

# *PTT Exploration and Production Public Company Limited*

Q2 2016 Opportunity Day  
Bangkok  
23 August 2016



## **PTTEP**

MEMBER OF

**Dow Jones  
Sustainability Indices**

In Collaboration with RobecoSAM





# Safety Performance

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Industry Highlights

Financial Results

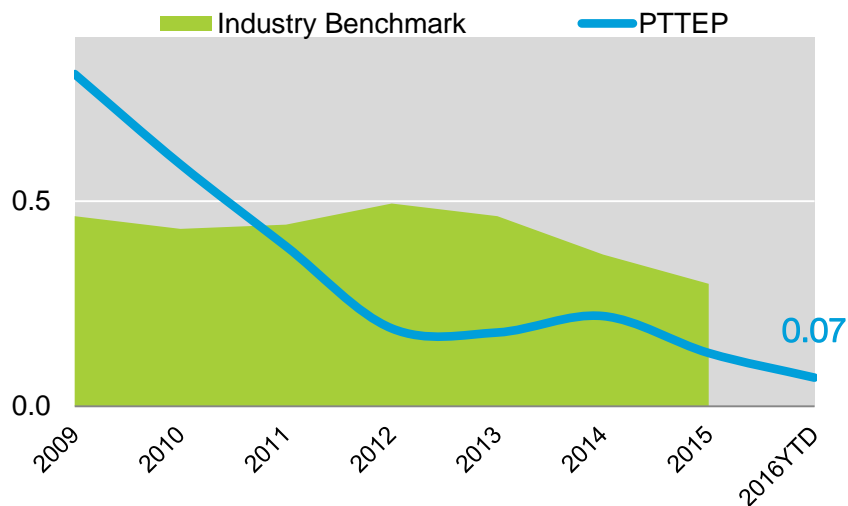
Outlook



## Safety

### Maintain high safety standard

# of incidents per million man hours  
(Lost time injury incident frequency, LTIF)

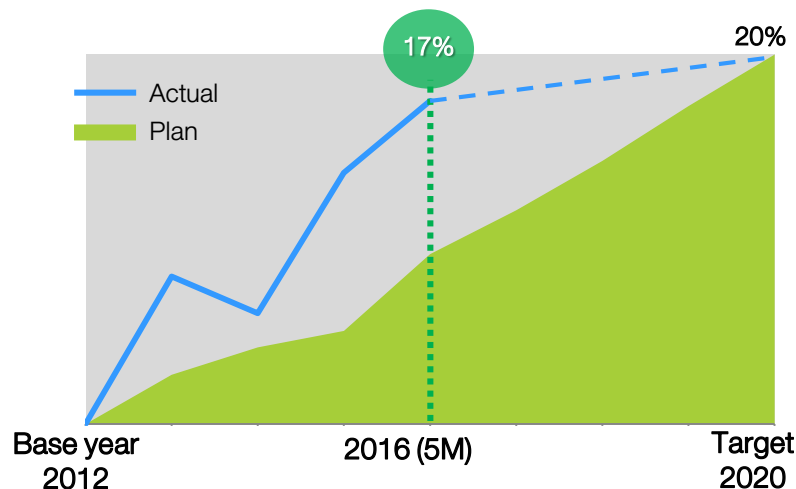


*Safety of PTTEP employees and contractors in every aspect of our operations is key to achieve the goal of "Target Zero"*

## Environment

### Target 20% GHG reduction by 2020

% of reduction in GHG emission per BOE produced, comparing to 2012 base year figure



*PTTEP aims to become a Low Carbon Footprint organization, and has set a goal to reduce its greenhouse gas (GHG) emissions by not less than 20% in the year 2020 versus its 2012 base year figure.*

\* Increase in GHG emission per barrel produced in 2014 was due to slight decrease in production from domestic assets.



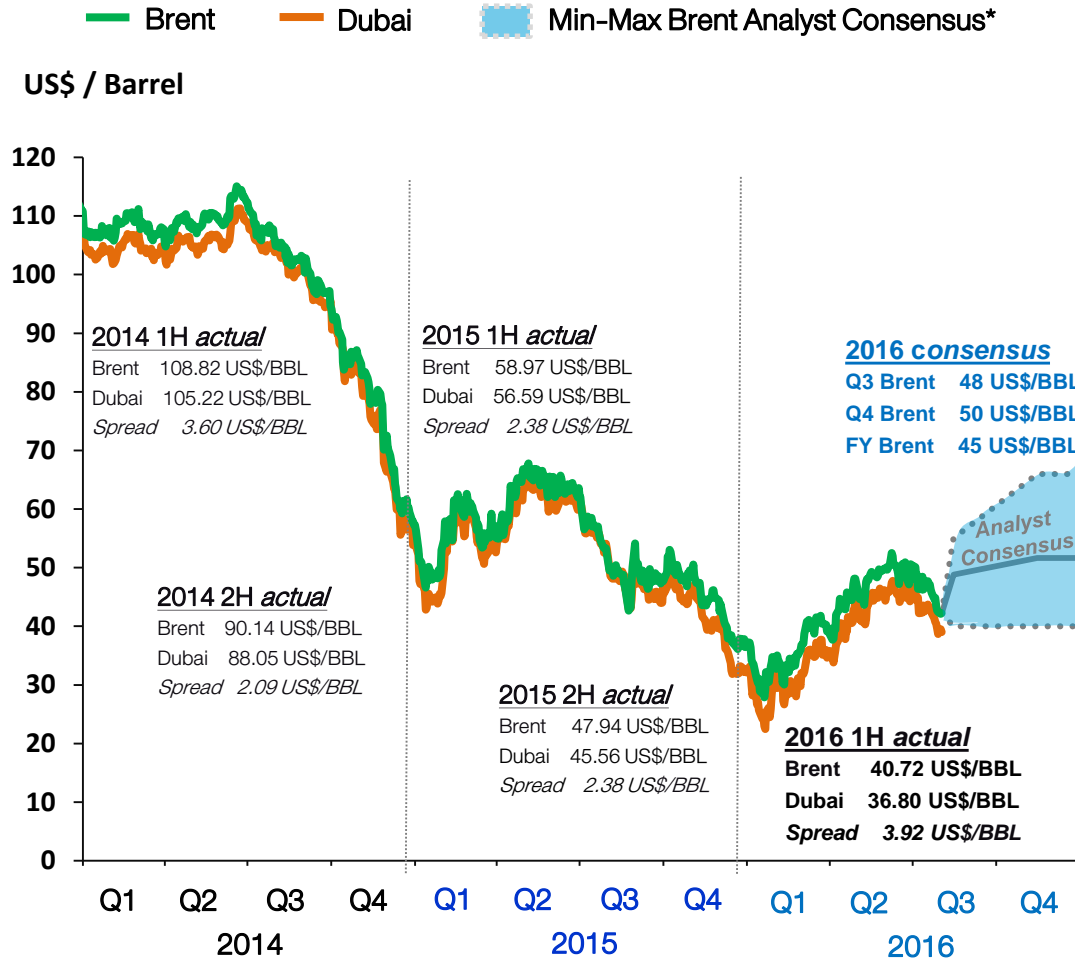
Safety Performance

**Industry Highlights**

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Financial Results

Outlook



## First Half of 2016 Highlights

- Supply disruption in Canada and Nigeria and declining output from US
- Continuous supply ramp-up from Iran after international sanctions lifted
- Concern over the impact of Brexit to global economic and oil demand outlook

