

# *PTT Exploration and Production Public Company Limited*

*2015 Year-end Opportunity Day*

*Stock Exchange of Thailand*

*3 March 2016*



**PTTEP**

MEMBER OF

**Dow Jones  
Sustainability Indices**

In Collaboration with RobecoSAM 





# Safety Performance

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Industry Highlights

Financial Results

Key Achievements and Outlook



## Affirming our path to sustainable development

MEMBER OF

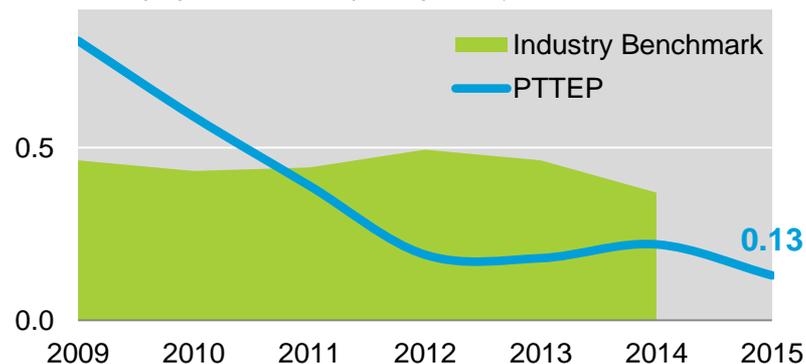
**Dow Jones  
Sustainability Indices**

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## Above Industry Average Safety Record

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



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





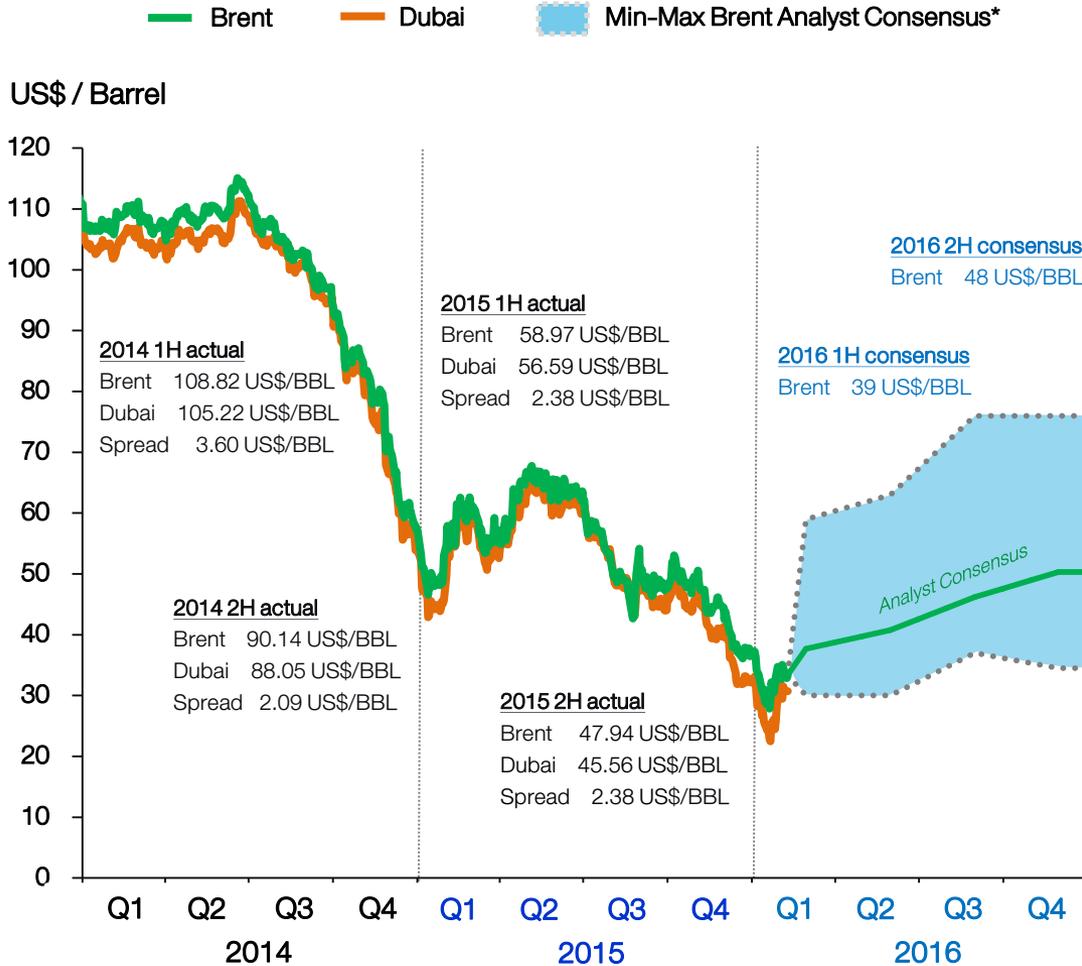
Safety Performance

**Industry Highlights**

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### 2015 Highlights

-  High levels of production from OPEC and U.S.
-  Slowdown of global economy especially China's

### 2016 Outlook

-  Continued oversupply condition
-  Additional supply from Iran after international sanctions lifted
-  Possible slowdown of supply in 2H 2016

Remark: \* Bloomberg Analyst Consensus (CPFC) as of 9 February 2016 (41 estimates)

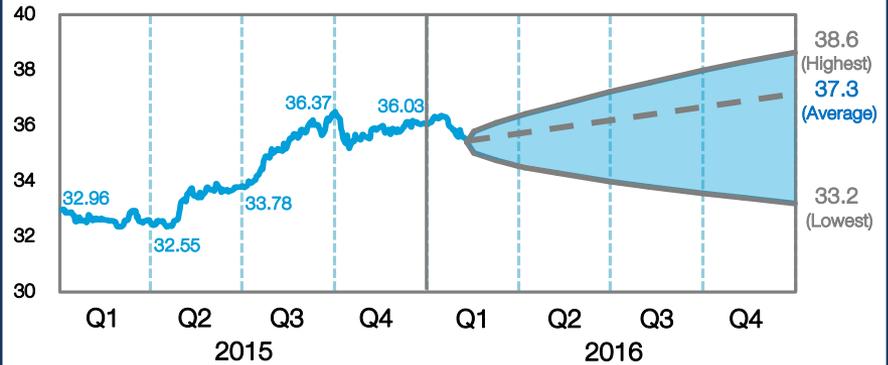


### Thailand's Natural Gas Supply by Source



Source: EPPO

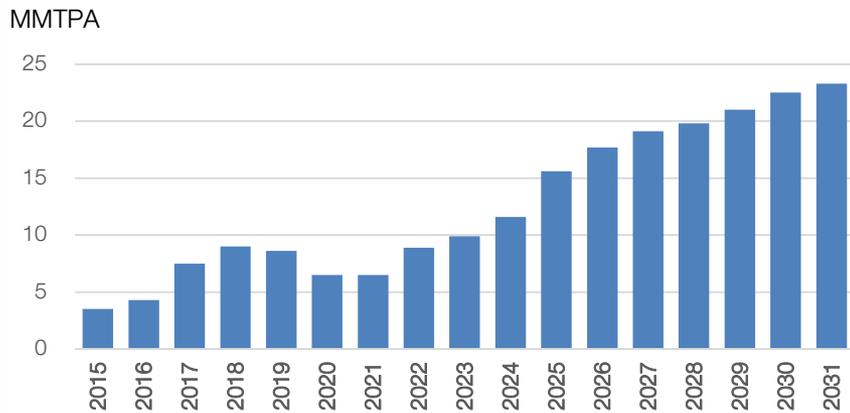
### Exchange Rate Movement (THB/USD)



Source: Bank of Thailand, Bloomberg

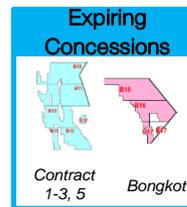
Forecast based on Bloomberg Consensus as of 9 February 2016

### Domestic LNG Demand Projection



Source: Gas Plan 2015, EPPO

### Upstream Energy Reform



- According to National Energy Policy Office meeting in May 2015, contractual management plan for expiring concessions to be concluded within one year
- Bidding round process could be resumed after amendments to Petroleum Act is finalized



Safety Performance

Industry Highlights

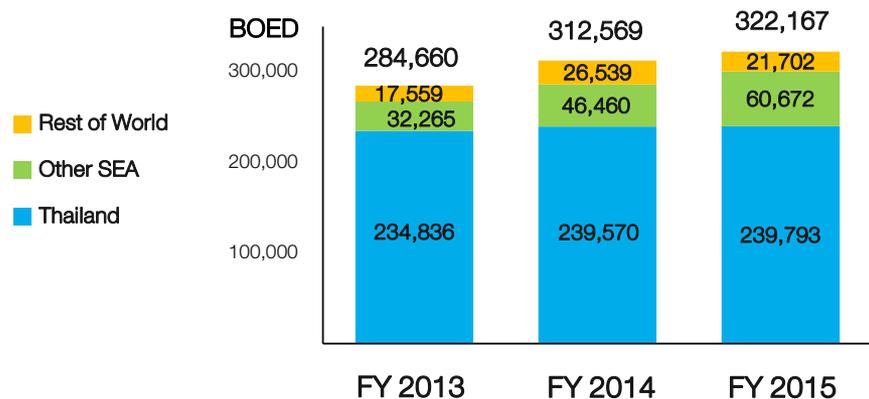
**Financial Results**

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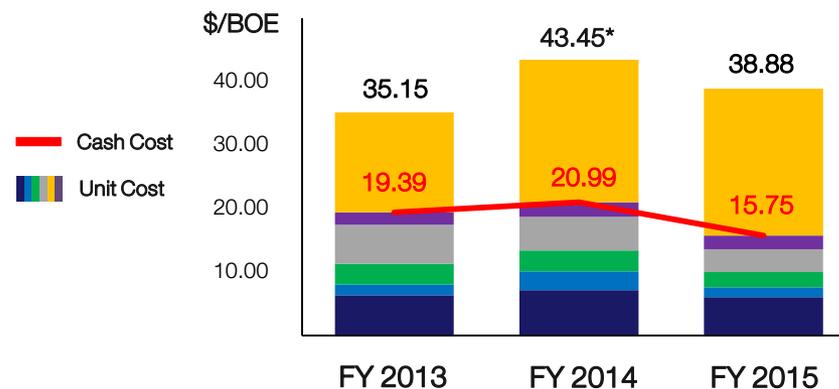
Key Achievements and Outlook



