

Management's Discussion and Analysis (MD&A) Thai Oil Public Company Limited and Subsidiaries For the Second Quarter and the First Half of 2016

1. Company and its Subsidiaries' Operating Results

Table 1: Summary of Consolidated Financial Results

(Million Baht)	Q2/16	Q1/16	+ / (-)	Q2/15	+ / (-)	6M/16	6M/15	+ / (-)
Integrated Intake (kbd)	300	299	1	303	(3)	300	301	(1)
Gross Integrated Margin ⁽¹⁾ (US\$/bbl)	6.9	8.3	(1.4)	9.0	(2.1)	7.6	8.9	(1.3)
: <u>excluding</u> stock gain/(loss)								
: <u>including</u> stock gain/(loss)	11.1	7.3	3.8	11.4	(0.3)	9.2	9.5	(0.3)
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(Million Baht)	Q2/16	Q1/16	+ / (-)	Q2/15	+ / (-)	6M/16	6M/15	+ / (-)
Sales Revenue	72,368	56,790	15,578	79,036	(6,668)	129,158	150,402	(21,244)
Hedging Gain/(Loss)	(147)	27	(174)	(187)	40	(119)	(111)	(8)
EBITDA	10,545	6,653	3,892	10,004	541	17,198	16,213	985
Foreign Exchange Gain/(Loss)	110	687	(577)	(1,179)	1,289	798	(503)	1,301
Finance Costs	(866)	(805)	(61)	(963)	97	(1,670)	(1,919)	249
Income Tax Expense	(688)	(363)	(325)	(361)	(327)	(1,051)	(714)	(337)
Net Profit/(Loss)	7,753⁽²⁾	4,726	3,027	6,228⁽²⁾	1,525	12,479⁽²⁾	10,727⁽²⁾	1,752
Basic Earnings/(Loss) per Share (Baht)	3.80	2.32	1.48	3.05	0.75	6.12	5.26	0.86
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Net Profit/(Loss) <u>excluding</u> stock gain/(loss) and inventory write-down to NRV⁽³⁾	3,391	5,037	(1,646)	3,814	(423)	8,429	7,314	1,115
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Exchange Rate (Baht: 1 US\$)	Q2/16	Q1/16	+ / (-)	Q2/15	+ / (-)	6M/16	6M/15	+ / (-)
Average FX	35.45	35.81	(0.36)	33.44	2.01	35.64	33.11	2.53
Ending FX	35.34	35.41	(0.07)	33.93	1.41	35.34	33.93	1.41

Remark (1) Gross integrated margin is the integrated gross margin among TOP, TPX, LABIX and TLB.

(2) Including dividends received of Baht 247 million for Q2/16 and 6M/16 and Baht 48 million for Q2/15 and 6M/15 from Thai Petroleum Pipeline Co., Ltd.

(3) Excluding pre-tax stock gain/(loss) and pre-tax inventory write-down to NRV/(a reversal of inventory write-down to NRV)

For Q2/16, Thaioil Group had total sales revenue of Baht 72,368 million, increased by Baht 15,578 million from Q1/16 owing to higher average product selling prices following crude oil price. In Q2/16, even though gas oil spread over Dubai was slightly improved, other petroleum product spreads were softened, particularly gasoline spread which was pressured by an excessive supply. For aromatics market, aromatics prices in Q2/16 increased tracking higher crude oil price. However, their spreads went down as a result of weakened demand and increased supply. Lube base oil and bitumen prices in Q2/16 were also larger than Q1/16 due to higher crude oil price together with better demand. Nonetheless, a significant rise in fuel oil price pressured spreads of lube base oil and bitumen. LAB price and spread in Q2/16 were better than Q1/16 due to peak demand during summer. From the above factors, Thaioil Group, in Q2/16, had GIM excluding stock gain/ (loss) of 6.9 US\$/bbl which was reduced by 1.4 US\$/bbl from Q1/16. Fortunately, Thaioil Group had stock gain of Baht 4,106 million which was jumped by Baht 5,053 million, and had a reversal of inventory write-down to NRV of Baht 256 million which was decreased by Baht 380 million. Aggregating with hedging loss of Baht 147 million, Thaioil Group posted EBITDA of Baht 10,545 million, improved by Baht 3,892 million. Besides, in Q2/16, Thaioil Group had foreign exchange gain of Baht 110 million,

dropped by Baht 577 million due to a slight appreciation in Thai Baht against US dollars from the end of Q1/16. Offsetting with finance costs of Baht 866 million and income tax expense of Baht 688 million, Thaioil Group earned net profit of Baht 7,753 million or 3.80 Baht earnings per share, superior than Q1/16 by Baht 3,027 million.

Compared Q2/16 with Q2/15, Thaioil Group had lower integrated intake and had sales revenue decreased by Baht 6,668 million because of declining average product selling prices. Hence, Thaioil Group reported a 2.1 US\$/bbl reduction in GIM excluding stock gain/ (loss) which mainly because of the plunge in petroleum product spreads over Dubai, compared with the same period of last year. In contrast, Thaioil Group recognized a larger stock gain of Baht 1,872 million, a higher reversal of inventory write-down to NRV of Baht 76 million, and a smaller hedging loss of Baht 40 million. Thaioil Group then had EBITDA in Q2/16 risen by Baht 541 million from Q2/15. Furthermore, Thaioil Group had foreign exchange gain increased by Baht 1,289 million. Offsetting with finance costs and income tax expense in Q2/16, Thaioil Group recorded net profit lifted by Baht 1,525 million from Q2/15.

For 6M/16, Thaioil Group reported total sales revenue of Baht 129,158 million which was lower than 6M/15 by Baht 21,244 million due to the fact that the average product selling prices declined along with the plunge in crude oil price. Thaioil Group earned GIM excluding stock gain/ (loss) of 7.6 US\$/bbl, weakened by 1.3 US\$/bbl. This was due to the plummet in petroleum product spreads over Dubai despite the superior contribution from TPX and TLB. Besides, LABIX has started its operations commercially in February 2016. In 6M/16, Thaioil Group realized stock gain of Baht 3,159 million, risen by Baht 2,198 million from the first half of last year. Meanwhile, Thaioil Group had a reversal of inventory write-down to NRV of Baht 891 million which was decreased by Baht 1,561 million, and hedging loss of Baht 119 million which was higher by Baht 8 million. Hence, for the first half of 2016, Thaioil Group posted EBITDA of Baht 17,198 million, increased by Baht 985 million. After adding foreign exchange gain of Baht 798 million and deducting finance costs and income tax expense, Thaioil Group had net profit of Baht 12,479 million, better than 6M/15 by Baht 1,752 million.

In 6M/16, Thaioil Group has started the commercial operations for 1) LABIX Co., Ltd., with LAB capacity of 100,000 tons per annum, since 25 February 2016 and 2) TOP SPP Co., Ltd., with an aggregated capacity of 239 MW for electricity generation and 498 tons per hour for steam generation from Block 1 and Block 2 since 1 April 2016 and 1 June 2016, respectively.

