Executive Summary

PTTEP's financial performance in 2016 was still largely affected by the decline in global crude oil prices which began in mid-2014. Despite signs of an oil price recovery towards the end of the year, PTTEP's average product price was relatively low. However, efforts to maintain planned production levels as well as cost optimization which exceeded the target, has resulted in the Company successfully maintaining its strong financial position, with a positive operating cash flow of 2,308 MMUSD, and earnings before interest, tax, depreciation and amortization (EBITDA) margin of 71% in this year, reflecting the Company's ability to manage financial liquidity amid the oil price crisis.

In 2016, the Company reported sales revenue of 4,190 MMUSD, a 21% decrease from 2015 mainly due to lower average selling prices which fell from 45.29 USD/BOE in 2015 to 35.91 USD/BOE in 2016. Sales volume for the year stood at 319,521 barrels of oil equivalent per day (BOED), a similar level to that of 2015. From an expenditure point of view, the Company continued to carry out cost reduction and efficiency improvement activities under the SAVE to be SAFE program since late 2014, and more recently also introduced the "SPEND SMART to Business Sustainability" campaign to strengthen its efforts on further cost optimization initiatives to support long-term competitive advantage and sustainable growth. As a result, total expenses, excluding impairment, was reduced from 4,601 MMUSD in 2015 to 3,664 MMUSD in 2016, which consequently brought down the overall unit costs from 38.88 USD/BOE in 2015 to 30.46 USD/BOE in 2016, representing a 22% reduction.

The Company reported a recurring net profit for 2016 of 466 MMUSD, and recorded a non-recurring loss of 94 MMUSD. The non-recurring loss is mainly attributed to losses on oil price hedging, which partly is the mark-to-market valuation of outstanding oil price hedging positions that were booked in accordance with internationally accepted accounting standards but have no impact to the Company's cash flow. The Company also recognized asset impairment losses of 47 MMUSD as a result of adjustments to the production profiles of the Yetagun and Natuna Sea A projects. These non-recurring losses, however, were partially offset by 71 MMUSD of non-recurring gains and tax savings arising from the appreciation of the Thai Baht relative to the US Dollar. As a result, PTTEP reported an improved net profit of 372 MMUSD for 2016, compared to the net loss of 854 MMUSD in 2015 which was driven by oil-price-slump-related asset impairment charges of 1,385 MMUSD.

PTTEP's financial position for the year ended 2016 remained strong, with total assets amounting to 18,891 MMUSD, of which 4,022 MMUSD was cash and short-term investments; total liabilities was 7,505 MMUSD while interest-bearing debt amounted to 2,832 MMUSD and total equity ended at 11,386 MMUSD.

Table of key financial results

(Unit: Million US Dollar)	2016	2015	% Inc. YTD	Q3 2016	Q4 2016	Q4 2015	% Inc. (Dec.) QoQ	% Inc. (Dec.) YoY
Total Revenue *	4,339	5,614	(23)	1,109	1,089	1,327	(2)	(18)
Sales Revenue *	4,190	5,287	(21)	1,047	1,038	1,203	(1)	(14)
EBITDA	3,027	3,844	(21)	770	690	809	(10)	(15)
Profit(loss) for the period	372	(854)	>100	156	(16)	132	>(100)	>(100)
Basic earnings(loss) per share from continuing operations (Unit: USD)	0.07	(0.21)	>100	0.04	(0.01)	0.02	>(100)	>(100)
Profit from normal operation	466	718	(35)	75	123	13	64	>100
Profit(loss) from non-recurring items	(94)	(1,572)	94	81	(139)	119	>(100)	>(100)

* Revenue from continuing operations

Economic Outlook in 2016

Crude Oil Prices

Crude oil prices were a key driver of PTTEP's financial performance in 2016. The year saw large volatility in the oil markets, with the Dubai crude price bottoming out at approximately 23 USD/BBL during the first quarter following the lifting of sanctions on Iran, and the easing of concerns over oversupply conditions as reports during the second quarter indicated lower oil production from the United States of America (the US). Further reduction in the supply of crude oil, due to unrests in Nigeria and Libya, as well as a wildfire in Canada, were bullish for oil prices, providing a price support in the range of 40-50 USD/BBL throughout the third quarter of the year. Following an agreement between both OPEC and non-OPEC members for a production cut, oil prices peaked at a record year-high of 54 USD/BBL. As a result, Dubai crude prices for the fourth quarter of 2016 averaged 48.32 USD/BBL, increasing from the previous quarter average of 43.17 USD/BBL; while the 2016 annual average stood at 41.27 USD/BBL, lower than the previous year average of 50.91 USD/BBL.

Thailand's Energy Demand

Thailand's energy demand, from January to November of 2016 continued to grow at 1.3% per annum relative to the same period of the previous year, reaching to 2.1 million BOED (Source: EPPO, The Ministry of Energy). The increase in energy consumption is a reflection of lower crude oil prices as well as the country's economic growth of 3.2% in 2016 (Source: Bank of Thailand), driven by strong public sector investments, higher private domestic consumption as a result of economic stimulus, and growing tourism and exports. The growth in energy demand empowers the Company to maintain its planned sales volumes.

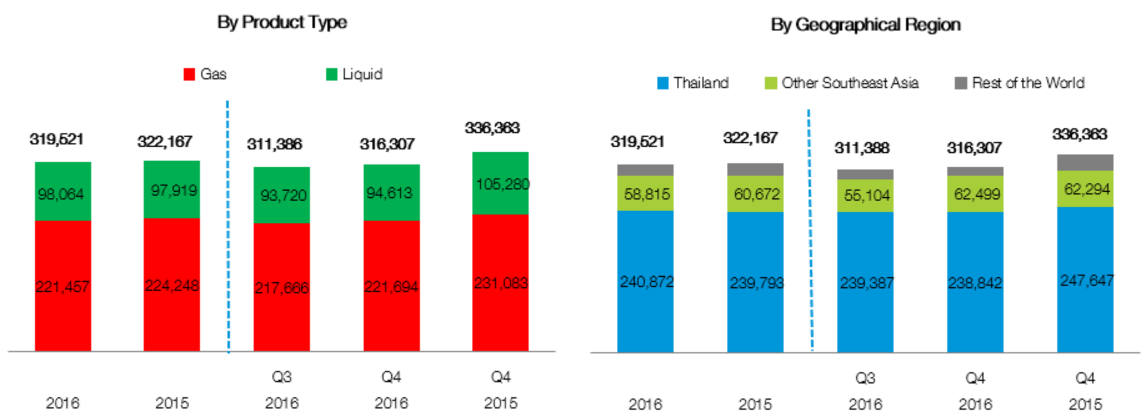
Exchange Rates (Thai Baht against US Dollar)

The Thai Baht to US Dollar exchange rate is another factor affecting the Company's financial performance given that PTTEP's functional currency is the US Dollar, while its tax filing currency is the Thai Baht. The Thai Baht appreciated from the year ended 2015, where it stood at 36.09 THB/USD, to close at 35.83 THB/USD for the year ended 2016, resulting in gains from tax savings for PTTEP. However, the US Federal Open Market Committee (FOMC)'s interest rate hike from 0.50% to 0.75% during December, and expected rate hikes in the year ahead, may offset the gains in the Thai Baht over the US Dollar as capital flows out of emerging market economies including Thailand.