### Sales Volume and Price



### Unit Cost



Gas (\$/MMBTU)	7.93	8.06	<b>7.20</b>
Liquid (\$/BBL)	99.97	94.82	<b>50.05</b>
Weighted Avg. (\$/BOE)	65.73	63.71	<b>45.29</b>
Avg. Dubai (\$/BBL)	105.54	96.60	<b>50.91</b>
Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil)	97.52	86.74	<b>44.86</b>
Volume Mix (Gas:Liquid)	65 : 35	67 : 33	<b>70 : 30</b>
Revenue Mix (Gas:Liquid)	46 : 54	51 : 49	<b>66 : 34</b>

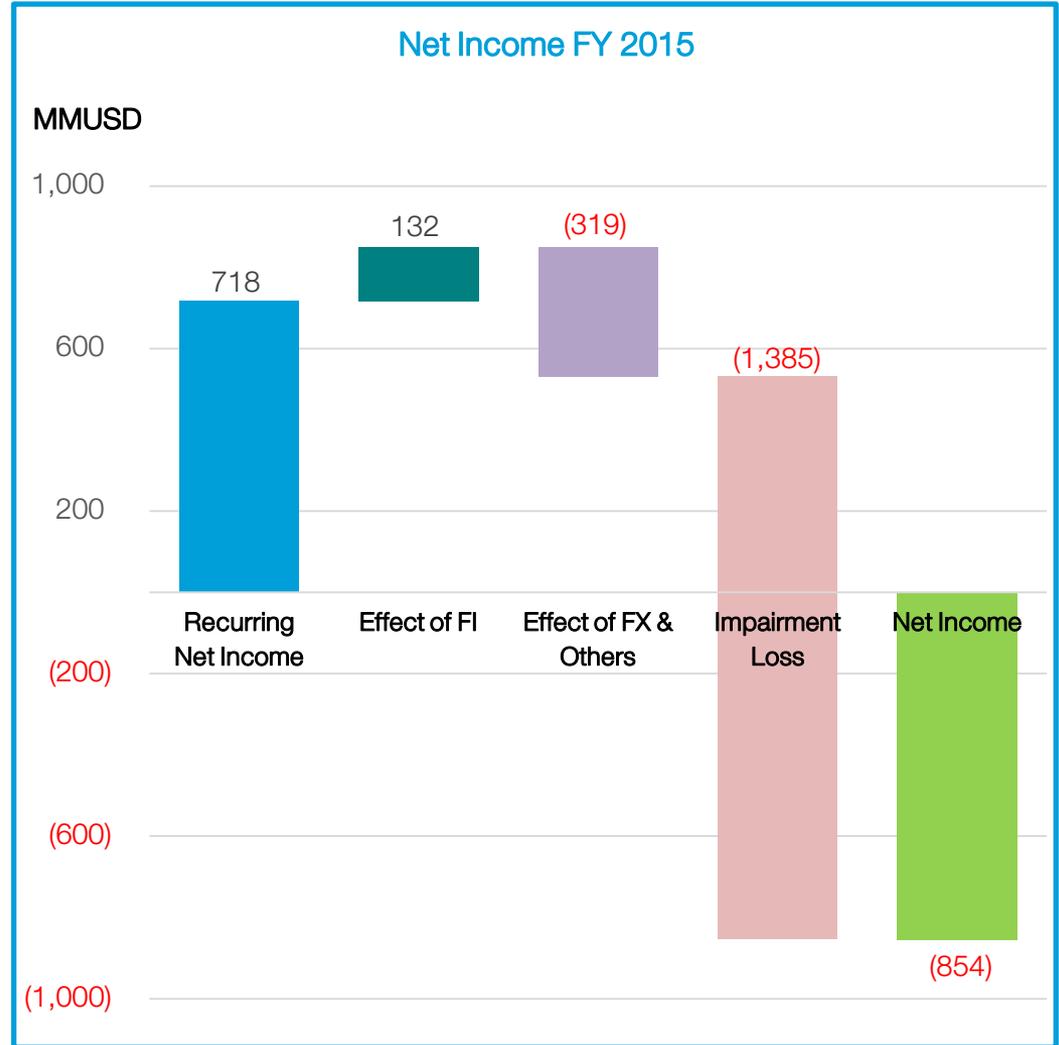
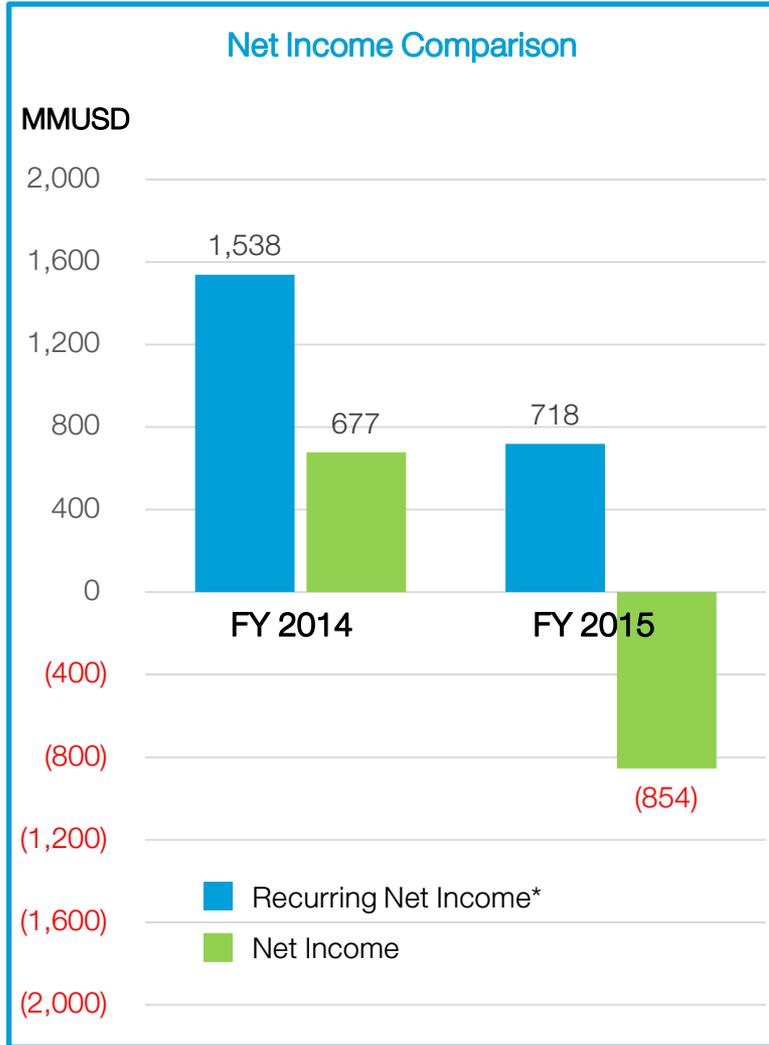
DD&A	15.76	22.46	<b>23.13</b>
Finance Cost	1.93	2.27	<b>2.14</b>
Royalties	6.18	5.34	<b>3.62</b>
G&A	3.26	3.30	<b>2.39</b>
Exploration Expenses	1.66	2.92	<b>1.56</b>
Operating Expenses**	6.36	7.16	<b>6.04</b>
Lifting Cost	4.88	5.26	<b>4.62</b>
Drilling Success Ratio***	38 : 55	25 : 43	<b>31 : 47</b>

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

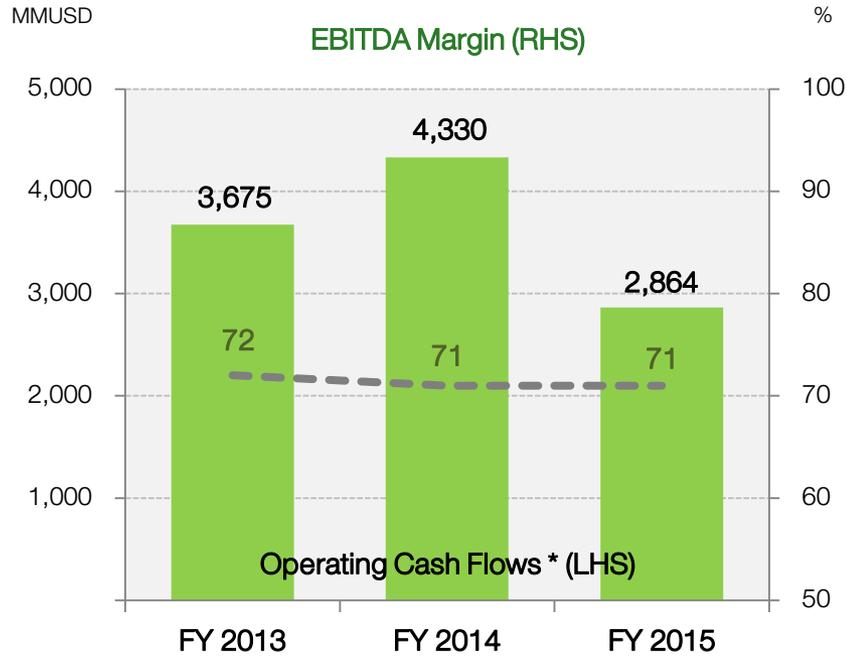
\*\*\* Successful wells : Total wells (includes Exploration and Appraisal wells)



Remark: \* 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.

