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Management Discussion and Analysis for Business Operation

For the three-month period and the nine-month period ended September 30, 2013

1. Executive Summary

At the end of third quarter of 2013, the Consolidated Financial Statement recorded a total revenue of Baht 46,062 million, an increase of 2% compared to Q2/2013 resulted from the growing total sales volume, higher crude run, and improvement in petroleum products price of gasoline, diesel, and jet fuel.

When comparing the result of Q3/2013 to Q3/2012, revenue increased by 38% due to an increase in total sales volume of 47% as the crude run was higher in Q3/2013 (lower level of crude run in Q3/2012 was from the incident of Crude Distillation Unit 3) and an increase in revenue from solar phase 2 which was commercialized operation in March and April of 2013.

The Consolidated EBITDA of Q3/2013 was recorded at Baht 2,564 million, an increase of Baht 1,068 million from Q2/2013 and Baht 356 million increased from Q3/2012.

- **Refinery and Biofuel Business** recorded EBITDA of Baht 1,838 million, an increase of Baht 1,200 million (+188%) from Q2/2013. Market GRM was recorded at 4.72 \$/BBL, a decrease from 5.68 \$/BBL in previous quarter as the crude oil price increased whereas crack spreads of UNL95/DB and FO/DB decreased. In this quarter, PTT's co-generation power plant, located in Bangchak's refinery, was temporary ceased operation, resulting to a temporary shutdown of hydrocracking unit consequently lead to an increasing yield of fuel oil. This quarter reported gain from inventory of Baht 926 million or 3.17 \$/BBL and gain from crack spread hedging of Baht 230 million or 0.78 \$/BBL

When compared to Q3/2012, EBITDA in Q3/2013 decreased by Baht 4 million (-0.20%) Market GRM decreased by 9.31 \$/BBL due to a decrease in crack spreads of all petroleum finished products. In Q3/2012, there was an incident at Crude Distillation Unit 3 which caused the average crude run to decrease down to 38.68 thousand barrel per day and led to a higher Market GRM than normal as the company could manage to have the best economics return.

- **Marketing Business** recorded EBITDA of Baht 354 million, a decrease of Baht 112 million (-24%) when compared to Q2/2013 from seasonal effect and intense competition in industrial market. The total sales volumes of Marketing Business were at 1,216.25 million litre, a decrease of 2% when compared to 2Q2013.

Comparing Q3/2013 to Q3/2012, the total sales volumes of Marketing Business increased by 19% and recorded an increase in EBITDA of Baht 136 million (+63%)

Marketing Margin was recorded at 0.53 baht per litre, a decrease from 0.59 baht per litre in Q2/2013 from the price competition. However, Marketing Margin improved from Q3/2012 which was at 0.44 baht per litre.



- **Solar Power Plant Business** recorded EBITDA of Baht 372 million a decrease of Baht 20 million (-5%) when compared to Q2/2013 from the seasonal effect of rainy season and a Baht 223 million increase when compared to Q3/2012, as the Commercial Operation of Solar Power Plant Phase 2 (32 MW PPA) at Ayutthaya province and Chaiyaphum province has accomplished in March and April 2013.

The Consolidated Financial Statement recorded Net Profit of Baht 1,359 million or earnings per share of Baht 0.99, increased from a net profit of Baht 407 million in Q2/2013 and an increase from Baht 1,072 million in Q3/2012

Comparing the nine-month operating result of 2013 to the same period of last year, the revenue surged 14% along with 32% increase in EBITDA from the higher average crude run of 98.72 KBD while the average crude run in the nine-month of 2012 was at 70.04 KBD. The Refinery and Biofuel Business recognized an EBITDA of Baht 5,292 million, an increase of 34%. Market GRM was weakened to 6.09 \$/BBL when compared to nine-month of 2012 which was at 7.43 \$/BBL. Crude and product oil price hedging contract reported a gain of Baht 446 million, an increase of Baht 48 million when compared to the nine-month of 2012. There was a stock gain of Baht 568 million in nine-month 2013 compared to a stock loss of Baht 68 million in the same period last year. Marketing Business sales volume growth by 10% and recognized an EBITDA of Baht 1,264 million, a decrease of 16% from the contraction in marketing margin due to lag time of a retail price adjustment as crude cost changes. The EBITDA from solar power plant business was reported at Baht 981 million, an increase of 284% from the Commercialized Operation of the Phase 2 in 2013.

Net Profit of nine-month of 2013 was recorded at Baht 3,964 million, an increase of 27% from the same period last year.



