu.m./H

CHILLED WATER
12,000 RT

Other Businesses : Power - GPSC

Future growth

Overview

Performance

Outlook

E & P

Gas

Oil & Trading

P&R

Others

Committed Capacity SCOD in 2020



Xayaburi Power Company Limited (XPCL)
Capacity: 1,220 MW
Progress: **94%**

Investment: THB 131,101 mm



Nam Lik 1 Power (NL1PC)
Capacity: 63.8 MW
Progress: **93%**

Investment: USD 136 mm



CUP4 Expansion Project
Capacity: Power 45 MW and Steam 70 TPH (Phase1)
Progress: **31%**

Investment : THB 3,980 mm



NNEG Expansion Project
Capacity: Power 60 MW and Steam 10 TPH
Progress: **Expected to NTP in Q3/18**

Investment : THB 3,105 mm

Pre and Post-merger Equity MW Growth

- Inorganic growth
- Organic growth

1,530

YE 2018
(Pre-merger)

Equity Capacity

1,530 MW

Installed Capacity

3,148 MW

14 Plants

10.86% CAGR Installed Capacity Growth

4,425



Glow's portfolio
(2,895 MW)

YE 2018
(Post-merger)

4,425 MW

6,355 MW

14 Plants

4,817

392

XPCL (321MW)



NL1PC (26MW)



Rayong Power Plant Expansion (45MW)

2019
(Post-merger)

4,817 MW

7,750 MW

16 Plants

4,835

18



NNEG Expansion (18 MW)

2020
(Post-merger)

4,835 MW

7,810 MW

16 Plants + Expansion 20

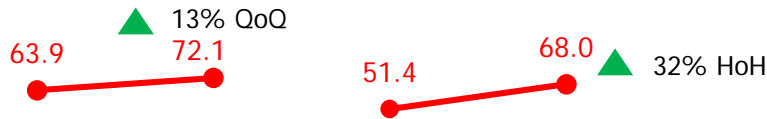
PTT Consolidated Performance: 1H/2018

Overview

Performance

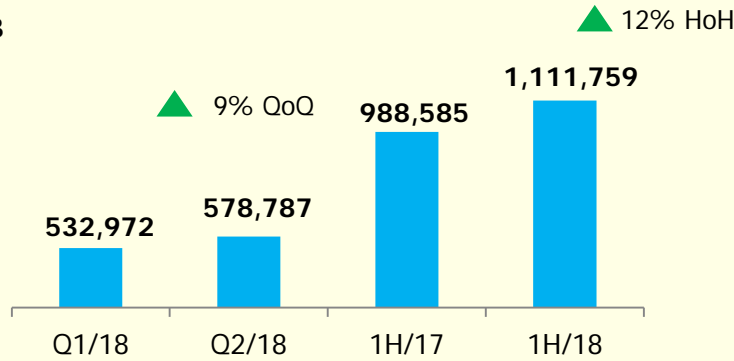
Outlook

Avg. Dubai (USD/BBL)



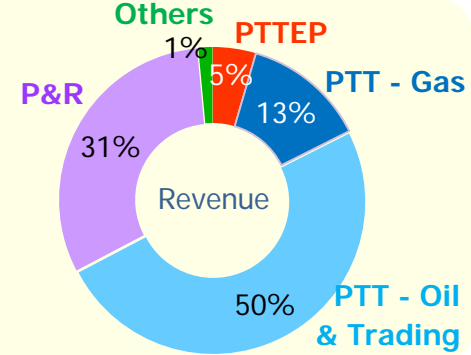
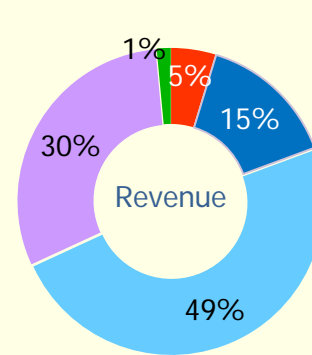
Unit : MMTHB

Revenue

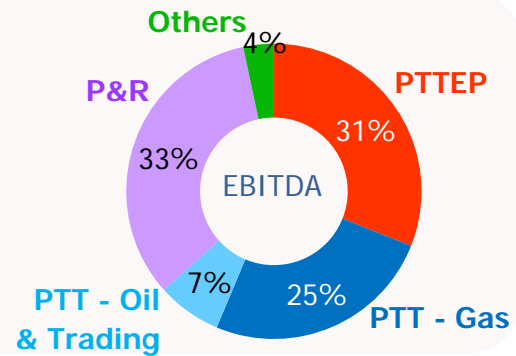
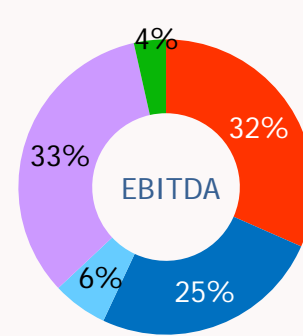
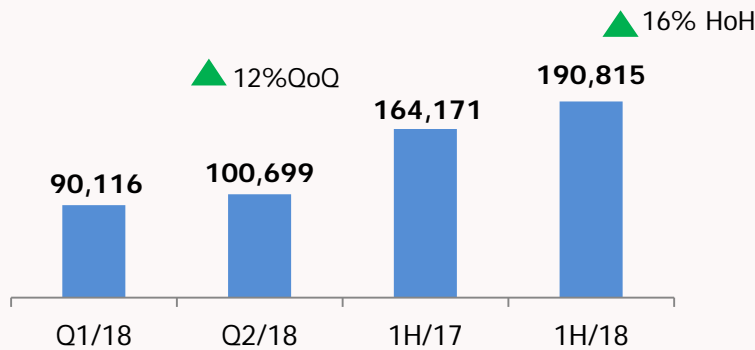


