

Bangchak Corporation Public Company Limited

Management Discussion and Analysis of Business Operation

For the third quarter
ended 30th September, 2017



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Executive Summary

Summary of the Company and its subsidiaries' operating result for the 3rd quarter ended 30th September 2017

EBITDA Structure of the Company and its subsidiaries								
	Q3/2016	Q2/2017	Q3/2017	YoY	QoQ	9M2016	9M2017	YoY
Total Revenue	36,686	42,828	39,009	6%	-9%	104,225	125,832	21%
Accounting EBITDA	2,798	2,514	3,580	28%	42%	8,302	10,169	22%
<i>EBITDA Refinery Business^{1/}</i>	1,503	916	2,198	46%	140%	3,389	5,340	58%
<i>EBITDA Marketing Business^{2/}</i>	607	669	474	-22%	-29%	2,531	1,999	-21%
<i>EBITDA Power Plant Business^{3/}</i>	612	789	781	28%	-1%	1,991	2,276	14%
<i>EBITDA Bio-Based Product Business^{4/}</i>	(65)	59	159	347%	169%	195	397	104%
<i>EBITDA Exploration & Production Business^{5/}</i>	171	93	44	-74%	-53%	252	270	7%
<i>EBITDA Others^{6/}</i>	(31)	(12)	(76)	-145%	-551%	(56)	(112)	-102%
Profit attributable to owners of the Company	1,174	993	1,316	12%	33%	3,855	4,393	14%
Basic earnings per share (Baht)	0.85	0.72	0.96			2.80	3.19	

Note: 1/ EBITDA from Refinery Business of the Company, BCP Trading Pte. Ltd. and Bongkot Marine Services Co., Ltd.

2/ EBITDA from Marketing Business of The Company, Bangchak Greenet Co.,Ltd., and Bangchak Retail Co., Ltd.

3/ EBITDA from Power Plant Business of BCPG Plc. and its subsidiaries

4/ EBITDA from Bangchak Biofuel Co., Ltd., Bangchak Bioethanol (Chachoengsao) Co., Ltd., Ubon Bio Ethanol Co, Ltd., and BBP Holding Co., Ltd.

5/ EBITDA from Nido Petroleum Limited

6/ EBITDA from BCP Energy International Pte, Ltd., BCP Innovation Pte. Ltd., and others

The operating result of the first nine months of 2017, Bangchak Corporation Public Company Limited (the company) and its subsidiaries recorded revenue from sales of goods and rendering of services of THB 125,832 million (+21% YoY), with Net Profit of THB 4,838 million which was **net profit attributable to owners of the parent of THB 4,393 million** (+14% YoY), or **earning per shares of 3.19 THB**.

For Q3/2017, the company and its subsidiaries recorded revenue from sales of goods and rendering of services of THB 39,009 million (+6% YoY, -9% QoQ), with Net Profit of THB 1,495 million which was **net profit attributable to owners of the parent of THB 1,316 million** (+12% YoY, +33% QoQ, or **earning per shares of 0.96 THB**.

The company and its subsidiaries recorded **total EBITDA of THB 3,580 million** (+28% YoY, +42% QoQ), performance improved, especially for the Refinery Business, of which average crude run remains high, and gross refinery margin improved from the increase of crack spread for all products, along with a record of inventory gain from rising average crude oil price during the quarter. Marketing Business was in the low season; the monsoon season, resulting in lowered sales volume and marketing margin. However there were market share gains for the service station channel and the company was able to consistently retain its second place in the market. The Power Plant Business realized additional share of profit from its investment in geothermal power plant in Indonesia. As for the Biofuel Business, performance improved from both the Biodiesel Business and the Fuel Ethanol Business. However, the Biodiesel Business was still suffered from inventory loss from the declining of the crude palm oil price. The Exploration and Production Business recorded impairment losses of the exploration and evaluation expenditure from the cease

development of an oil field by an amount of THB 1,368.27 million. During this quarter the company and its subsidiaries recorded an inventory gain of THB 415 million. Furthermore, the company received corporate income tax returns in the amount of THB 671 million from 2009 and 2010.

Other Important Events in Q3/2017

- The company paid 2017 interim dividend by the amount of THB 1.05 per share, a total of THB 1,445.48 million.
- BCP Innovation Pte., Ltd. "BCPI", a subsidiary of the company, purchased additional shares to further invest in Lithium Americas Corp. "LAC" in the amount of 50 million shares, valued at 0.85 CAD per share, a total of CAD 42.50 million or approximately THB 1,099.22 million. Therefore, BCPI currently holds 16.1% of total LAC shares, and as of the end of Q3/2017 market value of LAC shares increased, resulting in a profit from the mark to market value increment of asset available for sale of THB 1,632 million, which was recorded in other comprehensive income statement.
- BCPG Plc. acquired shares of Star Energy Holdings Pte. Ltd., for the purpose of investing in geothermal power plant projects in Indonesia in the amount of USD 355.69 million, or approximately THB 11,956.43 million and had successfully received the transfer of Star Energy Holdings Pte. Ltd shares.
- The amalgamation between BBP Holdings Co., Ltd. (the company's subsidiary) and KSL GI Plc. (a subsidiary of Khon Kaen Sugar Industry Plc.) was completed on the 31st of October, 2017; the company holds 60% of share in BBGI Co., Ltd.; the amalgamated company.



Refinery Business

Refinery Business average crude run was 110.03 KBD (-5% YoY, -3% QoQ). During this quarter there was a malfunction with the Hydrocracking Unit, causing it to run sub-optimally. Gross refinery margin was 6.66 USD/BBL (+1.04 USD/BBL YoY, +0.28 USD/BBL QoQ), GRM was higher from the increase in crack spread of most finished oil products, while Dated Brent and Dubai crude spread (DTD/DB) was as well widened, affecting crude cost to adjust upwards. From the rise in average crude oil price during this quarter there was an inventory gain of THB 450 million, and a gain from oil hedging contracts, leading to a recorded EBITDA of THB 2,198 million (+46% YoY, +140% QoQ).

Marketing Business

Marketing Business sales volume was 1,417 million liters (+3% YoY, -6% QoQ), majority of the decrease in sales volume can be attributed to industrial market sales which was at low season, and the start of monsoon season led to flooding in various areas. Also, there was an intense competition in the industrial market. While sales volume of the retail market was slightly lower, consequently due to the seasonal factor which had lower tourist travel.

Total marketing margin, was at 0.73 THB/Litre (-9% YoY, -11% QoQ), the lower retail margin was due to the constantly increasing crude price throughout the quarter, affecting the product cost. While retail price adjusted upward at a relatively slower pace. The industrial margin declined during the low season with high competition. As such EBITDA was recorded at THB 474 million (-22% YoY, -29% QoQ).

Power Plant Business

Power Plant Business is currently under the control of BCPG Plc., a subsidiary of the company, recorded a revenue of THB 854 million (+9% YoY, -4% QoQ), and total electricity sales of 78.16 Million kWh. Currently, total PPA of the operating power plant is 160 MW. The amount of electricity sold in this quarter increased from the previous year from the commercial operation of various solar power plants both in Thailand and Japan, but decreased from the entering of rainy season which lowered the average irradiation hours. The wind power plant business in the Philippines recorded a share of loss of THB 4 million as it was the low season. Moreover, BCPG Plc. had paid for the share acquisition in the amount of USD 355.69 million (or approximately THB 11,956.43 million), and had successfully received the shares of Star Energy Group Holdings Pte. Ltd. As a result, there was a share of profit from the investment in geothermal power plant in Indonesia.