2. Summary of Financial Result by Business

Table 2: Financial Result by Business

(Million Baht)

Sales Revenue	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
Consolidated	72,368	56,790	15,578	79,036	(6,668)	129,158	150,402	(21,244)
Refinery	74,024	57,719	16,305	79,186	(5,162)	131,743	148,387	(16,644)
Aromatics ⁽¹⁾	12,535	9,493	3,042	11,407	1,128	22,028	19,178	2,850
Lube Base Oil	3,417	3,362	55	4,776	(1,359)	6,779	9,640	(2,861)
Power Generation ⁽²⁾	2,263	1,447	816	1,228	1,035	3,710	2,510	1,200
Solvent ⁽³⁾	1,840	1,753	87	2,050	(210)	3,592	3,838	(246)
Marine Transportation ⁽⁴⁾	216	248	(32)	307	(91)	464	594	(130)
Ethanol ⁽⁵⁾	371	362	9	370	1	733	771	(38)
Others ⁽⁶⁾	184	183	1	149	35	367	315	52

EBITDA	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
Consolidated	10,545	6,653	3,892	10,004	541	17,198	16,213	985
Refinery	7,406	4,007	3,399	8,002	(596)	11,413	13,611	(2,198)
Aromatics	1,466	1,267	199	630	836	2,733	220	2,513
Lube Base Oil	699	718	(19)	759	(60)	1,417	1,251	166
Power Generation	564	342	222	216	348	906	416	490
Solvent	264	122	142	205	59	386	318	68
Marine Transportation	84	98	(14)	100	(16)	182	209	(27)
Ethanol	47	80	(33)	52	(5)	126	118	8
Others	19	22	(3)	15	4	41	32	9

Net Profit/(Loss)	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
Consolidated	7,753⁽⁷⁾	4,726	3,027	6,228⁽⁷⁾	1,525	12,479⁽⁷⁾	10,727⁽⁷⁾	1,752
Refinery ⁽⁸⁾	5,655	2,788	2,867	4,791	864	8,442	9,288	(846)
Aromatics	752	881	(129)	457	295	1,632	(285)	1,917
Lube Base Oil	460	502	(42)	524	(64)	963	845	118
Power Generation ⁽⁹⁾	441	402	39	219	222	844	485	359
Solvent	158	27	131	138	20	185	172	13
Marine Transportation	26	48	(22)	28	(2)	73	75	(2)
Ethanol	(26)	24	(50)	(6)	(20)	(2)	39	(41)
Others	16	18	(2)	12	4	34	26	8

Remark (1) TPX invested 75% of total investment in LABIX Company Limited which produces an intermediate for the production of surfactants.

(2) TOP shares 73.99% in Thaioil Power Co., Ltd., and shares 99.99% in TOP SPP Co., Ltd. for small power plants (SPPs) business.

(3) Including Thaioil Solvent Co., Ltd., having respective interests in TOP Solvent Co., Ltd., Sak Chaisidhi Co., Ltd. and TOP Solvent (Vietnam) LLC.

(4) Including Thaioil Marine Co., Ltd., having respective interests in Thaioil Marine International Pte. Ltd., TOP Maritime Service Co., Ltd., TOP-NTL Pte. Ltd., TOP-NTL Shipping Trust, TOP Nautical Star Co., Ltd., TOP-NYK MarineOne Pte. Ltd., and T.I.M. Ship Management Co., Ltd.

(5) Including Thaioil Ethanol Co., Ltd., having respective interests in Maesod Clean Energy Co., Ltd., Sapthip Co., Ltd. and Ubon Bio Ethanol Co., Ltd.

(6) Including Thaioil Energy Services Co., Ltd. (TOP holds 99.99% shares) which provides human resources management service.

(7) Including dividends received of Baht 247 million for Q2/16 and 6M/16 and Baht 48 million for Q2/15 and 6M/15 from Thai Petroleum Pipeline Co., Ltd.

(8) For Q2/16 and Q2/15, pre-tax stock gains on crude intake of correspondent period were reported at Baht 4,106 million and Baht 2,234 million, respectively; while, for Q1/16, pre-tax stock loss on crude intake of correspondent period was recorded at Baht 947 million. For 6M/16 and 6M/15, pre-tax stock gains on crude intake of correspondent period were reported at Baht 3,159 million and Baht 961 million, respectively. Additionally, for Q2/16, Q1/16, and Q2/15, the reversal of the inventory write-down to NRV of Baht 256 million, Baht 636 million, and Baht 180 million were recorded, respectively. For 6M/16 and 6M/15, the reversal of the inventory write-down to NRV of Baht 891 million, and Baht 2,452 million were reported, respectively.

(9) Including Thaioil Group's shares of profits from the investments in Global Power Synergy Public Company Limited (GPSC).

2.1 Market Condition and Financial Result of Refinery Business (TOP)

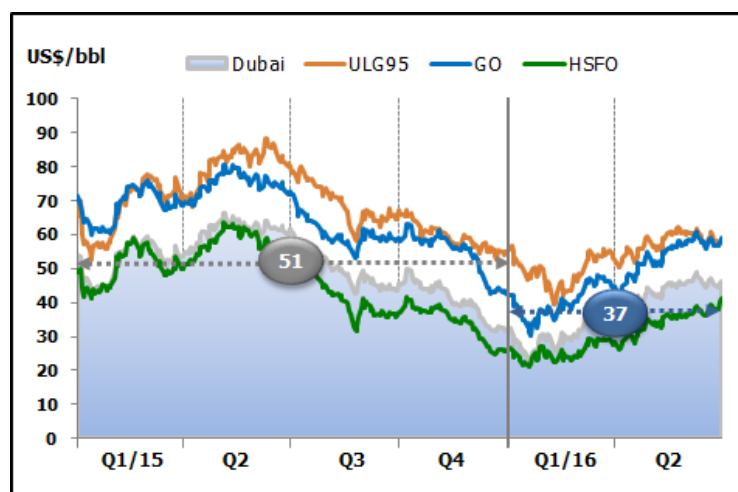
Table 3: Average Crude Oil Price, Petroleum Product Prices and Crack Spreads

Average Prices (US\$/bbl)	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
Dubai Crude Oil	43.2	30.4	12.8	61.3	(18.1)	36.8	56.6	(19.8)
Unleaded Gasoline (ULG95)	57.6	49.2	8.4	81.1	(23.5)	53.4	74.2	(20.8)
Jet/Kero	54.3	42.1	12.2	74.8	(20.5)	48.2	71.9	(23.7)
Gas Oil (GO)	53.7	40.0	13.7	75.0	(21.3)	46.9	71.6	(24.7)
Fuel Oil (HSFO)	34.4	25.2	9.2	57.8	(23.4)	29.8	53.9	(24.1)

Spread over Dubai (US\$/bbl)	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
Unleaded Gasoline (ULG95)	14.4	18.8	(4.4)	19.8	(5.4)	16.6	17.6	(1.0)
Jet/Kero	11.1	11.7	(0.6)	13.5	(2.4)	11.4	15.3	(3.9)
Gas Oil (GO)	10.5	9.6	0.9	13.7	(3.2)	10.1	15.0	(4.9)
Fuel Oil (HSFO)	(8.7)	(5.2)	(3.5)	(3.5)	(5.2)	(7.0)	(2.7)	(4.3)

Remark Closing Dubai crude oil at the end of Q2/16, Q1/16 and Q2/15 were calculated from average Dubai price of June 2016, March 2016 and June 2015. The prices were 46.3 \$/bbl, 35.1 \$/bbl and 61.8 \$/bbl, respectively.

