



25th 
BONGKOT
Anniversary

MEMBER OF
Dow Jones
Sustainability Indices
In Collaboration with RobecoSAM

Q2 2018 Financial Results and Operational Update

*Analyst Meeting
15 August 2018*



Khun Somporn Vongvuthipornchai
Chief Executive Officer

Safety & Sustainability

Industry Highlights

Financial Performance

Strategy Update

Priority on Safety and Sustainability

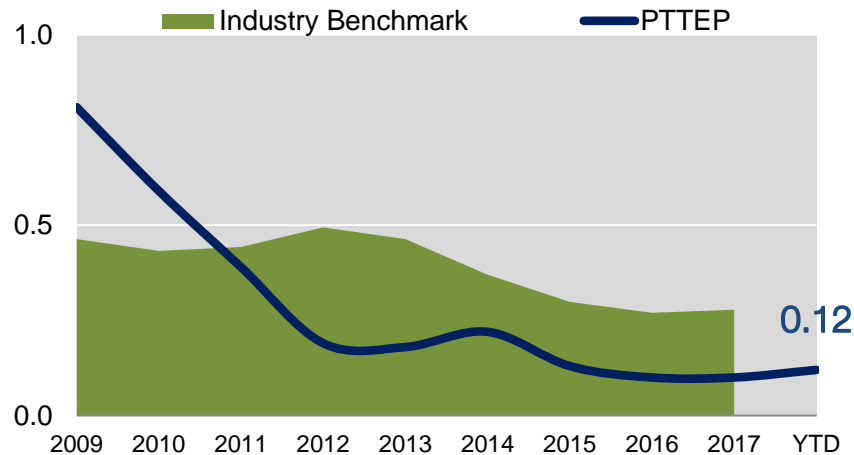
Deliver high safety performance and ensure our commitment to all stakeholders

Safety

Maintain high safety standard

of incidents per million man hours

(Lost time injury incident frequency, LTIF)



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

Sustainability

Create a long-term value for society



PTTEP as a Member of CAC

(Thailand's Private Sector Collective Action Coalition Against Corruption Council)

To demonstrates our commitment to conduct business with transparency



PTTEP won 6 international CSR awards 2018 from 4 key CSR projects

- 3 Awards from the 10th Annual Global CSR Summit and Awards and the Global Good Governance Awards 2018, *Indonesia*
- 1 Award from the Area Responsible Entrepreneurship Awards 2018, *Philippines*
- 2 Awards from the 2018 Asia-Pacific Stevie Awards, *Hong Kong*



H.T.M.S. Underwater Learning Site Project



Free Clinic Project



Waste to Energy Project



Crab Hatchery Learning Center Project



Khun Montri Rawanchaikul
EVP, Strategy and
Business Development Group

Safety & Sustainability

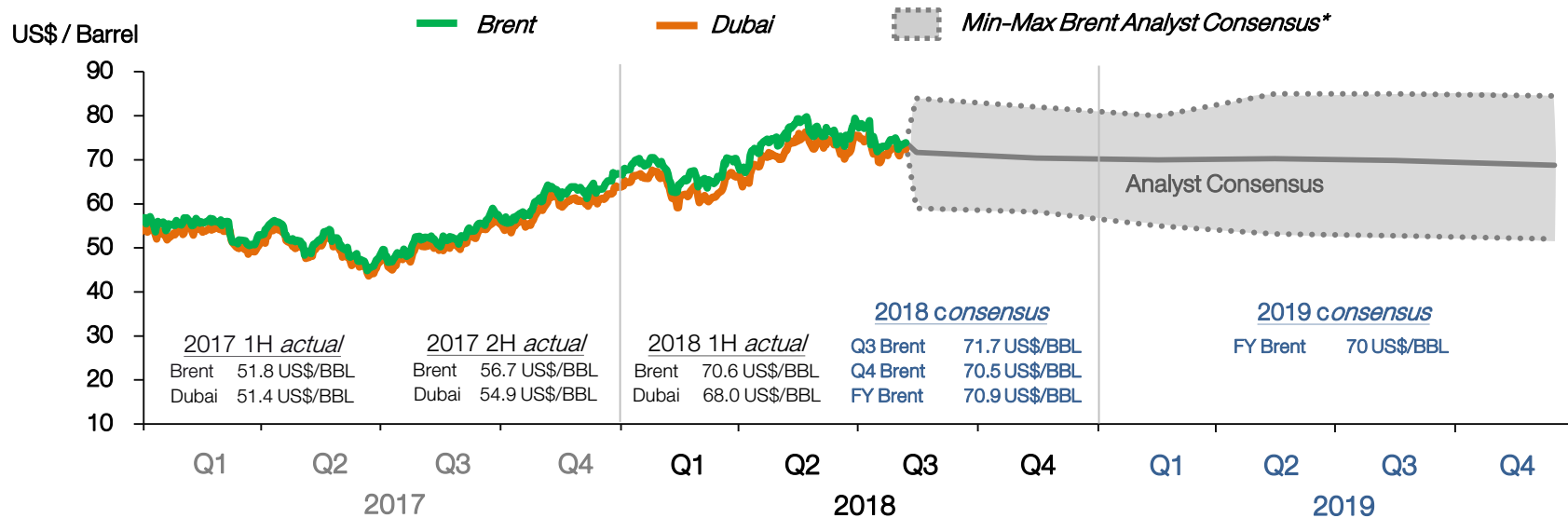
Industry Highlights

Financial Performance

Strategy Update

Oil Prices

Oil prices stabilize in 65-75 US\$/BBL range as market rebalances



Q2 2018 Highlights

- Higher than expected supply cut compliance rate

Compliance Rate Achieved as of Jun'18

OPEC 120% | Non-OPEC 66%

- Lower crude supply from Venezuela as a result of US financial sanctions and port dispute with ConocoPhillips
- Lower crude export from Iran due to nuclear sanctions by US
- Output raise from Saudi Arabia and Russia to replace missing volumes from Venezuela and Iran

2H 2018 Outlook

- Continued compliance on supply cut and potential extension of supply cut agreement among OPEC and Non-OPEC

Compliance Rate Target from Jul'18 onwards

OPEC Target 100%

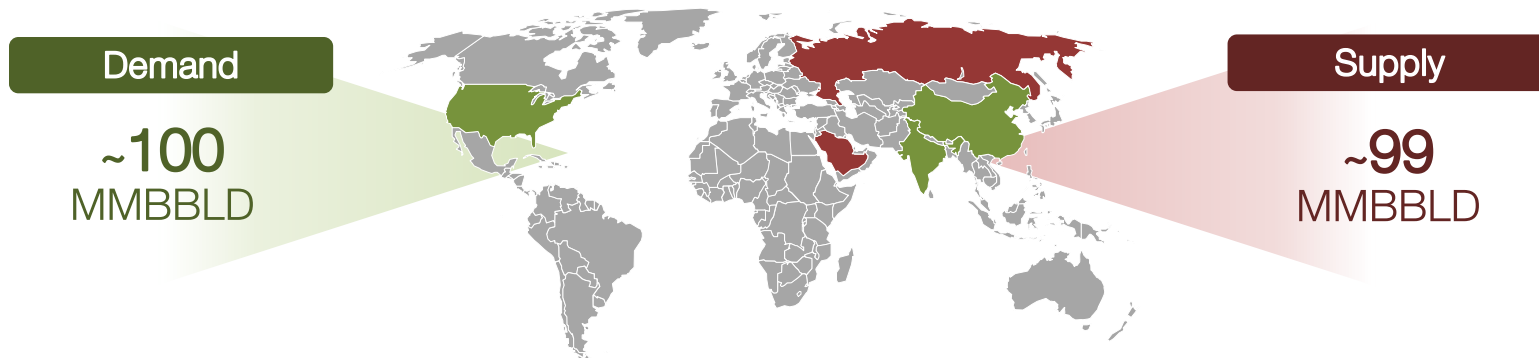
- Prolonged decline in supply from Venezuela and Iran driven by US sanctions
- Slow down in US production ramp up due to pipeline capacity shortage
- Pressure from production uplift from Saudi Arabia and Russia as well as economic momentum around US-China trade war

Remark: * Bloomberg Analyst Consensus (CPFC) as of 7 August 2018 and IEA (as of July 2018)

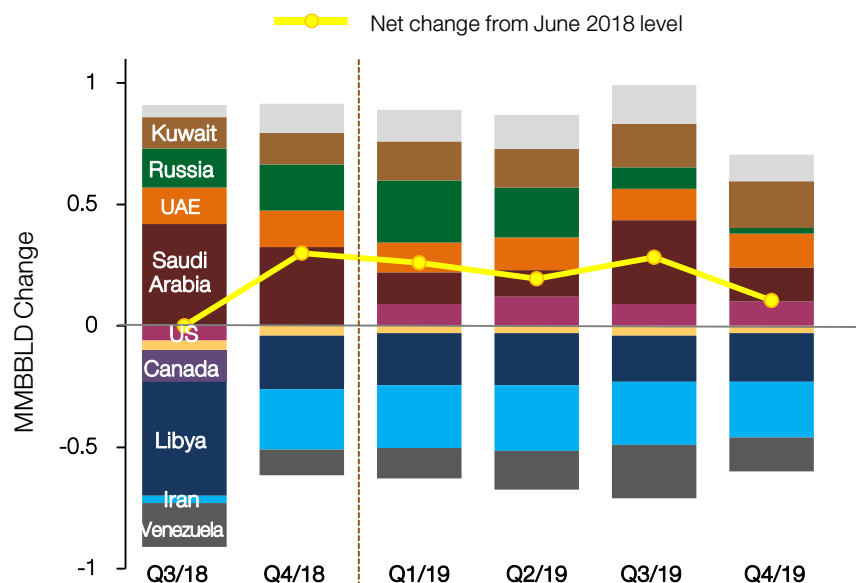
Oil Market Outlook

Market balancing continues in 2019

Oil demand is forecasted to continue to outstrip supply towards 2019, with support from demand growth in China, India and US



