

Management's Discussion and Analysis (MD&A) and operating results for the three-month and nine-month periods ended September 30, 2016

Executive Summary

In the third quarter of 2016 (Q3/2016), net income of PTT and its subsidiaries was Baht 26,974 million, increasing by Baht 2,095 million or 8.4% from Baht 24,879 million in the second quarter of 2016 (Q2/2016) mainly due to the gradual decline in feed gas costs in line with crude oil price which had fallen since mid-year 2015; therefore, PTT's performance increased especially from better operation of sales of Gas Separation Plant (GSP). For PTT affiliates, the performance of PTT Exploration and Production Public Company Limited (PTTEP) increased due to gain on oil price hedging, gain from tax saving affected by Thai Baht appreciated against US Dollar. Whereas, the performance of petrochemical and refining business group decreased. The refining business dropped from lower Accounting Gross Refinery Margin (Accounting GRM) as a result of stock loss compared with stock gain in Q2/2016. However, Olefins' performance increased from resumption of PTTGC's Olefins 3 Plant, which had unplanned shutdown in the previous quarter, including the receipts of insurance compensation for the Olefins 3 shutdown. While, Aromatics' performance decreased from stock loss despite increased Aromatics product spreads.

In the first nine months of 2016 (9M/2016), net income of PTT and its subsidiaries was Baht 75,522 million, increasing by Baht 55,774 million or more than 100% from Baht 19,748 million in the first nine months of 2015 (9M/2015) mainly due to non-recurring items, for example, the recognition of loss on impairment of PTTEP's assets, PTT's gain on disposal of investment in BCP, IRPC's revenue from reversal of doubtful account and revenue from an insurance claim from fire incident in the VGOHT etc. If excluding the non-recurring items effect as aforementioned, net profit of PTT and its subsidiaries increased by Baht 25,116 million or 50.4%. The performance of PTT, especially gas business and NGV, increased. As well as, affiliates' performance increased in almost all business groups. For PTTEP, the performance resemble the prior period due to the decrease in operating expenses from cost reduction policy and efficiency improvement activities under the SAVE to be SAFE program. The overall performance of petrochemical and refining business group increased from Aromatic petrochemical causing by the improvement of Product to Feed Margin (P2F) from lower feed cost. In addition, overall performance of Olefins petrochemical increased due to better P2F. Meanwhile, refining performance declined from lower Accounting GRM due to the decrease in all product spreads, even though there was stock gain in this period. Furthermore, the higher appreciation of Thai Baht against US Dollar compared with the prior year, leading to higher gain on foreign exchange rate for PTT group in 9M/2016 from foreign currencies loans.

Unit : Million Baht	Q3/2015 (Restated)	Q2/2016 (Restated)	Q3/2016	%Inc. (Dec.)		9M/2015 (Restated)	9M/2016	%Inc. (Dec.)
				YoY	QoQ			
Sales & services income	503,983	420,173	435,172	(13.7%)	3.6%	1,554,885	1,241,989	(20.1%)
EBITDA	62,527	82,096	75,701	21.1%	(7.8%)	220,635	229,057	3.8%
Net income (loss)	(26,582)	24,879	26,974	>100%	8.4%	19,748	75,522	>100%
Earnings per share (Baht/share)								
:Continuing operations	(8.89)	8.50	9.41	>100%	10.7%	7.20	26.13	>100%
:Discontinued operations	(0.25)	0.01	0.00	>100%	>(100%)	(0.26)	0.02	>100%

Economic Overview in the Third Quarter of 2016

The world economy in Q3/2016 expanded at a faster pace than in Q2/2016 from improved US economic conditions despite the economy continuing operating at two speeds. On the one hand, rising household spending amid strong overall labor market performance helped boost growth. On the other hand, weak non-residential investment caused by low oil prices, a strong dollar, and uncertainty from the upcoming US presidential election on November 8, 2016 continued to weigh on growth. Accordingly, the Federal Reserve at its September 20-21, 2016 meeting kept its policy rates unchanged at 0.25-0.5%. As for the euro area, the economic recovery continued on the back of easy financial conditions in Q3/2016, although a large Brexit-induced shock to growth has yet to materialize. Economic activity in emerging market economies and lower income countries, especially distressed economies such as Brazil and Russia, also improved slightly in Q3/2016 amid relatively stable oil prices and policy-driven stabilization in China. The International Monetary Fund (IMF) in October 2016 maintained its global growth forecast for 2016 at 3.1% as previously forecasted in July 2016.

According to the International Energy Agency (IEA) in October 2016, global oil demand in Q3/2016 averaged 96.8 million barrels per day (MMBD), increasing from 95.8 MMBD in Q2/2016 amid higher Americas, Europe, and the Middle East demand, and increasing from 96.0 MMBD in the third quarter of 2015 (Q3/2015). For the whole of 2016, global oil demand is expected to average 96.3 MMBD, shooting up from 95.0 MMBD in 2015.

Unit: US\$/bbl	Q3/2015	Q2/2016	Q3/2016	% Inc.(Dec.)		9M/2015	9M/2016	% Inc.(Dec.)
				YoY	QoQ			
Average Dubai crude oil price	49.7	43.2	43.2	(13.1)	(0.0)	54.3	38.9	(28.4)

Dubai oil price in Q3/2016 averaged US\$43.2 per barrel, the same as in Q2/2016 amid terror attacks in Nigeria, OPEC and Russia's efforts to curb oil output, and rising US rig counts. However, Dubai oil price in Q3/2016 was lower than in Q3/2015 which averaged US\$49.7 per barrel.

Petroleum product prices in the Singapore spot market recorded a fall in Q3/2016 compared with Q2/2016. Gasoline crack spreads in Q3/2016 averaged US\$11.6 per barrel, a decrease from Q2/2016 amid surplus and more exports from North Asia as well as the end of the driving season. Diesel crack spreads averaged US\$11.0 per barrel in Q3/2016, an increase from Q2/2016 following higher demand during the Olympics. Fuel oil crack spreads averaged US\$ (4.3) per barrel in Q3/2016, an increase from Q2/2016 amid increasing Asian demand and decreasing Middle East and Russian supplies.

Singapore Gross Refining Margin (GRM) in Q3/2016 averaged US\$5.1 per barrel, approximately the same as in Q2/2016, but decreasing from US\$7.5 per barrel in Q3/2015, amid higher diesel crack spreads and offsetting lower gasoline crack spreads.

Petrochemical prices of Olefins, High Density Polyethylene (HDPE), in Q3/2016 declined from Q2/2016, in parallel with a fall in naphtha price, weak demand in China, and buyers purchasing on a need-to-basis in anticipation of a further price drop; while Polypropylene (PP) price was stable. Petrochemical prices of Olefins also declined when compared to the same quarter of last year. For Aromatics, the Benzene (BZ) price increased along with rising US BZ prices and lower supply during a heavy turnaround of South Korea plants. Paraxylene (PX) price remained stable as some purified terephthalic acid (PTA) plants in China was shut for planned maintenance and most buyers still had sufficient inventories. However, Aromatics prices in Q3/2016 declined from the same quarter of previous year.