Graph 1: Prices of Crude Oil and Petroleum Product



While crude oil price in Q2/16 dropped from Q2/15, it was better than Q1/16 because the market was supported by tightened supply from a reduction in crude oil supply at almost 4 million barrels per day in May, the largest supply drop in five years. This was attributable to the following events of supply outage. First, the wildfire in Canada caused a halt in oil production about 1.3 million barrels per day. In addition, the electricity shortage and the financial crisis in Venezuela due to low crude oil price has impacted its oil production. Third, the Niger Delta Avengers, causing the prolonged unrest in Nigeria, attacked on crude oil production

and major oil pipelines, and forced major oil companies to cease their operations, which resulted in Nigerian crude oil production in May to drop to a 30-year-low level of 1.3 million barrels per day. In addition to the aforementioned factors, the market was motivated by diminished US crude oil production and US crude inventory level in Q2/16. The average US crude oil production plunged to a level of 8.8 million barrels per day, more than 7% drop from the same period of last year. This was resulted from US crude oil producers slowing down their investments, as a consequence of depressed oil prices which impacted on crude oil production in the US. The US crude inventory level, in Q2/16, declined consecutively because of high refinery utilization rate for peak demand during driving season. However, the fluctuated oil prices during the last month of Q2/16 was influenced by concerns over Brexit results which triggered investors to sell Pound Sterling and high-risk assets in order to move their capital flows to US Dollars, which was considered as a risk-free asset. This caused US Dollars to strengthen which worsened oil price situations.

Gasoline spread over Dubai in Q2/16 considerably dropped from Q1/16 and Q2/15 due to a rising excessive supply pressure after refineries increased their gasoline production yield while decreasing gas oil. Additionally, demand from Indonesia was also slowed down because refineries in Indonesia were able to produce more gasoline. Jet/kero spread over Dubai marginally declined from Q1/16 and Q2/15 owing to constraints from higher export coming from North Asia, particularly China, and sluggish demand after winter. Gas oil

spread over Dubai in Q2/16 was slightly better than prior quarter supported by drought in India, Vietnam and Venezuela that resulted in higher gas oil demand for electricity and agriculture. Moreover, diminished supply from a labor strike in France affecting oil refineries to shut down their operations also helped gas oil spread. However, gas oil spread over Dubai significantly dropped from the year earlier. Fuel oil spread over Dubai in Q2/16 also plunged from Q1/16 and Q2/15 due to high regional supply, especially fuel oil inventory in Singapore. Nevertheless, an improving bunker demand, which hit the highest level, alleviated fuel oil spread from falling sharply.

Table 4: Financial Result of TOP

	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
Throughput ⁽¹⁾ (%)	109%	107%	2%	107%	2%	108%	107%	1%
Intake (kbd)	299	295	4	294	5	297	293	4
Market GRM ⁽²⁾ (US\$/bbl)	4.4	6.1	(1.7)	7.4	(3.0)	5.2	8.1	(2.9)

Remark (1) Throughput (%) calculated based on 275,000 barrels per day

(2) Gross Refining Margin (GRM) excluding stock gain/ (loss)

In Q2/16, TOP reported a lower market GRM. However, TOP had a better throughput together with recorded stock gain which helped TOP to report superior EBITDA and net profit than Q1/16.

Compared 6M/16 with 6M/15, TOP had a significant decline in market GRM due to pressured spreads of jet/kero and gas oil. This resulted in softened net profit in 6M/16.

In Q2/16, TOP had a throughput of 109% which was higher by 2% and had a 7% larger total product sales volume than Q1/16. Together with an increase in average selling prices following crude oil price, TOP had sales revenue of Baht 74,024 million, increased by Baht 16,305 million. Despite a slight improvement in gas oil spread, other product spreads were declined, especially gasoline spread that was significantly decreased from Q1/16. Aggregating with higher energy cost following crude oil price, TOP then reported lower market GRM from 6.1 US\$/bbl in Q1/16 to 4.4 US\$/bbl in Q2/16. However, thanks to an increase in average crude oil price by 12.8 US\$/bbl in Q2/16, TOP recorded stock gain of 4.2 US\$/bbl or Baht 4,106 million, up by Baht 5,053 million. Combining with a reversal of inventory write-down to NRV of Baht 256 million and hedging loss of Baht 147 million, TOP had EBITDA of Baht 7,406 million, improved by Baht 3,399 million from previous quarter. Furthermore, a slight appreciation in Thai Baht at the end of Q2/16 compared with the end of Q1/16, TOP had foreign exchange gain of Baht 70 million, decreased by Baht 581 million. Offsetting with finance costs of Baht 769 million and income tax expense of Baht 321 million, TOP posted net profit of Baht 5,655 million, reduced by 2,867 million from Q1/16 (Including dividend income in Q2/16, TOP had net profit of Baht 5,982 million).

In comparison with Q2/15, TOP had a 2% higher throughput and had a 14% higher total product sales volume. However, in Q2/16, TOP had sales revenue decreased by Baht 5,162 million as a consequence of the plunge in average selling prices from the same period of last year. Moreover, TOP reported a 3.0 US\$/bbl drop in market GRM due to substantial decline in product spreads. Nonetheless, TOP had stock gain increased by Baht 1,872 million, a reversal of inventory write-down to NRV added by Baht 76 million, and had hedging loss lowered by Baht 40 million. This resulted in TOP posting EBITDA of Baht 7,406 million in Q2/16, down by Baht 596 million. Furthermore, in Q2/16, TOP had foreign exchange gain of Baht 70 million while incurring foreign exchange loss of Baht 1,369 million in Q2/15. From the aforementioned factors, TOP then reported net profit increased by Baht 864 million.

Compared 6M/16 with 6M/15, TOP had a throughput of 108% and had a 11% larger total product sales volume. Nevertheless, TOP had sales revenue of Baht 131,743 million which was lower by Baht 16,644 million as a result of the plummet in average selling prices compared with the same period of last year. TOP, for 6M/16, reported market GRM of 5.2 US\$/bbl, dropped by 2.9 US\$/bbl because of

the lower product spreads, particularly jet/kero, gas oil and fuel oil spreads that declined significantly. For the first half of this year, TOP posted stock gain of 1.7 US\$/bbl or Baht 3,159 million, higher by Baht 2,198 million. On the other hand, TOP had a reversal of inventory write-down to NRV of Baht 891 million, reduced by Baht 1,561 million. Altogether with hedging loss of Baht 119 million, TOP reported EBITDA of Baht 11,413 million, down by Baht 2,198 million. Additionally, for 6M/16, TOP had foreign exchange gain of Baht 721 million, improved by Baht 1,389 million. Offsetting with financial costs and income tax expense, TOP then recorded net profit of Baht 8,442 million, compared with Baht 9,288 million for the same period of a year earlier.

2.2 Market Condition and Financial Result of Aromatics Business (TPX)

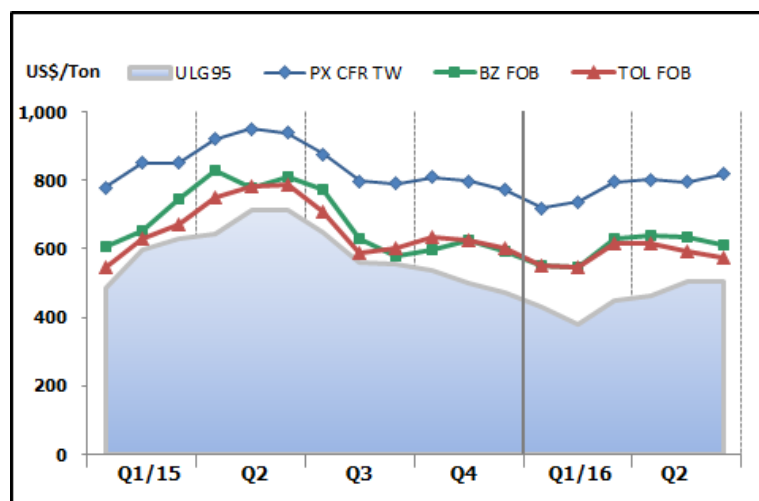
Table 5: Average Prices of Key Aromatics Products