Financial Performance

*Average Sales Volume**

Unit: Barrels of Oil Equivalent per Day



*Included sales volume of Oman 44 Project until August 2016

Average selling price and Dubai crude oil price (Unit : US Dollar)	2016	2015 (Restated)	% Inc. (Dec.) YTD	Q3 2016	Q4 2016	Q4 2015 (Restated)	% Inc. (Dec.) QoQ	% Inc. (Dec.) YoY
Average selling price (/BOE)	35.91	45.29	(21)	36.32	35.65	39.18	(2)	(9)
Average Dubai crude oil price	41.27	50.91	(19)	43.17	48.32	40.71	12	19

For the year ended 2016 compared with the year ended 2015

In 2016, average sales volume of PTTEP and its subsidiaries (the "Group") decreased to 319,521 BOED (In 2015: 322,167 BOED). This decrease was due primarily to the Oman 44 Project. However, the average selling price in 2016 decreased to 35.91 USD/BOE (In 2015: 45.29 USD/BOE) due primarily to an overall decrease in the global market of the crude oil price.

Fourth quarter of 2016 compared with Third quarter of 2016

In Q4/2016, the Group had an average sales volume of 316,307 BOED, an increase from Q3/2016 of 311,386 BOED, primarily from the Zawtika Projects. The average selling price in Q4/2016 also decreased to 35.65 USD/BOE. (Q3/2016: 36.32 USD/BOE)

Fourth quarter of 2016 compared with Fourth quarter of 2015

The average sales volume in Q4/2016 decreased when compare to the same period in 2015 of 336,363 BOED, primarily from the PTTEP Australasia and Oman 44 Projects. The average selling price also decreased to 35.65 USD/BOE. (Q4/2015: 39.18 USD/BOE) due primarily to an overall decrease in the global market of the crude oil price.

Financial Performance (Continued)

Overall Operating Results

For the year ended 2016 compared with the year ended 2015

For 2016, the Group had a net profit of 372 MMUSD, an increase in operating results of 1,226 MMUSD or more than 100% from a net loss of 2015 in the amount of 854 MMUSD. The increase in profit was primarily due to the recognition of impairment loss on assets of 1,385 MMUSD in 2015, while in 2016, the Group recognized impairment loss on assets of only 47 MMUSD.

For 2016, the Group reported a loss from non-recurring items in the amount of 94 MMUSD, which is an improvement of 1,478 MMUSD from a loss from non-recurring items in 2015 of 1,572 MMUSD. The primarily reason came from the recognition of impairment loss on assets of 1,385 MMUSD in 2015, while in 2016, the Group recognized impairment loss on assets of only 47 MMUSD.

Fourth quarter of 2016 compare to Third quarter of 2016

In Q4/2016, the Group had a net loss of 16 MMUSD, a decrease of 172 MMUSD or more than 100% from a net profit in Q3/2016 of 156 MMUSD. The decrease was primarily due to an impact of changes in foreign exchange rate which resulted in an increase in income tax expenses of 143 MMUSD. In Q3/2016, the Group recognized a tax benefit from changes in foreign exchange rate because Thai Baht is appreciated against US Dollar, while in Q4/2016, the Group recognized an income tax expenses related to changes in foreign exchange rate because Thai Baht is depreciated against US Dollar. In addition, the Group recognized an impairment loss on assets of US Dollar 47 million in Q4/2016, while it did not recognize any impairment loss on assets in Q3/2016.

In Q4/2016, the Group reported loss from non-recurring items of 139 MMUSD. The decrease in operating results of 220 MMUSD when compare to gain from non-recurring items in Q3/2016 of 81 MMUSD was primarily due to an impact of changes in foreign exchange rate which resulted in an increase in income tax expenses of 143 MMUSD. In Q3/2016, the Group recognized a tax benefit from changes in foreign exchange rate because Thai Baht is appreciated against US Dollar, while in Q4/2016, the Group recognized an income tax expenses related to changes in foreign exchange rate because Thai Baht is depreciated against US Dollar. In addition, the Group recognized an impairment loss on assets of 47 MMUSD in Q4/2016, while it did not recognize any impairment loss on assets in Q3/2016.

Financial Performance (Continued)

Fourth quarter of 2016 compare to Fourth quarter of 2015

When compare a net profit for Q4/2016 to the same period last year of 132 MMUSD, the Group's operating results decreased of 148 MMUSD or more than 100%, primarily due to a decrease in revenue from sales of 165 MMUSD as a result of a decrease in average selling price as well as the average sales volume. The decrease is also resulted from an impact of changes in foreign exchange rate which resulted in an increase in income tax expenses of 127 MMUSD. In Q4/2015, the Group recognized a tax benefit from changes in foreign exchange rate because Thai Baht is appreciated against US Dollar, while in Q4/2016, the Group recognized an income tax expenses related to changes in foreign exchange rate because Thai Baht is depreciated against US Dollar. In addition, the Group recognized an impairment loss on assets of 47 MMUSD in Q4/2016, while it did not recognize any impairment loss on assets in same period of last year. However, depreciation, depletion and amortization expenses decreased of 104 MMUSD due to an increase in the petroleum reserves as well as a decrease in exploration expenses of 41 MMUSD from the well write-off expenses recognized in Q4/2015, while the Group did not recognize any well write-off in Q4/2016.

In Q4/2016, the Group reported loss from non-recurring items of 139 MMUSD. The decrease in operating results of 258 MMUSD when compare to Q4/2015 which reported net gain from non-recurring items of 119 MMUSD was primarily due to an impact of changes in foreign exchange rate which resulted in an increase in income tax expenses of 127 MMUSD. In Q4/2015, the Group recognized a tax benefit from changes in foreign exchange rate because Thai Baht is appreciated against US Dollar, while in Q4/2016, the Group recognized an income tax expenses related to changes in foreign exchange rate because Thai Baht is depreciated against US Dollar. In addition, the Group recognized an impairment loss on assets of 47 MMUSD in Q4/2016, while it did not recognize any impairment loss on assets in same period of last year.

