PTT Global Chemical Public Company Limited

Management Discussion and Analysis Q3/2018

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FOR 5th CONSECUTIVE YEAR

Executive Summary

In Q3/2018, PTT Global Chemical Public Company Limited ("The Company") operating performance had been improving from the previous quarter, generating sales revenue of Baht 136,712 million, increased from Q2/2018 by 6%. The Company reported the Adjusted EBITDA of Baht 16,830 million with the Net Profit of Baht 12,793 million (2.84 Baht/share), increased from Q2/2018 by 6% and 18% respectively. Comparing to Q3/2017, The Company reported an increase in revenue by 31% whereas Adjusted EBITDA and Net Profit escalated by 12% and 29% respectively. For the performance of the Company in 9M/2018, the Net Profit was Baht 36,008 million, increased by 21% from 9M/2017.

For Q3/2018, Olefins and Derivatives Business performance has slightly decreased from Q3/2017. For polymer business, the sale volume has increased by having new capacity from LLDPE with 400,000 ton per annum which started commercial operation since March 2018 and realized additional depreciation since then, which effect to bottom line of this business to be decreased. Meanwhile, Ethylene Oxide business has effect from increasing of feedstock cost. By comparing with Q2/2018, Olefins and Derivatives Business performance has slightly decreased because of reducing in polyethylene price and reducing in selling volume of ethylene, which effect from schedule maintenance of plant Olefins 1

For Aromatics Business, the operating performances had increased significantly from Q2/2018, mainly contributing from higher Paraxylene spread over Condensate and increase in sales volume which resulted from planned maintenance shutdown to improve production efficiency last year. Petroleum Business had declined from Q3/2017 as a result of a decline in product spread, however, it had been improved from Q2/2018 from a better product spread, particularly from Fuel oil. For the Share of Profit from Investments (attributable to Owners of the Company), it had significantly increased from a better performance in Acrylonitrile (AN) and PVC Businesses, together with a better performance in Bioplastics Business through NatureWorks LLC in United States.

Table 1 : Performance Summary

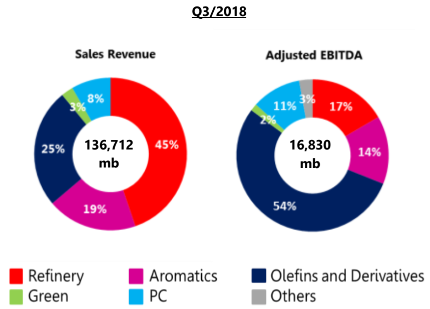
(Unit: Million Baht)	Q3/2017 (Restate)*	Q2/2018	Q3/2018	YoY % +/(-)	QoQ % +/(-)	9M/2017 (Restate)*	9M/2018	YoY % +/(-)
Sales Revenue	104,583	128,923	136,712	31%	6%	318,002	386,574	22%
EBITDA	15,994	18,574	17,634	10%	-5%	46,886	52,517	12%
EBITDA Margin (%)	15%	14%	13%	-2%	-2%	15%	14%	-1%
Share of profit of investments in JV and Associates	875	1,515	1,967	125%	30%	3,870	5,506	42%
(Profits attributable to Owners of the Parent)***	875	1,515	1,967	125%	30%	1,655	5,506	233%
Net Profit	9,955	10,828	12,793	29%	18%	29,740	36,008	21%
EPS (Baht/Share)	2.23	2.40	2.84	27%	18%	6.66	7.99	20%
Adjusted EBITDA**	15,032	15,902	16,830	12%	6%	46,517	49,051	5%
Adjusted EBITDA Margin (%)	14%	12%	12%	-2%	0%	15%	13%	-2%

Note:
* Restatement to include Assets injection of 6 companies, retrospect to 1 January 2016
** Adjusted EBITDA refers to EBITDA excluding impact of oil stock value
*** Reported only portion attributable to the Company and actual realization after the Asset injection

Table 2 : Adjusted EBITDA Margin

% Adj. EBITDA Margin	Q3/2017 (Restate)*	Q2/2018	Q3/2018	9M/2017 (Restate)*	9M/2018
Business Unit :					
Refinery	8	5	5	7	5
Aromatics	10	3	9	15	6
Olefins and Derivative	28	29	26	29	29
Green	4	3	7	5	5
Performance Materials and Chemicals	8	17	15	7	16
Average	14	12	12	15	13

Note:
* Restatement to include Assets injection of 6 companies, retrospect to 1 January 2016