Average Prices (US\$/Ton)	Q2/16	Q1/16	+/-	Q2/15	+/-	6M/16	6M/15	+/-
Paraxylene (PX) ⁽¹⁾	805	751	54	935	(130)	778	881	(103)
Benzene (BZ) ⁽²⁾	628	574	54	804	(176)	601	737	(136)
Toluene (TL) ⁽²⁾	593	573	20	772	(179)	583	695	(112)
Spread over ULG95 (US\$/Ton)	Q2/16	Q1/16	+/-	Q2/15	+/-	6M/16	6M/15	+/-
Paraxylene (PX)	315	332	(17)	246	69	324	251	73
Benzene (BZ)	138	156	(18)	115	23	147	106	41
Toluene (TL)	103	154	(51)	83	20	128	64	64

Remark (1) Based on CFR Taiwan price

(2) Based on FOB Korea price

Graph 2: Price of Aromatics and ULG95



PX price in Q2/16 rose from Q1/16 tracking crude oil price but decreased from Q2/15 pressured by crude oil price in Q2/16. However, PX spread over ULG95 in Q2/16 strengthened from Q2/15 thanks to the following factors: (1) firm demand as PTA plants increased their production rates to support stronger demand from downstream polyester, (2) tightened supply as an Aromatics plant in Singapore, having PX capacity of 800,000 tons per annum, postponed its resumption plan in May 2016 after the fire accident at Naphtha tank. Nevertheless, PX

spread over ULG95 in Q2/16 reduced from Q1/16 as a consequence of sluggish demand in May 2016. Besides, new PTA plant in China, having PTA capacity of 2.2 million tons per annum, suddenly ceased its operations due to some technical problems at water treatment unit.

BZ price in Q2/16 was higher than Q1/16 but lower than Q2/15 tracking crude oil price. BZ spread over ULG95 in Q2/16 improved from Q2/15 because of higher BZ demand from new downstream plants, which are a styrene monomer plant in China with total capacity of 300,000 tons per annum and a phenol plant in South Korea with total capacity of 300,000 tons per annum. However, BZ spread over ULG95 in Q2/16 decreased from Q1/16 because of softened styrene monomer demand after gross profit margin declined and several styrene monomer plants in the US shut down for maintenance. Moreover, BZ market was pressured by BZ price in the US lower than its

price in Asia, from April through May 2016, closing arbitrage opportunity. Additionally, in Q2/16, BZ spread was pressured by two new petrochemical plants in China with BZ capacity of 75,000 tons per annum and 61,000 tons per annum.

TL price in Q2/16 was also higher than Q1/16 but lower than Q2/15 following crude oil price. TL spread over ULG95 in Q2/16 was better than Q2/15 due to strong gasoline demand in which producers used TL as a component to enhance gasoline value. However, TL spread over ULG95 in Q2/16 was softer than Q1/16 because of increasing TL inventory level in China and additional supply from two new petrochemical plants in China with TL capacity of 280,000 tons per annum and 261,000 tons per annum.

Table 6: Financial Result of TPX

	Q2/16	Q1/16	+ / (-)	Q2/15	+ / (-)	6M/16	6M/15	+ / (-)
Aromatics Production Rate (%)	80%	80%	-	84%	(4%)	80%	75%	5%
Aromatics Production (kTon)	168	166	2	176	(8)	334	312	22
Product to Feed margin ⁽¹⁾ (US\$/Ton)	99	98	1	76	23	99	48	51

Remark (1) Based on a nameplate capacity of 838,000 Tons/year (527,000 tons of paraxylene per year, 259,000 tons of benzene per year and 52,000 tons of mixed xylene per year)

(2) Calculated from gross margin divided by feedstock volume (Ton)

In Q2/16, TPX had stable performance compared with Q1/16 due to an increase in aromatics sales proportion despite softened aromatics spreads.

For 6M/16, TPX had significantly higher product-to-feed margin compared with 6M/15 as a result of improved demand. In addition, a reduction in energy cost supported better net profit.

Compared Q2/16 with Q1/16, TPX maintained its aromatics production rate and had sales revenue of Baht 9,591 million, increased by Baht 678 million from an increase in aromatics prices tracking higher crude oil price. However, TPX had stable product-to-feed margin as a result of an increase in aromatics sales proportion in Q2/16, even though aromatics spreads over ULG95 softened from Q1/16. Therefore, TPX had EBITDA in Q2/16 of Baht 1,209 million close to the level in Q1/16. Offsetting with operating expenses and depreciation, TPX had net profit before tax of Baht 872 million. However, TPX fully utilized its loss carry forward in Q2/16, therefore, income tax expense was recorded at Baht 166 million. TPX then reported net profit of Baht 706 million, down by Baht 190 million from last quarter.

Compared Q2/16 with Q2/15, TPX had sales revenue fallen by Baht 1,816 million due to a plunge in aromatics selling prices. However, higher aromatics spread over ULG95 improved product-to-feed margin by 23US\$/Ton and lower energy cost from natural gas price boosted EBITDA and net profit up by Baht 571 million and Baht 310 million, respectively.

Compared 6M/16 with 6M/15, TPX had sales revenue of Baht 18,505 million, down by Baht 673 million. This was mainly attributable to a decline in product selling price tracking oil price. On the other hand, aromatics spread over ULG95 in 6M/16 was better than 6M/15 in which the market was pressured by weakened demand from Chinese economy and market oversupply condition. Therefore, in 6M/16, TPX had product-to-feed margin was lifted up by 51 US\$/Ton to 99 US\$/Ton and had a decrease in energy cost, boosting EBITDA up by Baht 2,188 million to Baht 2,425 million. Offsetting with operating expenses, depreciation and income tax expense, TPX had net profit of Baht 1,603 million for 6M/16 compared with net loss of Baht 310 million for 6M/15.

In Q2/16, aromatics group (TPX holds 75% shares of LABIX) had sales revenue of Baht 12,535 million, EBITDA of Baht 1,466 million and net profit of Baht 752 million. For 6M/16, aromatics group

had sales revenue of Baht 22,028 million, EBITDA of Baht 2,733 million and net profit of Baht 1,632 million.

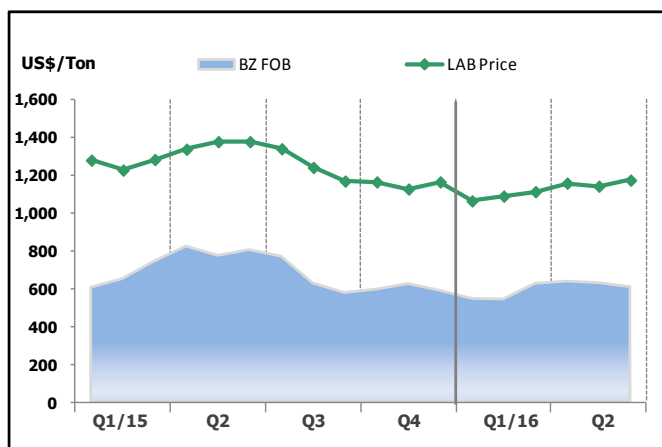
2.3 Market Condition and Financial Result of an Intermediate for the Production of Surfactants Business (LABIX)

Table 7: Average Price of LAB

Average Price (US\$/Ton)	Q2/16	Q1/16	+ / (-)	Q2/15	+ / (-)	6M/16	6M/15	+ / (-)
LAB ⁽¹⁾	1,156	1,087	69	1,362	(206)	1,122	1,311	(189)
Spread over BZ ⁽²⁾ (US\$/Ton)	Q2/16	Q1/16	+ / (-)	Q2/15	+ / (-)	6M/16	6M/15	+ / (-)
LAB	528	513	15	558	(30)	520	575	(55)

Remark (1) Based on ICIS price
(2) Based on FOB Korea price

Graph 3: Prices of LAB and BZ



LAB price and its spread over BZ in Q2/16 strengthened from Q1/16 thanks to (1) strong LAB demand, especially from India and China, for surfactant productions in summer which was the LAB peak season, and (2) tight regional supply as some LAB plants were under maintenance and some cut their run due to feedstock (n-paraffin) shortage. However, LAB price in Q2/16 weakened from Q2/15 tracking lower crude oil price. Besides, LAB spread over BZ in Q2/16 fell from Q2/15 because a decrease in BZ price was less than a reduction in crude oil price owing to BZ demand growth in Q2/16.