Furthermore, the Power Plant business recorded a slight increase in Selling, General and Administrative expense from the same period of the previous year, mainly attributed to financial advisory fees regarding funding activities. However, Selling, General and Administrative expense decreased from the previous quarter. The business also recorded a loss from Foreign Exchange Forward Contract in the amount of THB 255 million from the continuous appreciation of THB. Thus, EBITDA recorded was THB 781 million (+28% YoY, -1% QoQ).



Bio-based Product Business

Bio-based Product Business had a revenue of THB 1,932 million (+24% YoY, +3% QoQ), attributed to the Biodiesel Business of THB 1,653 million and the Ethanol Fuel Business of THB 279 million. **Biodiesel Business's** (Bangchak Biofuel Co., Ltd.) revenue slightly decreased due to average selling price of B100 product adjusting downward 11% while sales volume of B100 products increased by 3%, due to the adjustments of B100 mixing portion with Diesel fuel from 5% to 7% from the 8th of May, 2017 onward, thus the portion was 7% throughout this entire quarter, while the previous quarter had portion of 7% for 55 days. Q3/2017 average production rate was increased to 689 thousand litres per day or 85% utilization rate, and Inventory Loss was recorded at THB 54 million. Measures were taken to reduce Selling, General and Administrative expense from the previous quarter, leading to a recorded EBITDA of THB 68 million (+212% YoY, +713% QoQ).

As for the **Ethanol Fuel Business**, the Bangchak Bioethanol (Chachoengsao) Co., Ltd. recorded revenue increment (+31% QoQ) from sales volume which expanded to 11.1 million liters (+30% QoQ), increasing its average production rate to 129 thousand litres per day or 86% utilization rate. While material cost lowered, coinciding with cassava price direction; the main ingredient, from the constant rain. As a result, Ethanol Fuel Business EBITDA was recorded at THB 74 million (+81% QoQ).

Exploration and Production Business

The Exploration and Production Business has sales revenue of THB 336 million (-48% YoY, -13% QoQ), total sales volume of 203,807 barrels (+3% YoY, -2% QoQ), the average selling price in this quarter decreased when compared to the previous quarter, following the decline of global crude oil price. The Galoc Oil Field recorded an average production rate of 3,858 barrels per day (2,156 barrels net to Nido), which decreased according to the Natural-Divide Production Curve. Nido Petroleum Limited's Selling, General and Administrative expense increased. As a result, the Exploration and Production Business recorded EBITDA of THB 44 million (-74% YoY, -53% QoQ).

In Q3/2017 the board of directors of Nido Petroleum Limited approved the cease development of the Mid-Galoc oil field, which was deemed unsuitable for further commercial development, led to a realization of impairment loss of the exploration and evaluation expenditure in the amount of USD 39.99 million or approximately THB 1,368.27 million.

Statement of Income

Consolidated Statement of Income	Q3/2016 (Restated)	Q2/2017	Q3/2017	YoY	QoQ	9M2016	9M2017	YoY
Revenue from sale of goods and rendering of services	36,686	42,828	39,009	6%	-9%	104,225	125,832	21%
Cost of sale of goods and rendering of services	(33,780)	(40,465)	(35,450)	5%	-12%	(96,105)	(115,884)	21%
Gross Profit	2,906	2,363	3,559	22%	51%	8,120	9,948	23%
Interest income and dividend income	51	44	45	-12%	2%	137	144	5%
Other income	62	236	238	283%	1%	213	644	202%
Selling and administrative expenses	(1,473)	(1,648)	(1,785)	21%	8%	(4,118)	(4,874)	18%
Gain (loss) from crude and product oil price hedging contract	11	233	86	681%	-63%	174	320	84%
Gain (loss) from foreign currency forward contracts	13	(19)	(259)	N/A	N/A	71	-242	-440%
Gain (loss) on foreign exchange	156	92	299	92%	225%	490	663	35%
Reversal of allowance for gain/(loss) from impairment of assets	3	19	(1,358)	N/A	N/A	5	(1,441)	N/A
Share of profit (loss) of associate	(1)	54	420	N/A	678%	5	492	N/A
Gain (loss) from purchase price negotiation	-	-	-	N/A	N/A	227	-	N/A
Profit before finance costs and income tax expense	1,728	1,375	1,244	-28%	-9%	5,324	5,654	6%
Finance costs	(369)	(339)	(379)	3%	12%	(1,069)	(1,073)	0%
Profit/(loss) before income tax expense	1,359	1,036	865	-36%	-17%	4,256	4,581	8%
Income tax (expense) credit	(232)	109	630	-371%	-477%	(522)	257	-149%
Profit for the period	1,127	1,145	1,495	33%	31%	3,734	4,838	30%
Owners of the Company	1,174	993	1,316	12%	33%	3,855	4,393	14%
Non-controlling interests	(47)	153	179	483%	17%	(121)	446	468%
Earnings per share (Baht per Share)	0.85	0.72	0.96			2.80	3.19	

Q3/2017 performance by the company and its subsidiaries recorded a Net Profit attributed to owners of the company of THB 1,316 million, an increase of THB 142 million (+12% YoY) and an increase of THB 323 million (+33% QoQ) mainly due to the following reasons:

1. Total revenue from sales of goods and rendering of services was THB 39,009 million, increased by 6% YoY, mainly from finished product price increase that coincide with the rise of global crude oil price, while the company's total sales volume was slightly lower. When compared to Q2/2017, revenue decreased by 9% QoQ, mainly attributed to the company's sluggish total sales volume during the low season, without much change to the selling price.
2. Gross Profit was recorded at THB 3,559 million, increased by 22% YoY and 51% QoQ, mainly attributed to the refinery business of which GRM increased to 8.18 \$/BBL (Q3/2016: 5.97 \$/BBL, Q2/2017: 4.18 \$/BBL). The

refinery business recorded an Inventory Gain of THB 450 million. However, its subsidiaries suffered Inventory Loss, thus the Inventory Gain for this quarter totaled at THB 415 million (Inventory Loss Q3/2016: THB 35 million, Q2/2017: THB 1,096 million).

3. Other Revenue of THB 238 million, an increase of 283% YoY and 1% QoQ, mostly attributed to a compensation received from construction project delay in the amount of THB 141 million. Other revenue marginally increased from the previous quarter, as in Q2/2017 there was a gain from the reversal of provisions from SunEdison acquisition in Japan of THB 140 million.
4. Selling and administrative expenses was recorded at THB 1,785 million, an increase of 21% YoY, and 8% QoQ. The increase was mainly from 1.) Personnel expenses for the company's group 2.) Expansion of Non-Oil business of Bangchak Retail Co, Ltd. 3.) Advisory fee regarding acquisition of investment in subsidiaries 4.) Increase in depreciation from higher investment in asset from every business group.
5. Losses from Foreign Exchange Forward Contract recorded THB 259 million, most of the loss was THB 255 million from the Foreign Exchange Forward Contract made by BCPG, to hedge against volatile exchange rate, for its investment in the wind power plant in the Philippines, and the geothermal power plant in Indonesia. However, due to the appreciating THB, the company suffered a loss from the Foreign Exchange Forwards Contract.
6. Gains from foreign exchange was recorded at THB 299 million, due to the appreciating THB, mainly from the different in exchange rate of BCP group's trade account payables and USD loan.
7. Loss from asset impairment in the amount of THB 1,358 million, mainly from the impairment of the entire exploration and evaluation expenditure of Nido Petroleum Limited of USD 39.99 million (or approximately THB 1,368.27 million), from the cease development in Mid-Galoc oil field, which was deemed unsuitable for further commercial development.
8. Share of profit from associate company recorded THB 420 million, an increase of THB 421 million YoY and THB 366 million QoQ, mainly from BCPG's investment in Star Energy Group Holding Pte. Ltd. operating geothermal energy business in Indonesia.
9. Tax expense was credited due to the company receiving income tax return from 2009 and 2010 in the amount of THB 671 million.



