

PTT Global Chemical Public Company Limited

Management Discussion and Analysis FY2016



Executive Summary

In Q4/2016, PTT Global Chemicals Public Company Limited (“the Company”) reported net profit of Baht 9,744 million (Baht 2.18 earnings per share), increased 108% from Baht 4,690 million (Baht 1.04 earnings per share) in Q4/2015 and increased by 57% from previous quarter which recorded net profit of Baht 6,226 million (Baht 1.40 earnings per share)

Table 1 : Performance Summary

(Unit: Million Baht)	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Sales Revenue	96,088	89,714	109,740	14%	22%	400,128	345,762	-14%
EBITDA	10,387	12,210	16,304	57%	34%	44,740	48,147	8%
EBITDA Margin (%)	11%	14%	15%	4%	1%	11%	14%	3%
Net Profit	4,690	6,226	9,744	108%	57%	20,502	25,602	25%
EPS (Baht/Share)	1.04	1.40	2.18	109%	56%	4.55	5.74	26%
Adjusted EBITDA*	14,971	11,630	14,553	-3%	25%	50,873	43,910	-14%
Adjusted EBITDA Margin (%)	16%	13%	13%	-2%	0%	13%	13%	0%

Note: * Adjusted EBITDA refers EBITDA excluding impact of oil stock value

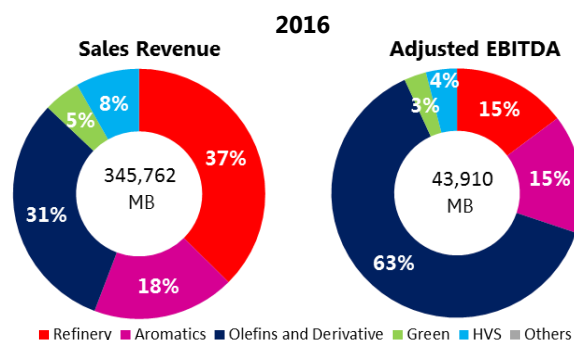
In Q4/2016, the Company’s performance improved from Q4/2015 and Q4/2016, it was derived from more efficiency in production process that affected to better utilization rate, supporting with higher margin in Olefins and Aromatics businesses. The Company also realized stock gain in this quarter, followed crude oil price trend. In Q4/2016, the Company has implemented Project Max which helps to improve efficiency in all operational sectors; it provided benefit by Baht 246 million that realized in this quarter. In contrary, the Company realized loss on Commodity Hedging by Baht 1,248 million and impairment loss of Myriant Corporation by Baht 656 million as a result of crude oil price that maintained at low level. Refer to above reasons, Adjusted EBITDA was at Baht 14,553 million, 3% declined from Q4/2015 but increased by 25% from previous quarter.

In comparison between 2015 and 2016, the Company reported net profit at Baht 25,602 million, rose by 25% from 2015 due to higher crude oil price and stock gain realization, while 2015, the Company had stock loss. In addition, the company also booked Baht 1,155 million of insurance claim from unplanned shutdown of olefins unit 3. For Adjusted EBITDA, it decreased to Baht 43,910 million or 14% dropped from previous year, resulted from maintenance shutdown of Olefins and turnaround of Refinery units in H1/16. However, Adjusted EBITDA margin remained stable at 13%.

Table 2 : Adjusted EBITDA Margin

Adj. EBITDA Margin	Q4/2015	Q3/2016	Q4/2016	2015	2016
Business Unit :					
Refinery	15	5	4	8	5
Aromatics	11	9	13	9	11
Olefins and Derivative	22	28*	28	24	25
Green	11	7	6	6	8
HVS	3	10	13	7	6
Average	16	13	13	13	13

*included Insurance Claim from Olefins unit#3’s incident



Key Milestones in 2016

Refinery's planned maintenance shutdown

As of May 4, 2016, Refinery had planned turnaround and able to restart its operation with full capacity on July 5, 2016.

Olefins Unit 3 Shutdown

As of May 17, 2016, Olefins Unit 3 was shutdown to maintenance coil that was broke from power outage issue and thermal shock. Olefins' Unit 3 operation was back to normal on August 15, 2016, however, the Company has received insurance claim from Olefins Unit 3 incident at amount of Baht 1,155 million.

Starting commercial operation of Phenol II

Phenol II plant of PTT Phenol Company Limited with phenol capacity of 250,000 ton has started commercial operation on July 1, 2016.

Interim Dividend Paid

As of August 22, 2016, Board of Directors has approved interim dividend paid of H1/2016 performance since January 1, 2016 to June 30, 2016 for shareholders at 1.05 Baht/share, accounted for 49% of H1/2016 net profit.

Signing HOA to collaborate in developing Performance Chemical

As of September 13, 2016, the Company has signed HOA with Kuraray Co., Ltd and Sumitomo Corporation to study the possibility of project about high engineering plastic products which are High-Heat Resistant Polyamide-9T (PA9T) and Hydrogenated Styrenic Block Copolymer (HSBC) in Thailand. The project has been planned to start at the end of 2020, with PA9T capacity of 13,000 ton per year and HSBC at 16,000 ton per year, feedstock used in the project will be delivered from the Company.