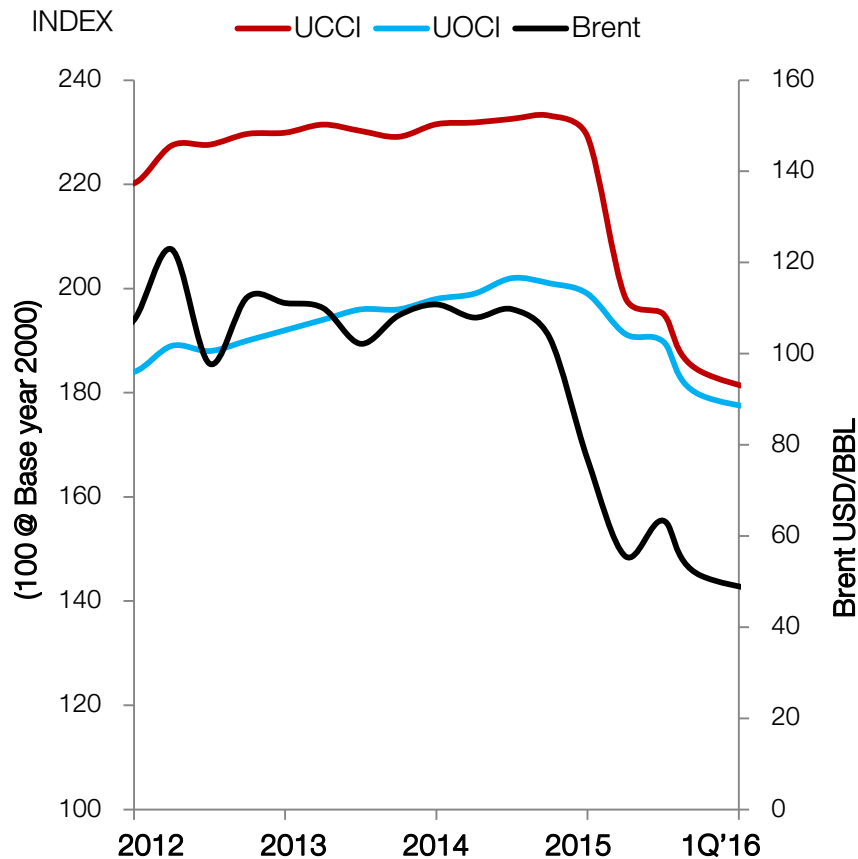
## Outlook for the Remainder of 2016

- Continued oversupply conditions
- EU and China economic slow down
- Decreasing production as a result of previous CAPEX cut since 2014
- Narrowing oversupply gap supported by continued growth in global crude oil demand

Remark: \* Bloomberg Analyst Consensus (CPFC) as of 3 August 2016 (36 estimates)

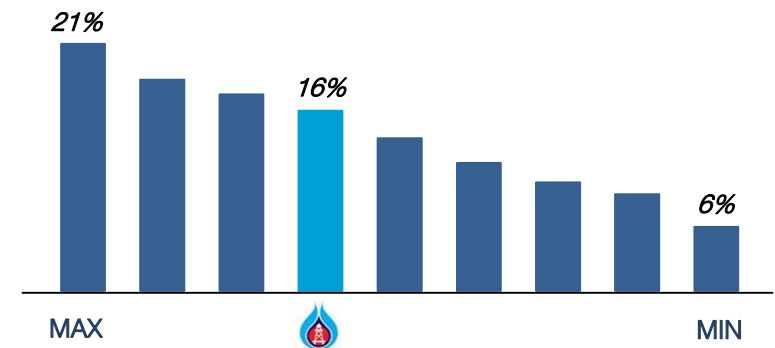


## Upstream Capital and Operating Cost Indices



Remark: UCCI = Upstream Capital Cost Index ; UOCI = Upstream Operating Cost Index  
Source: IHS CERA

## % Reduction in Operating Expense per BOE (FY15 vs FY14)

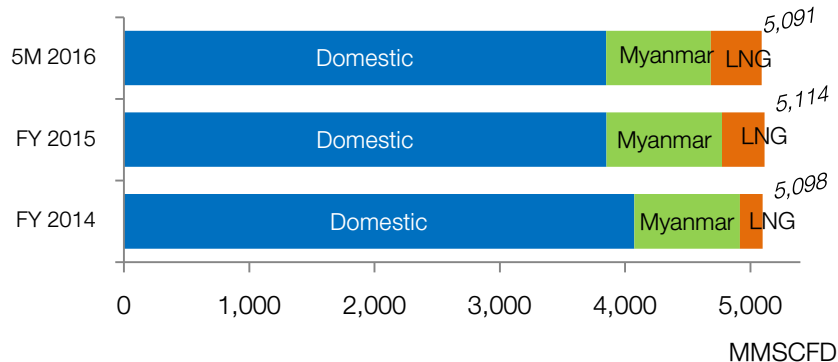


Peers incl. Anadarko, Apache, Chevron, CNOOC, Murphy Oil, Santos, Shell, Woodside  
Source: Company's Announcement based on average leasing operating cost, average production cost and operating expense per BOE

- Upstream cost deflation continues albeit recently at a slower rate
- E&P companies has capitalized on this, together with efficiency improvement, at varying degrees as partly reflected in unit operating expense

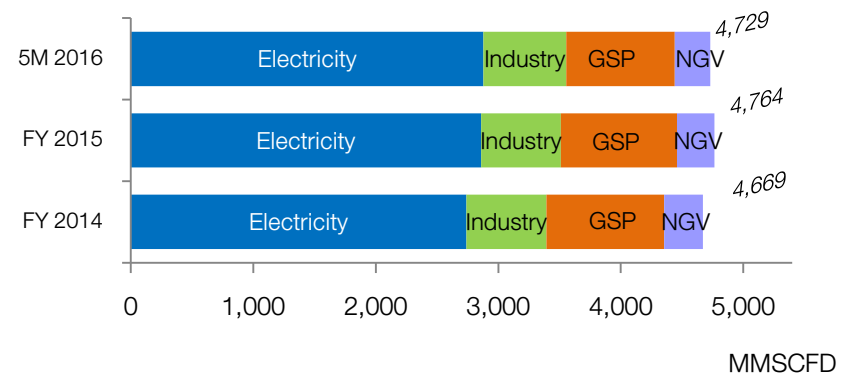


### Thailand's Natural Gas Supply by Source



Source: EPPO

### Thailand's Natural Gas Consumption by Sector



Source: EPPO

### Exchange Rate Movement (THB/USD)



Source: Bank of Thailand, Bloomberg

Forecast based on Bloomberg Consensus as of 18 July 2016

### Thailand's Gas Market:

- In meeting stable domestic demand, saw a slight increase in LNG imports and Myanmar volumes decline due to planned shutdown in 1H16

### Exchange Rate:

- Continue to be volatile; risk to weakening THB if FED increases interest rate in 2H16



Safety Performance

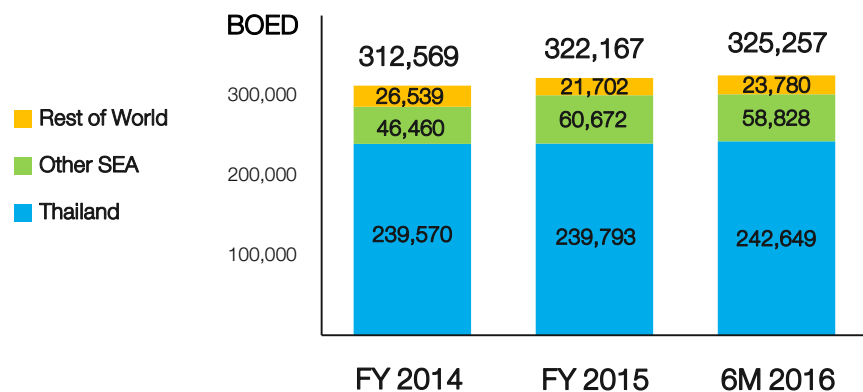
Industry Highlights

**Financial Results**

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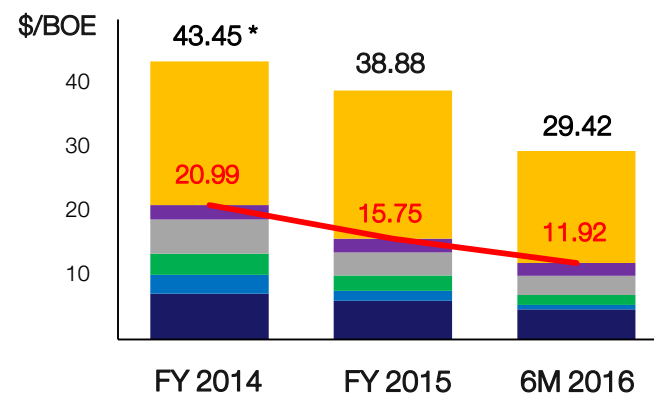
Outlook

