



# PTT Global Chemical Public Company Limited

## Management Discussion and Analysis 2Q/2014

(Translation)



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## Executive Summary

In 2Q/2014, PTT Global Chemicals Public Company Limited (“the Company”) reported net profit of Baht 6,085 million (Baht 1.35 earnings per share), increased 46% from Baht 4,172 million (Baht 0.93 earnings per share) in 2Q/2013, and decreased 3% from Baht 6,296 million (Baht 1.40 earnings per share) in 1Q/2014.

Table 1: Performance Summary

(Unit : Million Baht)	2Q/2013	1Q/2014	2Q/2014	YoY % + /(-)	QoQ % + /(-)	6M/2013	6M/2014
Sales Revenue	111,887	146,366	152,401	36%	4%	253,195	298,767
EBITDA	11,466	10,999	10,475	-9%	-5%	27,885	21,474
EBITDA Margin (%)	10%	8%	7%	-3%	-1%	11%	7%
Net Profit	4,172	6,296	6,085	46%	-3%	16,247	12,381
EPS (Baht/Share)	0.93	1.40	1.35	46%	-3%	3.60	2.75
Adj. EBITDA*	12,888	11,574	11,534	-11%	0%	29,950	23,108
Adj. EBITDA Margin (%)	12%	8%	8%	-4%	0%	12%	8%

Note: \* Adjusted EBITDA refers EBITDA excluding impact of inventory value (Inventory and NRV) and the impact from business restructuring of Vencorex

The overall operating performance in 2Q/2014 was the result of improvement in utilization rates of Refinery Business and the Olefins and Olefins Derivative Business. However, the factor that toned down the performance was the significant decrease in paraxylene price pressured by supply surplus. Moreover, the company recorded the provision for business restructuring of Vencorex (the company holds shares of 51%) contributing to the shareholding portion of Baht 1,142 million in 2Q/2014. In this quarter, the company reported Adjusted EBITDA of Baht 11,534 million (Adjusted EBITDA refers EBITDA excluding impact of inventory value (Inventory and NRV) and the impact from business restructuring of Vencorex.) with a decrease of 11% from 2Q/2013 and a minor decrease from 1Q/2014. The Adjusted EBITDA margin of this quarter was reported at 8%.

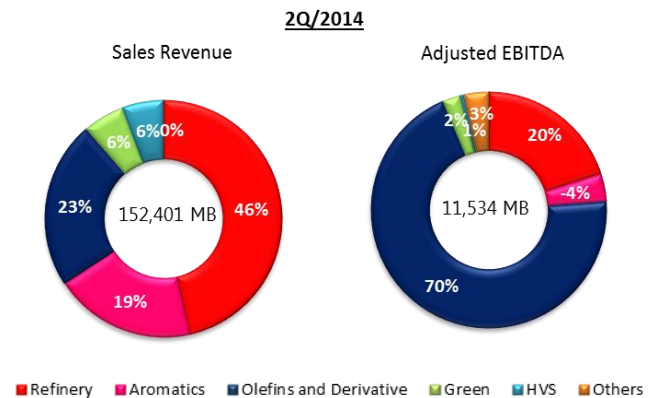


Table 2 : Adjusted EBITDA Margin

% Adj. EBITDA Margin	2Q/2013	1Q/2014	2Q/2014
Business Unit :			
Refinery	2	3	4
Aromatics	12	3	(2)
Olefins and Derivative	28	24	25
Green	3	4	4
HVS	(2)	3	1
Average	12	8	8

**The performance of major business group is as follows:**

Dubai Crude price in 2Q/2014 increased from previous quarter and averaged at 106.13 USD/bbl mainly resulted from the geopolitical issues in Ukraine and the Middle East causing uncertainty in crude oil supply, and also the decline in demand of petroleum products during quarter 2, generally the quarter with lowest demand of petroleum products. In this quarter, the Refinery ran at its full capacity with the utilization rate of 103%. In 2Q/2014, the Refinery Business had Market GRM of 4.44 USD/bbl, increased 87% from that of 2Q/2013 due to the maintenance shutdown of refinery in 2Q/2013. However, Market GRM decreased only 1% from previous quarter although the spreads of petroleum products significantly dropped due to more domestic sales volume of petroleum products as well as more domestic feed intake causing minor reduction in Market GRM.

The performance of Aromatics Business in 2Q/2014 significantly dropped as the paraxylene-condensate spread reduced to 333 USD/ton, or reduced by 38% from 2Q/2013 and 14% from previous quarter which was mainly resulted from supply surplus of paraxylene from new capacities, while the increasing demand could not catch up with the capacity additions. Therefore, the average P2F of Aromatics Business was 87 USD/ton of BTX, decreasing 73% from 2Q/2013, and 48% from 1Q/2014.

The performance of Olefins and Olefins Derivatives in 2Q/2014 improved with Adjusted EBITDA 5% higher from 2Q/2013, and higher 16% from 1Q/2014 mainly resulted from the higher prices of major derivative, especially for HDPE which increased 9% from 2Q/2013 and 1% from previous quarter. Moreover, the sales volume also increased in line with the higher utilization rates due to the annual maintenance shutdown of Olefins I-1 plant and unplanned shutdown of Olefins I-4/1 plant in 1Q/2014. The Adjusted EBITDA margin of Olefins and Olefins Derivatives in this quarter reduced to 25% mainly resulted from higher feedstock mixture of naphtha and NGL causing the overall feedstock cost to rise.

In 2Q/2014, the company had the stock gain from Crude Oil and NRV of Baht 1,180 million, resulted from the increase in Crude Oil price during the quarter, as well as the realized gain from Commodity Hedging of Baht 411 million.

In addition, the Company recorded the provision for business restructuring plan of Vencorex in France in this quarter. According to restructuring plan, the Company will transform the production unit of TDI (Toluene Diisocyanate) into the production unit for HDI (Hexamethylene Diisocyanate) that deliver higher value and benefits. The transformation caused Vencorex to record the provision expenses related to employees and assets that will not be able to utilize in the future approximately Euro 50.2 million, or Baht 2,239 million. This contributed to the Company's portion of 51% for Baht 1,142 million in 2Q/2014. This business restructuring was under the Company's strategy in acquiring and utilizing the technologies of Isocyanate production of Vencorex to expand the business in Asia. Meanwhile, Vencorex will continue its research and development on TDI production process.