Supply change forecast based on June 2018 supply of ~98.8 MMBBLD



Supply will be driven by OPEC and Russia offsetting with lower volumes from

Libya

- 2 main export terminals shut-in
- 2 storage tanks badly damaged by fighting

Iran

- Nuclear Sanctions by US
- Impact from Q4/2018 onwards

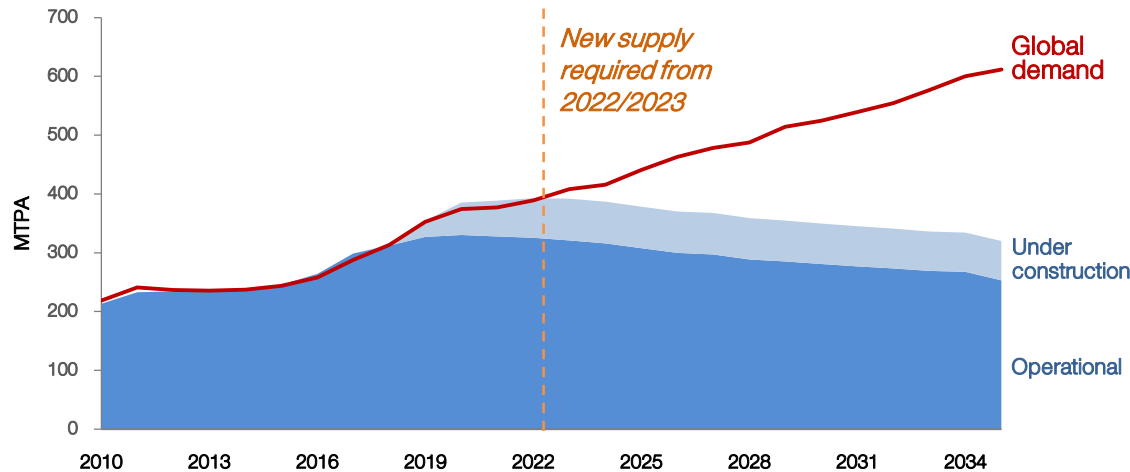
Venezuela

- Sanctions imposed by US
- Maintenance outages

Global LNG Market Update

In need of new LNG supply from 2022/2023 onwards

Global LNG Market

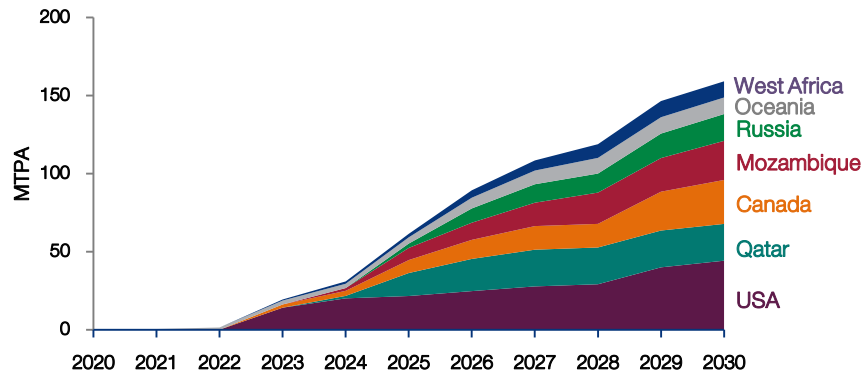


LNG demand shows continuous growth, and market will likely rebalance over the next 3 years

New LNG projects are needed on-stream as a demand gap emerges in 2022. Thus, there is momentum behind investment decision of pre-FID projects over the next 18 months

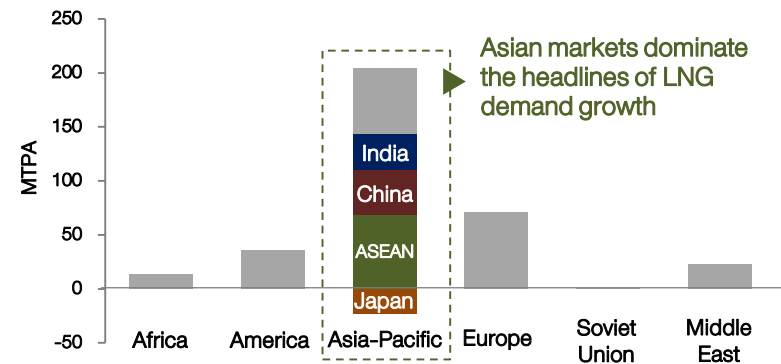
“Risks of a global LNG oversupply continue to reduce but price recovery might be dented by the amount of new FIDs”

LNG supply growth areas



Pre-FID LNG capacity adds are expected, and with current strong fundamental, players speed-up to take FID

LNG demand growth outlook (2017-2035)



Key drivers of Asian LNG demand growth include pro-gas energy policies and emerging market growth accelerating

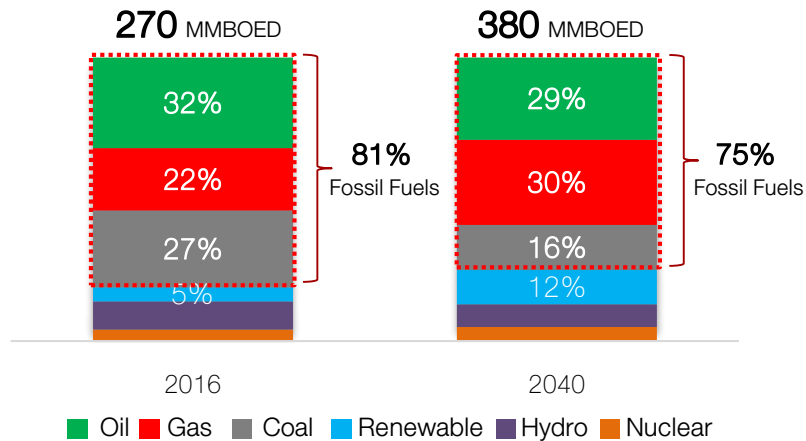
Energy Transition & Challenges

Oil & Gas companies are heading towards Low Carbon/Renewables

Challenges in energy consumption landscape

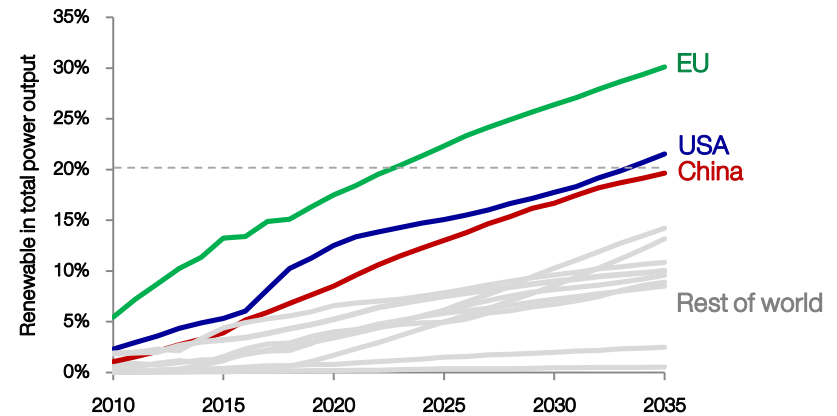
By 2040, fossil fuel remains key energy source accounting for 75% of energy consumption, mainly driven by growing gas demand

Primary Energy Demand Outlook



- Emerging markets peak in fossil fuel share will impact mainly coal
- Rising use of alternative sources of energy especially renewables

Renewable Share for Power Generation



Renewable share in power output will exceed 20% in EU, USA and China by 2035

Transition Strategy

Oil & Gas remains core for the Majors with a shift to renewables and greater focus on efficiency and innovation

ExxonMobil



PTTEP

- ◆ Focus on gas and gas value chain
- ◆ Transformation for efficiency
- ◆ Prepare for new businesses



Khun Pannalin Mahawongtikul
EVP, Finance and Accounting Group

Safety & Sustainability

Industry Highlights

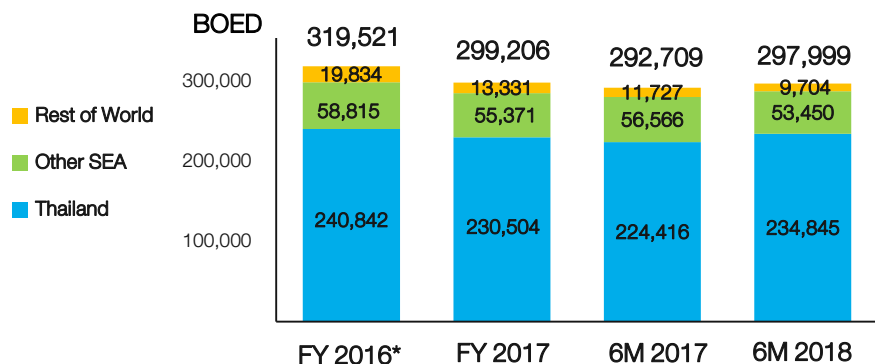
Financial Performance

Strategy Update

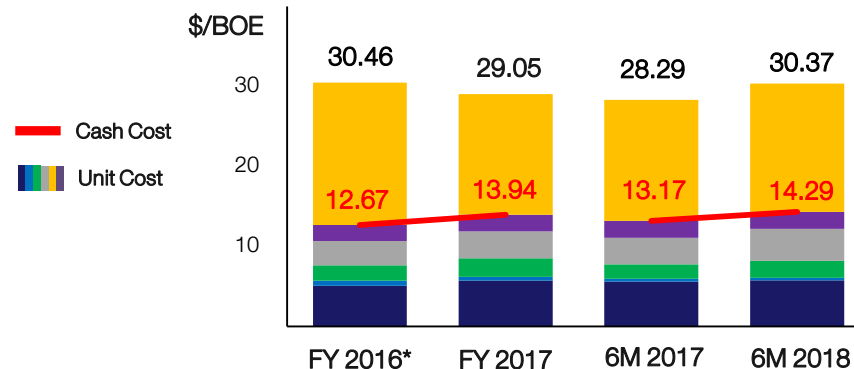
Sales Volume & Unit Cost

Higher sales volume offset with rising unit cost driven by DD&A

Sales Volume and Price



Unit Cost



Gas (\$/MMBTU)	5.60	5.59	5.45	6.14
Liquid (\$/BBL)	41.17	52.26	50.63	66.77
Weighted Avg. (\$/BOE)	35.91	39.20	38.04	45.51
Avg. Dubai (\$/BBL)	41.27	53.14	51.38	68.01
Avg. HSFO (\$/BBL)	35.48	49.64	47.85	61.85
(High Sulphur Fuel Oil)				
Volume Mix (Gas : Liquid)	69 : 31	70 : 30	70 : 30	71 : 29
Revenue Mix (Gas : Liquid)	65 : 35	60 : 40	60 : 40	57 : 43

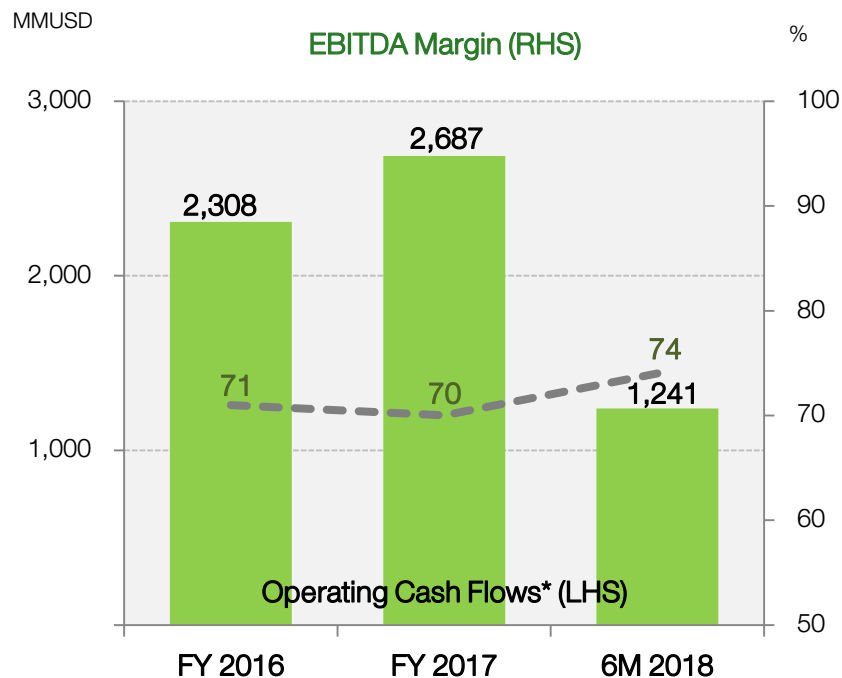
DD&A	17.79	15.11	15.12	16.08
Finance Cost	2.01	2.07	2.12	2.12
Royalties	3.02	3.37	3.32	3.98
G&A	1.93	2.30	1.77	2.11
Exploration Expenses	0.63	0.48	0.39	0.33
Operating Expenses	5.08	5.72	5.57	5.75
Lifting Cost	4.18	4.19	4.10	4.17

Note: * Represented and includes discontinued operations until end of August 2016
The formulas for calculating ratios are provided in the supplementary section for your reference