Unit: US\$ per Ton	Q3/2015	Q2/2016	Q3/2016	% Inc.(Dec.)		9M/2015	9M/2016	% Inc.(Dec.)
				YoY	QoQ			
HDPE: CFR SEA	1,234	1,153	1,139	(7.7%)	(1.2%)	1,266	1,132	(10.6%)
PP: CFR SEA-Film	1,135	1,082	1,090	(4.0%)	0.7%	1,209	1,034	(14.5%)
BZ: FOB Korea	666	628	640	(3.4%)	1.9%	713	614	(13.7%)
PX: CFR Taiwan	820	804	806	(1.7%)	0.3%	861	787	(8.6%)

The Thai economy in Q3/2016 expanded at a slightly slower pace than in Q2/2016 due to a contraction in private investment and sluggish goods export, despite seeing some improving trends during the end of the quarter as a result of excess production capacity; while goods export was lackluster amid sluggish global growth. In the meantime, private consumption experienced a slight slowdown because of inundation in many parts of the country and the cessation of some temporary government stimulus measures such as stimulus measures for the real estate sector and during the Songkran festival. However, tourism sector and government spending continued to strongly grow. Thus, the Bank of Thailand (BOT) in September 2016 projected the Thai economy to grow 3.2%, up from 3.1% of its previous forecast in June 2016

Non-recurring items in the third Quarter of 2016 until present

Summary of non-recurring items for Q3/2016 are as follows:

<p>July 2016</p>	<ul style="list-style-type: none"> ● NGV selling price to private cars were already sold at prices that reflect actual costs with no ceiling. Currently, NGV sell at 12.50 baht / kg. ● PTT Exploration and Production Public Company Limited (“PTTEP”), signed a Production Sharing Contract (PSC) through PTTEP HK Offshore Limited (PTTEP’s subsidiary) with Petroleum National Berhad (PETRONAS) for exploration and production rights of Block SK410B, offshore Sarawak, Malaysia. ● IRPC Public Company Limited (“IRPC”), has commenced the commercial operation of Upstream Project for Hygiene and Value Added Products (UHV) project which generate propylene of 320,000 tons per year. This will be the feedstock in polypropylene expansion unit.
<p>August 2016</p>	<ul style="list-style-type: none"> ● The entire business of Thai ABS Co., Ltd., of which IRPC held 99.99% of the shares, was transferred to IRPC. This was to reorganize the management structure and to manage the operating cost more effectively. ● PTT BOD approved the payment of interim dividends for the first half of 2016 performance at the rate of Baht 6.00 per share or 35.8% of consolidated net income. ● Thai Oil Public Company Limited (“TOP”) has commenced the commercial operation of Linear Alkyl Benzene (LAB) with production capacity approximately 100,000 ton per year, and 2 small power producers (SPP) with an aggregated capacity of 239 MW for electricity and 498 ton per hour for steam ● PTTEP has signed the Sales and Purchase Agreement (SPA) to sell PTTEP Oman Company Limited (PTTEP OM), a subsidiary of PTTEP that holds 100% interest in the Oman 44 Project located in Sultanate of Oman (Oman), to ARA Petroleum LLC. The sale of PTTEP OM is a part of PTTEP’s efforts on portfolio rationalization ● PTT Global Chemical Public Company Limited (“PTTGC”) informed fire broke out at waste water storage tank of PTT Phenol Co.,Ltd. site located at Hemaraj Eastern Industry Estate, Map Ta Phut, Rayong Province. However, the incident did not impact machinery of Phenol unit 1, unit 2, and BPA plant.
<p>September 2016</p>	<ul style="list-style-type: none"> ● The Cabinet has passed the resolution on the approval to allow PTT to establish PTT International Trading London Ltd. in London, United Kingdom. The company is wholly owned by PTT. The establishment of the company is to expand trading business to the western part of the world in order to become a Global Trading Company.

<p>September 2016</p>	<ul style="list-style-type: none"> ● PTTGC had signed a Heads of Agreement (HOA) with Kuraray Co., Ltd. ("Kuraray"), a world leading Japanese performance chemical company and Sumitomo Corporation ("SC"), a Japanese trading company, to do detail feasibility study and perform Front-End Engineering Design (FEED) for the development of manufacturing and sales of Super Engineering Plastic: High-Heat Resistant Polyamide-9T (PA9T) and Hydrogenated Styrenic Block Copolymer (HSBC) products in Thailand. The investment decision will be made within 2017. ● IRPC approved to divest 25% of its total paid up capital in IRPC Polyol Company Limited (IRPCP), a 99.99% owned subsidiary, to PCC Rokita SA, Poland to expand the cooperation in production and marketing of polyurethane which is the high value added product
<p>October 2016</p>	<ul style="list-style-type: none"> ● Global Green Chemicals Public Company Limited ("GGC"), PTTGC's subsidiary with more than 99 percent of shares held by PTTGC, is in the process of issuance, initial public offering ("IPO") in which GGC is the designated green flagship company of the Company group. PTTGC will continue to be the majority, controlling shareholder of GGC after the IPO.

Executive Summary

Economic Overview

Non-recurring Items

Overall Performance

Segmentation Performance

Analysis of Financial Position

Economic Outlook

Overall performance of PTT and its subsidiaries

Financial performance of Q3/2016 compared with Q3/2015 and Q2/2016 as well as 9M/2016 compared with 9M/2015 are summarized as follows:

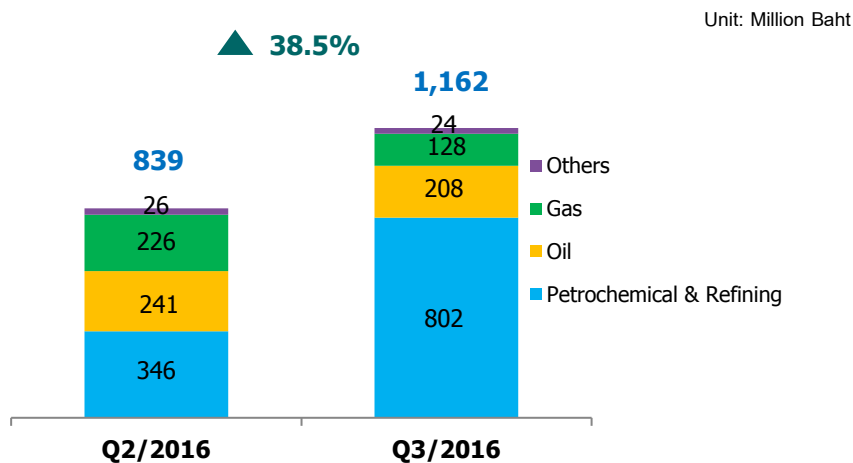
Unit : Million Baht	Q3/2015	Q2/2016	Q3/2016	% Inc. (Dec.)		9M/2015	9M/2016	% Inc.
	(Restated)	(Restated)		YoY	QoQ	(Restated)	(Dec.)	
Sales & services income	503,983	420,173	435,172	(13.7%)	3.6%	1,554,885	1,241,989	(20.1%)
: Exploration & Production	47,885	38,020	37,122	(22.5%)	(2.4%)	143,321	113,011	(21.1%)
: Natural gas 1/	137,419	114,210	114,988	(16.3%)	0.7%	416,022	347,483	(16.5%)
: Oil	121,938	119,568	121,825	(0.1%)	1.9%	390,158	354,155	(9.2%)
: International trading	240,773	182,284	190,346	(20.9%)	4.4%	751,171	523,538	(30.3%)
: Petrochemical & Refining	213,393	180,585	198,481	(7.0%)	9.9%	668,648	555,271	(17.0%)
: Coal	3,116	3,705	3,974	27.5%	7.3%	10,993	10,942	(0.5%)
: Others	1,143	1,024	765	(33.1%)	(25.3%)	3,511	2,908	(17.2%)
EBITDA	62,527	82,096	75,701	21.1%	(7.8%)	220,635	229,057	3.8%
: Exploration & Production	32,881	27,765	27,122	(17.5%)	(2.3%)	102,840	83,353	(18.9%)
: Natural gas	11,118	16,975	20,073	80.5%	18.3%	34,063	51,610	51.5%
: Oil	2,527	6,941	6,413	>100%	(7.6%)	11,067	19,229	73.8%
: International trading								
- Excluding effect of FX	851	2,237	78	(90.8%)	(96.5%)	2,085	2,978	42.8%
- Including effect of FX	114	2,755	1,026	>100%	(62.8%)	2,475	5,329	>100%
: Petrochemical & Refining	13,819	27,748	20,048	45.1%	(27.7%)	67,694	68,711	1.5%
: Coal	631	783	1,122	77.8%	43.3%	2,589	2,609	0.8%
: Others	(14)	(284)	676	>100%	>100%	874	517	(40.8%)
Depreciation and amortization expenses	35,549	31,926	32,357	(9.0%)	1.3%	108,272	96,092	(11.2%)
Operating Income	26,978	50,170	43,344	60.7%	(13.6%)	112,363	132,965	18.3%
: Exploration & Production	10,181	9,505	8,485	(16.7%)	(10.7%)	32,390	27,970	(13.6%)
: Natural gas	7,156	12,466	15,495	>100%	24.3%	22,563	38,121	69.0%
: Oil	1,758	6,013	5,502	>100%	(8.5%)	8,685	16,510	90.1%
: International trading								
- Excluding effect of FX	842	2,229	69	(91.8%)	(96.9%)	2,061	2,953	43.3%
- Including effect of FX	105	2,747	1,017	>100%	(63.0%)	2,451	5,304	>100%
: Petrochemical & Refining	6,761	20,271	12,635	86.9%	(37.7%)	47,259	46,414	(1.8%)
: Coal	(51)	291	554	>100%	90.4%	257	1,170	>100%
: Others	(384)	(535)	436	>100%	>100%	(277)	(223)	19.5%
Loss on impairment of assets	(49,798)	5	(48)	99.9%	>(100%)	(49,798)	(43)	99.9%
Share of net income (loss) from investments in associates and joint ventures	263	839	1,162	>100%	38.5%	4,587	2,866	(37.5%)
Gain (loss) on foreign exchange	(6,906)	(248)	2,361	>100%	>100%	(8,253)	4,461	>100%
EBIT	(26,232)	48,461	48,808	>100%	0.7%	69,121	140,637	>100%
Finance costs	7,525	7,242	7,236	(3.8%)	(0.1%)	23,242	21,710	(6.6%)
Income taxes	7,850	6,899	6,726	(14.3%)	(2.5%)	20,373	17,409	(14.5%)
Profit (loss) for the period from continuing operations	(25,856)	24,853	26,968	>100%	8.5%	20,489	75,460	>100%
Profit (loss) for the period from discontinued operations - net of tax	(726)	26	6	>100%	(76.9%)	(741)	62	>100%
Net income (loss)	(26,582)	24,879	26,974	>100%	8.4%	19,748	75,522	>100%
Earnings (loss) per share (Baht/share)								
: Continuing operations	(8.89)	8.50	9.41	>100%	10.7%	7.20	26.13	>100%
: Discontinued operations	(0.25)	0.01	0.00	100.0%	(100.0%)	(0.26)	0.02	>100%