**Summary of events that had significant impact on financial statements in 2Q/2014, 1Q/2014 and 2Q/2013:**

- In June 2014, the Company recorded the provision for business restructuring of Vencorex in France in this quarter. And this causes Vencorex to record the provision related to employees and assets that will not be able to utilize in the future approximately Euro 50.2 million, or Baht 2,239 million. This was contributed to the company's portion of 51%, or Baht 1,142 million and the total amount of the expense was realized in 2Q/2014.
- On December 23, 2013, the Company exercised right to purchase Myriant Corporation's shares from existing shareholders, and Myriant purchased shares from a group of existing shareholders on January 2, 2014. As a result, the Company's shareholding in Myriant changed from 47.18% to 84.21%, and Myriant has changed its status from the Company's affiliate to subsidiary. This share purchase will enable the Company to support business management of Myriant in order to achieve transformation into its Biotechnology Research and Development Center as well as to strengthen its fundamentals for commercial production in the future. As of the end of 2Q/2014, the Company's shareholding in Myriant was 84.02% due to the exercise of employee warrants.
- On May 2, 2013, the Company has acquired 40% of PPCL from PTT which resulted in the Company having 100% share in PPCL. Subsequently, non-controlling interest of PPCL decreased from 40% to 0%.

**In addition, other events in 2Q/2014 and adjacent periods are as follows:**

- On April 8, 2014, the company held the 2014 Annual General Meeting of Shareholders at BITEC, and the meeting approved the dividend distribution for the year 2013 operating performance at the rate of Baht 3.40 per share totaling Baht 15,330 million or 46% payout ratio. Previously, the Company distributed the interim dividend of Baht 1.62 per share amounting Baht 7,304 million, and distributed the final dividend of Baht 1.78 per share amounting Baht 8,026 million on April 25, 2014.
- On August 8, 2014, the company will issue unsecured and unsubordinated, and name-registered Thai Baht Bond of Baht 10,000 million with 7-year tenor and a fixed coupon rate of 4.5% per annum with the objective to support its investment projects and to be used as working capital.

## Petroleum Market Overview

Table 3 : Crude Price & Petroleum Product Spreads

Unit : USD/bbl	2Q/2013	1Q/2014	2Q/2014	YoY % + /(-)	QoQ % + /(-)
Dubai Crude Oil	100.78	104.46	106.13	5%	2%
Jet-Dubai	15.33	17.01	14.29	-7%	-16%
Diesel-Dubai	16.81	17.80	16.04	-5%	-10%
Fuel Oil-Dubai	-3.67	-8.51	-10.65	-190%	-25%
Gasoline-Dubai	14.62	14.56	16.06	10%	10%

In 2Q/2014, Dubai crude price averaged at 106.13 USD/bbl, increased from 1Q/2014 at 104.46 USD/bbl which was mainly due to the geopolitical issues in Ukraine and Middle East such as Libya and Iraq. The problem caused an uncertainty in crude supply and resulted in an increase in crude price. Particularly in June, Dubai price reached 111.16 USD/bbl owing to the unrest in some Northern areas of Iraq. This has created a thread to crude oil supply from Iraq.

Petroleum products spread over Dubai in 2Q/2014 reduced from previous quarter. The average jet-Dubai spread in 2014 was at 14.29 USD/bbl, decreased from previous quarter by 2.7 USD/bbl. The average diesel-Dubai spread was at 16.04 USD/bbl, decreased from previous quarter by 1.76 USD/bbl. The average fuel

oil-Dubai spread was at -10.65 USD/bbl with higher deficit of 2.14 USD/bbl from previous quarter. This was due to a lack in seasonal demand for heating and travelling in second quarter. In addition, diesel has been over supplied in China and caused an increase in diesel export, hence, lower in diesel price in 2Q/2014. At the end of the 2Q/2014, crude price increased significantly resulted to prices of petroleum products to increase but at lower rates causing smaller product spreads. On the other hand, the average gasoline-Dubai spread in 2Q/2014 was at 16.06 USD/bbl, increased from previous quarter by 1.50 USD/bbl from increasing demand for gasoline in summer as Muslim countries built their gasoline inventory to prepare for Ramadan period.

## Aromatics Market Overview

Table 4 : Aromatics Product Prices and Spreads over Condensate

Unit: USD/ton	2Q/2013	1Q/2014	2Q/2014	YoY % + /(-)	QoQ % + /(-)
Condensate	871	917	924	6%	1%
Paraxylene (FCCP)	1,409	1,303	1,256	-11%	-4%
Paraxylene (FCCP)-Condensate	539	386	333	-38%	-14%
Benzene (Spot Korea)	1,286	1,297	1,293	1%	0%
Benzene (Spot Korea)-Condensate	415	380	369	-11%	-3%
Naphtha-Condensate	-12	18	28	324%	55%

### Paraxylene

Paraxylene (PX) spread is still facing an oversupply problem and has been continuously decreasing since the beginning of 2014. In January 2014, the PX-condensate spread averaged at 498 USD/Ton, and continuously reduced to the lowest point in March 2014 which averaged at 296 USD/Ton and maintained in 2Q/2014 until the end of the quarter when PX spread significantly picked up to an average of 392 USD/Ton in June 2014. The surge in PX spread was due from reduction of operating rates and shutdown of some aromatics plants.

PX (FCCP) averaged at 1,256 USD/Ton while the average PX- condensate spread was at 333 USD/Ton, decreased from 1Q/2014 at 386 USD/Ton by 53 USD/Ton or approximately 2%. In 2Q/2014, world PX effective capacity increased 2.2 million tons when a derivative product (PTA) capacity increased only 2.0 million tons. However, the overall PTA capacity was still in oversupply situation.

At the end of June, PX price increased significantly due to the capacity loss of aromatics plants in Asia from negative margin while some of new aromatics plants have postponed its operation such as OMPL plant in India, Samsung plant in South Korea, Jurong Aromatics plant and Dragon Aromatics plant in China. Moreover, the demand for downstream product has

improved which was evidenced by the lower inventory of polyester fiber. In addition, the demand for PET in preparation for summer season also came in and resulted in greater demand for PTA and PX.

PTA producer in China has changed their selling price formula to maintain fixed margin on PX price since June. This has given PTA market a better sentiment after a negative margin on PTA in the past period.

### Benzene

Benzene (BZ) supply situation corresponded with PX situation. The average BZ price (Spot Korea) in 2Q/2014 was at 1,293 USD/Ton and BZ – condensate spread was at 369 USD/Ton, decreased from 1Q/2014 at 380 USD/Ton or around 3% decreased. The world BZ capacity rose 1.4 million tons while that of its derivative product such as styrene monomer (SM) grew only 0.6 million tons. However, BZ spread did not decrease significantly as BZ utilization rate did not increase sharply resulted from feedstock shortage in BZ production. The decrease in feedstock availability such as pyrolysis gasoline was a result of an increase in the use of shale gas as petrochemical feedstock and decrease in the use of naphtha as feedstock; hence decrease of pyrolysis gasoline, a by-product of naphtha cracker.

