



Q3 2015 Analyst Meeting
Bangkok
9 November 2015



MEMBER OF
Dow Jones
Sustainability Indices
In Collaboration with RobecoSAM



Sustainable Development



Industry Update



Performance Highlights & Strategy



9M 2015 Financial Results & Outlook

Affirming our path to sustainable development

MEMBER OF

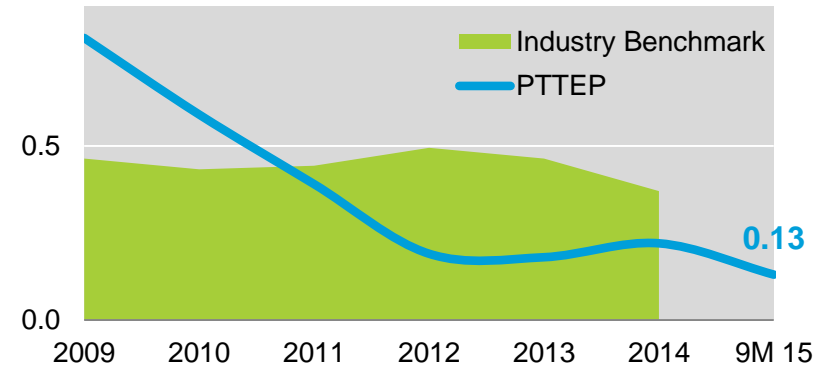
**Dow Jones
Sustainability Indices**

In Collaboration with RobecoSAM



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"





Sustainable Development



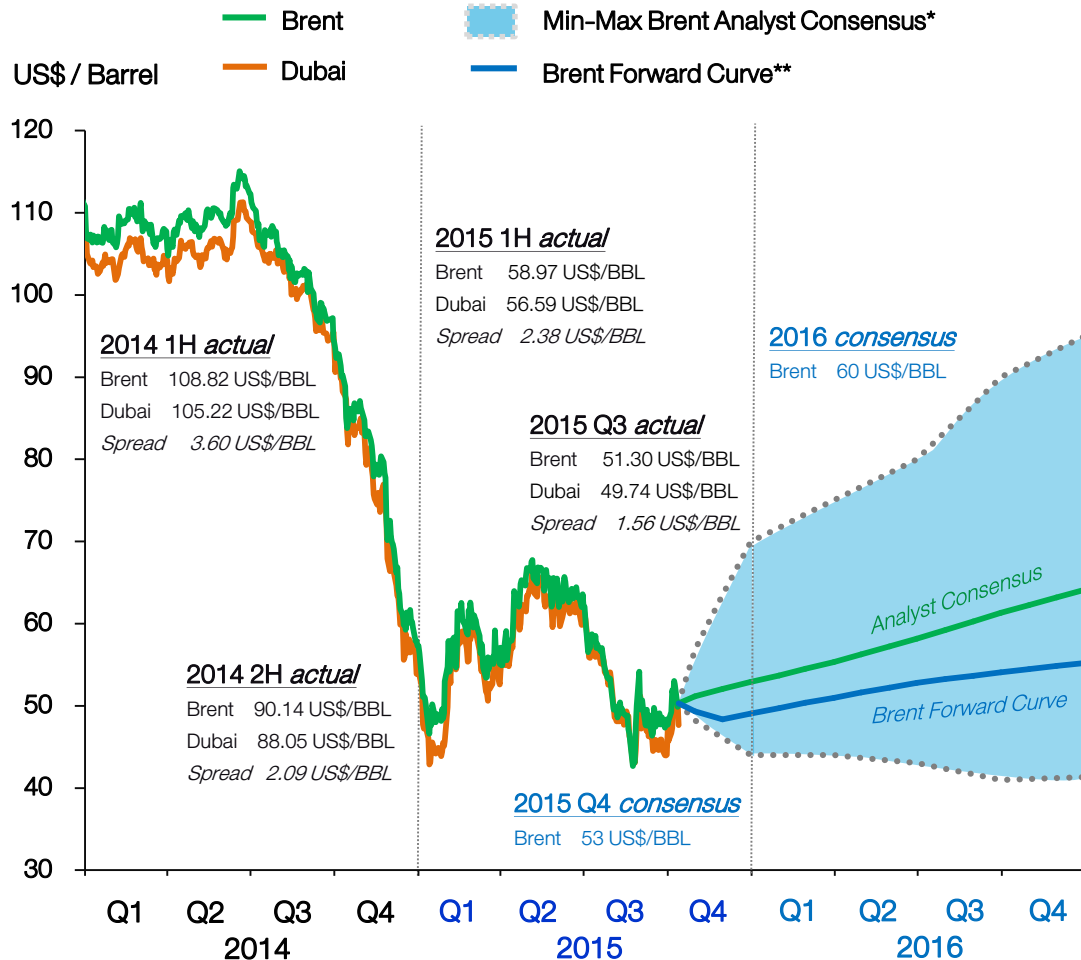
Industry Update



Performance Highlights & Strategy



9M 2015 Financial Results & Outlook



Q3 Highlights

- ↓ High levels of OPEC production
- ↓ Slowdown of Chinese economy

Outlook – Lower for longer

- ↓ Continuous oversupply condition in the market
- ↓ Lifting of international sanctions on Iran
- ↑ Slowdown in U.S. crude oil production following low oil prices

Remark: * Bloomberg Analyst Consensus (CPFC) as of 12 October 2015 (45 estimates)

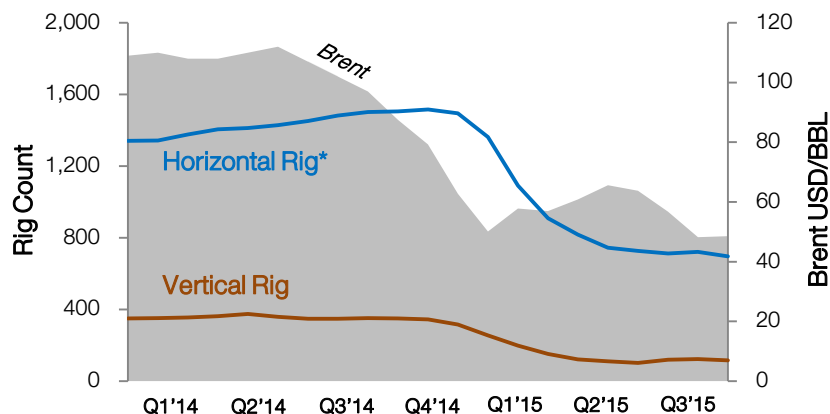
** Brent Forward Curve as of 30 September 2015

Industry Activity & Cost Trend

Onshore U.S. rig count and offshore rig utilization remain low



Onshore U.S. Rig Count

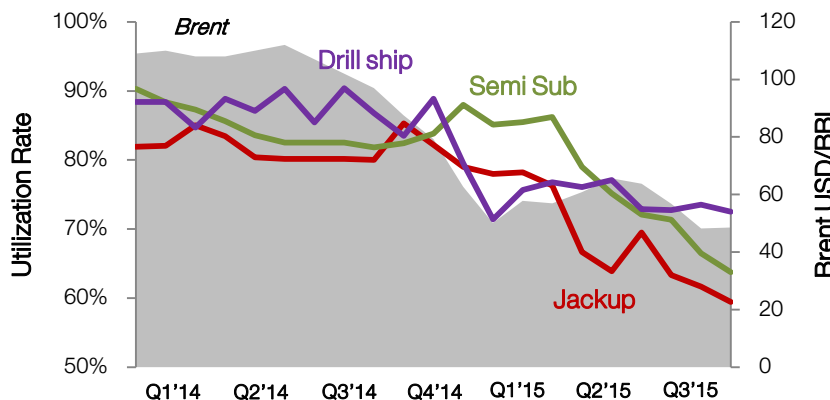


Source: Baker Hughes

* Includes horizontal and directional rigs

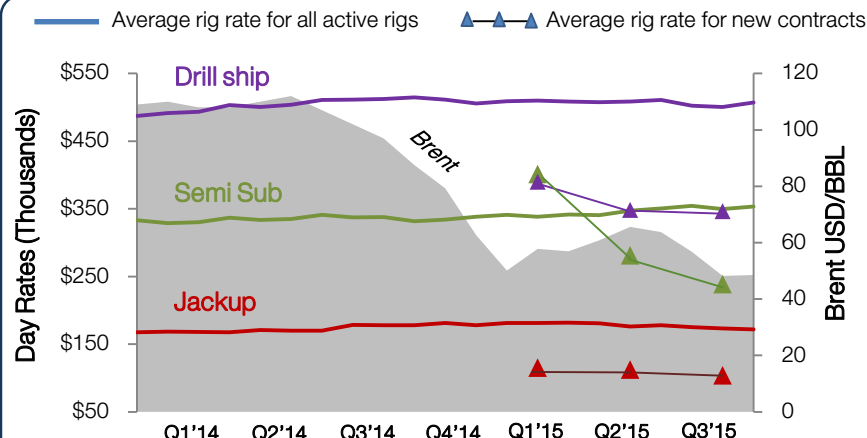
- Spending cuts within the industry intensify
- Lower drilling activities globally reflected through declining rig utilization
- Cost reduction seen in rig costs as well as other areas including operating and G&A expenses