Average sales volume in each market category of the Company

Unit: Million litre

Marketing Business	Q3/13	Q3/12	YoY (%)	Q2/13	QoQ (%)	9M/13	9M/12	Δ (%)
Retail	724.61	623.4	16%	727.46	-0.4%	2,181.29	1,972.88	11%
Industrial	491.64	395.25	24%	509.86	-4%	1,528.43	1,399.73	9%
Total	1,216.25	1,018.65	19%	1,237.32	-2%	3,709.71	3,372.61	10%
Wholesale Business								
PTT	159.71	46.53	243%	159.73	-0.01%	466.48	379.41	23%
Export	297.9	88.17	238%	281.58	6%	833.54	353.19	136%
Others	58.9	25.09	135%	45.54	29%	204.42	126.80	61%
Total	516.51	159.79	223%	486.85	6%	1,504.44	859.40	75%
Total Sales Volume	1,732.76	1,178.44	47%	1,724.17	1%	5,214.16	4,232.01	23%

The Company and its subsidiaries' operating results are summarized as below;

Unit: Million Baht

	Q3/13	Q3/12	YoY (%)	Q2/13	QoQ (%)	9M/13	9M/12	Δ (%)
Revenue	46,062	33,322	38%	45,105	2%	138,450	121,294	14%
EBITDA	2,564	2,208	16%	1,496	71%	7,537	5,719	32%
<i>EBITDA:</i>								
<i>EBITDA (Refinery and Biofuel Business)^{1/}</i>	<i>1,838</i>	<i>1,842</i>	<i>-0.20%</i>	<i>638</i>	<i>188%</i>	<i>5,292</i>	<i>3,958</i>	<i>34%</i>
<i>EBITDA (Marketing Business)^{2/}</i>	<i>354</i>	<i>218</i>	<i>63%</i>	<i>466</i>	<i>-24%</i>	<i>1,264</i>	<i>1,506</i>	<i>-16%</i>
<i>EBITDA (Solar Power Plant Business)^{3/}</i>	<i>372</i>	<i>149</i>	<i>150%</i>	<i>392</i>	<i>-5%</i>	<i>981</i>	<i>256</i>	<i>284%</i>
Gain (loss) on foreign exchange	95	52	82%	(53)	N/A	243	303	-20%
Reversal of allowance for gain (loss) from impairment of assets	(3)	(45)	94%	(34)	92%	(29)	55	N/A
Finance costs	(299)	(270)	11%	(241)	24%	(808)	(666)	21%
Income tax expense	(278)	(250)	11%	(66)	321%	(864)	(524)	65%
Profit (loss) for the period^{4/}	1,359	1,072	27%	407	234%	3,964	3,126	27%
Basic earnings (loss) per share (in Baht)	0.99	0.78	27%	0.30	230%	2.88	2.27	27%

1/ EBITDA from Refinery Business, Bangchak Biofuel Co., Ltd. and share of profit from Ubon Bio Ethanol Co., Ltd.

2/ EBITDA from Marketing Business and Bangchak Greenet Co., Ltd.

3/ EBITDA from Solar Power Plant Business, Bangchak Solar Energy Co., Ltd. and its subsidiaries

4/ Excluding the profit attributable to Non-controlling interests.



Company's projects status are shown as follow:

Project	Details	Progress
1. Refinery Business Project		
1.1 Tail Gas Treating Unit	The project helps decreasing in emission of Sulfur Dioxide from the Sulfur Recovery Unit. The total project value is approximately USD 37 million.	Main equipment were installed and current work stage is the installation of piping, electrical systems and controlling systems, which are on schedule. Project completion is expected to be around the end of 2013.
2. Marketing Business Project		
2.1 Gasohol Promotion Project	The project aims to promote and expand the use of gasohol through increasing numbers of E20 and E85 service stations, including sales promotion through gasohol club card.	At the end of 3Q2013, the Company had a monthly average sales volume of 26.5 million litres for E20 and of 6.7 million litres for E85. The number of E20 service stations and E85 service stations are 663 and 87 stations, respectively.
2.2 BigC Mini in Bangchak Service Stations	The cooperation between the Company and BigC. BigC invests and operates BigC Mini convenient stores in Bangchak Service Stations. Bangchak will receive benefits in terms of revenue sharing. The cooperation will also bring in new customer base for Bangchak Service Stations	At the end of the 3Q2013, there were 48 branches of BigC Mini in Bangchak Service Stations. Company plans to expand branches of BigC Mini to 62 branches within this year.



