# PTT Exploration and Production Public Company Limited

## Non-deal Roadshow

## Edinburgh – London, United Kingdom

## 29 February – 3 March 2016

PTTEP

MEMBER OF
Dow Jones
Sustainability Indices
In Collaboration with RobecoSAM

# Company & Financial Highlights

## Strategy & Outlook

# PTTEP: the E&P company of PTT Group

## Contributes almost 1/3 of Thailand's petroleum production

### E&P Company of PTT Group

Government of Thailand

66.0%[2]

ptt

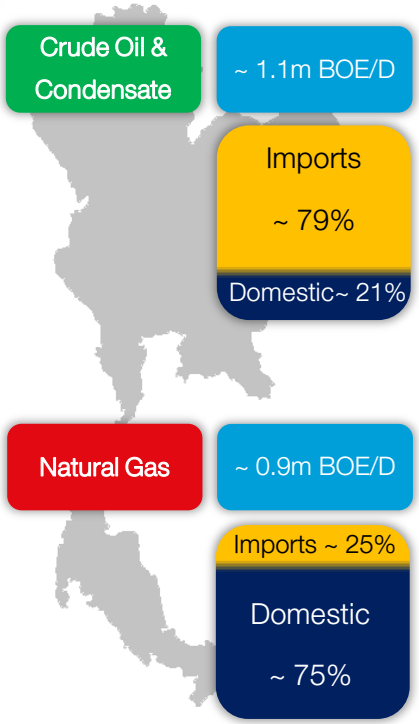
Thailand's national energy company

65.3%[1]

PTTEP

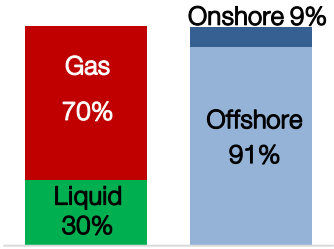
### Plays a pivotal role in Thailand's oil and gas production[3]

**Thailand's Oil and Gas Demand**

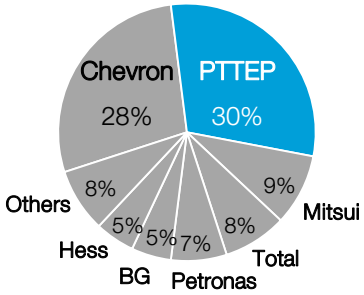



**Domestic Production (2015)**

% by Petroleum Type and Area




% Production by Company




**Midstream**

- Gas: operated by PTT
  - Transmission Pipelines
  - Gas Separation Plants
- Oil: PTT participates through subsidiaries
  - Refineries

**Downstream**

- Petrochemicals
- Oil and gas marketing

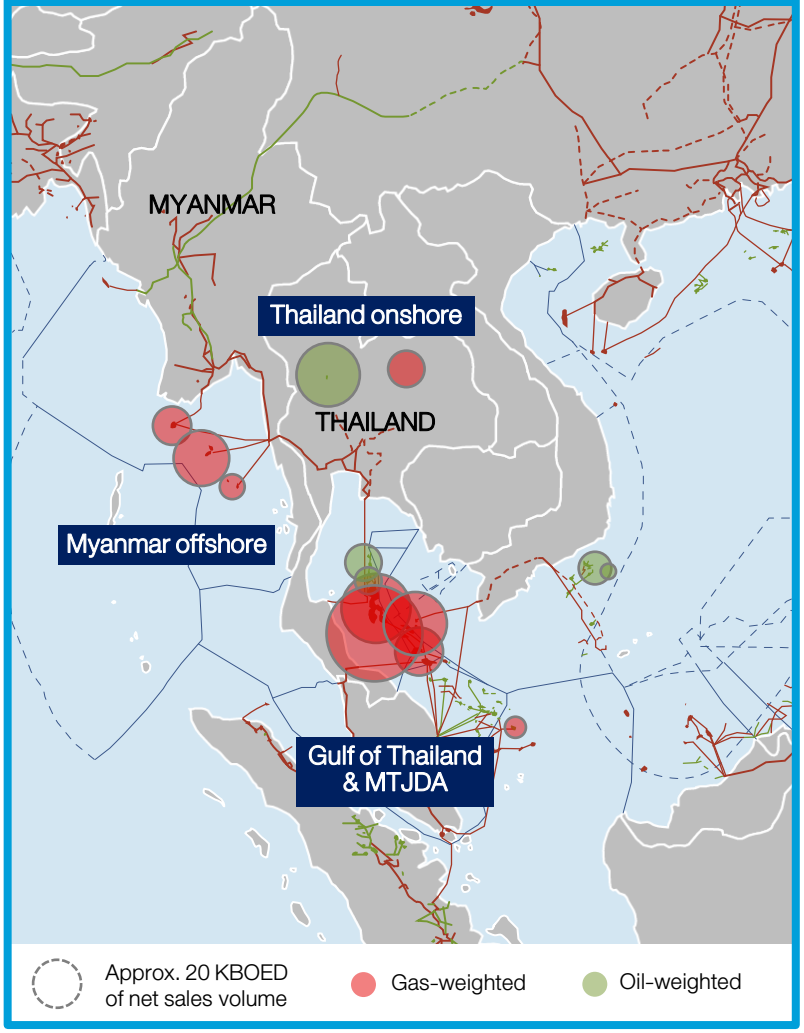
Notes:

1. Ownership as of 12 February 2016
2. 51.1% is directly held by the Government of Thailand (Ministry of Finance), with the remaining 14.9% held by the state-controlled Vayupak Fund I
3. Source: Energy Policy and Planning Office (EPPO) and Department of Mineral Fuels (DMF)

# Core assets in Thailand and Southeast Asia

## Investment portfolio with competitive cost profile and reliable operations

### PTTEP's oil and gas operations in SEA…




### …is uniquely positioned

- The largest oil and gas producers in Thailand and Myanmar
- Synergy with PTT's gas value chain through its dominant position in the regional gas market
- Opportunities to expand capability into regional investments

### …with competitive operating performances in SEA

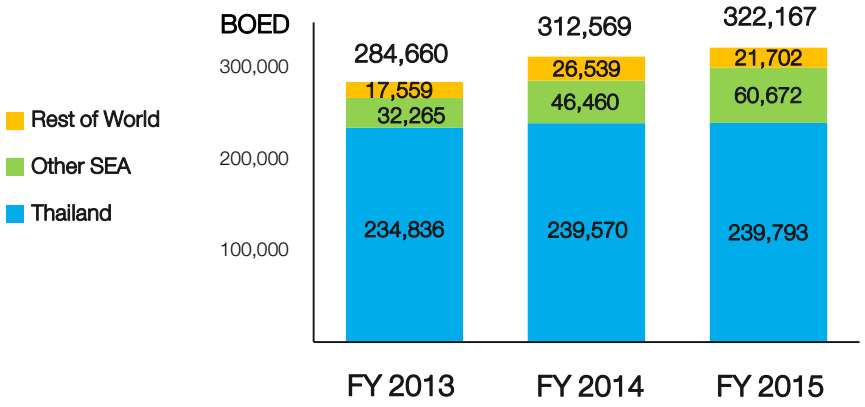
| | | |
|---|---|---|
| 93 | % | of PTTEP's total sales volume |
| +99 | % | Reliability of plants and field facilities* |
| 86 | % | of PTTEP's sales volume sold to PTT |
| 15 | USD/ BOE | Average regional cash cost in 2015 |

* of PTTEP-operated projects in Gulf of Thailand, exclude planned shutdown time

# Sales Volume & Unit Costs

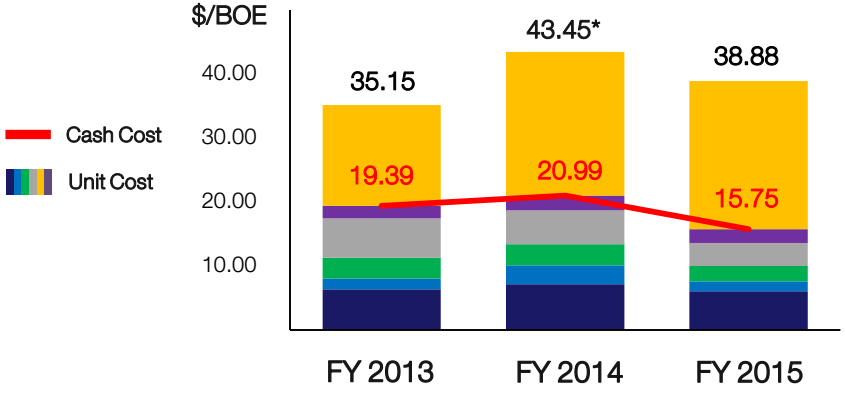
## Continuing sales volume growth and improved unit cost performance

### Sales Volume and Price




| | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| Gas ($/MMBTU) | 7.93 | 8.06 | 7.20 |
| Liquid ($/BBL) | 99.97 | 94.82 | 50.05 |
| Weighted Avg. ($/BOE) | 65.73 | 63.71 | 45.29 |
| Avg. Dubai ($/BBL) | 105.54 | 96.60 | 50.91 |
| Avg. HSFO ($/BBL) (High Sulphur Fuel Oil) | 97.52 | 86.74 | 44.86 |
| Volume Mix *(Gas:Liquid)* | 65 : 35 | 67 : 33 | 70 : 30 |
| Revenue Mix *(Gas:Liquid)* | 46 : 54 | 51 : 49 | 66 : 34 |

### Unit Cost




| | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| DD&A | 15.76 | 22.46 | 23.13 |
| Finance Cost | 1.93 | 2.27 | 2.14 |
| Royalties | 6.18 | 5.34 | 3.62 |
| G&A | 3.26 | 3.30 | 2.39 |
| Exploration Expenses | 1.66 | 2.92 | 1.56 |
| Operating Expenses** | 6.36 | 7.16 | 6.04 |
| Lifting Cost | 4.88 | 5.26 | 4.62 |
| Drilling Success Ratio*** | 38 : 55 | 25 : 43 | 31 : 47 |

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)

# Solid financial position supported by low-cost core assets

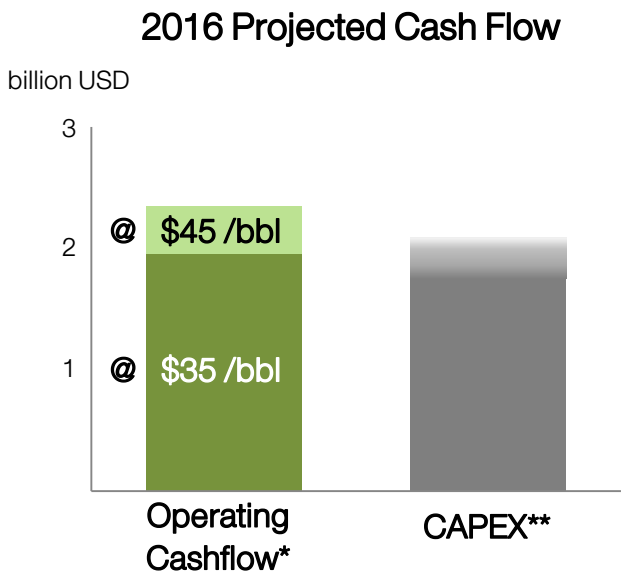
## 2016 free cash flow positive at below $40 /bbl oil price

### Demonstrate financial strength in 2015 …

| | |
|---|---|
| 2.9 billion USD | Operating cash flow |
| 0.4 billion USD | Net cash flow after interest and dividend |
| 3.3 billion USD | Cash on hand |
| 0.27 x | Total debt/equity ratio |
| 3 Thai Baht per share | Full-year dividend |

### …with expected strong liquidity in 2016

- Solid cash flow from operations
- No debt maturity in 2016/17




* assumes various operational assumptions and modelled on varying Dubai prices

** ranges from 1.9-2.1 billion USD based on the announced 2016 CAPEX and subsequent reduction target of 10%

Company & Financial Highlights

# Strategy & Outlook

# Redefining the Way Forward

| 2016 | 2016 and beyond |
|---|---|

## RESET to Survive in the Low Oil Price Environment

- Focus on cost reduction and efficiency improvement
- Preserve cash and liquidity through the downturn