Operating Results by Segments

Net Profit (loss) (Unit: Million US Dollar)	2016	2015	% Inc. (Dec.) YTD	Q3 2016	Q4 2016	Q4 2015 (Restated)	% Inc. (Dec.) QoQ	% Inc. (Dec.) YoY
Exploration and production	433	(1,041)	>100	138	26	17	(81)	53
Thailand	610	373	64	152	105	67	(31)	57
Overseas	(177)	(1,414)	87	(14)	(79)	(50)	>(100)	(58)
- Other Southeast Asia	(16)	(102)	84	37	(50)	20	>(100)	>(100)
- Australia	(108)	(630)	83	(27)	(17)	(48)	37	65
- America	(10)	(654)	98	(2)	(2)	(16)	-	88
- Africa	(43)	(28)	(54)	(22)	(10)	(6)	55	(67)
Pipeline transportation	208	356	(42)	50	50	71	-	(30)
Head office and others	(289)	(138)	>(100)	(32)	(109)	44	>(100)	>(100)
Discontinued Operations	20	(31)	>100	0	17	0	>100	>100
Total	**372**	**(854)**	**>100**	**156**	**(16)**	**132**	**>(100)**	**>(100)**

Financial Performance (Continued)

Exploration and production segment

- *Thailand*

For 2016, the Thailand reported a net profit of 610 MMUSD, an increase of 237 MMUSD or 64% from a net profit for 2015 of 373 MMUSD. The increase was primarily due to a decrease in depreciation, depletion and amortization expenses mainly from the Contract 4 Project which had made an increase in the petroleum reserve during the year. In addition, the Thailand recognized an impairment loss on assets in 2015, while it did not recognize any impairment loss on assets in 2016. The operating expenses also decreased as a result of cost management and increase efficiency under the SPEND SMART program. However, the revenue from sales decreased even though the average sales volume increased primarily due to a decrease in average selling price effected from the decline in the global market of the crude oil price.

For Q4/2016, the Thailand reported a net profit of 105 MMUSD, a decrease in a net profit of 47 MMUSD or 31% from a net profit in Q3/2016 of 152 MMUSD. The decrease was primarily due a decrease in a recognition of tax benefit from an impact of changes in foreign exchange rate especially from the depreciation of Thai Baht against US Dollar in Q4/2016. In addition, the revenue from sales decreased from decreases in average sales volume and average selling price. However, the depreciation, depletion and amortization decreased mainly from the reduction in production volume of the MTJDA Project as the demand decreased.

When compare a net profit for Q4/2016 to the same period last year of 67 MMUSD, the Thailand reported an increase in net profit of 38 MMUSD or 57%, primarily from a decrease in depreciation, depletion and amortization expenses mainly from an increase in the petroleum reserve of the Arthit Project.

- *Overseas*

For 2016, the Overseas reported a net loss of 177 MMUSD, a decrease in a net loss of 1,237 MMUSD or 87% from a net loss in 2015 of 1,414 MMUSD. The decrease was primarily due to an increase in operating results of the America, Australia, and Other Southeast Asia.

- The America reported a net loss of 10 MMUSD, a decrease in net loss of 644 MMUSD or 98% from a net loss for 2015 of 654 MMUSD. The decrease in a net loss was primarily due to a recognition of impairment loss on assets from the Mariana Oil Sand Project in 2015, while there was no impairment loss on assets recognized for this Project in 2016.
- The Australia reported a net loss of 108 MMUSD, a decrease in net loss of 522 MMUSD or 83% from a net loss for 2015 of 630 MMUSD. The decrease in a net loss was primarily due to a recognition of impairment loss on assets of the PTTEP Australasia Project in 2015, while there was no impairment loss on assets recognized for this Project in 2016.
- The Other Southeast Asia reported a net loss of 16 MMUSD, a decrease in net loss of 86 MMUSD or 84% from a net loss for 2015 of 102 MMUSD. The decrease in net loss was primarily due to a recognition of lesser amount of impairment loss on assets in 2016 when compare to the amount recognized in 2015.

For Q4/2016, the Overseas reported a net loss of 79 MMUSD, an increase in net loss of 65 MMUSD or more than 100% from a net loss of Q3/2016 of 14 MMUSD primarily due to a decrease in operating result of the other Southeast Asia.

- The Other Southeast Asia reported a net loss of 50 MMUSD, a decrease in operating result of 87 MMUSD or more than 100% from a net profit for Q3/2016 of 37 MMUSD, primarily due to a recognition of an impairment loss on assets in Q4/2016 for the Yetagun and Natuna Sea A Projects, while there was no impairment loss on assets recognized in Q3/2016.

Financial Performance (Continued)

When compare a net loss for Q4/2016 to the same period last year of 50 MMUSD, the Overseas recognized an increase in a net loss of 29 MMUSD or 58%, primarily due to decreases in operating result of the Other Southeast Asia, while the Australia and America reported an increase in operating results.

- The Other Southeast Asia reported a net loss of 50 MMUSD, a decrease in operating results of 70 MMUSD or more than 100% from a net profit for Q4/2015 of 20 MMUSD, primarily due to a recognition of an impairment loss on assets in Q4/2016 for the Yetagun and Natuna Sea A Projects, while there was no impairment loss on assets recognized in Q4/2015.
- The Australia reported a net loss of 17 MMUSD, a decrease in a net loss of 31 MMUSD or 65% from a net loss for Q4/2015 of 48 MMUSD, primarily due to a decrease in depreciation, depletion and amortization expenses mainly from an increase in the petroleum reserve of the PTTEP Australasia Project.
- The America reported a net loss of 2 MMUSD, a decrease in a net loss of 14 MMUSD or 88% from a net loss for Q4/2015 of 16 MMUSD. The decrease primarily due to a decrease in well write-off expenses since it did not recognize any well write-off expenses in Q4/2016, while it recognized this expenses for the Brazil BM-ES 23 Project in Q4/2015.

The operating results for the Middle East were presented in discontinued operations.

Pipeline transportation segment

The pipeline transportation segment reported a net profit of 208 MMUSD for 2016, a decrease of 148 MMUSD or 42% from a net profit of 356 MMUSD for Q4/2015. The decrease was primarily due to a decrease in revenue from pipeline transportation Projects in Republic of the Union of Myanmar which was in line with a decrease in gas selling price.

Head office and others segment

For 2016, the head office and others segment reported net loss of 289 MMUSD, an increase in net loss of 151 MMUSD or more than 100% from net loss for 2015 of 138 MMUSD. The increase in net loss was primarily due to the recognition of loss on oil price hedging derivative contracts in 2016 while the segment recognized gain on oil price hedging derivative contracts in 2015.

For Q4/2016, the head office and others segment reported net loss of 109 MMUSD, an increase in net loss of 77 MMUSD or more than 100% from net loss for Q3/2016 of 32 MMUSD, primarily due to an increase in administrative expenses of the head office.

When compare a net loss for Q4/2016 to the same period last year which had a net profit of 44 MMUSD, the head office and others segment had a decrease in operating results of 153 MMUSD or more than 100%, primarily due to a decrease in a recognition of tax benefit from an impact of changes in foreign exchange rate especially from the depreciation of Thai Baht against US Dollar in Q4/2016 and a recognition of loss on oil price hedging derivative contracts in Q4/2016, while there was a gain on oil price hedging derivative contracts in Q4/2015.