Initial public offering (IPO) of GGC

As of October 5, 2016, Global Green Chemical Co., Ltd which is subsidiary company has filed an application for offering of newly-issued shares, a registration statement for offering of securities, and draft prospectus with the Office of the Securities and Exchange Commission (the "Office of the SEC"), as well as an application for approval of ordinary shares as listed securities. The Company will remain a major shareholder with a controlling interest in GGC after the issuance of shares.

Treasury Stock Project for financial management

As of December 2, 2016, the Company resold shares through SET after Treasury stock program ended on March 7, 2016. Recently, accumulated shares resold was 500,000 shares, averaged share price at 65.13 Baht, total resold amount was 32,562,500 Baht.

Performance Analysis by Business Unit

Refinery Business Unit

Table 3 : Crude Price & Petroleum Product Spreads

(Unit: USD/bbl)	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Dubai Crude Oil	40.71	43.17	48.32	19%	12%	50.91	41.27	-19%
Gasoline-Dubai	18.68	11.57	14.58	-22%	26%	18.28	14.85	-19%
Jet-Dubai	14.09	11.15	12.26	-13%	10%	13.88	11.56	-17%
Diesel-Dubai	13.77	10.96	12.03	-13%	10%	13.66	10.78	-21%
Fuel Oil-Dubai	-6.55	-4.27	-1.68	74%	61%	-5.02	-4.97	1%

Crude oil market situation in Q4/2016 was fluctuated as OPEC producers tried to find collaboration among member in November 2016. From that meeting, OPEC has reached an agreement by reducing OPEC production around 1.2 Mbbbl/day and freeze capacity at 32.5 Mbbbl/day, provided an impact on Dubai crude oil price by moving in the range of 41.90-54.20 USD/bbl and averaged at 48.32 USD/bbl.

Almost of Petroleum product spread over crude oil price was declined from Q4/2015 but increased from Q3/2016. The spread of Gasoline over Dubai crude oil averaged at 14.58 USD/bbl, dropped by 4.10 USD/bbl from Q4/2015 but improved by 3.01 USD/bbl from previous quarter. Although, the driving season in the United State had ended in this quarter, but a leak in Colonial Pipeline was a major impact on better demand in Q4/2016. Spread of Diesel over Dubai crude oil averaged at 12.03 USD/bbl, slightly declined by 1.74 USD/bbl from Q4/2015 but rose by 1.07 USD/bbl from Q3/2016 as a result of higher demand in winter season. Moving on to spread of Fuel oil over Dubai crude oil was at -1.68 USD/bbl, increased 4.87 USD/bbl and 2.59 USD/bbl from Q4/2015 and Q3/2016 respectively, it caused by earthquake in South Korea and storm in Taiwan that forced Nuclear Power Plant to shutdown some units, entirely effect on better demand in Fuel Oil market, using as a substitute product to power plant.

Table 4 : Refinery Intake

	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Crude (Mbbbl)	13.17	13.15	13.73	4%	4%	53.04	44.24	-17%
(KBD)	143.10	142.99	149.24	4%	4%	145.31	120.87	-17%
Condensate Residue (Mbbbl)	2.80	2.87	3.43	23%	20%	10.26	10.51	3%
(KBD)	30.40	31.19	37.30	23%	20%	28.10	28.73	2%
Total Intake (Mbbbl)	15.96	16.02	17.16	8%	7%	63.29	54.75	-13%
(KBD)	173.50	174.18	186.54	8%	7%	173.41	149.60	-14%
CDU Utilization Rate	99%	99%	103%			100%	83%	

Performance of Refinery business in Q4/2016 soften, compared to Q4/2015 but increased from Q3/2016. In this quarter CDU unit was run at full capacity with utilization rate at 103%, higher than both Q4/2015 and Q3/2016 which was at 99%. Higher utilization rate was the cause of higher crude intake volume that rose by 4% from Q4/2015 and Q3/2016 to 13.73 Mbbbl in Q4/2016.

Table 5 : Petroleum Sales Volume

(Unit: '000 barrels)	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Naphtha	1,074	404	832	-23%	106%	5,086	1,892	-63%
Reformate	1,835	1,366	1,344	-27%	-2%	6,081	3,689	-39%
Jet/Kero	1,658	1,929	1,866	13%	-3%	7,774	7,016	-10%
Diesel	8,845	8,061	9,748	10%	21%	33,652	28,301	-16%
Fuel Oil	2,302	1,898	2,373	3%	25%	9,111	7,867	-14%
Others	1,538	1,157	1,625	6%	40%	6,297	5,686	-10%
Total	17,252	14,815	17,787	3%	20%	68,002	54,452	-20%

Table 6 : Gross Refinery Margin

(Unit: USD/bbl)	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Market GRM	7.31	4.06	6.55	-10%	61%	6.42	5.32	-17%
CDU GRM	8.01	4.04	7.17	-11%	77%	6.87	5.64	-18%
CRS GRM	3.92	4.13	4.10	4%	-1%	4.08	3.94	-3%
Hedging Gain/(Loss)	4.53	0.04	-2.07	-146%	-5764%	1.10	-0.61	-156%
Stock Gain/(Loss) Net NRV	-2.89	1.00	2.23	177%	122%	-1.48	1.19	180%
Accounting GRM	8.94	5.10	6.70	-25%	31%	6.04	5.89	-3%