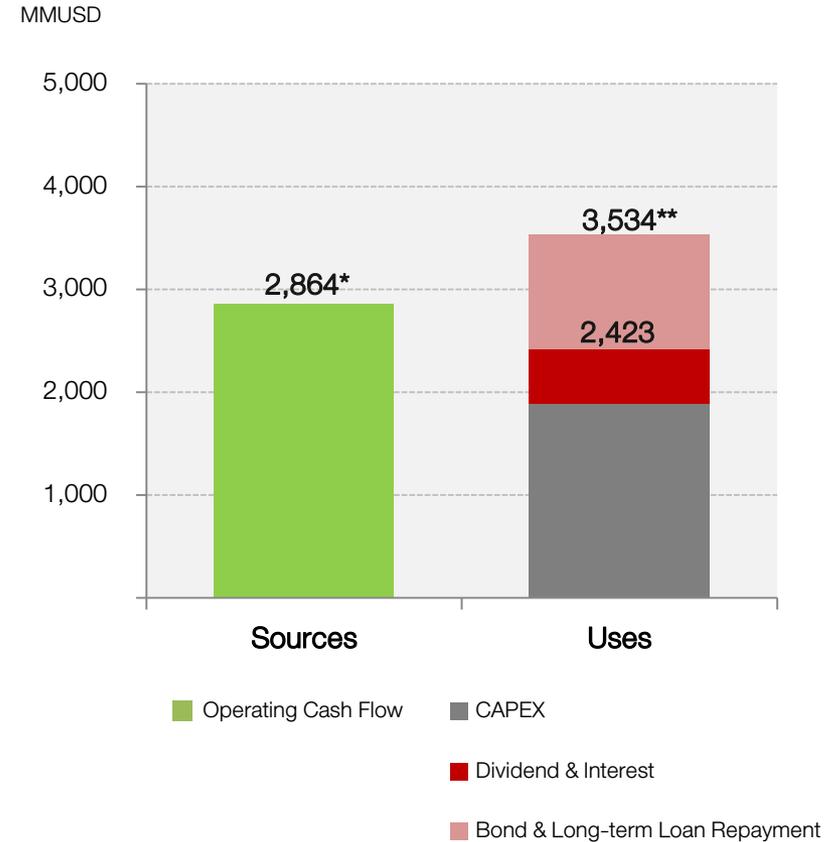


### Cash Flow Performance



Net Income	1,847	677	(854)
Recurring Net Income***	2,114	1,538	718

### Source & Use of Funds in FY 2015

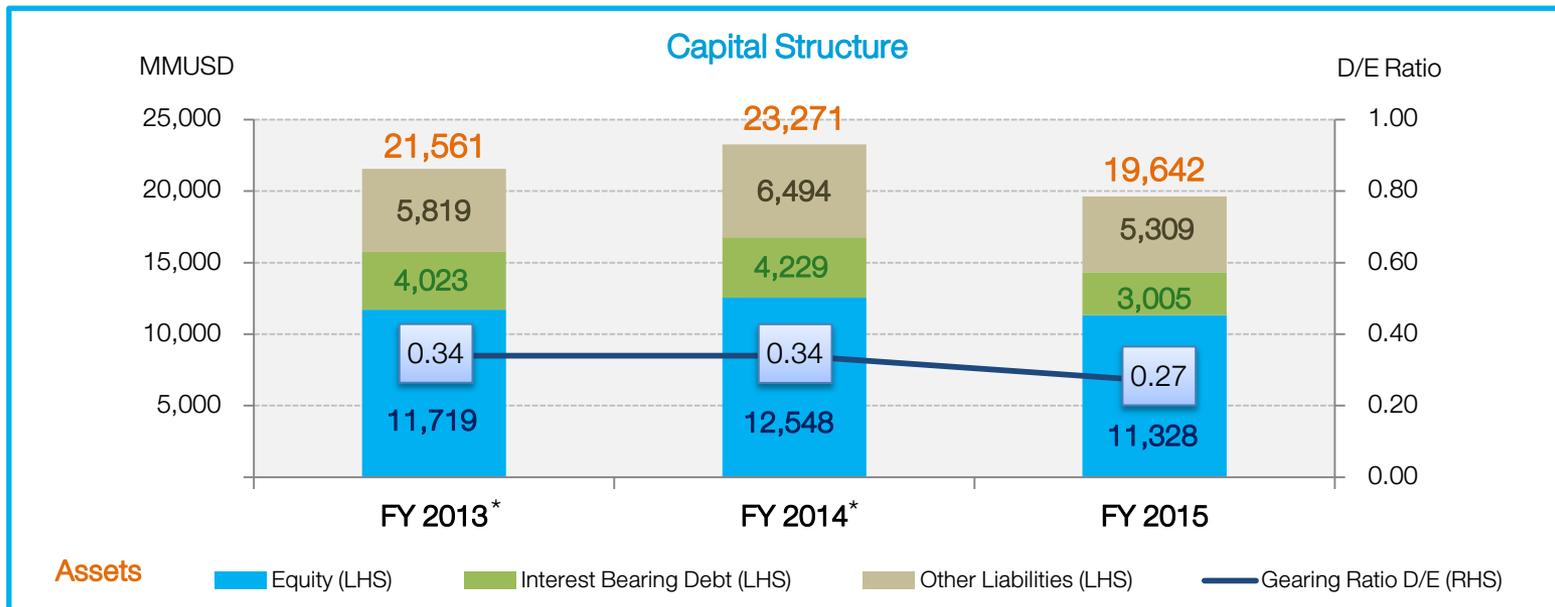


Remark: Sales Volume and sales revenue: after reclassification of PSC royalty

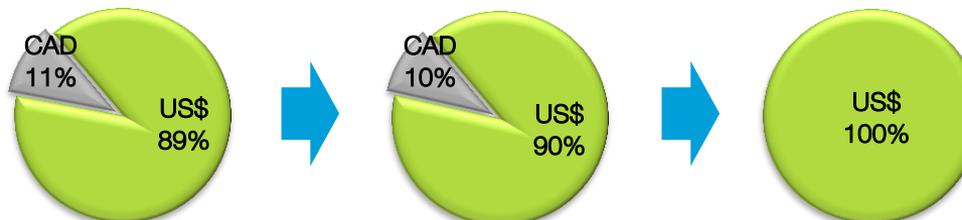
\* Net of adjustment for the effect of exchange rate changes on cash and cash equivalents

\*\* 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 \*\* (%)

3.99

4.14

4.32

[Fixed : Floating]

[75 : 25]

[77 : 23]

[82 : 18]

Average Loan Life \*\* (Years)

6.81

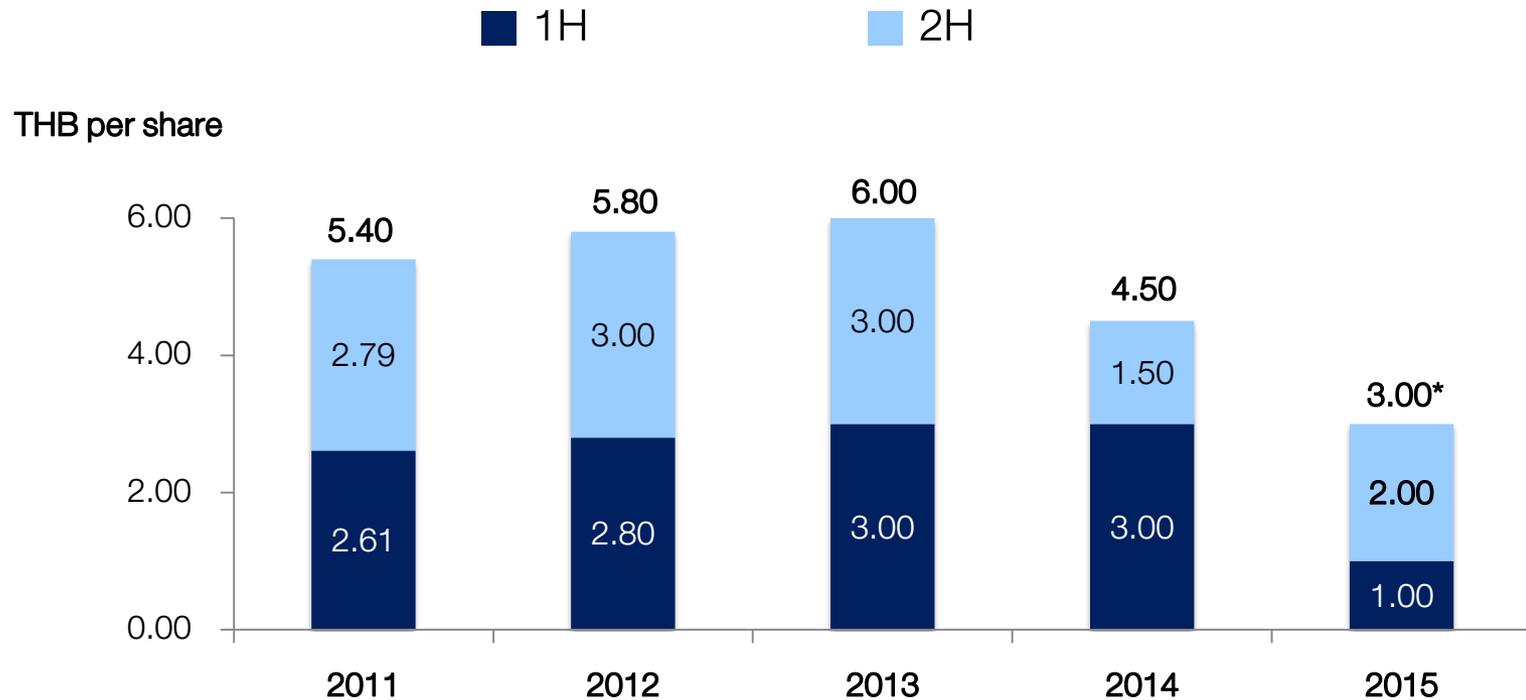
7.05

8.17

Remark: \* Restated  
 \*\* Excludes Hybrid bonds



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



Payout Ratio (%)	2011	2012	2013	2014	2015
	40	38	40	82	N/A

Remark: \* Subject to the Annual General Shareholders' Meeting approval



Safety Performance

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### Sales volume target delivered