## Sales Volume and Price



Gas (\$/MMBTU)	8.06	7.20	5.84
Liquid (\$/BBL)	94.82	50.05	37.61
Weighted Avg. (\$/BOE)	63.71	45.29	35.84
Avg. Dubai (\$/BBL)	96.60	50.91	36.80
Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil)	86.74	44.86	29.16
Volume Mix (Gas : Liquid)	67 : 33	70 : 30	69 : 31
Revenue Mix (Gas : Liquid)	51 : 49	66 : 34	67 : 33

## Unit Cost



DD&A	22.46	23.13	17.50
Finance Cost	2.27	2.14	1.98
Royalties	5.34	3.62	2.98
G&A	3.30	2.39	1.56
Exploration Expenses	2.92	1.56	0.70
Operating Expenses **	7.16	6.04	4.70
Lifting Cost	5.26	4.62	3.97
Drilling Success Ratio ***	25 : 43	31 : 47	3 : 5

Remark: Sales Volume & Royalties: after reclassification of PSC royalty

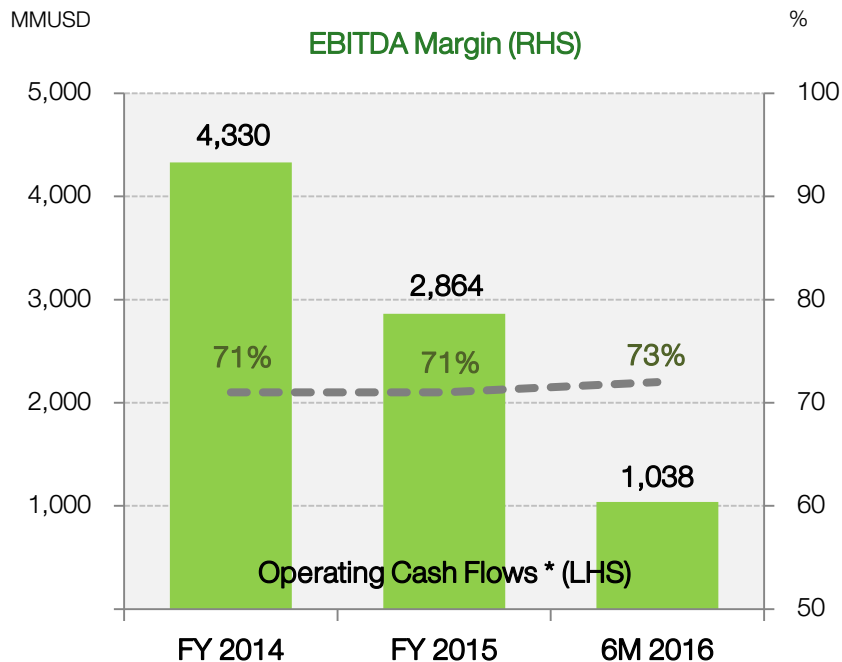
\* If exclude extra expense from Montara's Development well (H5): For 2014, Operating Exp: 6.73 \$/BOE / Unit cost: 43.02 \$/BOE

\*\* Exclude diluent cost for blending bitumen in KKD Oil Sands project

\*\*\* Successful wells : Total wells (includes Exploration and Appraisal wells)

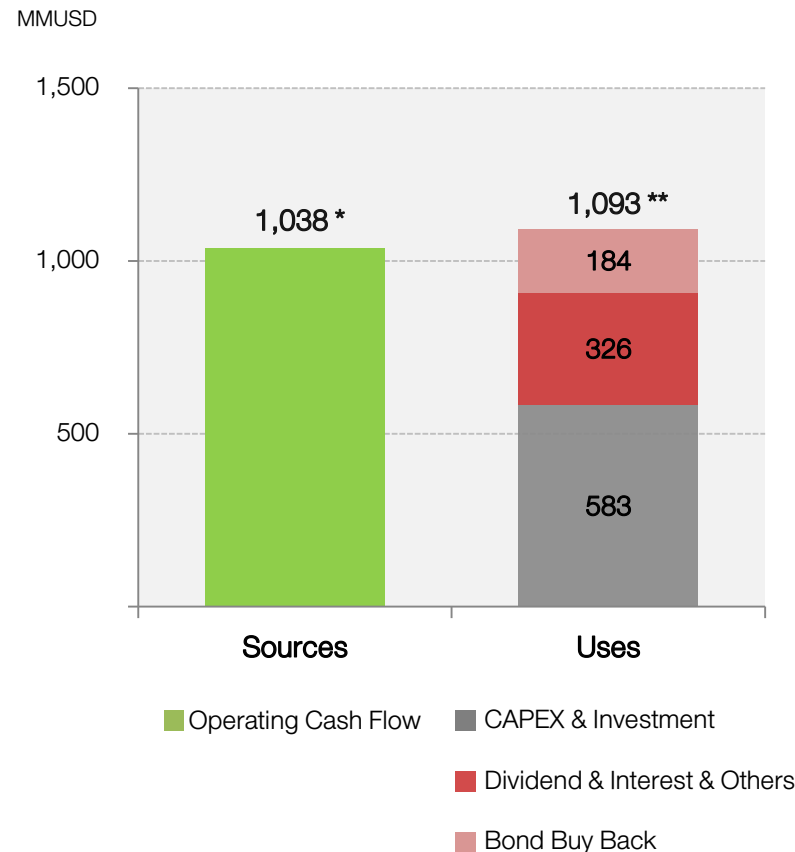


## Cash Flow Performance



Net Income	677	(854)	232
Recurring Net Income ***	1,538	718	270

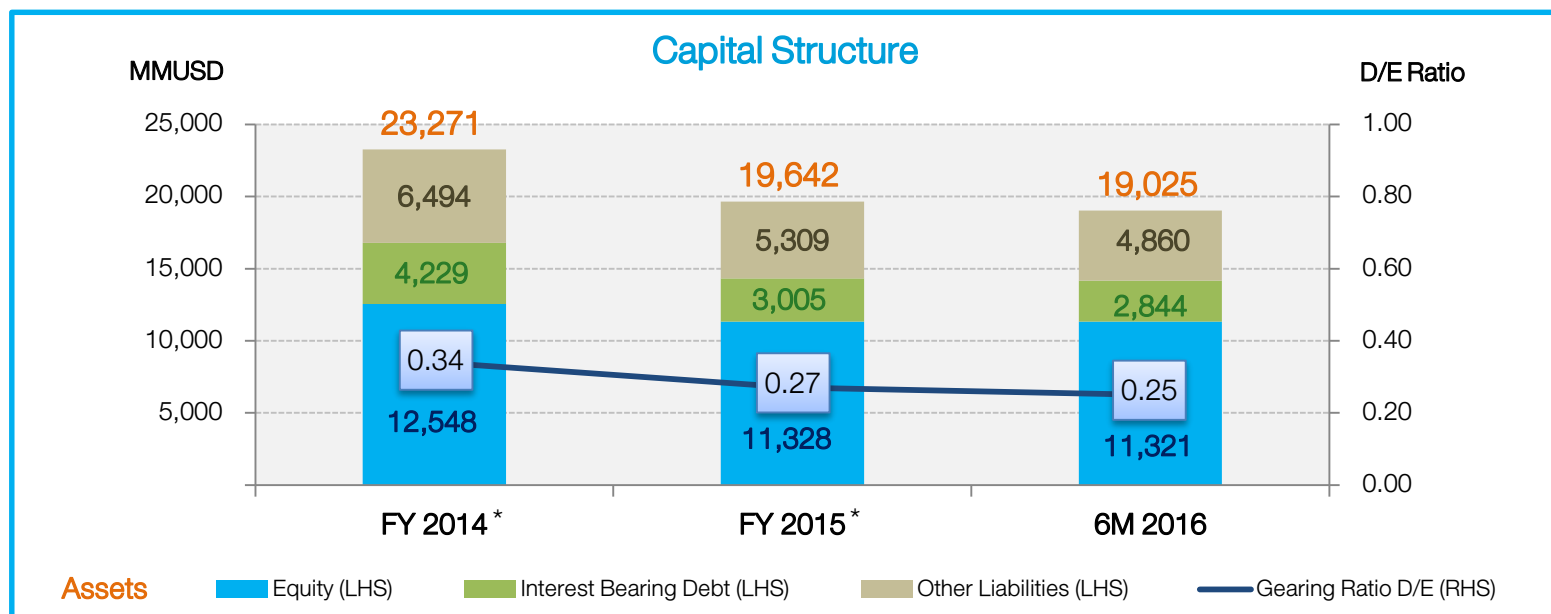
## Source & Use of Funds in 6M 2016



Remark: \* Net of adjustment for the effect of exchange rate changes on cash and cash equivalents