Petroleum sales volume in Q4/2016 was at 17.7 Mbbl, 3% increased from Q4/2015 while almost of petroleum products spread were soften, Gasoline spread dropped 22%, Diesel also decreased by 13%, only Fuel oil that increased significantly by 74%, therefore it affected Market GRM in this quarter to report at 6.55 USD/bbl, decreased 10% from Q4/2015. Comparing with Q3/2016, sales volume in Q4/2016 increased by 20%, petroleum products spread also increased, included Gasoline spread, Diesel spread and Fuel oil spread that rose by 26%, 10% and 61% respectively. All above had an impact on better Market GRM, increased by 2.49 USD/bbl, from Q3/2016 at 4.06 USD/bbl. Adjusted EBITDA excluded stock gain/loss in this quarter was reported at Baht 1,912 million, significantly dropped 70% from Q4/2015 but increased 15% from previous quarter as reasons mentioned above. Additionally, the Company realized stock gain in Q4/2016, was at 2.23 USD/bbl or Baht 1,352 million, resulted from an increment of crude oil price. However, the Company recorded net loss from Commodity Hedging in this quarter at 2.07 USD/bbl, thus the Company reported Accounting GRM at 6.70 USD/bbl in this quarter.

Comparing between 2016 and 2015, the Company had lower utilization rate which was at 83% from 100% in 2015 due to planned turnaround in Q2/2016 that had an effect on lower production and sales volume, along with soften products spread included Gasoline spread and Diesel which declined by 19% and 21% respectively, only Fuel oil spread had increased by 1%. Therefore, the Company reported Market GRM in 2016 at 5.32 USD/bbl, dropped from previous year at 6.42 USD/bbl. Nonetheless, the Company realized stock gain at 1.19 USD/bbl or Baht 2,143 million but partial offset from Commodity Hedging loss at 0.61 USD/bbl that affected to lower Accounting GRM at 5.89 USD/bbl in this year, declined from 2015 at 6.04 USD/bbl. For Adjusted EBITDA of Petroleum business was recorded at Bath 6,445 million, dropped by 53% from 2015.

Aromatics Business Unit

Table 7 : Aromatics Product Prices and Spreads over Condensate

(Unit: USD/ton)	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Condensate	375	386	432	15%	12%	447	379	-15%
Paraxylene (FECp)	786	789	790	1%	0%	829	774	-7%
Paraxylene-Condensate	410	402	358	-13%	-11%	383	395	3%
Benzene (Spot Korea)	606	640	720	19%	13%	685	640	-7%
Benzene-Condensate	230	253	288	25%	14%	238	262	10%
Naphtha-Condensate	69	3	18	-74%	493%	44	19	-56%

Paraxylene

In Q4/2016, spread of Paraxylene over Condensate price averaged at 358 USD/ton, decreased from 410 USD/ton in Q4/2015 and 402 USD/ton in Q3/2016 which mainly from higher Condensate price to 432 USD/ton, followed an upward trend of crude oil price that increased after OPEC reached an agreement on cutting production volume in November. In this quarter, Paraxylene price maintained at 790 USD/ton, on the same level as previous quarter due to balance market situation from downstream demand, for instance there had new Purified Terephthalic Acid (PTA) plants in China and India, also better demand from Polyester business that maintain high operating rate in this period. Another major factor which helped balance supply and demand in market was the restart of Aromatics plants with high utilization rate after shutdown period in Asia.

For spread of Paraxylene over Condensate in 2016, increased by 3% from 2015 to 395 USD/ton due to a decline of Condensate price by 15%, followed a volatility of crude oil price. Moving on to Paraxylene price in 2016, it dropped by 7% from previous year resulted from shutdown period in 2015 of large scale Aromatics plants in Asia, for example China, Taiwan and Singapore, besides with tight supply from using reformat as a feedstock to produce Gasoline in order to served Gasoline demand instead of produce Aromatics product.

Benzene

Spread of Benzene over Condensate price averaged at 288 USD/ton in Q4/2016, increased from both Q4/2015 and Q3/2016 at 230 USD/ton and 253 USD/ton respectively. Better spread was driven by higher Benzene price that rose by 13% from previous quarter to 720 USD/ton, mainly from healthier downstream demand, for instance Styrene Monomer and Phenol in China that back to run at normal rate after maintenance shutdown in Q2/2016, directly affected to higher Benzene volume that was imported by China. Moreover, it was supported by Cyclohexane produce due to demand of Caprolactam was better than expected. On supply side in Q4/2016, it still tight from low utilization of Aromatics plant that back from maintenance shutdown, along with the postpone announcement of new producers in South Korea, India and Saudi Arabia, which supported Benzene price to increase continuously.

For Spread of Benzene over Condensate price in 2016 has increased by 10% from 2015 to 262 USD/ton due to Chinese economic deceleration in 2015 which had influence on lower downstream demand, supported with glut supply situation in Asia because the United State reduced imported volume from Asia as its country able to produce higher Benzene volume, thus it pressured spread of Benzene over Condensate to maintain at low level in 2015.