Average Offshore Rig Utilization



Source: Riglogix, Company Analysis

Average Offshore Rig Rates



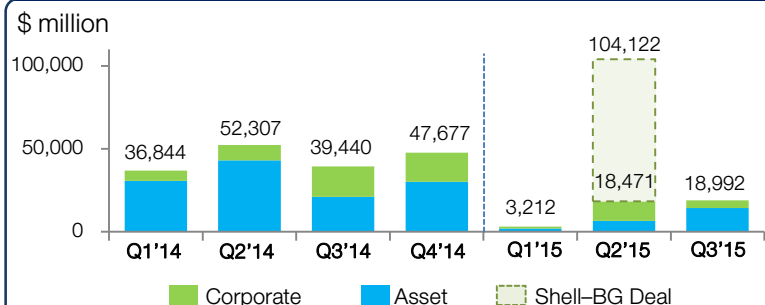
Source: Riglogix, Rigzone, Company Analysis

9M 2015 M&A Recap

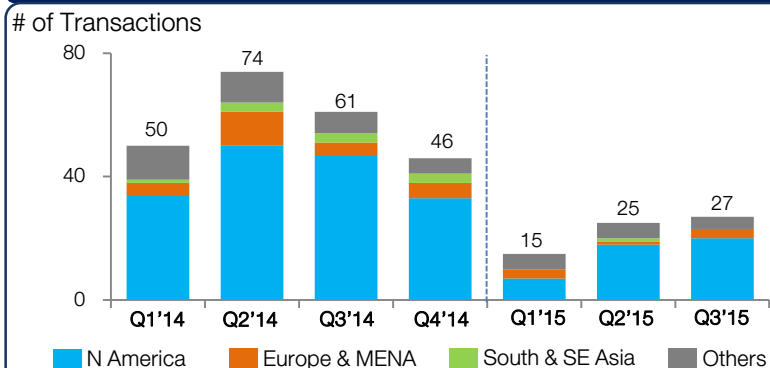
Uncertainty in oil price outlook continues to create disconnect between buyers and sellers



Global Upstream M&A Deal Value *

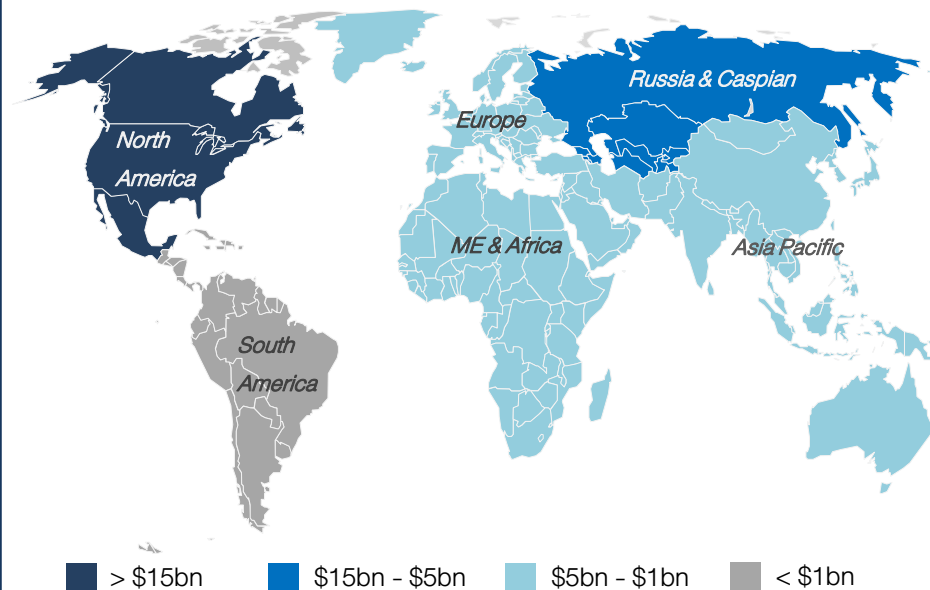


Global Upstream M&A Deal Counts *



Deal Value Distribution by Region

Total upstream M&A during 9M 2015 valued at \$40bn
excluding multi-regional transaction deals (e.g. Shell-BG)



Excluding multi-regional transaction

Differing price expectations by sellers and buyers remain

- Q3 deal activity stalled after a brief recovery during Q2.
- Over \$25Bn (YTD) of high profile corporate deals cancelled due to rejection by key shareholders/BoD

* Includes transactions where value > US\$100 million
Source: IHS, 1Derrick, Company Website

Thailand Economic Environment

2015 GDP Growth Forecast *

As of Jun 2015

As of Sep 2015

3.0% → **2.7%**



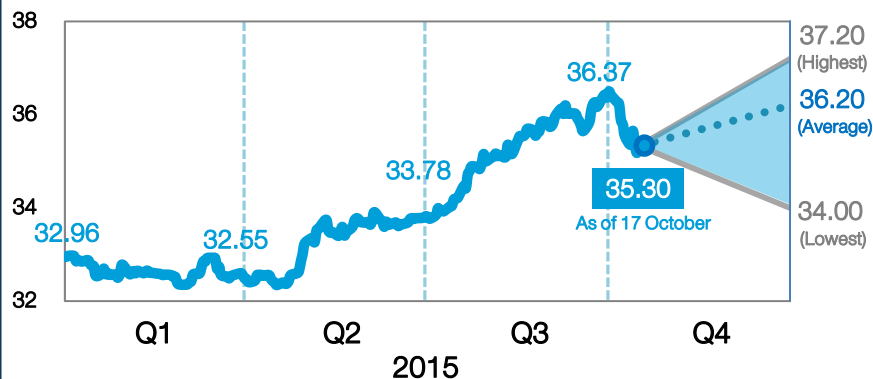
Contraction in exports driven by slowing global economy



Improving tourism sector and expected increase in public spending

* Forecast by the Monetary Policy Committee of the Bank of Thailand

Exchange Rate Movement (THB/USD)

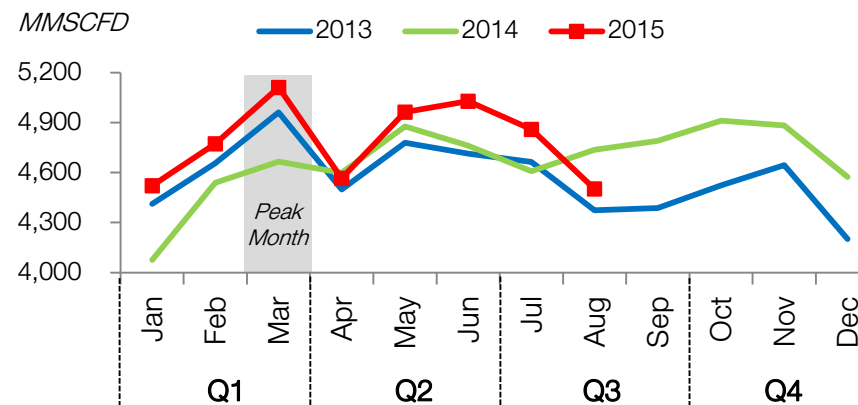


Source: Bank of Thailand

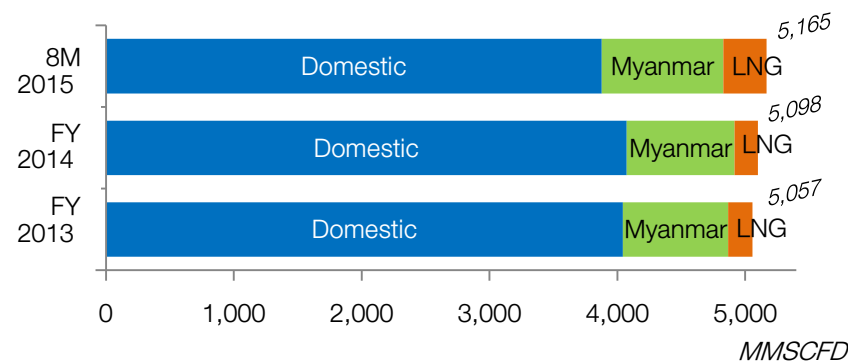
Forecast based on Bloomberg Consensus as of 16 October 2015 (37 analysts)