## Olefins and Olefins derivatives Market Overview

Table 5 : Prices and Spreads of Olefins and Olefins derivatives

Unit: USD/ton	2Q/2013	1Q/2014	2Q/2014	YoY % + /(-)	QoQ % + /(-)
Naphtha (MOPJ)	858	935	951	11%	2%
Ethylene (SEA)	1,265	1,441	1,447	14%	0%
HDPE	1,443	1,554	1,569	9%	1%
HDPE-Naphtha	585	620	618	6%	0%
LLDPE	1,433	1,560	1,578	10%	1%
LLDEP- Naphtha	575	625	627	9%	0%
LDPE	1,444	1,639	1,605	11%	-2%
LDPE- Naphtha	586	705	653	11%	-7%
MEG (ACP)	1,173	1,182	1,093	-7%	-8%
MEG-0.65 Ethylene	351	245	152	-57%	-38%

The overview of olefins and olefins derivative, the prices have been increasing since 2012 which signals an uptrend of olefins and olefins derivatives market.

### **Ethylene**

Ethylene price in 2/2014 averaged at 1,447 USD/Ton, increased from previous quarter at 1,441 USD/Ton due to the demand and supply of ethylene which entered into a more balanced state from steady demand growth and lack in additional supply of ethylene. Therefore, the ethylene price has been continuously increasing.

### **Ethylene Derivatives**

In 2Q/2014, the price HDPE averaged at 1,569 USD/Ton and LLDPE averaged at 1,578 USD/Ton, 1% increase from previous quarter. This was a result of steady demand in commodity products, and a decrease in supply decreased from plants shutdown

in the region such as Petronas' HDPE plant in Malaysia, Exxon's LLDPE plant in Singapore, and shutdown of some polymer plants in the Middle East. The HDPE-naphtha slightly decreased in 2Q/2014 according to an increase in crude price.

LDPE price in 2Q/2014 averaged at 1,605 USD/Ton, decreased 2% in line with LDPE-naphtha spread that decreased 7% from previous quarter. This was due to LDPE plants that were back in operation after maintenance shutdown during 4Q/2013 to 1Q/2014 and caused LDPE price to decrease in this quarter.

MEG price averaged at 1,093 USD/Ton with an 8% decrease from previous quarter. This was due to an excess supply of downstream product such as PTA and polyester while their demand was not in a normal level. Hence, the demand in feedstock like MEG for downstream decreased. Moreover, in 2Q/2014, Chinese currency depreciated against USD.

## Performance Analysis by Business Unit

### Refinery Business Unit

In 2Q/2014, PTTGC's refinery was able to operate at its full capacity with CDU utilization rate at 103%, increased from 2Q/2013 which had maintenance shutdown for 44 days with utilization rate at 63% and increased from previous quarter of utilization rate at 101%. The total intake for 2Q/2014 was at 207.97 KBD, increased 63% from 2Q/2013 and increased 5% from previous quarter.

Table 6 : Refinery Intake

	2Q/2013	1Q/2014	2Q/2014	YoY % + /(-)	QoQ % + /(-)
Crude (Mbbbl)	8.36	13.18	13.53	62%	3%
(KBD)	91.83	146.47	148.65	62%	1%
Condensate Residue & Others (Mbbbl)	3.27	4.72	5.40	65%	14%
(KBD)	35.97	52.46	59.32	65%	13%
<i>Total Intake (Mbbbl)</i>	11.63	17.90	18.92	63%	6%
<i>(KBD)</i>	127.80	198.93	207.97	63%	5%
CDU Utilization Rate	63%	101%	103%		

CDU Capacity = 145 KBD

Condensate Residue Splitter Capacity = 58 KBD

Total Capacity = 203 KBD

The Company's refinery market GRM in 2Q/2013 was at 4.44 USD/bbl (CDU GRM was 5.74 USD/bbl and CRS unit GRM was 2.76 USD/bbl) increased 87% from 2Q/2013 GRM at 2.38 USD/bbl. This was due to maintenance shutdown of CDU unit in 2Q/2013.

In 2Q/2014, market GRM decreased only 1% from 1Q/2014 which reported market GRM at 4.48 USD/bbl. In 2Q/2014 petroleum product spread over Dubai crude decreased significantly from previous quarter. Jet-Dubai spread decreased 16%, Diesel-Dubai spread decreased 10% and Fuel oil-Dubai spread decreased 25%. However, as there were 2 refineries in PTT Group that went under maintenance shutdown in 2Q/2014 which enable the Company to sell 8% more into domestic market while, on the

feedstock sourcing side, the Company was able to source more domestic crude in 2Q/2014. This has resulted on comparatively high market GRM in 2Q/2014. In addition, in 1Q/2014 the Company had a shutdown of Sulfur Reduction Unit (SRU) to inspect condition of boiler according to the laws. The shutdown resulted in the need for importing of low sulfur crude which was more expensive than the crude normally imported and caused the feedstock cost per unit to increased, hence lower GRM in 1Q/2014 than the benchmark.

Table 7 : Gross Refinery Margin

Unit : USD/bbl	2Q/2013	1Q/2014	2Q/2014	YoY % + /(-)	QoQ % + /(-)
Market GRM	2.38	4.48	4.44	87%	-1%
CDU GRM	2.73	5.52	5.74	111%	4%
CRS GRM	2.38	2.85	2.76	16%	-3%
Hedging Gain/(Loss)	1.23	0.33	0.66	-47%	99%
Stock Gain/(Loss) Net NRV	-2.45	-0.69	0.73	130%	206%
<b>Accounting GRM</b>	<b>1.16</b>	<b>4.12</b>	<b>5.83</b>	<b>402%</b>	<b>41%</b>

Table 8 : Petroleum Sales Volume

Product	2Q/2013		1Q/2014		2Q/2014		YoY % + /(-)	QoQ % + /(-)
	'000 barrels	%	'000 barrels	%	'000 barrels	%		
Naphtha	876	9%	1,251	7%	1,408	8%	61%	13%
Reformate	780	8%	1,446	9%	1,324	8%	70%	-8%
Jet/Kero	1,048	10%	2,135	13%	2,201	13%	110%	3%
Diesel	5,460	54%	8,687	52%	8,735	51%	60%	1%
Fuel Oil	1,349	13%	2,261	14%	2,155	13%	60%	-5%
Others	544	5%	905	5%	1,319	8%	142%	46%
<b>Total</b>	<b>10,057</b>	<b>100%</b>	<b>16,684</b>	<b>100%</b>	<b>17,143</b>	<b>100%</b>	<b>70%</b>	<b>3%</b>

In 2Q/2014, the Company reported a gain from stock from an increase in crude price at the end of the quarter. In June, Dubai crude price averaged at 108.03 USD/bbl, increased from 104.68 USD/bbl at the beginning of the quarter while the end of the quarter stock inventory was at 5.84 Mbbbl. In addition, the Company recorded gain on commodity hedging of 0.66 USD/bbl or Baht 411 million. In summary, the Company has accounting GRM for refinery of 5.83 USD/bbl, increased from 2Q/2013 which was reported at 1.16 USD/bbl and increased from 1Q/2014 which was reported at 4.12 USD/bbl.