Summary of the Company and its subsidiaries' performance by Business unit

1) Refinery Business

Crude Oil Price Situation

(Unit : USD/BBL)

Crude Oil Price	Q3/2016	Q2/2017	Q3/2017			YoY	QoQ	9M2016		
	AVG	AVG	MAX	MIN	AVG	%	%	9M2016	9M2017	YoY %
Dubai (DB)	43.19	49.68	56.09	45.27	50.43	17%	2%	39.11	51.06	31%
Dated Brent (DTD)	45.86	49.64	59.27	46.53	52.08	14%	5%	41.88	51.84	24%
DTD/DB	2.67	-0.04	4.46	-0.69	1.65	-38%	N/A	2.76	0.77	-72%

Crude Oil Price Situation

Average Dubai crude oil price in Q3/2017 when compared to Q3/2016 adjusted upward by 7.25 \$/BBL in regards to policy change made by OPEC members, from increasing market shares, to a joint decision with non-member countries to reduce crude production, reducing global crude inventory level.

Compare to the previous quarter, average Dubai crude price in Q3/2017 increased by 0.75 \$/BBL from the increase in oil demand around the world throughout the summer. While refineries maintains high utilization rate between July to August; U.S. refineries utilization rate was historic high, leading to lower U.S. crude stockpiles during the period. Market supply was further clamped down from Saudi Arabia lowering their crude export in the quarter due to increasing demand in the nation during the summer. As well as, Libya and Nigeria, both members of OPEC which did not participate in the supply reduction had to stop fuel pipeline transfers, leading to lower production and export of crude oil; alleviating market pressure from excess supplies. Also, active oil rig counts in the U.S. decreased gradually throughout the quarter, after a rapid increase from the middle of Q2/2016. Also, In September, crude prices continued to adjust upward with respect to crude production in Gulf of Mexico affected by Hurricane Harvey, estimates made by the International Energy Agency (IEA) made regarding shrinkages of excess supplies of fuel, and the meetings between OPEC countries sees a possibility of an extension of the oil production reduction policy that originally was due to end in March 2018, along with the supply concerns that arose with Kurdistan's referendum to separate from Iraq which, led to Turkey threatening to shut off Kurdistan's export pipeline that goes through Iraq to Turkish ports.

The spread between the Dated Brent and Dubai crude oil price when compared to Q3/2017 decreased by 1.03 \$/BBL, a result of pressure from limiting quota and export of Heavy Sour Crude by the OPEC group following their production reduction policy.

Compared to the previous quarter, the average spread between Dated Brent and Dubai crude oil price on increased by 1.69 \$/BBL. The widening spread was due to supply shortages from fuel pipeline shut down in Libya and Nigeria, both producers of Light Sweet Crude lowering the production and export. While Shale Oil export from the U.S. declined in September due to Hurricane Harvey which resulted in various ports ceasing operation.



Crack Spreads Situation

(Unit : USD/BBL)

Crack Spreads	Q3/2016	Q2/2017	Q3/2017			YoY	QoQ	9M2016		9M2017	YoY
	AVG	AVG	MAX	MIN	AVG	%	%				%
UNL95/DB	11.59	14.17	20.53	12.65	16.10	39%	14%	14.91	15.00	1%	
IK/DB	11.11	10.78	15.19	11.32	13.13	18%	22%	11.32	11.74	4%	
GO/DB	10.93	11.34	16.18	12.37	13.83	27%	22%	10.38	12.34	19%	
FO/DB	-4.27	-1.78	0.40	-2.96	-1.35	68%	24%	-6.11	-2.10	66%	

Crack Spreads Analysis

- The Mogas/Dubai crack spread (UNL95/DB) in Q3/2017 was on average 16.10 \$/BBL, when compared to Q3/2016 the spread increased by 4.51 \$/BBL, with respect to lower Mogas export from China, after Chinese government lowered the export quota for state refineries and revoking private refineries export quota. Also Chinese refineries adjusted their output downward due excess supply in their domestic market and some refineries ceased operation during the government's environmental standard assessment.

When compared to Q2/2017, Mogas/Dubai crack spread (UNL95/DB) increased by 1.93 \$/BBL with respect to Mogas demand increment during summer in the U.S. and Asia, especially India, which had automobile sales increase from the expansion of their middle class income population. Supplies, however were stagnant due to various refineries production shutdown, especially major refineries in the Netherlands, China, South Korea, and Australia; leading to tighter supply. Combined with many U.S. refineries around the Gulf of Mexico shutting down due to Hurricane Harvey in September.

- Jet (Kerosene)/Dubai crack spread (IK/DB) in Q3/2017 was on average 13.13 \$/BBL, an increase of 2.01 \$/BBL, when compared to Q3/2016, a result of tightening supplies due to emergency shutdown of various refineries in the U.S., Europe, and Asia. The Chinese government also decreased refineries' export quota for jet fuel when compared to the preceding year.

When compared to Q2/2017, Jet (Kerosene)/Dubai crack spread (IK/DB) increased by 2.35 \$/BBL, due to the strengthening demand in Asia, especially China. Travel demands increased in Europe for the summer travelling season. Another contributing factor is the emergency shutdown of the Dutch refinery; which allowed more Asian export of Jet fuel to enter Europe.

- Gasoil/Dubai crack spread (GO/DB) crack spread averaged at 13.83 \$/BBL compared to Q3/2016, the spread increased by 2.91 \$/BBL with respect to demand recovery from the Asian countries, especially China, after its demand shrunk in 2016 from the limitation of excess production in the industrial sector and real estate bubble; demand for diesel expanded in the mining sector and transportation sector. While, in India demand increased from investments in infrastructure projects. Aside from this, refineries adjusted their product yield, lowering Diesel production and increasing Mogas production instead.

When compared to Q2/2017 Gasoil/Dubai crack spread (GO/DB) crack spread increased by 2.49 \$/BBL a result of the import demands from India during its refinery's maintenance period to bring their production up to new



regulation standards enforced since the previous April. Supply side saw various refineries in Europe, Asia, and the U.S. going through emergency shutdowns, tightening supplies.

- Fuel oil / Dubai crack spread (FO/DB) Q3/2017 was on average -1.35 \$/BBL, an increased of 2.92 \$/BBL when compared to Q3/2016, resulting from decrease in fuel oil supplies due to OPEC's lowered production and export of Heavy crude oil, after production limitation were put in place since the past January, accompanied by gradual closure of Japanese refineries according to the measure to increase Cracking to CDU capacity ratio which was enforced since the 1st of April, 2017, leading to lowered supplies. Moreover, Russian refineries' upgrading capacity since 2016, led to lowered production and export from Russia.

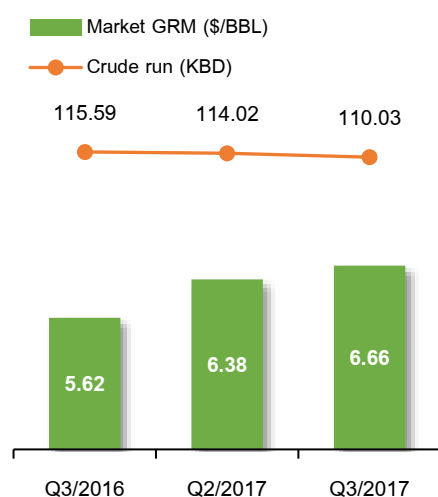
In comparison to Q2/2017 Fuel oil / Dubai crack spread (FO/DB) decreased by 0.43 \$/BBL as a result of tightening supplies due to lowered exports from the Middle East during the summer, which demanded more fuel oil to generate electricity in the region. Other than the previously mentioned, exports from Mexican refinery decreased due to a fire that broke out at a refinery. While the Venezuelan refinery had a low utilization rate due to financial troubles, which resulted in lower fuel oil supplies in the market.