## REFOCUS to Capitalize on the Upturn

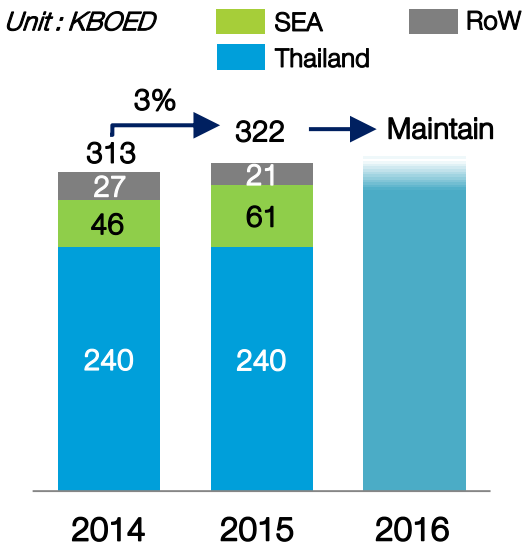
- Assess and prioritize options for new investments and portfolio rationalization
- Continue to improve productivity to maximize incremental value

# RESET to Survive in the Low Oil Price Environment

Primary focus on cost reduction and maintain reliable operations

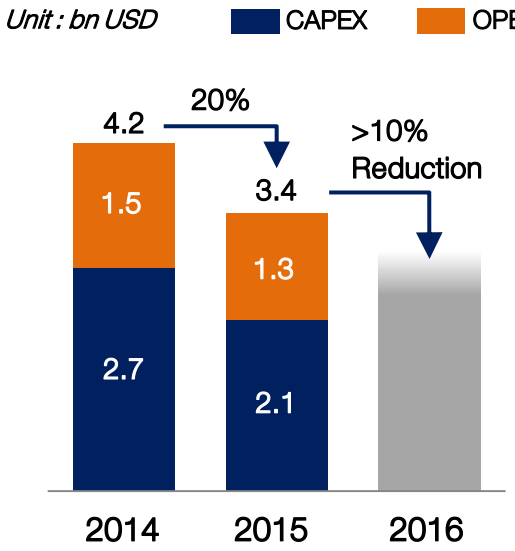
**2016** → **2016 and beyond**

## Maintain Sales Volume



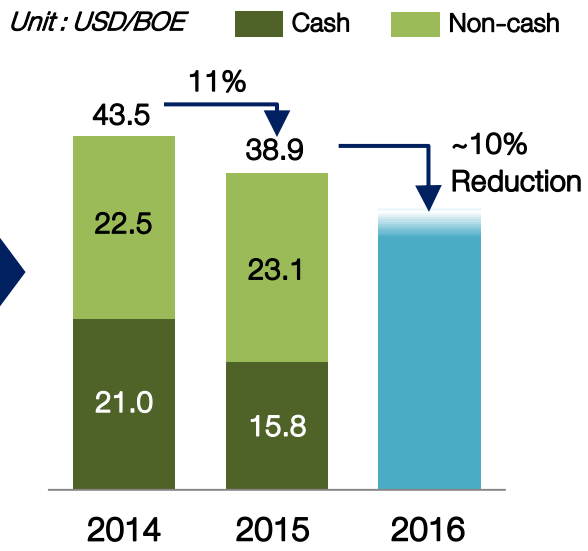

- Utmost compliance to safety
- Deliver domestic gas at DCQ
- Sustain field performance

## Lower Expenditures




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

## Bring Down Unit Cost




- Further process streamline
- Disciplined G&A policies

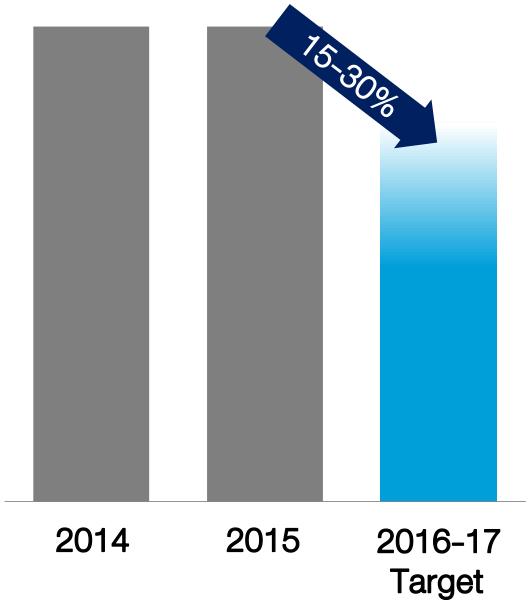
**Preserve liquidity and financial flexibility in near-term**

# Cost Reduction Through Core Operations

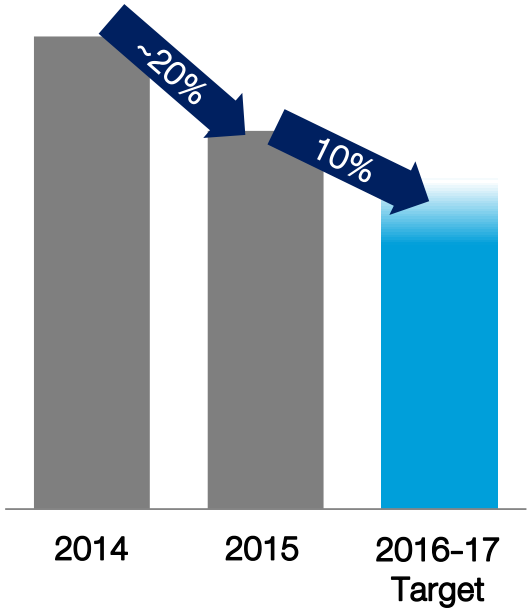
## Focus on improving process efficiencies and capitalizing on cost deflation

### Cost Improvements Across Operations

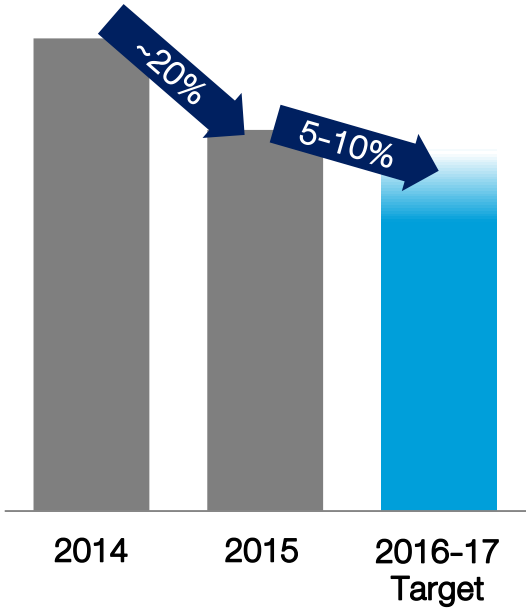
**Wellhead Platform Cost***




**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 projects in Southeast Asia

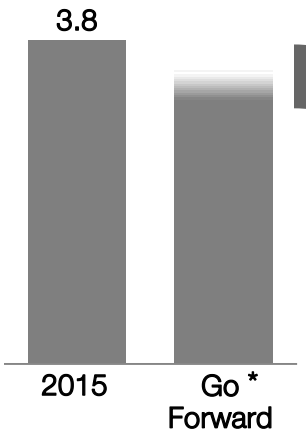
# REFOCUS to Capitalize on the Upturn

## Through pre-development candidates and portfolio rationalization

2016 → 2016 and beyond

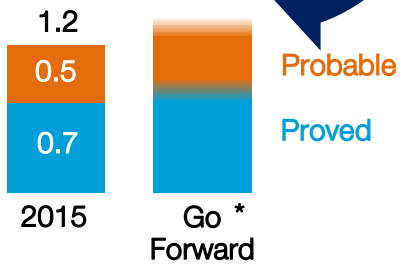
### Convert 2C resources…

*Unit : bn BOE*




### …to P1+P2 reserves

*Unit : bn BOE*




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

Development Focus

Plan in place or revisited for further cost optimization

Commercial

Cost

- Mozambique Rov. Offshore Area 1
- Contract 4 (Ubon)
- Algeria HBR
- Myanmar M3

Deferred for study / review

- Cash/Maple
- Mariana Oil Sands

### …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

# PTTEP's Positioning

## Uniquely positioned E&P company

- +90% of sales volume based in growing SE Asia oil and gas market
- Stable revenues from PTT for +80% of sales volume
- Strong ties with PTT / Thailand through direct / indirect ownership

## Competitive operating performance

- Low cost operations in SE Asia contributory to ~70% EBITDA margin
- Demonstrated cost discipline with ~20% reduction in OPEX and G&A

## Financially strong and flexible

- Well-positioned in downturn with ~3.3 bn USD liquidity available and a low-debt capital structure of 0.27x D/E ratio as of 2015
- A dividend-paying company for over 15 years

## Ample growth opportunities

- Sufficient funding capacity available to capitalize on market upturn through organic and inorganic investments
- LNG value chain opportunities to support growing Thailand market