## Aromatics Business Unit

The performance of Aromatics business unit in 2Q/2014 declined from previous quarter mainly due to a decrease in Paraxylene price from 2/2013 and 1/2014 and decrease in Paraxylene-Condensate spread around 38% and 14% respectively. For this reason, P2F of Aromatics products reduced 73% from 2Q/2013 and 48% from 1Q/2014. Detail was as follow:

BTX Utilization in 2Q/2014 was at 89%, reduced from 2Q/2013 at 84% and 1Q/2014 at 91% while total Aromatics intake was 1.533 Million tons in 2Q/2014, of which 1.288 Million

tons was condensate feedstock, increased 5% from 2Q/2013 and slightly increased from 1Q/2014. In addition, condensate price in 2Q/2014 increased 6% from 2Q/2013 and 1% from 1Q/2014 hence, an increase of feedstock cost. Moreover, feedstock mix of non-condensate feedstock increased. In 2Q/2014 non condensate feedstock attributed 16% while 2Q/2013 and 1Q/2014 was at 14% and 15% respectively. As a result, Aromatics unit has higher feedstock cost in 2Q/2014.

Table 9 : Aromatics Intake and Productions

	2Q/2013	1Q/2014	2Q/2014	YoY % + /(-)	QoQ % + /(-)
Condensate ('000 tons)	1,226	1,284	1,288	5%	0%
Others ('000 tons)	199	233	245	23%	5%
Total Intake ('000 tons)	1,426	1,517	1,533	8%	1%
BTX Production ('000 tons)	489	523	518	6%	-1%
BTX Utilization Rate	84%	91%	89%		

\* Aromatics capacity 2.259 Million tons/year

Table 10 : Aromatics Sales Volume

	2Q/2013		1Q/2014		2Q/2014		YoY % + /(-)	QoQ % + /(-)
	'000 tons	%	'000 tons	%	'000 tons	%		
Benzene (BZ)	161	20%	156	19%	148	17%	-9%	-5%
Paraxylene (PX)	276	34%	294	36%	304	35%	10%	3%
Cyclohexane	52	6%	40	5%	53	6%	2%	33%
Other BTX Products	67	8%	15	2%	67	8%	0%	349%
Total BTX Products	556	69%	505	63%	572	67%	3%	13%
Naphtha and Raffinate	189	23%	201	25%	238	28%	25%	18%
Condensate Residue	20	2%	0	0%	0	0%	-100%	0%
Other By-Products	44	5%	100	12%	50	6%	13%	-50%
Total	810	100%	806	100%	860	100%	6%	7%

In 2Q/2014, total BTX product sales was 3% more than 2Q/2013, while PX-condensate spread decreased 38% and BZ-condensate spread decreased 11%. This resulted in aromatic P2F margin for 2Q/2014 averaged at 87 USD/ton BTX, decreased 73% from 2Q/2013. When comparing to 1Q/2013, BTX

sale volume increased 13%, while PX-condensate spread decreased 14% and BZ-condensate decreased 3%. Moreover, the use of condensate as feedstock in 2Q/2014 decreased; hence aromatics P2F decreased 48% from previous quarter.

Table 11 : Aromatics market P2F

Unit: USD/ton	2Q/2013	1Q/2014	2Q/2014	YoY % + /(-)	QoQ % + /(-)
Market P2F	324.6	165.1	86.5	-73%	-48%
NRV	0.0	-12.8	12.5	N/A	N/A
Hedging Gain/(Loss)	-0.8	0.0	0.0	N/A	N/A
Stock Gain/(Loss)	-46.0	4.9	27.9	N/A	N/A
<i>Accounting P2F</i>	277.8	157.2	126.9	-54%	-19%

Aromatics business unit had a stock gain in 2Q/2014 of Baht 473 million or 27.9 USD/ton which resulted from condensate and product price that increased at the end of the quarter. The Company reported NRV gain of Baht 256 million or 12.5 USD/ton which was a result of increase price of feedstock in 2Q/2014 after the quarter ended. In

summary, accounting P2F was at 126.9 USD/ton decreased 54% from 2Q/2013 and decreased 19% from 1Q/2014.

## Olefins and Olefins derivatives Business Unit

The performance of olefins and olefins derivatives in 2Q/2014 improved from 2Q/2013 and 1Q/2014. In 2Q/2014 the Company reported adjusted EBITDA for this business unit at Baht 8,719 million, increased 5% from 2Q/2013 and increased 16% from 1Q/2014 which was mainly due to the improvement of overall prices as well as utilization rate since there was no shutdown of olefins plants in this quarter. Moreover, sales volume of olefins derivatives increased with details as follows.

Table 12 : Adjusted EBITDA of Olefins and Olefins derivatives

Unit: MB	2Q/2013	1Q/2014	2Q/2014	YoY % + /(-)	QoQ % + /(-)
Adj. EBITDA	8,313	7,547	8,719	5%	16%
Adj. EBITDA Margin	28%	24%	25%	-3%	1%

## Olefins Business Unit

**Utilization rate of Olefins plants for 2Q/2014 was at 91%**, decreased from 93% in 2Q/2013 and increased from 77% in 1Q/2014 which had maintenance shutdown of 2 olefins plants. In 2Q/2014, olefins intake was at 925 Kton, with gas : naphtha portion at 89:11. Comparing to 2Q/2013, olefins intake reduced by 5%, with gas : naphtha portion at 90:10. And compared to previous quarter, olefins intake increased by 17%, with gas : naphtha portion at 86 : 14. In addition, the use of NGL as a feedstock increased in this quarter to replace other feedstock particularly, ethane. As NGL price is higher than other feedstock and provides lower product yield, average feedstock's cost in this quarter increased as a consequence. So, Adjusted EBITDA margin decreased to stand at 25%, in comparison with 28% at the normal-intake situation and normal operation.