Project	Details	Progress
3. Renewable Energy Business Project		
3.1 Electricity Generation from Solar Energy – Solar Power Plant Phase3	<p>The electricity generation from solar energy with a total power purchase agreement (PPA) of 48 MW supplied to PEA. The project were separated to 3 groups details as below:</p> <ol style="list-style-type: none">1. Group 1 (PPA of 16 MW) – located in Buriram province. EPC contractors of the project are Consortium of Solartron Co., Ltd. and China Triumph International Engineering Co., Ltd. (CTIEC).2. Group 2 (PPA of 16 MW) – located in Chaiyaphum province and Nakhon Ratchasima province. EPC contractors of the project are Consortium of Gunkul Engineering Co., Ltd and Trina Solar.3. Group 3 (PPA of 16 MW) – located in Prachin Buri province. EPC contractors of the project are Consortium of Solartron Co., Ltd. and China Triumph International Engineering Co., Ltd. (CTIEC).	The projects have started construction in October 2013. Target Projects Completion are expected to be in the second quarter of 2014.



2. Performance Summary

2.1 Crude Oil Price Situation

In the third quarter of 2013, the average Dubai crude oil price was \$106.20, rose by \$5.40 from an average of last quarter. Changes in oil price were driven by demand for oil increased during the summer including maintenance in the North Sea crude production. Libya oil production had fallen to just over 10 percent of capacity due to a month-long disruption by armed security guards who shut the main export ports in the east and center. Market also concerned about the unrest in the Middle East from the protesters in Egypt, raising concerns that transport oil through the Suez Canal and Su-Med pipeline may disrupted. Moreover, the prospect of a military strike on Syria raised fears that Western intervention could further destabilize the Middle East. The U.S. gross domestic product expanded at 2.5 p.a. in second quarter and the euro zone economy grew for the first time in six quarter had signaled on world economic recovery even if the Chinese economy grew by 7.5 percent, in line with market forecasts. Although the unemployment rate fell to 7.3 percent in August, lowest level since December 2008, The Federal Reserve defied investor expectations by postponing the start of the rollback of its monetary stimulus, saying it wanted to wait for more evidence of solid economic growth. The Fed also concerned the issue of the U.S. debt ceiling deadline in the middle of October. In the late of the quarter, oil prices began to fall due to European and Russian refinery turnarounds during autumn period. The unrest in the Middle East had subsided particularly compromise in talks between Iran and Western Power on Iranian nuclear program while Libya's oil production had been partially resumed.

For the 9-month period of this year compare to last year, Oil price decreased by \$4.56 mainly because of the increasing supply from Non-OPEC especially North America. Moreover the Chinese economic had been slowdown compare to last year while the U.S. and Eurozone economic growth has not been steadily recovered.

Crack Spreads Analysis

- For the petroleum products market, the average UNL95/Dubai crack spread in the third quarter was 12.63 USD/bbl compared to an average of 14.54 USD/bbl in the previous quarter. The early of the quarter the spread was driven by Muslim's fasting demand especially in Indonesia and Saudi Arabia. However slower import from Vietnam, phasing out of Ramadan, end of U.S. driving season and fuel price hike in Indonesia, Malaysia and India have been pressured the spread in the late of the quarter.

For the 9-month period of this year compare to last year, the spread had little increased (+0.34 USD/bbl) due to heavy maintenance in many Asian refineries including unplanned shutdown in India and Malaysia.



- The average of Jet (Kerosene)/Dubai crack spread was 16.97 USD/bbl compared to an average of 15.30 USD/bbl in the previous quarter. The spread was driven by seasonal demand in Asia and Europe. However, it started to decline after China removed a value-added tax exemption on imported jet fuel used by Chinese airlines on their international flights, making imports more expensive than buying from domestic.

For the 9-month period of this year compare to last year, the crack spread had increased by 0.89 USD/bbl mainly because of the expansion in China's aviation business.

- The Gasoil/Dubai crack spread was 17.39 USD/bbl compared to 16.75 USD/bbl in the previous quarter. The spread was supported by Muslim fasting and electricity demand in the Middle East during summer. Saudi Arabia diesel imports hit a record high level of 11 million barrels in July. The spread is also gained after China decrease their diesel export in the third quota compare to the first half of the year as quota limited. However, the spread had fall after end of Ramadan and Indonesia expects massive cut in diesel imports on new biodiesel mandate. On the supply side, the Rupiah depreciation, slow demand in rainy season advantage for Indian diesel export. The start of new refinery in Saudi Arabia in the fourth quarter would turn the Middle East from net imports of diesel to net export in next year, forcing the India's divert it destination from Europe to Asia in the next year.

For the 9-month period of this year compare to last year, the crack spread gained slightly due to strong summer demand in Middle East and quality benchmark changed in Singapore from 0.5% Sulfur content to 0.05% Sulfur content, starting from Jan 1, 2013 which made the benchmark price higher.