Gas Consumption

Monthly Gas Consumption by Year



Thailand's Gas Supply by Source



Source: EPPO



Sustainable Development



Industry Update



Performance Highlights & Strategy



9M 2015 Financial Results & Outlook

Progressing with Near-term Priorities

Solid performances achieved on both operational and financial fronts

A photograph of an oil drilling rig at night, illuminated by its own lights, with the lights reflecting on a body of water in the foreground.

Sales volume grew Q-on-Q on track for 3% guidance

Improved cost performance through SAVE to be SAFE

Strong cash flow and maintain robust capital structure

Successful start-up of Algeria Bir Seba project

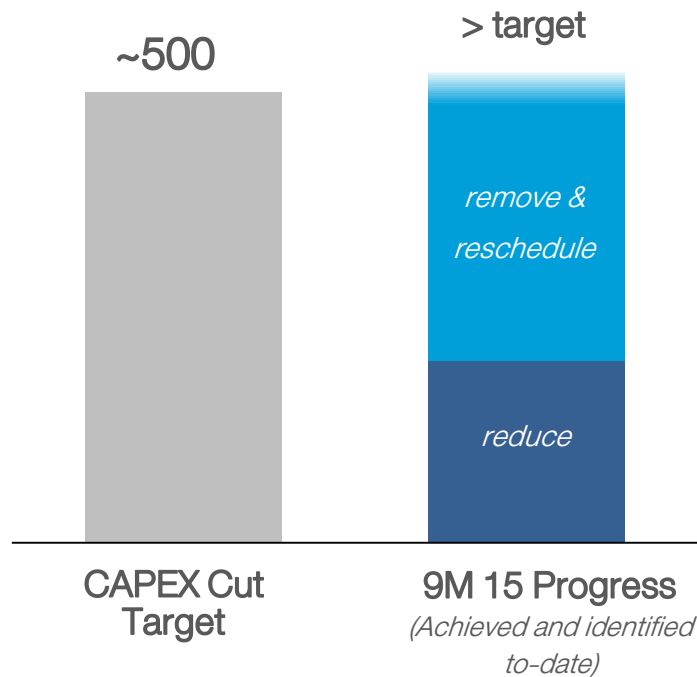
Improved cost performance: CAPEX

Heading towards leaner, more cost conscious and efficient operations

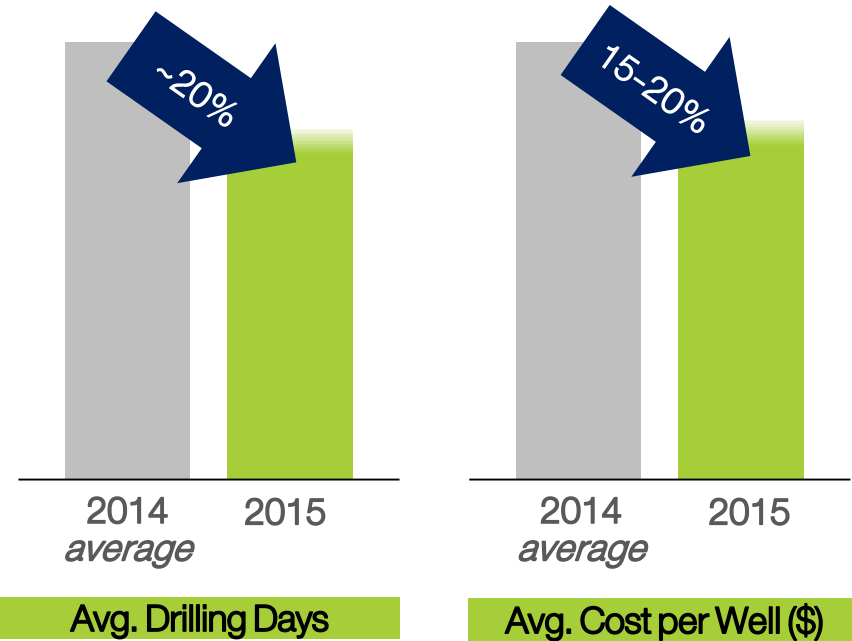


2015 CAPEX reduction to exceed plan

Unit : MMUSD



Improved drilling performance in GoT



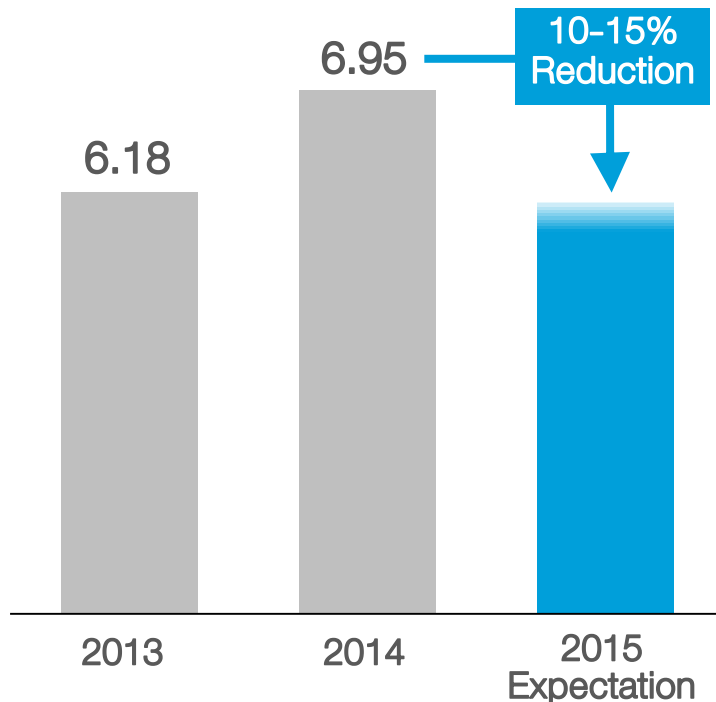
- Well operation and logistics optimization
- Renegotiated rig contracts

Improved cost performance: cash cost

Prudent and disciplined cost reduction measures to both OPEX and G&A

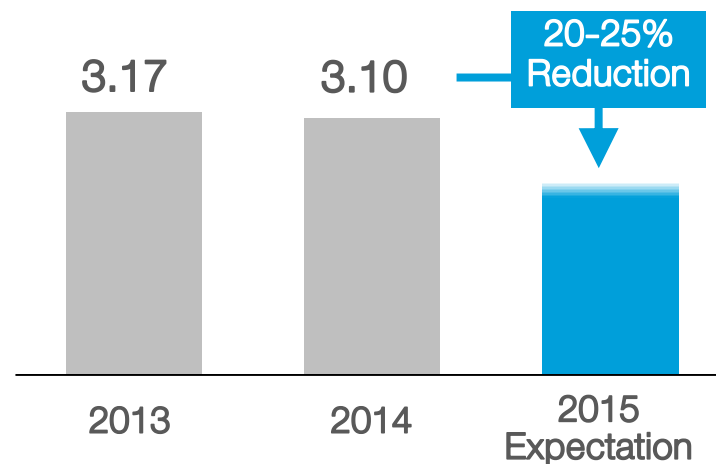


Operating Expenses (\$/BOE)