Cash Flow Performance

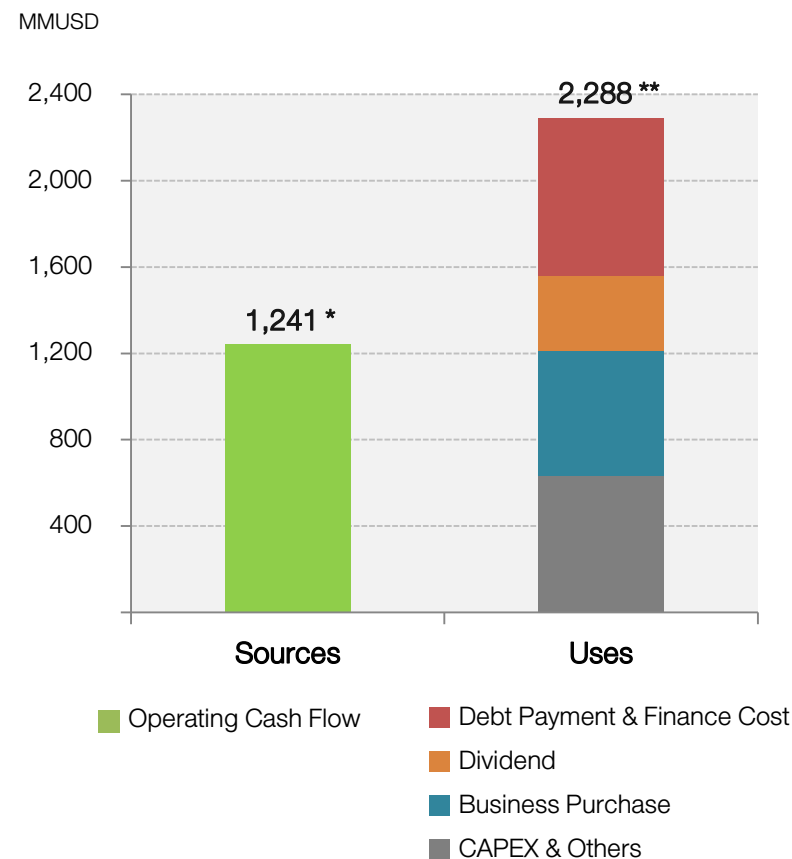
Maintained healthy operating cash flow

Cash Flow Performance



Net Income	372	594	536
Recurring Net Income***	466	836	640

Source & Use of Funds in 6M 2018



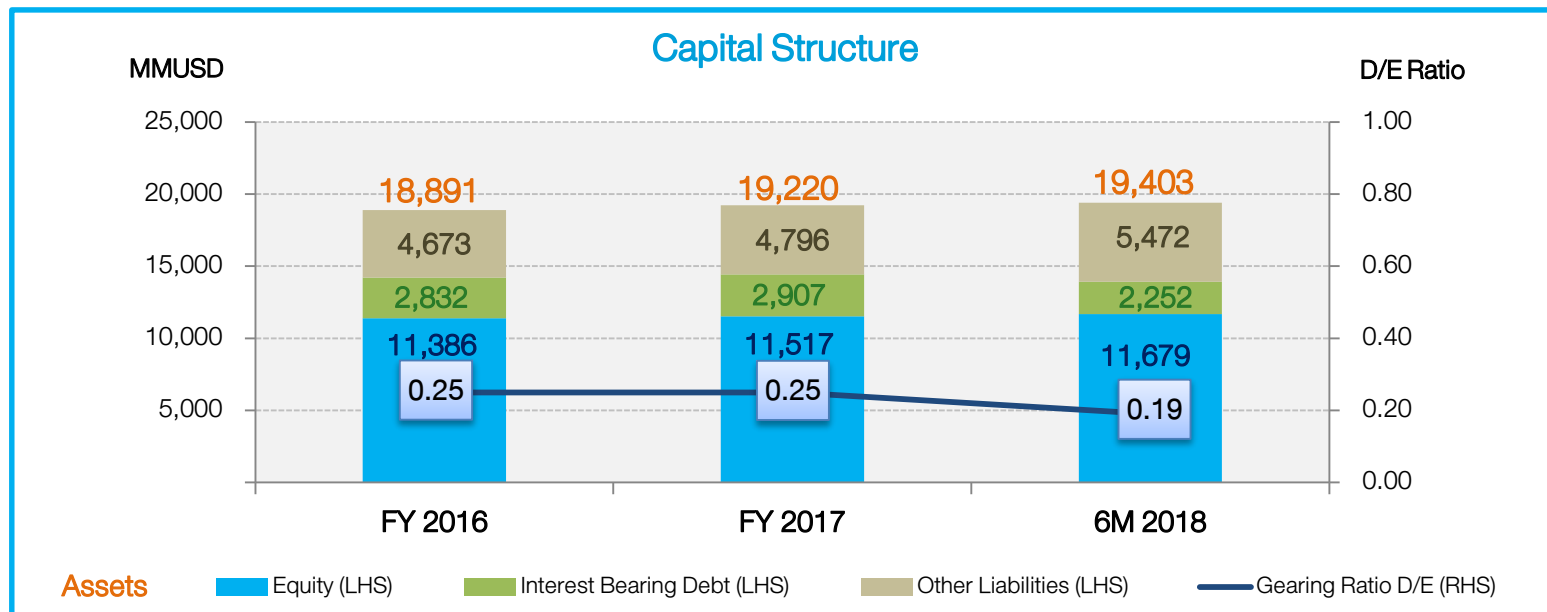
Remark: * Net of adjustment for the effect of exchange rate changes on cash and cash equivalents

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

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

Financial Position

Robust financial position with low gearing ratio

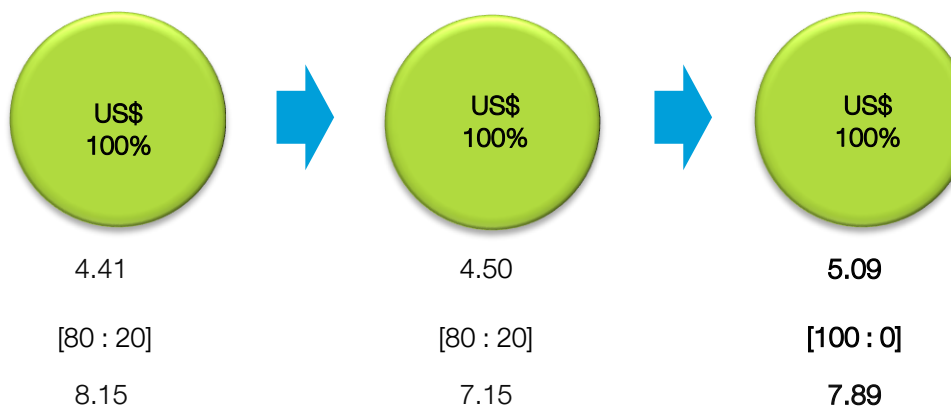


Debt Profile*

Weighted Average
Cost of Debt* (%)

[Fixed : Floating]

Average Loan Life* (Years)



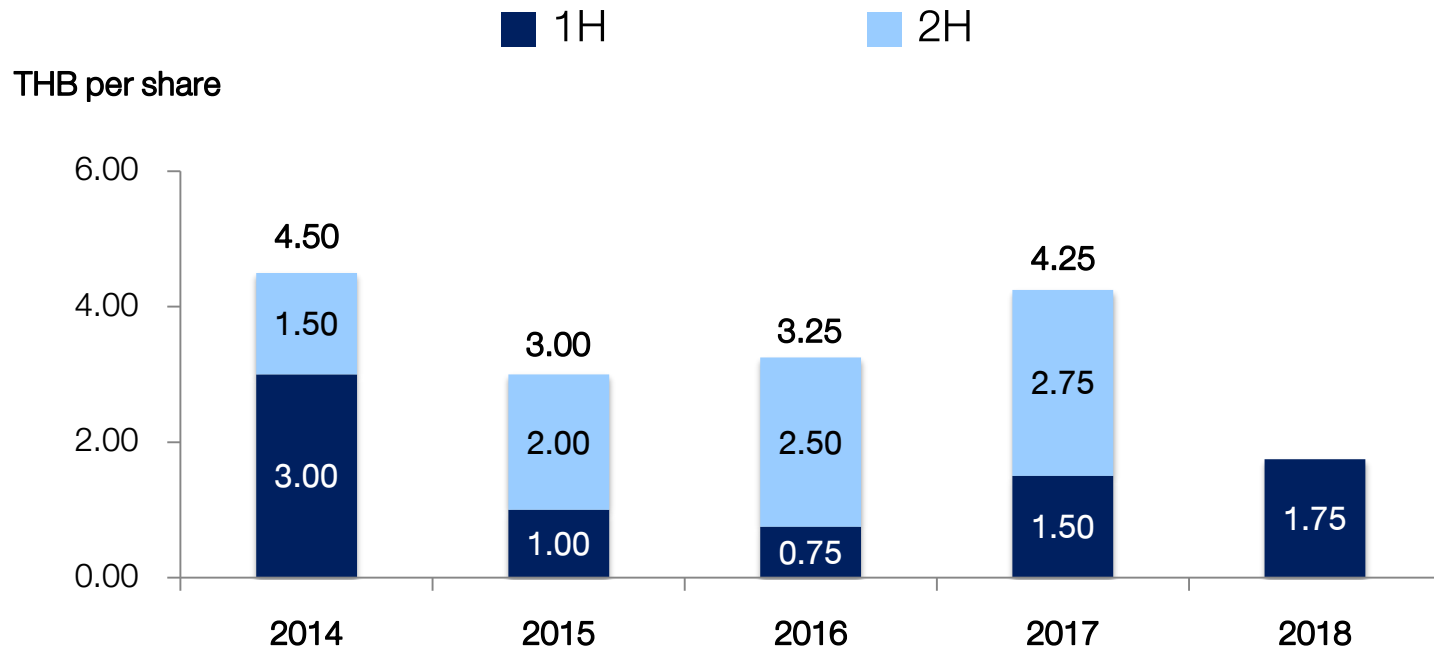
Remark: * Excludes Hybrid bonds

Dividends

Demonstrating our dividend commitment to shareholders



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



Payout Ratio (%)	82	N/A	98	90	39
------------------	----	-----	----	----	----

Financial Outlook

Expect strong core operational performance and margin



**Average
Sales Volume***
KBOED

**Average
Gas Price****
USD/MMBTU

Unit Cost
USD/BOE

EBITDA Margin
% of sales volume

Q3 2018

FY 2018

~308

~310

~6.5

~6.5

31-32

30-31

~70-75

Note: * Included sales volume from 1) the additional stakes in Bongkot and 2) Montara until the expected divestment completion

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



Khun Somporn Vongvuthipornchai
Chief Executive Officer

Safety & Sustainability

Industry Highlights

Financial Performance

Strategy Update

REFOCUS through Series of Portfolio Rationalization

Strengthen Focus areas, Reposition Non-core

Strengthen focus areas

Mexico

2 Deepwater blocks with prudent operators

Thailand

Acquisition of 22.22% stake in Bongkot from Shell

Malaysia

2 blocks "Sarawak Cluster" model with operatorship

Australia

Divestment of Montara Oil Field

Reposition non-core

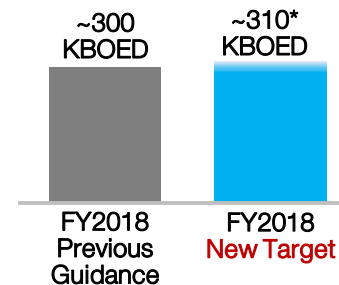
Transaction: In July 2018, PTTEP signed SPA to divest 100% stake in Montara field to Jadestone Energy (Eagle) Pty Ltd