Table: Sales volume and utilization rate of Olefins and Olefins derivatives

	2Q/2013		1Q/2014		2Q/2014		YoY % + /(-)	QoQ % + /(-)
	Sales Volume '000 tons	Utilization Rate	Sales Volume '000 tons	Utilization Rate	Sales Volume '000 tons	Utilization Rate		
Olefins *	218	93%	134	77%	168	91%	-23%	25%
HDPE	193	96%	202	93%	218	107%	12%	8%
LLDPE	70	72%	98	99%	105	112%	50%	7%
LDPE	71	72%	72	115%	92	93%	30%	28%
Total PE	553	89%	506	99%	583	106%	5%	15%
MEG	104	100%	71	65%	95	99%	-8%	34%

Note: \* Sales Volume of Olefins is external volume.

In 2Q/2014, olefins external sale volume was at 168 Kton, 23% decrease from 2Q/2013 and 25% increase from previous quarter. Olefins sale volume that was lower than normal level due to the shutdown of the Company's ethylene customer. Ethylene price in 2Q/2014 averaged at 1,447 USD/ton, increased 14% from 2Q/2013 and increased slightly from 1Q/2014. The revenue from olefins sales in this quarter decreased 22% from 2Q/2013 and increased 21% from 1Q/2014, in the same manner as sales volume.

## Polymer Business Unit

### Performance: HDPE

**In 2Q/2014, the utilization rate of all 3 HDPE plants averaged at 107%**, increased from 2Q/2013 which was at 96% and increased from 1Q/2014 which was at 93% due to the planned shutdown in this period was less than that in other periods.

Sales revenue of HDPE in 2Q/2014 improved from 2Q/2013. In 2Q/2014, the sales volume was at 218 Kton, increased 12% from 2Q/2013 while HDPE price increased 9%. Therefore sales revenue increased 33% from 2Q/2013. In comparison to 1Q/2014, sales revenue increased 8% as a result of 8% increase in sales volume as well as 1% increase in HDPE price.

### Performance: LLDPE

**In 2Q/2014, the utilization rate of LLDPE plant was at 112%** increased from 2Q/2013 which was at 72% and increased from 1Q/2014 which was at 99%. Sales revenue of LLDPE in 2Q/2014 increased

78% compared to 2Q/2013 from price of LLDPE which improved in 2Q/2014 by 10%, and the sales volume which was at 105 Kton in 2Q/2014, increased 50% from 2Q/2013. In comparison with 1Q/2014, the sales revenue increased 6% from 7% increase in sales volume while LLDPE price increased 1%.

### Performance: LDPE

**In 2Q/2014, the utilization rate of LDPE plant was at 93%** increased from 2Q/2013 which was at 72% and decreased from 1Q/2014 which was at 115%. This was due to maintenance shutdown of LDPE plant for 10 days on April 18-20, 2014.

Sales revenue of LDPE in 2Q/2014 increased 58% compared to 2Q/2013 from the sales volume which was at 92 Kton in 2Q/2014, increased 30% from 2Q/2013, and price of LDPE improved for 11%. In comparison with 1Q/2014, the sales revenue increased 21% from 28% increase in sales volume, whereas LDPE price decreased only 2%.

## Ethylene Oxide Business Unit

**In 2Q/2014, the utilization rate of MEG plant was at 99%** decreased from 2Q/2013 which was at 100% and increased from 1Q/2014 which was at 65% from the 28-day schedule shutdown of MEG plant in 1Q/2014.

The performance of ethylene oxide business unit in 2Q/2014 improved comparing to 2Q/2013 and 1Q/2014. The MEG sales volume in 2Q/2014 was at 95 Kton, decreased 8% from 2Q/2013 while price decreased by 7%. However, the better performance of this business came from other products such as EO derivatives and other EG products of which selling

prices improved from 2Q/2013. In addition, sales portion of MEG product decreased to 86% in 2Q/2014, compared to 88% in 2Q/2013 and 1Q/2014. Therefore, sales of other products that have higher prices such as DEG increased to replace MEG sales volume.

In comparison with 1Q/2014, MEG sales volume increased by 34% which was due to 28 days shutdown of ethylene oxide operating unit. MEG price decreased 8% while price of other EO derivatives prices increased approximately 28%. As a result, sales revenue increased 41%.

## Operating Performance

		2Q/2013		1Q/2014		2Q/2014		YoY		QoQ	
		MB	%	MB	%	MB	%	MB	%	MB	%
	<b>Sales Revenue</b>	111,887	100	146,366	100	152,401	100	40,514	36	6,035	4
	Feedstock Cost	(87,594)	(78)	(121,151)	(83)	(126,966)	(83)	39,372	45	5,815	5
	<b>Product to Feed Margin</b>	<b>24,293</b>	<b>22</b>	<b>25,215</b>	<b>17</b>	<b>25,435</b>	<b>17</b>	<b>1,142</b>	<b>5</b>	<b>220</b>	<b>1</b>
1	Variable Cost	(6,204)	(6)	(7,416)	(5)	(7,601)	(5)	1,397	23	185	2
2	Fixed Cost	(4,163)	(4)	(4,633)	(3)	(4,904)	(3)	741	18	271	6
3	Stock Gain/(Loss) & NRV	(1,422)	(1)	(575)	0	1,180	1	2,602	183	1,755	305
4	Gain/(Loss) Commodity Hedging	419	0	194	0	411	0	(8)	(2)	217	112
5	Other Income	1,362	1	1,318	1	1,249	1	(113)	(8)	(69)	(5)
6	SG&A	(2,820)	(3)	(3,104)	(2)	(3,056)	(2)	237	8	(48)	(2)
	Extraordinary Item										
7	Provision for Business Restructuring**					(2,239)	(1)	(2,239)	100	(2,239)	100
	<b>EBITDA</b>	<b>11,466</b>	<b>10</b>	<b>10,999</b>	<b>8</b>	<b>10,475</b>	<b>7</b>	<b>(991)</b>	<b>(9)</b>	<b>(524)</b>	<b>(5)</b>
8	Depreciation & Amortization	(4,187)	(4)	(4,202)	(3)	(4,415)	(3)	228	5	213	5
	<b>EBIT</b>	<b>7,279</b>	<b>7</b>	<b>6,797</b>	<b>5</b>	<b>6,060</b>	<b>4</b>	<b>(1,219)</b>	<b>(17)</b>	<b>(737)</b>	<b>(11)</b>
9	Finance Cost	(1,120)	(1)	(1,141)	(1)	(1,097)	(1)	(23)	(2)	(44)	(4)
	FX Gain/(Loss)	(2,726)	(2)	602	0	71	0	2,797	103	(531)	(88)
10	Shares of Profit/(Loss) from Investments	(22)	(0)	240	0	290	0	312	1,423	50	21
11	Income Tax Expense	509	0	(373)	0	(599)	(0)	1,108	218	226	61
	<b>Net Profit</b>	<b>3,919</b>	<b>4</b>	<b>6,126</b>	<b>4</b>	<b>4,725</b>	<b>3</b>	<b>806</b>	<b>21</b>	<b>(1,401)</b>	<b>(23)</b>
	<b>Profit/(loss) attributable to:</b>										
	<b>Owners of the Company</b>	<b>4,172</b>	<b>4</b>	<b>6,296</b>	<b>4</b>	<b>6,085</b>	<b>4</b>	<b>1,913</b>	<b>46</b>	<b>(211)</b>	<b>(3)</b>
	Non-controlling interests	(252)	(0)	(170)	0	(1,360)***	(1)	(1,108)	(440)	(1,190)	(700)
	<b>Adjusted EBITDA*</b>	<b>12,888</b>	<b>12</b>	<b>11,574</b>	<b>8</b>	<b>11,534</b>	<b>8</b>	<b>(1,354)</b>	<b>(11)</b>	<b>(40)</b>	<b>(0)</b>