Refinery Business

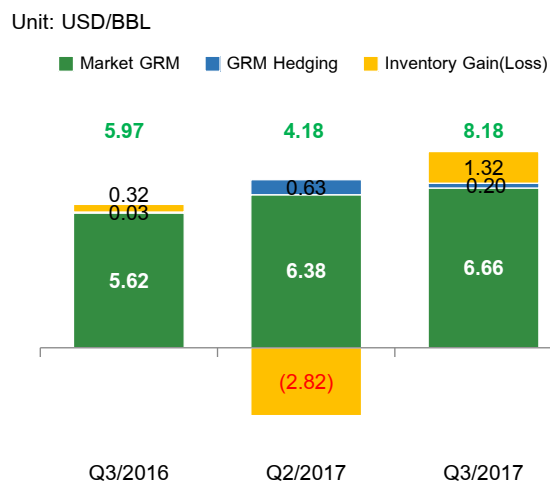
Refinery Business Performance	Q3/2016	Q2/2017	Q3/2017	YoY	QoQ	9M2016	9M2017	YoY
Average Crude Run (KBD)	115.59	114.02	110.03	-5%	-3%	97.22	111.28	14%
Utilization Rate (%)	96%	95%	92%			81%	93%	
Average FX (THB/USD)	35.01	34.47	33.55			35.43	34.44	
(Unit: Million Baht)								
Market GRM	2,092	2,280	2,261	8%	-1%	5,471	7,006	28%
GRM Hedging	11	225	68	522%	-70%	186	303	63%
Inventory Gain/ (Loss) ^{1/}	120	(1,010)	450	276%	145%	(317)	(261)	18%
Total GRM	2,223	1,495	2,779	25%	86%	5,339	7,048	32%
EBITDA	1,503	916	2,198	46%	140%	3,389	5,340	58%

Note: 1/ Inventory Gain/ (Loss) was included a reversal of LCM.

Market GRM and Crude Run



Total GRM



Total Sales Volume in each market category of the Company						(Unit: Million litres)		
Marketing Business	Q3/2016	Q2/2017	Q3/2017	YoY	QoQ	9M2016	9M2017	YoY
Retail	879	952	934	6%	-2%	2,687	2,818	5%
Industrial	503	552	483	-4%	-13%	1,610	1,643	2%
Total	1,382	1,504	1,417	3%	-6%	4,297	4,461	4%
Wholesale Business								
Petroleum traders in accordance with section 7	260	178	170	-35%	-5%	549	533	-3%
Export	259	287	295	14%	3%	687	785	14%
Total	519	465	465	-10%	0%	1236	1318	7%
Total Sales Volume	1,902	1,969	1,883	-1%	-4%	5,533	5,780	4%

Note: Total sales volume figures excluding the swap amount between petroleum traders in accordance with section 7 and the sales volume of crude

Q3/2017 when compared to Q3/2016, Bangchak refinery average crude run was 110.3 KBD or 92% utilization rate, which is still in high range even though there was a malfunction at the Hydrocracking Unit, resulting in the plant not running at full capacity.

The gross refinery margin increased by THB 169 Million (+8%) when compared to the same period of the previous year, a result of an increase in crack spread between various finished products and crude oil, detailed as follow: UNL95/Dubai increased from decreased Chinese Mogas export, Kerosene/Dubai increased from emergency shutdowns of various refineries in the U.S., Europe, and Asia, resulting in tightened supplies. Gasoil/Dubai increased due to Asian diesel demand increasing. Finally for Fuel oil/Dubai crack spread increased as a result of lowered supplies from OPEC countries.

Compared to Q2/2017 the refinery's average crude run marginally decreased, the gross refinery margin decreased by THB 19 Million (-1%) due to decreased crude run from the previous quarter, combined with increase in crude oil cost, as Dated Brent/Dubai spread in the previous quarter was 1.65 \$/BBL while Q2/ 2017 the spread was -0.04 \$/BBL, resulting in a decreased margin per unit of finished product, even with the increase in each product's crack spread. UNL95/Dubai crack spread increased from a rise in demand for Mogas throughout the summer in the U.S. and Asia. Kerosene/Dubai crack spread increased from demands in Asia, especially from China and Asian countries. Gasoil/Dubai crack spread increased from rising import demands from India. Finally, Fuel oil/Dubai increased crack spread was due to tightening supplies from export decreased from the Middle East during the summer.

Average crude oil price in Q3/2017 increased from Q2/2017, thus the refinery business recorded an Inventory Gain of THB 450 million (including a reversal of allowance for loss on decline in value of inventories (LCM) of THB 7 million). Also the start-up of the 12 MW Co-Gen Power Plant, which is a part of the 3E project, led to the refinery having a more stable electrical system and also a decrease the company's utility cost. Also, there was a gain from crude and finished product hedging contract of THB 68 million, this led to the total gross refinery margin of THB 2,779 million, within this quarter EBITDA contribution from the Trading business was THB 7 million. As a result, the refinery business's EBITDA of THB 2,198 million increased by THB 694 million (46%) YoY and increased by THB 1,282 million (140%) QoQ.



2) Marketing Business

Marketing Business								
Sales Volume (Million Litre)	Q3/2016	Q2/2017	Q3/2017	YoY	QoQ	9M2016	9M2017	YoY
Retail (Service Stations)	879	952	934	6%	-2%	2,687	2,818	5%
Industrial	503	552	483	-4%	-13%	1,610	1,643	2%
Total	1,382	1,504	1,417	3%	-6%	4,297	4,461	4%
Sales volume in each product category (Million Litre)								
LPG	12	15	23	93%	49%	59	52	-12%
Gasoline	11	15	7	-30%	-51%	30	35	14%
Gasohol	423	420	427	1%	2%	1,234	1,247	1%
Jet Fuel	187	188	200	7%	6%	597	632	6%
Diesel	694	819	714	3%	-13%	2,221	2,346	6%
Fuel Oil and Others	56	46	47	-16%	2%	156	151	-3%
Total	1,382	1,504	1,417	3%	-6%	4,297	4,461	4%
Total Marketing Margin (Baht / Litre)	0.80	0.83	0.73	-9%	-11%	0.87	0.80	-8%
EBITDA (Million Baht)	607	669	474	-22%	-29%	2,531	1,999	-21%

Note: Marketing Margin figure was the attributable to the Company only.

Q3/2017 performance when compared to Q3/2016 marketing business recorded an increase in total sales volume by 35 million liters (+3%), mainly attributed to the retail market with expansion of service stations and non-oil businesses, together with constant refurbishment of service stations. While the industrial sales volume decreased, as a result of the optimization of sales volume to coincide with production volume from the refinery. Moreover, in Q3/2017, there was a higher finished oil product supply when compared to the same period of last year, as in Q3/2016 there were several turnaround annual maintenance of some domestic refinery, leading to supply tight situation and thus higher sales volume from the company in the period.

Retail sales volume (service station) increased 55 million liters (+6%) from BCP's policy to focus on selling through service stations, most of the increased sales volume can be attributed to diesel fuel, including the Hi Premium Diesel S product, which was debuted in the previous quarter. The number of service stations as of the end of the quarter was 1,093 stations, with 16 new locations; mostly large size stations with modernized aesthetic, and equipped with non-oil businesses to increase sales per station. As such, the company was able to maintain its position as the 2nd in the market; with cumulative market share in 2017 (Jan - Aug) at 15.3%, from 15% in the same period of the previous year. As for the industrial market, sales volume decreased by 20 million liters (-4%), as oil product demand reduced from the effect of flooding in several areas in the country, while supply remained at a high level, intensified the market competition.