Discontinued operations

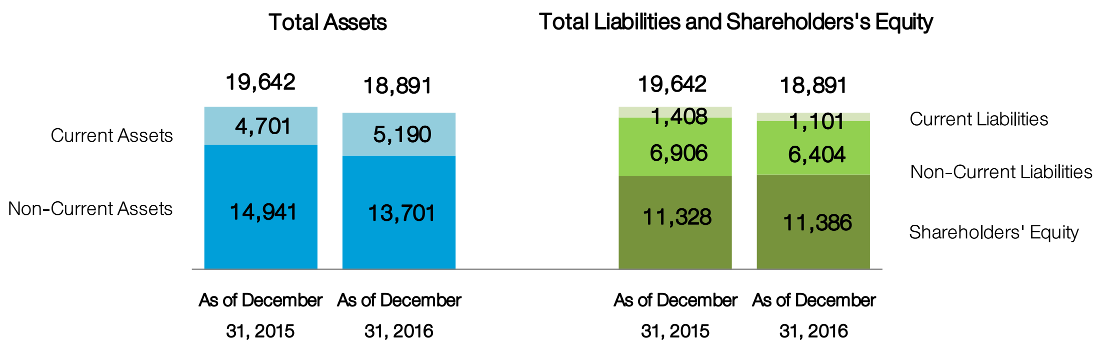
Since Q3/2016, the Middle East under the exploration and production segment has been represented under discontinued operations because PTTEP Oman Company Limited (PTTEP OM), a subsidiary of the company and holds 100% of participating interest of Oman 44 project, was sold and it represented as a significant operation under the Middle East.

In 2016, the discontinued operations reported a net profit of 20 MMUSD, an increase of 51 MMUSD or more than 100% from a net loss of 31 MMUSD in 2015. The increase in net profit was primarily due to the recognition of an impairment loss on assets in 2015 for the Oman 44 Project, while there was no recognition of impairment loss on assets in 2016, and the recognition of gain on sales of PTTEP OM.

Financial Performance (Continued)

Financial Position

Unit: Million US Dollar



Assets

As at December 31, 2016, the Group had total assets in the amount of 18,891 MMUSD (equivalent to 676,890 MMTHB), a decrease of 751 MMUSD from the total assets as of December 31, 2015 of 19,642 MMUSD (equivalent to 708,864 MMTHB), primarily due to;

(1) Current assets, which were primarily comprised of cash and cash equivalents, account receivable – parent company and materials and supplies, increased by 489 MMUSD, mainly from increases in cash and cash equivalent and short-term investment of 762 MMUSD, offset with decreases in account receivables – parent company of 93 MMUSD, materials and supplies of 58 MMUSD and other current assets of 64 MMUSD.

(2) Non-current assets, which were primarily comprised of exploration and production assets in joint venture projects that are recognized as part of the property, plant and equipment – net, intangible assets – net and goodwill-net, decreased by 1,240 MMUSD mainly due to a recognition of depreciation, depletion and amortization expenses even though the Group had additional investment in exploration and production assets.

Liabilities

As at December 31, 2016, the Group had total liabilities of 7,505 MMUSD (equivalent to 268,906 MMTHB) which include interest bearing debt of 2,832 MMUSD, a decrease of 809 MMUSD when compared with total liabilities as at December 31, 2015 of 8,314 MMUSD (equivalent to 300,053 MMTHB), primarily due to;

(1) Current liabilities, which were primarily comprised of accrued expenses and income tax payable, decreased by 307 MMUSD mainly due to the decreases in income tax payable and accrued expenses, while the financial derivative liabilities were increased.

(2) Non-current liabilities, which were primarily comprised of debentures, provision for decommissioning costs, deferred tax liabilities and long-term loans from financial institution, decreased by 502 MMUSD mainly due to a decrease in deferred tax liabilities of 191 MMUSD and the repurchase of debentures of 170 MMUSD.

Financial Performance (Continued)

Capital Structure

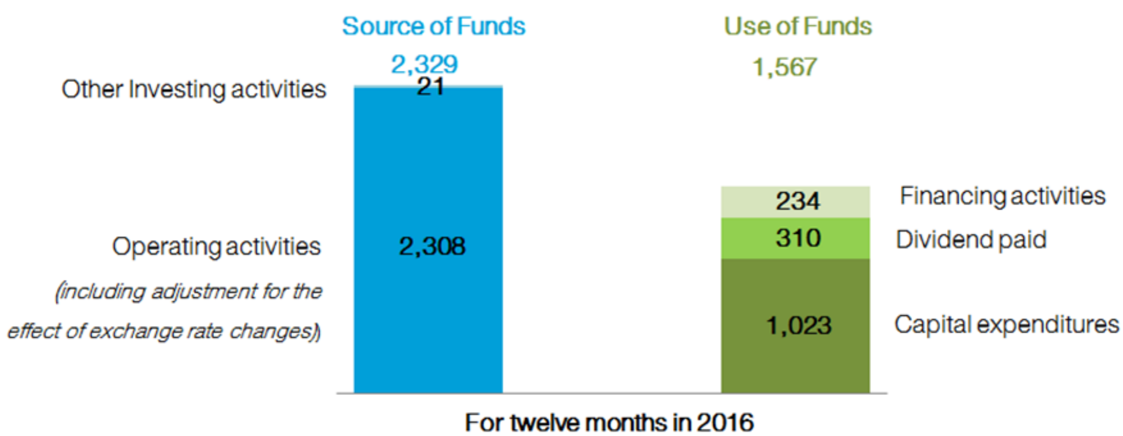
As at December 31, 2016, the capital structure comprised of shareholders' equity in the amount of 11,386 MMUSD and total liabilities of 7,505 MMUSD, including the interest-bearing debts of 2,832 MMUSD with a weighted average cost of debt of 4.41% and the average maturity of 8.15 years. All interest-bearing debts are denominated in US Dollar currency. The proportion of the fixed interest rates to floating interest rates is 80:20.

On June 22, 2016, PTTEP had repurchased some portion of the 500 MMUSD five-year unsecured and unsubordinated debentures with a fixed interest rate of 3.707% which was issued and sold in September 2013, for 177 MMUSD. As a result, the principal of these debentures were decreased from 500 MMUSD to 323 MMUSD.

The premium for the repurchase of this debenture of 7 MMUSD was recognized as part of administrative expenses in the statement of income for the year ended December 31, 2016.

Cash Flows

Unit: Million US Dollar



As at December 31, 2016, the Group had cash and cash equivalents, including short-term investment in the form of bank fixed deposit with a maturity of more than three months, but less than twelve months of 4,022 MMUSD. This represents an increase of 762 MMUSD from the cash and cash equivalents as at December 31, 2015 of 3,260 MMUSD.