Rationale: Be a non-operating position in non-core area and reduce exposure on mature and high cost operating assets

Impact to FY2018's performance

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

Sales volume:



* Taken into account the additional Bongkot's sale contribution from late June 2018 (daily sales volume of 35 KBOED) offset with Montara divestment

Unit Cost:

- Continue to maintain overall unit cost in range between 30-31 \$/BOE

Financial Position:

- Immediate cash flow contribution from additional stake in Bongkot
- Enhance overall profitability

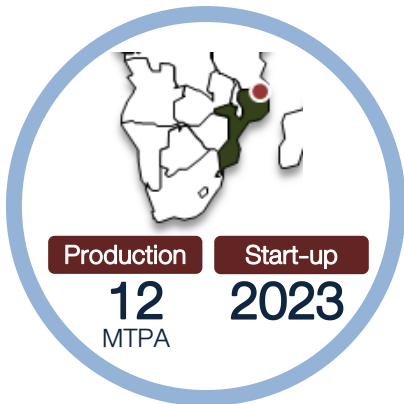
Reserves life:

- Neutral to R/P ratio

Fast-tracking FID of Key Pre-Development Projects

Stronger path towards Mozambique LNG FID by 1H2019

The Mozambique LNG: Significant progress to date



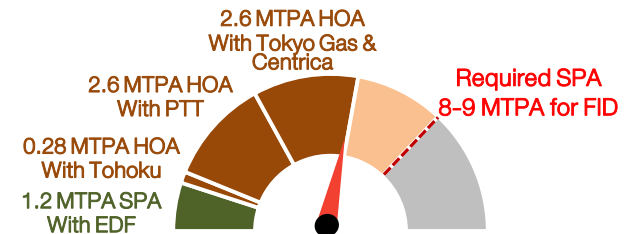
Mozambique Rovuma Offshore Area 1

Completed

- ✓ Legal & Contractual Framework and Marine Concessions as well as the development plan approved
- ✓ Resettlement Commenced and site preparation underway
- ✓ Off-take agreement: 1.2 MTPA SPA signed with EDF
- ✓ Onshore contractor selected

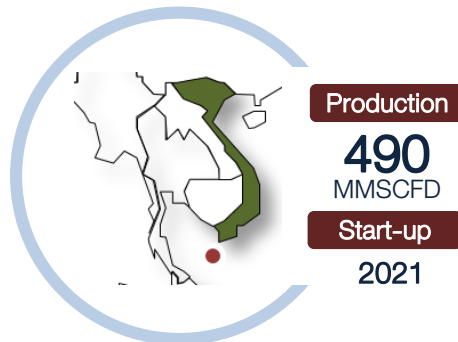
In-Progress

- ✓ Offshore contractor selections
- ✓ Project finance: To secure 2/3 leverage
- ✓ Marketing: SPA negotiations underway with 6.7 MTPA of announced deals



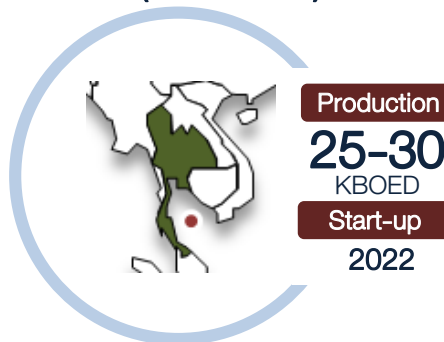
Along with the acceleration of other pre-FID projects

Southwest Vietnam



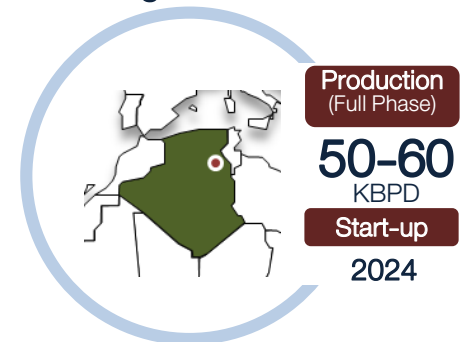
- Finalizing commercial agreements

Ubon (Contract 4)



- Preparing POD with partners

Algeria HBR



- Approved POD
- Finalizing documents with partners

Continue to Pursue Other Growth Strategies

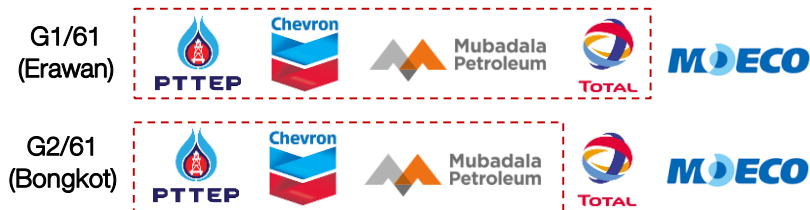
Production and Reserve accretion remains the top priority

Strive to win the Bidding: *PTTEP is well-positioned to bid for Bongkot and Erawan*

Timeline for the bidding of Expiring Concessions in GoT



Companies accessing Dataroom



Source: DMF

Pre-Q bidders (as operator)

Summary of TOR

Bidding Obligations

Minimum DCQ

- G1/61: 800MMSCFD
- G2/61: 700MMSCFD

Gas price formula

Commit under fixed formula in TOR

Facility bonus

- G1/61: 350 MMTHB
- G2/61: 175 MMTHB

Decommissioning

Must be obligated all infrastructure / facilities both new and transferred per PSC agreement

Technical

1. Preparation period work plan
2. Exploration work plan
3. Field development plan

Commercial

score

65% Price Constant: ≤ 214.23 THB per MMBTU

25% Profit split: ≤ 50%

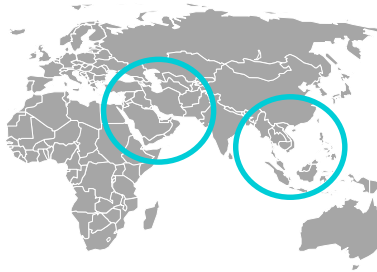
Bonuses: Signature Bonus ≥ 350 MMTHB,

5% Production Bonus ≥ 175 MMTHB and Training/CSR ≥ 3.5 MMTHB/Year

5% Thai Employee Ratio: ≥ 80% in 1st year and ≥ 90% in 5th year

State Participation: T&C to be proposed for 25% stake

Execution of M&A Deal

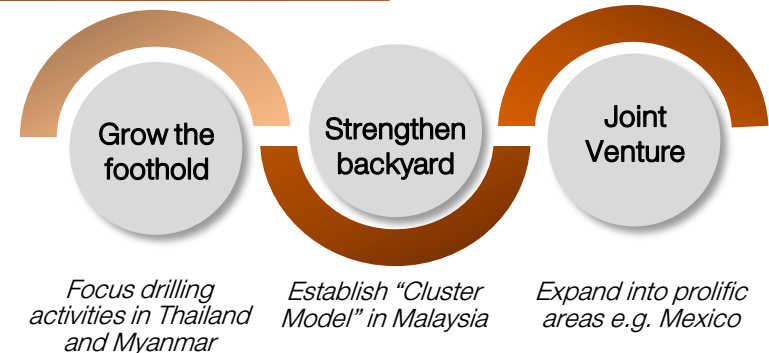


Geographical: SEA, Middle East and other potential areas

Target: Focus on producing or near-producing

Size: 500 – 1,000 MMUSD

Exploration Portfolio



Key Takeaways

Maximizing value through solid growth platforms

Strengthen fundamental

- Sustain competitive cost structure
- Uplift sales volume through efficiency improvement
- Maintain healthy margin

Focus on production and reserves accretion

- Implement series of portfolio rationalization
- Continue gas-weighted portfolio in line with global trend
- Push forward FID of key pre-development projects
- Expansion exploration portfolio and M&A execution in focus areas

Ready for future challenges

- Organizational Transformation
- Collaboration with PTT for LNG value chain investments
- Diversification through new business opportunities

Solid balance sheet to support growth

- \$3.4 Bn cash on hand with concrete capital structure
- Consistent dividend payments to shareholders



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



Passion to Explore
For a Sustainable Future



Q2 2018 Financial Results

22-23

Thailand Updates

24

Sustainable Development

25

Reserves and Resources

26

Key Project Highlights by Region

27-35

Project Details

36-38

Organization Structure

39

Ratio and Formula

40

Summary of Q2 2018 Financial Results

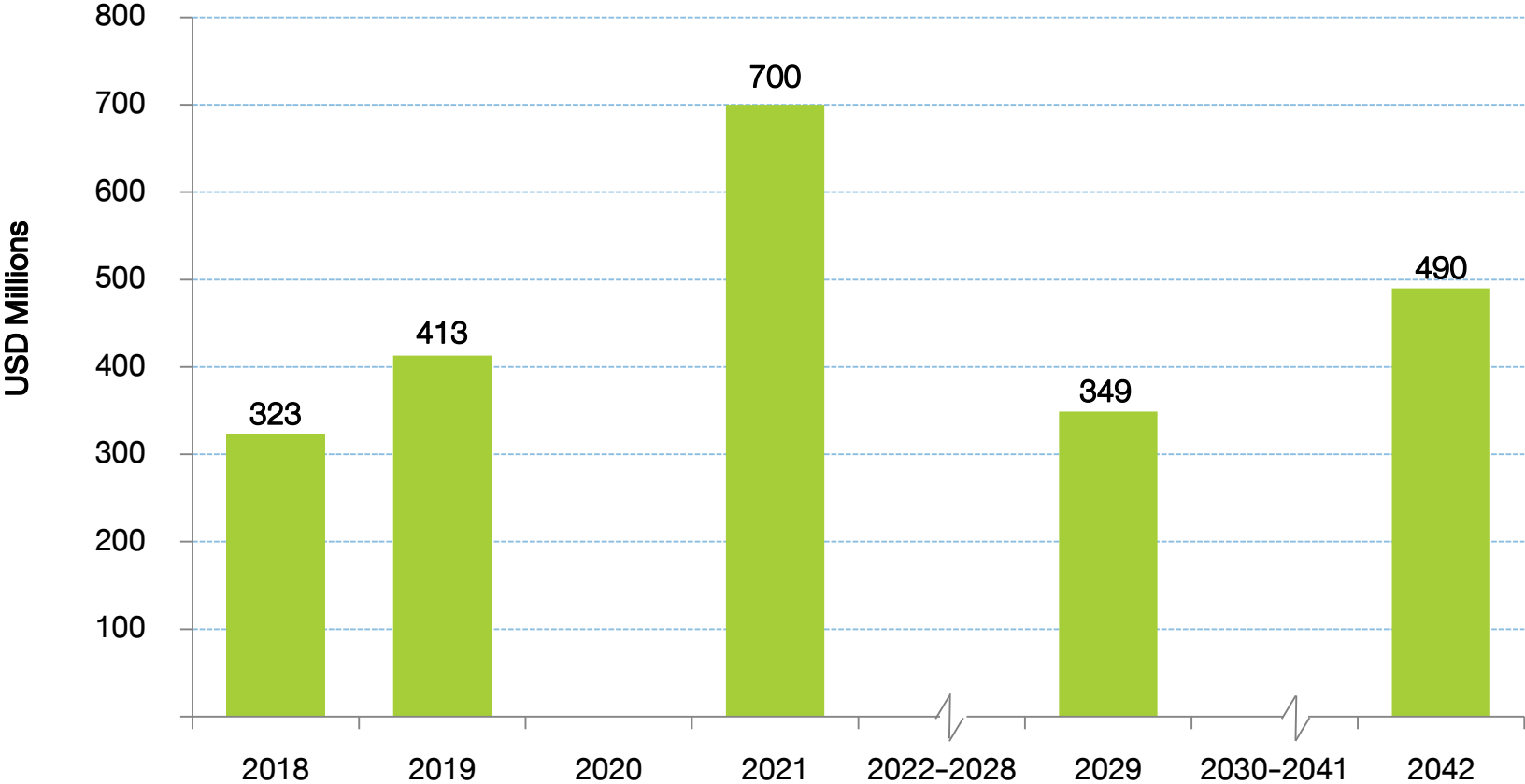
Strong core earnings supported by higher selling price and volumes