- Domestic volumes maintained
- First production from Algeria

### Significant cost reduction

- Investment prioritization
- Efficiency improvement

### Advantageous financial position

- Liquidity preservation
- Robust capital structure

**3%** Sales volume growth vs. 2014

**11%** Reduction in unit cost vs. 2014

**30%** Reduction in total expenditure vs. plan

**2.9** billion USD Operating cash flow

**3.3** billion USD Cash on hand

**0.27** x Total debt/equity ratio

**3** Thai Baht per share Full-year dividend



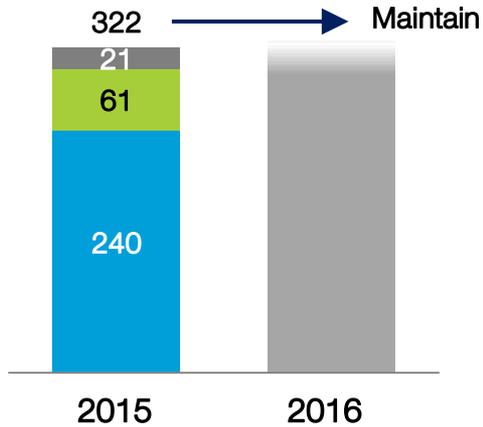
2016

2016 and beyond

## Maintain Sales Volume

Unit : KBOED

SEA  
RoW  
Thailand

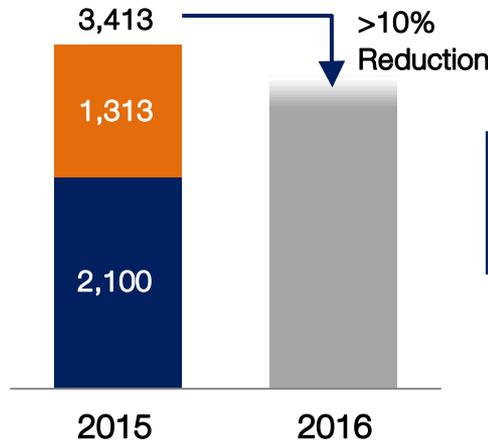


- ▶ Utmost compliance to safety
- ▶ Deliver domestic gas at DCQ
- ▶ Sustain field performance

## Lower Expenditures

Unit : MMUSD

CAPEX  
OPEX

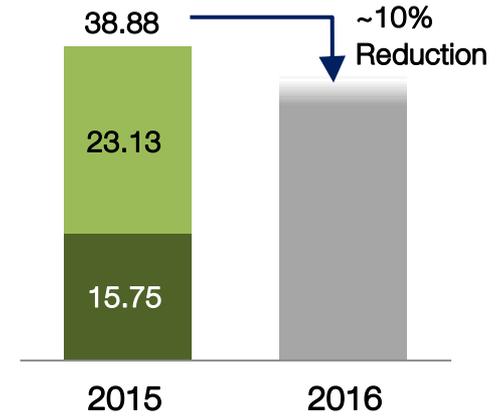


- ▶ Efficiency improvement and contract renegotiation
- ▶ Capital allocation prioritized for high quality assets

## Bring Down Unit Cost

Unit : USD/BOE

Cash  
Non-cash



- ▶ Further process streamline
- ▶ Disciplined G&A policies

Preserve liquidity and financial flexibility in near-term

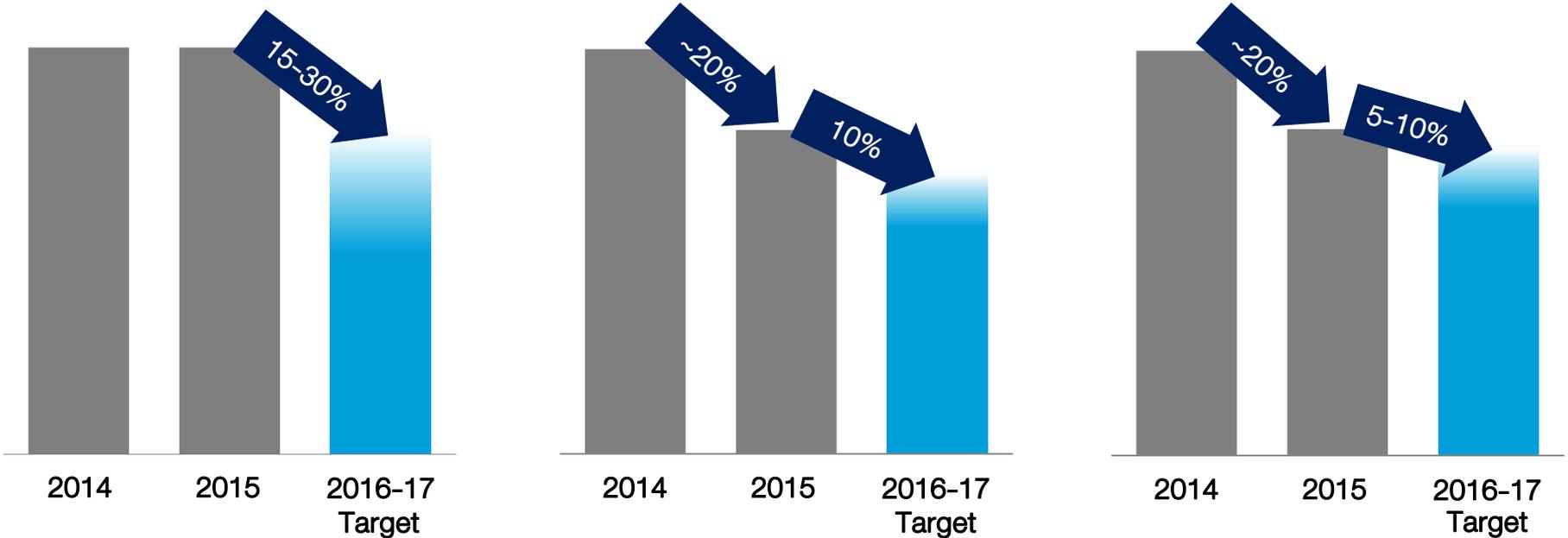


## Cost Improvements Across Operations

### Wellhead Platform Cost\*

### Average Cost Per Well\*\*

### OPEX and G&A Cost Per BOE



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

\*\* Primarily applicable to development wells in PTTEP-operated offshore projects in Southeast Asia

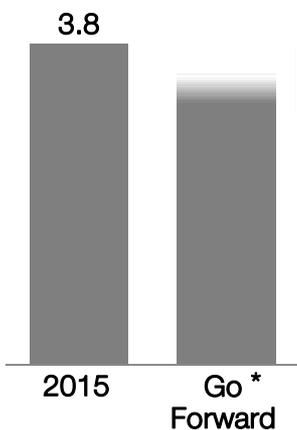


2016

2016 and beyond

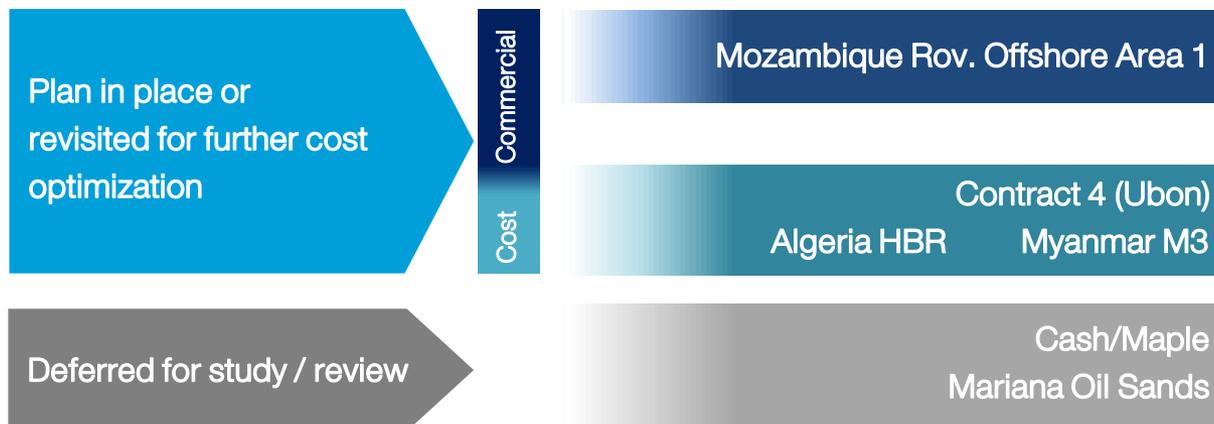
## Convert 2C resources...