# Thank you and Q&A

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

http://www.pttep.com

IR@pttep.com

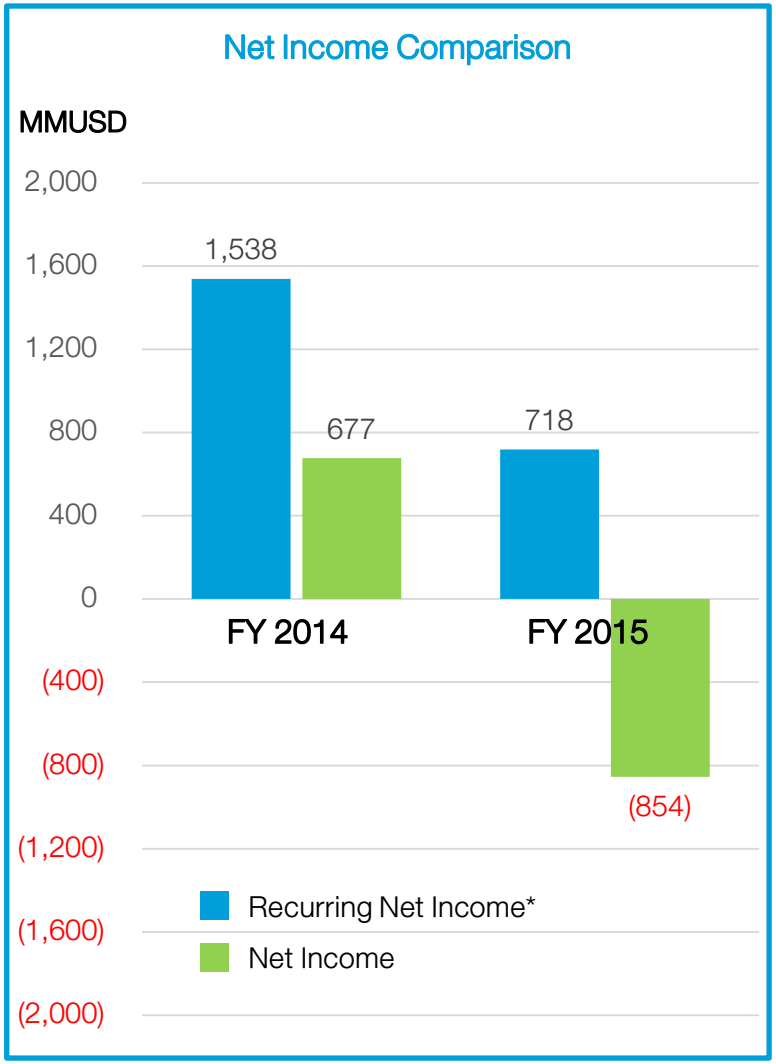
+66 2 537 4000

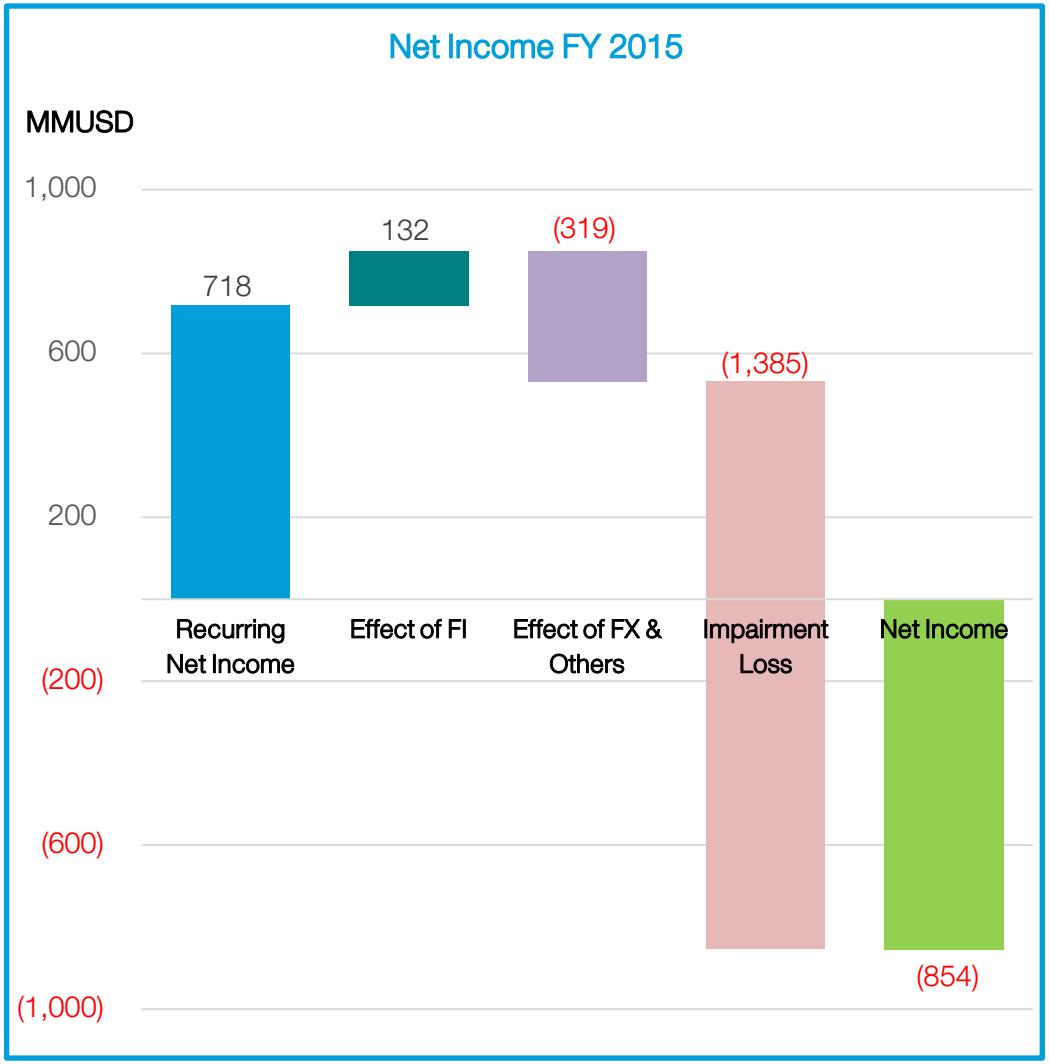
# Supplementary Information

| | |
|---|---|
| FY2015 Financial Results | 15-18 |
| Five-Year Investment Plan | 19-21 |
| Sustainable Development | 22 |
| Reserves and resources | 23 |
| Thailand Energy Updates | 24 |
| Key Project Highlights by Region | 25-31 |
| Project Details | 32-35 |
| Organization structure | 36 |
| Ratios and formula | 37 |

# FY 2015 Net Income Breakdown

## Net income primarily hurt by impairment loss



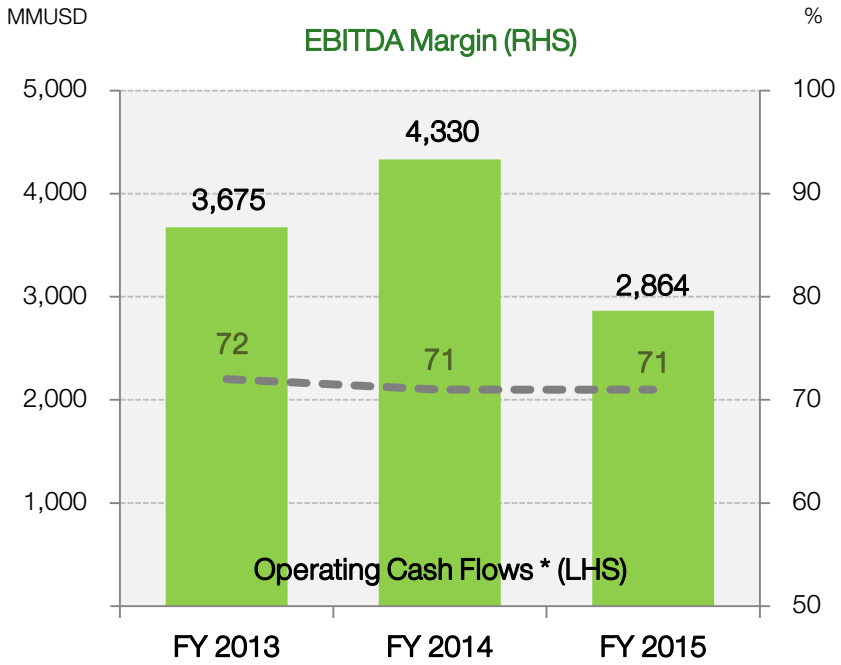




Remark: * Excludes Gain/(Loss) on FX, Deferred tax from Functional currency, Current Tax from FX Revaluation, Gain/(Loss) from Financial Instruments, Impairment Loss on Assets, and etc.

# Cash Flow Performance

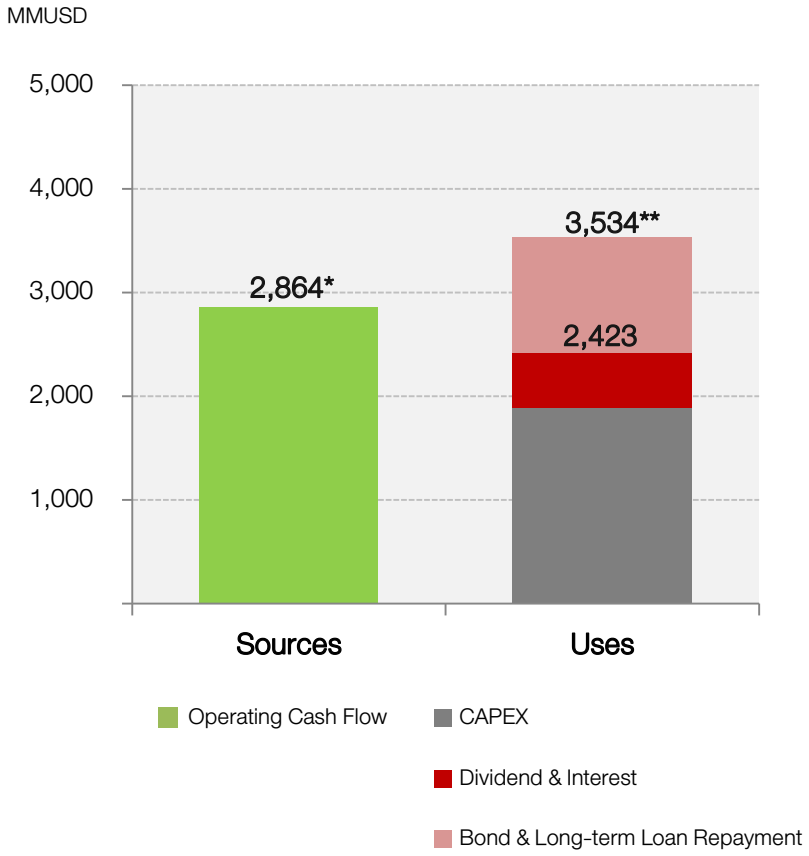
## Robust liquidity to fund CAPEX and debt service

### Cash Flow Performance




| | FY 2013 | FY 2014 | FY 2015 |
|---|---|---|---|
| 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

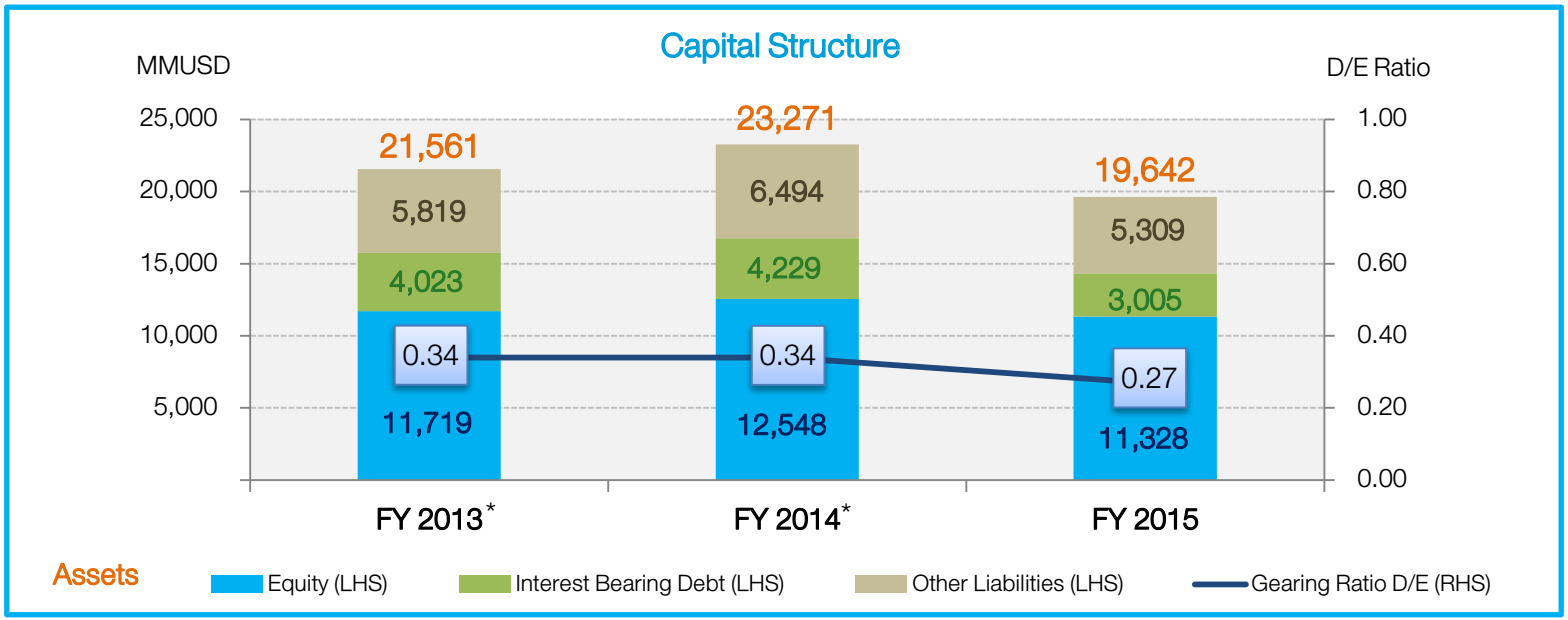
* Net of adjustment for the effect of exchange rate changes on cash and cash equivalents

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

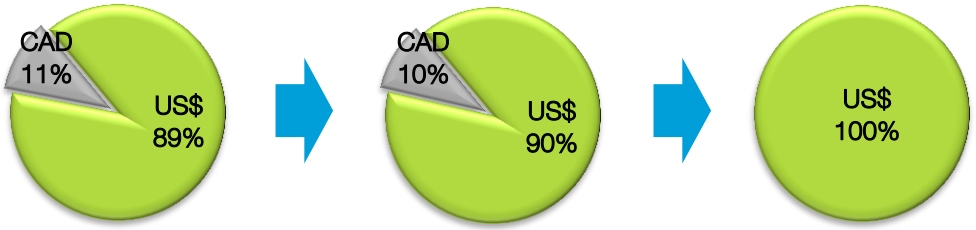
*** Excludes Gain/(Loss) on FX, Deferred tax from Functional currency, Current Tax from FX Revaluation, Gain/(Loss) from Financial Instruments, Impairment Loss on Assets, and etc.