Unit : MMUSD

Statement of Income	Q1 18	Q2 18	% QoQ	Q2 17	% YoY	6M 18	6M 17	% YTD
Total Revenues	1,240	1,347	9%	1,032	31%	2,562	2,121	21%
Sales	1,161	1,293	11%	975	33%	2,454	2,015	22%
Others	79	54	(32%)	57	(5%)	108	106	2%
Sales Volume (BOED)	293,099	302,846	3%	281,435	8%	297,999	292,709	2%
Sales Price (USD/BOE)	44.01	46.94	7%	38.08	23%	45.51	38.04	20%
Total Expenses	817	1,234	51%	812	52%	2,026	1,552	31%
Major Expenses:								
Operating Expenses	141	169	20%	153	10%	310	295	5%
Exploration Expenses	3	15	>100%	19	(21%)	18	20	(10%)
DD&A	408	460	13%	381	21%	868	801	8%
Income Tax Expense	5	329	>100%	67	>100%	334	59	>100%
(Gain)/Loss on FX	(25)	30	>100%	(11)	>100%	5	(14)	>100%
Net Income	423	113	(73%)	220	(49%)	536	569	(6%)
Recurring Net Income	304	336	11%	167	>100%	640	378	69%
Non-Recurring *	119	(223)	(>100%)	53	(>100%)	(104)	191	(>100%)

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

Debt Maturity Profile



Note: Excludes Hybrid bonds

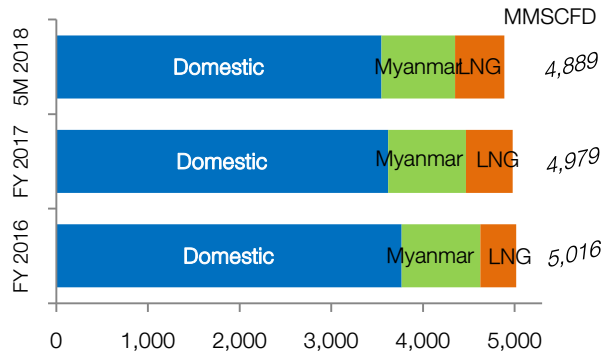
Unit: USD Millions or equivalent after cross currency swap

Thailand Updates

Domestic gas volume suppressed by LNG import; Uncertainty on Thai Baht remains

Thailand Energy Overview

Natural Gas Supply

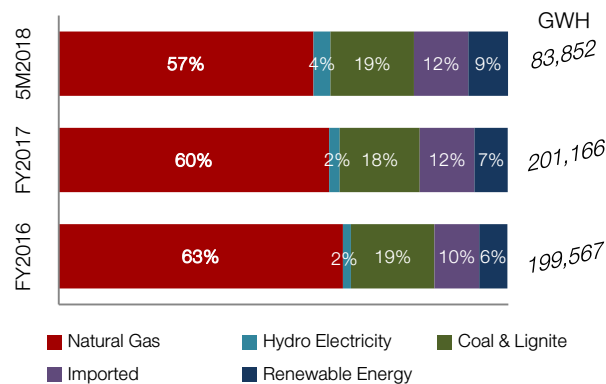


Slight decline in domestic production and Myanmar piped gas imports as a result of lower demands and growth in LNG import

Natural Gas Consumption



Electricity Generation



Source: EPPO

Exchange Rate Movement (THB/USD)



Consensus on the exchange rate mostly depends on

- Continued uncertainty around monetary policies of major global economies such as Europe
- Trade war between the US and China
- The political instability in several regions

Source: Bank of Thailand, Bloomberg
Forecast based on Bloomberg Consensus as of 6 August 2018

Sustainable development

Pursue long-term growth with social and environmental wellness



MEMBER OF

**Dow Jones
Sustainability Indices**

In Collaboration with RobecoSAM

2017 DJSI Listed Company

PTTEP has been selected as a member of the 2017 Dow Jones Sustainability Indices (DJSI) in the DJSI World Oil and Gas Upstream & Integrated Industry for its fourth consecutive year.



Proven business integrity

Asia's Icon on Corporate Governance Award
Corporate Governance Asia Magazine

Platinum Corporate Award
The Asset Corporate Awards 2017

Sustainability Report Award 2017
Securities and Exchange Commission



Exemplary social contributor

Platinum and Gold Awards for 3 CSR Projects:
Best Environmental Excellence and Community Program

the 10th Annual Global CSR Summit 2018

Silver Award for Free Clinic and Waste to Energy Project:
the 2018 Asia-Pacific Stevie Awards Program



FTSE4Good

FTSE4Good Emerging Index 2017

PTTEP becomes a constituent of the FTSE4Good Emerging Index 2017 for a second consecutive year



Green driver to environment

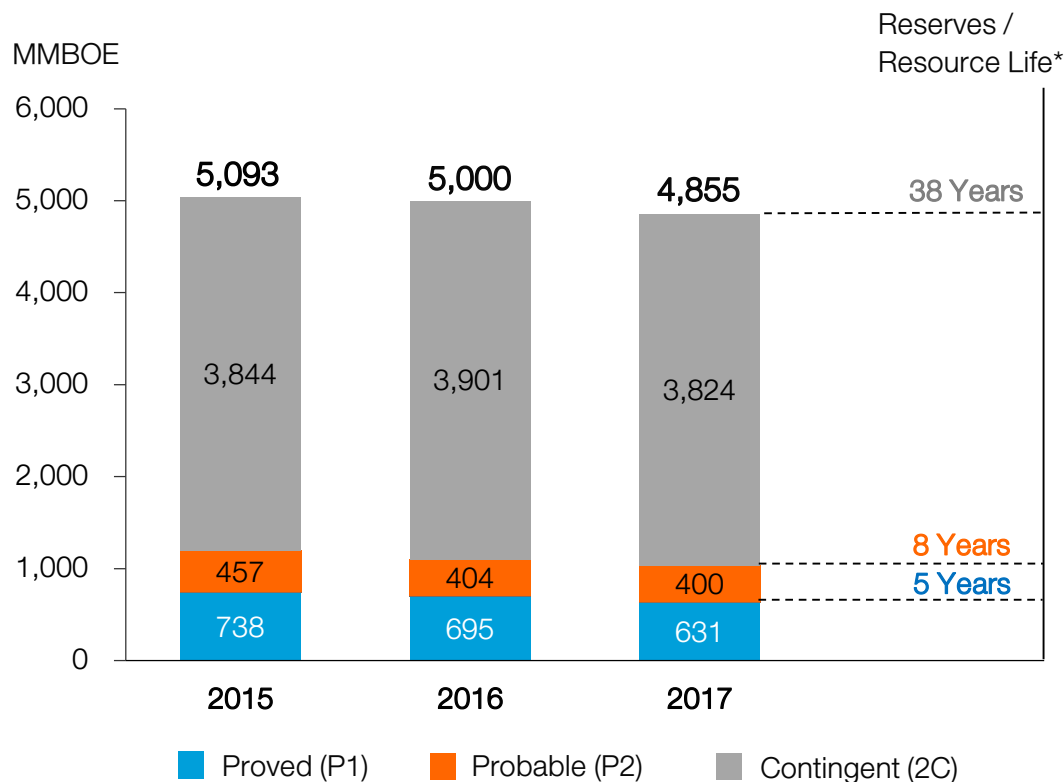
Water A List Award
Carbon Disclosure Project (CDP)

2017 LESS Award Letter of Recognition
Thailand Greenhouse Gas Management Organization

Thailand Occupational Safety and Health Awards
the Ministry of Labour

Reserves and Resources

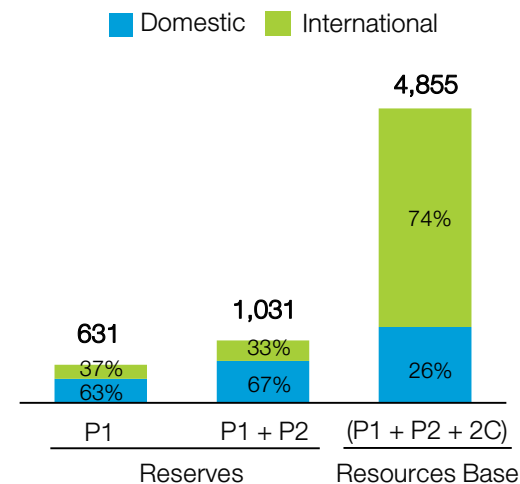
Maintained reserve life with majority of reserves base in SEA



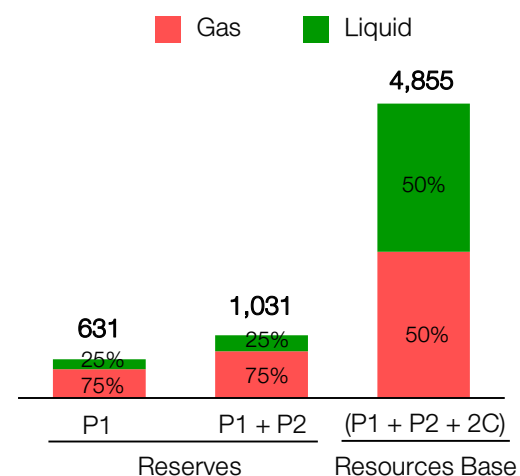
5-Year Average Proved Reserves Replacement Ratio (RRR)