- The average of Fuel Oil/Dubai crack spread was -10.57 USD/bbl compared to an average of -3.65 USD/bbl in the previous quarter. The spread had weakened a lot pressured by lowered demand from China's private refineries (Teapot), slower bunker demand, increase in fuel oil output and high fuel oil arbitrage inflows to Asia. However, refining maintenance in Europe and Russia helped lower arbitrage in flow in late of the quarter.

For the 9-month period of this year compare to last year, the crack spread had sharply fallen because there were heavy arbitrage in flow to Asia resulting from high global refinery run rate during summer. Moreover, Fuel oil demand for Japan to produce electricity had decreased since last year they had switched Fuel to LNG and coal while Chinese teapot refineries and bunker demand had been declined as China's economic slowdown.



The table of oil price and crack spreads comparison

Unit: USD/bbl

Price	Q3/13			Q3/12	Q2/13	YoY	QoQ	9M/13	9M/12	%
	MAX	MIN	AVG	AVG	AVG	%	%	AVG	AVG	
DB	112.91	99.02	106.20	106.13	100.80	0.07%	5%	104.99	109.55	-4%
UNL95/DB	24.88	5.63	12.63	15.86	14.54	-20%	-13%	15.04	14.70	2%
IK/DB	19.03	14.65	16.97	20.17	15.30	-16%	11%	17.86	16.97	5%
GO/DB	21.18	13.80	17.39	19.25	16.75	-10%	4%	17.43	17.23	1%
FO/DB	-3.98	-14.85	-10.57	-2.38	-3.65	-344%	-190%	-7.19	-1.45	-396%

*2013 GO/DB based on Gasoil 0.05% sulfur, in 2012 was based on Gasoil 0.50% sulfur



2.2 Refinery Business and Bangchak Biofuel Co., Ltd.

Refinery Business	Q3/13	Q3/12	YoY (%)	Q2/13	QoQ (%)	9M/13	9M/12	Δ
Average Crude Run (KBD)	100.61	38.68	160%	95.61	5%	98.72	70.04	41%
Utilization Rate (%)	83.84%	32.23%	160%	79.67%	5%	82.27%	58.37%	41%
Average FX (THB/USD)	31.61	31.51	0.32%	30.02	5%	30.53	31.35	-3%

Unit: Million Baht

	Q3/13	Q3/12	YoY (%)	Q2/13	QoQ (%)	9M/13	9M/12	Δ
Market GRM	1,380	1,573	-12%	1,485	-7%	5,011	4,468	12%
GRM Hedging	230	95	141%	197	16%	446	398	12%
Gain/(Loss) from Inventory	926	219	323%	-919	N/A	568	-68	N/A
Total GRM	2,535	1,887	34%	763	232%	6,025	4,798	26%
EBITDA	1,776	1,831	-3%	588	202%	5,062	3,821	32%

Unit: USD/bbl

	Q3/13	Q3/12	YoY (%)	Q2/13	QoQ (%)	9M/13	9M/12	Δ
Market GRM	4.72	14.03	-66%	5.68	-17%	6.09	7.43	-18%
GRM Hedging	0.78	0.85	-7%	0.76	4%	0.54	0.66	-18%
Gain/(Loss) from Inventory	3.17	1.95	62%	-3.52	N/A	0.69	-0.11	N/A
Total GRM	8.67	16.84	-49%	2.92	197%	7.32	7.98	-8%

For the third quarter of 2013, refinery's average crude run capacity was at 100.61 thousand barrel per day (an average utilization rate of 83.84%), an increase from Q2/2013 which was at 95.61 thousand barrel per day (an average utilization rate of 79.67%) as in Q2/2013 refinery had some units shutdown for inspection. However, in Q3/2013, PTT's co-generation power plant which located in Bangchak's refinery, was temporary ceased operation, resulting to a temporary shutdown of Bangchak's hydrocracking unit and consequently led to an increasing yield of fuel oil. The crude run in Q3/2013 was higher than that of Q3/2012 as there was an incident of Crude Distillation Unit 3 in Q3/2012.

Market GRM in Q3/2013 was recorded at Baht 1,380 million (4.72 \$/BBL) a decrease from Q2/2013 which was at Baht 1,485 million (5.68\$/BBL) or a decrease of 7% resulted from the higher crude oil price. The evidence could be seen in the surged of Dubai crude oil price from 100.80 \$/BBL in Q2/2013 to 106.20 \$/BBL and the decrease in crack spreads, namely UNL95/DB and FO/DB. As there was a heavy drop in FO/DB crack spread from -3.65\$/BBL in Q2/2013 to -10.57\$/BBL, together with the temporary shutdown of hydrocracking unit in the quarter, market GRM therefore decreased.



