



**bangchak**

**Management Discussion &  
Analysis of Business Operation**

**Bangchak Corporation  
Public Company Limited**

For the 2<sup>nd</sup> quarter ended June 30<sup>th</sup>, 2018



# Management Discussion & Analysis of Business Operation

## Table of Content

<b>03</b>	Executive Summary
<b>06</b>	Statement of Income
<b>08</b>	Business Performance
08	Refinery & Trading Business Group
12	Marketing Business Group
14	Power Plant Business Group
16	Bio-Based Products Business Group
18	Natural Resources Business Group
<b>20</b>	Statement of Financial Position
<b>22</b>	Cash Flows Statement
<b>23</b>	Financial Ratios
<b>25</b>	Environmental Management Accounting



# Executive Summary



## Summary of the Company and its subsidiaries' operating results for the quarter ended June 30th, 2018

Unit: THB Million	Q2/2017	Q1/2018	Q2/2018	YoY	QoQ	6M2017	6M2018	YoY
<b>Total Revenue</b>	<b>42,828</b>	<b>44,226</b>	<b>45,558</b>	<b>6%</b>	<b>3%</b>	<b>86,823</b>	<b>89,783</b>	<b>3%</b>
<b>Accounting EBITDA</b>	<b>2,514</b>	<b>2,992</b>	<b>3,366</b>	<b>34%</b>	<b>12%</b>	<b>6,589</b>	<b>6,358</b>	<b>-4%</b>
<i>Refinery and Trading Business<sup>1/</sup></i>	916	1,279	1,929	<b>111%</b>	<b>51%</b>	3,142	3,207	<b>2%</b>
<i>Marketing Business Group<sup>2/</sup></i>	669	735	509	<b>-24%</b>	<b>-31%</b>	1,525	1,244	<b>-18%</b>
<i>Power Plant Business<sup>3/</sup></i>	789	664	793	<b>1%</b>	<b>19%</b>	1,494	1,457	<b>-3%</b>
<i>Bio-Based Product Business<sup>4/</sup></i>	59	304	171	<b>189%</b>	<b>-44%</b>	238	475	<b>100%</b>
<i>Natural Resource Business<sup>5/</sup></i>	93	68	36	<b>-61%</b>	<b>-46%</b>	226	104	<b>-54%</b>
<i>Others</i>	40	(54)	(65)	<b>-262%</b>	<b>-21%</b>	63	(119)	<b>-290%</b>
<i>Elimination</i>	(52)	(3)	(7)			(99)	(10)	
Profit attributable to owners of the Company	<b>993</b>	<b>1,146</b>	1,007	<b>1%</b>	<b>-12%</b>	<b>3,076</b>	<b>2,153</b>	<b>-30%</b>
<b>Basic earnings per share (Baht)</b>	<b>0.72</b>	<b>0.83</b>	<b>0.73</b>			<b>2.23</b>	<b>1.56</b>	

Note: 1/ EBITDA from Refinery Business of the Company, BCP Trading Pte. Ltd. and share of profit associated companies

2/ EBITDA from Marketing Business of the Company, Bangchak Green Net Co.,Ltd., Bangchak Retail Co., Ltd., and share of profit associated companies

3/ EBITDA from Power Plant Business of BCPG Plc., its subsidiaries, and share of profit from associated companies

4/ EBITDA from BBGI Plc., its subsidiaries, and share of profit from associated companies

5/ EBITDA from Natural Resources business of Nido Petroleum Limited, BCP Energy International Pte. Ltd. and BCP Innovation Pte. Ltd.

**As for the performance of the first 6 months of 2018**, Bangchak Corporation Plc. ("The Company") and its subsidiaries recorded revenue from sale of goods and rendering of services THB 89,783 million (+3% YOY), with net profit of THB 2,494 million, **attributable to the company THB 2,153 million** (-30% YoY), or **earning per shares of THB 1.56**

**As for Q2/2018** revenue from sale of goods and rendering of services was recorded THB 45,558 million (+6% YOY, +3% QoQ), with net profit of THB 1,157 million, **attributable to the company THB 1,007 million** (+1% YoY, -12% QoQ), or **earning per shares of THB 0.73**.

**The Refinery and Trading Business Group** recorded an average production rate of 66.80 KBD (56% utilization rate), which declined, coinciding with the 2018 planned turnaround maintenance TAM (period between 30<sup>th</sup> April – 13<sup>th</sup> June). Total Gross Refinery Margin (Total GRM) rose 67% YoY and 26% QoQ, while Market GRM lowered from the decreasing production volume. Moreover, the average crude price adjusted upward in the quarter, leading to an inventory gain of THB 856 million. However, there was a loss from crude and product oil price hedging contract at THB 75 million. Furthermore, the refinery planned to manage the stocks of finished product during the TAM, resulting in the better gross refinery margin in this quarter. For BCP Trading Pte. Ltd., revenue rose from the higher oil products trading transaction volume.