- Optimizing maintenance program
- Synergizing logistics and inventory management

G&A Expenses (\$/BOE)



- Tightening G&A expenditure policies
(professional services, IT, conference, travelling, and etc.)
- Streamlining work process

Reaffirm strategic priorities (1 / 2)

Maintain financially strong during the downturn



Weather through low oil prices

Pursue new investment opportunities

Sales volume growth
through safe and reliable
operations

Continued emphasis on
cost reduction

Self-sustainable cash flow
from existing operations and
strong financial position to
support investment

Use of oil price hedging
to protect baseline cash flow and
net income under volatile oil price
environment

**Optimize capital
allocation** and **align
investment schedule**
with production and growth plan

Reaffirm strategic priorities (2 / 2)

New investment opportunities assessed against the “new normal” in price and cost



Weather through low oil prices

Pursue new investment opportunities

1 FID Candidates

“select to proceed with competitive projects”

2 M&A

“for better valued investments and reserve and production accretive ”

3 Exploration Portfolio

“revitalize for future organic growth”

start-up

Algeria Bir Seba

- 35% interest, jointly operated
- Successful start-up production ramping to 20kbpd
- Potential for further 20kbpd expansion

near-term FID candidates

Contract 4 (Ubon)

- 60% interest (operated by Chevron)
- Oil resources in the Gulf of Thailand
- Proposed production capacity in 30kbpd range

Mozambique Area 1

- 8.5% interest (operated by APC)
- Initial development proposed for 12 MMTPA LNG (2 trains)

Cautiously approach and select compelling investment opportunities to support reserve and production growth

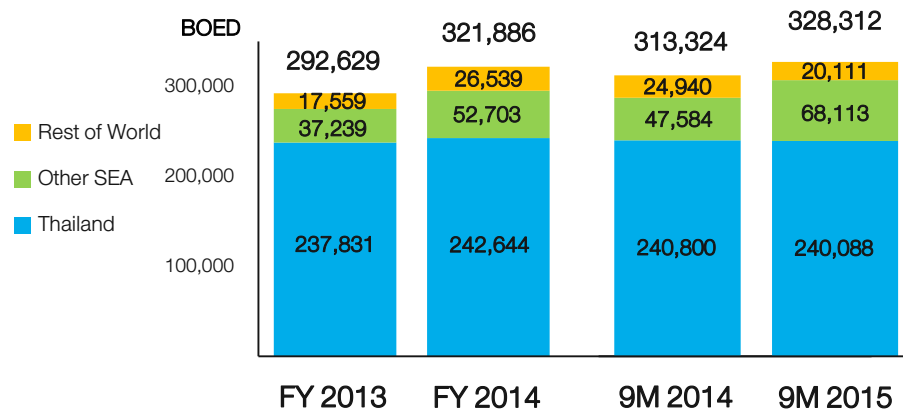
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Sales Volume & Unit Costs

Continuing sales volume growth and improved unit cost performance



Sales Volume and Price

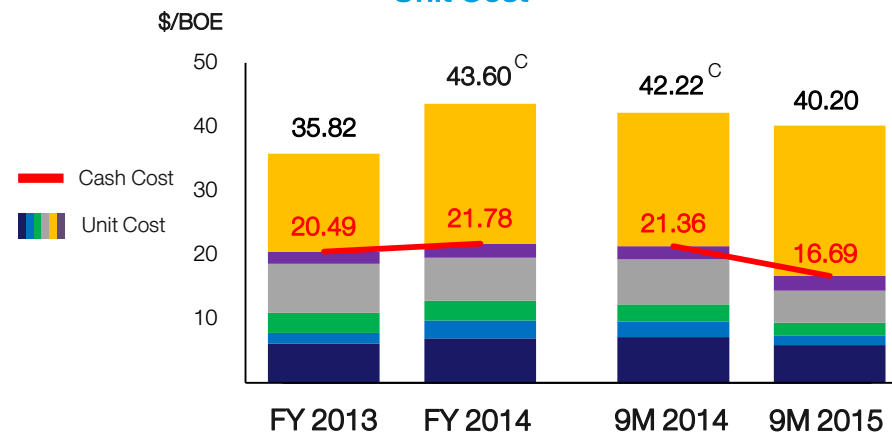


Gas (\$/MMBTU)	7.92 ^A	8.03 ^A	8.02 ^A	7.47
Liquid (\$/BBL)	100.15	94.91	101.93	53.00
Weighted Avg. (\$/BOE)	65.58 ^B	63.38 ^B	65.93 ^B	47.22
Avg. Dubai (\$/BBL)	105.54	96.60	103.97	54.31
Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil)	97.52	86.74	94.73	48.68
Volume Mix (Gas:Liquid)	66 : 34	67 : 33	67 : 33	71 : 29
Revenue Mix (Gas:Liquid)	47 : 53	51 : 49	48 : 52	67 : 33

A) If Vietnam 16-1 retroactive sales are excluded, gas prices are \$8.01 (2013), \$8.07 (2014), \$8.08 (9M 2014)

B) If Vietnam 16-1 retroactive sales are excluded, average selling prices are \$66.09 (2013), \$63.59 (2014), \$66.24 (9M 2014)

Unit Cost



DD&A	15.33	21.82	20.86	23.51
Finance Cost	1.88	2.21	2.07	2.26
Royalties	7.65	6.69	7.04	5.00
G&A	3.17	3.10	2.68	2.05
Exploration Exp	1.61	2.83	2.42	1.45
Operating Exp ^D	6.18	6.95 ^C	7.15 ^C	5.93
Lifting Cost	4.88	5.26	5.50	4.71
Drilling Success Ratio ^E	38 : 55	25 : 43	17 : 25	30 : 42

C) If exclude extra expense from Montara's Development well (H5),

2014 : Operating Exp : 6.53 \$/BOE / Unit cost : 43.18 \$/BOE

9M 14 : Operating Exp : 6.69 \$/BOE / Unit cost : 41.76 \$/BOE

D) Exclude diluent cost for blending bitumen in KKD Oil Sands project

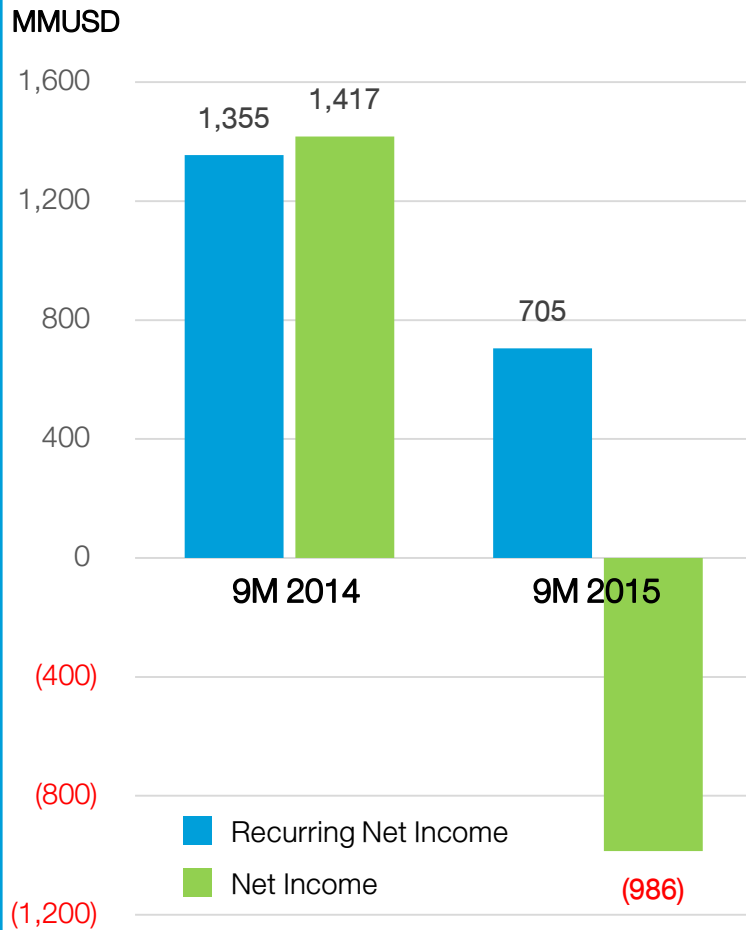
E) Successful wells : Total wells (includes Exploration and Appraisal wells)