Refinery Business reported a gain from crude and product oil price hedging contract of Baht 230 million (0.78 \$/bbl). Gain from inventory was recorded at Baht 926 million (3.17 \$/bbl)

Total GRM was reported at Baht 2,535 million (8.67 \$/BBL). Refinery Business' EBITDA was at Baht 1,776 million, an increased from the Q2/2013 which was at Baht 588 million. However, the EBITDA of Q3/2013 was lower than Q3/2012 which was at Baht 1,831 million.

Biofuel Business	Q3/13	Q3/12	YoY (%)	Q2/13	QoQ (%)	9M/13	9M/12	Δ(%)
Average Production Capacity (Million litre/ day)	0.33	0.31	6%	0.35	-6%	0.34	0.30	13%
Utilization Rate*	92.84%	86.00%	8%	98.36%	-6%	94.48%	101.55%	-7%
Average Price (B100) (Baht/ litre)	23.91	32.10	-26%	23.10	4%	23.90	32.46	-26%
Average Price (CPO) (Baht/ litre)	20.77	29.83	-30%	20.46	2%	20.90	29.68	-30%

* In 2012 maximum capacity was 0.30 million litre/ day, 2013 maximum capacity was 0.36 million litre/ day,

Biofuel Business by Bangchak Biofuel Co., Ltd., operated at an average production capacity of 334,208 litre per day. Total Sales Volume was 38.48 million litre, increased from 26.73 million litre in Q3/2012 but decreased from 40.79 million litre in Q2/2013 due to the seasonal factor.

The average price of B100 product was improved from 23.10 Baht/litre in Q2/2013 to 23.91 baht/litre in this quarter (+4%) as the price of Crude Palm Oil (CPO) increased from 20.46 baht/litre in 2Q/2013 to 20.77 baht/litre (+2%) in this quarter. When comparing Q3/2013 to Q3/2012, the average price of B100 product decreased from 32.10 Baht/litre (-26%), as the result of Crude Palm Oil (CPO) price decreased from 29.83 baht/litre (-30%). This was a result from the Government's B100 price structure. If CPO price was high, the B100 margin per unit will also high and vice-versa. As a result, EBITDA in this quarter was at Baht 68 million.

Profit recognized from associated company was at Baht 0.66 million in this quarter. Refinery and Biofuel business' EBITDA was at Baht 1,838 million, an increase of 188% when compared to the previous quarter EBITDA which was at Baht 638 million and a slightly decreased from the Q3/2012 which was at Baht 1,842 million.



2.3 Marketing Business and Bangchak Green Net Co., Ltd.

Average sales volume in each market category of the Company

Unit: Million Litre

Marketing Business	Q3/13	Q3/12	YoY (%)	Q2/13	QoQ (%)	9M/13	9M/12	Δ (%)
Retail	724.61	623.40	16%	727.46	-0.4%	2,181.29	1,972.88	11%
Industrial	491.64	395.25	24%	509.86	-4%	1,528.43	1,399.73	9%
Total	1,216.25	1,018.65	19%	1,237.32	-2%	3,709.71	3,372.61	10%

Average sales volume in each product category of only Marketing Business

Unit: Million Litre

	Q3/13	Q3/12	YoY (%)	Q2/13	QoQ (%)
Diesel	617.64	496.03	25%	663.21	-7%
Gasoline	341.40	274.06	25%	324.24	5%
<i>UNL 91</i>	12.35	75.72	-84%	-	-
<i>Gasohol 91</i>	131.81	100.84	31%	135.06	-2%
<i>Gasohol 95</i>	87.97	47.26	86%	89.76	-2%
<i>Gasohol E20</i>	82.76	43.11	92%	79.43	4%
<i>Gasohol E85</i>	26.51	7.13	272%	19.99	33%
Jet Fuel	178.69	184.59	-3%	172.46	4%
Fuel Oil	50.42	52.92	-5%	46.19	9%
LPG	15.46	2.28	578%	12.61	23%
Lubricant	12.36	8.32	49%	18.41	-33%
Others	0.28	0.46	-39%	0.19	47%

In the third quarter of 2013, Total Sales Volumes by Marketing Business was 1,216.25 million litre, a decrease of 2% when compared to Q2/2013. Retail Sales Volumes was dropped 0.4% from the seasonal effect. There was a 19% increase in Sales Volumes of Marketing Business when compared to Q3/2012 as there was growth in Retail Business.

The majority of volumes increased were from the volume sales of Gasoline products; a gasoline sales volume growth 5% when compared to Q2/2013 and 25% growth when compared to Q3/2012. Especially, Gasohol E20 sales volume growth of 4% compared to Q2/2013 and 92% growth when compared to Q3/2012.