Unit : bn BOE



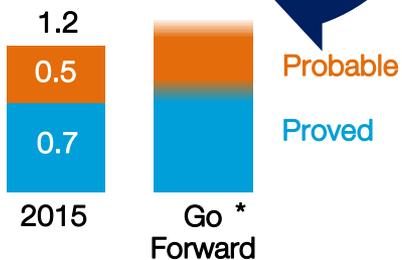
## Advancing with medium-term value contributors in portfolio...

Development Focus



## ...to P1+P2 reserves

Unit : bn BOE



## ...as well as through portfolio management opportunities



- Producing / near-producing assets primarily in SE Asia
- Synergic opportunities with PTT on LNG value chain
- Consideration of portfolio rationalization

\* Go forward reserves and resources are illustrative and does not reflect the anticipated magnitude of conversion for any particular project



You can reach the Investor Relations team for more information and inquiry through the following channels:



<http://www.pttep.com>



[IR@pttep.com](mailto:IR@pttep.com)



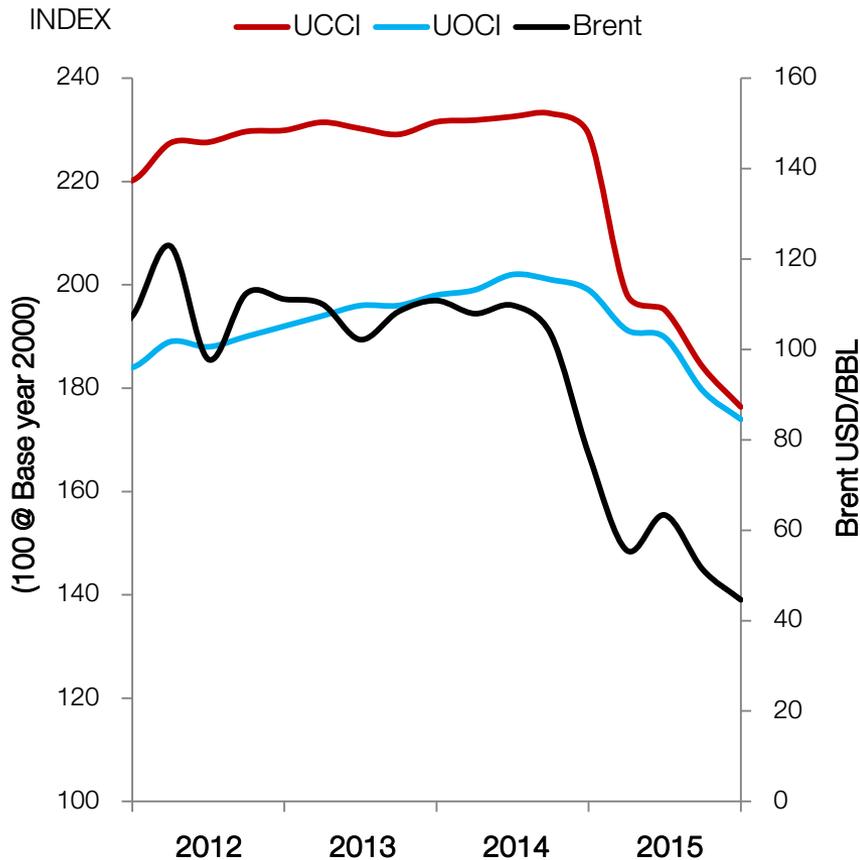
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- 1 Industry Update
- 2 Detailed financial information
- 3 Five-year investment plan
- 4 Reserves and resources
- 5 Project details
- 6 Organization structure
- 7 Ratios and formula



### Upstream Capital and Operating Cost Indices



Remark: UCCI = Upstream Capital Cost Index ; UOCI = Upstream Operating Cost Index

Source: IHS CERA

### Industry Responses to Low Oil Prices

Focus on cost and spending cuts to balance cash flows and revitalize through ...

#### Cost & Investment Optimization

- Improve efficiency, standardize and simplify design, and lower costs
- Defer spending on higher-cost projects

#### Portfolio Rationalization

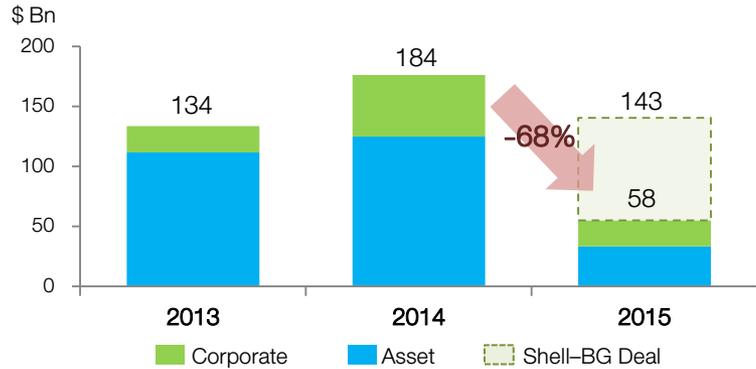
- Move back to core high-quality assets in the portfolio
- Divest non-core positions, most evidently in 2015 in less-oil price sensitive sector (e.g. midstream)

#### Consolidation

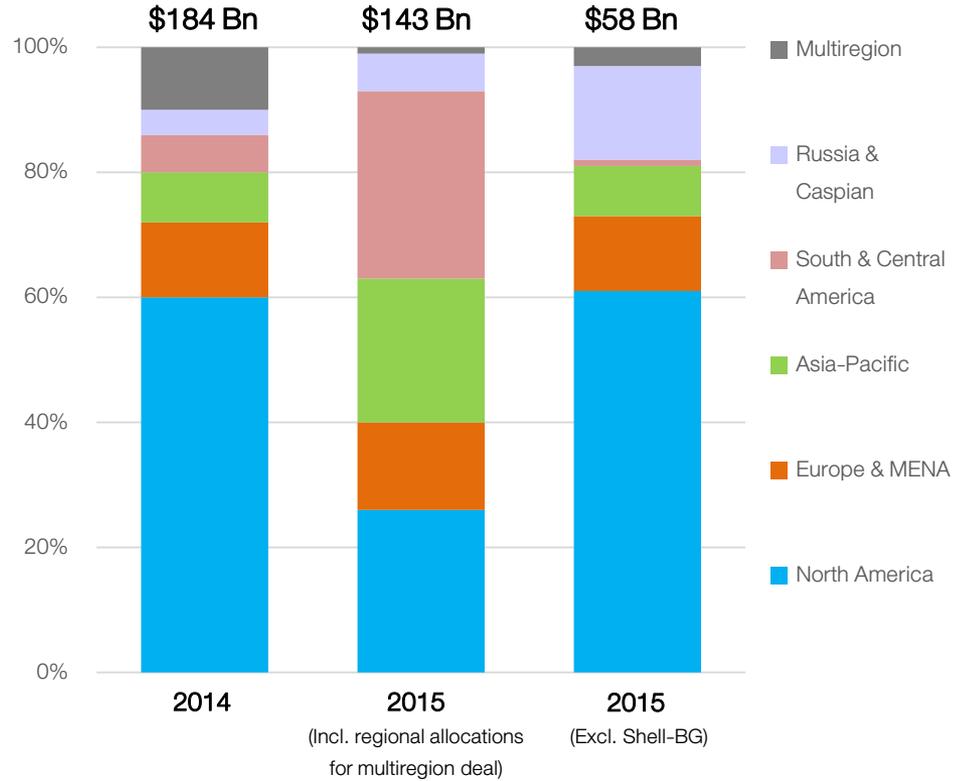
- Values through synergy and economies of scales
- Example: Shell-BG / Suncor-COS / intra-basin consolidation by US onshore players



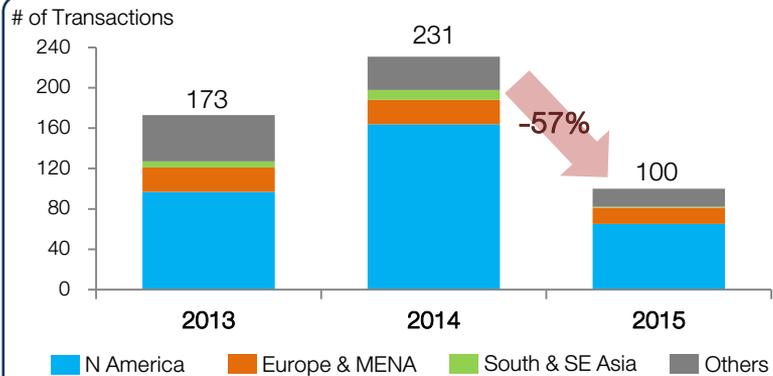
## Global Upstream M&A Deal Value



## Upstream Deal Value Distribution by Region



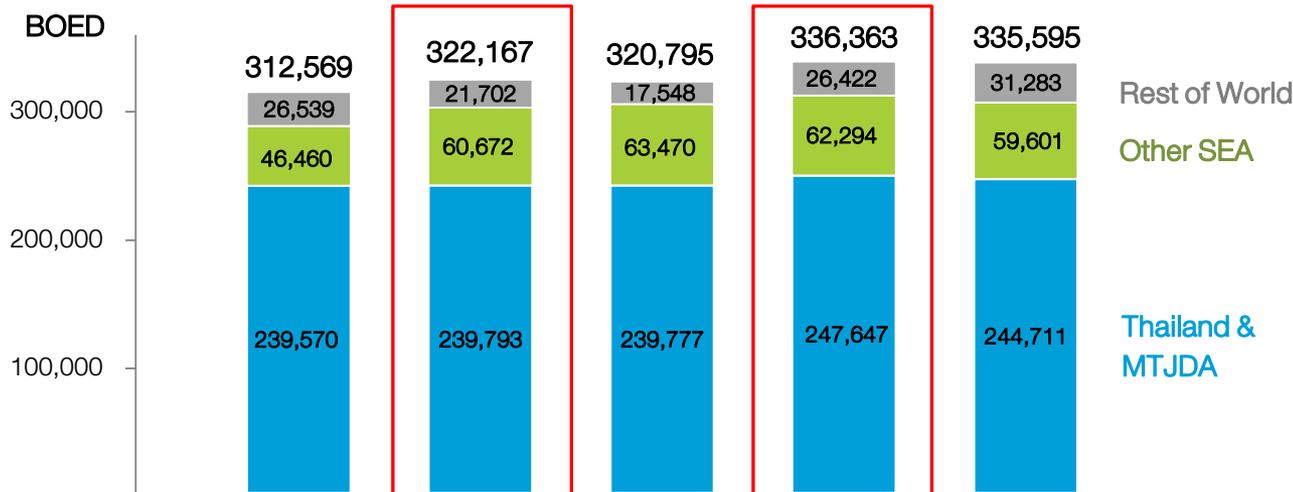
## Global Upstream M&A Deal Counts



- Lack of consensus between sellers and buyers due to volatile and low oil prices
- Almost \$60Bn (YTD) of high profile corporate deals cancelled due to rejection by key shareholders/BoD