Table 8: Financial Result of LABIX

	Q2/16	Q1/16	+ / (-)	Q2/15	+ / (-)	6M/16	6M/15	+ / (-)
LAB Production (kTon)	30	11	19	-	30	41	-	41
Product to Feed margin ⁽¹⁾ (US\$/Ton)	74	59	15	-	74	70	-	70

Remark (1) Calculated from gross margin divided by feedstock volume (Ton)

In Q2/16, LABIX's performance was improved from Q1/16 following the uplift of LAB sales volume and LAB spread supported by the demand in summer.

For 6M/16, LABIX had EBITDA and net profit of Baht 308 million and Baht 40 million, respectively.

Compared Q2/16 with Q1/16, LABIX recorded sales revenue of Baht 3,191 million, improved by Baht 2,497 million mainly because LABIX started to recognize LAB sales revenue in Q2/16. Additionally, LAB demand in summer supported an increase in LAB spread over BZ in Q2/16, leading to better product-to-feed margin by 15 US\$/Ton to 74 US\$/Ton. Therefore, LABIX had EBITDA of Baht 257 million, up by Baht 206 million from prior quarter. Also, LABIX had foreign exchange gain of Baht 24 million, reduced by Baht 35 million from Q1/16, which mostly came from an unrealized translation gain of US\$-denominated loans. Offsetting with depreciation and amortization of Baht 150 million, and finance costs of Baht 74 million, LABIX reported net profit of Baht 61 million, grown by Baht 82 million from previous quarter.

For 6M/16, LABIX reported sales revenue and EBITDA of Baht 3,885 million and Baht 308 million, respectively. In addition, thanks to an appreciation in Thai Baht against US dollars at the end of Q2/16 compared with the end of 2015, LABIX had foreign exchange gain of Baht 82 million which mostly came from an unrealized translation gain of US\$-denominated loans. Offsetting with depreciation and amortization of Baht 249 million, and finance costs of Baht 108 million, LABIX posted net profit of Baht 40 million

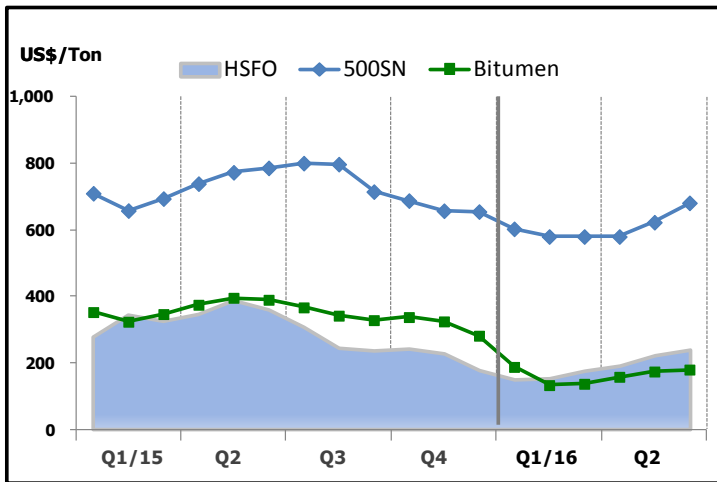
2.4 Market Condition and Financial Result of Lube Base Oil Business (TLB)

Table 9: Average Prices of Key Lube Base Oil Products

Average Prices (US\$/Ton)	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
500SN ⁽¹⁾	628	588	40	766	(138)	608	727	(119)
Bitumen ⁽²⁾	171	153	18	387	(216)	162	364	(202)
Spread over HSFO (US\$/Ton)	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
500SN	409	427	(18)	399	10	418	384	34
Bitumen	(48)	(7)	(41)	20	(68)	(27)	22	(49)

Remark (1) Based on Ex-tank Singapore price
(2) Based on FOB Singapore price

Graph 4: Prices of Lube Base Oil (500SN), Bitumen and Fuel Oil



Lube base oil price in Q2/16 improved from Q1/16. This was attributable to higher regional demand from agricultural industry during engine lubricant replacement in summer. Additionally, lube base oil supply in the region was tightened as a Group I plant in Japan, having total capacity of 225,000 tons per annum, and a Group II plant in Taiwan, having total capacity of 520,000 tons per annum, were under maintenance shutdown. Furthermore, lube base oil Group I price which was lower than Group II price by around US\$100/Ton supported an increase in Group I demand.

However, compared with Q2/15, lube base oil price dropped

tracking crude oil price. Also, lube base oil spread over fuel oil in Q2/16 decreased from Q1/16 as a result of a significant rise in fuel oil price following crude oil price but the spread was still higher than Q2/15 due to its improved demand.

Bitumen price in Q2/16 improved from Q1/16 tracking higher crude oil price. However, it dramatically declined from Q2/15 following weakened demand in Indonesia, Vietnam and China. The sluggish demand in China was resulted from an implementation of the 13th Five-Year Plan (2016-2020) on National Economic and Social Development that led to limited budget spending, including infrastructure capital expenditures. In addition, bitumen inventory level in several countries was maintained at a high level since late 2015 while its spread over fuel oil in Q2/16 decreased from Q1/16 and Q2/15 owing to increased fuel oil price tracking higher crude oil price.

Table 10: Financial Result of TLB

	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
Base Oil Utilization Rate ⁽¹⁾ (%)	84%	88%	(4%)	88%	(4%)	86%	84%	2%
Base Oil Production (kTon)	56	59	(3)	59	(3)	115	111	4
Product-to-Feed Margin ⁽²⁾ (US\$/Ton)	121	126	(5)	139	(18)	124	123	1

Remark (1) Based on nameplate capacity of 267,015 Tons/year

(2) Calculated from gross margin divided by feedstock volume (Ton)

In Q2/16, TLB's performance slightly decreased as a result of weakened product spreads over fuel oil than previous quarter.

For 6M/16, TLB had a declining in sales revenue owing to a substantial decrease in product prices tracking oil price. However, improved lube base oil demand and higher specialty products sales volumes, but lower energy cost resulted in better TLB's performance compared with 6M//15.

Compared Q2/16 with Q1/16, TLB had sales revenue of Baht 3,417 million, increased by Baht 55 million as a result of an increase in product prices tracking crude oil price, but a rise in fuel oil price in Q2/16 led to a decrease in lube base oil and bitumen spreads over fuel oil. However, lube base oil price was still firm because of improved lube base oil demand from agricultural industry in this region during engine lubricant replacement in summer, and tightened supply. This resulted in a slight decrease in TLB product-to-feed margin by 5 US\$/Ton from prior quarter to 121 US\$/Ton and posted EBITDA of Baht 699 million, dropped by Baht 19 million. Offsetting with income tax expense of Baht 115 million, TLB recorded net profit of Baht 460 million, declined by Baht 42 million from Q1/16.