1/ Including infrastructure business

Third quarter of 2016 compared with Second quarter of 2016

In Q3/2016, sales revenue of PTT and its subsidiaries was Baht 435,172 million, increasing by Baht 14,999 million or 3.6% mainly due to the rise in sales volume, while average selling prices were maintained. PTT's GSP performance improved resulted from feed gas cost dropped more than the decrease in selling prices. The performance of PTTEP also decreased mainly due to higher unit cost from operating and planned maintenance expenses. The performance of petrochemical and refining business decreased since refining business had stock loss, even though Market GRM increased from the increases product spreads especially diesel and fuel oil. Whereas, the performance of petrochemical business was similar to the previous quarter as olefins increased, but aromatics decreased. Hence, earnings before interest, taxes, depreciation and amortization (EBITDA) of PTT and subsidiaries in Q3/2016 was Baht 75,701 million, decreasing by Baht 6,395 million or 7.8%.

Share of net income (loss) from investments in joint ventures and associates



In Q3/2016, the share of net income from investments in joint ventures and associates was Baht 1,162 million, increasing by Baht 323 million from Baht 839 million in Q2/2016 from higher associates' performance in petrochemical and refining business group, mainly from PTTAC's performance which had better Acrylonitrile (AN) spread as well as gain on foreign exchange rate from foreign currencies loans. On the other hand, the performance of HMC slightly dropped mainly from higher Propylene feed cost and lower dividend received from ROC compared to Q2/2016.

In Q3/2016, gain on foreign exchange rate was Baht 2,361 million, increasing by Baht 2,609 million from Baht 248 million losses in Q2/2016 mainly due to decreasing in loss on foreign exchange of PTT's Japanese Yen outstanding loans which had lower effect of Thai Baht depreciation against Japanese Yen compared with Q2/2016. Moreover, the effect of Thai Baht appreciation against US Dollar resulted in unrealized gain on foreign exchange rate of most PTT's affiliates from foreign currencies loans.

Moreover, gain on derivatives increased by Baht 4,500 million from Baht 4,071 million losses in Q2/2016 mainly resulted from PTTEP's gain on oil price hedging contracts.

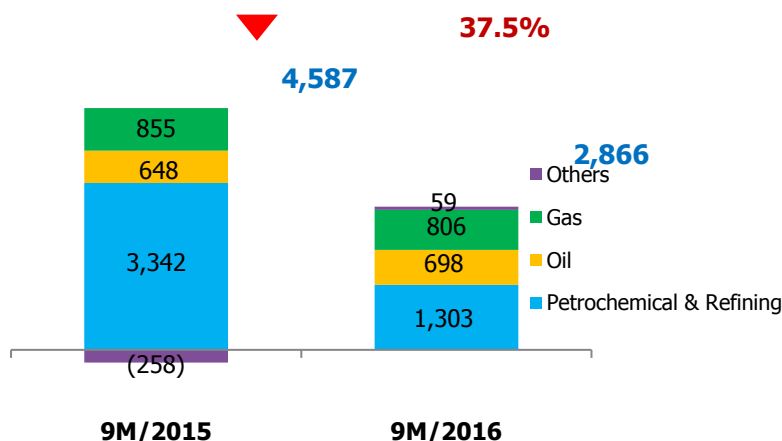
Corporate income taxes decreased by Baht 173 million from Baht 6,899 million in Q2/2016 to Baht 6,726 million in Q3/2016 mainly due to net gain on tax benefit from deferred tax asset on loss carry forward and subsidiary liquidation.

First nine months of 2016 compared with First nine months of 2015

Sales revenue of PTT and its subsidiaries in 9M/2016 was Baht 1,241,989 million, decreasing by Baht 312,896 million or 20.1% mainly due to the decrease in average selling prices of petroleum and petrochemical product of both Aromatics and Olefins following a decline in crude oil price by 28.4% compared with prior year. Consequently, sales revenue in all businesses decreased, especially trading, petroleum exploration and production, and petrochemical and refining business. EBITDA of PTT and subsidiaries was Baht 229,057 million, increasing by Baht 8,422 million or 3.8% compared with 9M/2015 caused by improved performance of gas business from lower feed cost in relation to reference fuel oil price, as well as oil and trading business, which had stock gain and higher profit from sales of domestic condensate. Whereas, petroleum exploration and production business's performance decreased resulted from the decrease in average selling price following the fallen crude oil price.

Share of net income (loss) from investments in joint ventures and associates

Unit: Million Baht



In 9M/2016, the share of net income from investments in joint ventures and associates was Baht 2,866 million, decreasing by Baht 1,721 million or 37.5% from Baht 4,587 million in 9M/2015 mainly from the recognition of performance of SPRC and BCP amounting to Baht 2,675 million in the prior year, while there was no such recognition in this period (PTT sold its investment in BCP on April 30, 2015 and decreased its shareholdings in SPRC to 5.4% on December 3, 2015). Meanwhile, the share of net income increased from PTTAC's gain on foreign exchange rate and HMC's higher dividend received from ROC in this period.

Depreciation and amortization expenses decreased by Baht 12,180 million or 11.2% from Baht 108,272 million in 9M/2015 to Baht 96,092 million mainly due to the increase in petroleum reserve and the recognition of loss on impairment of exploration and production assets of PTTEP in Q3/2015.

Gain on foreign exchange rate increased by Baht 12,714 million from Baht 8,253 million losses in 9M/2015 to Baht 4,461 million gain, mainly from the effect of Thai Baht appreciation against US Dollar. Therefore, almost all PTT affiliates had unrealized gain on foreign exchange rate from foreign currencies loans, on the contrary PTT had higher loss on foreign exchange rate due to Japanese Yen outstanding loans caused by depreciated Thai Baht against Japanese Yen.