1H/17

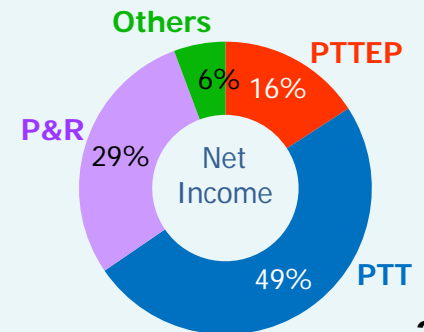
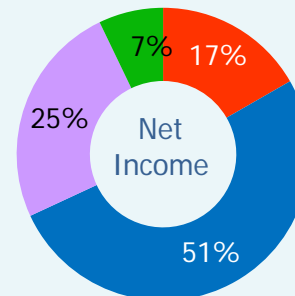
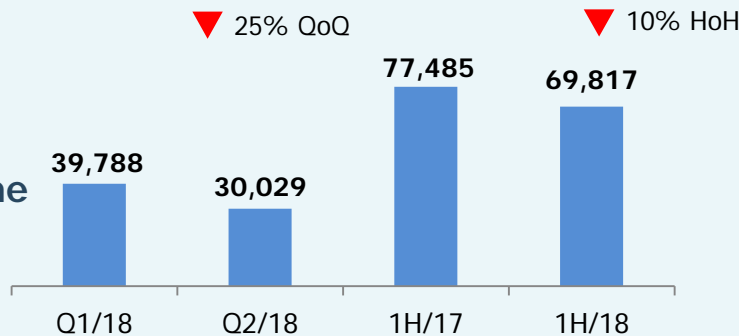
1H/18



EBITDA



Net Income



Statement of Financial Position

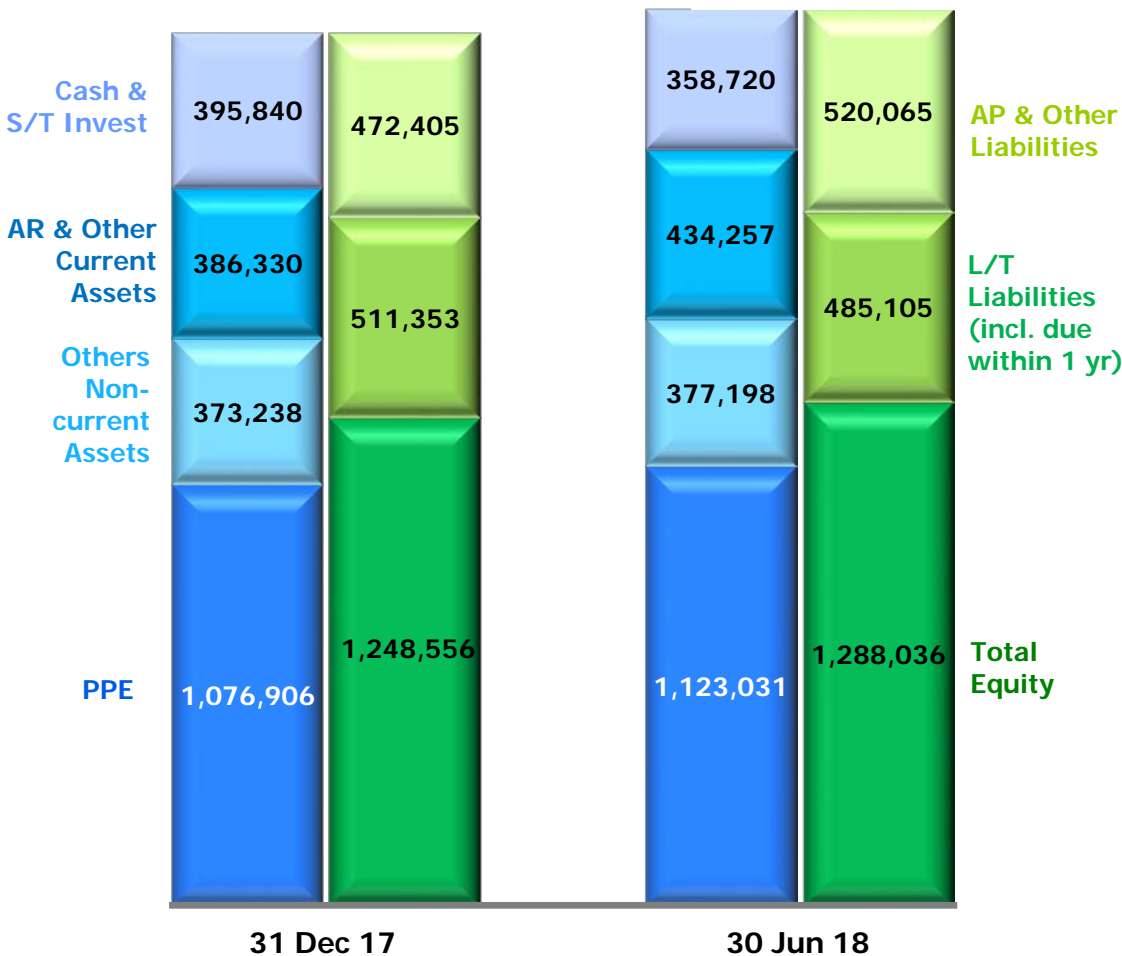
MMTHB

▲ 3%



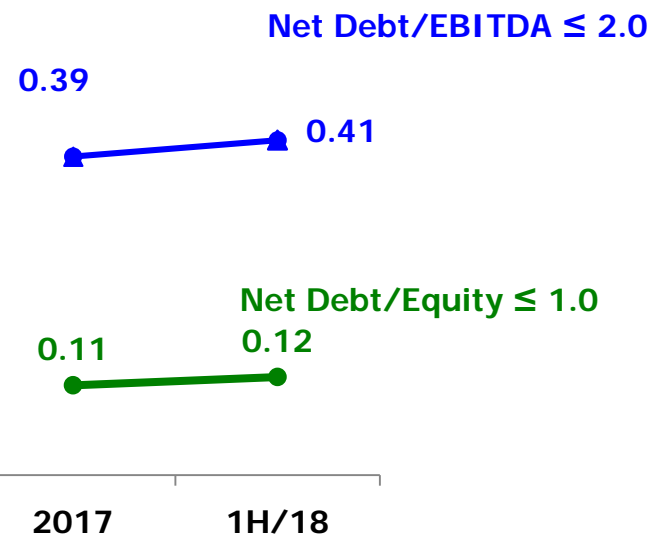
2,293,206

2,232,314



Assets/Liabilities slightly increased :