Compared with Q2/15, lube base oil and bitumen prices weakened tracking lower crude oil price. In addition, softened bitumen demand and high bitumen inventory level in many countries led to a dramatic decrease in bitumen spread over fuel oil. Hence, in Q2/16, TLB had product-to-feed margin dropped by 18 US\$/Ton and had EBITDA and net profit declined by Baht 60 million and Baht 64 million, respectively, compared with the same period of previous year.

Compared 6M/16 with 6M/15, TLB had sales revenue of Baht 6,776 million, declined by Baht 2,861 million or 30% owing to a decrease in product prices tracking crude oil price. Despite a substantial decrease in bitumen spread over fuel oil, lube base oil spread over fuel oil was higher than previous year due to better demand. Moreover, TLB had sales proportion on specialty products higher than the same period of previous year. Hence, in 6M/16, TLB had a slight improvement in product-to-feed margin to 124 US\$/Ton. Moreover, lower crude oil price resulted in lower energy cost. TLB then recorded EBITDA in 6M/16 improved by Baht 166 million to Baht 1,417 million and net profit lifted by Baht 118 million to Baht 963 million.

2.5 Financial Result of Power Generation Business

Table 11: Financial Result of Power Generation Business

TP	Q2/16	Q1/16	+/(-)	Q2/58	+/(-)	6M/16	6M/58	+/(-)
Electricity Dispatched (GWh)	236.8	238.3	(1.5)	229.9	6.9	475.1	456.4	18.7
Steam Exported (kton)	468.0	473.9	(5.9)	433.3	34.7	941.9	855.9	86.0

TOP SPP	Q2/16
Electricity Dispatched (GWh)	287.4
Steam Exported (kton)	448.0

In Q2/16, TP had a slightly lower sales revenue than Q1/16 from lower sales volume due to planned maintenances. TP booked net profit dropped by Baht 15 million.

Thaioil Group recognized share of profit from the investment in GPSC of Baht 166 million in Q2/16

In Q2/16, TOP SPP has started its commercial operations. It earned sales revenue of Baht 1,191 million and net profit of Baht 167 million.

For 6M/16, TP reported lower sales revenue from lower selling prices. Meanwhile, TP also had lower cost of production; thus, TP booked net profit increased by Baht 52 million. Besides, Thaioil Group recognized share of profit from the investment in GPSC of Baht 378 million (excluding non-controlling interest).

In Q2/16, TP reported sales revenue of Baht 1,072 million, decreased by Baht 96 million from Q1/16 because of a slightly lower sales volume from electricity and steam owing to planned maintenances during the period as well as lower selling prices following lower Ft rate and natural gas price. Meanwhile, cost of production also went down tracking natural gas price. This resulted in TP having EBITDA of Baht 246 million, lowered by Baht 5 million lower from previous quarter. Offsetting with finance costs and income tax expense, TP recorded net profit in Q2/16, excluding share of profit from the investment in GPSC, of Baht 145 million, reduced by of Baht 15 million from previous quarter. Thaioil Group recognized, without non-controlling interest, share of profit from the investment in GPSC of Baht 166 million in Q2/16 or Baht 45 million lower than prior quarter.

In Q2/16, TOP SPP Company Limited (TOP SPP), a wholly owned subsidiary of Thai Oil Public Company Limited, has started its commercial operation on 1st April 2016, and 1st June 2016 for Block 1 and Block 2, respectively. TOP SPP has an aggregated capacity of 239 MW for electricity generation and 498 tons per hour for steam generation. In this quarter, TOP SPP recorded sales revenue of Baht 1,191 million and EBITDA of Baht 318 million. Offsetting with finance costs and income tax expense, TOP SPP had net profit of Baht 167 million.

Compared with Q2/15, even though TP had a higher sales volume from electricity and steam, its sales revenue fell by Baht 156 million from the plummet in natural gas price and Ft rate. Nevertheless, a dip in cost of production resulted in higher EBITDA of Baht 27 million in Q2/16. Offsetting with lowered finance costs and increased income tax expense, TP recorded net profit (excluding share of profit from the investment in GPSC) in Q2/16 higher than Q2/15 by Baht 12 million.

Compared 6M/16 with 6M/15, TP had sales revenue from electricity and steam of Baht 2,240 million, a decline of Baht 270 million as a result of the collapse in natural gas price and Ft rate. However, due to higher sales volume, TP had EBITDA went up by Baht 75 million to Baht 496 million. Offsetting with finance costs and income tax expense, TP booked net profit (excluding share of profit from the investment in GPSC) of Baht 306 million, improved by Baht 52 million. This was mainly because of higher sales volume and lower finance costs. Thaioil Group recognized, without non-controlling interest, share of profit from the investment in GPSC of Baht 378 million in 6M/16 or Baht 71 million higher than 6M/15.

2.6 Financial Result of Solvent Manufacturing and Distribution Business (Thaioil Solvent)

Table 12: Financial Result of Thaioil Solvent

	Q2/16	Q1/16	+ / (-)	Q2/15	+ / (-)	6M/16	6M/15	+ / (-)
Solvent Utilization Rate (%)	96%	120%	(24%)	89%	7%	108%	81%	27%
Solvent Production (kTon)	34	42	(8)	32	2	76	57	19
Solvent Sales Volume (kTon)	75	79	(4)	70	5	154	133	21

In Q2/16, despite lower solvent sales volume, higher solvent average unit selling price boosted Thaioil Solvent's sales revenue from Q1/16. In addition, greater gross profit margin led to an increase in EBITDA and net profit compared with previous quarter.

For 6M/16, Thaioil Solvent had better net profit compared with the same period of last year.

In Q2/16, Thaioil Solvent (Solvent Manufacturing and Distribution Business) had a 96% solvent utilization rate, declined by 24% from Q1/16, because Sak Chaisidhi Co., Ltd. (TOP Solvent Co., Ltd. holds 80.52% shares) had a planned maintenance shutdown during 13-30 June 2016. As a consequence, in Q2/16, Thaioil Solvent had solvent sales volume of 75 thousand tons, dropped from previous quarter by 4 thousand tons mainly from hydrocarbon solvents produced by Sak Chaisidhi Co., Ltd. However, Thaioil Solvent recorded sales revenue of Baht 1,840 million, risen by Baht 87 million from Q1/16, primarily attributable to solvent average unit selling price higher than prior quarter, tracking global crude oil price trend and following its price increase in some product groups owing to limited supplies in the market. This boosted gross profit margin superior than last quarter and resulted in EBITDA of Baht 264 million in Q2/16, added by Baht 142 million from Q1/16. Furthermore, Thaioil Solvent had foreign exchange gain of Baht 3 million in Q2/16, compared with foreign exchange loss of Baht 11 million in Q1/16. Offsetting with depreciation of Baht 47 million, finance costs of Baht 28 million, and income tax expense of Baht 26 million, Thaioil Solvent posted net profit of Baht 158 million in Q2/16, improved by Baht 131 million from Q1/16.

In comparison with Q2/15, Thaioil Solvent had sales revenue decreased by Baht 210 million. This was mainly attributable to solvent average unit selling price in Q2/16 lower than Q2/15, in line with global crude oil price; even though, solvent utilization rate increased by 7% and solvent sales volume lifted by 5 thousand tons in Q2/16 as a result of more solvent exports to international market and its market expansion to new customers. While there was a reversal of the inventory write-down to NRV of Baht 7 million in Q2/15, but Thaioil Solvent had greater gross profit margin in Q2/16, raising its EBITDA in Q2/16 by Baht 59 million. However, depreciation rose by Baht 12 million and foreign exchange gain lowered by Baht 15 million. Offsetting with finance costs and income tax expense increased by Baht 2 million and Baht 6 million, respectively, hence, Thaioil Solvent had a slight increase in net profit of Baht 20 million, compared with the same period of a year earlier.