Performance Analysis by Business Unit

Refinery Business Unit

Table 3 : Crude Price & Petroleum Product Spreads

(Unit: USD/bbl)	Q3/2017	Q2/2018	Q3/2018	YoY % +/(-)	QoQ % +/(-)	9M/2017	9M/2018	YoY % +/(-)
Dubai Crude Oil	50.49	72.09	74.28	47%	3%	51.12	70.09	37%
Gasoline-Dubai	16.09	12.12	11.55	-28%	-5%	15.03	12.47	-17%
Jet-Dubai	13.15	15.25	14.48	10%	-5%	11.76	15.28	30%
Diesel-Dubai	13.86	14.61	14.39	4%	-1%	12.35	14.59	18%
Fuel Oil-Dubai	-1.37	-4.46	-2.58	-88%	42%	-2.12	-4.00	-89%

Crude oil market situation in Q3/2018 was continuously favorable as a result of the collaboration among petroleum producers from both OPEC and Non-OPEC members that acted in compliance to reduce the petroleum production with compliance rate as much as 129% in August 2018. This leaded to the petroleum production of 32.56 Mbbl/day at the end of Q3/2018, slightly increased from 32.19 Mbbl/day at the end of Q2/2018. The political unrest in major petroleum producers such as Venezuela and Libya along with the United States sanctions against Iran had limited the export volume from Iran; together with the unplanned maintenance shutdown from major producers such as Suncor Syncrude (Canada) and Shell Bukom (Singapore) and Petrobras (Brazil), these factors had contributed toward higher Dubai crude oil price in Q3/2018 leading to an average price of 74.28 USD/bbl.

Table 4 : Gross Refinery Margin

(Unit: USD/bbl)	Q3/2017 (Restate)*	Q2/2018	Q3/2018	YoY % +/(-)	QoQ % +/(-)	9M/2017 (Restate)*	9M/2018	YoY % +/(-)
Market GRM	8.08	6.20	6.44	-20%	4%	6.73	6.27	-7%
CDU GRM	9.05	6.65	6.93	-23%	4%	7.34	6.67	-9%
CRS GRM	3.61	4.40	4.24	17%	-4%	3.78	4.53	20%
Hedging Gain/(Loss)	-0.04	0.08	0.13	-437%	69%	0.00	0.04	0%
Stock Gain/(Loss) Net NRV	0.86	3.26	0.95	10%	-71%	0.00	1.41	0%
Accounting GRM	*8.90*	*9.54*	*7.51*	-16%	-21%	*6.73*	*7.72*	15%
Adjusted EBITDA (MB)**	3,781	2,594	2,793	-26%	8%	9,426	7,909	-16%
Adjusted EBITDA (%)	8%	5%	5%	-3%	0%	7%	5%	-29%

Note:
* Restatement to include Assets injection of 6 companies, retrospect to 1 January 2016
** Adjusted EBITDA includes the impact of commodity hedging but excludes the impact of oil stock and extraordinary item

In Q3/2018, the Petroleum products spread over crude oil price had increased from Q3/2017 but reduced from Q2/2018. The average Diesel spread was at 14.39 USD/bbl, rose up by 0.53 USD/bbl from Q3/2017 as there was high stock level last year, however, it had dropped down by 0.22 USD/bbl from Q2/2018 due to an increase in regional demand after the weather turbulence had passed, the turning of winter season, along with the planned maintenance shutdown of Refinery plants in the region in Q2/2018. Fuel oil spread was at -2.58 USD/bbl, declined by 1.21 USD/bbl from Q3/2017 as there was increasing demand from marine industry in previous year. However, it was increased from Q2/2018 by 1.88 USD/bbl due to seasonal demand from power industry in the Middle East, leading to a decline in export from the Middle East.

Refinery Business utilization rate in Q3/2018 was at 102%, comparingly the same as in Q3/2017 and Q2/2018 at 103% and 101% respectively. The Company had realized stock gain at 0.95 USD/bbl from an increase in crude oil price by 3% from previous quarter together with hedging gain of 0.13 USD/bbl, resulting in Accounting GRM of Refinery business at 7.51 USD/bbl, declining from Q3/2017 at 8.90 USD/bbl and Q2/2018 at 9.54 USD/bbl

Adjusted EBITDA of Refinery Business in Q3/2018 was at Baht 2,793 million, declined from Q3/2017 with Adjusted EBITDA of Baht 3,781 million but increased from Q2/2018 with Adjusted EBITDA of Baht 2,594 million respectively. Adjusted EBITDA Margin in Q3/2018 was at 5%.