2015	2016	2017
0.50x	0.57x	0.58x

2017 by Geography



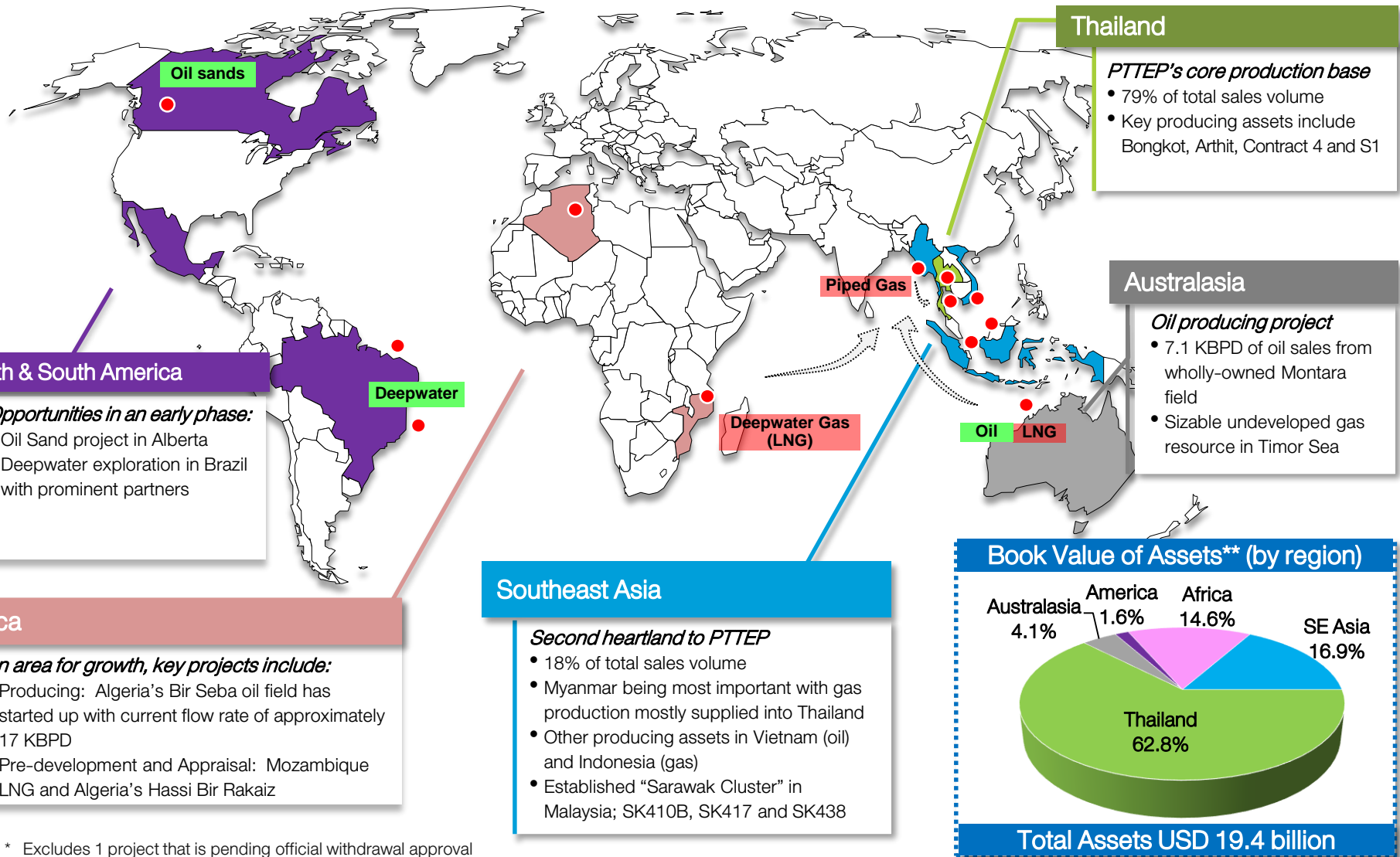
2017 by Product Type



* Based on total production of natural gas, condensate, and crude oil (including LPG) of 347 KBOED for the year ended December 31, 2017

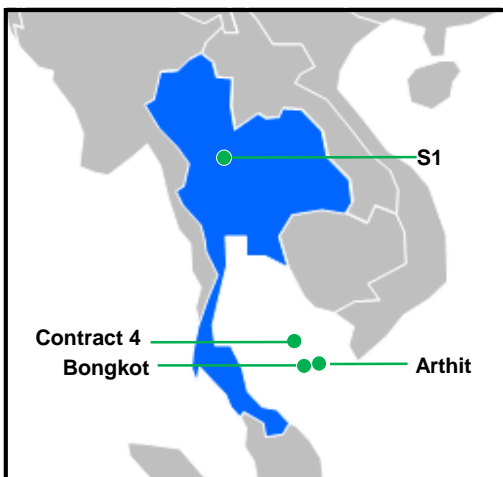
Diversified international portfolio

Worldwide operations: 40 projects* in 11 countries



Notes: * Excludes 1 project that is pending official withdrawal approval

** Information dated as of 1H 2018



● Production / Ramp-up Projects

Bongkot (66.6667% interest)

- Bongkot's natural gas sales volume of 776 MMSCFD in 1H2018.
- Average condensate sales volume was 26 KBPD in 1H2018.

S1 (100% interest)

- S1 is the largest onshore crude oil production field in Thailand.
- Average crude oil sales volume was 27 KBPD in 1H2018.

Arthit (80% interest)

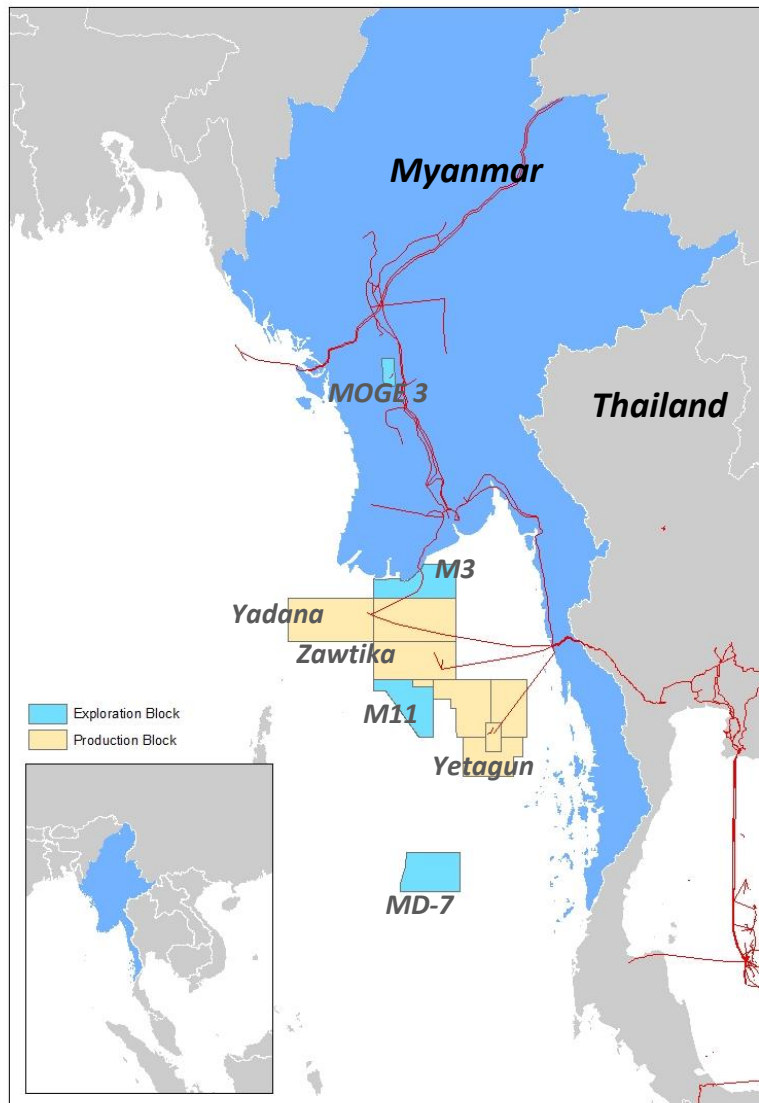
- Average sales volume in 1H2018 was 221 MMSCFD of natural gas and 10 KBPD of condensates.

Contract 4 (60% interest)

- Acquired from Hess Corporation in 2014.
- Contract 4 had an average sales rate of 403 MMSCFD for natural gas and 17 KBPD for condensate in 1H2018.

Southeast Asia: Myanmar

Significant contribution to growth



- Participating in three producing gas fields which supply gas to both Thailand and Myanmar: Yadana, Yetagun, Zawtika.
- Operate Zawtika project, brought online in March 2014 with current gas supply of 304 MMSCFD in 1H2018.
- Significant exploration acreage both onshore and offshore in the Moattama Basin.

Project Status		
Producing	Appraisal	Exploration
<ul style="list-style-type: none">• Yadana (25.5% WI)• Yetagun (19.3% WI)• Zawtika (80% WI)	<ul style="list-style-type: none">• M3 (80% WI)	<ul style="list-style-type: none">• MOGE 3 (75% WI)• M11 (100% WI)• MD-7 (50% WI)

Note: WI – working interest

Southeast Asia: Vietnam and Indonesia

Reinforcing regional exposure through strategic partnerships

Vietnam 16-1



● Production / Ramp-up Projects

Natuna Sea A



Vietnam 16-1 (28.5% interest)

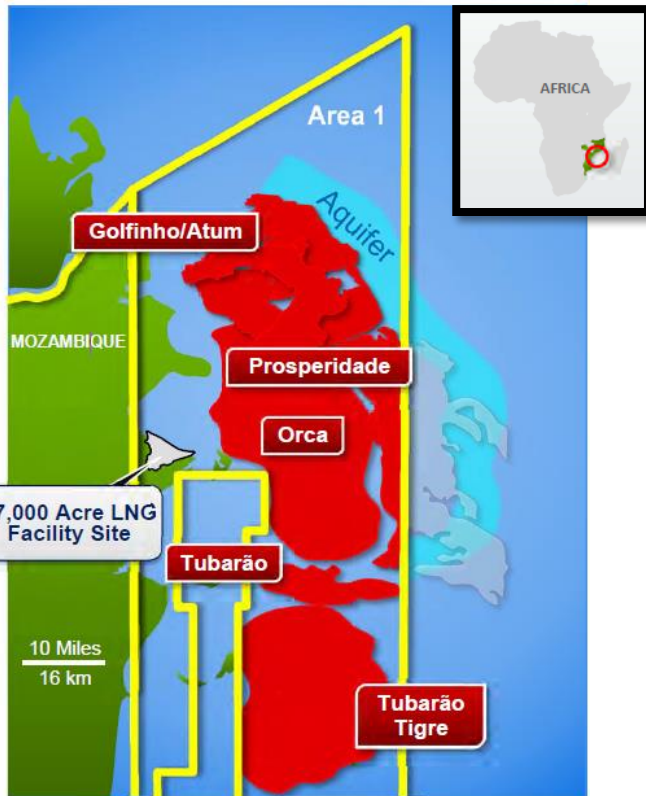
- Average sales volume of crude oil was 19 KBPD in 1H2018.
- The project is preparing further production drilling plan aiming to maintain production plateau.

Natuna Sea A (11.5% interest)

- Average sales volume of natural gas was 242 MMSCFD in 1H2018.