Table 8 : Aromatics Intake and Productions

(Unit: '000 tons)	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Condensate	1,260	1,243	1,321	5%	6%	4,697	5,208	11%
Others	102	140	125	23%	-11%	517	668	29%
Total Intake	1,362	1,383	1,446	6%	5%	5,214	5,876	13%
BTX Production	386	485	532	38%	10%	1,720	2,103	22%
BTX Utilization Rate	66%	75%	82%			74%	82%	

*Aromatics capacity added up to 2.419 Mton/year starting from Q1/2016 (was 2.259 Mton/year)

In Q4/2016, Performance of Aromatics business was better than both Q4/2015 and Q3/2016 from higher utilization rate which averaged at 82%, increased from Q4/2015 at 66% that had shutdown period of Aromatics II, also increased from Q3/2016 at 75% that turndown operation for maintenance in some unit of Aromatics plant, thus sales volume in this quarter was increased follow the utilization rate.

Table 9 : Aromatics Sales Volume

(Unit: '000 tons)	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Benzene (BZ)	115	144	171	49%	19%	493	633	28%
Cyclohexane	38	43	43	12%	-2%	157	169	8%
Paraxylene (PX)	218	277	305	40%	10%	1,003	1,215	21%
Other BTX Products	15	15	24	58%	55%	60	77	29%
Total BTX Products	386	479	542	41%	13%	1,712	2,095	22%
Naphtha	278	272	301	9%	11%	898	1,004	12%
Other By-Products	133	120	43	-67%	-64%	310	357	15%
Total	796	871	887	11%	2%	2,920	3,455	18%

Table 10 : Aromatics market P2F

(Unit: USD/ton)	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Market P2F	251	181	211	-16%	16%	217	185	-15%
NRV	10.7	0.0	0.0	-100%	N/A	24	0	-100%
Hedging Gain/(Loss)	2.5	-1.0	1.2	-52%	229%	0.6	0.1	-83%
Stock Gain/(Loss)	-38.5	-1.3	55.2	244%	4193%	-33.0	33.3	201%
Accounting P2F	226	179	267	18%	49%	209	218	0%

In Q4/2016, almost of Aromatics product spread was dropped from Q4/2015, included Paraxylene spread over Condensate declined by 13% and Naphtha spread over Condensate also dropped by 74% while Benzene spread over Condensate has increased by 25%, all affected to Market P2F per BTX ton was at 211 USD/ton in this quarter, decreased from Q4/2015 at 251 USD/ton or 16%. However, sales volume of Aromatics product in Q4/2016 sharply increased by 41% from Q4/2015, it supported Adjusted EBITDA in Q4/2016 to report at Baht 2,204 million, 42% moved up from Q4/2015.

In comparison between Q4/2016 and Q3/2016, spread of Paraxylene over Condensate dropped by 11% while spread of Benzene over Condensate rose by 14% and spread of Naphtha over Condensate also increased significantly by 493% that affected to higher Market P2F per BTX ton in Q4/2016 than Q3/2016 which was at 181 USD/ton or 16%. Furthermore, the Company recorded higher sales volume by 13% in Q4/2016, it supported Adjusted EBITDA to increase from Q3/2016 by 67%.

In addition, in Q4/2016 the Company realized stock gain from Aromatics business at amount of Baht 1,060 million or 55.2 USD/ton, as a result of increased condensate price, followed crude oil price trend, also recorded Hedging gain at 1.2 USD/ton. Therefore, the Company reported Accounting P2F at 267 USD/ton.

For performance in 2016, BTX utilization rate was at 82% increased from 74% in 2015 as there had maintenance shutdown of Aromatics II in 2015. Moving to products spread over Condensate in 2016, Paraxylene spread and Benzene spread both increased by 3% and 10% respectively, contrast with Naphtha spread that sharply dropped by 56% and it accounted for 29% out of total sales volume, thus it had an impact on a declining of Market P2F per BTX ton to 185 USD/ton or 15% from previous year. According to higher sales volume in 2016 by 18%, it supported Adjusted EBITDA to rise by 20% to Baht 6,742 million. The Company also realized stock gain from Aromatics business at amount of Baht 2,461 million or 33.3 USD/ton and recorded Hedging gain at 0.10 USD/ton that affected to an increment of Accounting P2F to 218 USD/ton or 4% increased.

Olefins and Derivatives Business Unit

Table 11 : Prices and Spreads of Olefins and Derivatives

(Unit: USD/ton)	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Naphtha (MOPJ)	445	389	450	1%	16%	491	398	-19%
Ethylene (SEA)	1,033	1,057	978	-5%	-7%	1,104	1,037	-6%
HDPE	1,153	1,139	1,134	-2%	0%	1,237	1,132	-9%
HDPE-Naphtha	708	749	684	-3%	-9%	747	734	-2%
LLDPE	1,158	1,193	1,191	3%	0%	1,234	1,170	-5%
LDPE	1,158	1,195	1,233	6%	3%	1,249	1,182	-5%
MEG (ACP)	837	762	818	-2%	7%	948	783	-17%
MEG-0.65 Ethylene	165	75	182	10%	144%	230	109	-53%

Ethylene price in Q4/2016 was averaged at 978 USD/ton declined from Q4/2015 by 5% and Q3/2016 by 7% due to many Olefins plants has restarted their plants after planned and unplanned shutdown in H1/2016, along with the starting of new plants in China and India with total Ethylene capacity around 2.2 million tons per year.