Aromatics Business Unit

Table 5 : Aromatics Product Prices and Spreads over Condensate

(Unit: USD/ton)	Q3/2017	Q2/2018	Q3/2018	YoY % +/(-)	QoQ % +/(-)	9M/2017	9M/2018	YoY % +/(-)
Condensate	442	630	642	45%	2%	446	615	38%
Paraxylene (TW)	824	984	1,180	43%	20%	843	1,042	24%
Paraxylene(TW)-Condensate	382	353	537	40%	52%	397	427	7%
Paraxylene (FECP)	802	984	1,143	43%	16%	834	1,027	23%
Paraxylene(FECP)-Condensate	360	354	501	39%	42%	388	412	6%
Benzene (Spot Korea)	761	842	856	12%	2%	818	863	5%
Benzene-Condensate	320	212	214	-33%	1%	372	247	-33%
Naphtha-Condensate	26	11	24	-10%	111%	25	14	-44%

In Q3/2018, performance of Aromatics Business in terms of BTX utilization was at 94%, surging from Q3/2017 at 82% as there was planned maintenance shutdown of Aromatics II during June 7 to July 18, 2017 in order to change the catalyst. Comparing to Q2/2018, BTX utilization was at high efficiency level of 94% which was the same as this quarter as a result of the change in catalyst while there was also no shutdown period in this quarter. Aromatics sales volume in Q3/2018 was as high as Q2/2018 in relation to an efficient utilization rate.

Table 6 : Aromatics market P2F

(Unit: USD/ton)	Q3/2017 (Restate)*	Q2/2018	Q3/2018	YoY % + /(-)	QoQ % + /(-)	9M/2017 (Restate)*	9M/2018	YoY % +/(-)
Market P2F	185	130	247	34%	91%	239	182	-24%
Hedging Gain/(Loss)	1.5	10.3	-15.3	-1091%	-248%	0.5	-1.8	-425%
Stock Gain/(Loss)	28.4	48.5	15.0	-47%	-69%	7.3	21.7	197%
Accounting P2F	215	188	247	15%	31%	247	202	-18%
Adjusted EBITDA (MB)**	1,340	714	2,434	82%	241%	6,545	4,272	-35%
Adjusted EBITDA (%)	10%	3%	9%	-1%	6%	15%	6%	-9%

Note:
* Restatement to include Assets injection of 6 companies, retrospect to 1 January 2016
** Adjusted EBITDA includes the impact of commodity hedging but excludes the impact of oil stock and extraordinary item

In Q3/2018, average Paraxylene (FECP) spread over Condensate price surged from Q3/2017 and Q2/2018 by 39% and 42% respectively, resulting from lower than expected supply in the market of new Aromatics plants in Saudi Arabia and Vietnam, with capacity of 2 million ton. Furthermore, there were demand from downstream derivatives including Purified Terephthalic Acid (PTA) and Polyester which continuously using Paraxylene as feedstock. Particularly, PTA was having high operating rate due to more demand resulting from the ban on recycled PET in China. This help supported an increasing spread of Paraxylene over Condensate price this quarter.

Benzene spread over Condensate price in Q3/2018 was averaged at 214 USD/ton, decreased from Q3/2017 by 33% while maintaining the same level from last quarter as some Aromatics plants couldn't operate as planned. However, Benzene price was still pressured by downstream demand as there were unplanned maintenance shutdowns of several Phenol and Styrene Monomer (SM) plants in China. This resulted in lower Benzene demand as a feedstock during the end of the quarter, together with increasing Benzene productions following the productions of Paraxylene, leading to weakening spread of Benzene over Condensate price in Q3/2018.

From the situations above, Aromatics Product gross profit or Market P2F per ton BTX in Q3/2018 was 247 USD/ton, surging from Q3/2017 and Q2/2018 by 34% and 91% respectively. This mainly resulted from the strengthening spread of Paraxylene. Consequently, Adjusted EBITDA in Q3/2018 was at Baht 2,434 million, increased from Q3/2017 and Q2/2018 with Adjusted EBITDA of Baht 1,340 million and Baht 714 million respectively. Adjusted EBITDA Margin in Q3/2018 was at 9%.

The Company had realized the Stock Gain in Q3/2018 from Aromatics business for 15 USD/ton due to the increase in Condensate price in relation to crude oil price. However, the Company had realized the Hedging Loss of 15.3 USD/ton, contributing to Aromatics Business accounting gross profit or Accounting P2F of 247 USD/ton.