- Increased in asset from acquisition Bongkot stake at 22.22%
- Increased in inventory from rising oil price



PTT Ratings at Sovereign Level

- FC : Moody's (Baa1), S&P (BBB+), FITCH (BBB+)
- LC : Moody's (Baa1), S&P (BBB+), FITCH (BBB+)

Statements of Consolidated Cash Flows : 1H/2018

Operating	1H/2017	1H/2018
	119,969	128,314
Net Income	77,485	69,817
Changes in assets & liabilities	(25,761)	(35,970)
Income Tax	(23,200)	(28,000)
Non-Cash Adjustment	91,445	122,467

Investing	1H/2017 (41,569)	1H/2018 16,993
CAPEX (PP&E, Intangible asset)	(51,347)	(58,474)
Investment (Sub. & Affiliates & others)	(8,009)	(21,434)
Current investment	10,818	88,240
Dividend/Interest Received	9,997	7,305
Others	(3,028)	1,356

Free Cash flow	
78,400	145,307



Financing	(74,182)	(100,957)
Repayment Loans	(38,657)	(80,092)
Interest paid	(15,210)	(14,035)
Dividend paid	(42,670)	(52,129)
Received from share issue	3,056	0
Received from loans/Bonds	20,391	57,808
Others	(1,092)	(12,509)

Adjustment	
(5,312)	1,766

Beginning Cash and Cash Equivalents	
215,566	166,189



Cash In/(Out)	
(1,094)	46,116



Ending Cash & Cash Equivalents	214,472	212,306
Ending cash incl. S/T investment	380,468	358,719

Overview

Performance

Outlook

- Overview
- Q2/2018 & 1H/2018 Performance
- **Outlook 2018**

Global Economic Outlook 2018:

Global Growth Remains Strong Amid Rising Trade Tensions

Overview

Performance

Outlook



US economy : Robust Growth to Continue

- Bull** :
- Strong labor market → support consumer spending
 - Expansionary fiscal policy → stimulate economic activity
- Bear** :
- Fed's rate hike → higher borrowing costs
 - Trade tensions with trading partners → weigh on growth
 - An appreciation of US Dollar



China economy: Steady Growth

- Bull** :
- Proactive fiscal & cautious monetary policies → support and stabilize growth
 - Easing credit campaign against risk → support growth
- Bear** :
- Difficult trade problems with the US → weigh on growth
 - Ongoing reforms in China, specifically tight pollution rules → weigh on growth



Eurozone economy: Moderate Growth

- Bull** :
- Maintain low interest rate & improving labor market → support growth
- Bear** :
- Less fiscal expansionary in several economies → weigh on growth
 - Uncertain political scene → weigh on growth



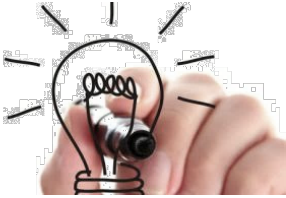
Thai economy: Robust Economic Performance

- Bull** :
- Continuous expansion in exports and tourism → stimulate growth
 - Private investment → stimulate growth
- Bear** :
- High household debt → constrain domestic demand
 - Delays in government spending → weigh on growth
 - Thai baht volatility → weigh on macroeconomic performance



Summary: Outlook 2018

Overview		Performance		Outlook
Business	1H/2018	2018 (Forecast)		Reason
Gas Price (\$/mmbtu) - Henry Hub - JKM	2.84 9.22	Range 2.8 – 3.1 9.4 – 10.0	HH: High natural gas production continues to limit upward price pressures JKM: Spot activity emerged in Asia in anticipation of warmer-than-average summer and the support from high crude price	
Oil Price (\$/bbl) Dubai Price	68.0	Range 69 – 74	U.S. imposed sanction on Iran, crisis in Venezuela, unrest in Libya, etc. OPEC/Non-OPEC maintain compliance to output cut throughout 2018 Surging US shale oil production Economic risks from trade war tensions	
Refinery Margin (\$/bbl) Singapore GRM	6.48	Range 6.2 – 6.6	Light & middle distillates Lower gasoline imports from Vietnam after Nghi Son refinery becomes fully operate Chinese exports weighing down the market further FO Strong power generation and bunker demand	
Petrochemical (\$/ton) - Olefins prices (HDPE, PP) - Aromatics spreads over Naphtha MoPJ (PX, BZ)	HDPE = 1382 PP = 1270 PX-Naphtha = 363 BZ-Naphtha = 256	HDPE = 1361 PP = 1270 PX-Naphtha = 345-355 BZ-Naphtha = 215-225	Olefins: More global PE supply from US and India in 2H/18 Healthy PP demand amid new regional PP capacities from China, Vietnam and Malaysia Aromatics: Higher feedstock cost (Naphtha) leading to lower spread Additional BZ, PX supply (Petro Rabigh, Nghi Son) High BZ inventory in China	



1H/2018

- Gas price continue to increase following oil price
- PTTEP – Pressured from FX exposure (tax) despite higher price & vol.
- Gas – Improved performance from all segments
- Oil – Lower performance from decreased margin
- P&R – Better from stock gain and Olefins margin
- GPSC – Higher performance from fully operations of IRPC-CP and ISP1
- Coal – Weaken from tax issue

WHAT'S NEXT?