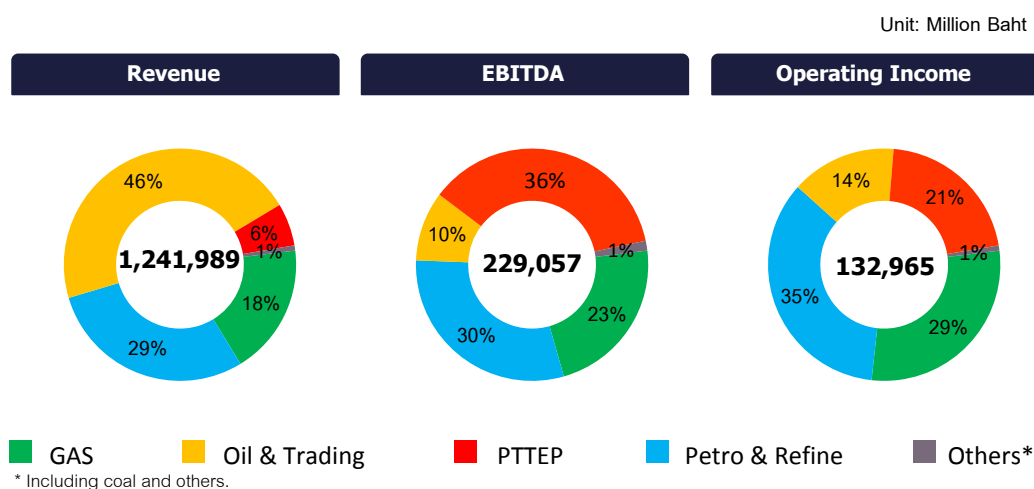
Furthermore, loss on derivatives in this period was Baht 4,558 million, increasing by Baht 4,166 million compared with 9M/2015 mainly from oil price hedging derivative contracts of PTTEP, IRPC, PTTT and foreign exchange forward contracts.

In 9M/2016, net expenses decreased due to non-recurring items in 9M/2015, mainly from loss on impairment of assets decreased by Baht 49,755 million, which PTTEP recognized loss on impairment of assets from exploration and production projects in overseas, PTT had net gain on disposal of investment in BCP of Baht 2,345 million, IRPC had revenue from reversal of doubtful account, and revenue from an insurance claim from fire incident in the VGOHT amounting to Baht 2,823 million and Baht 1,305 million respectively, while only PTTGC had insurance compensation revenue from PTTPE's shutdown of Baht 1,155 million in this period.

Corporate income taxes decreased by Baht 2,964 million or 14.5% from Baht 20,373 million in 9M/2015 to Baht 17,409 million in 9M/2016 mainly from the effect of Thai Baht appreciation against US Dollar of PTTEP and IRPC recognized deferred tax assets from loss carry forward and the dissolution of its subsidiaries. However, corporate income taxes of PTT increased from better performance.

Segmentation performance of PTT and its subsidiaries

The details by segmentation of revenue, EBITDA and operating income of 9M/2016 are as follow;



1. Upstream Petroleum and Natural Gas Business Group

Petroleum Exploration and Production Business: PTT Exploration and Production Public Co., Ltd. (PTTEP)

	Q3/2015	Q2/2016	Q3/2016	%Inc. (Dec.)		9M/2015	9M/2016	%Inc.
	(Restated)			YoY	QoQ	(Restated)		(Dec.)
Average selling price (US\$/BOE)	44.8	36.6	36.3	(19.0%)	(0.8%)	47.5	36.0	(24.2%)
Average sales volume (BOED)	320,795	320,657	311,386	(2.9%)	(2.9%)	317,383	320,600	1.0%

Third quarter of 2016 compared with Second quarter of 2016

In Q3/2016, sales revenue of PTTEP was Baht 37,122 million, decreasing by Baht 898 million or 2.4% mainly from the decrease in average selling prices by 0.8% from US\$ 36.6 per barrel of oil equivalent (BOE) in Q2/2016 to US\$ 36.3 per BOE in Q3/2016 because of the decline in the average sales volume decreased by 2.9% from 320,657 barrel of oil equivalent per day (BOED) in Q2/2016 to 311,386 BOED in Q3/2016 mainly from Arthit project.

EBITDA and operating income was Baht 27,122 million and Baht 8,485 million, decreasing by Baht 643 million and Baht 1,020 million respectively mainly from the rise in unit cost by US\$ 0.8/BOE (Q2/2016 : 30.3 US\$/BOE, Q3/2016 : 31.1 US\$/BOE) due to depreciation expense, operating activity and the increase in planned maintenance.

First nine months of 2016 compared with First nine months of 2015

In 9M/2016, sales revenue of PTTEP was Baht 113,011 million, decreasing by Baht 30,310 million or 21.1% from 9M/2015 mainly from the decrease in average selling prices by 24.2% from US\$ 47.5 per BOE in 9M/2015 to US\$ 36.0 per BOE in 9M/2016, following the drop in crude oil price. Nonetheless, the continued

increase of average sales volume in 9M/2016 which increased by 1.0% from 317,383 BOED in 9M/2015 to 320,600 BOED in 9M/2016 mainly from B8/32 and 9A projects.

EBITDA in 9M/2016 was Baht 83,353 million, decreasing by Baht 19,487 million or 18.9% mainly from lower sales revenue following the decline in crude oil price as aforementioned. However, operating expenses decreased from cost reduction policy and efficiency improvement activities under the SAVE to be SAFE program.

Operating income in 9M/2016 was Baht 27,970 million, decreasing by Baht 4,420 million or 13.6% in line with a decline in EBITDA as aforementioned, despite depreciation, depletion and amortization expenses decreased by Baht 15,067 million mainly from an increase in the petroleum reserve from both domestic and overseas projects and the recognition of loss on impairment of assets in Q3/2015.

If excluding the recognition of loss on impairment assets last year, which is non-recurring item, the performance of PTTEP in 9M/2016 was similar to previous year as a result of efficient cost management, even though the average selling price decreased.

Natural Gas Business Group

The details of all product sales volume from GSPs are as follows:

Unit : Ton	Q3/2015	Q2/2016	Q3/2016	% Inc.(Dec.)		9M/2015	9M/2016	%Inc.(Dec.)
				YoY	QoQ			
LPG	652,222	661,247	730,328	12.0%	10.4%	1,935,153	2,071,727	7.1%
Ethane	547,529	447,103	551,924	0.8%	23.4%	1,595,558	1,448,700	(9.2%)
Propane	211,314	187,004	236,790	12.1%	26.6%	636,499	610,586	(4.1%)
NGL ^{1/}	179,584	177,226	198,854	10.7%	12.2%	545,621	551,704	1.1%
Total	1,590,649	1,472,580	1,717,896	8.0%	16.7%	4,712,831	4,682,717	(0.6%)

Note: ^{1/}include Pentane

The details of reference product prices of GSPs are as follows:

Unit : US\$ per Ton	Q3/2015	Q2/2016	Q3/2016	%Inc.(Dec.)		9M2015	9M/2016	%Inc.(Dec.)
				YoY	QoQ			
LPG ^{1/4/}	371	341	298	(19.7%)	(12.6%)	428	320	(25.2%)
Ethylene ^{2/}	970	1,099	1,057	9.0%	(3.8%)	1,128	1,056	(6.4%)
Propylene ^{2/}	736	722	728	(1.1%)	0.8%	836	700	(16.3%)
HDPE ^{2/}	1,234	1,153	1,139	(7.7%)	(1.2%)	1,266	1,132	(10.6%)
PP ^{2/}	1,135	1,082	1,090	(4.0%)	0.7%	1,209	1,034	(14.5%)
Naphtha ^{3/}	405	366	344	(15.1%)	(6.0%)	451	338	(25.1%)

Note: ^{1/} Contract Price (CP) 60:40

^{2/} South East Asia - Spot Price

^{3/} MOP Singapore (MOP'S)

^{4/} On December 15, 2014, NEPC passed a resolution of LPG price restructuring effective from February 2, 2015 onwards, with the cancellation of LPG Ex-GSP pricing at US\$ 333 per ton and setting the calculating method for LPG Pool price which reflects actual costs of LPG production and supply (GSPs, Refineries and Aromatics plants, Imported) based on weighted average of the volume from production and supply for the last 3 months

Third quarter of 2016 compared with Second quarter of 2016

In Q3/2016, sales revenue of natural gas business was Baht 114,988 million, increasing by Baht 778 million or 0.7% from Q2/2016 mainly from higher sales revenue of PTT's GSP increased from the rise in sales volume of all products from GSPs (including NGL derived from Dew Point Control units) from 1,472,580 tons in Q2/2016 to 1,717,896 tons in Q3/2016 or 16.7%. This resulted from GPS 6 major turnaround for 26 days (15 May – 9 Jun).