\*\* Excludes cash flows for investing in short-term investments (Fixed deposit > 3 months)

\*\*\* Excludes Gain/(Loss) on FX, Deferred tax from Functional currency, Current Tax from FX Revaluation, Gain/(Loss) from Financial Instruments, Impairment Loss on Assets, and etc.



## Debt Profile \*\*



Weighted Average  
Cost of Debt\*\* (%)

4.14

4.32

4.40

[Fixed : Floating]

[77 : 23]

[82 : 18]

[80 : 20]

Average Loan Life\*\* (Years)

7.05

8.17

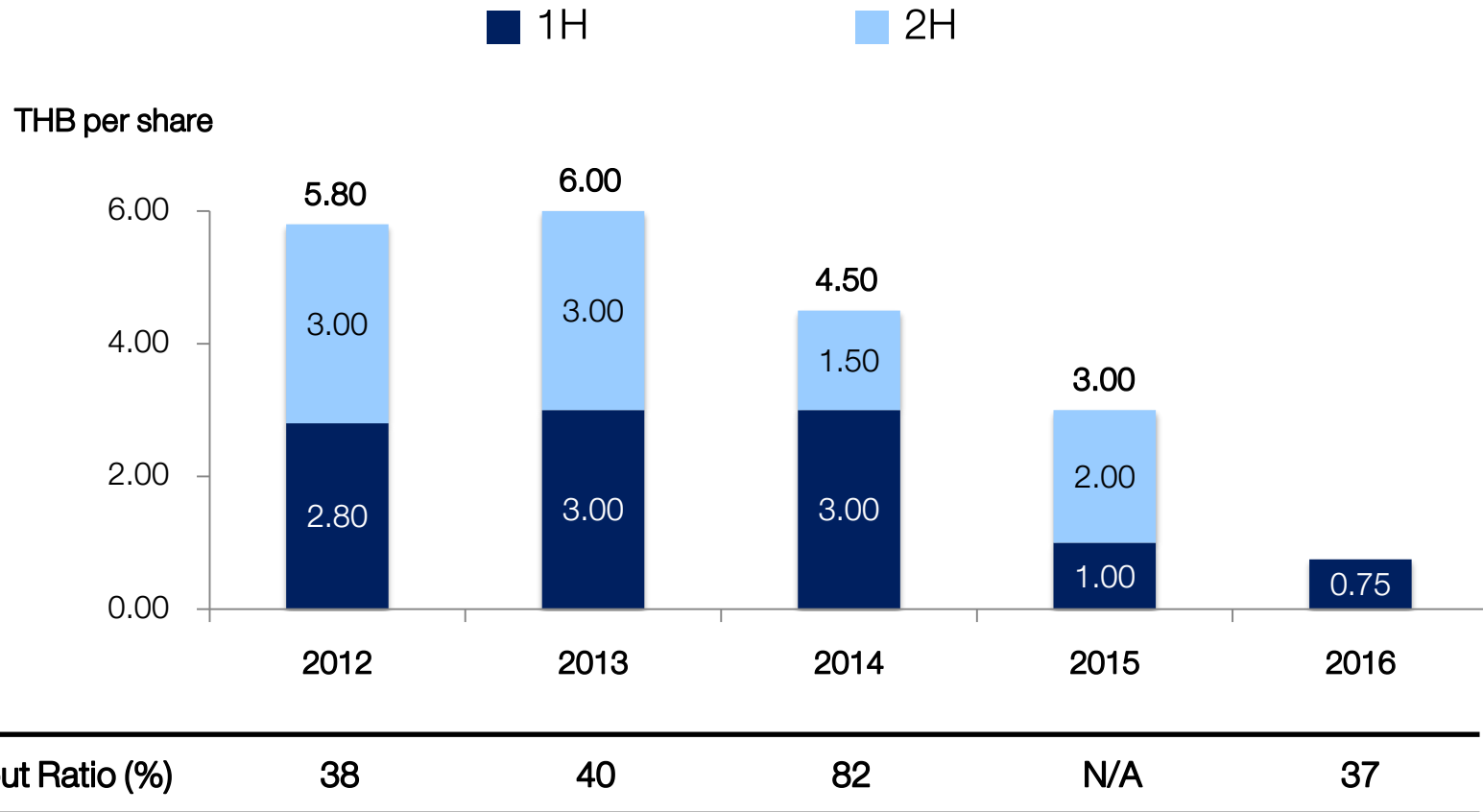
8.65

Remark: \* Restated

\*\* Excludes Hybrid bonds



## Dividend Payment History (Policy : No Less Than 30% of Net Income)





Safety Performance

Industry Highlights

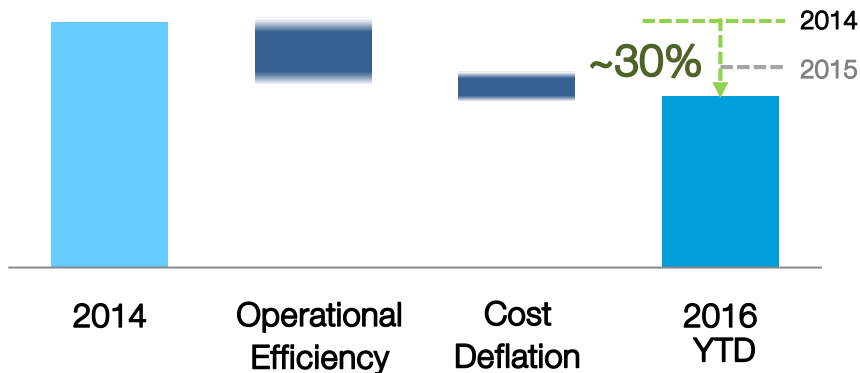
Financial Results

Outlook

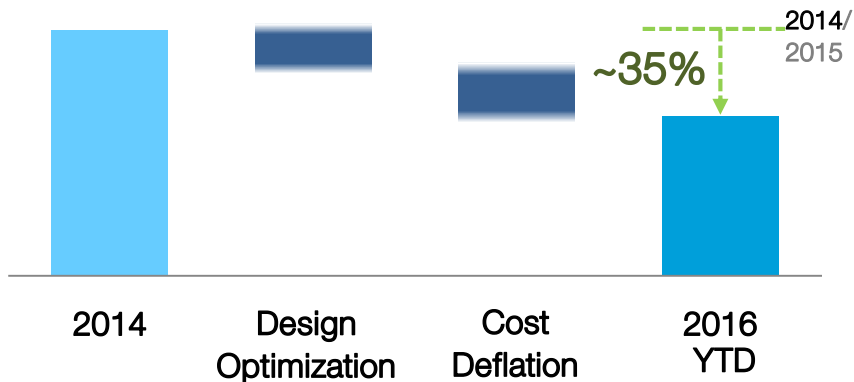


## Notable improvement in key CAPEX components

### Development Drilling Cost per Well\*



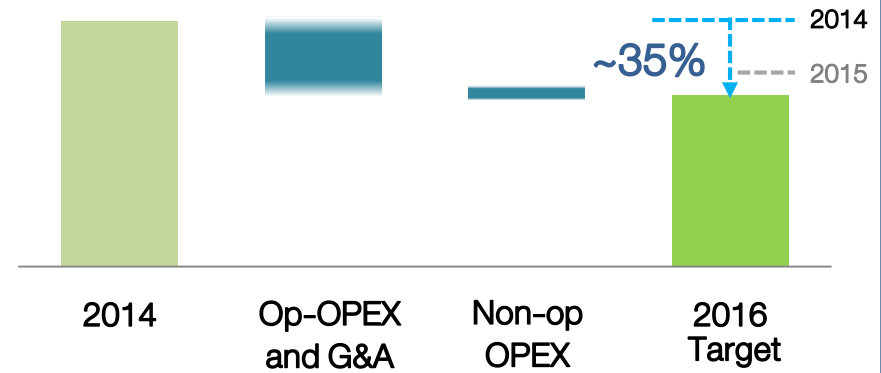
### Wellhead Platform Cost per Unit\*



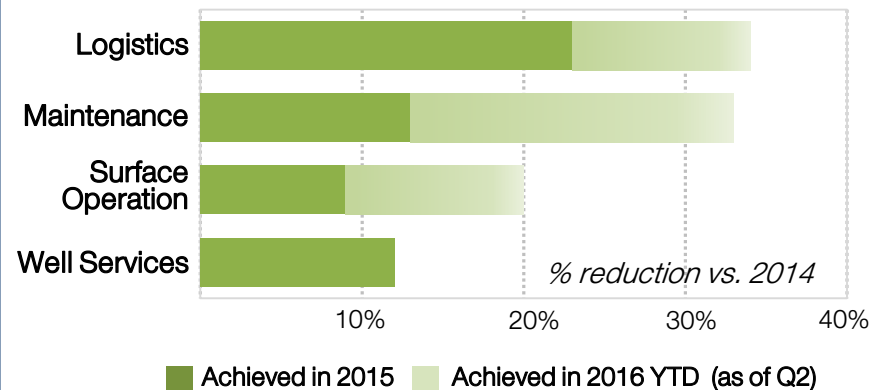
Note : Graph represents cost reduction captured but not yet fully realized

## With increased efficiency in OPEX spending

### OPEX and G&A per BOE



### Key OPEX Components



\* Primarily applicable in PTTEP-operated projects in the Gulf of Thailand



## RESET

## REFOCUS

## RENEW

### Maintain sales volume

Unit: KBOED



### 2016 full year guidance

As of Q2 2016

~5.5  
USD/MMBTU

~322  
KBOED

~65-70  
% of sales revenue

~31  
USD / BOE



Average  
Gas Price \*



Average  
Sales Volume



EBITDA  
Margin



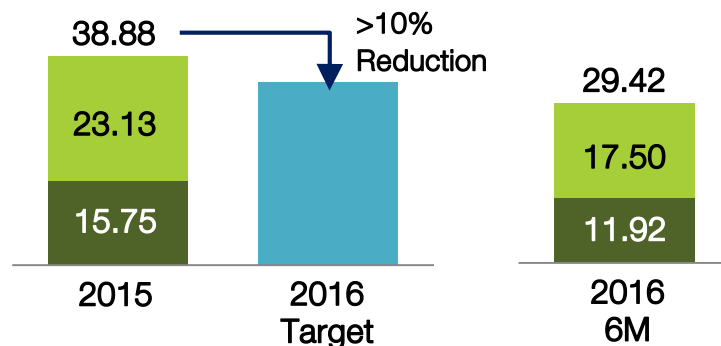
Unit  
Cost

### Bring down unit cost

Unit: USD/BOE

Cash

Non-cash



\* Based on the average Dubai crude oil price of 39 USD/BBL in 2016 after taking into account the 1H 2016 average price of 36.80 USD/BBL



## RESET

## REFOCUS

## RENEW

Progress on  
portfolio rationalization  
and realization

### Malaysia exploration

- New exploration project (SK410B)
- Operator (42.5% WI)
- Gas-proven basin, offshore Sarawak, with established infrastructure

### Algeria HBR

- Completed exploration and appraisal drilling
- Prepared to fast-track development study