Industrial Sales Volume was at 491.64 million litre, a 4% decrease compared to Q2/2013 from seasonal effect and price competition in industrial market. Sales Volume increased 24% when compared to Q3/2012 from the higher crude run of refinery business.



The table below shows detail of Marketing Margin

Unit: Baht/ Litre

	Q3/13	Q3/12	YoY (%)	Q2/13	QoQ (%)	9M/13	9M/12	Δ (%)
Retail Margin	0.76	0.59	29%	0.80	-5%	0.74	0.85	-13%
Industrial Margin	0.20	0.20	-	0.29	-31%	0.25	0.36	-31%
Total	0.53	0.44	20%	0.59	-10%	0.54	0.65	-17%

For the third quarter of 2013, Retail Margin was at 0.76 baht per litre, a decrease from 0.80 baht per litre in Q2/2013 due to the low season which led to discount and price competition.

Industrial Margin was at 0.20 baht per litre, a decrease from 0.29 baht per litre in 2Q2013 from seasonal effect and price competition in industrial market.

Marketing Margin was at Baht 0.53 baht per litre and EBITDA of Marketing Business, excluding Bangchak Green Net, was recorded at Baht 340 million, a decrease of Baht 135 million or -28% from Q2/2013 but there was an increase of Baht 153 million or 82% when compared to Q3/2012. Marketing business and Bangchak Green Net's EBITDA was Baht 354 million, a decrease of Baht 112 million from Q2/2013 but there was an increase of Baht 136 million compared to Q3/2012.

2.4 Solar Power Plant Business

In the third quarter of 2013, Solar Power Plant Phase 1 had a total production capacity of 15.72 M kWh, a decrease from Q2/2013 which was at 17.48 M kWh, due to seasonal effect of rainy season. However, an actual average solar irradiation of 4.85 kW/m²/day which was higher than the target level of 4.83 kW/m²/day. Therefore, the actual total production capacity was higher than its target by 0.97 M kWh.

Total production capacity of Solar Power Plant Phase 2 decreased from 19.06 M kWh in Q2/2013 to 18.36 M kWh in Q3/2013 due to rainy season which impacted to lower average solar irradiation at both sites; Bamnet Narong plant and Bang Pa-Han plant. Though, average solar irradiation at Bamnet Narong plant was at 4.91 kW/m²/day, lower than the figure in Q2/2013 which was at 5.87 kW/m²/day, but it still be higher than target which was at 4.72 kW/m²/day. Average solar irradiation of Bang Pa-Han plant was at 4.97 kW/m²/day, lower than the figure in Q2/2013 which was at 5.81 kW/m²/day, but higher than its target which was at 4.83 kW/m²/day,

EBITDA of solar power plant business was recorded at Baht 372 million, a decrease of 5% when compared to Q2/2013 from the effect of rainy season but it was 150% increase when compared to Q3/2012 as the solar power plant phase 2 started Commercialized Operation in March and April of 2013.



3. Analysis of the Financial Position of the Company and its subsidiaries (Consolidated)

Unit: Million Baht

Financial Position	30 September 2013		31 December 2012		△
Current assets	34,267	49%	37,107	52%	-2,841
Investments in associates	753	1%	723	1%	+30
Property, plant and equipment	31,382	45%	29,919	42%	+1,462
Other non-current assets	3,213	5%	3,104	4%	+109
Total assets	69,614	100%	70,853	100%	-1,239
Current liabilities	19,577	28%	18,218	26%	+1,359
Long-term borrowings (including current portion of long-term loans)	14,501	21%	19,023	27%	-4,522
Other non-current liabilities	1,273	2%	1,290	2%	-17
Total liabilities	35,351	51%	38,530	54%	-3,179
Total equity attributable to owners of the Company	34,042	49%	32,143	45%	1,899
Non-controlling interests	221	0%	180	0%	41
Total equity	34,263	49%	32,323	46%	1,940
Total liabilities and equity	69,614	100%	70,853	100%	-1,239

Assets

As of September 30, 2013, Total Assets of the Company and its subsidiaries were Baht 69,614 million, a decrease of Baht 1,239 million when compared to the end of 2012 which was at 70,853 million. The changes in assets were mainly from:

- Cash as of September 30, 2013 was Baht 1,836 million, decreased by Baht 6,169 million. (Details are stated under analysis of the Cash Flow Statement. (Number 4))
- Current investments of Baht 198 million, increased by Baht 185 million which was mainly from short-term deposit with financial institutions.
- Other Receivables of Baht 637 million; decreased by Baht 521 million, mainly from Insurance Compensation Receivable, Receivable from oil hedging contracts and Prepaid expenses.
- Inventory was Baht 21,062 million; increased by Baht 1,887 million which was mainly from inventory of crude oil and the increase in crude price.
- Oil Fuel Fund subsidies receivable was Baht 1,695 million; increased by Baht 872 million, mainly for Oil Fuel Fund subsidies for Gasohol E85, E20 and LPG.
- Property, plant and equipment were Baht 31,382 million, increased by Baht 1,462 million, mainly from Solar Power Plant Phase 2 (PPA of 32 MW).