The sales revenue of PTT Natural Gas Supply and Trading (GSM), Natural Gas Transmission (GTM) and Natural Gas Distribution (NGR) business units decreased, as a result of the decline in average selling prices in almost all customer groups compared with Q2/2016 and the average natural gas sales volume (calculated at heating value of 1,000 BTU per cubic foot) declined by 124 million standard cubic feet per day (MMSCFD) from 4,881 MMSCFD in Q2/2016 to 4,757 MMSCFD in Q3/2016 or 2.5% caused by the decrease in gas demand of power producer customers, mainly EGAT and IPP, compared with Q2/2016 which is summer season as well as EGAT's plan to use more hydropower in Q3/2016.

EBITDA of natural gas business in Q3/2016 was Baht 20,073 million, increasing by Baht 3,098 million or 18.3% mainly from the rise in sales volume of GSP and the decrease of feed gas costs. As a result, gross profit of PTT's natural gas business increased especially from GSPs which had higher sales margin of Ethane, Propane and LPG, also from sales to industrial customers.

Besides, the improvement performance of PTT's gas business as aforementioned, the overall performance of infrastructure business, consisting of GPSC, ENCO and PTES, also increased compared with Q2/2016, mainly resulted from dividend received from Ratchaburi Power Company Limited (RPCL) of GPSC in Q3/2016. Nevertheless, there was a decrease in sales revenue as a result of the drop in demand of electricity consumption from both Sriracha Power Plant (IPP) and Small Power Producer (SPP). Therefore, operating income of gas business in Q3/2016 was Baht 15,495 million, increasing by 24.3% in line with the rise in EBITDA.

First nine months of 2016 compared with First nine months of 2015

In 9M/2016, sales revenue of natural gas business was Baht 347,483 million, decreasing by Baht 68,539 million or 16.5% from 9M/2015 mainly from lower sales revenue of PTT GSM, GTM and NGR business units, as a result of the reduction in average selling prices in all customer groups, especially selling prices for industrial customers, following the decrease in reference fuel oil price, compared with the prior year. Moreover, the average natural gas sales volume decreased 90 MMSCFD or 1.9% from 4,845 MMSCFD in 9M/2015 to 4,755 MMSCFD in

9M/2016 (calculated at heating value of 1,000 BTU per cubic foot) mainly due to lower demand of electricity consumption from EGAT.

In addition, sales revenue of PTT's GSP decreased in line with the drop in product selling prices referring to the global petrochemical product prices in 9M/2016. Moreover, the sales volume of all products decreased from 4,712,813 tons in 9M/2015 to 4,682,717 tons in 9M/2016 or 0.6% mainly from Ethane and Propane, as a result of major turnarounds of PTT's ESP in Q1/2016 and GSP 6 in Q2/2016, and planned and unplanned shutdown of PTTGC's in 9M/2016.

EBITDA of Natural Gas Business group in 9M/2016 was Baht 51,610 million, increased by Baht 17,547 million or 51.5%. The main reason was from the decrease of feed gas costs which declined more than the drop in selling prices. Therefore, gross profit of PTT's natural gas business increased mainly from GSPs and NGR. Furthermore, NGV losses decreased from the drop in pooled gas cost despite NGV selling prices in September decline to Baht 12.46 per kilogram for private cars and Baht 10.00 per kilogram for taxi and public cars.

Besides, the improvement performance of PTT's gas business as aforementioned, infrastructure business had better performance in 9M/2016 mainly from the increase in GPSC's sales volume of electricity to Small Power Producer (SPP), sales volume of electricity and steam to industrial users and revenue from the power plant of IRPC Clean Power (IRPC-CP) Phase-1 which has started its commercial operation since November 2015 and fully operated in 9M/2016. Also, there were the reduction in average natural gas price brought to the decrease in cost of raw materials, as well as the increase in dividend received from Ratchaburi Power Company Limited (RPCL) from 9M/2015. Hence, operating income of gas business in 9M/2016 was Baht 38,121 million, increasing by 69.0% in line with the rise in EBITDA.

2. Downstream Petroleum Business Group

Oil Business Group

Unit : million liter	Q3/2015	Q2/2016	Q3/2016	%Inc.(Dec.)		9M/2015	9M/2016	%Inc.(Dec.)
				YoY	QoQ			
Average sales volume	6,157	6,558	6,621	7.5%	1.0%	18,758	19,856	5.9%

Third quarter of 2016 compared with Second quarter of 2016

In Q3/2016, sales revenue of oil business was Baht 121,825 million, increasing by Baht 2,257 million or 1.9% mainly from the rise in average sales volume in this quarter by 63 million liters or 1.0% from 6,558 million liters or equivalent to 453,298 barrels per day in Q2/2016 to 6,621 million liters or equivalent to 452,676 barrels per day in Q3/2016, mainly caused by the increase in sales volume of LPG and gasoline.

EBITDA in Q3/2016 was Baht 6,413 million, decreasing from Q2/2016 by Baht 528 million or 7.6%, mainly from the increase in selling and operating expenses. While, gross margin increased from the cost reduction from diesel product as resulted from refund of oil fund. Operating income in Q3/2016 was Baht 5,502 million, decreasing from the prior quarter by Baht 511 million in line with EBITDA as aforementioned.

First nine months of 2016 compared with First nine months of 2015

Sales revenue of oil business in 9M/2016 was Baht 354,155 million, decreasing by Baht 36,003 million or 9.2% following fallen selling prices which resulted from the decrease in crude oil price. The average Dubai crude oil price decreased from US\$ 54.3 per barrel in 9M/2015 to US\$ 38.9 per barrel in 9M/2016. Whereas, sales volume increased by 1,098 million liters or 5.9% from 18,758 million liters or equivalent to 432,179 barrels per day in 9M/2015 to 19,856 million liters or equivalent to 455,816 barrels per day in 9M/2016, especially from diesel, gasoline and aviation fuel.

EBITDA in 9M/2016 was Baht 19,229 million, increasing by Baht 8,162 million or 73.8% due to the rise in margins of diesel and gasoline (including stock gain in this year compared to stock loss in the prior year), and from the cost reduction adjusted from refund of the oil fund. Operating income in 9M/2016 was Baht 16,510 million, increasing by Baht 7,825 million, in line with the increase in EBITDA as aforementioned.

International Trading Business Group

Unit : million liter	Q3/2015	Q2/2016	Q3/2016	%Inc.(Dec.)		9M/2015	9M/2016	%Inc (Dec.)
				YoY	QoQ			
Average sales volume	20,248	17,309	19,463	(3.9%)	12.4%	60,847	55,252	(9.2%)

Third quarter of 2016 compared with Second quarter of 2016

Sales revenue of international trading business in Q3/2016 was Baht 190,346 million, increasing by Baht 8,062 million or 4.4% from Q2/2016 mainly from the rise in sales volume by 2,154 million liters or 12.4% from 17,309 million liters or equivalent to 1,196,384 barrels per day in Q2/2016 to 19,463 million liters or equivalent to 1,330,655 barrels per day in Q3/2016, mainly due to the increase in sales volume of crude and condensate imports from Out – In trading after refinery within PTT group resumed its operation from the planned shutdown in Q2/2016. Moreover, sales volume of overseas crude oil from Out – Out trading also increased as a result of the absence of refinery turnarounds within Asia in this quarter.