### Mozambique LNG

- Continue to make progress on various regulatory and commercial negotiations

Continue to  
pursue new  
investments

### Bongkot extension

- PTTEP well-positioned to continue as operator after the existing concession expires
- Awaiting clarity over the bidding process

### M&A opportunities

- Producing / near-term producing assets in SEA
- Prospective exploration blocks

### LNG value chain

- Evaluate feasibility to form LNG value chain partnership with PTT

Pursue business  
enhancement and  
sustainability

### Enhance E&P capability

- Through R&D on exploration and production technologies



### Value through diversification

- Explore new business in both E&P-related and non-E&P related sectors



Detailed financial information

18-22

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Ratios and formula

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Unit : MMUSD

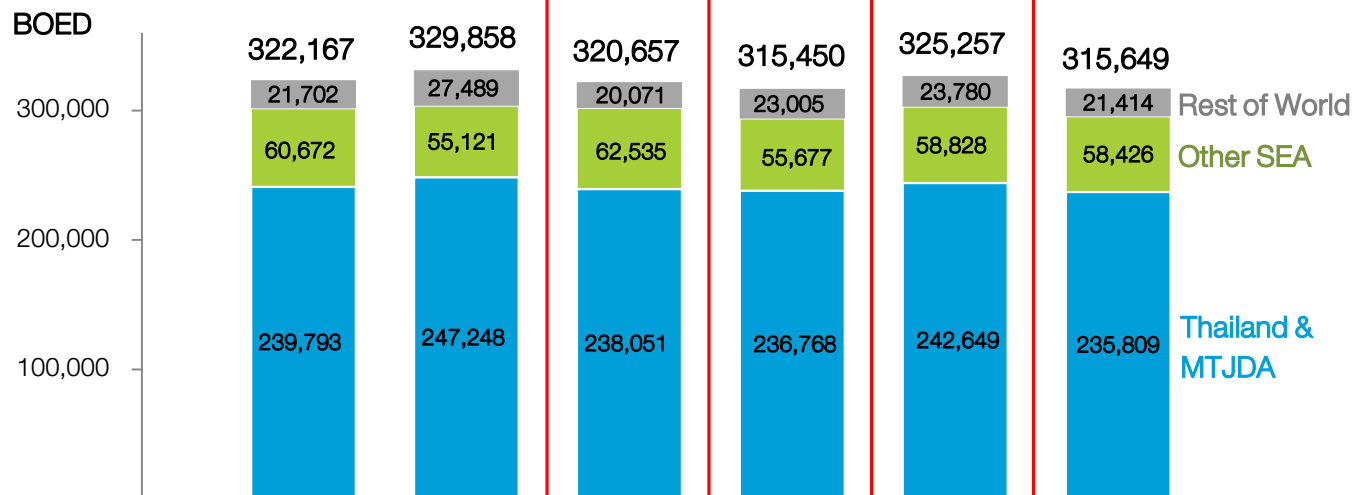
Statement of Income	Q1 16	Q2 16	% QoQ	Q2 15 *	% YoY	6M 16	6M 15 *	% YTD
<b>Total Revenues</b>	<b>1,093</b>	<b>1,110</b>	<b>2</b>	<b>1,448</b>	<b>(23)</b>	<b>2,203</b>	<b>2,895</b>	<b>(24)</b>
Sales	1,053	1,069	2	1,398	(24)	2,122	2,790	(24)
Others	40	41	3	50	(18)	81	105	(23)
Sales Volume (BOED)	329,858	320,657	(3)	315,450	2	325,257	315,649	3
Sales Price (USD/BOE)	35.08	36.62	4	48.71	(25)	35.84	48.83	(27)
<b>Total Expenses</b>	<b>936</b>	<b>1,035</b>	<b>11</b>	<b>1,413</b>	<b>(27)</b>	<b>1,971</b>	<b>2,596</b>	<b>(24)</b>
<b>Major Expenses:</b>								
Operating Expenses	135	144	7	182	(21)	279	349	(20)
Exploration Expenses	26	15	(42)	38	(61)	41	52	(21)
DD&A	518	518	-	726	(29)	1,036	1,454	(29)
Income Tax Expense	30	55	83	137	(60)	85	155	(45)
(Gain)/Loss on FX	(6)	(7)	(17)	19	>(100)	(13)	53	>(100)
<b>Net Income</b>	<b>157</b>	<b>75</b>	<b>(52)</b>	<b>35</b>	<b>&gt;100</b>	<b>232</b>	<b>299</b>	<b>(22)</b>
Recurring Net Income	116	154	33	194	(21)	270	442	(39)
Non-Recurring **	41	(79)	>(100)	(159)	50	(38)	(143)	73

\* Restated

\*\* Includes Gain/(Loss) on FX, Deferred tax from Functional currency, Current Tax from FX Revaluation, Gain/(Loss) from Financial Instruments, and etc.