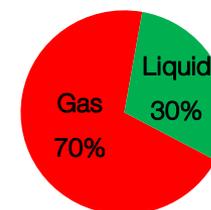
## Sales Volume



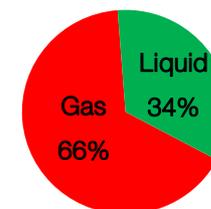
Sales Price	2014	2015	Q3 15	Q4 15	Q4 14
Gas (\$/MMBTU)	8.06	7.20	7.16	6.29	8.12
Liquid (\$/BBL)	94.82	50.05	49.33	42.22	74.84
Weighted Avg. (\$/BOE)	63.71	45.29	44.83	39.18	56.95
Avg. Dubai (\$/BBL)	96.60	50.91	49.74	40.71	74.40
Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil)	86.74	44.86	40.69	33.39	67.23

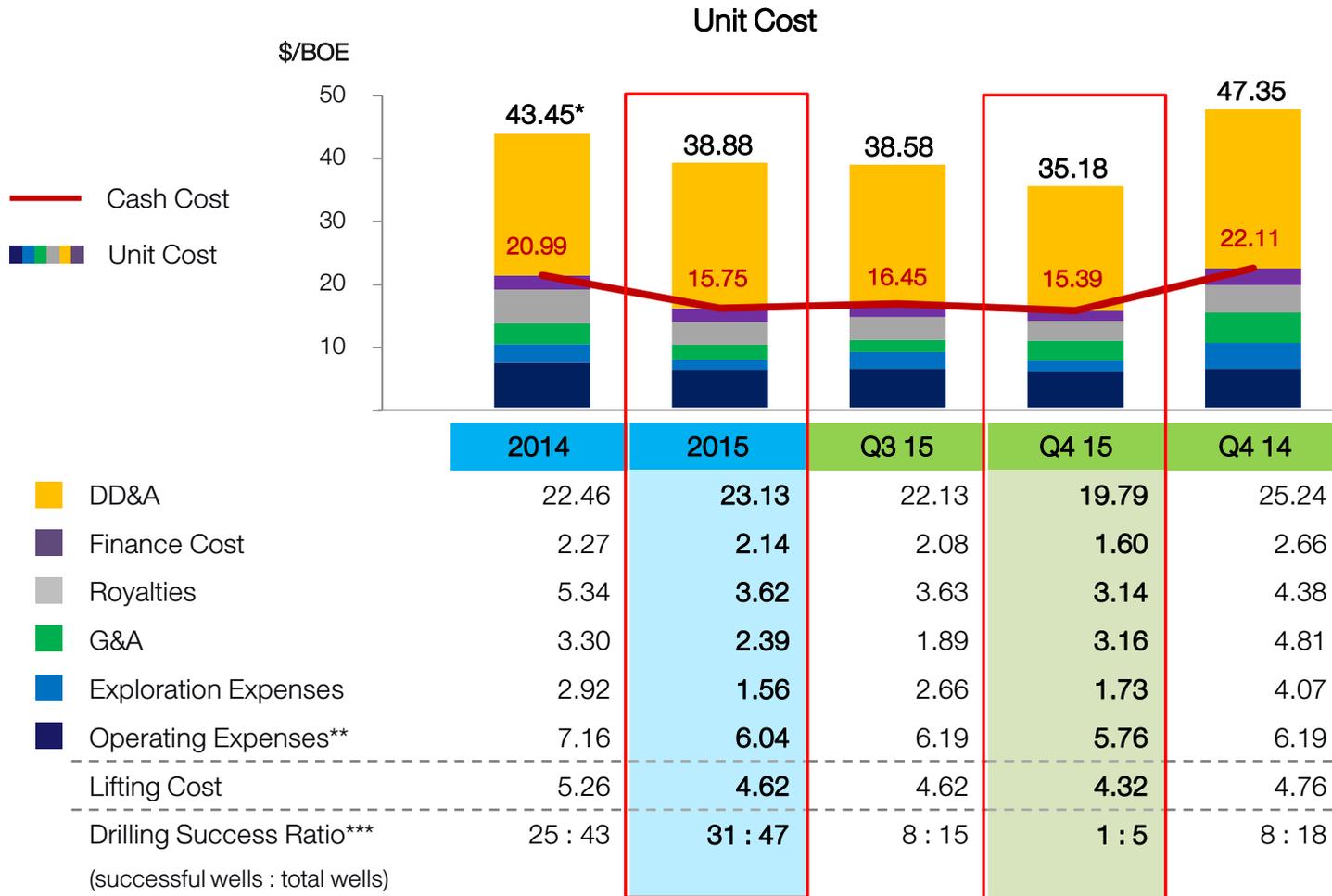
## 2015 Sales Volume By Product

### Volume Mix



### Revenue Mix





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

\*\* Excludes diluent cost for blending bitumen in Oil Sands project

\*\*\* Exploration and Appraisal Wells

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



	2014*	2015	Q3 15*	Q4 15	Q4 14*
Sales Revenue** (MMUSD)	7,457	5,444	1,353	1,236	1,797
EBITDA (MMUSD)	5,282	3,844	929	809	1,196
Net Income (MMUSD)	677	(854)	(1,284)	132	(739)
Recurring Net Income (MMUSD)	1,538	718	264	13	183
Earning Per Share (USD)	0.16	(0.22)	(0.32)	0.02	(0.20)
<b>Key Financial Ratios</b>					
EBITDA Margin (%)	71	71	69	65	67
Return on Equity (%) (LTM)	6	(7)	(14)	(7)	6
Return on Capital Employed (%) (LTM)	5	(5)	(10)	(5)	5
Return on Equity (%) (LTM, Recurring Net Income)	13	6	7	6	13
Return on Capital Employed (%) (LTM, Recurring Net Income)	10	5	6	5	10

\* Restated

\*\* Sales and revenue from pipeline transportation

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



	2014*	2015
Total Assets (MMUSD)	23,271	19,642
- Cash & cash equivalents** (MMUSD)	3,930	3,260
Total Liabilities (MMUSD)	10,723	8,314
- Interest bearing debt (MMUSD)	4,229	3,005
Equity (MMUSD)	12,548	11,328
<b>Key Financial Ratios</b>		
Total Debt to Equity (X)	0.34	0.27
Net Debt** to Equity (X)	0.02	(0.02)
Total Debt to Capital (X)	0.25	0.21
Total Debt to EBITDA (X)	0.80	0.78
Net Debt** to EBITDA (X)	0.06	(0.07)
EBITDA Interest Coverage (X)	28	24