Net Income Breakdown

Net income primarily hurt by impairment loss



Net Income 9M Comparison



Net Income 9M 2015

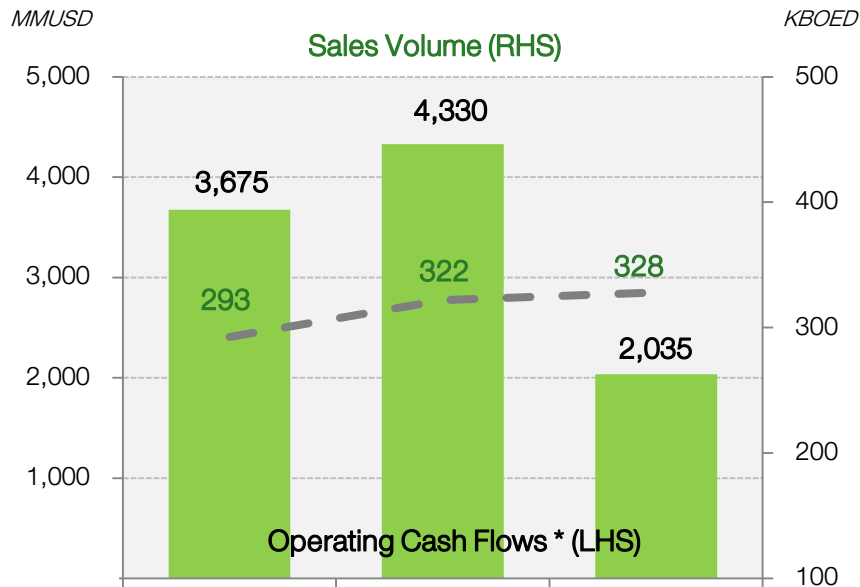


Cash Flow Performance

Robust liquidity to fund CAPEX and debt service



Cash Flow Performance

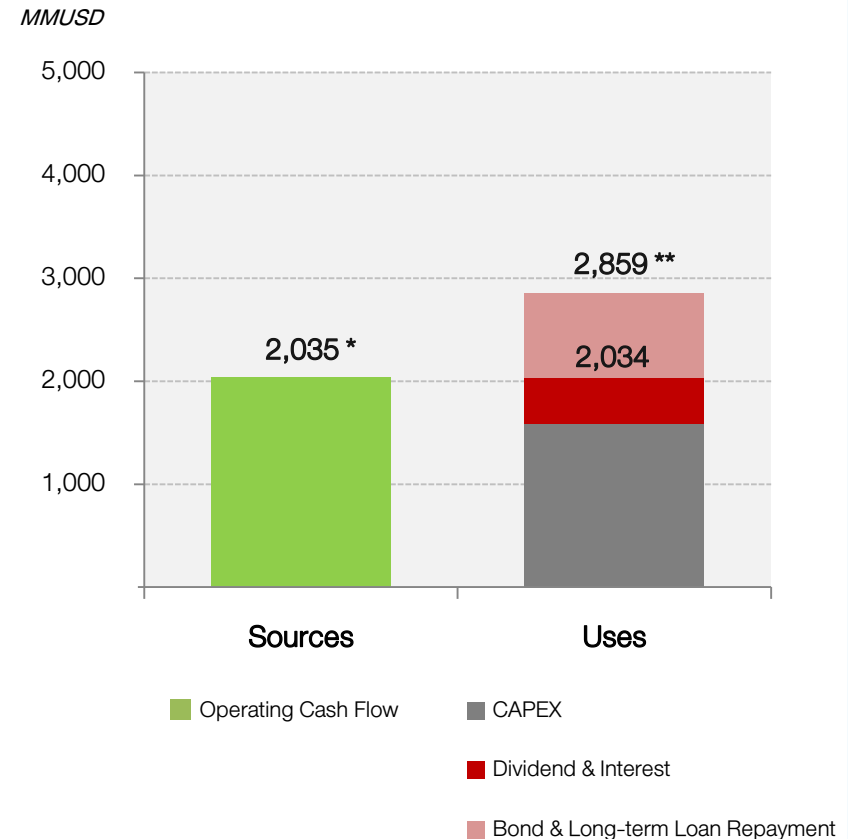


	FY 2013	FY 2014	9M 2015
Net Income	1,847	677	(986)
Recurring Net Income	2,114	1,538	705
EBITDA Margin	71 %	69 %	70 %

* Net of adjustment for the effect of exchange rate changes on cash and cash equivalents. Operating cash flows before exchange rate effect adjustment is:
FY 2013 = 3,740 MMUSD ; FY 2014 = 4,320 MMUSD ; and 9M 2015 = 2,071 MMUSD

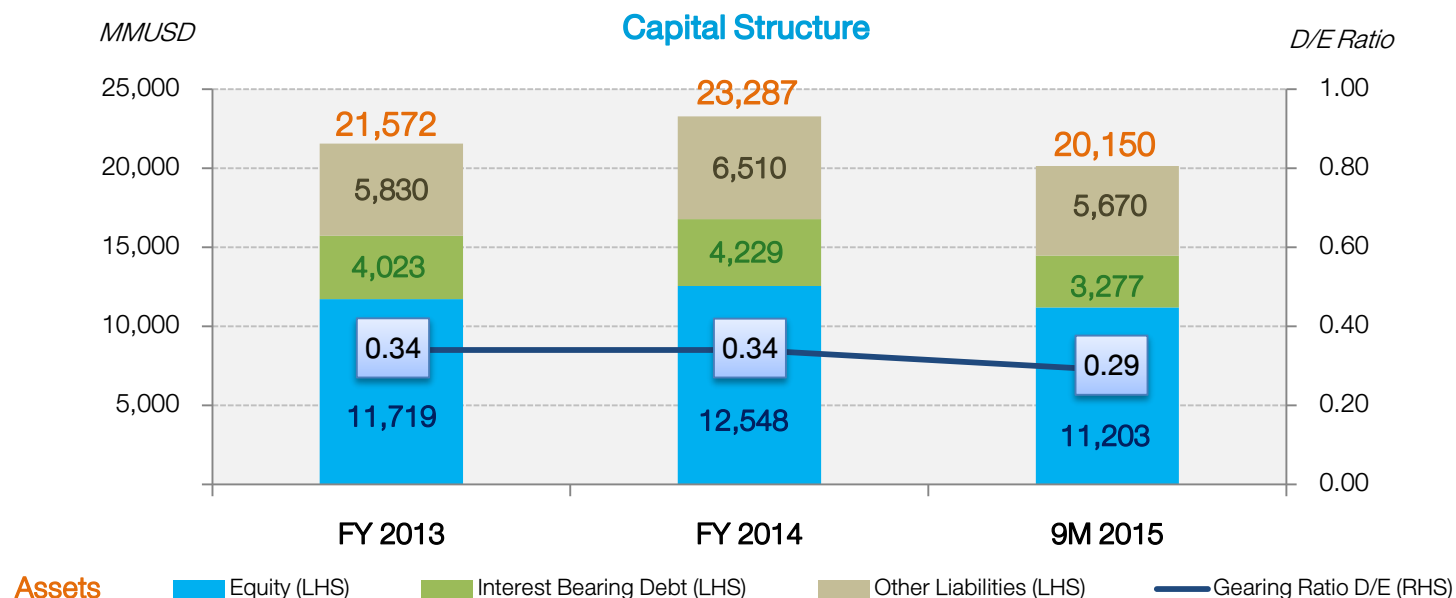
** Excludes cash flows for investing in short-term investments (Fixed deposit > 3 months) of 782 MMUSD

Source & Use of Funds in 9M 2015

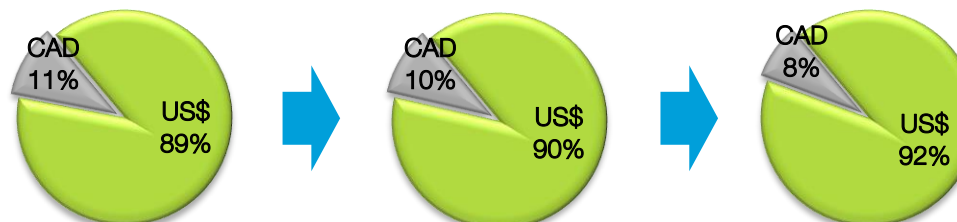


Financial Position

Healthy balance sheet with low gearing ratio



Debt Profile *



Weighted Average
Cost of Debt * (%)