For Polyethylene in 2016, it also declined as HDPE price dropped to 1,134 USD/ton or 2% from Q4/2015 mainly from demand that remained stable, unstable economy and forecast from downstream producers about new capacity that probably enter to the market at the end of 2016, thus it put more pressure on polyethylene price. Nevertheless, by product price as Butadiene was significantly increased to 1,583 USD/ton or 126% rose from Q4/2015 and 48% from previous quarter, followed natural rubber price which was substitute product that increased because of tight supply and higher crude oil price. For demand side, it was healthier that supported by Chinese investment policy and higher sales volume in automobile sector.

MEG price decreased by 2% from Q4/2015 but increased by 7% from previous quarter which mainly from building stock to serve better downstream demand, for instance Polyester market in China that back from stagnant period and demand from using Anti-freeze product in the United State as winter season was extended. All factors supported MEG price in this quarter.

Table 12 : Sales volume and Utilization Rate of Olefins and Olefins derivatives

	Q4/2015	Q3/2016	Q4/2016	YoY % +/-	QoQ % +/-	2015	2016	YoY % +/-
Olefins								
Sales Volume*	203	140	157	-22%	13%	760	622	-18%
Utilization Rate	97%	92%	100%	3%	8%	94%	90%	-4%
Polyethylene								
Sales Volume	411	391	460	12%	18%	1,566	1,524	-3%
Utilization Rate	103%	112%	113%	10%	1%	104%	102%	-2%
MEG								
Sales Volume	130	105	110	-16%	5%	420	424	1%
Utilization Rate	117%	91%	103%	-13%	12%	96%	95%	0%

Note: * Sales Volume of Olefins is external volume.

Table 13 : Adjusted EBITDA of Olefins and Derivatives

(Unit: Million Baht)	Q4/2015	Q3/2016	Q4/2016	YoY % + /(-)	QoQ % + /(-)	2015	2016	YoY % + /(-)
Adj. EBITDA	6,829	7,523*	8,919	31%	19%	28,032	27,534	-2%
Adj. EBITDA Margin	22%	28%*	28%	6%	0%	24%	25%	1%

* Included income from insurance claim for Olefins Unit# 3 incident

The performance of Olefins and Derivatives in Q4/2016 was improved, compared with Q4/2015 and Q3/2016. The Adjusted EBITDA in Q4/2016 was at Baht 8,919 million, rose by 31% and 19% from Q4/2015 and Q3/2016 respectively. For Adjusted EBITDA margin, it remained at 28% same as previous quarter and increased by 6% from Q4/2015, mainly from feedstock management, an increase of Polyethylene price, better MEG spread and a significantly increase of Butadiene price.

Table 14 : Olefins Intake volume

Gas/Liquid Ratio	Q4/2015	Q3/2016	Q4/2016	YoY % + /(-)	QoQ % + /(-)	2558	2559	YoY % + /(-)
Gas	91%	91%	92%	1%	0%	92%	89%	-3%
Naphtha	9%	9%	8%	-1%	0%	8%	11%	3%
Total Intake (Ktons)	1,012	964	1,041	3%	8%	3,899	3,805	-2%

In this quarter, Olefins used more competitive feedstock in production process by using Naphtha only 8%. For Olefins utilization rate, it averaged at 100% increased from Q4/2015 at 97% and previous quarter at 92% as a result of receiving maximum natural gas to feed in and had smooth operation.

Ethylene price in Q4/2016 was averaged at 978 USD/ton, decreased by 5% and 7% from Q4/2015 and Q3/2016 respectively while HDPE, LLDPE and LDPE price increased to average at 1,186 USD/ton, 1% and 3% rose from Q4/2015 and Q3/2016. MEG price dropped by 2% from Q4/2015 but increased 7% from previous quarter. For Butadiene, its price rose by 126% from Q4/2015 and 48% from previous quarter. According to better products spread, the Company presented Adjusted EBITDA margin at 28%, increased from Q4/2015 at 22% and remained stable from Q3/2016 which received insurance claim..

In comparison between 2016 and 2015, Adjusted EBITDA in 2016 declined from previous year because of lower utilization rate at 90% from 94% in 2015 as Olefins unit 3 had planned maintenance shutdown in Q1/2016 and unplanned shutdown in Q2/2016, affected to turndown in downstream production. Furthermore, Polyethylene price also dropped by 6% from 1,240 USD/ton to 1,161 USD/ton, provided an impact on a decline of Adjusted EBITDA in 2016 by 2% to Baht 27,534 million. However, Adjusted EBITDA margin in 2016 increased from previous year at 24% to 25%, resulted from a decrease in LPG and Naphtha price, followed crude oil price.