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

**Weighted Average Cost of Debt\*\*\* :** 4.32%

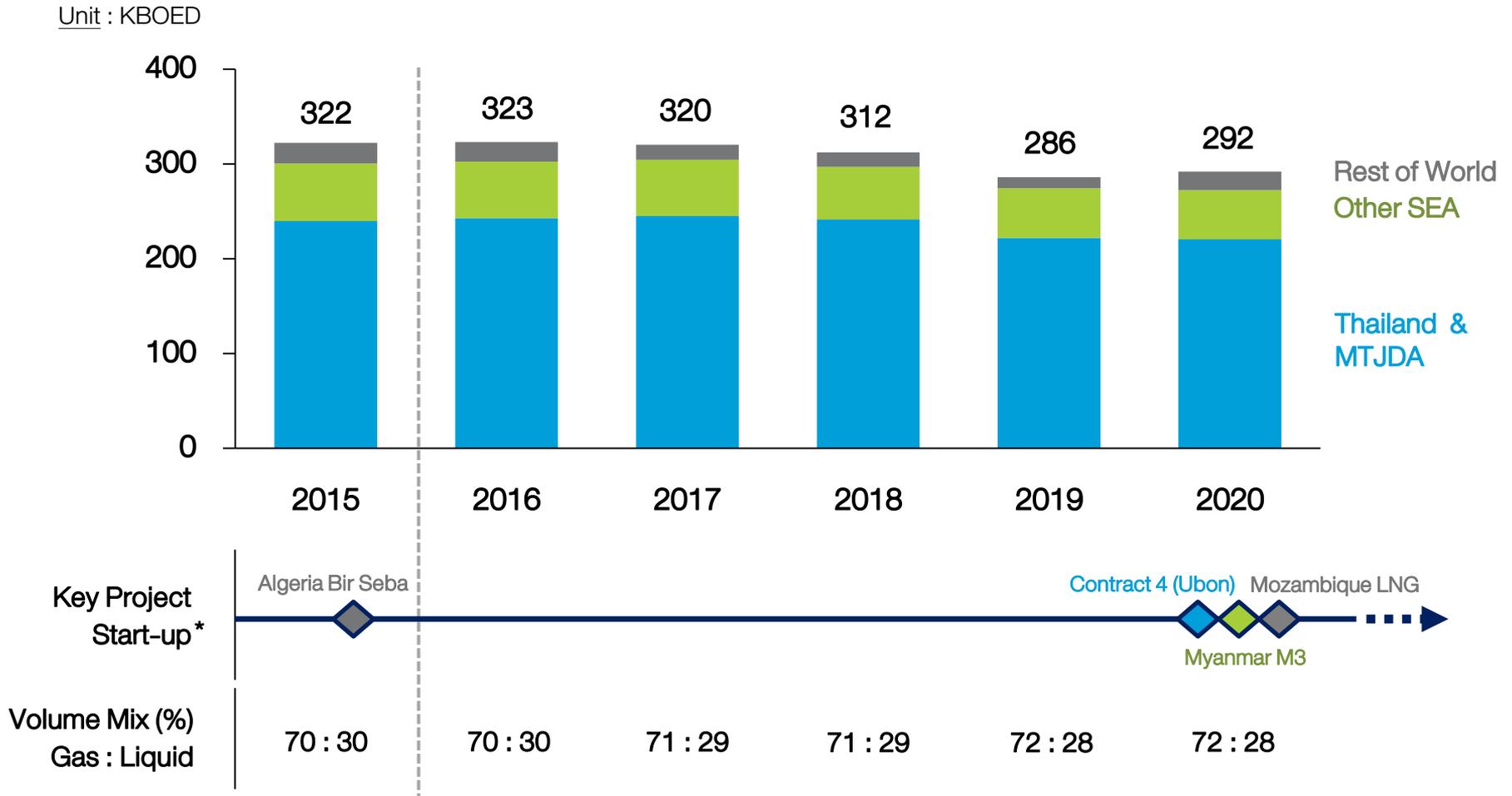
**Average Loan Life\*\*\* :** 8.17 years

\* Restated

\*\* 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

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

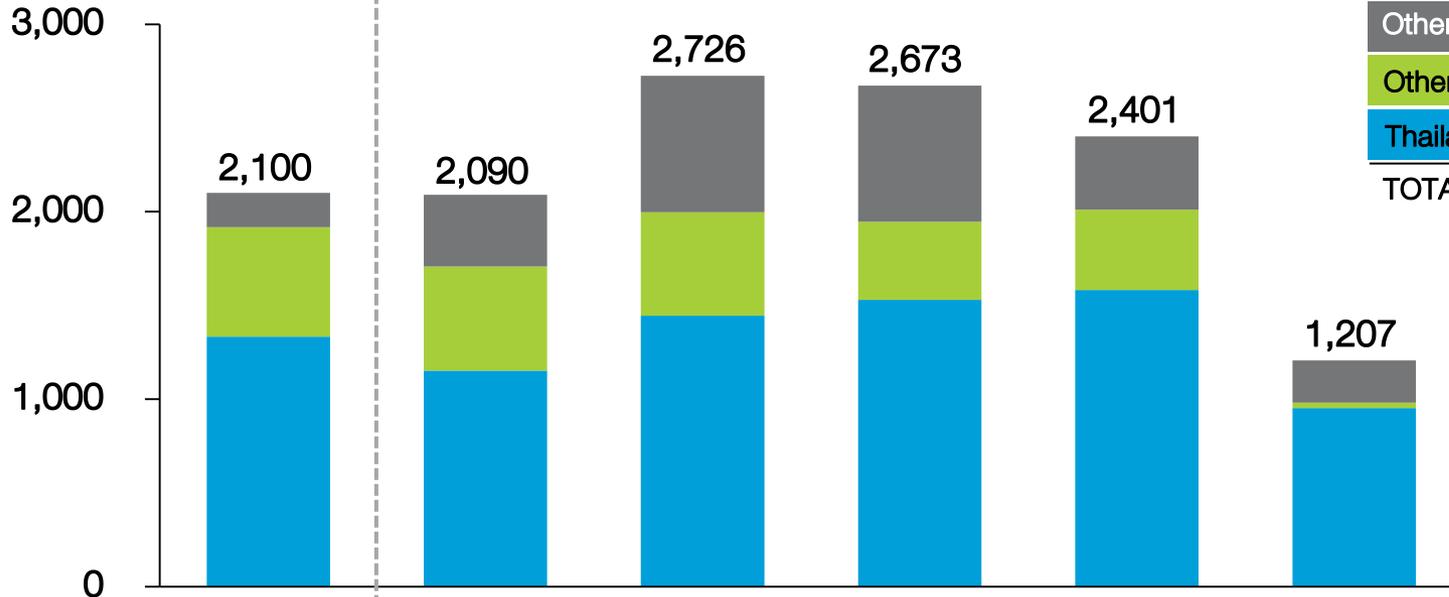


Note: Sales volume after reclassification of PSC royalty

\* Subject to FID timing



Unit : MMUSD



### 2016 - 2020

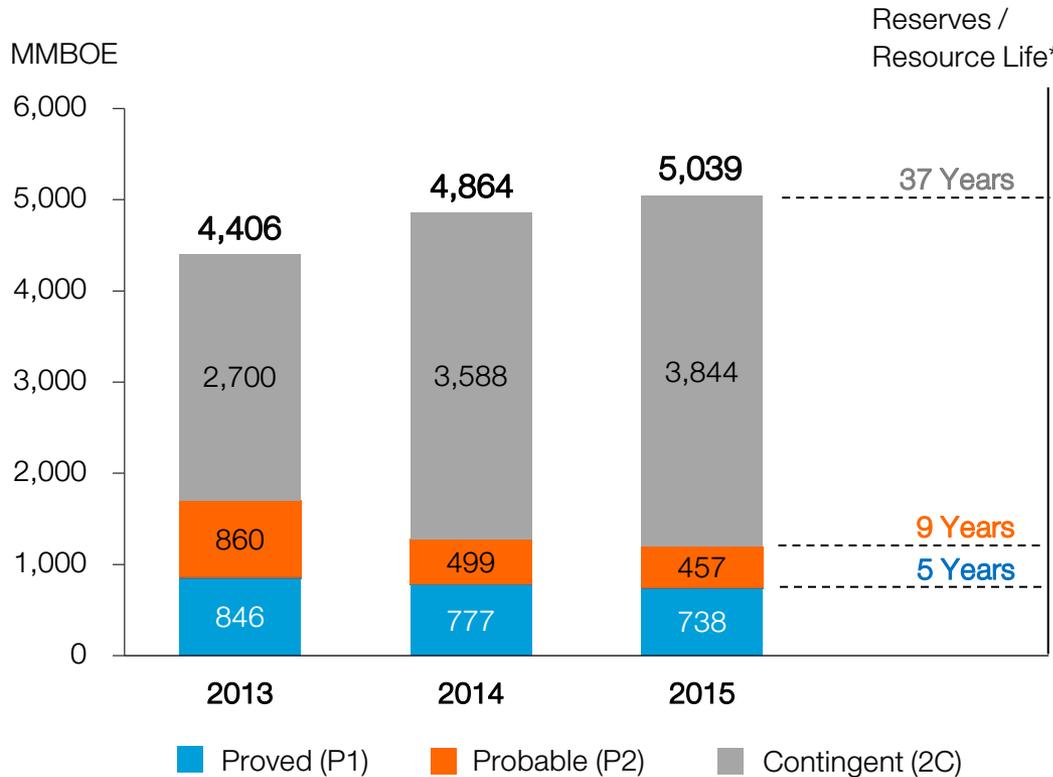
Other regions	2.4 Bn
Other SEA	2.0 Bn
Thailand	6.7 Bn
<b>TOTAL</b>	<b>11.1 Bn</b>

### By Activities :

	2015	2016	2017	2018	2019	2020	2016 - 2020
Production	81%	82%	64%	53%	52%	65%	62%
New Project Development *	3%	15%	31%	45%	39%	35%	33%
Exploration and Others **	16%	3%	5%	2%	8%	1%	5%

Note: \* Subject to FID

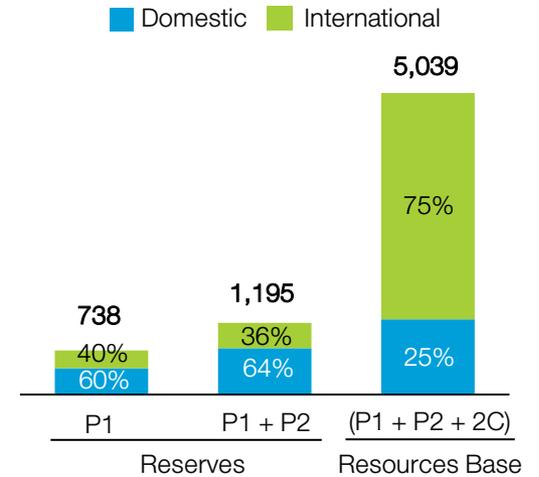
\*\* Includes exploration and appraisal in all projects and HO CAPEX