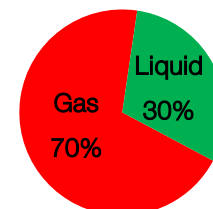


## Sales Volume

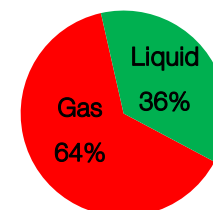


## Q2 2016 Sales Volume & Revenue By Product

### Volume Mix

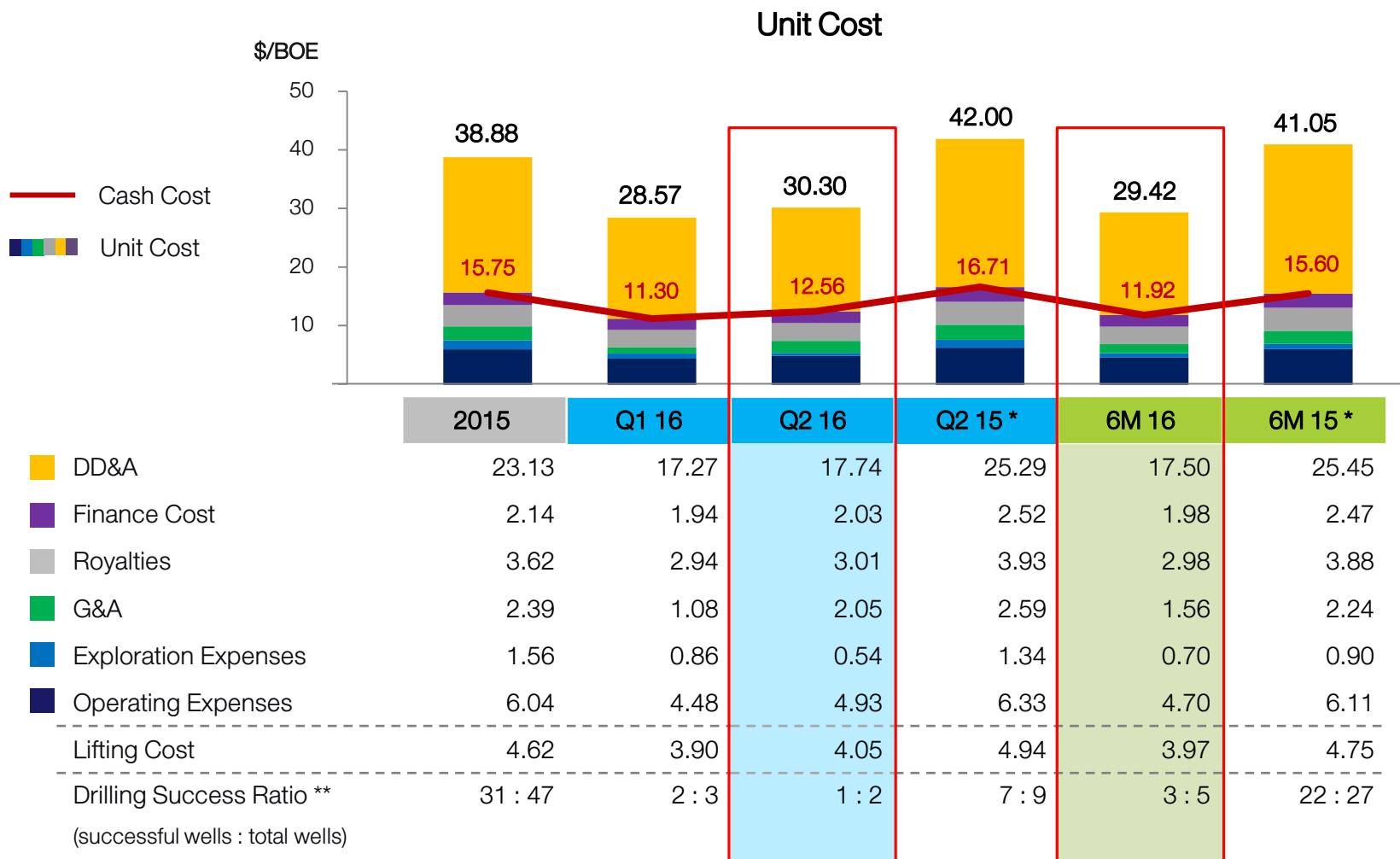


### Revenue Mix



Sales Price	2015	Q1 16	Q2 16	Q2 15 *	6M 16	6M 15 *
Gas (\$/MMBTU)	7.20	6.09	5.59	7.32	5.84	7.70
Liquid (\$/BBL)	50.05	32.04	43.68	59.30	37.61	54.79
<b>Weighted Avg. (\$/BOE)</b>	<b>45.29</b>	<b>35.08</b>	<b>36.62</b>	<b>48.71</b>	<b>35.84</b>	<b>48.83</b>
Avg. Dubai (\$/BBL)	50.91	30.42	43.18	61.30	36.80	56.59
Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil)	44.86	24.67	33.65	56.44	29.16	52.67

Note: \* Restated



Note: \* Restated

\*\* Exploration and Appraisal Wells

The formulas for calculating ratios are provided in the supplementary section for your reference



	Q1 16	Q2 16	Q2 15 *	6M 16	6M 15 *
Sales Revenue ** (MMUSD)	1,070	1,085	1,429	2,155	2,856
EBITDA (MMUSD)	789	778	1,022	1,567	2,106
Net Income (MMUSD)	157	75	35	232	299
Recurring Net Income (MMUSD)	116	154	194	270	442
Earning Per Share (USD)	0.04	0.01	0.005	0.05	0.07
<b>Key Financial Ratios</b>					
EBITDA Margin (%)	74	72	72	73	74
Return on Equity (%) (LTM)	(8)	(8)	0.3	(8)	0.3
Return on Capital Employed (%) (LTM)	(5)	(5)	1	(5)	1
Return on Equity (%) (LTM, Recurring Net Income)	5	5	8	5	8
Return on Capital Employed (%) (LTM, Recurring Net Income)	5	4	7	4	7

Note: \* Restated

\*\* Sales and revenue from pipeline transportation

The formulas for calculating ratios are provided in the supplementary section for your reference



	Q4 15	Q1 16	Q2 16
Total Assets (MMUSD)	19,642	19,795	19,025
- Cash & cash equivalents ** (MMUSD)	3,260	3,702	3,205
Total Liabilities (MMUSD)	8,314	8,509	7,704
- Interest bearing debt (MMUSD)	3,005	3,018	2,844
Equity (MMUSD)	11,328	11,286	11,321
<b>Key Financial Ratios</b>			
Total Debt to Equity (X)	0.27	0.27	0.25
Net Debt ** to Equity (X)	(0.02)	(0.06)	(0.03)
Total Debt to Capital (X)	0.21	0.21	0.20
Total Debt to EBITDA (X)	0.78	0.85	0.86
Net Debt ** to EBITDA (X)	(0.07)	(0.19)	(0.11)
EBITDA Interest Coverage (X)	24	24	24