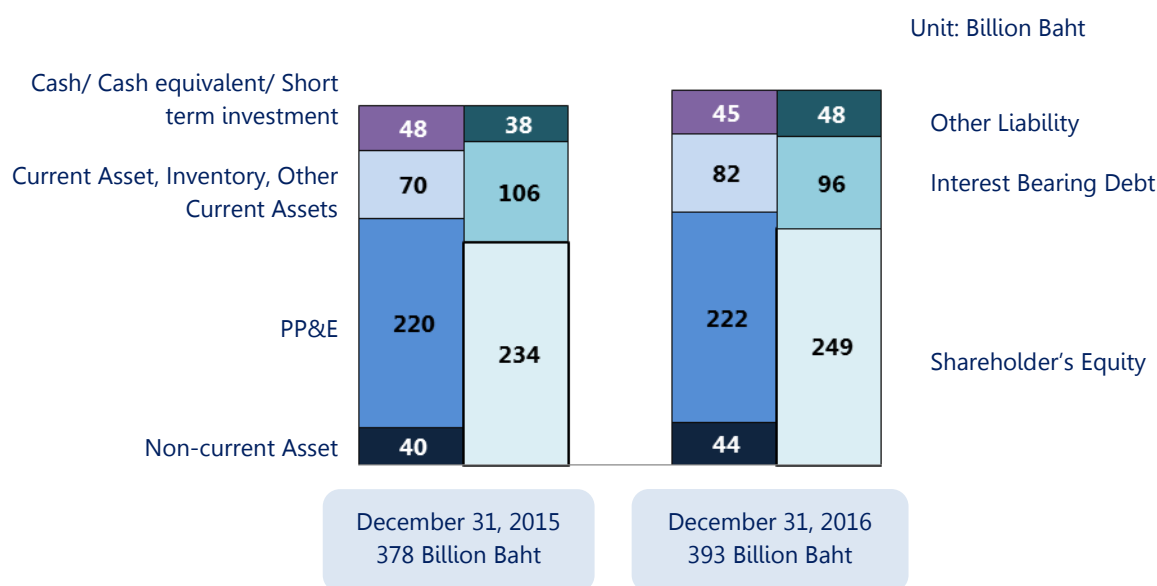
Operating Performance

Unit : MB

		Q4/2015	Q3/2016	Q4/2016	YoY % + /(-)	QoQ % + /(-)	2015	2016	YoY % + /(-)
	Sales Revenue	96,088	89,714	109,740	14%	22%	400,128	345,762	-14%
	Feedstock Cost	(71,547)	(67,276)	(81,322)	14%	21%	(304,672)	(254,854)	-16%
	Product to Feed Margin	24,541	22,438	28,418	16%	27%	95,456	90,908	-5%
1	Variable Cost	(6,585)	(6,578)	(6,271)	-5%	-5%	(25,753)	(24,317)	-6%
2	Fixed Cost	(4,827)	(3,883)	(4,261)	-12%	10%	(16,826)	(16,483)	-2%
3	Stock Gain/(Loss) & NRV	(2,053)	580	2,407	217%	315%	(3,602)	4,893	236%
4	Gain/(Loss) Commodity Hedging	2,853	2	(1,248)	-144%	-62500%	2,645	(1,203)	-145%
5	Other Income	2,023	2,244	1,194	-41%	-47%	5,707	5,542	-3%
6	SG&A	(3,034)	(2,593)	(3,279)	8%	26%	(10,356)	(10,537)	2%
7	Extra Item	(2,531)	-	(656)	-74%	N/A	(2,531)	(656)	-74%
	EBITDA	10,387	12,210	16,304	57%	34%	44,740	48,147	8%
	Depreciation & Amortization	(4,208)	(4,491)	(4,566)	9%	2%	(16,382)	(17,356)	6%
	EBIT	6,179	7,719	11,738	90%	52%	28,358	30,791	9%
8	Finance Cost	(937)	(877)	(862)	-8%	-2%	(3,967)	(3,395)	-14%
9	FX Gain/(Loss)	509	306	(165)	-132%	-154%	(2,339)	876	137%
10	Shares of profit/(loss) from investments	(208)	183	218	205%	19%	713	633	-11%
11	Income Tax Expense	(769)	(1,022)	(1,000)	30%	-2%	(1,984)	(3,025)	52%
	Net Profit	4,774	6,309	9,929	108%	57%	20,781	25,880	25%
	Profit/(loss) attributable to:								
	Owners of the Company	4,690	6,226	9,744	108%	57%	20,502	25,602	25%
	Non-controlling interests	84	83	185	120%	123%	278	278	0%
	Adjusted EBITDA*	14,971	11,630	14,553	-3%	25%	50,873	43,910	-14%

Note: * Adjusted EBITDA refers to EBITDA excluding impact of inventory value (excludes Inventory gain/(loss) and NRV).

Statement of Financial Position



Asset

As of December 31, 2016, the Company had total asset of Baht 393,166 million, increased by Baht 15,621 million from December 31, 2015 which mainly from an increment of both current asset by Baht 9,612 million or 8% and non-current asset of Baht 6,009 million or 2%.