When compared to Q2/2017, total sales volume decreased 87 million liters (-6%) primarily from the industrial sales volume of 69 million liters (-13%), as the quarter was the low season, and is also the rainy season which caused floods in various provinces. Further, there was an intensified competition. As for retail sales (service stations), the contraction was marginal due to the season which lowered tourism travel.

Total marketing margin was recorded at 0.73 Baht per liter, 9% lower YoY and 11% lower QoQ, decreased in both retail and industrial market. Retail marketing margin decreased due to the rise in crude price throughout the quarter,



which affected the cost of every product, while retail price was moving sluggishly in comparison. Marketing margin for the industrial market lowered due to high competition during low season.

The company has a strategy to pursue more Non-oil business endeavors in order to offer modern consumers more convenience when using service stations; the company has done so with the expansion of Inthanin coffee shops, mini marts, etc.; under the Bangchak Retail Limited. As of the end of Q3/2017 there were 421 Inthanin coffee shops and 25 SPAR mini marts, with goals to continually expand branches. From the mentioned factors the marketing business recorded EBITDA THB 474 million, THB 133 million lower (-22%) YoY from lower marketing margin, and THB 195 million lower (-29%) QoQ from the lowered sales and marketing margin.

3) Green Power Business

Power Plant Business Performance	Q3/2016	Q2/2017	Q3/2017	YoY	QoQ	9M2016	9M2017	YoY
Revenue (Million Baht)	785	890	854	9%	-4%	2,327	2,542	9%
Electricity Sales (Million kWh)								
Solar Power Business – Thailand								
Phase 1-3 (130 MW)	61.01	62.67	60.69	-1%	-3%	191.38	186.70	-2%
Cooperative Solar Project (12 MW)	N/A	5.40	4.69	N/A	-13%	N/A	12.75	N/A
Solar Power Business – Japan (30 MW)	8.07	14.41	12.78	58%	-11%	14.60	33.77	131%
Total Electricity Sales	69.07	82.48	78.16	13%	-5%	205.97	233.22	13%
EBITDA	612	789	781	28%	-1%	1,991	2,276	14%

Business performance comparison between Q3/2017 and Q3/2016 the power plant business recorded an increase in revenue by THB 69 million (+9%), due to the operation commencement of various Solar Power projects in Thailand and Japan. Currently, total PPA of the operating power plant is 160 MW. In Thailand, electricity sales increased 4.4 Million kWh (+7%) from the commencement of the Solar Co-op project (PPA 12 MW) in its entirety in March 2017, which increased the PPA of the operating projects in Thailand to 130 MW from 118 MW. However, electricity sold from project phase 1 to 3 in this quarter was declined by 0.3 Million kWh, while irradiation hours for phase 1 to 3 in Thailand during this quarter stayed at the similar level from the same period of the previous year.

The solar power plant business in Japan recorded an increase of electricity sales by 4.7 Million kWh (+58%) from the operation commencement of the Nagi project with PPA 10.5 MW in March. Therefore, the PPA of the operating projects in Japan increased to 30 MW from the previous 20 MW. However, the average irradiation hours in Japan was lowered from the previous year, with reports coming from the Japan Meteorological Agency reporting lower sunshine duration compared to the same period of the previous year.

Q3/2017 performance compared to Q2/2017, the power plant business revenue lowered by THB 36 million (-4%), due to the decreased electricity sales of both Thai and Japanese projects; the Thai project electricity sales lowered by 2.7 Million kWh (-4%) due to the average irradiation hours decreasing for all projects when entering the rainy season, together with typhoons and tropical cyclones moving closer to Thailand leading to more rainfall than the previous quarter.

The solar power plant business in Japan recorded a decline in electricity sales by 1.6 Million kWh (-11%) from decreased average irradiation hours especially for Tarumizu, Nikaho, and Nagi projects, which have higher PPA than other projects, from the immense rainfall in the season this quarter.

As for the wind power plant business in the Phillipines, in Q3/2017 was the low season which the wind speed for the area where the project is situated was lower than any other time of the year. As a result, BCPG Plc. recorded a share of loss from PetroWind Energy Inc. of THB 4 million

Furthermore, in July 2017 BCPG Plc. has successfully acquired 280,000 shares, or one third (33.3%) of the ordinary shares of Star Energy Group Holdings Pte. Ltd. (SEGHPL) from Star Energy Investments Ltd. (SEIL). SEGHPL conducts geothermal power plant in Indonesia which has an installed capacity, net to BCPG Plc., of 181.5 MW. As such, BCPG Plc. has recorded a share of profit from the geothermal power plant business in this quarter.

In Q3/2017 the Power plant business' selling, general and administrative expenses slightly increased from the same period of the previous year due to financial advisory fees regarding funding activities. However, selling, general and administrative expenses decrease from the previous quarter. Furthermore, there was a loss from foreign exchange forward contract in the amount of THB 255 million, mainly due to the continuous THB appreciation. While in the previous quarter, there was a gain from the reversal of provisions from solar power plant acquisition in Japan of THB 140 million. From the mentioned factors, the Power plant business recorded an increase EBITDA of THB 169 million compared to the same period of the previous year (+28%) but a decrease of THB 7 million compared to the previous quarter (-1%).

4) Bio-Based Products Business

The biofuel business in Q3/2017 recorded EBITDA of THB 159 million, which can be attributed to the EBITDA of Bangchak Bioethanol (Chachoengsao) Co., Ltd. THB 74 million, EBITDA of Bangchak Biofuel Co., Ltd. THB 68 million, and profit share from Ubon Bio Ethanol Co., Ltd. THB 17 million.

Biodiesel business performance by Bangchak Biofuel. Co., Ltd

Biodiesel Business Performance								
	Q3/2016	Q2/2017	Q3/2017	YoY	QoQ	9M2016	9M2017	YoY
Revenue (Million Baht)	1,553	1,662	1,653	6%	-1%	5,641	4,954	-12%
Utilization Rate (%)	56%	83%	85%			90%	79%	
Average Daily Production Rate (Thousands of litres per day)	452	669	689	52%	3%	408	644	58%
B100 Sales Volume (Million litre)	44	61	63	43%	3%	176	177	1%
EBITDA (Million Baht)	(60)	8	68	212%	713%	192	178	-8%
Average Sales Price (Source: Department of Energy Business, Ministry of Energy)								
B100 (Baht / Litre)	37.62	29.80	26.39	-30%	-11%	35.62	30.13	-15%
Crude Palm Oil (CPO) (Baht / Kg.)	33.96	25.72	22.40	-34%	-13%	32.46	26.27	-19%

When comparing performance between Q3/2017 and Q3/2016, the Biodiesel business recorded an increase in sales revenue by THB 100 million (+6%), mainly from B100 product sales volume which increased by 43%. In Q3/2017, the government mandated B100 portion to be mixed with Diesel products remains a steady 7% through the quarter, while in Q3/2016 the portion was 3-5%. Furthermore, B100 purchase order from BCP, the major customer increased from the rise in its Diesel fuel sales from the same period of the previous year. In regard to the expansion of sales volume, the Biodiesel business average daily production rate increased to 689 thousand litres per day (+52%) or 85% utilization rate. As for average B100 price in this quarter declined, which coincides with crude palm oil prices, due to market supply surplus of oil palm, along with excess crude palm oil stock domestically.

When compared to Q2/2017, the Biodiesel business sales revenue marginally decreased (-1%) mainly due to the average selling price of B100 product which decreased by 11%, while B100 product sales volume increased by 3%, stabilizing sales revenue to stay at a similar level. The increased sales volume came from the portion of B100 mixing with Diesel products that changed from 5% to 7% on May 8th, 2017, thus leading to this entire quarter having the B100 mixing portion of 7%, while the previous quarter the portion was 7% for 55 days.