EBITDA, which adjusted the effect of foreign exchange rate, in Q3/2016 was Baht 1,026 million, decreasing by Baht 1,729 million mainly from lower margins of petroleum finished product due to the decrease in

both volume and price. Operating income, which adjusted the effect of foreign exchange rate, in this quarter was Baht 1,017 million.

First nine months of 2016 compared with First nine months of 2015

Sales revenue of international trading business was Baht 523,538 million in 9M/2016, decreasing by Baht 227,633 million or 30.3% which resulted from the reduction in product selling prices in accordance with global oil market prices. Moreover, the sales volume in this period decreased by 5,595 million liters or 9.2% from 60,847 million liters or equivalent to 1,401,917 barrels per day in 9M/2015 to 55,252 million liters or equivalent to 1,268,364 barrels per day mainly due to the decline in domestic sales volume of crude oil and condensate from Out – In trading from the effect of refinery planned shutdown in 9M/2016 as well as the decrease in LPG sales volume as a result of consumers switching to other cheaper fuel substitutes.

EBITDA, which adjusted the effect of foreign exchange rate, in 9M/2016 was Baht 5,329 million, increasing by Baht 2,854 million. Operating income, which adjusted the effect of foreign exchange rate, in 9M/2016 was Baht 5,304 million, increasing by Baht 2,853 million from prior year mainly from the rise in domestic condensate margins following the increase in average selling prices and sales volume as a result of higher condensate demands. Moreover profit of PTTT also increased from higher crude oil sales volume.

Petrochemical and Refining Business Group

Unit : US\$ per ton	Q3/2015	Q2/2016	Q3/2016	%Inc. (Dec.)		9M/2015	9M/2016	%Inc. (Dec.)
				YoY	QoQ			
HDPE	1,234	1,153	1,139	(7.7%)	(1.2%)	1,266	1,132	(10.6%)
PP	1,135	1,082	1,090	(4.0%)	0.7%	1,209	1,034	(14.5%)
BZ - Cond	235	234	253	7.7%	8.1%	241	253	5.0%
PX - Cond	397	405	402	1.3%	(0.7%)	373	407	9.1%

Unit : US\$ per ton	Q3/2015	Q2/2016	Q3/2016	%Inc. (Dec.)		9M/2015	9M/2016	%Inc. (Dec.)
				YoY	QoQ			
Market GRM	4.97	3.39	3.63	(27.0%)	7.1%	6.13	4.08	(33.4%)
Inventory gain (loss)	(3.87)	3.73	(0.03)	99.2%	>(100%)	(1.41)	0.75	>100%
Accounting GRM	1.16	6.57	3.37	>100%	(48.7%)	5.05	4.46	(11.7%)
Refinery Utilization rate (%)	97.5%	83.8%	95.4%	(2.2%)	13.8%	98.1%	92.1%	(6.1%)

Note: GRM is calculated from refineries of TOP, IRPC, and PTTGC.

Third quarter of 2016 compared with Second quarter of 2016

In Q3/2016, sales revenue of petrochemical and refining business was Baht 198,481 million, increasing by Baht 17,896 million or 9.9% mainly from the increase in sales volume of PTTGC due to planned maintenance shutdown of its refineries from 4 May to 8 July. Meanwhile, almost all average petroleum product prices increased compared with Q2/2016, except gasoline which decreased from surplus of global gasoline supply. Aromatics product prices rose, especially BZ from higher demand due to new Styrene Monomer (SM) Plant in China and less supply from aromatics plants shutdown in Taiwan. Whereas, Olefins product prices, mainly HDPE, declined from soften demand in rainy reason.

The refinery utilization rate in Q3/2016 was 95.4%, increasing by 13.8% from Q2/2016 mainly from planned shutdown of PTTGC's refinery plants for two months which affected the decrease in PTT Group's aromatics utilization rate. Also, Olefins utilization rate increased due to PTTGC unplanned shutdown of the Olefins 3 in Q2/2016.

EBITDA in Q3/2016 was Baht 20,048 million, decreasing by Baht 7,700 million from Q2/2016, and Operating income was Baht 12,635 million, decreasing by Baht 7,636 million, mainly due to

- Refinery performance declined mainly from stock loss (Q2/2016 : 3.73 US\$/bbl, Q3/2016 : (0.03) US\$/bbl) due to the decline in crude price at the end of quarter despite stable average crude oil price, whereas Market GRM increased as a result of the higher petroleum product crack spreads, except gasoline, which was pressured by higher oversupply in gasoline.
- Aromatics Petrochemical performance declined mainly from the increase in stock loss following the decline in condensate price, even though market P2F increased due to the higher product spreads in almost all products, from the decrease in condensate price which is the main feedstock.
- Olefins Petrochemicals performance of PTTGC increased because Olefins 3 resumed its normal operation in August 2016, after unplanned shutdown since May 2016, as well as the receipts of insurance compensation for the Olefins 3 shutdown of Baht 1,155 million. Otherwise, the performance of IRPC slightly decreased from the decline in product spreads especially HDPE.

Share of net income from investments in joint ventures and associates of petrochemical and refining business increased by Baht 456 million from Q2/2016. The increase was mainly from higher performance of PTTAC due to the rise in Acrylonitrile (AN) spreads and gain on foreign exchange rate on foreign currencies loans. Meanwhile, the performance of HMC decrease mainly due to the lower dividend received from ROC compared with Q2/2016.

First nine months of 2016 compared with First nine months of 2015

In 9M/2016, sales revenue of petrochemical and refining business was Baht 555,271 million, decreasing by Baht 113,377 million or 17.0% mainly from the reduction in average petroleum and petrochemical product prices following the sharp decline in crude oil price.

Petrochemical sales volume increased mainly from the improved Aromatics utilization rate; on the contrary, the Olefins utilization rate decreased from planned and unplanned shutdown of PTTGC's olefins plant leading to the decrease in sales volume. The refinery utilization rate decreased by 6.1% as a result of PTTGC's planned shutdown as aforementioned.

EBITDA in 9M/2016 was Baht 68,711 million, increasing by Baht 1,017 million from 9M/2015, while operating income was Baht 46,414 million, decreasing by Baht 845 million from higher depreciation and amortization expense. However, the increase in EBITDA was mainly due to

- Refinery performance decreased because of the reduction in Accounting GRM by 0.59 US\$/bbl from 5.05 US\$/bbl to 4.46 US\$/bbl. Market GRM declined following the decrease in almost all petroleum product spreads, even though there was higher stock gain by 2.16 US\$/bbl.
- Aromatics petrochemical performance improved due to higher P2F, both PX and BZ, compared with the same period of last year, from the higher demand and tight supply due to maintenance shutdown of producer. Moreover, 9M/2016, fuel used and loss decreased following the reduction in feed cost.
- Overall Olefins petrochemical performance increased mainly from the performance of IRPC increased due to the higher P2F from the reduction of feed stock costs higher than product price especially ethylene as well as higher Olefins utilization rate in 9M/2015 as there was planned shutdown in 9M/2015. Meanwhile, the performance of PTTGC decreased due to lower utilization rate of Olefins plant, which had planned and unplanned shutdown in the previous quarter.

Share of net income from investments in joint ventures and associates of petrochemical and refining business decreased by Baht 2,039 million from 9M/2015 mainly from the recognition of SPRC and BCP performance amounting to Baht 2,675 million in 9M/2015 while there was no such recognition in this period. Meanwhile, the share of net income increased from PTTAC's gain on foreign exchange rate and HMC's higher dividend received from ROC in this period.