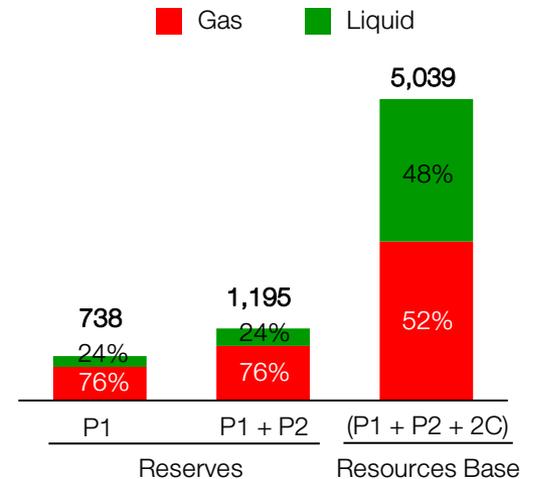
5-Year Average Proved Reserves Replacement Ratio (RRR)

Year	2013	2014	2015
RRR	0.82x	0.45x	0.50x

## 2015 by Geography



## 2015 by Product Type



\* Based on total production of natural gas, condensate, and crude oil (including LPG) of 374 KBOED for the year ended December 31, 2015



Project	Status*	PTTEP's Share	Partners (as of 2015)	2015 Average Sales Volume **		2016 Key Activities	
				Gas	Oil and Other		
<b>Production Phase</b>							
<b>Thailand and JDA</b>							
1	Arthit	OP	80%	Chevron MOECO	16% 4%	213 MMSCFD Condensate: 9.4 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%	98 MMSCFD Crude: 26 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%	905 MMSCFD Condensate: 28 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%	561 MMSCFD Crude: 20 k BPD Condensate: 19 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%	305 MMSCFD Condensate: 14 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%	2 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%	5 MMSCFD Crude: 981 BPD	
10	L53/43 & L54/43	OP	100%			- Crude: 297 BPD	<ul style="list-style-type: none"> <li>• Drill exploration and development wells</li> </ul>
11	PTTEP1	OP	100%			- Crude: 386 BPD	<ul style="list-style-type: none"> <li>• Drill development wells</li> <li>• Perform waterflood activities</li> </ul>
12	S1	OP	100%			26 MMSCFD Crude: 29 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%	121 MMSCFD Condensate: 460 BPD	<ul style="list-style-type: none"> <li>• Drill development wells</li> </ul>
14	MTJDA	JOC	50%	Petronas-Carigali	50%	326 MMSCFD Condensate: 7.3 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: 50 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 Information 2/4

Production phase: overseas



	Project	Status*	PTTEP's Share	Partners (as of 2015)	2015 Average Sales Volume **		2016 Key Activities
					Gas	Oil and Other	
<b>Production Phase</b>							
<b>Overseas</b>							
16	Oman 44	OP	100%		22 MMSCFD	Condensate: 1.1 k BPD	<ul style="list-style-type: none"> <li>Maintain production operation</li> </ul>
17	Vietnam 9-2	JOC	25%	PetroVietnam 50% SOCO 25%	13 MMSCFD	Crude: 4.8 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%	751 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 Nippon Oil 20.4541% PC Myanmar 19.3178% (Hong Kong) 10.90878%	286 MMSCFD	Condensate: 5.8 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%	16 MMSCFD	Crude: 31 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	20%-100% (varied by permits)		-	Crude: 16 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%	213 MMSCFD	Crude: 1.4 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%	314 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%	-	215 BPD	<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



	Project	Status*	PTTEP's Share	Partners (as of 2015)	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%	<ul style="list-style-type: none"> <li>Access development options and commercial potential</li> </ul>
27	Mozambique Rovuma Offshore Area 1		8.5%	Anadarko, Mitsui, ENH, Bharat Petroleum, BREML, OVL 26.5%,20%, 15%,10%, 10%,10%	<ul style="list-style-type: none"> <li>Preparatory work for Final Investment Decision (FID) including LNG marketing and finalization of remaining commercial contracts</li> </ul>
28	Algeria Hassi Bir Rekaiz	OP	24.5%	CNOOC 24.5% Sonatrach 51%	<ul style="list-style-type: none"> <li>Drill Appraisal wells</li> </ul>
29	Myanmar M11	OP	100%**		
30	Vietnam B & 48/95		8.5%	PVN 65.88% MOECO 25.62%	<ul style="list-style-type: none"> <li>Negotiate a GSA with the Vietnamese government</li> </ul>
31	Vietnam 52/97		7%	PVN 73.4% MOECO 19.6%	<ul style="list-style-type: none"> <li>Negotiate a GSA with the Vietnamese government</li> </ul>
32	Myanmar PSC G and EP 2	OP	70%	WinPreciousRes 10% ources 10% MOECO 10% Palang Sophon Offshore	<ul style="list-style-type: none"> <li>Conduct G&amp;G studies</li> </ul>
33	Kenya L11A, L11B, L12		10%	Anadarko 50% Total 30% ENI 10%	<ul style="list-style-type: none"> <li>Conduct G&amp;G studies</li> </ul>

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

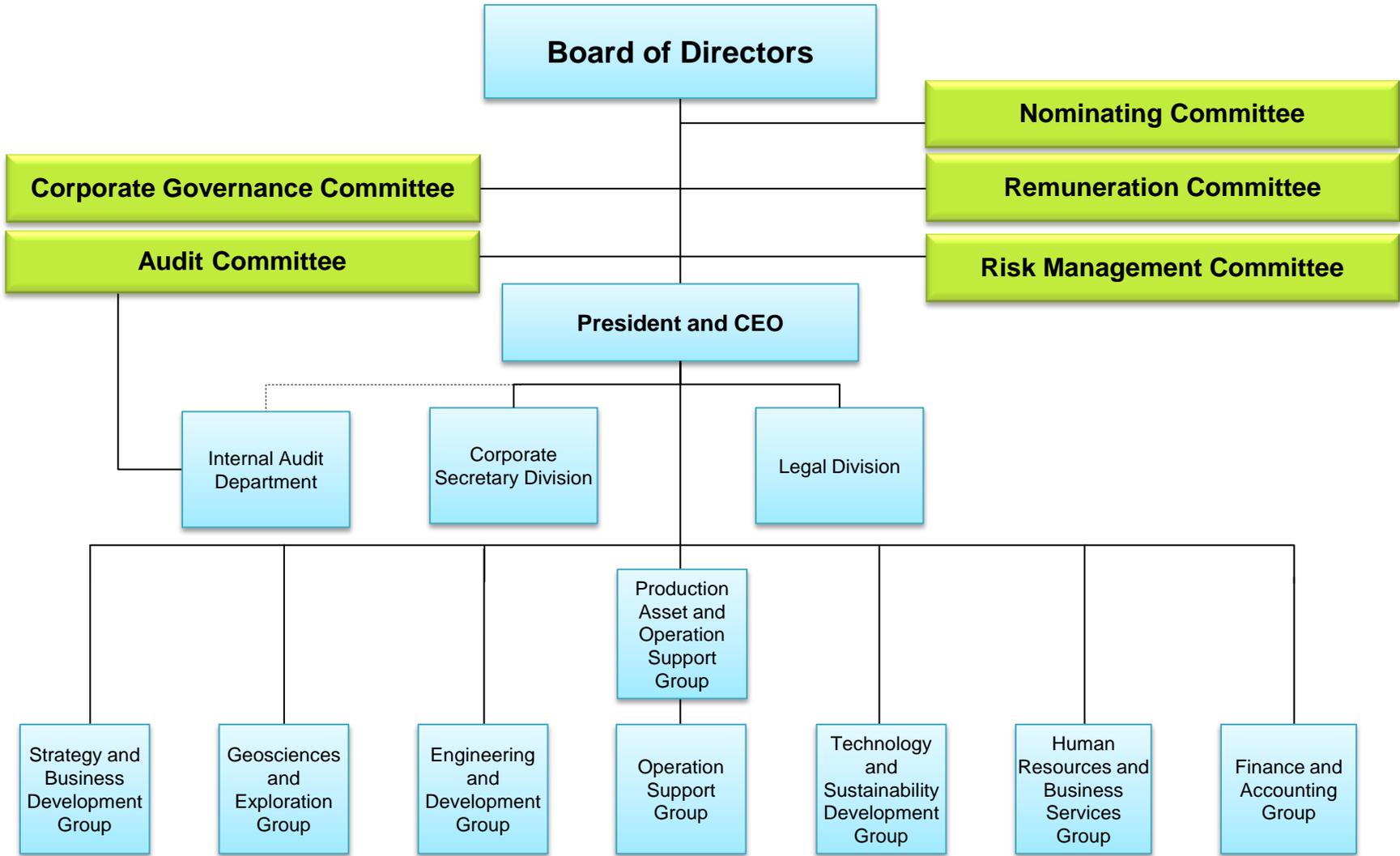
\*\* New participating interest subject to government approval



	Project	Status*	PTTEP's Share	Partners (as of 2015)	2016 Key Activities
<b>Exploration Phase</b>					
<b>Overseas (Cont'd)</b>					
34	Myanmar MD 7 and MD 8	OP	100%		
35	Mariana Oil Sands	OP	100%		<ul style="list-style-type: none"> <li>Assess development approach and cost reduction opportunity</li> </ul>
36	Barreirinhas AP1		25%	BG Brasil 75%	<ul style="list-style-type: none"> <li>Acquire 3D seismic</li> </ul>
37	MOGE 3	OP	75%	Palang Sophon Offshore 10% MOECO 10% WinPreciousResources 5%	<ul style="list-style-type: none"> <li>Acquire 3D seismic</li> </ul>
38	Brazil BM-ES-23		20%	Petrobras 65% INPEX 15%	<ul style="list-style-type: none"> <li>Drilling result and resource evaluation</li> </ul>

Remarks: 38 projects exclude 5 projects that are pending official withdrawal approval

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





<i>Ratio</i>	<i>Formula</i>
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	$\text{Trailing-12-month EBITDA} / \text{Trailing-12-month Interest Expenses \& Amortize Bond Issuing Cost}$