In Q3/2017, the Biodiesel business gross profit increased from both the same period of the previous year and the previous quarter, as the gross profit for Glycerin products increased with significance, although gross profit per unit of B100 product decreased. Another source for increased gross profit was from the price of crude palm oil adjusting downward at a slower rate than the same period of the previous year and the previous quarter, along with the better inventory management, led to lower inventory loss. As a result, Q3/2017 recorded inventory loss of THB 54 million (including a reversal of allowance for loss on decline in value of inventories (LCM) of Baht 25 million). While Q3/2016 and Q2/2017 recorded an inventory loss of THB 153 million and THB 80 million, respectively. The Biodiesel business was also able to reduce selling, general and administrative expenses from the previous quarter. From the mentioned

factors, in Q3/2017 the Biofuel business recorded EBITDA of THB 68 million, increased by THB 128 million YoY, and increased THB 59 million QoQ.

Ethanol Fuel business performance by Bangchak Bioethanol (Chachoengsao) Co., Ltd.

Ethanol Fuel business performance by Bangchak Bioethanol (Chachoengsao) Co., Ltd.								
Ethanol Fuel business performance	Q3/2016	Q2/2017	Q3/2017	YoY	QoQ	9M2016	9M2017	YoY
Revenue (Million Baht)	0	213	279	N/A	31%	0%	754	N/A
Utilization Rate (%)	N/A	61%	86%			N/A	77%	
Average Daily Production Rate (Thousands of litres per day)	N/A	91	129	N/A	41%	N/A	116	N/A
Ethanol Sales Volume (Million litre)	N/A	8.6	11.1	N/A	30%	N/A	30.4	N/A
EBITDA (Million Baht)	(3)	41	74	N/A	81%	(3)	174	N/A

Average Sales Price (Source: Department of Energy Business, Ministry of Energy)								
Ethanol (Baht / Litre)	Q3/2016	Q2/2017	Q3/2017	YoY	QoQ	9M2016	9M2017	YoY
Ethanol (Baht / Litre)	23.14	25.06	25.13	9%	0%	N/A	24.78	N/A

Q3/2017 performance compared to Q2/2017, the Ethanol Fuel business by Bangchak Bioethanol (Chachoengsao) Co., Ltd. sales revenue increased by THB 66 million (+31%) from the increase in sales volume of 3 million liters (+30%) with average production increased to 129 thousand litres per day, or 86% utilization rate, after a planned turnaround annual maintenance made in Q2/2017.

In Q3/2017, the Ethanol Fuel businesses' gross profit margin increased from the previous quarter, partially due to an increase in sales volume, and partially from an increase in the gross margin per unit of ethanol fuel product; as its price adjusted upwards by 0.3% in this quarter, while average raw material cost adjusted downwards with respect to cassava price, the main raw material, as a result of the constant rain leading to lower starch yielded from the collected cassava and hence a declined in price. From aforementioned, the Fuel Ethanol business recorded an EBITDA of THB 74 million, an increment of THB 33 million QoQ.

5) Exploration & Production Business

E&P Business Performance	Q3/2016	Q2/2017	Q3/2017	YoY	QoQ	9M2016	9M2017	YoY
Production Volume ^{1/} (barrels per day net to Nido)	2,838	2,279	2,156	-24%	-5%	2,937	2,294	-22%
Sales Volume (barrels net to Nido)	198,593	207,337	203,807	3%	-2%	793,386	614,508	-23%
Revenue (Million Baht)	644	387	336	-48%	-13%	1,176	1,122	-5%
EBITDA (Million Baht)	171	93	44	-74%	-53%	252	270	7%

Note: 1/ production volume of Galoc oil field only

In Q3/2017, the Galoc oil field production had an Uptime of 99.98% and an average production rate of 3,858 barrels per day (2,156 barrels per day net to Nido). The details of crude oil sold in Q3/2017 are as follow:

- Galoc oil field sold 1 cargo in July totaling of 352,828 barrels (197,159 barrels net to Nido).
- Nido & Matinloc oil field had 6,648 barrels net to Nido.

Q3/2017 performance when compared to Q3/2016, the Exploration and Production business sales revenue decreased by THB 336 million, due to the revenue realization from 1 cargo sold, while there was revenue realization from 2 cargos in Q2/2016. Production numbers decreased according to the Natural-Decline Production Curve.

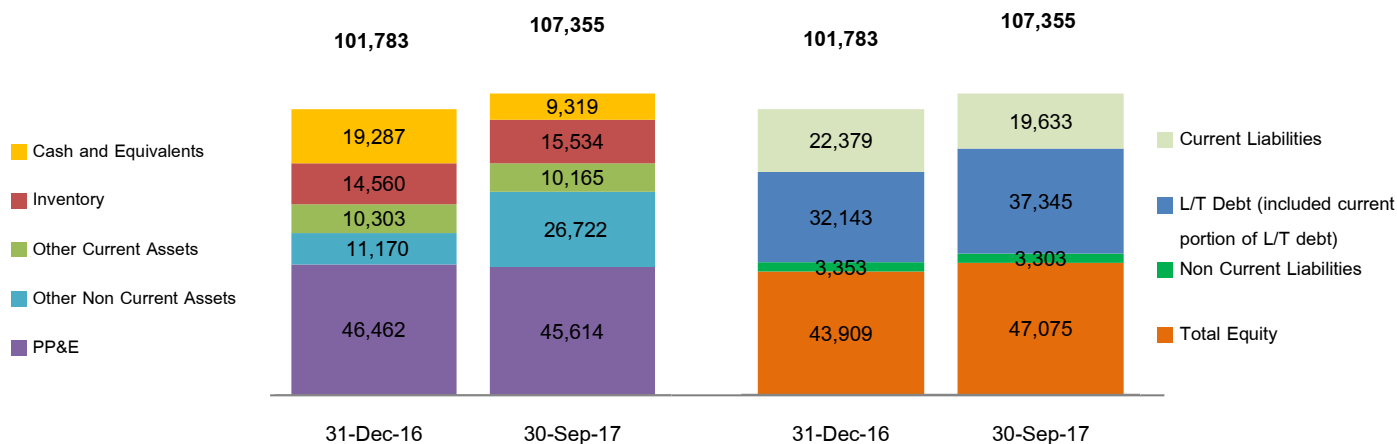
Compared to Q2/2017, the Exploration and Production business sales revenue decreased due to the decline in crude oil price, resulting in the selling price in this quarter adjusted down, while the sales volume decreased marginally.

In this quarter, Nido recorded a higher selling, general and administrative expenses, to which the Exploration and Production business recorded an EBITDA of THB 44 million (-74% YoY, -53% QoQ). Also, the board of directors of Nido Petroleum Limited passed a vote to cease the development of Mid-Galoc site, which was deemed unsuitable for further commercial development, resulting in the record of impairment loss of the entire exploration and evaluation expenditure of USD 39.99 million, or roughly THB 1,367.27 million.