Outlook 2H/2018



- Global economy to remain strong
- Higher oil & gas prices
- Bidding expiring concession to conclude end of 2018
- GSP 3 Major Turnaround in Q3/18
- Refinery margin to be maintained
- Weaken Olefins & Aromatics

"Sustainable Development Model" for "Sustainable Growth for All"

Sustainable Growth for All Pride & Treasure of Thailand

People

+

Planet

+

Profit

SPIRIT Synergy Performance excellence Innovation Responsibility for society Integrity & ethics Trust & respect
 คนเก่ง + คนดี



National Wealth

SDGs* : 4, 8, 11

Social Wealth

1, 3

Green Business

12

Environment

6, 13, 14, 15

CG

16

Business Performance

7, 9

Innovation

- VISTEC
- EECi

Donation

CSR

SE

Products

Processes

Our KBKC

Green Globe

Reforestation

Process & System

People

Design Now

Decide Now

Do Now

Build Personnel + Use Technology + Drive Transformation

* PTT SDGs Focus | PTT SDGs Involvement

Thank you



PTT Public Company Limited – Investor Relations Department

Tel. +66 2 537-3518, Fax. +66 2 537-3948,

E-mail: ptt-ir@pttplc.com Website: <http://www.pttplc.com>

Disclaimer

The information contained in our presentation is intended solely for your personal reference only. Please do not circulate this material. If you are not an intended recipient, you must not read, disclose, copy, retain, distribute or take any action in reliance upon it. In addition, such information contains projections and forward-looking statements that reflect our current views with respect to future events, financial performance and result of PTT's activities. These views are based on assumptions subject to various risks and uncertainties. No assurance is given that future events will occur, that projections will be achieved, or that our assumptions are correct. Actual results may differ materially from those projected.

The information contained in this presentation is subject to change without notice and PTT does not undertake any duty to update the forward-looking statements, and the estimates and assumptions associated with them, except to the extent required by applicable laws and regulations.

Statements of Cash Flows (PTT Only) : 1H/2018

Operating	1H/2017	1H/2018
	26,921	41,749
Net Income	59,300	61,916
Changes in assets & liabilities	(18,547)	(10,137)
Income Tax	(5,253)	(5,641)
Non-Cash Adjustment	(8,579)	(4,389)

Investing	1H/2017	1H/2018
	(5,689)	11,793
CAPEX (PP&E, Intangible asset)	(11,649)	77,468
Investment (Sub.& Affiliates & Others)	(28,111)	(121,200)
Current investment	9,865	24,417
Dividend/Interest Received	25,181	24,429
Others	(975)	6,679

Free Cash Flow	
21,232	53,542



Financing	1H/2017	1H/2018
	(29,712)	(47,861)
Repayment Loans	(18,294)	(10,025)
Interest paid	(6,494)	(4,735)
Dividend paid	(28,563)	(34,258)
Received from loans/Bonds	23,639	1,157

Adjustment	
(638)	503

Beginning Cash and Cash Equivalents	
62,648	38,692



Cash In/(Out)	
(9,118)	6,184



Ending Cash & Cash Equivalents	1H/2017	1H/2018
	53,530	44,876
Ending cash incl. S/T investment	102,122	95,113

PTT Group Performance : Q2/2018 (QoQ)

Unit : MMTHB

	Performance 100%			% PTT holding	Equity Method % PTT		
	Q1/18	Q2/18	QoQ		Q1/18	Q2/18	QoQ
PTT Net operating Income	19,011	14,207	-25%		19,011	14,207	-25%
E&P - PTTEP	13,381	3,590	-73%	65.29%	8,727	2,352	-73%
Petrochemical	12,484	10,918	-13%		6,250	5,663	-9%
- PTTGC	12,388	10,827	-13%	48.62%	6,152	5,573	-9%
- PTTTANK/HMC/PTTPL/PTTPM/PTTAC/PTTMCC/PMMA*	96	91	-5%		98	90	-8%
Refining	8,360	8,844	6%		4,365	3,866	-11%
- TOP	5,608	4,795	-14%	49.03%	2,850	2,287	-20%
- IRPC	2,752	4,049	47%	48.05%	1,515	1,579	4%
Others Business	9,438	5,730	-39%		1,435	3,941	175%
Inter - PTTTER/PTTGE/PTTGM	5,475	911	-83%	100%	(819)	876	207%
Gas - PTTLNG/PTTNGD/PTTGL/TTM(T)/TTM(M)	1,888	2,102	11%		1,489	1,802	21%
Utilities - GPSC/TP/DCAP/PTTES/PTTDIGITAL/ENCO	1,394	1,550	11%		349	385	10%
Oil & Oth. - PTTT/PTTOR/THAPPLINE/Others	681	1,167	71%		416	878	111%
Shared of Net Income from Affiliates	43,663	29,082	-33%		20,777	15,822	-24%
PTT Conso. Net Income	62,674	43,289	-31%		39,788	30,029	-25%

*On Jul 3, 2017 PTT transferred all stake in HMC/PTTPL/PTTPM/PTTAC/PTTMCC and the Projects' Study Results of PTTPMMA to PTTGC

PTT Group Performance : 1H/2018 (HoH)

Unit : MMTHB

	Performance 100%			% PTT holding	Equity Method % PTT		
	1H/17	1H/18	HoH		1H/17	1H/18	HoH
PTT Net operating Income	39,812	33,218	-17%		39,812	33,218	-17%
E&P - PTTEP	19,820	16,971	-14%	65.29%	12,942	11,079	-14%
Petrochemical	25,171	23,402	-7%		12,483	11,913	-5%
- PTTGC	19,785	23,215	17%	48.62%	9,941	11,725	18%
- PTTTANK/HMC/PTTPL/PTTPM/PTTAC/PTTMCC/PMMA*	5,386	187	-97%		2,542	188	-93%
Refining	13,918	17,204	24%		6,718	8,231	23%
- TOP	10,324	10,403	1%	49.03%	5,230	5,137	-2%
- IRPC	3,594	6,801	89%	48.05%	1,488	3,094	108%
Others Business	8,748	15,168	73%		5,530	5,376	-3%
Inter - PTTTER/PTTGE/PTTGM	644	6,386	892%	100%	589	57	-90%
Gas - PTTLNG/PTTNGD/PTTGL/TTM(T)/TTM(M)	3,889	3,990	3%		3,160	3,291	4%
Utilities - GPSC/TP/DCAP/PTTES/PTTDIGITAL/ENCO	2,639	2,944	12%		675	734	9%
Oil & Oth. - PTTT/PTTOR/THAPPLINE/Others	1,576	1,848	17%		1,106	1,294	17%
Shared of Net Income from Affiliates	67,657	72,745	8%		37,673	36,599	-3%
PTT Conso. Net Income	107,469	105,963	-1%		77,485	69,817	-10%