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

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

Key Milestones to Final Investment Decision – targeting at 1H2019

Technical

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

Commercial

- ✓ Recently signed SPA of 1.2 MTPA with EDF (French) and multiple HOAs secured

Regulatory

- ✓ Received approval on marine concession and development plan of Golfinho–Atum Field
- ✓ Commenced the resettlement plan in Q4 2017

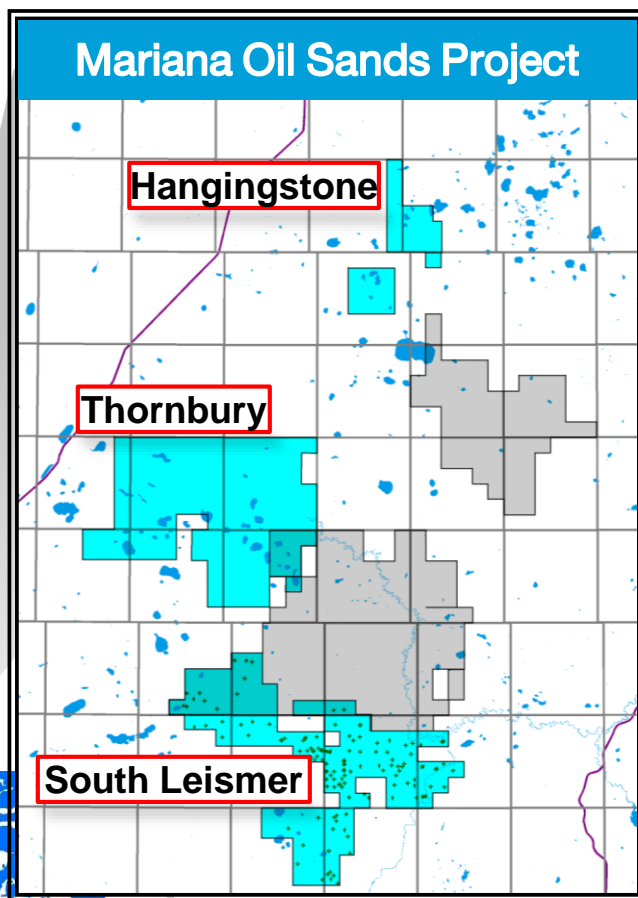
Financing

- ✓ On-going negotiation for project financing

Onwards to initial phase of 12 MMTPA

America: Canada Oil Sands

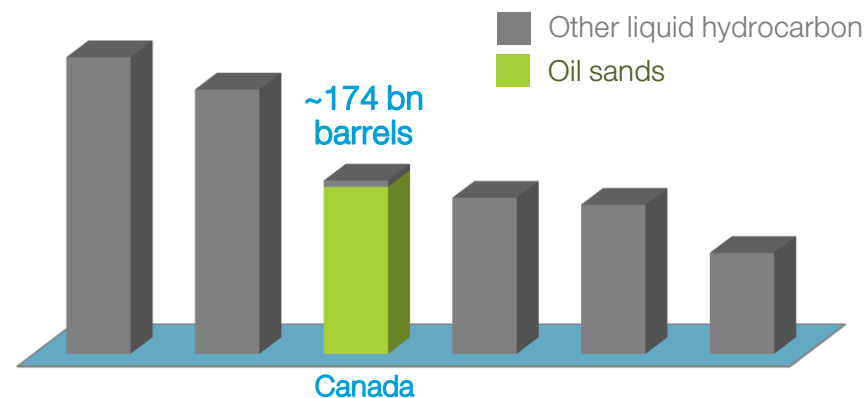
Flexibility to pursue long-term investment from the oil sands project



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
- In Q3 2017, the Company revised the project's development plan which involves delaying the project's Final Investment Decision, to reflect results from the assessment of the industry and commercial feasibility studies

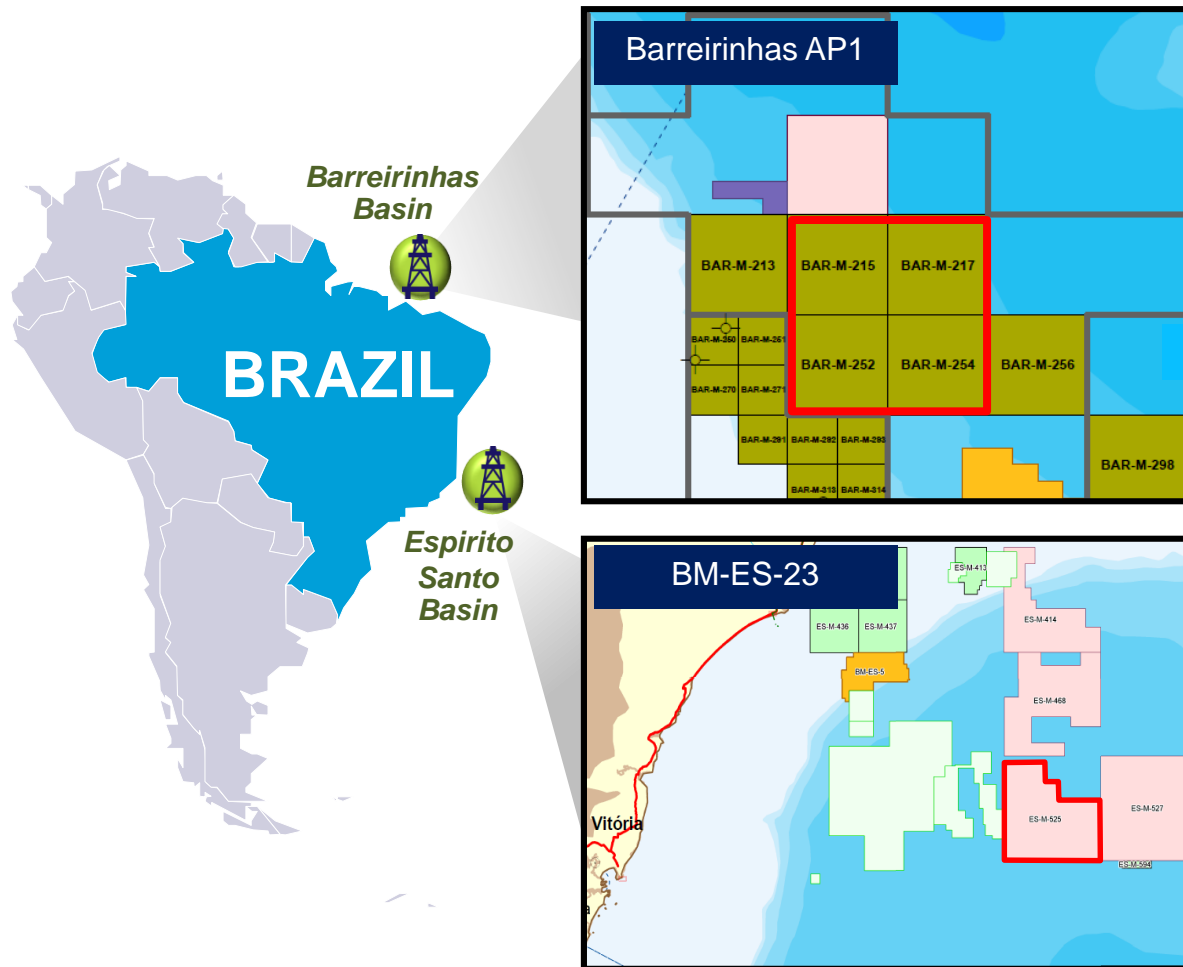
Approximately 96% of the reserves in Canada, the world's 3rd largest oil reserves, is oil sands



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 Shell Brasil (65% interest)
- Four offshore exploration blocks: BAR-M-215, BAR-M-217, BAR-M-252 and BAR-M-254
- Completed 3D seismic activities and is in the process of assessing the petroleum potential

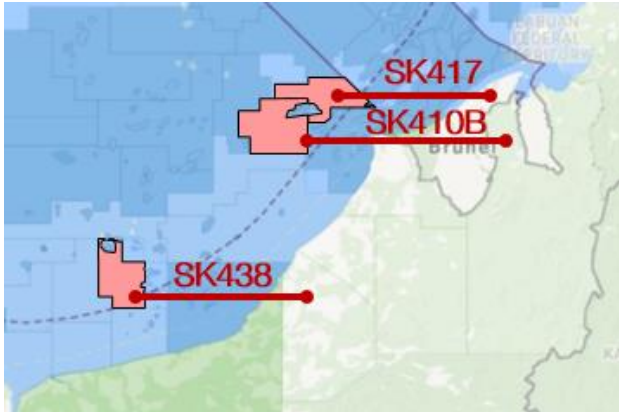
- Acquired 20% interest from Shell in Q3 2014
- Partnered with Petrobras (65%, operator) and INPEX (15%)

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

Unlocking the Exploration Potentials

Expanded portfolio in high prolific areas: Malaysia and Mexico

Sarawak Basin, Malaysia



PTTEP's Block: SK410B (42.5%), SK417 (80%) and SK438 (80%) with operatorship

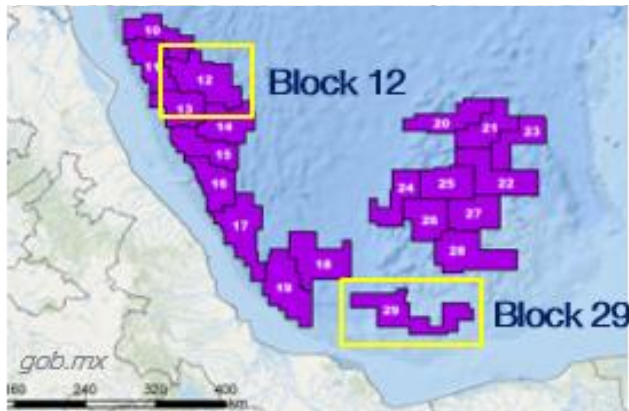
Location: Sarawak Basin, Malaysia

Characteristic: Shallow-water with low operational risk

Exploration Strategy:

- Expect exploration drilling activities during 2018-2021
- "Cluster Model" synergy operations within basin to optimize costs
- In place production infrastructure in nearby area

Gulf of Mexico, Mexico



PTTEP's Block: Block 12 (20%) and Block 29 (16.67%), as non-operating partner

Location: Mexican Ridges Basin for Block 12 and Campeche Basin for Block 29

Characteristic: Deep-water with high petroleum potentials and attractive fiscal regime

Exploration Strategy:

- Joined hand with prudent operators being Petronas and Repsol
- Mexico still has high potential prospective resources with significant sizeable discoveries

LNG Value Chain Investment : MLNG Train 9




First step into midstream LNG business in strategic area of focus

10% Investment in MLNG Train 9 by PTT Global LNG....

....continue to look for more LNG opportunities globally



MLNG Train 9 – Overview

Location	Bintulu, Sarawak, Malaysia	
Asset	Liquefaction Train 9 Tank 7	
Phase	Commercial: Jan 2017	
Capacity	3.6MTPA	
Contract Life	20 years	
Partners (subject to closing)	<div> <div>Petronas</div> <div>80%</div> </div> <div> <div>JX Nippon</div> <div>10%</div> </div> <div> <div>PTT Global LNG</div> <div>10%</div> </div>	  

Investment Rationales

- Capture opportunity from increasing LNG demand as a supplement to Thailand gas production
- Venture into midstream LNG as a mean to secure LNG supply and growth of PTT and PTTEP, as well as capture value added along with LNG value chain
- Low risk and highly market secured opportunity
 - Highly experienced operator
 - Already commenced commercial production with immediate revenue stream
- In vicinity of future upstream opportunities in focus area – offshore Sarawak