Statement of Financial Position

Financial Position of the Company and its subsidiaries (Consolidated)

unit: THB million



Assets

As of September 30, 2017, Total Assets of the Company and its subsidiaries were THB 107,355 million, an increase of THB 5,572 million when compared to December 31, 2016. The changes in assets are as follow:

- Cash and cash equivalents decreased by THB 9,967 million. Details are stated in Analysis of the Cash Flow Statement
- Net Trade Account Receivable decreased by THB 250 million, primarily attributed to the company, from the low season in September, reducing the finished oil products sales volume, combined with average selling price of petroleum products decreased. However, BCPT trade receivables increased due to the increase in sales volume and average selling price rise.
- Other Accounts Receivable decreased by THB 523 million, mainly due to lower accrued expense by THB 251 million, advanced payment from the preparation for the Solar Power Plant Project decreased by the amount of THB 352 million, receivable from the revenue department decreased by THB 142 million from tax refund received, receivable from oil hedging contract increased THB 128 million, and other receivables increased by THB 123 million mainly from the compensation received from a construction project delay.
- Inventory increased by THB 973 million, mainly due to petroleum products inventories, of which its average cost rose with respect to the rising oil price in the global market, especially the price of finished oil products of which the average cost rose by 4.41 \$/BBL, and there was also a slight increase in oil reserves.
- Investment in subsidiaries increased by THB 728 million, there was an establishment of BBP Holding Co., Ltd. with registered capital of THB 1,700 million to operate bio-based product businesses, and to support the restructuring of the business group, the restructure result in the company selling its investment in ordinary



shares of 70% of Bangchak Biofuel Co., Ltd. and 85% of Bangchak Bioethanol (Chachoengsao) Co., Ltd to BBP Holding Co., Ltd. in the value totaling of THB 622 million. Aside from this, BCPE and BCPI raised capital in the amount of THB 37 million and THB 1,100 million, respectively. However, the elimination of related parties' transaction resulted in the consolidated financial statement showing total investment in subsidiaries of THB 0.

- Investment in associates and joint ventures increased by THB 13,349 million; mainly from BCPG Plc., a subsidiary of the company, invested CapAsia ASEAN Wind Holdings Cooperatief U.A, which holds a 40% stake in PetroWind Energy Inc., a company that operates Wind Power Plants in the Philippines. Furthermore, BCPG's acquisition of Star Energy Group Holdings Pte. Ltd. (SEGHPL), which holds 33.33% stake in the Star Energy Investments Ltd. (SEIL), a company that operates a geothermal power plant in Indonesia and realized a share of profit from the acquired power plant.
- Other long term investment increased by THB 2,608 million, mostly attributed to BCPI, a subsidiary of the company, increasing their investment in LAC in the amount of CAD 42.50 million or approximately THB 1,099.22 million, and recorded net fair value change in available-for-sale investment in LAC in the amount of THB 1,684 million, and recorded a decrease from FX differences on translating financial statement of foreign investment in the amount of THB 102 million, while the company received cash from selling of investment in MFC in the amount of THB 73 million.
- Property, plant and equipment decreased by THB 848 million, investment was primarily in refinery machinery, marketing, and office equipment of THB 2,194 million. BCPG Plc.'s incremental was from the construction work in progress of the solar power plant in the amount of THB 146 million. Purchased other assets at THB 616 million. Sold assets at THB 80 million (mostly from the Suimei Power Plant project), and FX differences on translating financial statement resulting in Nido Petroleum Ltd.'s asset lowered by THB 226 million. For the first nine months of 2017, depreciation in the amount of THB 3,498 million.
- Intangible Assets decreased by THB 1,289 million, increased from investment concerning petroleum exploration and appraisal at THB 406 million, but reduced due to asset impairment for the expenses used in the exploration of the Gurita PSC and the Mid-Galoc oil field in the amount of THB 1,480 million, loss FX differences on translating financial statement in the amount of THB 226 million, amortization at THB 88 million, the remaining was the purchase of software and investment in grid connection.

Liabilities

As of September 30, 2017, Total Liabilities of the Company and its subsidiaries was THB 60,280 million decreased by THB 2,406 million, the list of main liabilities that changed are as follow:

- Short-term loan from financial institution lowered by THB 411 million, due to loans in foreign currency marked an unrealized gain from foreign exchange in the amount of THB 494 million.
- Trade Accounts Payable decreased by THB 454 million, mainly from the decrease of the Company's Trade Account Payable of THB 427 million, although purchase volume in September 2017 exceeded the purchase

volume in December 2016, however, purchase in September was paid for within the month, thus lowering trade payable at the end of September.

- Other payables decreased by THB 1,002 million, mainly reduced from the accrued expenses by THB 464 million, mostly was accrued expenses from late 2016 that was paid for in January 2017. Together with a decrease in construction expenses payable of THB 322 million, and other payables decreased of THB 191 million from payment of the remaining liabilities from SunEdison acquisition in Japan by BCPG Plc.
- Loans from financial institutions and debentures (including current portion of long-term loans) increased by THB 4,791 million. There were a repayment of short term loans and long term loans to financial institution by THB 3,545 million. While BCPG and BBF made additional loan draw down during the quarter by THB 9,031 million (BCPG THB 8,851 million and BBF THB 180 million), and reduced from the effect of THB appreciation by THB 695 million.
- Estimate of short-term loan decreased by THB 502 million as BCPG had settled the deferred payments and other conditions in relation to the business acquisition of solar power plants in Japan from SunEdison group.

Equities

As of September 30, 2017, the company and its subsidiaries' Total Equity was THB 47,075 million, Total Equity attributable to owners of the Company was THB 42,589 million, an increase of THB 3,047 million, mostly from the Net Profit for the period of THB 4,393 million, paid dividend of THB 2,822 million, and increase in other component of equity by THB 1,435 million (result of differences in net fair value change in available-for-sale investment and loss in foreign currency conversion of its financial statement) with book value of THB 30.93.

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

As for Q3/2017, the Company and its subsidiaries had net cash received from operating activities of THB 7,278 million, net cash used in investing activities of THB 18,396 million, and net cash received from financing activities of THB 1,362 million. As a result, net cash and cash equivalents reduced by THB 9,756 million, as there was cash of THB 19,287 million on January 1, 2017 and an effect of exchange rate changes on balances held in foreign currencies of THB -211 million, resulting in remaining cash as of September 30, 2017 in the amount of THB 9,319 million.

Details of cash received and used are as follows:

Cash Flows (Unit: THB Million)	9M2016	9M2017
Net cash received (used in) operating activities	8,660	7,278
Net cash received (used in) investing activities	(4,134)	(18,396)
Net cash received (used in) financing activities	6,729	1,362
Net increase (decrease) in cash and cash equivalents before the effect of exchange rate	11,255	(9,756)
Effect of exchange rate changes on balances held in foreign currencies	(33)	(211)
Net increase (decrease) in cash and cash equivalents	11,222	(9,967)
Cash and cash equivalents as at 1 January	7,872	19,287
Cash and cash equivalents as at 30 June	19,094	9,319

1) Net cash received from operating activities of THB 7,278 million, mainly from

- Net cash received from operating activities of THB 10,039 million which was from Net Profit of THB 4,838 million, added back Non-Cash Expenses of THB 4,386 million, and Finance Costs and Tax expense of THB 815 million.
- Net Cash used in the operating assets of THB 1,068 million, decreased from the change in Inventory amount of THB 996 million, decreased from Other Assets in the amount of THB 332 million, and increase from Trade Accounts Receivable increase of THB 232 million, and Other Receivables increased by THB 27 million.
- Net Cash used in operating liabilities of THB 1,412 million, due to a decreases in Trade Accounts Payable of THB 413 million, Other Payables decrease by THB 731 million, other liabilities decreased by THB 183 million, and paid for long-term employee benefits in the amount of THB 85 million.
- During the period, Net Corporate Income Tax payment was THB 282 million, Corporate Income Tax expense was THB 1,230 million, however received income tax return from the Revenue Department of THB 948 million.