*On Jul 3, 2017 PTT transferred all stake in HMC/PTTPL/PTTPM/PTTAC/PTTMCC and the Projects' Study Results of PTTPMMA to PTTGC

Debt Profile : Control Cost & Manage Risk

Managed debt according to financial risk and policy

Debt Portfolio

Unit : MMTHB

PTT Only

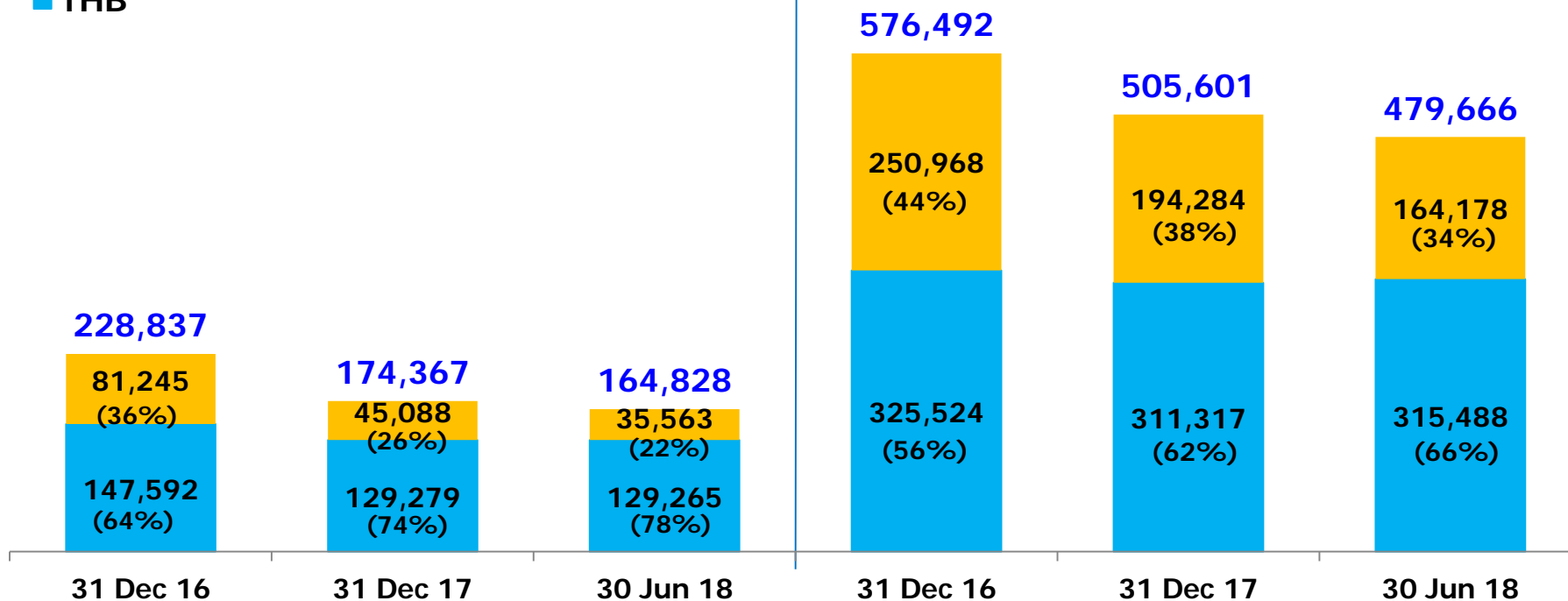
- : Cost of debts ~ 5.23%
- : % fixed-rate ~ 71%
- : Avg. debt life ~ 8.88 years

■ USD&Other

■ THB

Consolidated

- : Cost of debts ~ 4.59%
- : % fixed-rate ~ 70%
- : Avg. debt life ~ 6.76 years



Note : Data as of 30 Jun 18 (THB/USD = 33.3278 THB/JPY = 0.303658 Excluding liabilities from finance leases; Cost of debts includes withholding tax. Cost of debts, % fixed rate, and avg. debt life took into account the derivative transactions. Debt outstanding is reconciled with accounting.

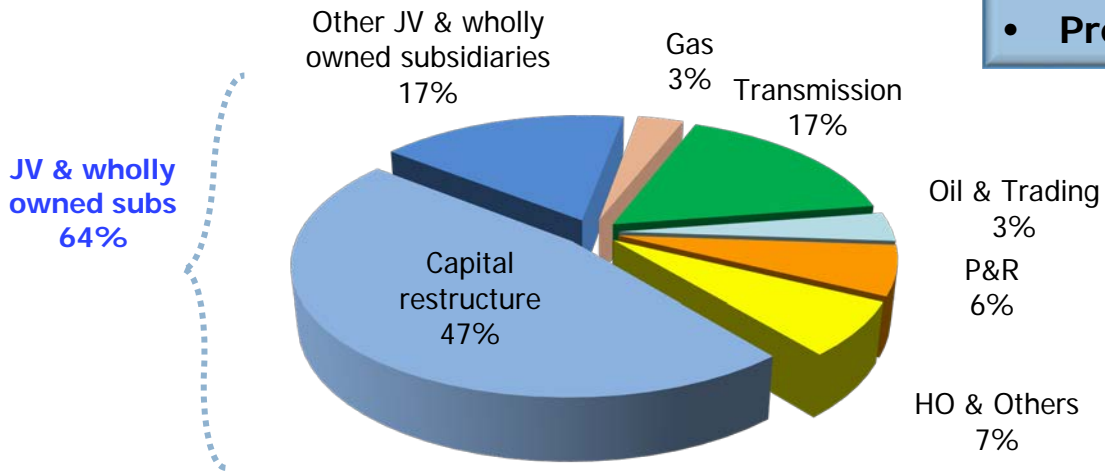
PTT: Committed CAPEX (PTT and Wholly Owned Subsidiaries)