Sources of funds totaling of 2,329 MMUSD primarily came from **Net cash received from operating activities** as a result of the positive net cash flows from sales revenues, offset with cash payments for expenditures and income tax expenses and **Net cash received from other investment activities**, which is mainly proceeds from PTTEP OM divestment, dividend received from related parties and cash received from interest from loans to related parties.

Uses of funds totaling of 1,567 MMUSD mainly comprise of **Net cash used in additional investment activities** for exploration and production assets and intangible assets primarily for the Zawtika, Arthit and S1 Projects, **Net cash used in financing activities** which mainly for the repurchase of debentures and payment of interests, and **Dividend payment** for the result of operation for the second half of 2015 and the first half of 2016, while there was net cash received from financial derivative contracts.

Financial Performance (Continued)

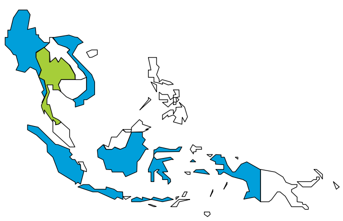
Key Financial Ratios

	2559	2558	Q3 2016	Q4 2016	Q4 2015
Profitability Ratio (%)					
EBITDA to revenue from sales	70.83	70.60	72.13	65.48	65.47
Return on equity	3.10	(6.89)	4.59	3.10	(6.89)
Net profit margin	8.04	(14.45)	11.16	8.04	(14.45)
Leverage Ratio (Times)					
Debt to equity	0.25	0.27	0.25	0.25	0.27
Debt to EBITDA	0.94	0.78	0.91	0.94	0.78

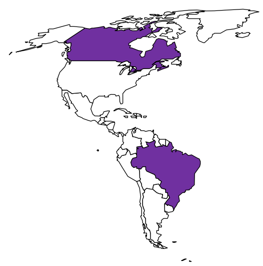
Remark:

EBITDA to revenue from sales	=	Profit before deduction of interest, tax and depreciation to revenue from sales including revenue from pipeline transportation
Net profit margin	=	Net profit to total revenue for the past 12 months
Return on equity	=	Net profit to weighted average shareholders' equity for the past 12 months
Debt to equity	=	Interest Bearing Debt to total shareholders' equity
Debt to EBITDA	=	Interest Bearing Debt to profit for the past 12 months before deduction of interest, tax and depreciation

Operational Highlights

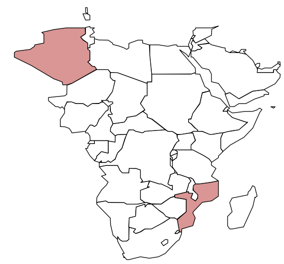


Thailand and Southeast Asia



America

Australasia



Africa

At the end of 2016, PTTEP's domestic and international operations altogether sum to 37 projects in 10 countries with total proved and probable reserves of 695 million barrels of oil equivalent (MMBOE) and 404 MMBOE, respectively. The followings are key project highlights.

<u>Projects in Thailand</u>

PTTEP currently has 16 projects in Thailand, and the majority of projects are in the ***producing phase***. These projects are located both in the Gulf of Thailand and onshore; including the Bongkot Project, the Arthit Project, the S1 Project, and the Contract 4 Project, where operations were carried out continuously to maintain the production plateau. For the year 2016, total sales volume from projects in Thailand amounted to 240,872 BOED, accounting for 75% of PTTEP's total sales volume. Ubon Field of the Contract 4 Project is in the process of the reengineering study with expected first oil production by the end of 2021 at a planned production capacity of 25,000-30,000 BOED.

<u>Projects in Southeast Asia</u>

PTTEP has 14 projects in this region which are located in the Republic of the Union of Myanmar (Myanmar), the Socialist Republic of Vietnam (Vietnam), the Federation of Malaysia (Malaysia) and the Republic of Indonesia (Indonesia). Sales volume for the year 2016 from the projects in the Southeast Asia region amounted to 58,815 BOED, representing 18% of PTTEP's total sales volume.

Averaged sales volume and highlights of projects in the ***producing phase*** within this region can be summarized as follows. **The Zawtika Project**, located in the Gulf of Moattama, Myanmar, has maintained its production as planned, and started the production operations from the fourth producing platform in Phase 1B since April 2016. The project is currently in the construction phase for 4 production platforms in Phase 1C in order to support the production plateau of the project. Current natural gas sales volume averaged approximately at 305 MMSCFD (approximately 47,023 BOED). **The Vietnam 16-1 Project**, located offshore in the southeast of Vietnam, is in the process of drilling 2 development wells to maintain the production plateau, and expects completion and commercial production in early 2017. Current crude oil sales volume averaged 26,681 BPD, and natural gas sales volume averaged 10 MMSCFD (approximately 2,656 BOED).

For projects in the ***exploration phase***, important highlights include the **Myanmar M3 Project**, which is located offshore in the Gulf of Moattama, Myanmar. The commercial feasibility and resource potential for this project are still being assessed. The **Myanmar M11 Project**, located offshore, and the **Myanmar MD-7 Project**, located in the deep water area in the Gulf of Moattama, Myanmar, are currently being assessed for the fields' resource potentials. The Myanmar MD-7 Project, is in the process of seeking a joint partner for project risk management and diversification. The **Myanmar MOGE-3 Project**, located onshore in the Central Myanmar Basin, is in the process of carrying out 2D and 3D seismic surveys which are scheduled to be complete by mid- 2017. The **Sarawak SK410B Project**, located offshore Sarawak, Malaysia, for which the Company signed the Production Sharing Contract (PSC) on 21 July 2016, is in the preparation process for 3D seismic activities scheduled for the second quarter of 2017.

Operational Highlights (Continued)

Projects in the American Continent

PTTEP has three projects in this region located in Canada and the Federal Republic of Brazil (Brazil).

All three projects are under ***Exploration Phase***. Firstly, the **Mariana Oil Sands Project**, located in Alberta, Canada, submitted the development proposal for Thornbury Phase 1 to the government of Alberta in May 2015. The project is re-assessing the investment strategy going forward to reduce costs and to mitigate development risks in response to the low oil price environment.

PTTEP has two projects in Brazil. The **Barreirinhas AP1 Project** is located in the Barreirinhas Basin, offshore to the northeast of Brazil. 3D seismic acquisition for the area was completed, and petroleum potential is being evaluated. The **BM-ES-23 Project**, located offshore in Espirito Santo basin, east of Brazil, is currently studying the petroleum potential.

Projects in Australasia

PTTEP has one project in this region which is located in the Commonwealth of Australia (Australia), and comprises 12 permits.

Fields in the ***producing phase*** include the **Montara Field**, which has average sales volume for the year 2016 of 14,655 BPD in accordance with the production plan.