Coal Business

	Q3/2015	Q2/2015	Q3/2016	%Inc. (Dec.)		9M/2015	9M/2016	%Inc. (Dec.)
				YoY	QoQ			
Newcastle index price (US\$ per ton)	58.8	51.6	67.1	14.1%	30.0%	61.4	56.4	(8.1%)
Average selling price (US\$ per ton)	53.0	41.8	47.2	(10.9%)	12.9%	54.8	44.4	(19.0%)
Sales volume (million ton)	1.6	2.6	2.4	50.0%	(7.7%)	5.9	7.1	20.3%

Third quarter of 2016 compared with Second quarter of 2016

In Q3/2016 sales revenue of coal business was Baht 3,974 million, increasing by Baht 269 million or 7.3% mainly due to the rise in average selling price by US\$ 5.4 per ton or 12.9% from US\$ 41.8 per ton to US\$ 47.2 per ton as a result of the increased in Newcastle reference prices by 30.0% mainly from Chinese Economic Reform to reduce production volumes in order to counter the problem of capacity surplus. However, sales volume slightly decreased from 2.6 million tons in Q2/2016 to 2.4 million tons in Q3/2016 mainly from unfavorable weather that affected transportations.

EBITDA in Q3/2016 was Baht 1,122 million, increasing by Baht 339 million or 43.3% mainly caused by the rise in average selling prices as aforementioned. Operating income in Q3/2016 was Baht 554 million, increasing by Baht 263 million in line with higher EBITDA. However, depreciation and amortization expenses increased from the rise in production volume in order to capture the rising trend of coal prices.

First nine months of 2016 compared with First nine months of 2015

In 9M/2016, sales revenue of coal business was Baht 10,942 million, decreasing by Baht 51 million or 0.5% mainly due to the decline in average selling price by US\$ 10.4 per ton or 19.0%. However, sales volume increased by 20.3% from the attempt to uplift the production and sales volume to push sales revenue and support the rising trend of coal prices.

EBITDA in 9M/2016 was Baht 2,609 million, increasing by Baht 20 million or 0.8% mainly from lower cost which benefited from cost management and higher discount received, compared to 9M/2015, from negotiation with contractors. Operating income in 9M/2016 was Baht 1,170 million, increasing by Baht 913 million compared with 9M/2015 as a result of the decline in depreciation and amortization expenses following the decrease in coal mining assets after impairment losses recognition in 2015.

The analysis of PTT and its subsidiaries' consolidated financial position
as of September 30, 2016 compared with December 31, 2015

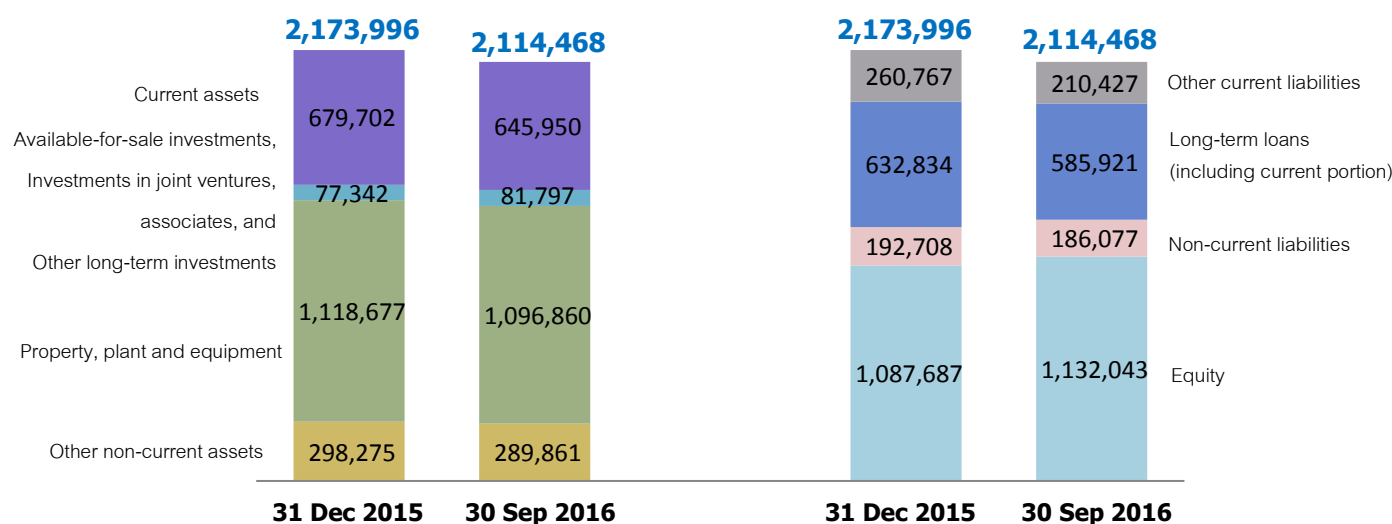
Total Assets

Total Liabilities & Equity

Unit: Million Baht

▼ 2.7%

▼ 2.7%



Assets

As of September 30, 2016, total assets of PTT and its subsidiaries were Baht 2,114,468 million, decreasing by Baht 59,528 million or 2.7% compared with December 31, 2015. The decrease was mainly from the net effect of the followings:

- : A decrease of Baht 33,752 million or 5.0% in current assets was mainly from the followings:
 - A decrease of Baht 24,655 million in accounts receivable mainly from the decrease in sales volume and product selling prices compared with the year ended 2015.

: An increase of Baht 4,455 million or 5.8% in long-term investments was mainly from the recognition of unrealized gain on fair value of available-for-sale investment, the investment in personal funds, and the additional capital paid-up in XPCL.

: A decrease of Baht 21,817 million or 2.0% in property, plant and equipment was mainly from depreciation expenses in this period, even though there was additional assets of PTT Group, for instance, the Nakornsawan and the Nakornratchasima onshore gas pipeline projects of PTT, Phenol II and LLDE Expansion projects of PTTGC, the Upstream Project for Hygiene and Value Add Products (UHV), the Polypropylene Expansion project (PPE) and the Polypropylene Compound and Specialties project (PPC) of IRPC, and the LNG terminal Phase II project of PTTLNG.

Liabilities

As of September 30, 2016, PTT and its subsidiaries had total liabilities of Baht 982,425 million, decreasing by Baht 103,884 million or 9.6% from the year ended 2015, mainly from the net effect of the followings:

: A decrease of Baht 50,340 million or 19.3% in other current liabilities mainly from the payment of trade accounts payable, other accounts payable and income tax payable.

: A decrease of Baht 46,913 million or 7.4% in long-term loans (including the current portion) mainly from the repayment of long-term loans and the repurchase of debentures.

: A decrease of Baht 6,631 million or 3.4% in non-current liabilities mainly from deferred tax liabilities and derivative liabilities following the appreciation of Thai Baht.

Equity

As of September 30, 2016, PTT and its subsidiaries had total shareholders' equity of Baht 1,132,043 million, increasing by Baht 44,356 million or 4.1% from the year ended 2015, mainly due to performance in 9M/2016 of PTT and its subsidiaries which was Baht 75,522 million and dividends paid amounting to Baht 28,560 million.

Liquidity

For the nine-month period ended September 30, 2016, PTT and its subsidiaries had net decrease in cash and cash equivalents amounting to Baht 54,549 million, and cash and cash equivalents at the beginning of the period was Baht 239,978 million. As a result, cash and cash equivalents at the end of the period was Baht 185,429 million. Details of cash flow by activities are as follows:

	Unit: Million Baht
Net cash provided by operating activities	183,124
Net cash used in investing activities	(134,942)
Net cash used in financing activities	(102,796)
Effects of exchange rates on cash and cash equivalents	(666)
Currency translation differences	981
Cash and cash equivalents classified as non-current asset held-for-sale	(250)
Net increase in cash and cash equivalents during the period	(54,549)
Cash and cash equivalents at the beginning of the period	239,978
Cash and cash equivalents at the end of the period	185,429

Net cash provided by operating activities of Baht 183,124 million was derived from Baht 75,522 million of net profit attributable to owners of the parent, adjusted by net profit to net cash provided (used in) by operating activities. The increase in net cash flow are from operating activities mainly resulted from Baht 96,092 million of depreciation and amortization expenses, Baht 26,090 million of net profit attributable to non-controlling interests, Baht 21,710 million of finance costs, Baht 17,409 million of income taxes expenses. The decrease in net operating assets of Baht 19,150 million and income taxes paid was Baht 29,073 million affected the decrease in net cash flow from operating activity.