PTT plans to invest ~Bt 342bn* (\$10bn) during 2018-2022

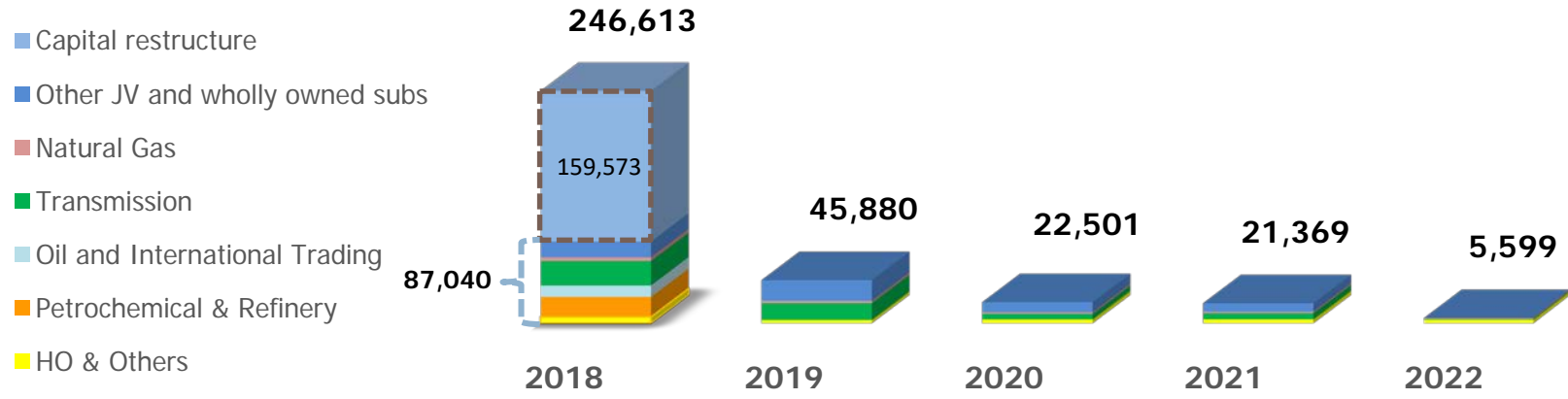
Additional Provisional CAPEX = Baht 245 bn

- Business expansions
- Prepare for the future (New S-Curve)



PTT 5-Years Committed CAPEX Plan ~Bt 342 bn

Unit: MMTHB

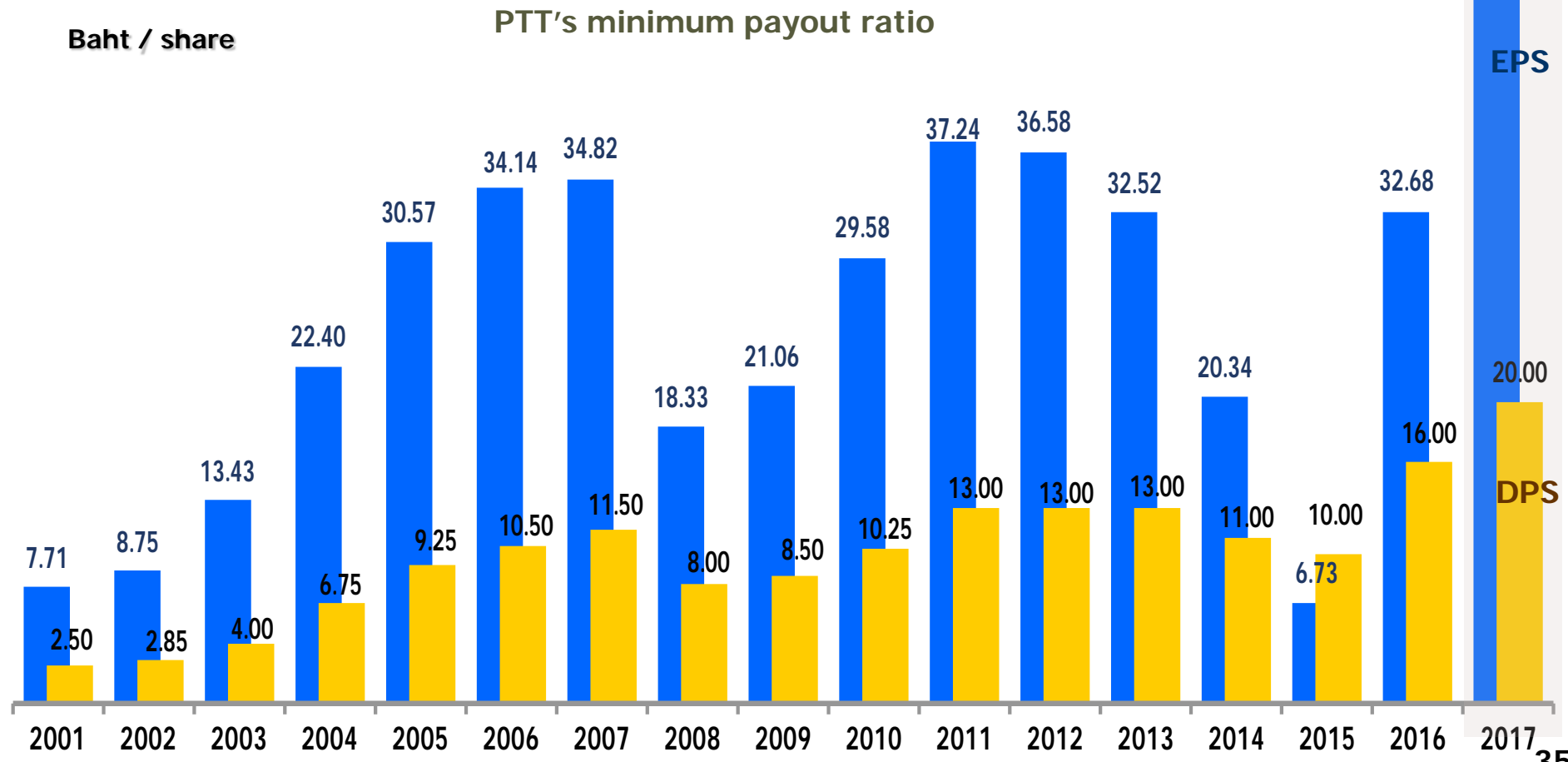
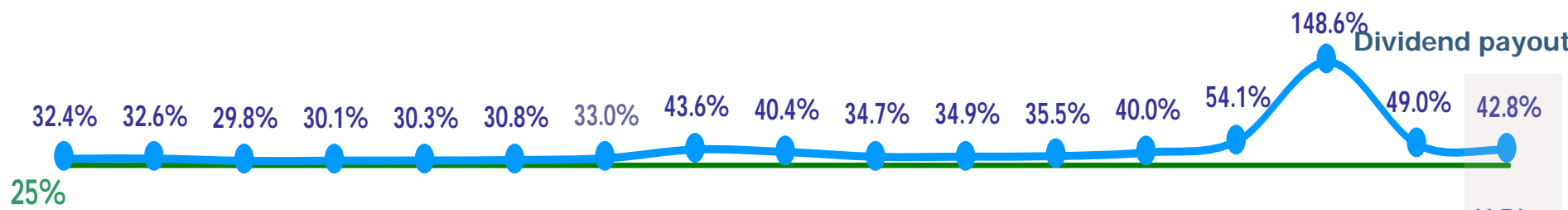