**Credit Ratings :** BBB+ (S&P), Baa1 (Moody's), AAA (TRIS)

**Weighted Average Cost of Debt \*\* :** 4.40%

**Average Loan Life \*\* :** 8.65 years

Note: \* Cash & Cash Equivalents (Cash on hand) include Short-term Investments (Fixed deposit > 3 months)

Net Debt = Total Debt less Cash & Cash Equivalents and Short-term Investments

\*\* Excludes hybrid bonds

The formulas for calculating ratios are provided in the supplementary section for your reference



	Project	Status*	PTTEP's Share	Partners (as of Q2 2016)	6M 2016 Average Sales Volume **		2016 Key Activities	
					Gas	Oil and Other		
Production Phase								
Thailand and JDA								
1	Arthit	OP	80%	Chevron MOECO	16% 4%	227 MMSCFD	Condensate: 10 k BPD	<ul style="list-style-type: none"><li>Ensure gas deliverability level at DCQ****</li><li>Drill development wells</li><li>Install wellhead platforms</li></ul>
2	B6/27	OP	60%***			N/A	N/A	<ul style="list-style-type: none"><li>Subsurface study</li></ul>
3	B8/32 & 9A		25%	Chevron MOECO KrisEnergy PSTL	51.66% 16.71% 4.63% 2%	126 MMSCFD	Crude: 27 k BPD	<ul style="list-style-type: none"><li>Drill development wells</li><li>Perform waterflood activities</li></ul>
4	Bongkot	OP	44.4445%	TOTAL British Gas	33.3333% 22.2222%	885 MMSCFD	Condensate: 27 k BPD	<ul style="list-style-type: none"><li>Ensure gas deliverability level at DCQ****</li><li>Drill Exploration / Appraisal / Development wells</li><li>Install wellhead platforms</li></ul>
5	Contract 3 (Formerly Unocal III)		5%	Chevron MOECO	71.25% 23.75%	577 MMSCFD	Crude: 22 k BPD Condensate: 23 k BPD	<ul style="list-style-type: none"><li>Drill exploration / appraisal / development wells</li><li>Install wellhead platforms</li><li>Perform waterflood activities</li></ul>
6	Contract 4 (Formerly Pailin)		60%	Chevron MOECO	35% 5%	321 MMSCFD	Condensate: 15 k BPD	<ul style="list-style-type: none"><li>Ensure gas deliverability level at DCQ****</li><li>Drill exploration / appraisal / development wells</li><li>Install wellhead platforms</li><li>Review development plan of Ubon field</li></ul>
7	E5		20%	ExxonMobil	80%	12 MMSCFD	-	
8	G4/43		21.375%	Chevron MOECO PSTL	51% 21.25% 6.375%	1.5 MMSCFD	Crude: 6.7 k BPD	<ul style="list-style-type: none"><li>Drill development wells</li><li>Perform waterflood activities</li></ul>
9	G4/48		5%	Chevron MOECO	71.25% 23.75%	7.9 MMSCFD	Crude: 0.9 k BPD	
10	L53/43 & L54/43	OP	100%			-	Crude: 537 BPD	<ul style="list-style-type: none"><li>Drill exploration and development wells</li></ul>
11	PTTEP1	OP	100%			-	Crude: 409 BPD	<ul style="list-style-type: none"><li>Drill development wells</li><li>Perform waterflood activities</li></ul>
12	S1	OP	100%			23 MMSCFD	Crude: 28 k BPD	<ul style="list-style-type: none"><li>Drill exploration / appraisal / development wells</li><li>Enhance oil recovery program includes waterflooding and artificial lift</li></ul>
13	Sinphuhorm	OP	55%	Apico ExxonMobil	35% 10%	126 MMSCFD	Condensate: 471 BPD	<ul style="list-style-type: none"><li>Drill development wells</li></ul>
14	MTJDA	JOC	50%	Petronas-Carigali	50%	305 MMSCFD	Condensate: 7.8 k BPD	<ul style="list-style-type: none"><li>Drill development wells</li><li>Install wellhead platforms</li></ul>
15	L22/43	OP	100%			-	Crude: 82 BPD	<ul style="list-style-type: none"><li>Drill exploration / development wells</li></ul>

\* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship

\*\* Sales volume stated at 100% basis.

\*\*\* Pending the approval of the partner divestment from DMF

\*\*\*\* DCQ = Daily Contractual Quantity



	Project	Status*	PTTEP's Share	Partners (as of Q2 2016)	6M 2016 Average Sales Volume **		2016 Key Activities
					Gas	Oil and Other	
Production Phase							
Overseas							
16	Oman 44	OP	100%		20 MMSCFD	Condensate: 1.3 k BPD	<ul style="list-style-type: none"><li>Maintain production operation</li></ul>
17	Vietnam 9-2	JOC	25%	PetroVietnam 50% SOCO 25%	12 MMSCFD	Crude: 4.6 k BPD	<ul style="list-style-type: none"><li>Maintain production operation</li><li>Perform reservoir management</li></ul>
18	Yadana		25.5%	TOTAL 31.24% Chevron 28.26% MOGE 15%	741 MMSCFD	-	<ul style="list-style-type: none"><li>Drill exploration / development wells</li><li>Acquire 2D seismic reprocessing</li><li>Perform reservoir management</li></ul>
19	Yetagun		19.3178%	Petronas-Carigali 30.00140% MOGE 20.4541% Nippon Oil 19.3178% PC Myanmar (Hong Kong) 10.90878%	232 MMSCFD	Condensate: 6.0 k BPD	<ul style="list-style-type: none"><li>Drill development wells</li><li>Perform reservoir Management</li></ul>
20	Vietnam 16-1	JOC	28.5%	PetroVietnam 41% SOCO 28.5% OPECO 2%	13 MMSCFD	Crude: 27 k BPD	<ul style="list-style-type: none"><li>Drill development wells</li><li>Perform reservoir management</li><li>Review feasibility for water handling facility upgrade</li></ul>
21	PTTEP Australasia (PTTEP AA)	OP	50%-100% (varied by permits)		-	Crude: 17 k BPD	<ul style="list-style-type: none"><li>Maintain production operation</li><li>Assess resource potential of exploration permits</li></ul>
22	Natuna Sea A		11.5%	Premier Oil 28.67% KUFPEC 33.33% Petronas 15% Pertamina 11.5%	216 MMSCFD	Crude: 1.1 k BPD	<ul style="list-style-type: none"><li>Maintain production operation</li></ul>
23	Zawtika (M9 & a part of M11)	OP	80%	Myanma Oil and Gas Enterprise (MOGE) 20%	303 MMSCFD	-	<ul style="list-style-type: none"><li>Maintain production rate</li><li>Drill development wells</li><li>Install wellhead platforms</li></ul>
24	Algeria 433a & 416b (Bir Seba)	JOC	35%	PetroVietnam 40% Sonatrach 25%	-	Crude: 2.2 k BPD (net entitlement)	<ul style="list-style-type: none"><li>Maintain production operation</li><li>Review field development plan for possible capacity expansion</li></ul>

\* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship

\*\* Sales volume stated at 100% basis except for Algeria 433a & 416b



	Project	Status*	PTTEP's Share	Partners (as of Q2 2016)	2016 Key Activities
<b>Exploration Phase</b>					
<b>Thailand and JDA</b>					
25	G9/43	OP	100%		
<b>Overseas</b>					
26	Myanmar M3	OP	80%	MOECO 20%	• Access development options and commercial potential
27	Mozambique Rovuma Offshore Area 1		8.5%	Anadarko, Mitsui, 26.5%, 20%, ENH, Bharat Petroleum, 15%, 10%, BREML, OVL 10%, 10%	• Preparatory work for Final Investment Decision (FID) including LNG marketing and finalization of remaining commercial contracts
28	Algeria Hassi Bir Rekaiz	OP	24.5%	CNOOC 24.5%, Sonatrach 51%	• Drill Appraisal wells
29	Myanmar M11	OP	100%**		• Acquire 3D seismic
30	Vietnam B & 48/95		8.5%	PVN 65.88%, MOECO 25.62%	• Negotiate a GSA with the Vietnamese government
31	Vietnam 52/97		7%	PVN 73.4%, MOECO 19.6%	• Negotiate a GSA with the Vietnamese government
32	Myanmar PSC G and EP 2	OP	70%	WinPreciousResources 10%, MOECO 10%, Palang Sophon Offshore 10%	• Conduct G&G studies
33	Myanmar MD 7	OP	100%		• Acquire 3D seismic
34	Mariana Oil Sands	OP	100%		• Assess development approach and cost reduction opportunity
35	Barreirinhas AP1		25%	BG Brasil 75%	• Acquire 3D seismic

\* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship

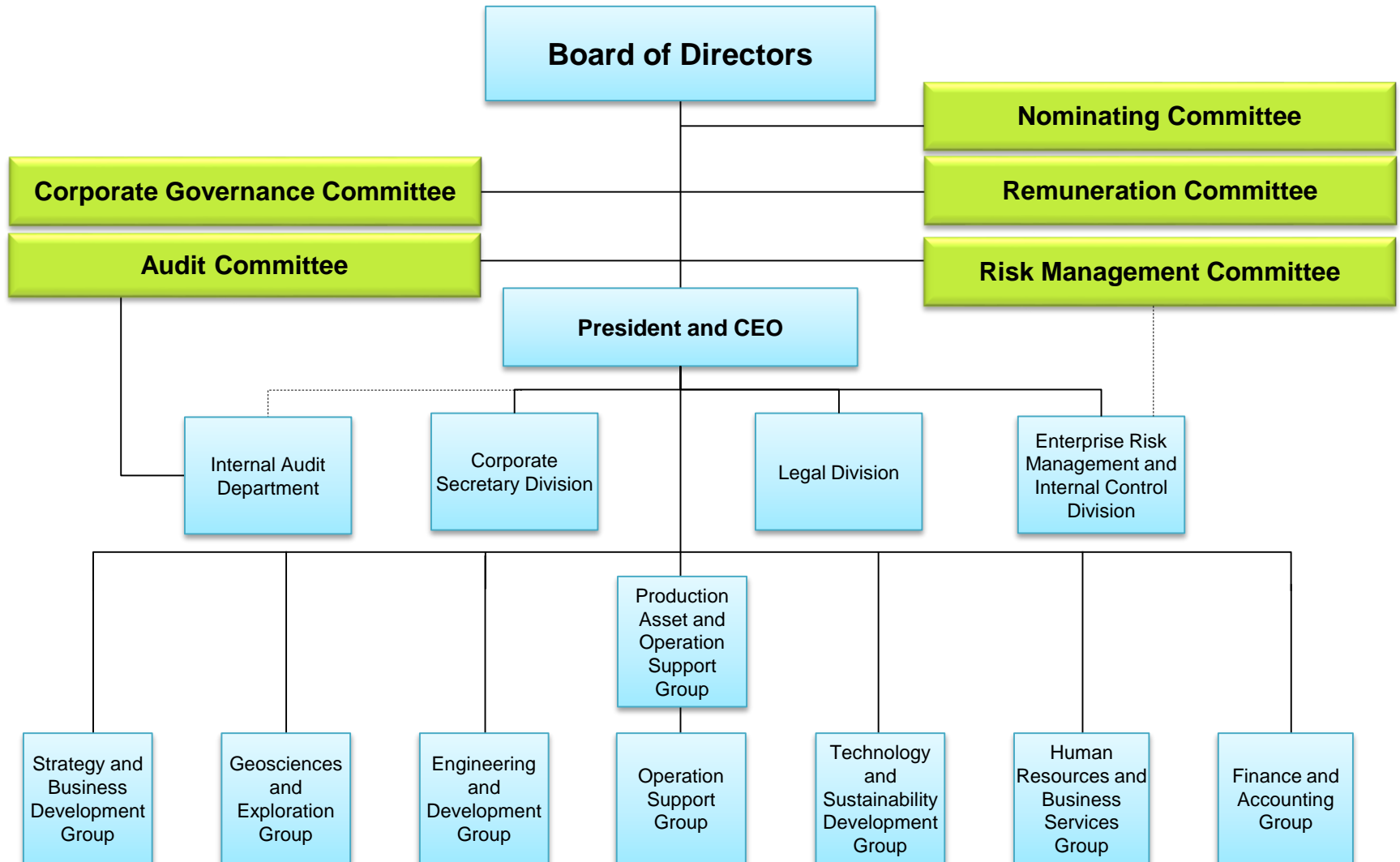
\*\* New participating interest subject to government approval



	Project	Status*	PTTEP's Share	Partners (as of Q2 2016)	2016 Key Activities
<b>Exploration Phase</b>					
<b>Overseas (Cont'd)</b>					
36	<b>Myanmar MOGE 3</b>	OP	75%	Palang Sophon Offshore MOECO WinPreciousResources	10% 10% 5% • Acquire 3D seismic
37	<b>Brazil BM-ES-23</b>		20%	Petrobras INPEX	65% 15% • Drilling result and resource evaluation
38	<b>Malaysia SK410B</b>	OP	42.5%	KUFPEC PSCB	42.5% 15%

Remarks: 38 projects exclude 3 projects that are pending official withdrawal approval

\* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship





Ratio	Formula
Lifting Cost (\$/BOE)	$(\text{Operating Exp.}) / \text{Production Volume}$
Cash Cost (\$/BOE)	$(\text{Operating Exp.} + \text{Exploration Exp.} + \text{G\&A} + \text{Royalties} + \text{Finance Cost}) / \text{Sales Volume}$
Unit Cost (\$/BOE)	$(\text{Operating Exp.} + \text{Exploration Exp.} + \text{G\&A} + \text{Royalties} + \text{Finance Cost} + \text{DD\&A}) / \text{Sales Volume}$
Reserves Replacement Ratio	$5\text{-Yr Additional Proved Reserves} / 5\text{-Yr Production Volume}$
Reserves Life Index (Year)	$\text{Proved Reserves} / \text{Production Volume}$
Success Ratio	$\text{Number of wells with petroleum discovery} / \text{Total number of exploration and appraisal wells}$
Sales Revenue	$\text{Sales} + \text{Revenue from pipeline transportation}$
EBITDA	$(\text{Sales} + \text{Revenue from pipeline transportation}) - (\text{Operating expenses} + \text{Exploration expenses} + \text{Administrative expenses} + \text{Petroleum royalties and remuneration} + \text{Management's remuneration})$
EBITDA Margin	$\text{EBITDA} / \text{Sales Revenue}$
Return on Equity	$\text{Trailing-12-month net income} / \text{Average shareholders' equity between the beginning and the end of the 12-month period}$
Return on Capital Employed	$(\text{Trailing-12-month net income} + \text{Trailing-12-month Interest Expenses \& Amortise Bond Issuing Cost}) / (\text{Average shareholders' equity and average total debt between the beginning and the end of the 12-month period})$
Simple Effective Tax Rate	$\text{Income tax expenses} / \text{Income before income taxes}$
Total debt	$\text{Short-term loans from financial institution} + \text{Current portion of long-term debts} + \text{Bonds} + \text{Long-term loans from financial institution}$
Net debt	$\text{Total debt} - \text{Liquidity}$
Debt to Equity	$\text{Total debt} / \text{Shareholders' equity}$
Net Debt to Equity	$\text{Net debt} / \text{Shareholders' equity}$
Total Debt to Capital	$\text{Total debt} / (\text{Total debt} + \text{Shareholders' equity})$
Total Debt to EBITDA	$\text{Total debt} / \text{Trailing-12-month EBITDA}$
Net Debt to EBITDA	$\text{Net debt} / \text{Trailing-12-month EBITDA}$
EBITDA Interest Coverage Ratio	$\text{Trailing-12-month EBITDA} / \text{Trailing-12-month Interest Expenses \& Amortize Bond Issuing Cost}$