For 6M/16, Thaioil Solvent had a 108% solvent utilization rate, and recorded sales revenue and EBITDA of Baht 3,592 million and Baht 386 million, respectively. Offsetting with depreciation, finance costs and income tax expense, Thaioil Solvent reported net profit of Baht 185 million, up by Baht 13 million from 6M/15.

2.7 Financial Result of Crude, Petroleum and Petrochemical Marine Transportation and Storage, Ship Management

Service and Crew & Utility Boat Service Business (TM)

Table 13: Financial Result of TM

	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
Petroleum & Petrochemical Product Vessel								
Utilization Rate: TM (%)	95%	99%	(4%)	91%	4%	97%	94%	3%
Crude Vessel Utilization Rate: TOP-NYK (%)	100%	100%	-	100%	-	100%	100%	-
Crew and Utility Boat Utilization Rate: TMS (%)	52%	61%	(9%)	80%	(28%)	57%	71%	(14%)

In Q2/16, TM had lower consolidated services revenue from Q1/16 mainly because of a slowdown in E&P industry. TM also recognized lower shares of profits from the investments. Accordingly, TM booked consolidated net profit of Baht 26 million.

In 6M/16, TM posted a reduction in consolidated services revenue as a result of sluggish E&P business. TM booked share of profits from its investments of Baht 39 million. Consequently, it posted consolidated net profit of Baht 73 million.

In Q2/16, TM booked consolidated services revenue, including TMS revenues (TM holds 55% in), of Baht 216 million, a decrease of Baht 32 million from Q1/16 because of lower utilization rate at TM fleet. Furthermore, TMS utilization rate also went down consecutively following a slowdown in petroleum exploration and production (E&P) industry. This caused some TMS boats idle from waiting for job orders. TM then booked consolidated EBITDA of Baht 84 million, declined by Baht 14 million. In Q2/16, TM booked share of profit from the investment in TOP-NYK of Baht 7 million. Moreover, TM recognized shares of profits totalling of Baht 4 million from the investments in TOP-NTL, TOP-NTL Shipping Trust, TOP Nautical Star, and TIM compared with shares of profits of Baht 13 million in previous quarter. This was because of unrealized losses from FX of TOP Nautical Star and an accounting adjustment of TIM. Offsetting with finance costs, income tax expense, and depreciation, TM reported consolidated net profit of Baht 26 million, a decrease of Baht 22 million from Q1/16.

Compared with Q2/15, TM consolidated services revenue went down by Baht 91 million from a smaller TM fleet size and the slowdown in E&P industry, causing TM to report lower consolidated EBITDA by Baht 16 million. Besides, share of profit from the investment in TOP-NYK was lowered by Baht 8 million. TM also had share of profits totalling to Baht 4 million from the investments in TOP-NTL, TOP-NTL Shipping Trust, TOP Nautical Star, and TIM whereas it booked share of losses of Baht 21 million during the same period of last year as there was an overhaul of an Aframax. Offsetting with finance costs, income tax expense, and depreciation, TM consolidated net profit went down by Baht 2 million from Q2/15.

Compared 6M/16 with 6M/15, TM reported consolidated services revenue of Baht 464 million, down by Baht 130 million; this was mainly caused by a slowdown in E&P industry, resulting in some idle TMS boats. TM booked consolidated EBITDA of Baht 182 million, lowered by Baht 27 million. Moreover, TM reported share of profit from the investment in TOP-NYK of Baht 22 million, decreased by Baht 5 million from the same period of last year. TM also booked share of profits from TOP-NTL, TOP-NTL Shipping Trust, TOP Nautical Star, and TIM of Baht 17 million while it booked share of losses of Baht 24 million in 6M/15. Offsetting with finance costs and income tax expense, TM consolidated net profit went down by Baht 2 million from 6M/15 to Baht 73 million in 6M/16.

2.8 Financial Result of Ethanol Business (TET)

Table 14: Financial Result of TET

	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)	6M/16	6M/15	+/(-)
Ethanol Utilization Rate (%)								
- Saphthip	82%	103%	(21%)	91%	(9%)	93%	92%	1%
- Maesod Clean Energy	99%	115%	(16%)	110%	(11%)	107%	113%	(6%)
- Ubon Bio Ethanol	90%	90%	-	86%	4%	90%	86%	4%

In Q2/16, TET had net loss mainly owing to lower average ethanol selling price per unit from higher competition and a 23-day maintenance shutdown.

For 6M/16, TET had net loss, compared with net profit for the same period of prior year.

In Q2/16, TET had consolidated sales revenue from Saphthip Co., Ltd. (TET holds 50% shares) of Baht 371 million, increased by Baht 9 million from Q1/16 mainly due to higher ethanol sales volume. However, TET had a weakened gross profit margin owing to lowered average ethanol selling price per unit from higher competition, mainly resulted from the speculation of additional molasses-based ethanol production in the market. Besides, Saphthip had a 23-day maintenance shutdown in Q2/16, causing ethanol utilization rate lowered by 21% from previous quarter, and TET had EBITDA of Baht 47 million, dropped by Baht 33 million from Q1/16. Moreover, in Q2/16, TET had share of loss of Baht 20 million from the investment in Maesod Clean Energy Co., Ltd., higher loss by Baht 15 million than Q1/16. TET also had share of loss of Baht 6 million from the investment in Ubon Bio Ethanol Co., Ltd., compared with share of profit of Baht 13 million in Q1/16. Offsetting with finance costs of Baht 13 million, TET posted net loss of Baht 26 million in Q2/16, compared with net profit of Baht 24 million in previous quarter.

In comparison with Q2/15, TET had consolidated sales revenue from Saphthip Co., Ltd., slightly increased by Baht 1 million due to higher ethanol sales volume supported by higher Gasohol E10 and E20 consumption. Nonetheless, compared with Q2/15, TET had a squeezed gross profit margin because the decrease in average ethanol selling price per unit was more than the reduction in average price per unit of cassava chip (main feedstock). Therefore, TET had EBITDA decreased by Baht 5 million from Q2/15. Furthermore, in Q2/16, TET had total shares of losses from the investments in both associates increased by Baht 18 million. Taken as a whole, TET reported net loss of Baht 26 million, net loss increased by Baht 20 million than the same period of previous year.

For 6M/16, TET had consolidated sales revenue of Baht 733 million and EBITDA of Baht 126 million. TET also had share of loss of Baht 25 million from the investments in Maesod Clean Energy Co., Ltd. but TET had share of profit of Baht 7 million from Ubon Bio Ethanol Co., Ltd. Offsetting with finance costs of Baht 25 million, TET recorded net loss of Baht 2 million, compared with net profit of Baht 39 million in the same period of prior year.