* 2018-2022 budget approved by BOD on 22 Dec 17

Dividend Policy & Historical Payments



PTT is firmly committed to pay dividend at no less than 25% of net income



Data as of 30 June 2018

E&P and Gas Business Group

Subsidiaries		Consolidate	
PTT Exploration & Production Plc.	PTTEP	65.29%	
PTT Natural Gas Distribution Co., Ltd.	PTTNGD	58.00%	
PTT LNG Co., Ltd.	PTTLNG	100.00%	
PTT Global LNG Co., Ltd	PTTGL	50.00%	

Joint Ventures		Equity	
Trans Thai-Malaysia (Thailand) Co., Ltd.	TTM (T)	50.00%	
Trans Thai-Malaysia (Malaysia) Sdn. Bhd.	TTM (M)	50.00%	

Oil Business Group

Subsidiaries		Consolidate	
PTT (Cambodia) Co., Ltd.	PTTCL	100.00%	
PTT Oil & Retail Business Co., Ltd.	PTTOR	100.00%	
Thai Lube Blending Co., Ltd.	TLBC**	48.95%	
PTT Oil Myanmar Co., Ltd.	PTTOM	100.00%	

Associates		Equity	
Thai Petroleum Pipeline Co., Ltd.	THAPPLINE	40.53%	
PetroAsia (Thailand) Co., Ltd.	PA(Thailand)	35.00%	

Others		Cost	
PetroAsia (Maoming) Co., Ltd.	PA(Maoming)	20.00%	
PetroAsia (Sanshui) Co., Ltd.	PA(Sanshui)	25.00%	
Intoplane Services Co., Ltd.	IPS	16.67%	
Fuel Pipeline Transportation Co., Ltd.	FPT	0.0000090%	

Others		Fair Value	
Bangkok Aviation Fuel Services Plc.	BAFS	7.06%	

Petrochemicals & Refining Business Group

Petrochemical Subsidiaries		Consolidate	
PTT Global Chemical Plc.*	PTTGC	48.62%	
PTT Tank Terminal Co., Ltd.	PTTTANK	100.00%	

Refining Subsidiaries		Consolidate	
Thai Oil Plc.*	TOP	49.03%	
IRPC Plc.*	IRPC	48.05%	

International Trading Business Group

Subsidiaries		Consolidate	
PTT International Trading Pte.	PTTT	100.00%	
PTT International Trading London Ltd	PTTTLDN	100.00%	

International Investment

Subsidiaries		Consolidate	
PTT Energy Resources Co., Ltd.	PTTER	100.00%	
PTT Green Energy Pte. Ltd	PTTGE	100.00%	
PTT Global Management Co., Ltd.	PTTGM	100.00%	

Others

Subsidiaries		Consolidate	
PTT Digital Solutions Co., Ltd.*	PTT DIGITAL	20.00%	
Global Power Synergy Co., Ltd*	GPSC	22.58%	
Thai Oil Power Co., Ltd.*	TP	26.00%	
PTT Energy Solutions Co., Ltd.*	PTTES	40.00%	
Energy Complex Co., Ltd.	EnCo	50.00%	
Business Service Alliance Co., Ltd.	BSA*	100.00%	
PTT Regional Treasury Center Pte. Ltd.	PTTRTC	100.00%	
PTT Treasury Center Co. Ltd	PTT TCC	100.00%	

Joint Ventures		Equity	
District Cooling System and Power Plant	DCAP	35.00%	

Others		Cost	
Sarn Palung Social Enterprise Company Ltd.	SPSE	20.00%	
Baania (Thailand) Company Ltd.	Baania	7.06%	

Others		Fair Value	
Dhipaya Insurance Plc.	TIP	13.33%	

Remark : *The companies have changed their status to subsidiaries due to impact from PACK 5
 ** Subsidiaries that PTT holds less than 50% but being consolidated because PTT has the power to control the financial and operating policies.

Natural Gas Price Structure : Jan-Jun 2018

Gas prices are mostly agreed under long-term contracts and volatility pass-through to ensure stable returns.