# Financial Position

## Healthy balance sheet with low gearing ratio and $3.3bn cash on hand




***Debt Profile*** **



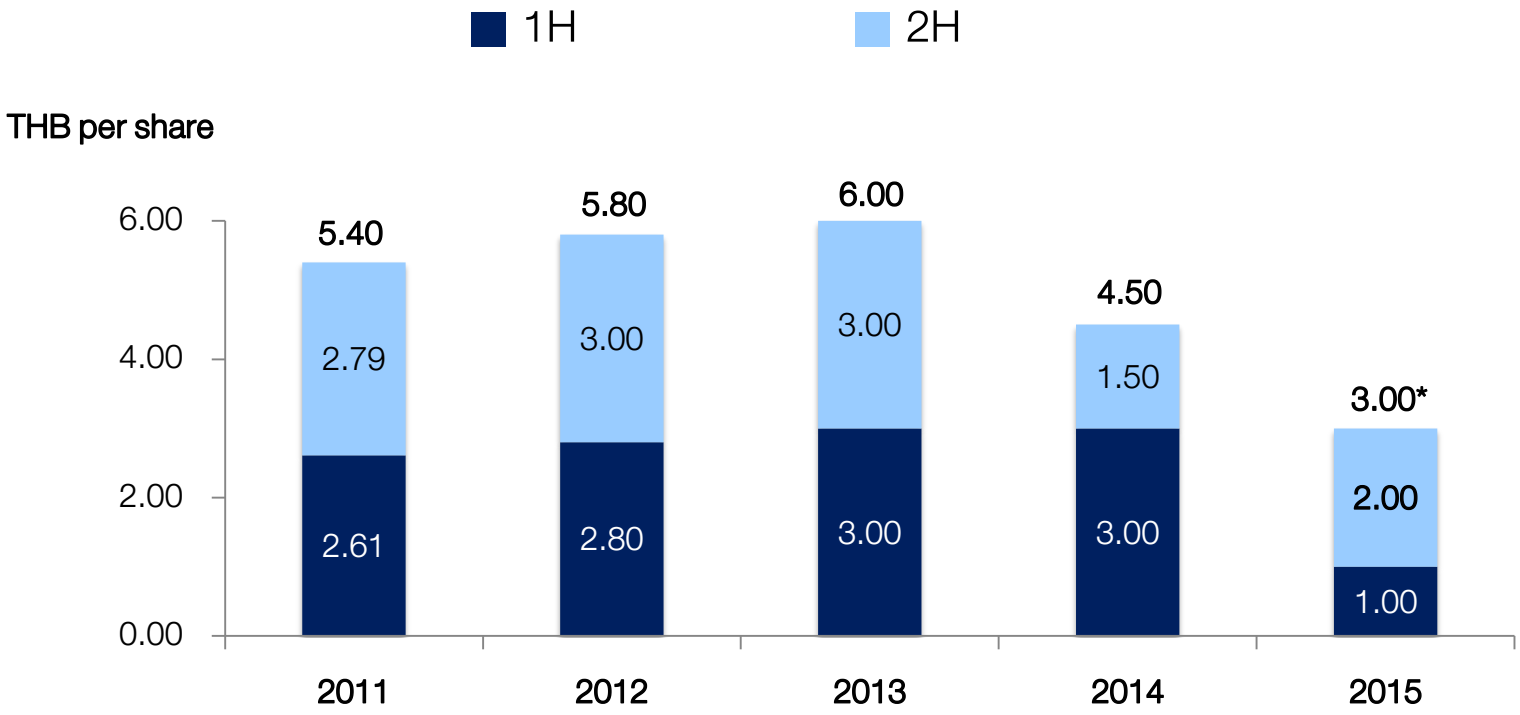

| | | | |
|---|---|---|---|
| Weighted Average Cost of Debt ** (%) | 3.99 | 4.14 | **4.32** |
| [Fixed : Floating] | [75 : 25] | [77 : 23] | **[82 : 18]** |
| Average Loan Life ** (Years) | 6.81 | 7.05 | **8.17** |

Remark: * Restated
** Excludes Hybrid bonds

# Dividends

## Demonstrating our dividend commitment to shareholders

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



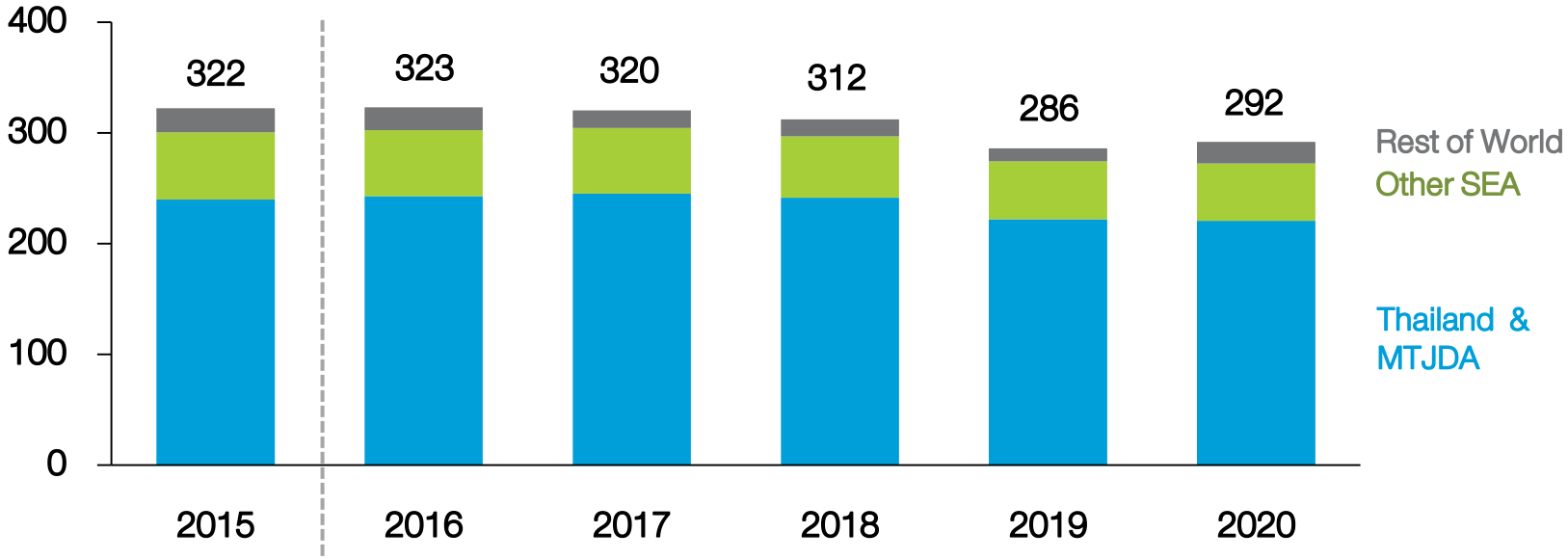

| | | | | | |
|---|---|---|---|---|---|
| Payout Ratio (%) | 40 | 38 | 40 | 82 | N/A |

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

# Sales Volume Guidance

## Stable volume outlook with new project start-up expected in 2020

Unit : KBOED




| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| Key Project Start-up* | Algeria Bir Seba | | | | Contract 4 (Ubon) Mozambique LNG Myanmar M3 | |
| Volume Mix (%) Gas : Liquid | 70 : 30 | 70 : 30 | 71 : 29 | 71 : 29 | 72 : 28 | 72 : 28 |