1) Current asset increased by Baht 9,612 million as the following reasons;

- Cash and cash equivalents and current investments decreased by Baht 2,429 million or 5% as the Company had cash paid for repayment loan, purchasing asset and investment projects. Even the Company received cash from operation at amount Baht 44,490 million but was offset by transaction above.
- Account receivable increased by Baht 8,835 million or 27% due to higher product price, followed crude oil price. Additionally, it also increased from Phenol business as Phenol II already started commercial operation since the middle of 2016, affected an increase in production volume, compared to the end of 2015.
- Inventory increased by Baht 5,824 million or 19%, mainly from inventory of Petroleum product because crude oil price moved up at the end of this year that supported an increment of inventory value. There also had increased inventory from stocking feedstock of Green business as it forecast to have flood in 2017 ,thus affected to feedstock price and freight cost. Moreover, the Company reported an increased inventory from Phenol business as Phenol II already started commercial operation.
- Other current assets decreased by Baht 2,618 million or 32%, primarily due to cash receivable from Commodity Hedging

2) Non-current asset increased by Baht 6,009 million or 2% which mainly due to

- Property, plant and equipment increased by Baht 1,301 million from purchasing new assets and building assets of projects, such as LLDPE Expansion, Aromatics II Debottlenecking & Expansion, Phenol II, and Vencorex Thailand during the year, also included plant turnaround expense in portion that able to realize as asset, along with depreciation cost that occurred in this period.
- Other non-current asset increased by Baht 5,027 million, mainly from investment in Bond since September, 2016 to inquired better return, thus it affected to an increase in investments in securities available for sale.

Liability

As of December 31, 2016, the Company had total liability of Baht 144,497 million, increased from December 31, 2015 by Baht 1,217 million or 1%.

- Accounts payable increased by Baht 8,004 million or 41%, in line with an increase of inventory mentioned above.
- Current Liabilities increased by Baht 2,714 million or 23% as at the end of 2016, the Company recorded Accounts payable from Commodity Hedging, added with higher corporate income tax from improved performance in H2/2016 that significantly increased from 2015.
- Interest bearing debt decreased by Baht 9,704 million or 9% mainly from repayment PTTGC's loan and debenture during the period around Baht 20,115 million and subsidiary's repayment around Baht 2,911 million. Additionally, USD loan and USD debenture of the Company decreased around Baht 251 million from appreciation of Thai Baht at 0.25 Baht/USD compared to the end of 2015 (referenced BOT averaged selling rate as of December 31, 2016 at 36.00 Baht/USD and December 31, 2015 at 36.25 Baht/USD). Nevertheless, the Company had withdrawn Long term loan from Bank during the period around Baht 7,050 million as well as subsidiary company with amount around Baht 7,830 million.

Shareholder's Equity

As of December 31, 2016, the Company reported total shareholders' of Baht 248,669 million, increased by Baht 14,404 million or 6% from December 31, 2015.

- Shareholder's Equity in 2016, included Net profit at amount of Baht 25,602 million. However, shareholder's portion decreased due to dividend paid, total at Baht 10,481 million and treasury stock at amount of Baht 298 million. Moreover, the Company recorded loss from changing other components of shareholder portion around Baht 359 million that was from financial statement's translation, change in the fair value for preventing cash flow's risk (Hedge Accounting), also realized loss from Associates Company and Joint Venture Company through Statement of comprehensive income.

Statement of Cash Flows

For 2016, the Company had net cash from operating activities of Baht 44,490 million, net cash used in investment activities of Baht 111 million. Moreover, the Company had cash received from current investment of Baht 23,643 million, interest and dividend revenue of Baht 1,951 million but had cash paid for purchasing property, plant and equipment included intangible assets at amount of Baht 18,475 million, such as Aromatics II Debottlenecking & Expansion, Phenol II, LLDPE Expansion and Vencorex Thailand. The Company also had cash paid in securities available for sale investment (Private Fund) at Baht 6,014 million and cash paid from financing activities of Baht 24,584 million which mainly from loan and debenture repayment, purchasing treasury stock and dividend paid. When including cash from transactions above with cash and cash equivalent as of the beginning of period at Baht 11,483 million, the Company recorded cash and cash equivalent as of the ending of 2016 at Baht 31,143 million. While added current investment, the Company had cash and cash equivalent and current investment, total at Baht 45,312 million.

Key Financial Ratios

Financial Ratios	2015	2016
Current Ratio (Times)	2.86	2.39
EBITDA to sales revenue (%)	11.18%	13.93%
Net Profits to sales revenues (%)	5.12%	7.40%
Return on total assets (%)	7.36%	8.45%
Return on equity (%)	8.99%	10.72%
Interest Bearing Debt to equity (Times)	0.45	0.39
Net interest bearing debt to equity (Times)	0.25	0.20
Net interest bearing debt to EBITDA (Times)	1.30	1.06

Note:

Current ratio	=	Current assets divided by current liabilities
EBITDA to sales revenue	=	EBITDA divided by sales revenue (for the last 4 quarters)
Net profit on sale revenue	=	Net profit divided by sales revenue (for the last 4 quarters)
Return on total assets	=	Net profit/(Loss) divided by average total assets
Return on equity	=	Net profit (for the last 4 quarters) divided by average total shareholder's equity
Interest Bearing Debt to Shareholders' Equity	=	Interest Bearing Debt divided by shareholder's equity
Net Interest Bearing Debt to Shareholders' Equity	=	Interest Bearing Debt net from cash and cash equivalent and current investments divided by shareholder's equity
Net Interest Bearing Debt to EBITDA	=	Interest Bearing Debt net from cash and cash equivalent and current investments divided by EBITDA (for the last 4 quarters)

Projects Progress

In 2016, the Company had projects on progress and projects under studying are as follow;

MLLDPE Project

MLLDPE project consists of LLDPE plant with capacity of 400,000 ton per year and Comonomer plant with Hexene-1 capacity of 34,000 ton per year (Hexene-1 has been used in LLDPE production). This project is value added of ethylene chain. Currently, the plant is under construction which has progress about 64%, investment cost around Baht 5,800 million and plans to start commercial operation in 2018.