Project information 1/3

Production phase: Thailand and JDA

	Project	Status*	PTTEP's Share	Partners (as of Q2 2018)	1H2018 Average Sales Volume **		2018 Key Activities
					Gas	Oil and Other	
Production Phase							
Thailand and JDA							
1	Arthit	OP	80%	Chevron MOECO 16% 4%	221 MMSCFD	Condensate: 10 k BPD	<ul style="list-style-type: none">Ensure gas deliverability level at DCQ****Drill development wells
2	B6/27	OP	100%		-	-	<ul style="list-style-type: none">Prepare drilling plan
3	B8/32 & 9A		25%	Chevron MOECO KrisEnergy Palang Sophon 51.66% 16.71% 4.63% 2%	68 MMSCFD	Crude: 18 k BPD	<ul style="list-style-type: none">Drill development wellsPerform waterflood activities
4	Bongkot	OP	66.6667%	TOTAL 33.3333%	776 MMSCFD	Condensate: 26 k BPD	<ul style="list-style-type: none">Ensure gas deliverability level at DCQ****Drill development wellsInstall wellhead platformscompleted the acquisition of 22.2222% from shellDataroom assessment for bidding
5	Contract 3 (Formerly Unocal III)		5%	Chevron MOECO 71.25% 23.75%	623 MMSCFD	Crude: 23 k BPD Condensate: 22 k BPD	<ul style="list-style-type: none">Drill exploration / appraisal / development wellsInstall wellhead platformsPerform waterflood activities
6	Contract 4 (Formerly Pailin)		60%	Chevron MOECO 35% 5%	403 MMSCFD	Condensate: 17 k BPD	<ul style="list-style-type: none">Ensure gas deliverability level at DCQ****Drill development wellsInstall wellhead platformsIn process of pre-development of Ubon field
7	E5		20%	ExxonMobil 80%	8.3 MMSCFD	-	
8	G4/43		21.375%	Chevron MOECO Palang Sophon 51% 21.25% 6.375%	1.4 MMSCFD	Crude: 4.2 k BPD	<ul style="list-style-type: none">Drill development wellsPerform waterflood activities
9	G4/48		5%	Chevron MOECO 71.25% 23.75%	4.7 MMSCFD	Crude: 0.9 k BPD	
10	L53/43 & L54/43	OP	100%		-	Crude: 1.1 k BPD	<ul style="list-style-type: none">Drill exploration / appraisal / development wells
11	PTTEP1	OP	100%		-	Crude: 273 BPD	<ul style="list-style-type: none">Drill development wellsPerform waterflood activities
12	S1	OP	100%		15 MMSCFD	Crude: 27 k BPD LPG: 0.2 k MT/D	<ul style="list-style-type: none">Drill exploration / development wellsEnhance oil recovery program includes waterflooding and artificial lift
13	Sinphuhorm	OP	55%	Apico ExxonMobil 35% 10%	77 MMSCFD	Condensate: 266 BPD	<ul style="list-style-type: none">Drill development wells
14	MTJDA	JOC	50%	Petronas-Carigali 50%	341 MMSCFD	Condensate: 6.9 k BPD	<ul style="list-style-type: none">Drill development wellsInstall wellhead platforms
15	L22/43	OP	100%		-	Crude: 43 BPD	<ul style="list-style-type: none">Drill development wells

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

** Sales volume stated at 100% basis.

*** DCQ = Daily Contractual Quantity

Project information 2/3

Production phase: Overseas



	Project	Status*	PTTEP's Share	Partners (as of Q2 2018)	1H2018 Average Sales Volume **		2018 Key Activities
					Gas	Oil and Other	
Production Phase							
Overseas							
16	Vietnam 9-2	JOC	25%	PetroVietnam 50% SOCO 25%	13 MMSCFD	Crude: 4.1 k BPD	<ul style="list-style-type: none">Maintain production operationPerform reservoir management
17	Yadana		25.5%	TOTAL 31.24% Chevron 28.26% MOGE 15%	794 MMSCFD	-	<ul style="list-style-type: none">Ensure gas deliverability level at DCQ***
18	Yetagun		19.3178%	Petronas-Carigali 30.00140% MOGE 20.4541% Nippon Oil 19.3178% PC Myanmar 10.90878% (Hong Kong)	156 MMSCFD	Condensate: 3.3 k BPD	<ul style="list-style-type: none">Drill appraisal / development wellsPerform reservoir Management
19	Vietnam 16-1	JOC	28.5%	PetroVietnam 41% SOCO 28.5% OPECO 2%	6.0 MMSCFD	Crude: 19 k BPD	<ul style="list-style-type: none">Drill development wellsMaintain production operation
20	PTTEP Australasia (PTTEP AA)	OP	90%-100% (varied by permits)		-	Crude: 7.1 k BPD	<ul style="list-style-type: none">Maintain production operationDivest Montara field to Jadestone on 15 Jul 18 which expected to complete by end of 2018
21	Natuna Sea A		11.5%	Premier Oil 28.67% KUFPEC 33.33% Petronas 15% Pertamina 11.5%	242 MMSCFD	Crude: 0.8 k BPD	<ul style="list-style-type: none">Maintain production operation
22	Zawtika (M9 & a part of M11)	OP	80%	Myanma Oil and Gas Enterprise (MOGE) 20%	304 MMSCFD	-	<ul style="list-style-type: none">Maintain production rateDrill development wellsInstall wellhead platforms
23	Algeria 433a & 416b (Bir Seba)	JOC	35%	PetroVietnam 40% Sonatrach 25%	-	Crude: 2.6 k BPD (net entitlement)	<ul style="list-style-type: none">Maintain production operation

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

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

*** DCQ = Daily Contractual Quantity

Project information 3/3

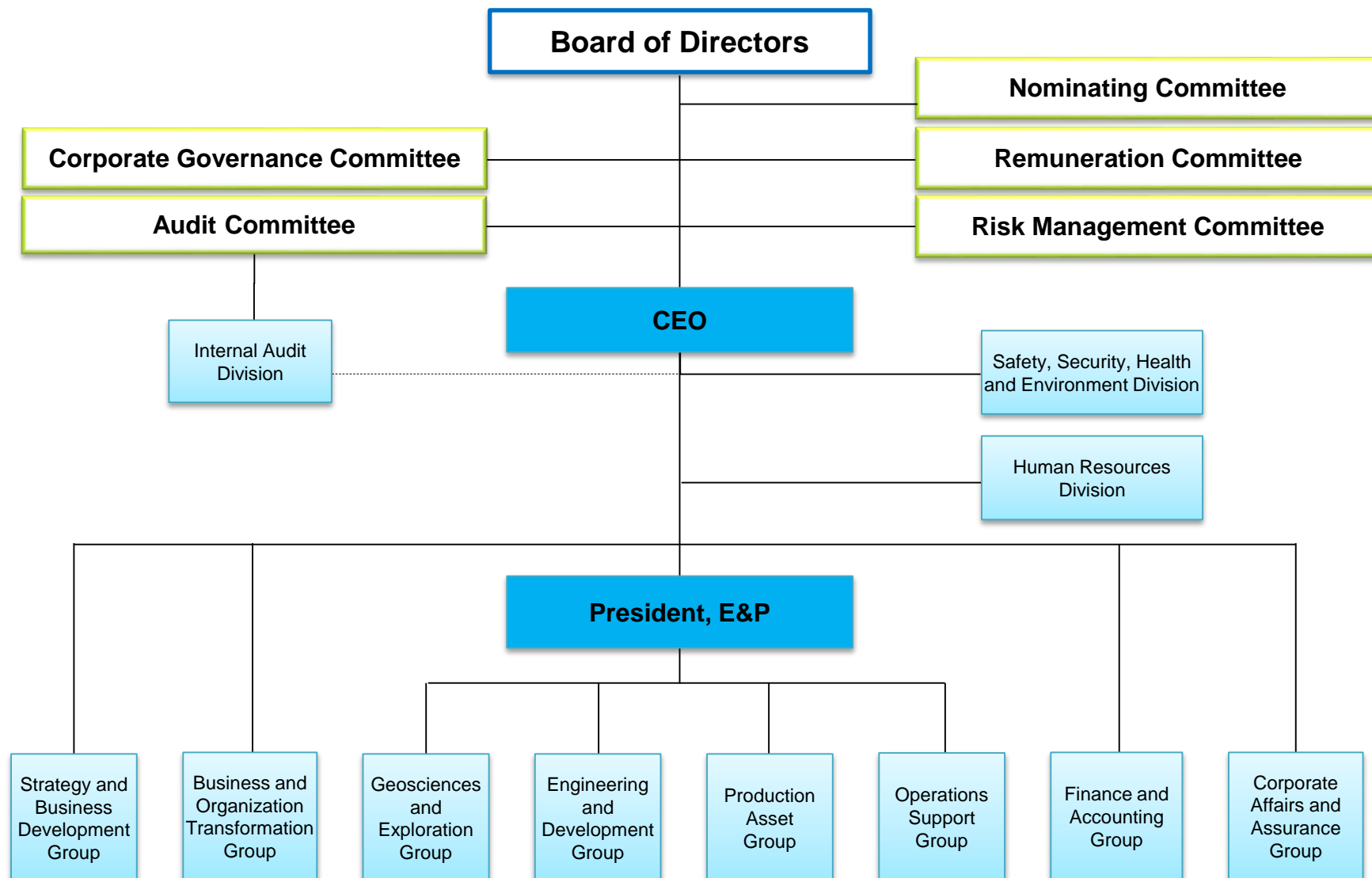
Exploration/Development phase

	Project	Status*	PTTEP's Share	Partners (as of Q2 2018)	2018 Key Activities
Exploration/Development Phase					
Thailand and JDA					
24	G9/43	OP	100%		
Overseas					
25	Myanmar M3	OP	80%	MOECO 20%	<ul style="list-style-type: none"> Completed Pre-FEED study and expected to propose FDP in Q3/18 Negotiate the commercial framework with the Myanmar government
26	Mozambique Rovuma Offshore Area 1		8.5%	Anadarko, Mitsui, 26.5%, 20% ENH, ONGC 15%, 10% Beas Rovuma, Bharat 10%, 10%	<ul style="list-style-type: none"> Preparatory work for Final Investment Decision (FID) including LNG marketing and finalization of remaining commercial contracts
27	Algeria Hassi Bir Rekaiz	OP	24.5%	CNOOC 24.5% Sonatrach 51%	<ul style="list-style-type: none"> Got approval on FDP
28	Myanmar M11	OP	100%		<ul style="list-style-type: none"> Preparation of exploration drilling plan and seeking partner to manage project's risk
29	Vietnam B & 48/95		8.5%	PVN 65.88% MOECO 25.62%	<ul style="list-style-type: none"> Negotiate a GSA with the Vietnamese government
30	Vietnam 52/97		7%	PVN 73.4% MOECO 19.6%	<ul style="list-style-type: none"> Negotiate a GSA with the Vietnamese government
31	Myanmar MD-7	OP	50%	TOTAL 50%	<ul style="list-style-type: none"> Assess resource field's potential
32	Mariana Oil Sands	OP	100%		<ul style="list-style-type: none"> Assess appropriated development approach
33	Barreirinhas AP1		25%	Shell Brasil 65% Mitsui E&P Brasil 10%	<ul style="list-style-type: none"> Assess petroleum potential
34	Myanmar MOGE 3	OP	75%	Palang Sophon 10% MOECO 10% WinPreciousResources 5%	<ul style="list-style-type: none"> prepare exploration drilling welll
35	Brazil BM-ES-23		20%	Petrobras 65% INPEX 15%	<ul style="list-style-type: none"> Assess petroleum potential
36	Sarawak SK410B	OP	42.5%	KUFPEC 42.5% Petronas-Carigali 15%	<ul style="list-style-type: none"> Assess petroleum potential and prepare exploration drilling plan
37	Sarawak SK417	OP	80%	Petronas-Carigali 20%	<ul style="list-style-type: none"> Acquire 3D seismic
38	Sarawak SK438	OP	80%	Petronas-Carigali 20%	<ul style="list-style-type: none"> Acquire 3D seismic
39	Mexico block 12 (2.4)		20%	PC Carigali Mexico 60% Ophir Mexico 20%	<ul style="list-style-type: none"> Assess petroleum potential
40	Mexico block 29 (2.4)		16.67%	Repsol Mexico 30% PC Carigali Mexico 28.33% Sierra Nevada 25%	<ul style="list-style-type: none"> Assess petroleum potential

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

Organization structure

Ensuring transparency, integrity and good corporate governance



Ratio	Formula
Lifting Cost (\$/BOE)	$(\text{Operating Exp.} - \text{Transportation Cost} - \text{Stock Variation} - \text{Other expenses not related to lifting}) / \text{Production Volume}$
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	$(\text{Trailing-12-month net income} + \text{Trailing-12-month Interest Expenses \& Amortization of Bond Issuing Cost}) / (\text{Average shareholders' equity and average total debt between the beginning and the end of the 12-month period})$
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	$\text{Trailing-12-month EBITDA} / \text{Trailing-12-month Interest Expenses \& Amortization of Bond Issuing Cost}$