Note: Sales volume after reclassification of PSC royalty

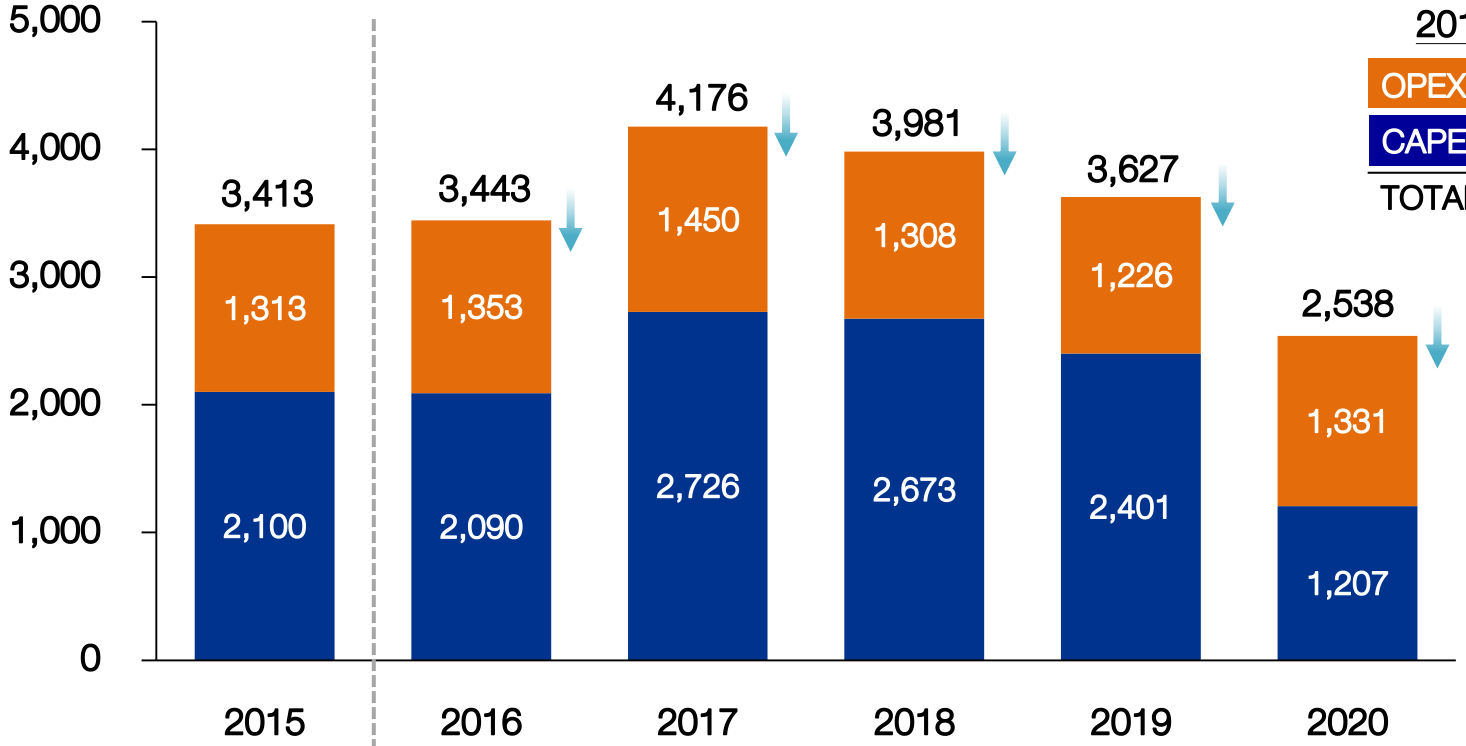
* Subject to FID timing

# Investment Plan (CAPEX and OPEX)

## Leaner CAPEX and OPEX program achieved through SAVE to be SAFE initiative

Unit : MMUSD

**Flexibility to lower investment from the announced plan**



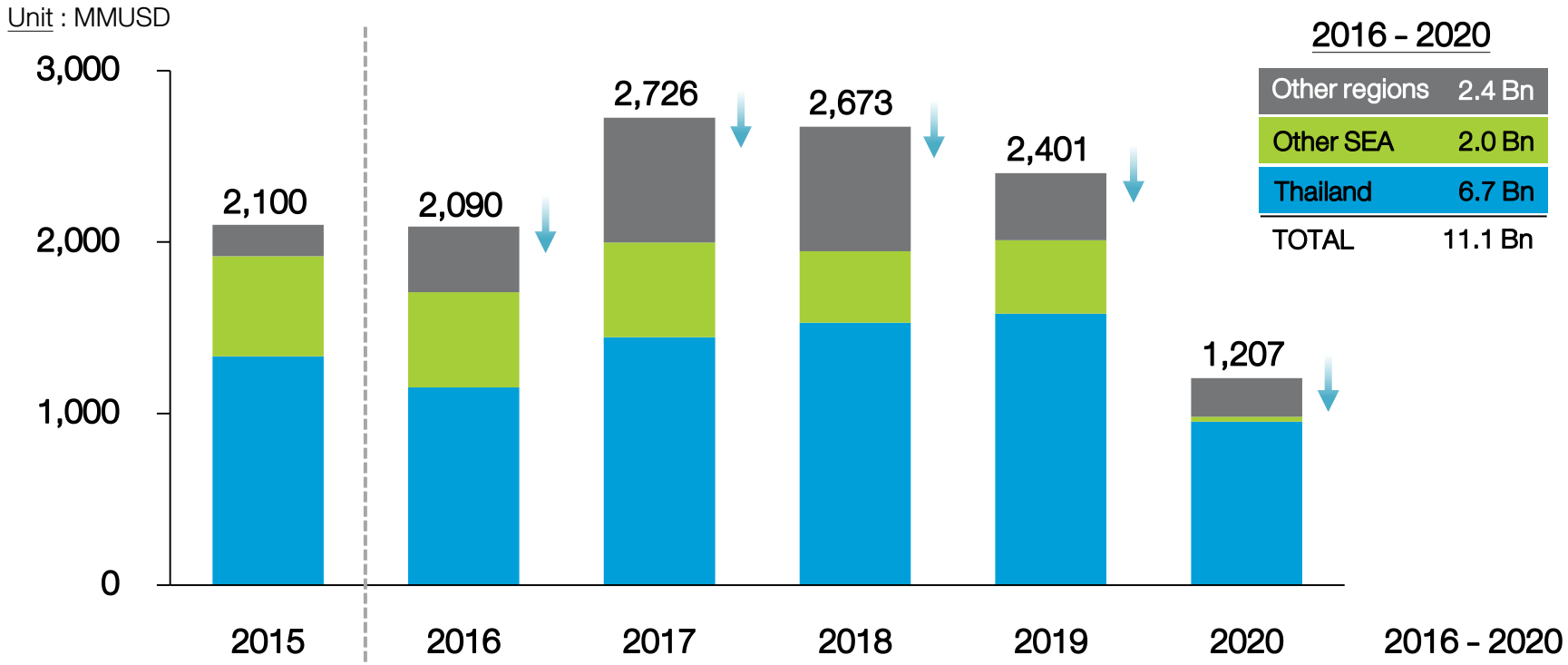

| 2016 – 2020 | |
|---|---|
| OPEX | 6.7 Bn |
| CAPEX | 11.1 Bn |
| TOTAL | 17.8 Bn |

Note: * Subject to FID timing

# CAPEX Breakdown

## Approx. two-thirds of CAPEX to maintain output from producing projects

### Flexibility to lower CAPEX from the announced plan




| 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

# Sustainable Development

## Pursue long-term growth with social and environmental wellness

MEMBER OF
Dow Jones Sustainability Indices
In Collaboration with RobecoSAM

### *2015 DJSI Listed Company*

Dow Jones Sustainability World Index
Oil & Gas Sector

United Nations Global Compact

### *Advance Level Certification*

United Nations Global Compact

### *Proven business integrity*

NACC Integrity Awards
*The National Anti-Corruption Commission*

CG Awards
*The ASEAN Capital Market Forum (ACMF)*

CG Asia Recognition Awards
*Corporate Governance Asia Magazine*

### *Exemplary social contributor*

The Preservation and Development of Chan Palace project in the area of S1 project operation

The Learning Center (Phase 1) project at the Songkla province

The reforestation for ecological study at the Sri Nakhon Khuean Khan Park

### *Green driver to environment*

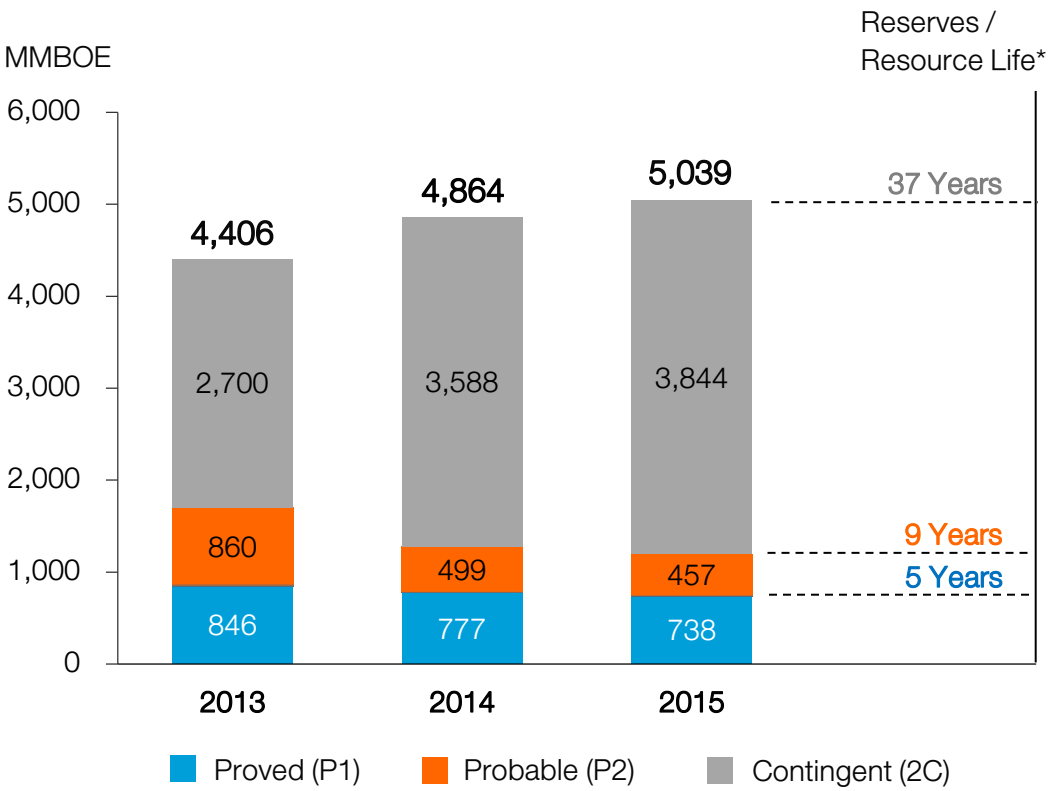
Best Environmental Responsibility
*Corporate Governance Asia*

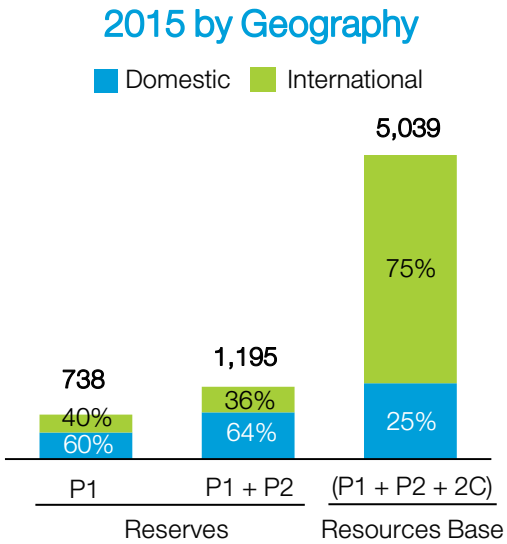
CDP's Climate A List
*CDP*

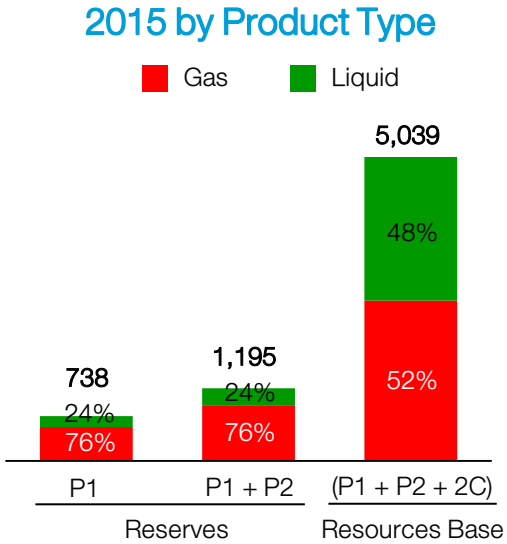
Participation in Thailand Voluntary Emission Reduction Program (T-VER)

# Reserves and Resources

## Growing resources base to support future reserves addition




5-Year Average Proved Reserves Replacement Ratio (RRR)

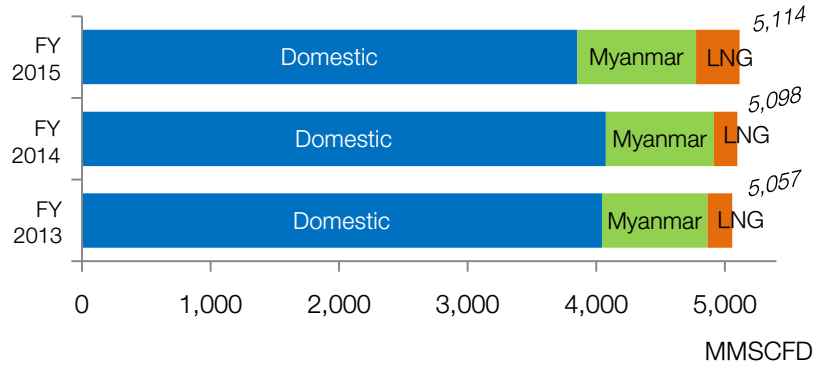
| 2013 | 2014 | 2015 |
|---|---|---|
| 0.82x | 0.45x | 0.50x |

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

# Thailand Updates

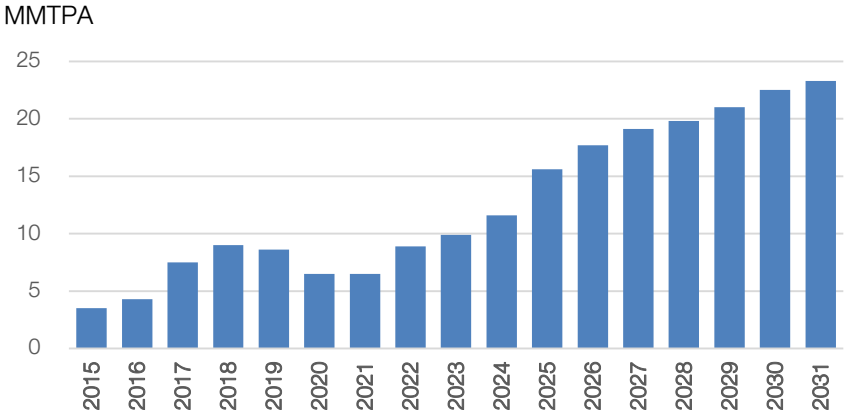
## Continuing growth in gas demand whilst stagnant economy depreciated Baht