2) Net Cash used in investing activities of THB 18,396 million, mainly from

- Net cash received from interest income of THB 85 million, and dividends from associated companies of THB 22 million.
- Net cash received from the selling of investment in MFC of THB 78 million
- Net cash paid for acquisition in Lithium Americas Corp. “LAC” THB 1,099 million.
- Net cash paid for investment in joint ventures and associates in the amount of THB 13,394 million, the company invested in Bongkot Marine Services Co., Ltd. THB 29 million. While BCPG Plc. invested THB 925 million in CapAsia ASEAN Wind Holdings Coopertatied U.A. which holds 40% stake in PetroWind Energy Inc., a company that operates a wind power plant in the Philippines, and invested THB 11,956 million in Star Energy Group Holdings Pte. Ltd. (SEGHPL), which holds 33.33% stake in the Star Energy Investments Ltd. (SEIL) that operates a geothermal power plant in Indonesia. Moreover, there was THB 487 million cash paid to settle the deferred payments and other conditions in relation to the business acquisition of solar power plants in Japan. Such settlement released all of the Group’s obligations toward SunEdison group.
- Investment in property, plant, and equipment of THB 3,198 million, an investment in refinery machinery and equipment, marketing and office equipment of the company of THB 2,194 million, construction work in progress in solar power plant of THB 146 million, and investment in Other Assets in the amount of THB 616 million.
- Net cash received from selling property, plant, and equipment THB 500 million, mostly from selling assets from the Suimei Power Plant Project in Japan by BCPG Plc.
- Net cash paid for the leasehold right of service stations of THB 344 million.
- Net cash paid for the purchase of intangible assets by THB 545 million, mostly for the expense of petroleum exploration and evaluation.

3) Net cash received from financing activities of THB 1,362 million, mainly from

- Cash paid for finance costs of THB 900 million.
- Dividend paid of THB 3,222 million, dividend from the company was THB 2,822 million, dividend paid to shareholders outside the group from BCPG Plc. and Bangchak Biofuel Co., Ltd. of THB 400 million.
- Net cash received from BCPG Plc.’s long-term loan increased by THB 8,851 million (loans received in THB 2,400 million, JPY 7,896 million, and USD 10 million).
- Cash repayment for long-term loans from financial institutions of THB 1,440 million (attributed to the company, BCPG Plc., Bangchak Biofuel Co., Ltd., and Bangchak Bioethanol (Chachoengsao) Co., Ltd)
- Cash paid for the company’s debenture repayment of THB 2,000 million.
- Cash paid for the acquisition of remaining shares of Nido from minor shareholders of THB 35 million.
- Cash received from capital share issuance according to right offering by BCPG Plc. of THB 25 million.



Financial Ratios

Financial Ratios (Consolidated)

Profitability Ratios (%)	Q3/2016	Q2/2017	Q3/2017	9M2016	9M2017
Gross Profit Margin	7.92%	5.52%	9.12%	7.79%	7.91%
EBITDA Margin	7.63%	5.87%	9.18%	7.97%	8.08%
Net Profit Margin	3.07%	2.67%	3.83%	3.58%	3.85%
Return on Equity (ROE)	10.10%	13.21%	13.09%		
Return on Assets (ROA)	6.22%	8.27%	7.09%		

1/ Profit and Total equity attributable to owners of the Company

	30 Sep 16	31 Jun 17	30 Sep 17
Liquidity Ratios			
Current Ratio	2.80	1.92	1.61
Quick Ratio	1.94	1.29	0.90
Financial Policy Ratios			
Interest bearing Debt to Equity	0.91	0.80	0.94
Net Interest bearing Debt to Equity	0.45	0.45	0.70
	Q3/2016	Q2/2017	Q3/2017
DSCR	1.60	3.86	3.83

* DSCR Calculation is not including long term debt prepayment

Financial Ratios Calculation

- Gross Margin = $\frac{\text{Gross Profit}}{\text{Revenue from sale of goods and rendering of services}}$
- EBITDA Margin (%) = $\frac{\text{EBITDA}}{\text{Revenue from sale of goods and rendering of services}}$
- Profit Margin (%) = $\frac{\text{Profit attributable to owners of the Company}}{\text{Revenue from sale of goods and rendering of services}}$
- Return on Equity (%) = $\frac{\text{Profit attributable to owners of the Company (Yearly)}}{\text{Total Equity attributable to owners of the Company (Average)}}$
- Return on Assets (%) = $\frac{\text{EBIT (Yearly)}}{\text{Total Asset (Average)}}$
- Current Ratio (times) = $\frac{\text{Current Asset}}{\text{Current Liabilities}}$
- Quick Ratio (times) = $\frac{(\text{Current Asset} - \text{Inventory})}{\text{Current Liabilities}}$
- DSCR = $\frac{\text{EBITDA (Yearly)}}{(\text{Paid for long-term debt} + \text{Finance cost})}$
- Interest bearing Debt to Equity (times) = $\frac{\text{Interest bearing Debt}}{\text{Total equity}}$
- Net Interest bearing Debt to Equity = $\frac{(\text{Interest bearing Debt} - \text{Cash and cash equivalents} - \text{Current investments})}{\text{Total equity}}$

Note:

1/ Average Total Equity attributable to owners of the Company

- Yearly = $\frac{(\text{Total Equity attributable to owners of the Company of the year before} + \text{Total Equity attributable to owners of the Company of this year})}{2}$
- Quarterly = $\frac{(\text{Total Equity attributable to owners of the Company of the quarter of the year before} + \text{Total Equity attributable to owners of the Company the quarter this year})}{2}$

2/ Average Total Assets

- Yearly = $\frac{(\text{Total Assets of the year before} + \text{Total Assets of the Company of this year})}{2}$
- Quarterly = $\frac{(\text{Total Assets of the Company of the quarter of the year before} + \text{Total Assets of the Company the quarter this year})}{2}$

3/ The numerator of ROE is defined as the Profit attributable to owners of the Company and have to be annualized.

4/ The numerator of ROA is defined as EBIT and have to be annualized.

5/ Interest Bearing Debt defined as Short-term loans + Long-term loans (including Current portion of long-term loans)

+ Debentures + Finance lease liabilities (including current portion of finance lease liabilities)

Environment Management Accounting (EMA)



Having the environmental concerns and social responsibilities, the Company has prepared the environmental management accounting report since 2005, aiming to enable the benefit of its usage for other organizations as well as for the company. 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.

Unit: THB Million

Environment Management Accounting : EMA	Q3/2016	Q3/2017	△
Material Costs of Product Outputs			
: Consist of crude oil, ethanol, biodiesel, chemical, energy and utilities in production	20,753	21,774	1,020
Material Costs of Non-Product Outputs			
: Consist of slop and sludge oil, waste water, chemical surplus	15.74	29.46	13.72
Waste and Emission Control Costs: Consist of maintenance cost of environmental control equipment and depreciation and other fees	81.79	67.12	-14.67
Prevention and Other Environmental Management Costs			
: Consist of monitoring and measurement cost, environmental management system expenses	9.50	2.30	-7.20
Total Expenses	20,860	21,872	1,012
Benefit from by-product and waste recycling	(4.53)	(3.13)	(1.40)

The environmental cost in Q3/2017 has overall increased from Q3/2016 by THB 1,013 million (+5% YoY), mainly from the Material Costs of Product Outputs which increased by THB 1,020 million, from the global oil price which increased by 10% from the previous year. However, the refinery crude run decreased from 115.59 KBD in Q3/2016 to 110.03 KBD in Q3/2017. The Material Costs of Non-Product Outputs lowered by THB 13.72 million following the volume of below quality standard product that increased in value to THB 13.46 Million. While, Waste and Emission Control Costs decreased by Baht 21.87 million (-24% YoY), primarily from waste management, monitoring and measurement cost, and maintenance cost for environmental equipment lowered to THB 7.27 million, THB 7.44 million, and THB 5.70 million, respectively.

Benefits from by-products and waste recycling decreased by THB 1.40 Million (+31%, YoY) due to sellable residue steel and aluminum scrap decreased by THB 0.86 million, while Glycerin and Liquid Sulfur value decreased by THB 0.03 million, THB 0.51 million.

Air quality from the refinery's flue

To monitor environment, the Company has been constantly measuring air quality from the various refinery's flue. The amount of pollutant such as dust, nitrogen oxide, and sulfur dioxide, are better than the requirement from the Ministry of Industry of Thailand.