**Marketing Business Group** recorded an increase in retail sales volume, while industrial sales volume softened from the company's products stock management during TAM, in order not to interfere with sales of the retail market



which is the main channel. Retail sales market share was at the 2<sup>nd</sup> rank, and is continuously growing. In January – May 2018, the company was able to increase its motor fuel retail sales volume by 7% YoY, while the total industry's service station sales volume grew only 3.1%. This resulted in the company's cumulative market share for January to May 2018 to be at 15.7%. Net Marketing Margin softened as global crude price rose continuously, while retail prices were able to adjust at a slower pace, also, the company tried to hold back on the retail adjustments to alleviate consumer burden during June where oil price rose significantly and rapidly.

**Power Plant Business** electricity sales slightly declined from the same period of the previous year (-1% YoY), mainly from the projects in Thailand, as average irradiation hours of most projects adjusted slightly downward from increase rainfall that lasted longer than normal. However electricity sales rose 9% QoQ from the increased average irradiation hours seasonally. Within this quarter, share of profit from associated companies was recorded at THB 19 million, declined from the wind power plant business being affected by seasonal factors, while the geothermal power plant recorded a decrease in profit from one-time financial expense for debt refinancing. However, the effective cost control helped decrease SG&A expenses, thus overall performance has improved.

**Bio-based product business** The **Biodiesel business** performance improved from the same period of the previous year; B100 product sales volume rose, as the mandated mixture of B100 product in Diesel fuel was at 7% throughout the quarter, as well as gross profit was better as the crude palm oil cost used in production has significantly decreased. When compared to the previous quarter, sales volume reduced as Bangchak, the major buyer, had gone through TAM, thus decreased its purchase volume; moreover, gross margin was declined from the higher raw material price. **The Denatured Ethanol Business** saw performance improved from last year following the amalgamation, however gross profit was affected by the declining in average selling price, whereas production cost increased, especially cassava price that rose significantly. Additionally, within this quarter the Bangchak Bioethanol (chachoengsao) Co., Ltd. has gone through its planned annual turnaround maintenance, led to a softened performance when compared to the same period of last year.

**Natural Resources business** Exploration and Production business recorded an increased revenue coinciding with global crude oil price, leading to increased gross profit, but saw production and sales volume decrease according to the Natural Decline Curve. There was also loss from crude oil hedging contract and loss on foreign exchange.

**Other important events in this quarter:**

- BCPG Plc. which is a subsidiary of the company, assessed the fair value of assets and liabilities received from the interest acquired in associated company, the Star Energy Group Holding Pte. Ltd., in Q3/2017, to invest in the Geothermal Power Plant project in Indonesia. The assessment was completed in Q2/2018, resulting in the changes in the fair value of power purchasing agreement and the rights to a concession, after alterations were made to assessment assumptions. As such, some revisions were made on 2017 financial statement, affecting the statement of financial positions as follow:

Asset:	Investment in associated companies decreased	THB 242 million
Shareholders' Equity:	Retained Earnings decreased	THB 170 million
	Non-controlling interest decreased	THB 72 million

The aforementioned items did not affect Statement of income for Q1/2017 and Q2/2017.



- The company has established the following subsidiaries, BCPR Co., Ltd. in Thailand, and BCPR Pte. Ltd. in Singapore, to co-invest with Seacrest Capital Group through the purchase of capital increment shares of OKEA AS, a company that develops and produces petroleum in Norway, in the proportion not exceeding 90% of its increased registered capital, which has a total value not exceeding NOK 939 million (or approximately THB 3,760 million) in order to purchase the Draugen Field and Gjøa petroleum field from A/S Norske Shell. The transaction is expected to be completed by end of Q4/2018.

- The company group has signed a share selling agreement to Tamarind Galoc Pte. Ltd., to sell its total shareholding in Nido Production Galoc Pty. Ltd. which holds 55.8% stake of the Galoc petroleum field, leading the company group to record an impairment loss in Galoc oil field asset in the consolidated financial statement at THB 412 million, and record an impairment loss in investments in subsidiaries in separate financial statement at THB 272 million. The transaction is expected to be completed by the end of Q3/2018.