Net cash used in investing activities was Baht 134,942 million mainly resulted from the followings:

: The cash outflow of investments in property, plant and equipment, intangible assets, and mining properties amounting to Baht 82,547 million, mainly due to the additional investments of PTTEP in petroleum exploration and production assets mainly from the investments in Arthit, Zawtika, and S1 projects. Additionally, PTT invested in projects, principally are the Nakornsawan and the Nakornratchasima onshore gas pipeline projects. Furthermore, there were investments in Phenol II project and LLDPE Expansion project of PTTGC, UHV, PPE and PPC projects of IRPC, as well as the production of linear alkylbenzene project (LAB), New Small Power Plants Project (SPPs) of TOP and the LNG terminal Phase II project of PTTLNG.

: The cash outflow from current investments amounting to Baht 53,025 million, mainly from fixed deposits of PTTEP, PTT and TOP.

Net cash used by financing activities was Baht 102,796 million, mainly from the followings:

: The long-term loans repayment of Baht 64,208 million were principally from the repayment of loans and the repurchase of debentures of PTTGC, PTT and PTTEP amounting to Baht 58,277 million.

: Cash paid for dividend amounting to Baht 44,374 million.

: Cash paid for finance costs amounting to Baht 23,238 million, mainly from PTT, TOP, PTTGC and PTTEP.

: Cash received from loans totaling to Baht 23,766 million, mainly was derived from PTTGC, IRPC, and GPSC.

Financial ratios and earnings per share of PTT and its subsidiaries

Financial Ratio	Unit	9M/2015	9M/2016
<u>Profitability Ratios from Continuing Operations</u>			
Gross profit margin	%	10.93%	14.67%
Net profit margin	%	1.64%	8.17%
<u>Solvency Ratios</u>			
Interest coverage	Time	9.67	9.13
<u>Earnings per share</u>			
Earnings per share	Baht/share	6.94	26.15

Financial Ratio	Unit	Dec 31, 2015	Sep 30, 2016
<u>Liquidity Ratios</u>			
Current ratio	Time	2.16	2.36
Quick ratio	Time	1.55	1.69
<u>Solvency Ratios</u>			
Debt to Equity	Time	0.61	0.54

Note:

Current ratio	=	Current assets divided by Current liabilities
Quick ratio	=	(Cash and cash equivalent + Current investments + Accounts receivable) divided by Current Liabilities
Gross profit margin	=	Gross profit divided by Sales and service income
Net profit margin	=	Net profit divided by Sales and service income
Debt to equity	=	Interest bearing debt divided by Total shareholder's equity
Interest coverage	=	(Net cash flow from operating activities + Taxes paid from operating activities) divided by Interest paid from financing activities

Economic Outlook in 2016

The world economy is expected to maintain its growth momentum in the fourth quarter of 2016 (Q4/2016), with US economic growth expected to continue at a moderate pace supported by domestic demands especially from higher business investment amid rising oil prices and improvement in business climate after the US presidential election. However US exports will continue to be restrained by subdued global demand and a strong dollar. As for the euro area, a gradual economic recovery is expected to continue on the back of a highly accommodative monetary policy. Meanwhile, emerging market economies and lower income countries are expected to maintain a roughly steady growth rate in Q4/2016 amid gradual rising oil prices and China's economic growth hitting the government's target of 6.5-7%. Downside risks to the world economy include further US rate increases and commodity price volatility.

According to the IEA's estimates in October 2016, global oil demand is expected to grow by 1.3 MMBD to average 96.3 MMBD in 2016, with emerging market economies and lower-income countries being the key driver. Meanwhile, oil demand in the advanced economies is expected to remain unchanged from the previous year. For the supply side, smaller crude oil surplus is expected in Q4/2016 amid recent OPEC's oil deal to curb output, hurricane season in the Gulf of Mexico, and higher winter demand, which should result in slightly higher oil prices in the US\$45-50 per barrel range. Singapore GRM in 2016 is expected to average US\$5.5-6.5 per barrel.

The Olefins price in Q4/2016 is maintaining its trend amid limited transactions and concern over sluggish end-product demand as well as new capacities from Saudi Arabia. HDPE price is expected to rise slightly at US\$1,143 per ton following crude oil price and PP price to decline slightly at US\$1,045 per ton. Meanwhile, Aromatics price is expected to be slightly lower with PX price forecasted at US\$800 per ton as a result of the startup of 2.3 million tons per annum new PX capacity of Reliance and more cargoes coming in from the Middle East, US, and India. BZ price will be around US\$633 per ton amid excess supply coupling with Shell Singapore's Force Majeure, which affected the production of derivatives such as SM and Phenol plants.

The Thai economy in Q4/2016 is expected to grow at a similar pace as in Q3/2016. Government spending is likely to pick up as a draft constitution was approved in the August 2016 referendum and measures are being taken to speed up the disbursement of stimulus budget. Private consumption is predicted to slightly increase due to expected government's economic stimulus measures. In the meantime, tourism sector is likely to continue its expansion despite the negative impact from the measure to eliminate the zero-dollar Chinese tours. Nonetheless, exports tend to remain low amid sluggish global economy, while private investment is expected to remain weak. Risk factors that need to be monitored include financial volatility from the result of the US presidential election and the expected Fed rate hike, as well as the effect from the crackdown on zero-dollar Chinese tours.

Appendix

Natural Gas Business consists of PTT natural gas business unit, PTT Natural Gas Distribution Co., Ltd. (PTTNGD), PTT LNG Co., Ltd (PTTLNG), and PTT FLNG Limited, which is a joint venture of PTT International (Singapore) Pte. Ltd. (a subsidiary of PTTER) with 50% shareholding interest and a joint venture of PTTEP FLNG Holding Company Limited (a subsidiary of PTTEP) with 50% shareholding interest. PTT FLNG is currently under business dissolution.

Oil Business consists of PTT oil business unit, PTT (Cambodia) Co., Ltd. (PTTCL), PTT Tank Terminal Co., Ltd. (PTT TANK), PTT Retail Business Co., Ltd. (PTTRB), consolidating Thai Lube Blending Company Limited (TLBC) due to the 100% TLBC's shareholding acquisition by PTTRB and PTT, and PTT Oil Myanmar Co., Ltd. (PTTOM).

International Trading Business consists of PTT international business unit and PTT International Trading Pte Ltd (PTTT).

Petrochemical and Refinery Business consists of PTT Global Chemical Public Company Limited (PTTGC), PTT Polymer Marketing Co., Ltd. (PTTPM), PTT Polymer Logistics Co., Ltd. (PTTPL), PTT Maintenance and Engineering Co., Ltd. (PTTME) and PTT PMMA Co., Ltd. (PTTPMMA), Thai Oil Public Company Limited (TOP), IRPC Public Company Limited (IRPC), and Thai Oil Power Co., Ltd. (TP).

Coal Business consists of Sakari Resources Ltd. (SAR), Straits (Brunei) Pte Ltd (Straits (Brunei)), and Yoxford Holdings (95.26% shareholding in SAR and 100% shareholdings in the others, held by PTT Mining Limited (PTTML), a 100% shareholding subsidiary of PTT Energy Resources Company Limited (PTTER)).

Infrastructure Business consists of Global Power Synergy Public Company Limited (GPSC), PTT Energy Solution Co., Ltd. (PTTES) and Energy Complex Co., Ltd. (EnCo).

Other Business consists of Business Services Alliance Co., Ltd. (BSA), PTT Green Energy Pte. Ltd. (PTTGE), PTT Energy Resources Company Limited (PTTER), and PTT Regional Treasury Center Pte. Ltd. (PTTRTC) and PTT ICT Solution Co., Ltd. (PTTICT).

Earnings per share is calculated by dividing net income attributable to ordinary shareholders by the weighted average number of ordinary shares which are held by third parties during the periods.