3.99

4.14

4.16

[Fixed : Floating]

[75 : 25]

[77 : 23]

[75 : 25]

Average Loan Life * (Years)

6.81

7.05

7.86

* Excludes Hybrid bonds



Q4 2015 Outlook

Sales Volume	~ 335 KBOED
Average Gas Sales Price	~ 6.3 USD / MMBTU

FY 2015 Outlook

Sales Volume Growth	~ 3% (per target)
Average Gas Sales Price*	~ 7.2 USD / MMBTU
Gas / Liquid Volume Mix %	~ 70:30
Expected EBITDA Margin*	~ 70%
Expected Operating Cash Flow*	~ 3bn USD

* Assume average Dubai price in 2015 at 53 USD/BBL



Exploring new horizons, we take every step as learning

For more information, please visit our website at

<http://www.pttep.com>


OR

Contact us via email address at

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OR

Call us at **+66 2 537 4000**

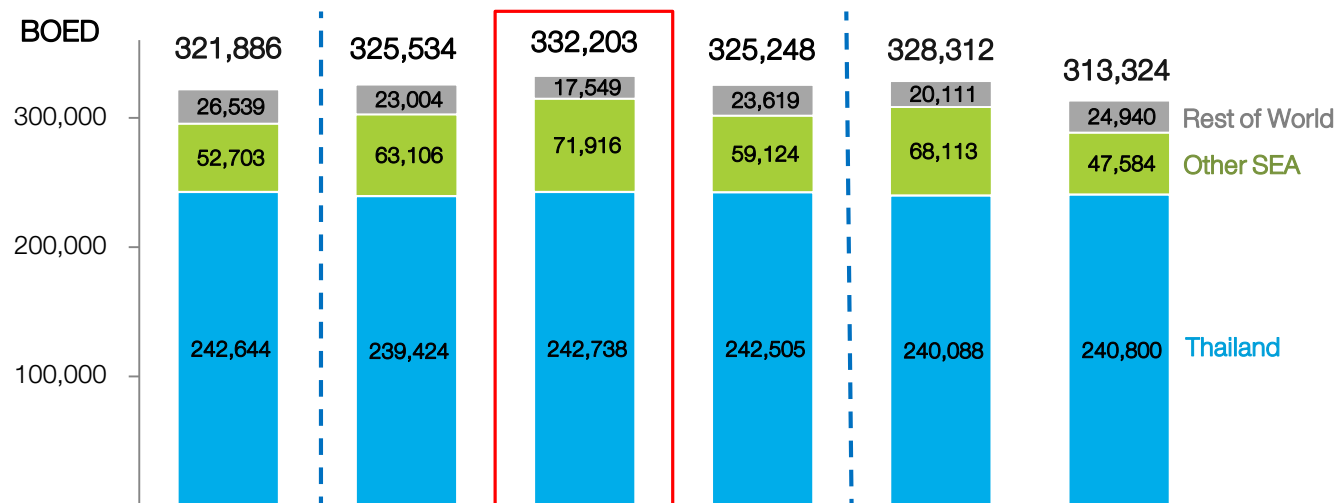
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- 1. Detailed Financial Information**
 - 2. Project Details**
 - 3. Organization Structure**
 - 4. Ratios & Formula**

PTTEP Sales Volume and Average Product Price

Sales volume rebounded in Q3 2015; while ASP decreased from lowered oil prices

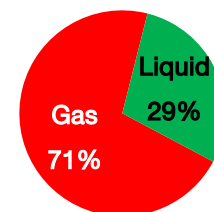


Sales Volume

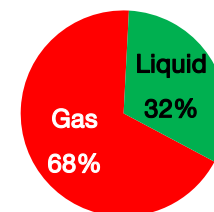


Q3 2015 Sales Volume By Product

Volume Mix



Revenue Mix



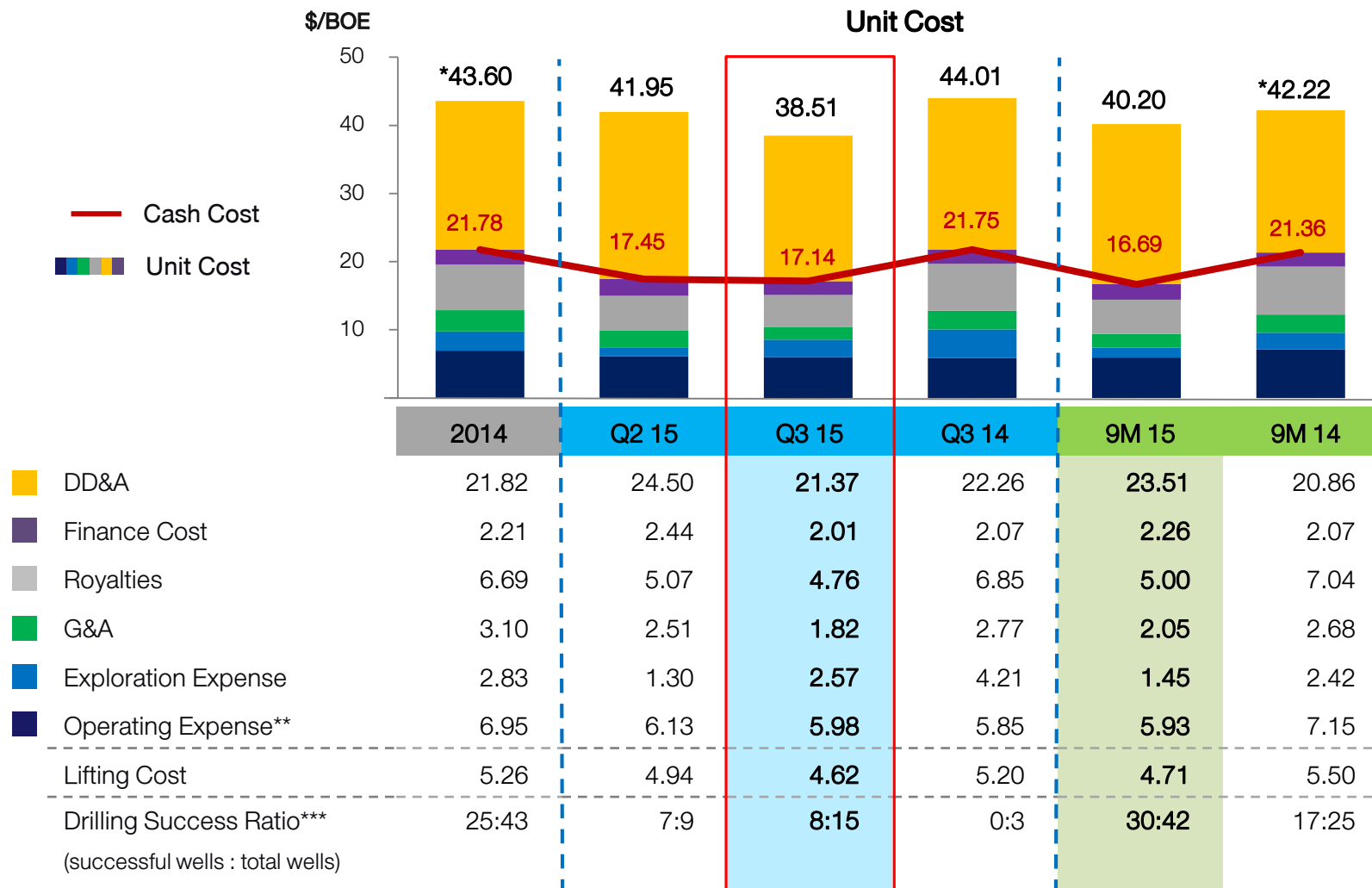
Sales Price	2014	Q2 15	Q3 15	Q3 14	9M 15	9M 14
Gas (\$/MMBTU)	* 8.03	7.29	7.10	8.13	7.47	* 8.02
Liquid (\$/BBL)	94.91	59.34	49.36	100.19	53.00	101.93
Weighted Avg. (\$/BOE)	** 63.38	48.47	44.55	65.15	47.22	** 65.93
Avg. Dubai (\$/BBL)	96.60	61.30	49.74	101.41	54.31	103.97
Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil)	86.74	56.44	40.69	95.64	48.68	94.73