Olefins and Derivatives Business Unit

Table 7 : Prices and Spreads of Olefins and Derivatives

(Unit: USD/ton)	Q3/2017	Q2/2018	Q3/2018	YoY % +/(-)	QoQ % +/(-)	9M/2017	9M/2018	YoY % +/(-)
Naphtha (MOPJ)	468	641	667	42%	4%	471	629	34%
Ethylene (SEA)	1,090	1,222	1,217	12%	0%	1,057	1,227	16%
Propylene (SEA)	791	1,003	1,028	30%	2%	822	1,006	22%
HDPE	1,138	1,384	1,350	19%	-2%	1,149	1,371	19%
HDPE-Naphtha	670	743	683	2%	-8%	678	742	9%
LLDPE	1,145	1,214	1,170	2%	-4%	1,173	1,208	3%
LLDPE- Naphtha	677	573	503	-26%	-12%	702	579	-17%
LDPE	1,239	1,252	1,200	-3%	-4%	1,278	1,242	-3%
LDPE- Naphtha	771	611	533	-31%	-13%	807	613	-24%
PP	1,149	1,301	1,288	12%	-1%	1,141	1,286	13%
PP-Naphtha	681	660	621	-9%	-6%	670	657	-2%
MEG (ACP)	980	1,147	1,100	12%	-4%	999	1,129	13%
MEG-0.65 Ethylene	271	353	309	14%	-12%	312	332	6%

For Polyethylene market in Q3/2018, average HDPE price was at 1,350 USD/ton, increased by 19% from Q3/2017 and slightly decreased from Q2/2018 by 2%. The increase was mainly due to the tightening supply from the maintenance shutdown period in Asia and Middle East and the increasing demand during long holidays in China. Nevertheless, there was still concern on trade war between China and United States which led to lowering demand of Polyethylene comparing to last quarter.

For MEG (ACP), the price had increased by 12% from Q3/2017 but declined by 4% from Q2/2018 due to the concern on reducing production of Polyester in China and the market wait and see situation on feedstock sourcing regarding the uncertainty from the trade war.

In Q3/2018, the Polyethylene utilization rate was at 97%, declining from previous quarter as a result of planned maintenance shutdown of HDPE (BPE2) and LDPE plants during September. However, the sales volume was still at a high level of 486,000 ton, increased from Q2/2018 by 3%. For MEG, the utilization rate was at 95%. The sales volume was 110,000 ton, increased from Q2/2018 by 2% due to the planned maintenance shutdown.

Table 8 : Adjusted EBITDA of Olefins and Derivatives

(Unit: Million Baht)	Q3/2017 (Restate)*	Q2/2018	Q3/2018	YoY % + /(-)	QoQ % + /(-)	9M/2017 (Restate)*	9M/2018	YoY % +/(-)
Adjusted EBITDA (MB)**	8,682	10,202	9,103	5%	-11%	27,442	29,831	9%
Adjusted EBITDA (%)	28%	29%	26%	-2%	-3%	29%	29%	0%

Note:
* Restatement to include Assets injection of 6 companies, retrospect to 1 January 2016
** Adjusted EBITDA includes the impact of commodity hedging but excludes the impact of oil stock and extraordinary item

Olefins and Derivatives product prices, HDPE and MEG, had increased from Q3/2017 but slightly declined from Q2/2018. The average price of Ethylene was at 1,217 USD/ton, with HDPE at 1,350 USD/ton and MEG at 1,100 USD/ton. This resulted in an Adjusted EBITDA of Baht 9,103 million, increased from Q3/2017 by 5% but reduced from Q2/2018 by 11%. The Adjusted EBITDA margin was at 26% this quarter.

Table 9 : Adjusted EBITDA by Business Unit

Adjusted EBITDA** (MB)	Q3/2017 (Restate)*	Q2/2018	Q3/2018	YoY % +/(-)	QoQ % +/(-)	9M/2017 (Restate)*	9M/2018	YoY % +/(-)
Business Unit :								
Refinery	3,781	2,594	2,793	-26%	8%	9,426	7,909	-16%
Aromatics	1,340	714	2,434	82%	241%	6,545	4,272	-35%
Olefins and Derivatives	8,682	10,202	9,103	5%	-11%	27,442	29,831	9%
Green	172	128	255	49%	99%	675	589	-13%
Performance Materials and Chemicals	812	1,936	1,770	118%	-9%	1,841	5,459	197%
Others	246	329	476	94%	45%	587	991	69%
Adjusted EBITDA (MB)**	**15,032**	**15,902**	**16,830**	**12%**	**6%**	**46,517**	**49,051**	**5%**