3. Analysis of Consolidated Financial Position

3.1 Statements of Financial Position

The financial position of the Company and subsidiaries as of 30 June 2016 compared with 31 December 2015 was summarized as follows:

Table 15: Condensed Consolidated Statements of Financial Position

(Million Baht)	30 Jun 16	31 Dec 15	+ / (-)	+ / (-) %
Assets				
Cash and cash equivalents and Current investment	58,175	53,129	5,046	9.5%
Other current assets	44,117	37,361	6,756	18.1%
Non-current assets	103,917	101,676	2,241	2.2%
Total assets	206,209	192,166	14,043	7.3%
Liabilities				
Current liabilities	21,786	16,818	4,968	29.5%
Long-term borrowings and debentures (including current portion)	74,974	75,093	(119)	(0.2%)
Other non-current liabilities	3,635	3,246	389	12.0%
Total liabilities	100,395	95,157	5,238	5.5%
Equity				
Equity attributable to owners of the company	101,175	92,372	8,803	9.5%
Non-controlling interests	4,639	4,637	2	0.0%
Total equity	105,814	97,009	8,805	9.1%
Total liabilities and equity	206,209	192,166	14,043	7.3%

Total Assets

As of 30 June 2016, the Company and subsidiaries had total assets of Baht 206,209 million, increased by Baht 14,043 million or 7.3% from 31 December 2015 due to the following main reasons:

- Cash and cash equivalents and current investment rose by Baht 5,046 million thanks to the cash flows from operations during 6M/16.
- Other current assets grew by Baht 6,756 million primarily due to an increase in inventories by Baht 5,317 million as a consequence of higher inventory level and crude oil price at the end of Q2/16 than those at the end of 2015. Moreover, trade accounts receivable went up by Baht 2,489 million tracking higher petroleum product prices as well as sales volume in June 2016. However, other receivables decreased by Baht 1,301 million.
- Non-current assets rose by Baht 2,241 million as a main result of an increase in net additions of property, plant, and equipment of Baht 960 million in several projects as planned and intangible assets of Baht 1,257 million.

Total Liabilities

As of 30 June 2016, the Company and subsidiaries had total liabilities of Baht 100,395 million, increased by Baht 5,238 million or 5.5% from 31 December 2015 due to major reasons as follows:

- Current liabilities went up by Baht 4,968 million primarily due to an increase in trade accounts payable by Baht 2,182 million as a consequence of a rise in crude oil price. Moreover, other payables up by Baht 1,068 million from an increase in construction payables.

- Long-term borrowings and debentures (including current portions) decreased by Baht 119 million mainly because:
 - : The Company's US\$-denominated debentures went down by Baht 958 million owing to the 0.91 Baht/US\$ appreciation in Thai Baht from the end of 2015.
 - : Sak Chaisidhi Co., Ltd. (shares indirectly held by TS) repaid its Baht-denominated borrowings of Baht 144 million.
 - : Thaioil Marine Co., Ltd. and TOP Maritime Service Co., Ltd. (shares indirectly held by TM) had net repayment of its Baht-denominated borrowings of Baht 162 million.
 - : LABIX Co., Ltd. (shares indirectly held by TPX) had net additional borrowings of Baht 1,281 million for its plant construction.

Table 16: Consolidated Long-term Loans

(Million Baht)	TOP	TS	TP	TM	TET	LABIX	Total
Debentures : US\$-denominated	37,640	-	-	-	-	-	37,640
: Baht-denominated	25,500	-	-	-	-	-	25,500
Borrowings : US\$-denominated	-	-	-	-	-	4,654	4,654
: Baht-denominated	-	1,404	421	2,403	145	2,807	7,180
As of 30 June 2016	63,140	1,404	421	2,403	145	7,461	74,974
As of 31 December 2015	64,098	1,548	507	2,565	195	6,180	75,093
+ / (-)	(958)	(144)	(86)	(162)	(50)	1,281	(119)

Total Equity

As of 30 June 2016, the Company and subsidiaries had total equity of Baht 105,814 million, increased by Baht 8,805 million or 9.1% from 31 December 2015. This was mainly resulted from total comprehensive income for 6M/16 of Baht 12,681 million and dividends paid from the Company and subsidiaries totally of Baht 3,876 million.

3.2 Statements of Cash Flows

As of 30 June 2016, the Company and subsidiaries had cash and cash equivalents of Baht 24,216 million (Consolidated), while the Company had cash and cash equivalents of Baht 21,946 million (Separated). In addition, the Company and subsidiaries had current investments of Baht 33,959 million. Cash flows are detailed as presented below:

Table 17: Cash Flows for 6M/16

(Million Baht)	Consolidated	Separated
Net cash provided by operating activities	12,791	8,398
Net cash (used in) investing activities	(20,384)	(9,872)
Net cash (used in) financing activities	(3,583)	(9,295)
Net decrease in cash and cash equivalents	(11,176)	(10,769)
Effect of exchange rate changes on balance held in foreign currencies at the end of period	(372)	(359)
Cash and cash equivalents at the beginning of period	35,764	33,074
Cash and cash equivalents at the end of period	24,216	21,946

The Company and subsidiaries had cash flows provided by operating activities of Baht 12,791 million, and cash flows used in investing activities of Baht 20,384 million as a consequence of the purchases of plant, property and equipment of Baht 3,614 million. The company itself spent Baht 768 million in main projects such as the Oil Movement Improvement project, Lorry Loading Terminal

Expansion project, HVU-3 Reliability Improvement project, Oil Distillation Control System Improvement project, and Marine Hose Replacement project. The rest of Baht 2,846 million was used by subsidiaries for LAB Production project, and New Small Power Plants project (New SPPs). Besides, the Company and subsidiaries purchased current investments of Baht 16,595 million.

Meanwhile, cash flows used in financing activities were Baht 3,583 million. This was attributable to dividends paid of Baht 3,876 million and finance costs paid of Baht 1,679 million, while there were net cash receipts from short-term and long-term borrowings of Baht 1,044 million and Baht 928 million, respectively.

According to the mentioned cash flows activities, the Company and subsidiaries reported cash and cash equivalents decreased by Baht 11,176 million. In addition, the Company and subsidiaries recorded loss from the effect of exchange rate changes on balance held in foreign currencies at the end of period of Baht 372 million. Hence, the Company and subsidiaries had cash and cash equivalents of Baht 24,216 million (cash and cash equivalents including current investments were Baht 58,175 million) as of 30 June 2016.

3.3 Financial Ratios

Table 18: Financial Ratios (Consolidated) for Q2/16

Profitability Ratios	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)
Quality of earnings ratio (%)	15%	12%	3%	13%	2%
Gross profit margin ratio (%)	15%	12%	3%	14%	1%
Net profit margin ratio (%)	11%	8%	3%	8%	3%

Liquidity Ratios	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)
Current ratio (times)	3.6	3.4	0.2	3.4	0.2
Quick ratio (times)	2.6	2.5	0.1	2.1	0.5

Financial Policy Ratios	Q2/16	Q1/16	+/(-)	Q2/15	+/(-)
Total liability/ Total equity (times)	0.9	1.0	(0.1)	1.0	(0.1)
Net debt/ Equity (times)	0.2	0.2	-	0.3	(0.1)
Long-term loan/ Total equity (times)	0.7	0.7	-	0.7	-
Interest coverage ratio (times)	12.2	8.3	3.9	10.4	1.8
Long-term loan/ Total capitalization (%)	41%	42%	(1%)	42%	(1%)

Financial Ratios Calculation

Quality of Earnings ratio (%)	=	EBITDA / Sales Revenue
Gross Profit Margin ratio (%)	=	Gross Profit / Sales Revenue
Net Profit Margin ratio (%)	=	Net Profit / Total Revenue
Current ratio (times)	=	Current Assets / Current Liabilities
Quick ratio (times)	=	(Cash and Cash equivalent + Current investments + Accounts Receivable) / Current Liabilities
Total Liabilities / Total Equity (times)	=	Total Liabilities / Total Equity
Net Debt/ Equity (times)	=	Net Debt / Total Equity
Long term loan/ Total Equity (times)	=	Long Term Loan / Total Equity
Long term loan	=	Long-term borrowings from financial institutions + Debentures (includes current portion)
Interest Coverage ratio (times)	=	EBITDA/ Interest Expenses (Finance costs)
Long term loan/ Total Capitalization (%)	=	Long Term Loan / Total Capitalization
Total Capitalization	=	Long Term Loan + Total Equity
Net Debt	=	Interest bearing debt - Cash and cash equivalent - Current investments