Note: \* Adjusted EBITDA refers to EBITDA excluding impact of inventory value (excludes Inventory and NRV) and the impact from business restructuring of Vencorex

\*\* Vencorex business restructuring provision expense at 100% share

\*\*\* Vencorex business restructuring provision expense portion of 49% for non-controlling interests or Baht 1,097 million



## Performance Comparison

### (1) Variable Cost

Variable cost increased by Baht 1,397 million or 23% from 2Q/2013 as a result of an increase in production and sales volume of around 1.2 million tons or 29%. The major increment was from Refinery business of which the production increased by 9 Mbbl as there was maintenance shutdown in 2Q/2013.

In comparison to the previous quarter, variable cost increased by Baht 185 million or 2% which was in line with the increment in production volume.

### (2) Fixed Cost

In 2Q/2014, fixed cost increased by Baht 741 million or 18% from 2Q/2013 due mainly to 1) Staff cost increased by Baht 155 million from the increment in number of employees as well as annual salary adjustment 2) Maintenance cost increased by Baht 140 million as a result of changing equipment of PTTPE in 2Q/2014 and 3) Factory expense such as warehouse management, factory insurance, and consulting on LLDPE plant expansion increased by Baht 160 million.

In comparison to the previous quarter, fixed cost increased by Baht 271 million or 6%. This was mainly due to an increase in maintenance cost by Baht 67 million and an increase in warehouse management cost by Baht 66 million which was in line with the increment in sales. Moreover staff cost increased by Baht 29 million from the increment in number of employees.

### (3) Stock Gain/(Loss) and NRV

Stock Gain and NRV in 2Q/2014 were reported at Baht 1,180 million, of which Stock Gain was Baht 924 million, and NRV Gain was Baht 256 million.

The Stock Gain of Baht 924 million in 2Q/2014 comprised of Stock Gain from Aromatics of Baht 473 million and Stock Gain from Refinery of Baht 451 million. The major factor was crude price which increased from 104.68 USD/bbl at the beginning of the period to close at 108.03 USD/bbl.

Additionally, NRV Gain of Baht 256 million in 2Q/2014 was mainly from Aromatics business as the product price increased from the end of last period.

Previously, the company had total Stock Loss and NRV of Baht 1,422 million in 2Q/2013 and Baht 575 million in 1Q/2014.

### (4) Gain/(Loss) Commodity Hedging

In 2Q/2014, the Company reported a decrease in gain from commodity hedging by Baht 8 million or 2% from 2Q/2014 which was not considered as a significant change. Gain from commodity hedging in this period came from Crack Spread Hedging with the main reason to maintain profit level. In 2Q/2014, the actual spread for petroleum products was lower than the spread that the company had sold in advance with the volume of 3.2 Mbbl (17% of total petroleum products sold in 2Q/2014).

In comparison to previous quarter, gain from commodity hedging increased by Baht 217 or 112% because second quarter is the low season of Refinery business, resulted in lower actual spread. Therefore, the hedging gain per barrel in 2Q/2014 was higher than previous period. Moreover, the volume of commodity hedging was around the same level as last quarter. So, gain from commodity hedging increased from previous period.

### (5) Other Income

In 2Q/2014, the Company reported other income of Baht 1,249 million, a decrease of Baht 113 million or 8% from 2Q/2013. This was because there

was insurance income from Business Interruption of LDPE plant around Baht 100 million in 2Q/2013 but there was no such transaction in this period.

In comparison to the previous quarter, other income decreased by Baht 69 million or 5% which was not considered as a significant change.

#### **(6) SG&A**

In 2Q/2014, SG&A expense increased by Baht 237 million or 8% from 2Q/2013 due mainly to the consolidation of Myriant in this quarter of Baht 206 million whereas it is recognized as share of profit/(loss) in 2Q/2013. Majority was staff cost and research and development expense.

In comparison to 1Q/2014, SG&A expense decreased by Baht 48 million or 2% which was not considered as a significant change.

#### **(7) Provision for Business Restructuring**

In 2Q/2014, the Company recorded the provision for business restructuring of Vencorex in France as an extraordinary item. This included impairment of assets, employee compensation and other related expense totaling to Baht 2,239 million. As the Company hold 51% stake in Vencorex, this provision of Baht 1,142 million belonged to the Company and the remaining portion of Baht 1,097 million was for non-controlling interest.

The restructuring plan includes transformation of the TDI production unit (Toluene Diisocyanate) into the production unit for HDI (Hexamethylene Diisocyanate) that delivers higher value and benefits. The transformation caused Vencorex to realize the provision related to employees and assets that will not be able to utilize in the future of Euro 50.2 million, or approximately Baht 2,239 million. This was contributed to the Company's portion of 51% for Baht 1,142 million in 2Q/2014. This business restructuring was under the Company's strategy in acquiring and utilizing the technologies of Isocyanate production of Vencorex to

expand the business in Asia, meanwhile, Vencorex will continue the research and development on TDI production process.

#### **(8) Depreciation and Amortization**

Depreciation and amortization increased from 2Q/2013 by Baht 228 million or 5% which was mainly from 1) depreciation and amortization of completed projects approximately Baht 180 million and 2) depreciation of maintenance cost capitalization during the period around Baht 150 million.