Note:
* Restatement to include Assets injection of 6 companies, retrospect to 1 January 2016
** Adjusted EBITDA includes the impact of commodity hedging but excludes the impact of oil stock and extraordinary item

Operating Performance

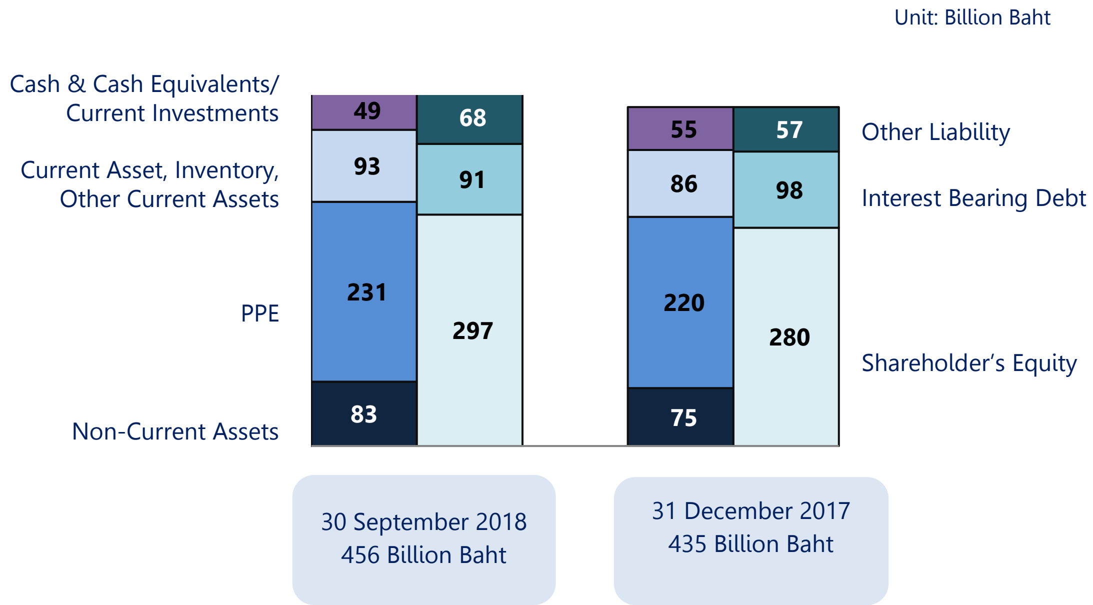
	Unit : MB	Q3/2017 (Restate)*	Q2/2018	Q3/2018	YoY % + /(-)	QoQ % + /(-)	9M/2017 (Restate)*	9M/2018	YoY % + /(-)
	Sales Revenue	104,583	128,923	136,712	31%	6%	318,002	386,574	22%
	Feedstock cost	(77,396)	(100,245)	(106,082)	37%	6%	(236,590)	(298,446)	26%
	Product to Feed Margin	**27,187**	**28,678**	**30,630**	**13%**	**7%**	**81,412**	**88,128**	**8%**
1	Variable Cost	(6,323)	(6,980)	(7,153)	13%	2%	(18,544)	(20,908)	13%
2	Fixed OH	(4,051)	(3,980)	(4,385)	8%	10%	(11,378)	(12,088)	6%
3	Stock Gain/(Loss) and NRV	962	2,672	804	-16%	-70%	369	3,466	837%
4	Gain/(Loss) on Hedging Commodity	5	236	(226)	4420%	-196%	30	(46)	-253%
5	Other Revenue	1,237	1,035	1,423	15%	37%	3,443	3,451	0%
6	SG&A Expenses	(3,023)	(3,087)	(3,459)	14%	12%	(8,446)	(9,486)	12%
	EBITDA	**15,994**	**18,574**	**17,634**	**10%**	**-5%**	**46,886**	**52,517**	**12%**
7	Depreciation & Amortization	(5,048)	(4,729)	(4,800)	-5%	2%	(15,242)	(14,232)	-7%
8	Loss from impairment of assets	0	0	0	0%	0%	0	0	0%
9	Inventory Loss (GGC)****	0	(2,004)	0	0%	-100%	0	(2,004)	0%
	EBIT	**10,946**	**11,841**	**12,834**	**17%**	**8%**	**31,644**	**36,281**	**15%**
10	Net financial expense	(749)	(901)	(531)	-29%	-41%	(2,313)	(1,933)	-16%
11	FX Gain(Loss)	239	(682)	167	-30%	124%	2,010	154	-92%
12	Share of gain/(loss) from investment	875	1,515	1,967	125%	30%	3,870	5,506	42%
	Share of gain/(loss) from investment (Owners of the parent)***	875	1,515	1,967	125%	30%	1,655	5,506	233%
13	Corporate Income Tax	(1,233)	(1,340)	(1,471)	19%	10%	(2,843)	(4,048)	42%
14	**Net Profit after Tax**	**10,078**	**10,433**	**12,966**	**29%**	**24%**	**32,368**	**35,960**	**11%**
	Profit/(loss) attributable to:								
15	**Owners of the Company**	**9,955**	**10,828**	**12,793**	**29%**	**18%**	**29,740**	**36,008**	**53%**
16	Non-controlling interests	123	(395)	173	41%	144%	2,628	(48)	-102%
17	**Adjusted EBITDA****	**15,032**	**15,902**	**16,830**	**12%**	**6%**	**46,517**	**49,051**	**5%**