MAX Project

MAX Project is an efficiency enhancement project in the organization which has main target to improve performance by increase production effectiveness, lift up profit, develop operation and reduce expense. Currently, the Company already deployed this project and realized profit in Q4/2016 at amount of Baht 246 million.

Maptaput Retrofit – Olefins Reconfiguration (MTPR) Project

Olefins Reconfiguration Project helps increase flexibility in feedstock using and increasing production capability of Olefins business. This project will has higher Olefins product volume at 761,000 tons per year by using Naphtha from Refinery and Aromatics as feedstock. At this time, the project still under study process and tend to have conclusion in Q1/2017 and plan to start commercial operation in 2020.

Asset Injection (Ruammitr Project)

Ruammitr Project is shareholding restructure of Petrochemical business in propylene chain, biochemical and related services with PTT Public Company Limited to enhance management efficiency and increase opportunity in doing business, also add value for future move. As of February 14, 2017, Board of Directors has approved to operate this project, followed approved instruction. However, as this restructuring project is connected transaction between the Company and PTT Public Company Limited who is the major shareholder of the Company and size of transaction is under requirement to have an approval from shareholder.

PO/Polyols Project

Purpose of PO/Polyols Project is expanding downstream business to Polyurethane product that is high value product with high demand from automobile, furniture, bedding, construction, electronic and electrical industries, etc. Propylene Oxide (PO) project, the Company collaborates with Toyota Tsusho and Polyols project, the Company collaborates with Toyota Tsusho and Sanyo Chemical to study investment. At this time, these projects are under study process and will have more obviously investment plan around middle of 2017, plan to start commercial operation in 2019.

US Petrochemical Complex Project

US Petrochemical Complex Project is under study project that seeks potential partners to invest in Petrochemical Complex which use Ethane from Shale Gas with Ethylene capacity of 1 million tons per year, HDPE 700,000 tons per year, MEG 500,000 tons per year and EO 100,000 tons per year. Location of this project is at Marcellus, Ohio state, the United States. This project tends to have investment conclusion in H2 of 2017.

Market and Business Outlook 2017

In 2017, the Company forecasts that crude oil price might increase in the range of 52-55 USD/bbl, due to an increment of crude oil demand. International Energy Agency (IEA) estimates that crude oil demand tends to increase around 1 Mbbbl per day to 97.4 Mbbbl per day, compare to 2016. Higher demand is mainly from countries in Asia especially China and India, support with result from OPEC meeting that agreed to cut production volume around 1.2 Mbbbl per day which likely affect to balance market or even tight supply in the H1/2017, the factor that drive crude oil price.

For Petroleum market outlook in 2017, the Company believes that spread of Diesel over Dubai crude oil will increase slightly to 11.5 USD/bbl in line with Gasoline spread, may increase to 15.7 USD/bbl from healthier demand in Asia. For Fuel oil spread over Dubai crude oil tends to remain at 4.2 USD/bbl. Refer to spread mentioned above, the Company estimates GRM at 5.9 USD/bbl. Moreover, production and sales volume are going to increase as Refinery able to run at maximum rate 100% in 2017, increase from 2016 that had planned turnaround.

Aromatics business in 2017, spread of Paraxylene over Condensate will remain stable at 413 USD/ton. Although there has large amount of new capacity from India and Middle East countries but offset by volume loss from some plants shutdown, support with better Polyester market that help balance the market. Moving to spread of Benzene over Condensate, it probably increase to 353 USD/ton from stronger demand of Phenol and SM, therefore, the Company forecasts Market P2F at 232 USD/ton. BTX utilization rate in 2017 will maintain at 82% as Aromatics II has planned maintenance shutdown around 45 days from June to July. In 2016, Refinery plant was shutdown that affected to production and sales of Aromatics business.

Olefins and Derivatives business outlook in 2017, estimates that Polymer market has been pressured by new capacity from North America, along with higher exported Polyethylene volume from Iran and Chinese economy uncertainty, thus Polyethylene price will be forecasted to maintain at the same level with 2016 around 1,153 USD/ton. Nonetheless, performance tends to increase, support by Butadiene price that significantly moved up to 1,900 USD/ton and MEG price, also increase to 888 USD/ton. For operation part, the Company forecasts higher utilization rate of Olefins at 94% even has planned shutdown of Olefins unit 2/1. Polyethylene and MEG plants estimate to have utilization rate at 110% and 95% respectively.

Planned Maintenance Shutdown Schedule 2017

Plant		2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
OLE	Cracker						39	OLE2/1					
							45	BV	17	OLE1			
									11	OLE2/2			
POL	HDPE					15	BPE2			15	BPE1		
	LDPE			12					15	HDPE-1			
	LLDPE						26						
EOB	TOCGC			46									
PHN	Phenol I			44									
	Phenol II			10									
	BPA							18					
REF	Refinery												
ARO	Aromatics I												
	Aromatics II						47						