* Gas price, if excludes Vietnam 16-1 retroactive sale recording, is \$8.07 for 2014 / \$8.08 for 9M 14

** Average selling price, if excludes Vietnam 16-1 retroactive sale recording is \$63.59 for 2014 / \$66.24 for 9M 2014

Operating Performance

Improved unit cost performance despite higher exploration write-off



* If excluded extra expense from Montara's Development well (H5) :
 2014 : Operating Exp. : 6.53 \$/BOE / Unit cost : 43.18 \$/BOE
 9M 14 : Operating Exp. : 6.69 \$/BOE / Unit cost : 41.76 \$/BOE

** Excludes diluent cost for blending bitumen in Oil Sands project
 *** Exploration and Appraisal Wells

Passion to Explore for a Sustainable Future

Financial Performance : Income Statement

Healthy EBITDA margin



	Q2 15	Q3 15	Q3 14 **	9M 15	9M 14 **
Sales Revenue * (MMUSD)	1,466	1,391	1,996	4,328	5,789
EBITDA (MMUSD)	1,022	929	1,409	3,035	4,086
Net Income (MMUSD)	35	(1,284)	477	(986)	1,417
Recurring Net Income (MMUSD)	194	264	426	705	1,355
Earning Per Share (USD)	0.005	(0.32)	0.12	(0.25)	0.36
Key Financial Ratios					
EBITDA Margin (%)	70	67	71	70	71
Return on Equity (%) (LTM)	0.28	(14)	13	(14)	13
Return on Capital Employed (%) (LTM)	1	(10)	11	(10)	11
Return on Equity (%) (LTM, Recurring Net Income)	8	7	14	7	14
Return on Capital Employed (%) (LTM, Recurring Net Income)	7	6	11	6	11

* Includes revenue from pipeline transportation

** Restated

Financial Performance : Balance Sheet

Healthy balance sheet with low gearing ratio



	Q2 15	Q3 15	Q3 14**	9M 15	9M 14**
Total Assets (MMUSD)	22,359	20,150	23,015	20,150	23,015
- Cash & cash equivalents* (MMUSD)	3,737	3,106	3,548	3,106	3,548
Total Liabilities (MMUSD)	9,720	8,946	9,698	8,946	9,698
- Interest bearing debt (MMUSD)	4,183	3,277	4,256	3,277	4,256
Equity (MMUSD)	12,639	11,203	13,317	11,203	13,317
Key Financial Ratios					
Total Debt to Equity (X)	0.33	0.29	0.32	0.29	0.32
Net Debt to Equity (X)	0.04	0.02	0.05	0.02	0.05
Total Debt to Capital (X)	0.25	0.23	0.24	0.23	0.24
Total Debt to EBITDA (X)	0.89	0.77	0.80	0.77	0.80
Net Debt to EBITDA (X)	0.09	0.04	0.13	0.04	0.13
EBITDA Interest Coverage (X)	24	23	28	23	28

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

Weighted Average Cost of Debt* :** 4.16%

Average Loan Life* :** 7.86 years

* Cash & Cash Equivalents include Short-term Investments (Fixed deposit > 3 months)

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

** Restated

*** Excludes hybrid bonds

Project Information 1/4

Production Phase: Thailand and JDA

	Project	Status*	PTTEP's Share	Partners <i>(as of Q3 2015)</i>		9M 2015 Average Sales Volume **		2015 Key Activities
						Gas	Oil and Other	
Production Phase								
Thailand and JDA								
1	Arthit	OP	80%	Chevron MOECO	16% 4%	210 MMSCFD	Condensate: 9 k BPD	<ul style="list-style-type: none">Ensure gas deliverability level at DCQ****Drill Exploration / Appraisal wells/ Development wellsInstall wellhead platforms
2	B6/27	OP	100%***			N/A	N/A	<ul style="list-style-type: none">Evaluate further potential of reservoir
3	B8/32 & 9A		25%	Chevron MOECO KrisEnergy PSTL	51.66% 16.71% 4.63% 2%	90 MMSCFD	Crude: 25 k BPD	<ul style="list-style-type: none">Drill development wells
4	Bongkot	OP	44.4445 %	TOTAL British Gas	33.3333% 22.2222%	898 MMSCFD	Condensate: 28.8 k BPD	<ul style="list-style-type: none">Ensure gas deliverability level at DCQ****Drill Exploration / Appraisal / Development wellsInstall wellhead platforms
5	Contract 3 <i>(Formerly Unocal III)</i>		5%	Chevron MOECO	71.25% 23.75%	558 MMSCFD	Crude: 19.3 k BPD Condensate: 19.3 k BPD	<ul style="list-style-type: none">Drill Exploration / Appraisal / Development wellsInstall wellhead platforms
6	Contract 4 <i>(Formerly Pailin)</i>		60%	Chevron MOECO	35% 5%	303 MMSCFD	Condensate: 13.9 k BPD	<ul style="list-style-type: none">Ensure gas deliverability level at DCQ****Drill Exploration / Appraisal / Development wellsInstall wellhead platformsReview development plan of Ubon field
7	E5		20%	ExxonMobil	80%	12 MMSCFD	-	
8	G4/43		21.375%	Chevron MOECO PSTL	51% 21.25% 6.375%	2 MMSCFD	Crude: 6.5 k BPD	<ul style="list-style-type: none">Drill Exploration / Development wellsInstall wellhead platform
9	G4/48		5%	Chevron MOECO	71.25% 23.75%	5.3 MMSCFD	Crude: 850 BPD	
10	L53/43 & L54/43	OP	100%			-	Crude: 297 BPD	<ul style="list-style-type: none">Drill Exploration Wells
11	PTTEP1	OP	100%			-	Crude: 385 BPD	<ul style="list-style-type: none">Drill Appraisal / Development wellsPerform waterflood activities
12	S1	OP	100%			26 MMSCFD	Crude: 28.7 k BPD	<ul style="list-style-type: none">Continue Exploration appraisal / development activities
13	Sinphuhorm	OP	55%	Apico ExxonMobil	35% 10%	121 MMSCFD	Condensate: 467 BPD	<ul style="list-style-type: none">Drill development wells
14	MTJDA	JOC	50%	Petronas- Carigali	50%	321 MMSCFD	Condensate: 6.7 k BPD	<ul style="list-style-type: none">Drill Exploration / Appraisal / Development wellsInstall wellhead platforms
15	L22/43	OP	100%			-	Crude: 47 BPD	<ul style="list-style-type: none">Drill Exploration / Appraisal / Development wells

* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship
 ** Sales volume stated at 100% basis.

*** New participating interest subject to government approval
 **** DCQ = Daily Contractual Quantity

	Project	Status*	PTTEP's Share	Partners (as of Q3 2015)	9M 2015 Average Sales Volume **		2015 Key Activities
					Gas	Oil and Other	
Production Phase							
Overseas							
16	Oman 44	OP	100%		21 MMSCFD	Condensate: 1.1 k BPD	<ul style="list-style-type: none">Drill Exploration / Appraisal / Development wellsMaintain production rate
17	Vietnam 9-2	JOC	25%	PetroVietnam 50% SOCO 25%	13 MMSCFD	Crude: 4.3 k BPD	<ul style="list-style-type: none">Drill development wellsExplore new reservoirs
18	Yadana		25.5%	TOTAL 31.24% Chevron 28.26% MOGE 15%	784 MMSCFD	-	<ul style="list-style-type: none">Drill Exploration / Appraisal wells
19	Yetagun		19.3178%	Petronas- 30.00140% Carigali MOGE 20.4541% Nippon Oil 19.3178% PC Myanmar 10.90878% (Hong Kong)	303 MMSCFD	Condensate: 6.5 k BPD	<ul style="list-style-type: none">Reservoir ManagementWell Intervention
20	Vietnam 16-1	JOC	28.5%	PetroVietnam 41% SOCO 28.5% OPECO 2%	16 MMSCFD	Crude: 30.4 K BPD	<ul style="list-style-type: none">Drill development wellsComplete H5 development project
21	PTTEP Australasia (PTTEP AA)	OP	20%-100% (varied by permits)		-	Crude: 15.1 k BPD	<ul style="list-style-type: none">Drill an exploration wellAssess resource potential of exploration permits
22	Natuna Sea A		11.5%	Premier Oil 28.67% KUFPEC 33.33% Petronas 15% Pertamina 11.5%	206 MMSCFD	Crude: 1.3 k BPD	<ul style="list-style-type: none">Drill Exploration / Appraisal / Development wellsMaximize gas exports
23	Zawtika (M9 & a part of M11)	OP	80%	Myanma Oil and Gas Enterprise (MOGE) 20%	312 MMSCFD	-	<ul style="list-style-type: none">Maintain production rateDrill Exploration / Appraisal wellsInstall wellhead platforms