Note:
* Restatement to include Assets injection of 6 companies, retrospect to 1 January 2016
** Adjusted EBITDA includes the impact of commodity hedging but excludes the impact of oil stock and extraordinary item
*** Reported only portion attributable to the Company and actual realization after the Asset injection
**** Effect from Inventory Loss per shareholding of 72.29% is 1,388 million baht

The Sales Revenue in Q3/2018 increased by 31% from Q2/2018, deriving from an increase in sales volume particularly from better production efficiency and high utilization rate, together with the increase in products price in relation to the crude oil price. Comparing to Q2/2017, Variable Cost increased by 13% following the increase in sales volume whereas Fixed Cost rose by 8% mainly from personnel and maintenance expenses. The Selling and Administrative Expenses in Q3/2018 increased by 14% from Q3/2017 as a result of increase in sales volume. The Depreciation & Amortization in Q3/2018 decreased by 5% from Q3/2017.

Share of Profit from Investments (attributable to Owners of the Company) in Q3/2018 surged by 125% from Q3/2017, resulting from a continuing robust performance of the businesses of Polypropylene (PP) and Acrylonitrile (AN) products. Moreover, the appreciation of Thai Baht this quarter had resulted in the unrealized gain from foreign exchanges in US dollar liability of JV and associates.

Statement of Financial Position



As of September 30, 2018, the Company had total asset of Baht 456,345 million, increased by Baht 21,381 million from December 31, 2017, generates from an increase in non-current assets by Baht 19,178 million as a result an increase in Property, Plant and Equipment and an increase in current assets by Baht 2,203 million. The Company had total shareholders' equity of Baht 296,931 million, increased by Baht 16,667 million from December 31, 2017 from a continuous accumulation of net profit.

The Company had cash and cash equivalents and current investments decreased by Baht 5,768 million with cash inflow from operations of Baht 44,592 million while the cash flows used in investment activities was Baht 25,724 million that was mainly invested for the purchase of property, plant and equipment and intangible assets on the projects such as Olefins Reconfiguration, Propylene Oxide by GC Oxirane and Polyols by GC Polyols. There was also other short-term investment of Baht 2,574 million and cash flow from financing that decreased by Baht 28,941 million, mainly from dividend payment of Baht 19,486 million. As of September 30, 2018, the Company had cash and cash equivalents and current investments of Baht 49,281 million, including long-term investment managed by private fund and the Company for Baht 7,929 million, therefore the Company virtually had total cash and cash equivalents and current investments of Baht 57,210 million.

In this quarter, the Company reported net interest bearing debt to equity was 0.14 times and net interest bearing debt to EBITDA was 0.60 times, both were decreased from previous quarter as a result of a decrease in net interest bearing debt.