However, Catalyst amortization of Refinery and Aromatics businesses declined from 2Q/2013 because the Company reduced the useful life of Catalyst and added all the effect in 2Q/2013.

In comparison to previous quarter, depreciation and amortization increased by Baht 213 million or 5% due mainly to an increase of depreciation of maintenance cost capitalization around Baht 70 million. The remaining was mainly because of an increase in fixed asset and factory equipment during the period, resulted in higher depreciation.

#### **(9) Gain/(Loss) from Foreign Exchange**

In 2Q/2014, the Company reported gain from foreign exchange of Baht 71 million which was mainly came from foreign currency forward contract. In 2Q/2014, Thai Baht was slightly depreciated by Baht 0.02 per USD comparing to last quarter (Based on average sales BOT, end of 2Q/2014 at Baht 32.60 per USD against end of 1Q/2014 at Baht 32.58 per USD). As at June 30, 2014, the Company had foreign liabilities of USD 1,888 million. Previously, the Company reported loss from foreign exchange of Baht 2,726 million in 2Q/2013 and gain from foreign exchange of Baht 602 million in 1Q/2014.

#### **(10) Share of Profit/(Loss) from Investments**

In 2Q/2014, the Company realized total share of profit from investments of Baht 290 million,

increased from loss of Baht 22 million or an increase by Baht 312 million in 2Q/2013. The major factor was the change in the method to recognize the performance of Myriant from Taking Equity to Consolidation after the change in the proportion of investment in Myriant and its status changed from associate to subsidiary since 1Q/2014. The Company recognized loss of Myriant totaling to Baht 142 million in 2Q/2013.

The remaining difference of Baht 170 million was mainly due to additional share of profit from GPSC as a result of the adoption of new standard, TFRIC4, in 1Q/2014, and new investments during the end of 2013. In addition, the rising of PVC price from 2Q/2013 caused share of profit from VNT to increase accordingly.

In comparison to 1Q/2014, share of profit/(loss) from investments increased by Baht 50 million from improving performance of associated companies as a whole. The major increase came from share of profit from GPSC after maintenance shutdown in 1Q/2014 together with better performance of PTTICT after the seize of Department of Energy building ended and PTTICT's customers were back in normal operation. This has resulted in

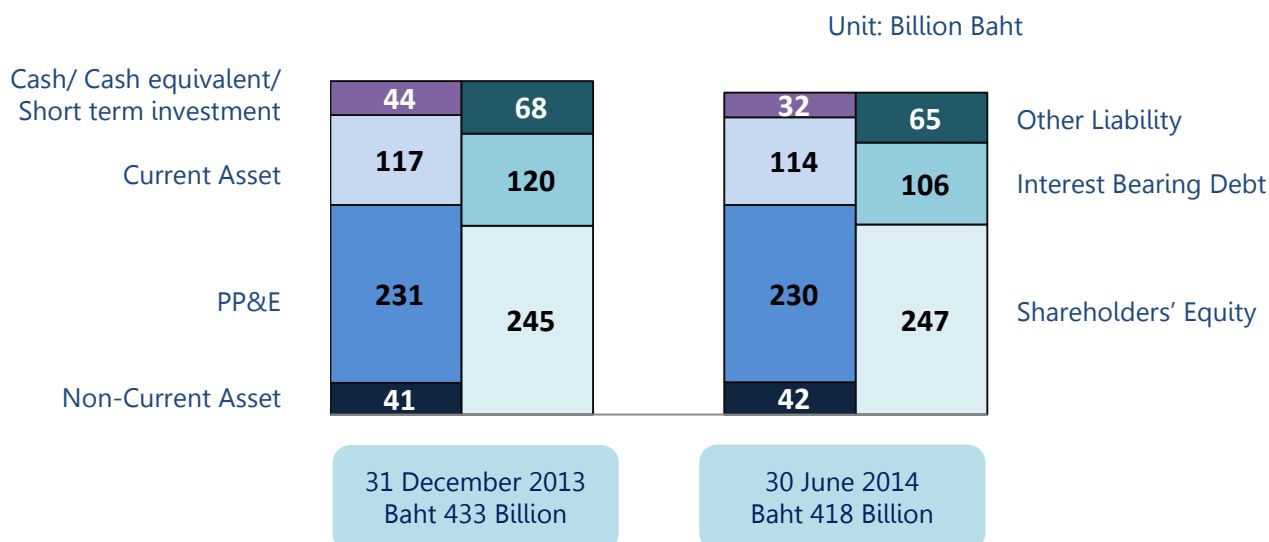
better service in IT consulting service and better earnings accordingly.

#### **(11) Income Tax Expense**

The Company reported income tax expense totaling to Baht 599 million in 2Q/2014, an increase of Baht 1,108 million or 218% from 2Q/2013 (Effective tax rate: ETR increased from -15% in 2Q/2013 to 11% in 2Q/2014 or 8% excluding Vencorex restructuring provision expense). As the Refinery business had negative performance in 2Q/2013, there was a reversal of income tax in that period. However Refinery business generated profit in 2Q/2014 which was subject to 20% tax rate. Moreover, the Company revised calculation method for Deferred Tax to comply with the Accounting Standard, resulted in lower income tax in 2Q/2013.

In comparison to previous quarter, income tax expense increased by Baht 226 million (ETR 6%), resulted from an increase in performance of non-tax privilege operations especially for the Refinery business as it returned to normal operation after planned shutdown in 1Q/2014.

## Statement of Financial Position



### Asset

As at June 30, 2014, the Company had total asset of Baht 417,802 million, decreased by Baht 14,908 million from December 31, 2013 which came from a decrease in current asset of Baht 14,788 million and a decrease in non-current asset of Baht 120 million.

#### 1) Current asset decreased Baht 14,788 million mainly due to the following reasons.

- Cash and cash equivalents and current investments decreased by Baht 12,132 million or 27% which was mainly due to cash received from operation of Baht 22,399 million, while there was cash used in purchasing assets totaling to Baht 8,522 million, repayment of loan and debenture of Baht 16,402, and payment of dividend totaled Baht 8,370 million
- Accounts receivable decreased by Baht 5,635 million or 10% that was mainly due to a decrease of Baht 3,408 million in accounts receivable of Refinery business. This was because of a decrease in bio-diesel volume

export to China around 0.9 Mbbl and a decline in jet and diesel price. As for Aromatics business, account receivables decreased by Baht 1,430 million as a result of significant drop in product price comparing to the end of last year. In addition, accounts receivables of Olefins and Derivatives business decreased by Baht 864 million due mainly to sharp decline in sales volume of Olefins product against the end of last year from maintenance shutdown of customer's plant in June 2014.