### Thailand's Natural Gas Supply by Source



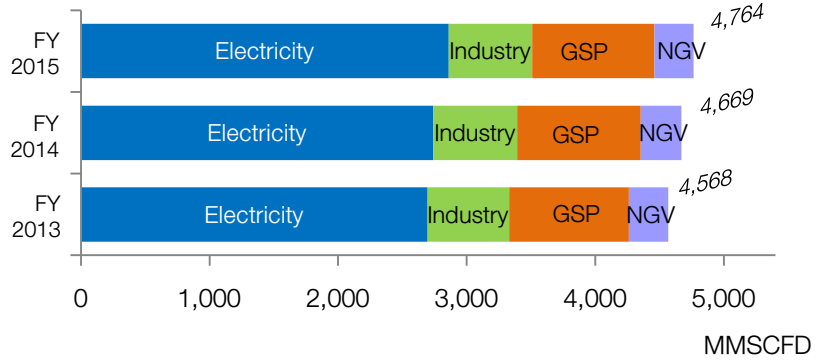

Source: EPPO

### Domestic LNG Demand Projection



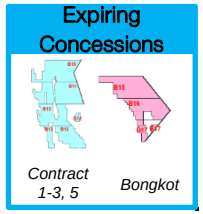

Source: Gas Plan 2015, EPPO

### Thailand's Natural Gas Consumption by Sector




Source: EPPO

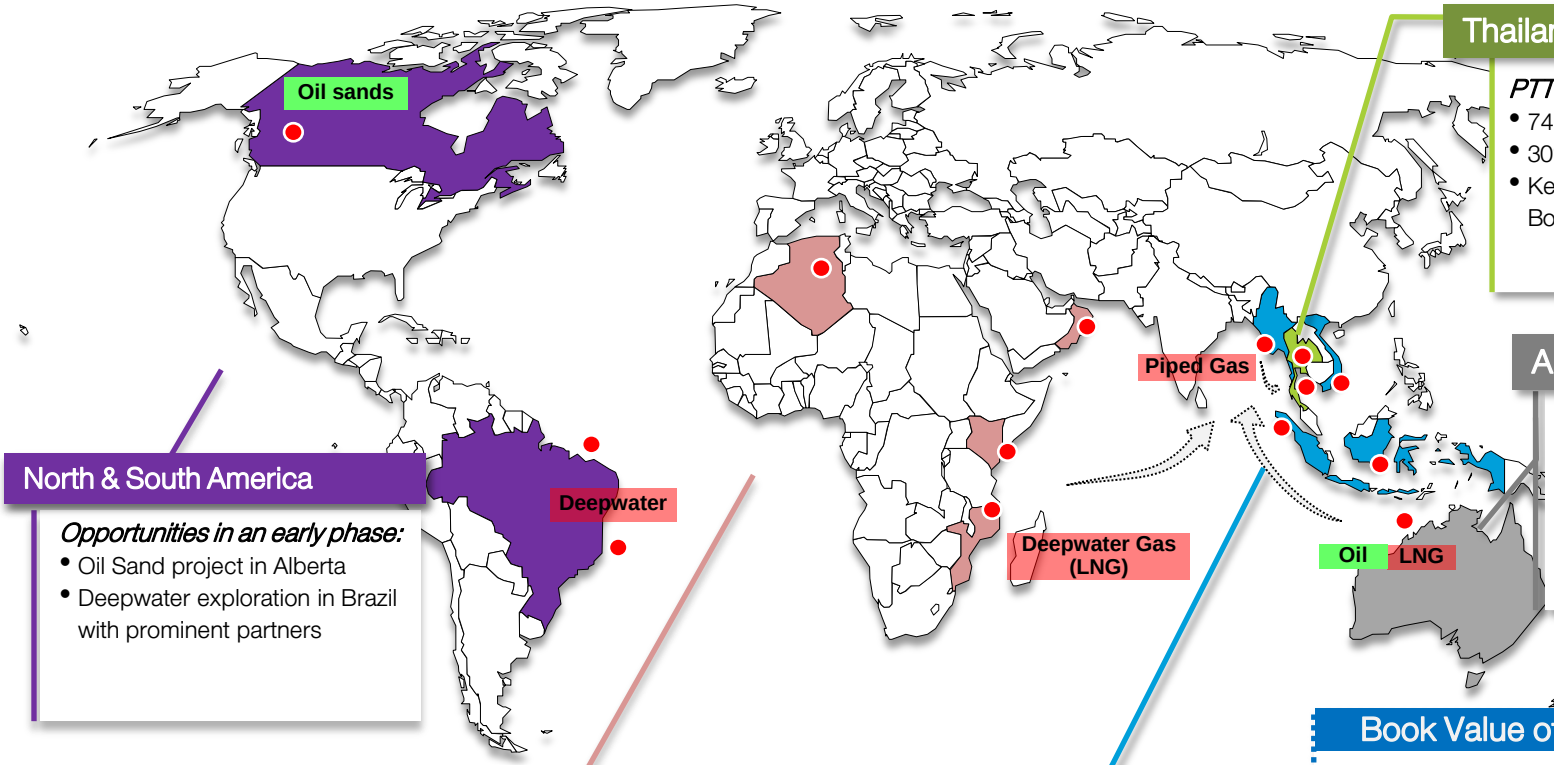
### Upstream Energy Reform



- 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

# Diversified International Portfolio

## Worldwide operations: 38 projects* in 11 countries




### Thailand

*PTTEP's core production base*

- 74% of total sales volume
- 30% of Thailand's total gas supply
- Key producing assets include Bongkot, Arthit, Contract 4 and S1

### Australasia

*Oil producing project*

- 16KBPD of oil sales from wholly-owned Montara project
- Sizable undeveloped gas resource in Timor Sea

### North & South America

*Opportunities in an early phase:*

- Oil Sand project in Alberta
- Deepwater exploration in Brazil with prominent partners

### Africa and Middle East

*An area for growth, key projects include:*

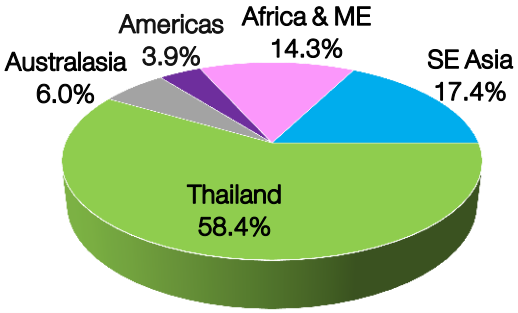
- Producing: Algeria's Bir Seba oil field has started up with current flow rate of approximately 20 KBPD
- Pre-development and Appraisal: Mozambique LNG and Algeria's Hassi Bir Rakaiz

### Southeast Asia

*Second heartland to PTTEP*

- 19% of total sales volume
- Myanmar being most important with gas production mostly supplied into Thailand
- Other producing assets in Vietnam (oil) and Indonesia (gas)

### Book Value of Assets* (by region)

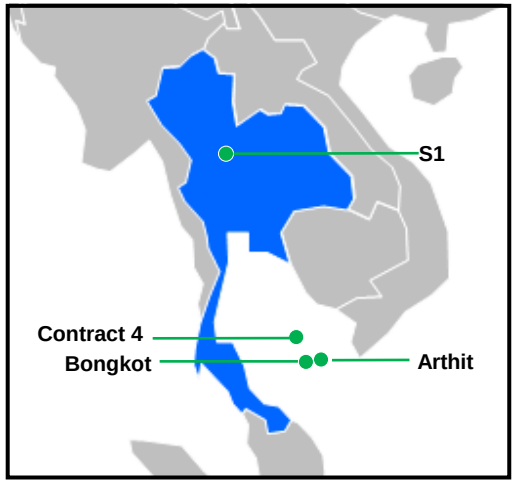



Total Assets USD 19.6 billion

Notes: * Excludes 4 projects that are pending official withdrawal approval
** Information dated as of 31 December 2015

# Thailand

## Strong home base with legacy assets maintaining production plateau




● Production / Ramp-up Projects

### Bongkot (44.4% interest)

- Bongkot's natural gas sales volume of 905 MMSCFD (2015) represents approximately 22% of Thailand's natural gas supply
- Average condensate sales volume was 27.68 KBPD in 2015

### S1 (100% interest)

- S1 is the largest onshore crude oil production field in Thailand
- Average crude oil sales volume was 29 KBPD in 2015

### Arthit (80% interest)

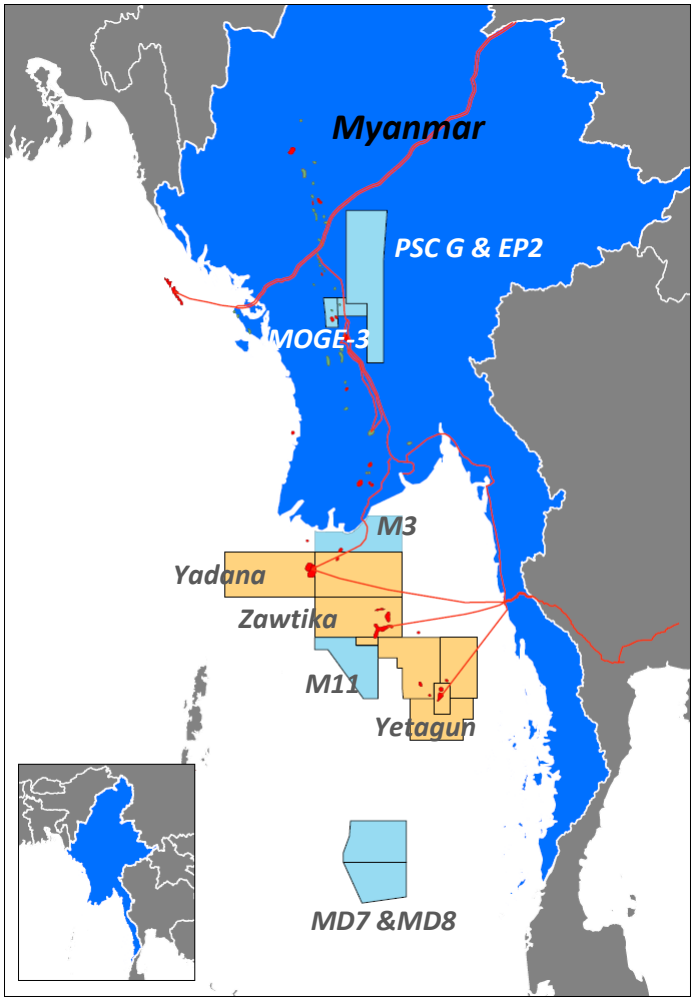
- Average sales volume in 2015 was 213 MMSCFD of natural gas and 9 KBPD of condensates

### Acquisition of Hess Assets in Thailand

- PTTEP successfully acquired Hess Corporation's working interests in the Contract 4 project and Sinphuhorm project, and now holds 60% working interest in the Contract 4 project and 55% working interest in the Sinphuhorm project . PTTEP has also become the operator of the Sinphuhorm project
- The Contract 4 project had an average sales rate of 305 MMSCD for natural gas and 14 KBPD for condensate in 2015

# Southeast Asia : Myanmar

## Significant contribution to growth




Exploration block  Production block

- Participating in three producing gas fields which supply gas to both Thailand and Myanmar: Yadana, Yetagun, Zawtika
- Operate Zawtika project, brought online in August 2014. Deliver gas supply of 314 MMSCFD in 2015.
- Significant exploration acreage both onshore and offshore in the Moattama Basin

**Project Status**

| Producing | Appraisal | Exploration |
|---|---|---|
| • Yadana *(25.5% WI)*<br>• Yetagun *(19.3% WI)*<br>• Zawtika *(80% WI)* | • M3 *(80% WI)* | • PSC G & EP2 *(70% WI)*<br>• MOGE-3 *(75% WI)*<br>• M11 *(100% WI)**<br>• MD7 & MD8 *(100% WI)* |