Key Financial Ratios

Financial Ratios	Q3/2017 (Restate)*	Q2/2018	Q3/2018
Current Ratio (Times)	2.58	2.14	2.04
EBITDA to Sales Revenue (%)	15.56%	14.26%	13.68%
Net Profits to Sales Revenues (%)	9.02%	9.03%	9.02%
Return on Total Assets (%)	11.25%	11.97%	12.19%
Return on Equity (%)	13.79%	15.70%	16.38%
Interest Bearing Debt to Equity (Times)	0.36	0.32	0.31
Net Interest Bearing Debt to Equity (Times)	0.15	0.17	0.14
Net Interest Bearing Debt to EBITDA (Times)	0.67	0.75	0.60

Note:
* Restatement to include Assets injection of 6 companies, retrospect to 1 January 2016

Remarks :

Current Ratio	=	Current Assets divided by Current Liabilities
EBITDA to Sales Revenue	=	EBITDA divided by Sales Revenue
Net Profit to Sales Revenue	=	Profits attributable to Owners of the Company to Sales Revenue
Return on Total Assets	=	Earnings before Interest and Tax divided by Average Total Assets
Return on Equity	=	Profits attributable to Owners of the Company divided by Average Equity attributable to Owners of the Company
Interest Bearing Debt to Equity	=	Interest Bearing Debt divided by Shareholder’s Equity
Net Interest Bearing Debt to Equity	=	Interest Bearing Debt net Cash and Cash Equivalent and Current Investments divided by Shareholder’s Equity
Net Interest Bearing Debt to EBITDA	=	Interest Bearing Debt net Cash and Cash Equivalent and Current Investments divided by EBITDA

Market and Business Outlook in 2019

Potential crude oil price in 2019 is expected to be at an average of 75 USD/bbl. This will be supported by effect of the United States sanctions against Iran and the crude oil production difficulties in Venezuela. However, the increasing production volume of Shale oil in United States, the effect of trade war between China and United States, along with the global economic slowdown could put pressure on the crude oil price.

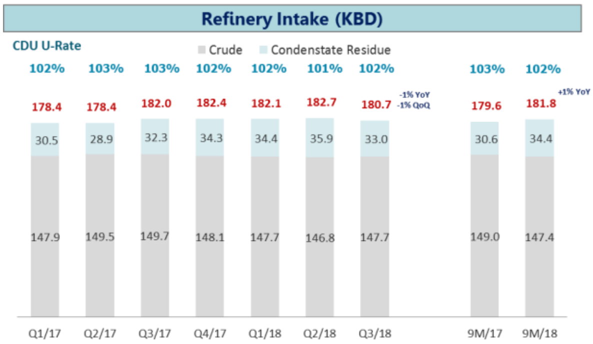
For Petroleum market situation, the Company anticipates that the Diesel spread over Dubai crude price in 2019 will be at an average of 17.5 USD/bbl; this will be supported by International Marine Organization (IMO) regulation on limiting the Sulphur content in fuel oil used on board ships which it is expected that there will be more demand on Diesel for blending in order to comply for the Sulphur content. Meanwhile, the Diesel inventory was still at modest level. The Fuel oil spread over Dubai crude price is expected to decline toward -8.0 USD/bbl due to the IMO effect. As for the production and sales volume, the Company anticipates that there will be planned maintenance shutdown in 2019, potentially contributing toward the utilization rate of around 85%.

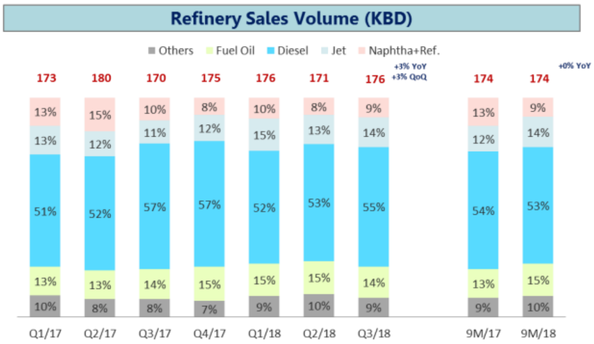
For Aromatics Business, the Company anticipates that Paraxylene spread over Naphtha in will be at an average of 395 USD/ton while Benzene spread over Naphtha is expected to be around 205 USD/ton. Paraxylene price will be supported by the demand from downstream products particularly from Polyester that has a good potential for growth along with high utilization rate of related downstream businesses. Benzene will as well be supported by the demand as a feedstock from downstream products such as Styrene Monomer and Phenol. The Company anticipates that Aromatics plants will have utilization rate around 87%, as there was turnaround and production efficiency improvement plan of Aromatics I.

For the outlook for Olefins and Derivatives product, the Company anticipates that average HDPE price in 2019 will be around 1,311 UDS/ton. It was expected to decline from 2018 as there will be new capacities from United States that shift the commercial operation toward 2019, together with the effect from uncertainty of China and United States trade war. For MEG outlook, it is expected that the average MEG (ACP) price will be around 902 USD/ton, supported by the demand from Polyethylene Terephthalate (PET). The Company expected Olefins plants utilization rate will be around 101%.