	YE 2013 (Day)	2Q/2014 (Day)	+ /(-) (Day)
AR Turnover	37	29	(7)

- AR Turnover for 2Q/2014 averaged at 29 days, 7 days decreased from end of 2013 which was due mainly to a decrease in AR days in almost all business units, especially in Refinery business which AR days decreased from averaged at 32 days to 23 days. According to maintenance shutdown of 2 Refinery plants of PTT Group, domestic sales

portion increased in comparison to prior period from 58% to 79%. Credit term of domestic sales is by nature shorter than export sales.

- Inventory increased by Baht 3,723 million or 7%. An increment was mainly come from Refinery business at the amount of Baht 2,880 million, especially for in transit crude which increased by 2.51 Mbbl compared to the end of last year. Consequently, inventory turnover for 2Q/2014 from an analysis of production and sales plan of preceding month averaged at 26 days, increased from end of year 2013 by 3 days

	YE 2013 (Day)	2Q/2014 (Day)	+ /(-) (Day)
Inventory Turnover	23	26	3

- Other current asset decreased by Baht 744 million or 10%, resulted from a decrease of prepaid insurance which recognized during the period and a decrease of receivable from Oil Fuel Fund since the compensation in LPG reduce from 14.99 Baht/KG to 12.00 Baht/KG.

## 2) Non-current asset decreased by Baht 120 million which was mainly due to:

- Property, plant and equipment decreased by Baht 539 million. This came from an increase in assets cost by Baht 5,982 million, net off the depreciation recognized in the period by Baht 6,521 million. The increment in assets cost was mainly resulted from additional assets and construction-in-progress from on-going projects such as Phenol II project, BV project and Aromatics 2 debottlenecking project. In addition, there was an increase in plant turnaround recognized as asset during the period.

- Other non-current asset increased by Baht 419 million or 1% due mainly from an increase of investment in associates totaled Baht 423 million from share of profit recognized in 1H/2014.

## Liability

As at June 30, 2014, the Company had total liability of Baht 170,754 million, decreased by Baht 16,598 million or 9% from December 31, 2013 which resulted from a decrease in current liability of Baht 6,807 million and a decrease in non-current liability of Baht 9,791 million.

### 1) Current liability decreased Baht 6,807 million or 8% from the following reasons:

- Accounts payable decreased by Baht 1,555 million or 3%, which was mainly from a decrease in accounts payable of Olefins and Derivative business totaling to Baht 4,882 million and a decrease in accounts payable of Aromatics business totaling to Baht 1,517 million. This was due to the timing of payment period. Never the less, accounts payable of Refinery business increased by Baht 5,871 million as a result of an increment of in transit crude. Moreover, from planned maintenance shutdown of TDI plant in June, resulted in low purchasing volume, and therefore accounts payable of Vencorex decreased by Baht 601 million.
- Other accounts payable decreased Baht 788 million or 10% as a result of a decrease in accrued employee expense by Baht 277 million, a decrease in accrued expense for oil spill of Baht 169 million, and a decrease of accrued interest according to loan repayment in April. In addition, there had been a decrease of accrued expense related to planned-maintenance shutdown.

- Accounts payable (contractors) increased by Baht 253 million or 8%. This was mainly due to an increase in accounts payable for on-going projects such as Aromatics 2 Debottlenecking and TOCGC plant improvement.
- Current portion of long-term loan decreased by Baht 4,078 million or 21% from loan repayment in April 2014 totaled Baht 15,000 million. However, there had been the reclassification of long term debenture to current portion by USD 300 million or around Baht 9,780 million. Moreover, long term loan from financial institution which will reach the due date within 1 year increased by Baht 522 million.
- Income tax payable decreased by Baht 651 million due mainly to 1H/2014 performance was lower compared to 2H/2013 performance.
- Other liability increased by Baht 838 million or 97% from provision for business restructuring of Vencorex which comprised of staff compensation and factory development cost.

### **Shareholder's Equity**

As of June 30, 2014, the Company reported total shareholders' of Baht 247,048 million, increased by Baht 1,690 million from December 31, 2013. This included an increase in the Company's portion of Baht 3,970 million or 2%. The increment arose from the Company's net profit in 1H/2014 of Baht 12,381 million, net loss from an increase in shareholding portion of Myriant from 72.21% at the end of 2013 to 84.02% in the amount of Baht 238 million, dividend payment of Baht 8,024 million and loss in the foreign currency translation differences for international operations and loss from financial derivative valuation to reduce risk of cash flow for Baht 149 million.

However, non-controlling interest portion reduced by Baht 2,280 million or 33%. This included loss from operation during the period of Baht 1,530 million, dividend payment to non-controlling interest portion of Baht 556 million, a decrease in non-controlling interest portion in Myriant of Baht 111 million, loss from foreign currency translation of Baht 79 million and loss of non-controlling interest portion from investment in subsidiaries of Baht 5 million.

### **2) Non-current liability decreased by Baht 9,791 million or 9% which was mainly due to:**

- Long-term loan decreased by Baht 10,574 million or 11%. This was mainly due to the reclassification of long term debenture to current portion at the amount of USD 300 million or about Baht 9,780 million.

## **Statement of Cash Flows**

For statement of cash flows for 6 months ended June 30, 2014, the Company had net cash from operating activities of Baht 22,399 million, net cash used in investing activities of Baht 5,984 million which was mainly from investment in on-going projects such as Phenol II, Aromatics 2 Debottlenecking and TOCGC improvement project, etc. In addition, the Company had net cash used in financing activities of Baht 25,767 million from repaying debenture and

long-term loan, interest expense, and dividend payment. Adding up together with beginning cash and cash equivalents and effect of exchange rate changes on balances held in foreign currencies of Baht 18,346 million, the Company had cash and cash equivalents at the end of 2Q/2014 of Baht 8,994 million. Including current investments, the Company reported cash and cash equivalents and current investments totaled to Baht 32,251 million.

## Key Financial Ratios

Financial Ratios	2Q/2013	1Q/2014	2Q/2014
Current Ratio (Times)	1.92	2.01	1.91
EBITDA to sales revenue (%)	11.51%	9.55%	8.73%
Net Profits to sales revenues (%)	7.17%	4.96%	4.95%
Return on total assets (%)	11.80%	7.97%	8.64%
Return on equity (%)	17.09%	11.51%	12.51%
Interest Bearing Debt to equity (Times)	0.51	0.47	0.43
Net interest bearing debt to equity (Times)	0.26	0.28	0.30
Net interest bearing debt to EBITDA (Times)	0.98	1.34	1.41

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 (for the last 4 quarters) 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)