Liabilities

As of September, 2013, Total Liabilities of the Company and its subsidiaries were Baht 35,351 million, decreased by Baht 3,179 million from the end of 2012. The changes in liabilities were mainly from:

- Short-term loans from financial institutions were increased by Baht 5,800 million to facilitate Company's operation liquidity.
- Accounts Payable was Baht 11,061 million, decreased by Baht 2,639 million which was mainly from the crude oil and petroleum products transaction between the Company, PTT Plc., and other related company.
- Other Payables were Baht 1,511 million, decreased by Baht 1,279 million which were mainly from decrease in accrued expenses and contractor's payments due.
- Long-term loans from financial institutions and Debentures was Baht 13,557 million, decreased by Baht 4,456 million which were mainly from the Company's prepayment of its long-term loan Baht 5,500 million and Bangchak Solar Energy's long-term loan drawdown of Baht 1,788 million.

Equities

As of September 30, 2013, the Consolidated Total Equity was Baht 34,263 million, increased by Baht 1,940 million from the first 9 months net profit of Baht 4,014 million and dividend paid of Baht 2,074 million, with a book value of Baht 24.72 per share.



4. Analysis of the Cash Flows Statement of the Company and its subsidiaries (Consolidated)

In the third quarter of 2013, the Company and its subsidiaries had net cash used for operating activities of Baht 763 million, net cash used in investing activities of Baht 3,723 million and net cash used in financing activities of Baht 1,683 million. As a result, there was a net decrease in cash and cash equivalents of Baht 6,169 million. Cash and cash equivalents at 1 January, 2013 was Baht 8,006 million, when accounted for all activities, cash and cash equivalents as of September 30, 2013 was Baht 1,836 million.

Details of cash received and used are as follows:

Unit: Million Baht

Cash Flows	For 9 months period ended	
	30 September 2013	31 September 2012
Net cash used for operating activities	(763)	(332)
Net cash used in investing activities	(3,723)	(3,117)
Net cash from (used in) financing activities	(1,683)	1,700
Net decrease in cash and cash equivalents	(6,169)	(1,750)
Cash and cash equivalents at 1 January	8,006	4,021
Cash and cash equivalents at 30 September	1,836	2,271

Cash received and used details are as follows:

1. The Company and its subsidiaries had cash from operating activities of Baht 7,983 million which was from net profit of Baht 4,014 million, add back Non-Cash Expenses of Baht 2,297 million, and add back Finance costs and income tax expense of Baht 1,673 million. Cash used in operating activities were

- Cash used of Baht 3,087 million in the operating assets; mainly, an increase in Inventory of Baht 1,886 million, Trade Accounts Receivable increased of Baht 83 million, Other Payables decreased of Baht 615 million, and Other current assets increased of Baht 1,733 million
- Cash used of Baht 4,422 million in operating liabilities, which were Trade Accounts Payable decreased of Baht 2,647 million, Other Payables decreased of Baht 1,376 million and Accrued Expenses decreased of Baht 399 million
- Income Tax Paid of Baht 1,238 million

As a result, the Company and its subsidiaries had a net cash used in operating activities of Baht 763 million



2. Net cash used in investing activities of Baht 3,723 million, mainly from

- Interest received of Baht 69 million
- Investment in Property, Plants and Equipment of Baht 3,357 million
- Investment in Other Assets of Baht 249 million
- Increase in current investments of Baht 185 million

3. Net cash used in financing activities of Baht 1,683 million, mainly from

- Increase in short-term loans from financial institutions of Baht 5,800 million to facilitate Company's operation liquidity.
- Proceeds from long-term loans of Baht 1,788 million, which was a long-term loans of Bangchak Solar Energy Co., Ltd. for Solar Power Plant Phase 2
- Finance costs paid of Baht 937 million
- Repayment of long-term loans of Baht 6,261 million, including prepayment of long-term loans Baht 5,500 million
- Dividend paid of Baht 2,074 million