The **Cash Maple Field**, which is in ***exploration phase***, received the approval from the Australian's government to extend "Retention Lease Period" for another 5 years (2017-2021). Discussions with neighboring operators are ongoing to create a joint-development plan.

Projects in Africa and the Middle East

PTTEP has 3 projects in this region, located in the People's Democratic Republic of Algeria (Algeria) and the Republic of Mozambique (Mozambique).

The **Algeria 433a and 416b Project**, which is in ***producing phase***, and is located onshore in the eastern part of Algeria, successfully marked its first sales of crude oil in late 2015. Production for the year 2016 has averaged 15,463 BPD.

The **Algeria Hassi Bir Rekaiz Project**, which is in the ***exploration phase,*** and is located onshore in the eastern part of Algeria, successfully finished a drilling campaign with satisfactory crude oil and natural gas flow rates. Currently, the project's development plans are being prepared to be submitted to the Algerian government in early 2017, with total planned production capacity of 50,000 BOED. The **Mozambique Rovuma Offshore Area 1 Project**, which is also in the exploration phase, is a large gas project located at offshore Mozambique. During 2016, the project made progress by achieving several key milestones including the receipt of the onshore LNG Engineering and Construction contract as well as the receipt of government approval for Resettlement Action Plan. The project is currently in the process of finalizing the LNG off-take agreement, and negotiating for project finance with financial institutions. The Company targets to announce the Final Investment Decision (FID) for the project by the end of 2017, with the planned first phase of LNG production at 12 Million tons per annum (MTPA).

Company Strategy under Current Oil Price Environment

PTTEP has revised its 2016 strategic plan in order to enhance its competitive advantage and sustainable growth under the current oil price environment using the concept of "RESET REFOCUS RENEW".

RESET <u>the cost structure to maintain competitiveness in the industry</u>

- Build and instill a cost-conscious DNA in every employee
- Optimize work processes for efficient cost management to become competitive with the leading companies in the industry
- Prioritize investments in projects with competitive cost structure under the low oil price environment

REFOCUS <u>investment plan towards areas of high expertise</u>

- Increase investments in Thailand and Southeast Asia, especially in Myanmar, the areas which PTTEP has extensive experience in and has low cost structure and low risks
- Synergize with PTT in LNG business to meet the country's growing energy demand in the future
- Consider investment opportunities in new areas with low cost structure, such as the US shale plays and the Middle East oil fields

RENEW <u>long-term strategy for sustainable growth</u>

- Focus on research and development to lower costs and improve efficiencies in the E&P business
- Expand investment horizons related to the E&P business to diversify sources of revenues and return on investments
- Explore and evaluate new business opportunities with growth prospects based on the existing experiences and capabilities of human resources in the Company

Capital Management

PTTEP also focuses on ensuring effective financial management through maintaining a robust capital structure. The Company's current debt-to-equity ratio of 0.3x as of the year ended 2016, provides adequate liquidity to cushion for uncertainties in oil prices and the global economy. The Company also simulates various oil price and exchange rate scenarios to assess risk factors and prepare mitigation plans.

As of the end of 2016, the Company has cash on hand of approximately 4 billion USD which will be used to fund capital expenditures to maintain production, develop future projects in the pipeline, and carry out exploration activities as well as support new investment opportunities through Merger and Acquisition activities (M&A).

Portfolio Management

PTTEP continues to undertake portfolio management activities to achieve an optimal balance between project value-added and risk management, as well as to ensure that the Company's long term strategic objectives can be achieved. PTTEP consistently studies and analyses pertinent investment factors to keep abreast of the constant changes in the social, economic, and political landscape, and to incorporate these variables into investment considerations and decisions.

The Company places great focus on adding petroleum reserves in the future. The majority of the short term reserves addition is expected from the development projects including the Contract 4 (Ubon Field), the Mozambique Rovuma Offshore Area 1 Project, and the Algeria Hassi Bir Rekaiz Project. M&A deals will also be short term reserve contributors. The Company is awaiting results of a few submitted bid proposals, with particular focus on producing assets or those which are in the final stage of development and close to production, located mainly in the South East Asian region where the operating risk is moderately low due to market readiness, and where there is potential reserve contribution and prospects of attractive returns.

Company Strategy under Current Oil Price Environment (Continued)

The Company carried out portfolio rationalization activities during the year 2016, including the acquisition of the Sarawak SK410B Project exploration block in Malaysia, which is situated in a high petroleum potential area, and the divestment of PTTEP OM which holds 100% interest in the Oman 44 Project, a mature field. Concurrently, the company continues to explore for new investment opportunities in Oman as PTTEP has signed a Memorandum of Understanding (MOU) with a subsidiary of the national oil company of Oman. Other activities during the year also comprised seeking for a joint partner to manage the risk of the Myanmar MD-7 Project, and the relinquishing the L28/48 Fields in Thailand, the MD-8 Field in Myanmar, the Indonesia South Mandar Field in Indonesia, two exploration blocks in PTTEP Australasia, the Mozambique Rovuma Onshore exploration field, and the Kenya L11, L11B and L12 fields.

Cost Management

Given the continuity in oil price volatility, the cost reduction plans and the improvement of operational efficiency remain our priorities. PTTEP has adopted the RESET strategy to reduce cost, streamline the organization structure, instill a cost-conscious culture and maintain competitiveness in the industry under **the SAVE to be SAFE program** since 2014. The Company actively pursues a number of cost reduction initiatives, such as the reduction in number of drilling days and cost, optimization of wellhead platform design, contract renegotiations on current and future equipment rental and services, and logistical optimization through reducing number of supply boats as well as optimizing inventory management. During 2016, PTTEP introduced the **SPEND SMART to Business Sustainability** campaign with the theme “Think Smart, Work Smart for Better Efficiency” to strengthen its effort on further cost optimization initiatives to become a low cost operator with long-term competitive advantages and sustainable growth.

- **Think Smart:** Alter the frame of thoughts by focusing on cost efficiency and productivities gain (Cost Benefit Analysis) under limited budget and applying to all activities
- **Work Smart:** Remain efficiency in current working processes, while searching for new methodology to meet work objectives at the lower cost
- **For Better Efficiency:** Productivity, efficiency and long-term competitiveness

The Company’s continued efforts of cost reduction was successfully rewarded by more than 20% reduction in the unit cost to 30.46 USD/BOE for the year 2016, compared to 38.88 USD/BOE in 2015.

Sustainable Development

In 2016, PTTEP has been selected as a member of 2016 Dow Jones Sustainability Index (DJSI) in the World Oil and Gas Upstream & Integrated Industry for the third consecutive year with the highest score among its peers in the same industry. This recognition underlines our ongoing commitment to sustainability as a leading sustainable organization. This achievement demonstrates our success and reflects our commitment to the vision of becoming a leading Asian E&P company driven by competitive performance, advanced technology and green practices. In order to continuously enhance PTTEP’s sustainable development practices, the Company has outlined a sustainable development plan, both short-term and long-term, around the three areas: business, social, and environment. Key activities during the third quarter of 2016 are as follows.