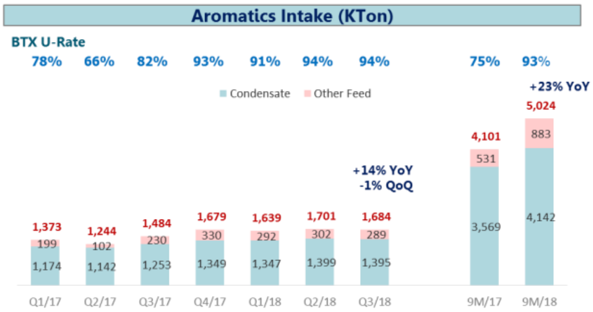
Appendix

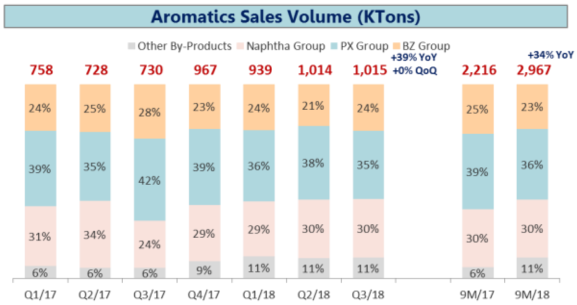
Graph 1: Refinery Intake and Sales Volume



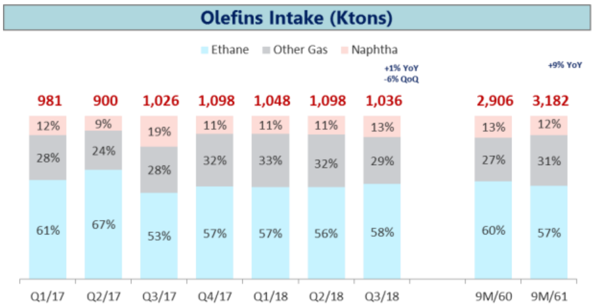


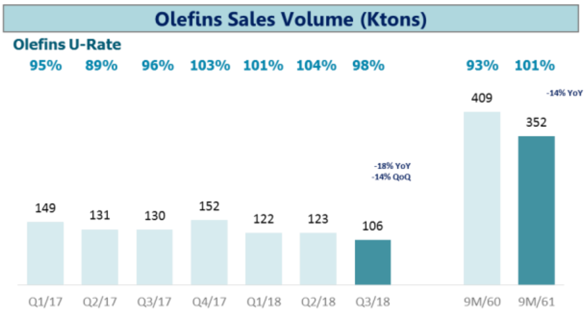
Graph 2: Aromatics Intake and Sales Volume (BTX)



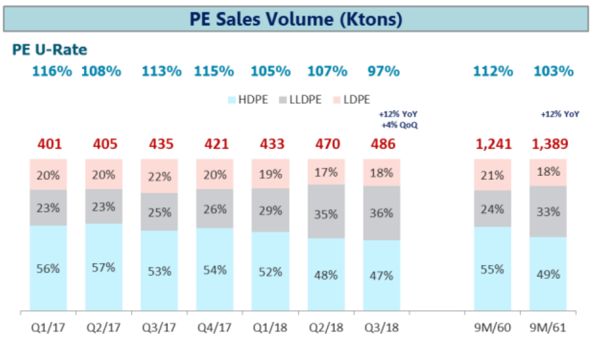


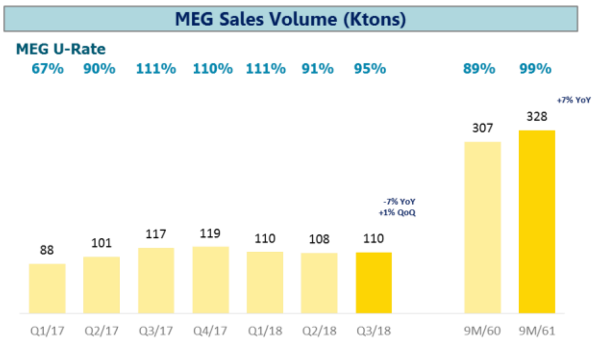
Graph 3: Olefins Intake and Olefins and Derivatives Sales Volume





*Other feedstock หมายถึง Reformate Pygas และ Heavy Naphtha





Planned Maintenance Shutdown Schedule 2019