Customers

Power Producers 57%

: EGAT	15%
: IPP	16%
: SPP	26%

GSP 22%

Petrochemicals Feedstocks

Ethane, Propane, LPG

NGL

Local Cooking Gas

Export Cooking Gas

Industry 16%

NGV 5%

Sales Price Structure

Gas Pool Price

+

Supply Margins

+

Pipeline Tariffs

Average Purchased Gas Price

1.75% *

1.75% *

9.33% *

21.9 Bt/MMBtu

* EGAT IPP and SPP Supply Margins not more than 2.1525 and 11.4759 respectively

Charged at the same price structure of power producers

Profit-sharing mechanism based on market prices of petrochemicals

Reference to Naphtha market price

At GSPs cost (adjusted every 3 months)

Reference to Saudi Aramco's contract price

Charged at prices comparable to fuel oil

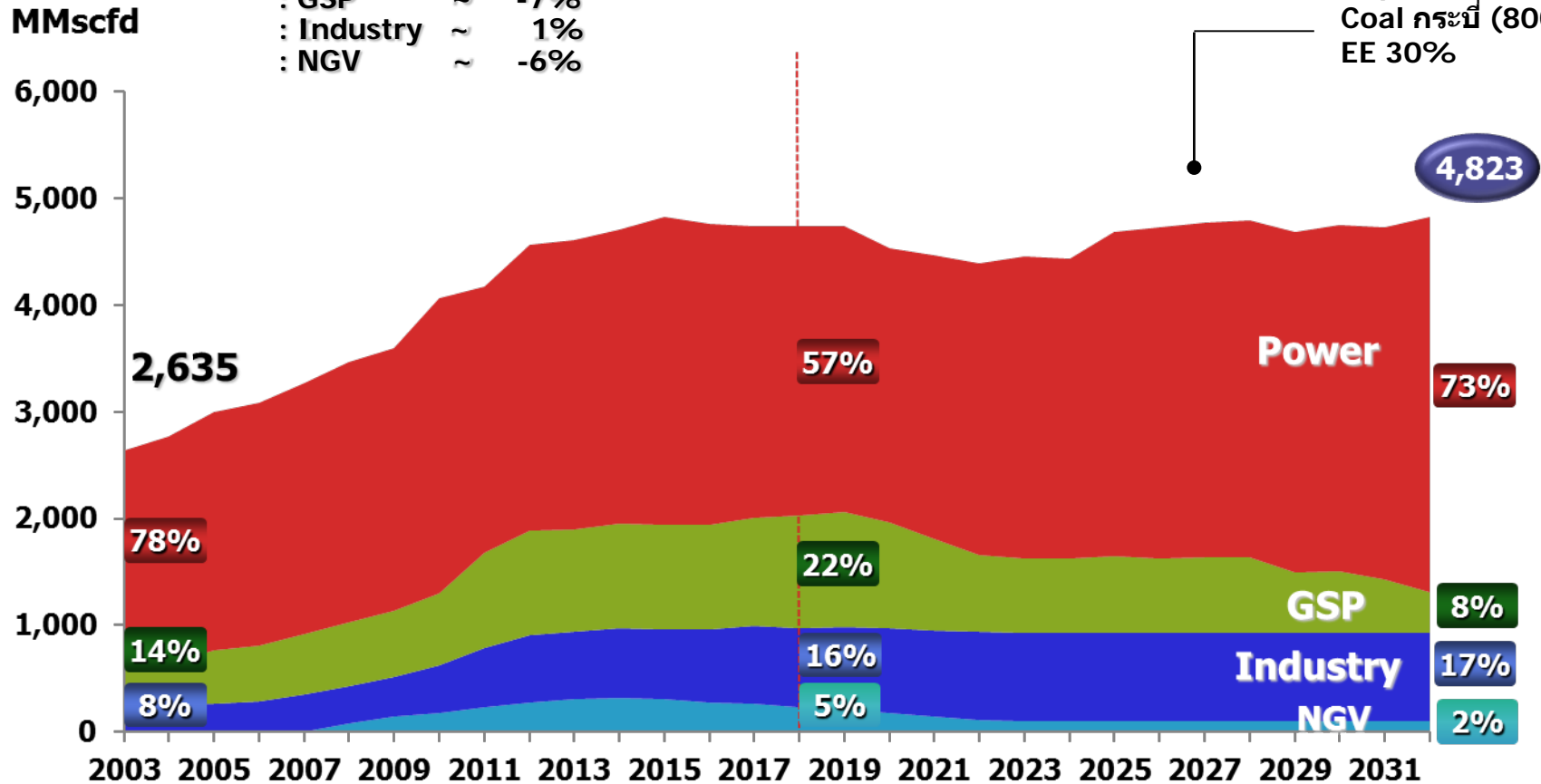
- Since 16 Jul 2016 : The retail price is set to reflect the natural gas cost but operating cost is still regulated.
- Since 5 Sep 2017 : Allowance to adjusted +0.46 Baht/Kg. for gas quality improvement cost
- Since 16 May 2018 : Allowance to adjusted the retail price of NGV public bus to 10.62 Baht/Kg.
- NGV retail Price as of 30 Jun 18 = 14.06 Baht/Kg.

Natural Gas : Growth of natural gas upon Government fuel diversification policy for power generation

Thailand Gas demand forecast (CAGR during 2018-2032)

- : Total ~ 0.1%
- : Power ~ 2%
- : GSP ~ -7%
- : Industry ~ 1%
- : NGV ~ -6%

Thailand Gas Demand Replace :
Coal ๓๐๐๐ (800 MW),
EE 30%



Gas Business Generates Stable Returns

Overview

Gas transmission pipeline capacity

- ✔ **Sole owner and operator of entire gas transmission pipelines in Thailand (~ 4,000 km), a regulated business**
 - IRROE ranges between 12.5% - 18% for transmission pipeline investment
- ✔ **Supply & marketing of natural gas provides fixed margin with long-term contracts of 25-30 years**
- ✔ **6 Gas Separation Plants; Total production 6.7 MTA; are on petrochemical market price-linked profit sharing basis**