*Note: WI – working interest*

* New participating interest subject to government approval

# Southeast Asia : Vietnam and Indonesia

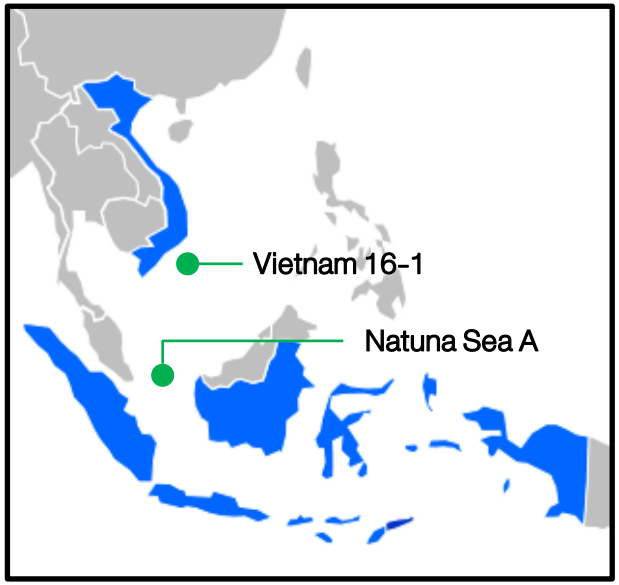
## Reinforcing regional exposure through strategic partnerships

### Vietnam 16-1 (28.5% interest)

- Average crude oil sales volume of 31.3 KBPD in 2015
- Commissioned production platform in the H5 area to support current production level

### Natuna Sea A (11.5% interest)

- Average sales volume of natural gas was 213 MMSCFD, and average sales volume of crude oil was 1.4 KBPD in 2015

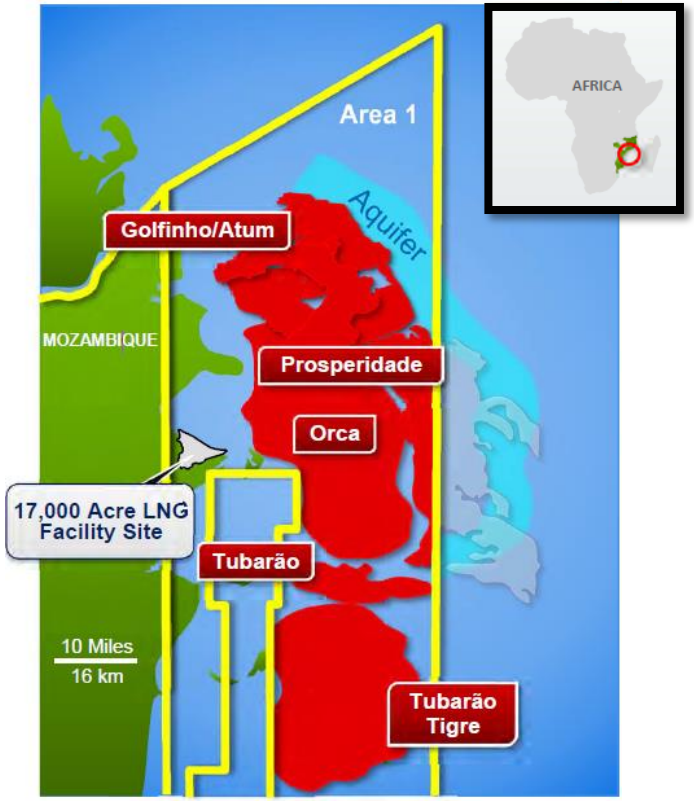



Production / Ramp-up Projects

Source : Premier Oil

# East Africa : Mozambique

## Potential to become one of the world's largest emerging LNG supply hubs




### Location and Cost Advantage

- Close proximity to shore
- High quality reservoirs
- Access to Asian markets

Source: Anadarko

*Substantial recoverable resources of **70+ tcf** with scalable offshore development of **more than 6 LNG trains***

### Key Milestones to Final Investment Decision

**Technical**
- ✓ Certified reserves to support initial trains
- ✓ Announced selection of contractor for onshore LNG facilities construction

**Commercial**
- ✓ Secured more than 8 MMTPA of non-binding HOAs

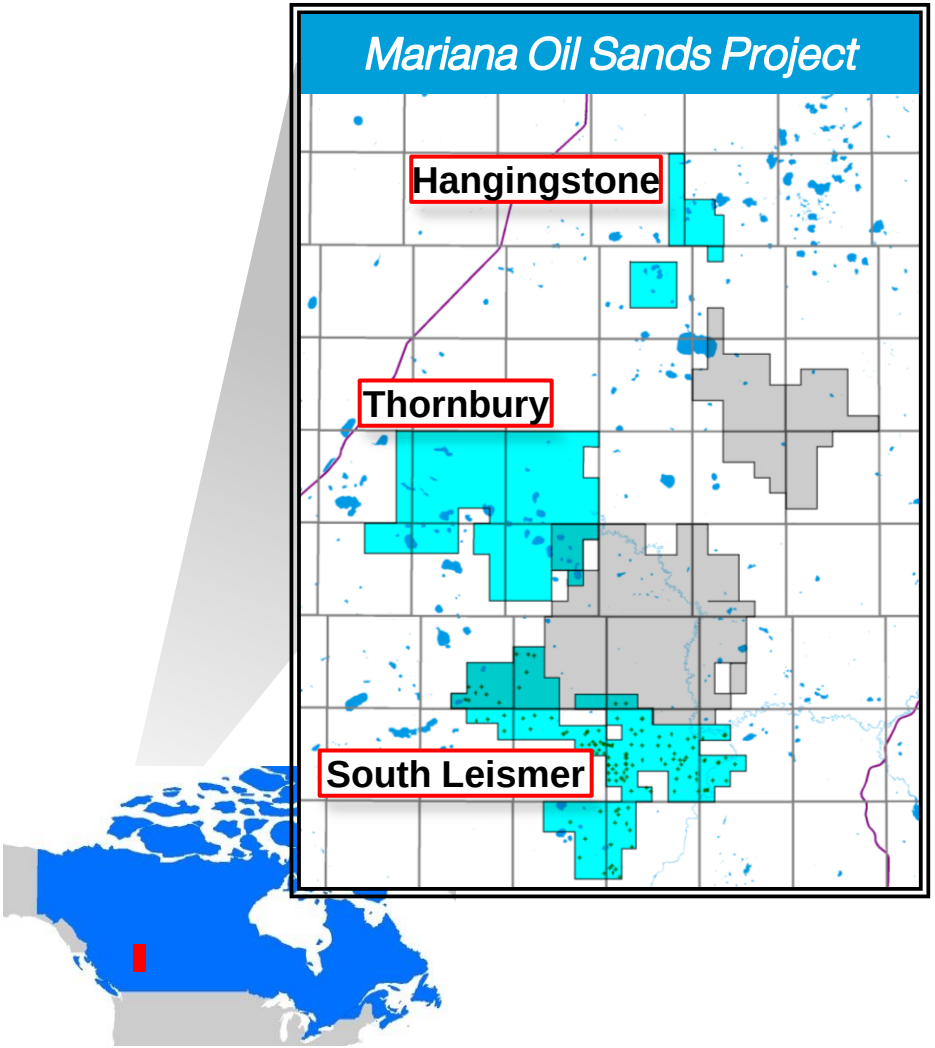
**Regulatory**
- ✓ Decree law ratified
- ✓ Substantial engagement with government to progress on remaining agreements and approvals to support investment

**Financing**
- ✓ Positive indications on project financing

**Onwards to initial phase of 12 MMTPA**

# America : Canada Oil Sands

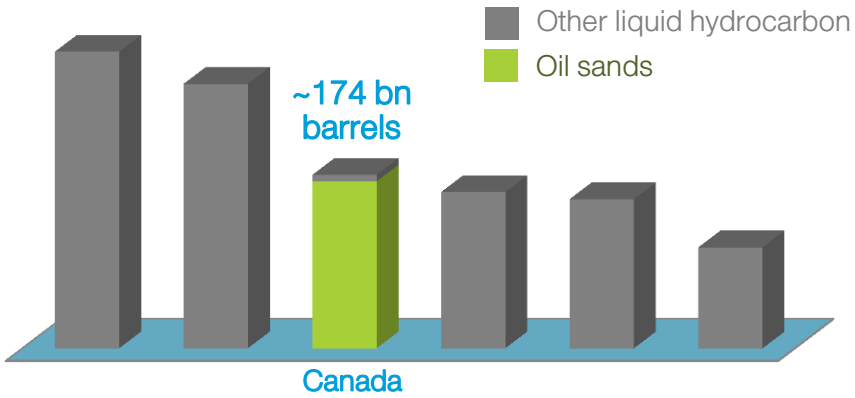
## Flexibility to pursue long-term investment from the oil sands project




### Project Overview

- Operates 100% interest of the Thornbury, Hangingstone and South Leismer (THSL) areas (exploration and appraisal phase)
- Potential large resource base with over a billion barrel
- Current focus on assessing cost reduction opportunity in light of low oil price environment.

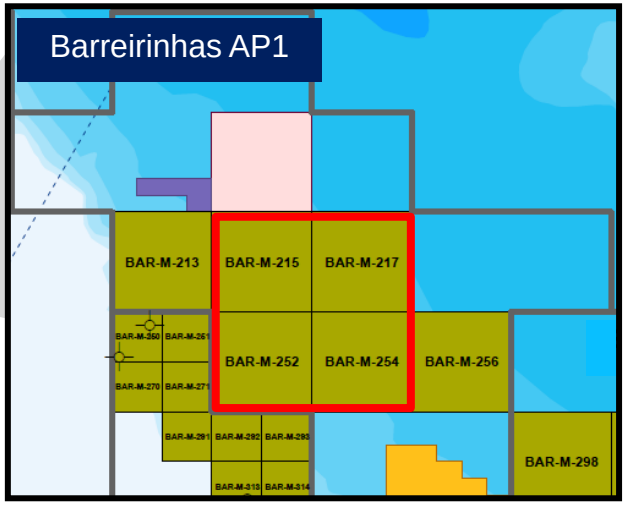
**Approximately 96% of the reserves in Canada, the world's 3rd largest oil reserves, is oil sands**



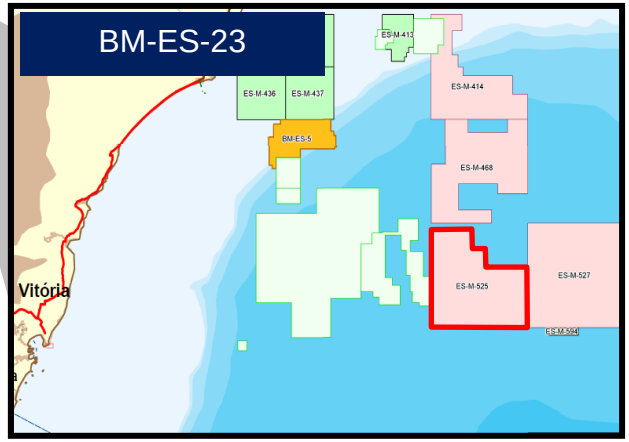

Source: Company data, BP Statistical Review of World Energy 2014

# America : Brazil Deepwater

## Entry into high potential petroleum province at exploration phase




- Farm-in 25% from BG Group in 2014
- Operated by BG Group (75% interest)
- Four offshore exploration blocks: BAR-M-215, BAR-M-217, BAR-M-252 and BAR-M-254
- Currently preparing for seismic acquisition and conducting G&G studies




- Acquired 20% interest from Shell in Q3 2014
- Partnered with Petrobras (65%, operator) and INPEX (15%)
- Drilled 2 exploration wells in 2015

Source : The National Agency of Petroleum, Natural Gas and Biofuels, Brazil (the ANP)