5. Financial Ratios (Consolidated)

	Q3/13	Q3/12	Δ	Q2/13	Δ
Profitability Ratios (%)					
EBITDA Margin	5.57%	6.63%	-1.06%	3.32%	2.25%
Profit Margin ^{1/}	2.95%	3.22%	-0.27%	0.90%	2.05%
Return on Equity (ROE)	3.93%	3.06%	0.87%	3.77%	0.16%
ROE (excluding inventory Gain/Loss)	3.93%	2.83%	1.10%	4.23%	-0.30%
Return on Assets (ROA)	1.87%	1.42%	0.45%	1.77%	0.10%
ROA (excluding inventory Gain/Loss) (%)	1.87%	1.31%	0.56%	1.79%	-0.12%
	30 September 2013	31 December 2012	Δ	30 June 2013	Δ
Liquidity Ratios (times)					
Current Ratio	1.67	2.15	-0.48	2.02	-0.35
Quick Ratio	0.64	0.70	-0.05	0.85	-0.21
Financial Policy Ratios (times)					
DSCR	4.77 ^{3/}	3.27	1.49	4.06	0.71
Interest bearing debt to Equity ^{2/}	0.60	0.73	-0.14	0.60	-0.01
Net Interest bearing debt to Equity ^{2/}	0.54	0.66	-0.12	0.48	0.05

1/ Profit attributable to the owners of the Company, excluding the profit attributable to Non-controlling interests

2/ Solely from the total equity attributable to owners of the Company

3/ DSCR excluded prepayment loan of Baht 5,500 million

Financial Ratios Calculation

- EBITDA Margin (%) = EBITDA / Revenue
- Profit Margin (%) = Profit attributable to owners of the Company / Revenue
- Return on Equity (%) = Profit attributable to owners of the Company (Yearly) / Average Total Equity attributable to owners of the Company in quarter this year and the year before
- Return on Equity (Excl. Inventory) (%) = Profit attributable to owners of the Company (Yearly) – (Inventory Gain(Loss))*(1-Tax rate) (Yearly) / Average Total Equity attributable to owner of the Company in quarter this year and the year before



▪ Return on Assets (%)	=	Profit attributable to owners of the Company (Yearly) / Average Total Asset in quarter this year and the year before
▪ Return on Assets (Excl. Inventory) (%)	=	Profit attributable to owners of the Company (Yearly) – (Inventory Gain(Loss)*(1-Tax rate)) (Yearly) / Average Total Asset in quarter this year and the year before
▪ Current Ratio (times)	=	Current Asset / Current Liabilities
▪ Quick Ratio (times)	=	(Current Asset – Inventory) / Current Liabilities
▪ DSCR	=	(EBITDA – Inventory Gain/Loss) / (Paid for long- term debt + Financial cost)
▪ Interest Bearing Debt to Equity (times)	=	(Current portion of short-term and long-term loans from financial institutions + Debentures) / Total equity attributable to owners of the Company
▪ Net Interest bearing debt to Equity	=	(Current portion of short-term and long-term loans from financial institutions + Debentures – Cash and cash equivalents – Current investments) / Total equity attributable to owners of the Company



6. Environment Management Accounting (EMA)

Having the environmental concerns and social responsibilities, the Company has prepared the environmental management accounting report since 2005. The environmental cost accounting helps the Company to keep track with the information which is useful for enhancing the environmental management effectiveness, and resource utilization. The Environmental Cost Accounting report covers refinery business unit, Bangchak and Bang Pa-in Oil distribution Centre.

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	Q3/56	Q3/55	Δ%
Material Costs of Product Outputs : Consist of crude oil, ethanol, bio-diesel, chemical, energy and utilities in production	34,899	14,286	144%
Material Costs of Non-Product Outputs : Consist of slop and sludge oil, waste water, chemical surplus	42	130	-68%
Waste and Emission Control Costs : Consist of maintenance cost of environmental control equipment and depreciation and other fees	49	45	9%
Prevention and Other Environmental Management Costs : Consist of monitoring and measurement cost, environmental management system expenses	3	2	63%
Benefit from by-product and waste recycling : The revenue realization from liquid sulfur, glycerin, waste paper	-2	-5	63%
Total Expenses	34,991	14,458	142%

Environmental cost in the third quarter of 2013, in total, were Baht 20,534 million (+142%). 99% of the cost were Material Costs of Product Outputs; such cost increased Baht 20,614 million (+144%) from the higher average crude run in the quarter (100.60 KBD) when compared to the 38.68 KBD in the Q3/2012(the lower crude run level was from the incident at CDU 3). Consequently, the Material costs of non-product outputs were decreased especially the slop and sludge oil cost of Baht 88 million (-68%). While Waste and Emission Control Costs were increased Baht 4 million (+9%), mainly were the depreciation cost of environmental control equipment. Prevention and Other Environmental Management Costs increased Baht 1 million (+63%) from the monitoring and measurement costs. In Q3/2013, the revenue realization from liquid sulfur, glycerin, waste paper increased Baht 3 million (+63%)