Business

PTTEP provides support in research and development of technologies and innovations, as well as in the development of knowledge and technological framework to enhance the organization’s competitiveness and sustainable development. Key activities in 2016 are as follows.

Company Strategy under Current Oil Price Environment (Continued)

- Research and develop technological projects towards PTTEP's long-term technology development plan such as 1) In collaboration with Mahidol University to research and develop electromagnetic technology to monitor water and hydrocarbon flow in the reservoirs and wells in order to increase the efficiency of water-flood process which leads to increasing petroleum production, and 2) In collaboration with Chulalongkorn University to research and develop E&P techniques to increase production efficiency through chemical enhanced oil recovery (EOR) technique. The collaboration with various universities and government technology institutes is not only to strengthen PTTEP technology development but also extend students and government agencies' capability.
- Develop new technology to ensure the effectiveness of production enhancement such as develop unmanned aerial vehicles (drones) used for equipment inspection of industrial maintenance work in remote areas and develop Autonomous Underwater Vehicle (AUV) to inspect subsea petroleum and gas pipeline to continuously improve our cost efficiency.

Social

PTTEP strives to carry out its business operations with responsibility to society with emphasis in four development areas: fundamental needs, education, environment, and culture and sports. The Company organized many activities with local communities to ensure that their essential needs are met. Results of the activities were reviewed, evaluated and incorporated into improvement plan for long-term benefits to the stakeholders in areas in which PTTEP operates as well as to the society as a whole. Key activities in 2016 include:

- <u>The reforestation for ecological study at the Sri Nakhon Khuean Khan Park (Bang Kachao)</u> – developed the ecological learning exhibition room which includes 1) Exhibition commemorating in remembrance of King Rama IX 2) Campaign background and collaboration among PTTEP, Kasetsart University and The Royal Forest Department 3) Touch screen and multimedia learning of the ecological study at Bang Kachao
- <u>The Crab Hatchery Learning Center Project at Hua Khao Community in Songkhla province</u> – constructed the exhibition room nearby crab-breeding farm and renovated the auditorium room in order to enhance knowledge transfer capability for community. In 2016, over 190 million crabs were released to their natural habitat.
- <u>The Waste to Energy Project</u> – educated community members in Sinphuhorm to develop 31 biogas wells and produced biogas wells for 24 families living in Lankrabue District, Kamphaengphet.
- <u>The PTTEP Love Sea, Love Beach Project</u> – signed the Memorandum of Understanding (MOU) with Faculty of Engineering, Kasetsart University to research and develop beach cleaning robot prototype. This prototype is expected to be completed in the first quarter of 2017.
- <u>The Underwater Learning Site Project</u> – organized a marine conservation activity at Sairee beach together with 'Love Koh Tao' club and Songkhlanakarin University to install mooring buoys in the diving point around HTMS Sattakut.
- <u>The PTTEP Teenergy Project</u> – organized the "3rd PTTEP Teenergy Camp" at Khao Yai National Park during 20-22 October 2016 to create young enviromentalists. There are approximately 100 high school students participating in this campaign.

Safety, Security, Health and Environment

PTTEP has an environmental management system which encompasses a project's entire life cycle, and is a subset of PTTEP's Safety, Security, Health and Environment Management System (SSHE MS). In 2016, PTTEP had a Lost Time Injury Frequency (LTIF) score of 0.10 and a Total Recordable Incident Rates (TRIR) score of 0.88. The Company's performance on both safety indicators is superior to that of the average of the members in the International Association of Oil and Gas Producers (IOGP) and it is the best record of PTTEP compared to the past. Moreover, PTTEP aims to become a Low Carbon Footprint organization, and has set a goal to reduce its greenhouse gas (GHG) emissions by a minimum 20% by the year 2020 versus its 2012 base year figure. In 2016, PTTEP reduced its GHG emissions by 16.0 % below its 2012 levels.

Future Business Outlook

Energy Outlook

The current global energy consumption still relies heavily on Fossil fuels which includes coal, oil and, natural gas. The current consumption figures are at 84% contribution (IEA data from year 2016) and are expected to continue to account for up to 77% of energy consumption in 2035 mainly driven by increasing natural gas demand due to lesser carbon dioxide emissions compared with other fossil fuels. While oil is mainly consumed in the transportation sector, demand is forecasted to decline as a result of rising numbers in Electric vehicles as the advances in this technology becomes more cost effective and economical. However, it is estimated that Electric vehicles will account for only 6% of the total number of cars in the world by 2035, resulting in a decrease in oil demand of merely 1-2 million BPD or only 1-2% of global oil demand (Wood Mackenzie).

In addition, technological advances in Electric vehicles are being stalled by the relatively slow improvement of Energy Storage technology which requires a lengthy development time in order to be comparable with conventional internal combustion engines in terms of both price and performance. Therefore, the trend of increasing demand for natural gas is in line with PTTEP's current portfolio product mix of 70:30 natural gas to liquids, and the strategy to seek for more investment opportunities in natural gas fields.

As for Thailand, the 2015 Power development Plan (PDP 2015) encourages more variety of energy sources in order to strengthen national energy security through the increasing use of Renewable energy from 7% to 15-20% and reducing the contribution of natural gas from 64% to 30-40% in 2036.The contribution of renewable energy appears to be limited given the expensive cost of production leading to more reliability on other fossil fuels, especially coals. However, there has been development delay in several coal power plant projects, as a result, the government plans to import Liquefied Natural Gas (LNG) as the substitute energy source, making the plan to reduce dependence on natural gas more difficult. This is consistent with the Company's REFOCUS strategy to expedite the development of large natural gas projects in the pipeline including Mozambique Rovuma Offshore Area 1 Project and Cash Maple Project in Australia, to support the production of LNG. This is also in line with PTTEP's strategy to jointly invest with PTT in an integrated LNG projects in several regions around the world with the key objectives to enhance competitiveness as well as to strengthen energy security by importing LNG to Thailand.

Due to the rising concerns about global warming and climate change, many countries have become more focused on greater contribution from Renewable Energy sources such as solar and wind in order to reduce greenhouse gas emissions from the use of fossil fuels. In addition to the support from the governments, technology for the production of Renewable Energy is likely to be more cost-effective with higher efficiency and turns out to be more worthwhile. It is expected that Renewable energy will account for about 10% of total global energy sources in 2035 increasing from 3% at the current year (IEA data from year 2016). PTTEP realizes the importance and the trend of energy sources moving towards more clean energy and consequently set a RENEW strategy to focus on the development of technology to reduce emissions of greenhouse gases from operations as well as to study potential business opportunities related to Renewable Energy.