# Project Information 1/4

## Production phase: Thailand and JDA

| | Project | Status* | PTTEP's Share | Partners (as of 2015) | 2015 Average Sales Volume ** | | 2016 Key Activities |
|---|---|---|---|---|---|---|---|
| | | | | | Gas | Oil and Other | |
| **Production Phase** | | | | | | | |
| **Thailand and JDA** | | | | | | | |
| 1 | **Arthit** | OP | 80% | Chevron 16%<br>MOECO 4% | 213 MMSCFD | Condensate: 9.4 k BPD | • Ensure gas deliverability level at DCQ****<br>• Drill development wells<br>• Install wellhead platforms |
| 2 | **B6/27** | OP | 60%*** | | N/A | N/A | • Subsurface study |
| 3 | **B8/32 & 9A** | | 25% | Chevron 51.66%<br>MOECO 16.71%<br>KrisEnergy 4.63%<br>PSTL 2% | 98 MMSCFD | Crude: 26 k BPD | • Drill development wells<br>• Perform waterflood activities |
| 4 | **Bongkot** | OP | 44.4445% | TOTAL 33.3333%<br>British Gas 22.2222% | 905 MMSCFD | Condensate: 28 k BPD | • Ensure gas deliverability level at DCQ****<br>• Drill Exploration / Appraisal / Development wells<br>• Install wellhead platforms |
| 5 | **Contract 3** *(Formerly Unocal III)* | | 5% | Chevron 71.25%<br>MOECO 23.75% | 561 MMSCFD | Crude: 20 k BPD<br>Condensate: 19 k BPD | • Drill exploration / appraisal / development wells<br>• Install wellhead platforms<br>• Perform waterflood activities |
| 6 | **Contract 4** *(Formerly Pailin)* | | 60% | Chevron 35%<br>MOECO 5% | 305 MMSCFD | Condensate: 14 k BPD | • Ensure gas deliverability level at DCQ****<br>• Drill exploration / appraisal / development wells<br>• Install wellhead platforms<br>• Review development plan of Ubon field |
| 7 | **E5** | | 20% | ExxonMobil 80% | 12 MMSCFD | - | |
| 8 | **G4/43** | | 21.375% | Chevron 51%<br>MOECO 21.25%<br>PSTL 6.375% | 2 MMSCFD | Crude: 6.7 k BPD | • Drill development wells<br>• Perform waterflood activities |
| 9 | **G4/48** | | 5% | Chevron 71.25%<br>MOECO 23.75% | 5 MMSCFD | Crude: 981 BPD | |
| 10 | **L53/43 & L54/43** | OP | 100% | | - | Crude: 297 BPD | • Drill exploration and development wells |
| 11 | **PTTEP1** | OP | 100% | | - | Crude: 386 BPD | • Drill development wells<br>• Perform waterflood activities |
| 12 | **S1** | OP | 100% | | 26 MMSCFD | Crude: 29 k BPD | • Drill exploration / appraisal / development wells<br>• Enhance oil recovery program includes waterflooding and artificial lift |
| 13 | **Sinphuhorm** | OP | 55% | Apico 35%<br>ExxonMobil 10% | 121 MMSCFD | Condensate: 460 BPD | • Drill development wells |
| 14 | **MTJDA** | JOC | 50% | Petronas-Carigali 50% | 326 MMSCFD | Condensate: 7.3 k BPD | • Drill development wells<br>• Install wellhead platforms |
| 15 | **L22/43** | OP | 100% | | - | Crude: 50 BPD | • Drill exploration / development wells |

* 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 | |
| **Production Phase** | | | | | | | |
| **Overseas** | | | | | | | |
| 16 | **Oman 44** | OP | 100% | | 22 MMSCFD | Condensate: 1.1 k BPD | • Maintain production operation |
| 17 | **Vietnam 9-2** | JOC | 25% | PetroVietnam 50%<br>SOCO 25% | 13 MMSCFD | Crude: 4.8 k BPD | • Maintain production operation<br>• Perform reservoir management |
| 18 | **Yadana** | | 25.5% | TOTAL 31.24%<br>Chevron 28.26%<br>MOGE 15% | 751 MMSCFD | - | • Drill exploration / development wells<br>• Acquire 2D seismic reprocessing<br>• Perform reservoir management |
| 19 | **Yetagun** | | 19.3178% | Petronas-Carigali 30.00140%<br>MOGE 20.4541%<br>Nippon Oil 19.3178%<br>PC Myanmar (Hong Kong) 10.90878% | 286 MMSCFD | Condensate: 5.8 k BPD | • Drill development wells<br>• Perform reservoir Management |
| 20 | **Vietnam 16-1** | JOC | 28.5% | PetroVietnam 41%<br>SOCO 28.5%<br>OPECO 2% | 16 MMSCFD | Crude: 31 k BPD | • Drill development wells<br>• Perform reservoir management<br>• Review feasibility for water handling facility upgrade |
| 21 | **PTTEP Australasia (PTTEP AA)** | OP | 20%-100% (varied by permits) | | - | Crude: 16 k BPD | • Maintain production operation<br>• Assess resource potential of exploration permits |
| 22 | **Natuna Sea A** | | 11.5% | Premier Oil 28.67%<br>KUFPEC 33.33%<br>Petronas 15%<br>Pertamina 11.5% | 213 MMSCFD | Crude: 1.4 k BPD | • Maintain production operation |
| 23 | **Zawtika (M9 & a part of M11)** | OP | 80% | Myanma Oil and Gas Enterprise (MOGE) 20% | 314 MMSCFD | - | • Maintain production rate<br>• Drill development wells<br>• Install wellhead platforms |
| 24 | **Algeria 433a & 416b (Bir Seba)** | JOC | 35% | PetroVietnam 40%<br>Sonatrach 25% | - | 215 BPD | • Maintain production operation<br>• Review field development plan for possible capacity expansion |

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

# Project Information 3/4

## Exploration phase

| | Project | Status* | PTTEP's Share | Partners (as of 2015) | | 2016 Key Activities |
|---|---|---|---|---|---|---|
| **Exploration Phase** | | | | | | |
| **Thailand and JDA** | | | | | | |
| 25 | **G9/43** | OP | 100% | | | |
| **Overseas** | | | | | | |
| 26 | **Myanmar M3** | OP | 80% | MOECO | 20% | • Access development options and commercial potential |
| 27 | **Mozambique Rovuma Offshore Area 1** | | 8.5% | Anadarko, Mitsui, ENH, Bharat Petroleum, BREML, OVL | 26.5%,20% 15%,10%, 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<br>Sonatrach | 24.5%<br>51% | • Drill Appraisal wells |
| 29 | **Myanmar M11** | OP | 100%** | | | |
| 30 | **Vietnam B & 48/95** | | 8.5% | PVN<br>MOECO | 65.88%<br>25.62% | • Negotiate a GSA with the Vietnamese government |
| 31 | **Vietnam 52/97** | | 7% | PVN<br>MOECO | 73.4%<br>19.6% | • Negotiate a GSA with the Vietnamese government |
| 32 | **Myanmar PSC G and EP 2** | OP | 70% | WinPreciousRes ources<br>MOECO<br>Palang Sophon Offshore | 10%<br>10%<br>10% | • Conduct G&G studies |
| 33 | **Kenya L11A, L11B, L12** | | 10% | Anadarko<br>Total<br>ENI | 50%<br>30%<br>10% | • Conduct G&G studies |

* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship
** New participating interest subject to government approval

# Project Information 4/4

## Exploration phase

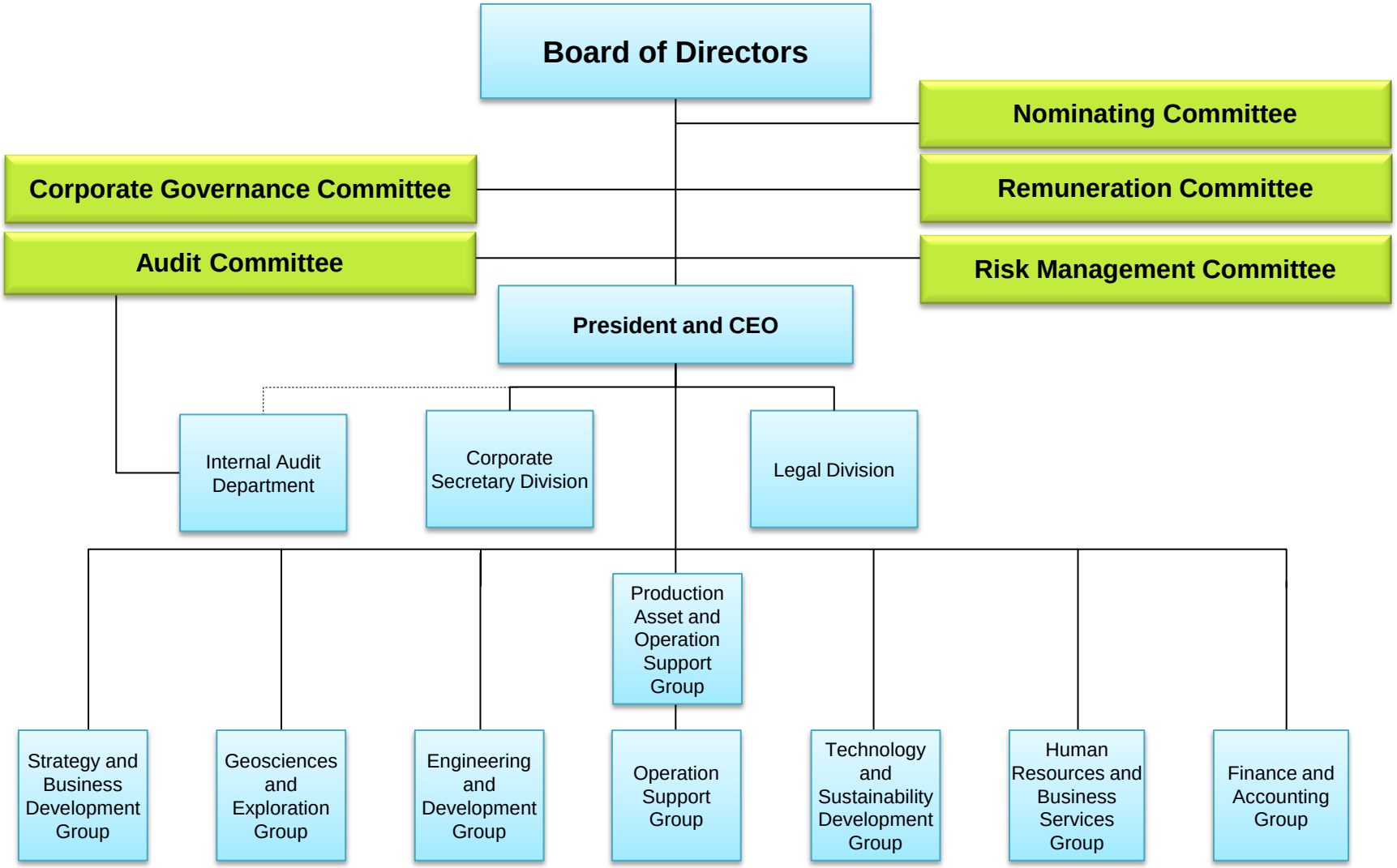
| | Project | Status* | PTTEP's Share | Partners *(as of 2015)* | 2016 Key Activities |
|---|---|---|---|---|---|
| **Exploration Phase** | | | | | |
| **Overseas (Cont'd)** | | | | | |
| 34 | **Myanmar MD 7 and MD 8** | OP | 100% | | |
| 35 | **Mariana Oil Sands** | OP | 100% | | • Assess development approach and cost reduction opportunity |
| 36 | **Barreirinhas AP1** | | 25% | BG Brasil 75% | • Acquire 3D seismic |
| 37 | **MOGE 3** | OP | 75% | Palang Sophon Offshore 10%<br>MOECO 10%<br>WinPreciousResources 5% | • Acquire 3D seismic |
| 38 | **Brazil BM-ES-23** | | 20% | Petrobras 65%<br>INPEX 15% | • Drilling result and resource evaluation |

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

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

# Organization Structure

## Ensuring transparency, integrity and good corporate governance



# Ratio & Formula

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