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

** Sales volume stated at 100% basis

	Project	Status*	PTTEP's Share	Partners (as of Q3 2015)	2015 Key Activities
Development Phase :					
Overseas					
24	Algeria 433a & 416b (Bir Seba)	JOC	35%	PetroVietnam Sonatrach 40% 25%	<ul style="list-style-type: none"> Continue Engineering, Procurement & Construction (EPC) work Commenced its first production with current flow rate of approximately 20,000 BPD

	Project	Status*	PTTEP's Share	Partners (as of Q3 2015)	2015 Key Activities
Exploration Phase					
Thailand and JDA					
25	G9/43	OP	100%		<ul style="list-style-type: none"> Acquire 3D seismic Drill Exploration / Appraisal wells
26	L28/48	OP	70%	Resourceful Petroleum (Thailand) 30%	<ul style="list-style-type: none"> In process of plug and abandon (P&A) Ratana-1 and Ratana-2 well G&G Studies
Overseas					
27	Myanmar M3	OP	80%	MOECO 20%	<ul style="list-style-type: none"> Drill 5 appraisal wells Conduct Pre development Study
28	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"> Drill Appraisal wells for reserves certification Prepare for Final Investment Decision (FID)
29	Algeria Hassi Bir Rekaiz	OP	24.5%	CNOOC Sonatrach 24.5% 51%	<ul style="list-style-type: none"> Drill Appraisal wells

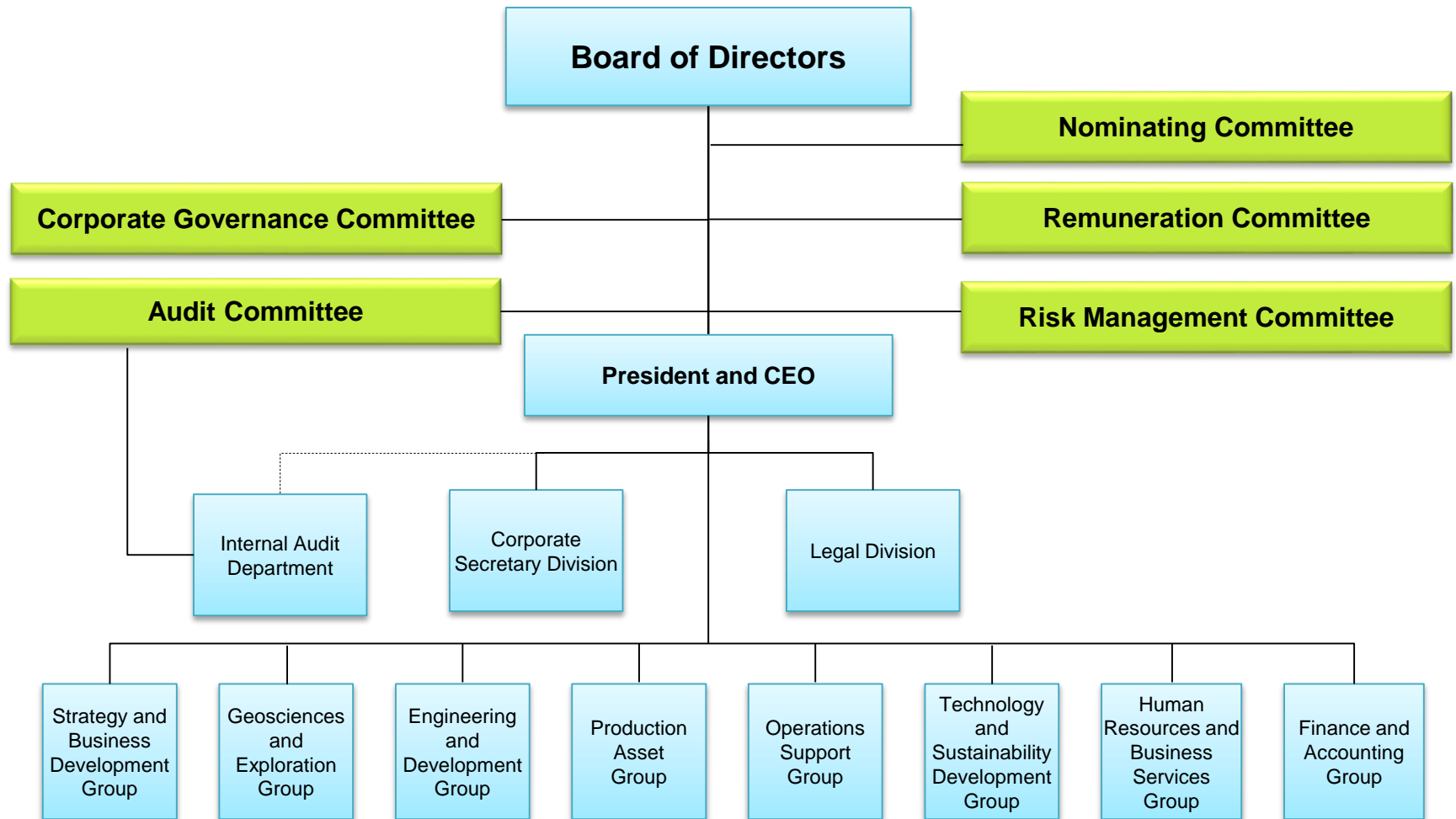
* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship

	Project	Status*	PTTEP's Share	Partners (as of Q3 2015)	2015 Key Activities
Exploration Phase (con't)					
Overseas (con't)					
30	Myanmar M11	OP	100 %**		
31	Vietnam B & 48/95		8.5%	Chevron 42.38% MOECO 25.62% PVEP 23.5%	• Negotiate a GSA with the Vietnamese government
32	Vietnam 52/97		7%	Chevron 43.4% PVEP 30% MOECO 19.6%	• Negotiate a GSA with the Vietnamese government
33	Myanmar PSC-G and EP-2	OP	70%	WinPreciousResources 10% MOECO 10% Palang Sophon Offshore 10%	• Drill 4 exploration wells (2 wells in PSC G & 2 wells in EP 2)
34	Kenya L11A, L11B, L12		10%	Anadarko, Total, ENI 50%,30%,10%	• Conduct G&G Studies
35	Myanmar MD 7 and MD 8	OP	100%		• Acquire 3D seismic
36	Mariana Oil Sands	OP	100%		• Conduct Winter Delineation Program • Prepare regulatory application to submit to the government of Alberta for Thornbury Phase 1 development
37	Barreirinhas AP1		25%	BG Brasil 75%	• Prepare EIA in preparation for 3D seismic survey
38	MOGE 3	OP	85%	Palang Sophon Offshore 10% WinPreciousResources 5%	• Submit EIA in preparation for 2D&3D seismic survey
39	Brazil BM-ES-23		20%	Petrobras 65% INPEX 15%	• Drill 2 exploration wells

Remarks: 39 projects exclude 4 projects that are pending official withdrawal approval

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

** New participating interest subject to government approval



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	$(\text{Trailing-12-month net income} + \text{Trailing-12-month Interest Expenses \& Amortize Bond Issuing Cost}) / (\text{Average shareholders' equity and average total debt between the beginning and the end of the 12-month period})$
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	$\text{Trailing-12-month EBITDA} / \text{Trailing-12-month Interest Expenses \& Amortize Bond Issuing Cost}$