Oil Price Outlook

PTTEP expects crude oil prices during the first half of 2017 to be range-bound between 50 and 60 USD/BOE with bullish support from the agreement on production cuts between OPEC and Non OPEC members in Q4 2016. However, the market will be closely monitoring events leading to as well as the subsequent discussion between OPEC and Non OPEC members to consider the renewal of the agreement during the second half of the year. There are a number of factors that will affect the renewal consideration including the compliance of the OPEC and Non OPEC members to the agreement, the reaction of crude oil prices and the production in the United States, which is estimated to increase at about 0.2-0.3 million BPD from 2016 levels. Without the renewal agreement, Dubai crude oil price is expected to return to the range of 40-50 USD/BOE. Nonetheless, it is important to keep an eye on the US policy under President Donald Trump's administration, particularly in area of energy sector policies, such as the approval of an oil pipeline from Canada (Keystone XL), and the policy of sanctions against Iran's nuclear proliferation, which will affect the movement of oil prices in the global market.

Future Business Outlook (Continued)

Thai Economy and Foreign Exchange Outlook

The Bank of Thailand expects the economy to expand 3.2% in 2017, mainly driven by the growth of government spending as a result of the investment between the government and the local administration (Matching Fund), infrastructure investments and the recovery of tourism from government's stimulus plan.

For Foreign Exchange, a number of financial institutions predict the weaker outlook for the Thai Baht against US Dollar as there is a possibility that the FOMC may raise the interest rate a few more times in 2017. Additionally, the uncertainty surrounding the economic policy under the new US president, and the economic direction of major industrial countries such as China and Japan will also have an indirect impact on the foreign exchange rate. The capital markets will remain volatile and require close monitoring. The financial performance of PTTEP will be affected by a changes in exchange rates in the form of deferred taxes arising from the difference between the Company's functional currency and the currency in which it files its taxes. The majority of the difference, however, does not impact the Company's cash flows. Furthermore, the increase in interest rate is expected to have minimal impact on the Company's financial performance as more than 80% of total debt comprises of fixed interest rate debt.

PTTEP's performance outlook for 2017

PTTEP"s performance depends on three major factors including Sales volumes, Gas price and Unit cost with the guidance summary as follows;

	Sales Volume		Gas Price		Unit Cost		EBITDA Margin
	Q1 2017	Year 2017	Q1 2017	Year 2017	Q1 2017	Year 2017	Year 2017
	~310	~312	~5.1	~5.3	~31	30-31	~70%
Unit	Thousand BOED		USD/MMBTU		USD/BOE		of sales revenue

Sales volume: Focus on maintaining the production level in Thailand with the estimated sales volume for the first quarter of 2017 to be approximately 310,000 BOED due to planned shutdown activities in Myanmar and the average annual sales volume for 2017 of approximately 312,000 BOED.

Sales price:

- Oil price will fluctuate according to the global crude oil prices
- PTTEP's Gas price is linked to a formula with 6-12 months lag time adjustment to the global crude prices, as a result, it is likely to decline in 2017 compared to the average gas price in 2016. Given that global crude oil prices remain at the current level going forwards, it is estimated that average gas price for the year 2017 will be approximately 5.3 USD/MMBTU where the gas price for the first quarter of 2017 is forecasted to be at approximately 5.1 USD/MMBTU (based on Dubai price assumption of 49 USD/BBL for 2017)
- Outstanding oil hedged volume as of the end of 2016 is approximately 9 MMBOE, accounting for approximately 30% percent of 2017's total liquid volumes (crude oil and condensate). The company consistently monitors the crude oil price movements with the flexibility to adjust the hedging plan as appropriate.

Unit Cost: Estimated unit cost for the first quarter of 2017 will be approximately 31 USD/BOE, while average unit cost for the year 2017 is forecasted to be in a range of approximately 30-31 USD/BOE which is in line with the Company's planned activities.

Future Business Outlook (Continued)

Other important factors that affect the company's operations.

Bongkot Concession Bidding

The government has decided to auction the Bongkot concession which is due to expire during the year 2022-2023. There is still no clarity from the government on the fiscal regime as well as the bidding process timeline and the delay of bidding process will negatively affect PTTEP's investment plan in the Bongkot field as well as the continuity of the natural gas production in the Gulf of Thailand. However, the government recognizes the importance of energy security of the country and has consequently exerting efforts to accelerate the opening of the bidding process, with the objective to award the concession to the winners by the end of 2017. PTTEP as the operator of the Bongkot field for more than 20 years, is well prepared to participate in the bidding process, and strongly endeavors to remain the project's operator driven by operational efficiency and competitive cost base. The Company believes that the continuity in the operatorship will most benefit the country in terms of natural gas production stabilization for national energy security.

Decommissioning Cost

The Decommissioning guideline is under the drafting process by the Department of fuel which will contain the information on the instruction and methods of decommission. In principle, the Company will propose the Best Practical Environmental Option to the government for approval. Currently, PTTEP has estimated the total decommissioning cost for all the projects and recorded it under "Provision for the decommissioning of production" in the financial statements with the outstanding amount of 2,016 MMUSD as of 31 December 2016.

Conclusion

2016 was a challenging year for the oil and gas exploration and production companies globally as a crude oil prices were relatively low and considerably volatile. Despite this backdrop, PTTEP has shown resilience through efficient cost reduction, professional management, and strong financial discipline. The oil and gas exploration and production sector in 2017 and future years will continue to cope with oil price volatility; PTTEP's performance outlook, however, remains solid with potential growth in reserves and production as a result of the following:

1. Corporate governance and transparency in financial and risk management, together with professional management as well as efficiency and cost improvements, enable the company to maintain stable margins amid the oil price crisis;

2. In addition to its commitment to maintain production levels of existing projects, the Company also places great emphasis on increasing petroleum reserves and production volumes in the future, with the main priority to accelerate the development of pre-sanctioned projects, namely, the Contract 4 Project (Ubon Field), the Mozambique Rovuma Offshore Area 1 Project, and the Algeria Hassi Bir Rekaiz Project where the first production is expected in the next 4-5 years. Furthermore, the Company continues to exert effort on exploration activities in high potential projects such as those in Myanmar and Malaysia, as well as on seeking M&A opportunities in Thailand and Southeast Asia.

3. PTTEP's portfolio management strategy is in line with the future outlook of increasing LNG demand, especially in Asia, as PTTEP's current and future portfolio is more gas-weighted. PTTEP's key natural gas operations in Southeast Asia include the Bongkot, Arthit and Contract 4 Projects which are located in the Company's areas of expertise. Future LNG production volumes are expected to come from the development of the Mozambique Rovuma Offshore Area 1 and the Cash Maple Project, as well as from the Company's strategy to jointly invest in LNG value chain projects with PTT in different regions; we are well positioned to effectively serve the increasing gas domestic and global gas demand in the future.