# Statement of Income



Consolidated Statement of Income	Q2/2017	Q1/2018	Q2/2018	YoY	QoQ	6M2017	6M2018	YoY
Revenue from sale of goods and rendering of services	42,828	44,226	45,558	6%	3%	86,823	89,783	3%
Cost of sale of goods and rendering of services	(40,465)	(40,897)	(41,699)	3%	2%	(80,434)	(82,597)	3%
<b>Gross Profit</b>	<b>2,363</b>	<b>3,328</b>	<b>3,858</b>	<b>63%</b>	<b>16%</b>	<b>6,389</b>	<b>7,186</b>	<b>12%</b>
Interest income and dividend income	44	16	12	-73%	-27%	99	28	-72%
Other income	236	59	181	-23%	205%	406	240	-41%
Selling and administrative expenses	(1,632)	(1,660)	(1,785)	9%	8%	(3,064)	(3,446)	12%
Exploration and evaluation expense	(16)	(9)	(13)	-14%	51%	(25)	(22)	-11%
Gain (loss) from crude and product oil price hedging contract	233	(73)	(136)	N/A	N/A	234	(209)	N/A
Gain (loss) from foreign currency forward contracts	(19)	-	95	N/A	N/A	18	95	N/A
Gain (loss) on foreign exchange	92	172	(39)	N/A	N/A	363	133	N/A
Reversal of allowance for gain/(loss) from impairment of assets	19	-	(412)	N/A	N/A	(82)	(412)	N/A
Share of profit (loss) of associate	54	92	23	-58%	-76%	72	115	60%
<b>Profit before finance costs and income tax expense</b>	<b>1,375</b>	<b>1,926</b>	<b>1,784</b>	<b>30%</b>	<b>-7%</b>	<b>4,409</b>	<b>3,710</b>	<b>-16%</b>
Finance costs	(339)	(365)	(374)	10%	2%	(693)	(739)	7%
<b>Profit/(loss) before income tax expense</b>	<b>1,036</b>	<b>1,561</b>	<b>1,410</b>	<b>36%</b>	<b>-10%</b>	<b>3,716</b>	<b>2,971</b>	<b>-20%</b>
Income tax (expense) credit	109	(223)	(253)	332%	13%	(372)	(476)	28%
<b>Profit for the period</b>	<b>1,145</b>	<b>1,337</b>	<b>1,157</b>	<b>1%</b>	<b>-13%</b>	<b>3,344</b>	<b>2,494</b>	<b>-25%</b>
Owners of the Company	993	1,146	1,007	1%	-12%	3,076	2,153	-30%
Non-controlling interests	153	191	150	-2%	-21%	267	341	28%
<b>Earnings per share (Baht per Share)</b>	<b>0.72</b>	<b>0.83</b>	<b>0.73</b>	<b>1%</b>	<b>-12%</b>	<b>2.23</b>	<b>1.56</b>	<b>-30%</b>

The company and its subsidiaries performance in Q2/2018 recorded a Net Profit of THB 1,157 million, compared to Q2/2017 increased by THB 12 million (+1% YoY), and when compared to Q1/2018 decreased by THB 180 million (-13% QoQ) mainly due to the following reasons:

1. Total revenue from sale of goods and rendering of services was THB 45,558 million, increased by 6% YoY and 3% QoQ, mainly from realizing revenue of Bio-Based business (from the business amalgamation under BBGI Plc. in Q4/2017). While revenue from petroleum related businesses increased from the higher sales volume, and price per unit that increased. Combined with revenue from the Natural Resources business which rose from the rising global crude oil price.
2. Gross Profit was THB 3,858 million, increased by 63% YoY and 16% QoQ, mainly attributed to the refinery business in Q2/2018 where Total GRM increased to 12.82 \$/BBL (Q2/2017: 4.18 \$/BBL, Q1/2018: 6.37 \$/BBL)



from the increment in crude oil price and improving crack spread of some products. In this quarter, crude oil price adjusted upward sharply, which led to inventory gain at THB 856 million, while in Q2/2017 and Q1/2018 recorded inventory losses of THB 1,010 million and THB 70 million, respectively.

3. Other Income was THB 181 million, decreased by 23% YoY and increased 205% QoQ, the majority attributed to BCPG Plc. earning compensation revenue of THB 99 million, from damages caused by typhoons in Japan, while decreased from the same period of the previous year that recorded gain from consolidation of business acquisition with SunEdison group by BCPG Plc. at THB 140 million, and the company earned revenue from compensation of contaminated oil in the amount of THB 51 million.
4. Selling and administrative expenses recorded THB 1,785 million, an increase of 9% YoY and 8% QoQ, mainly attributed to (1) personnel expense, (2) market promotion expense, and (3) corporate image promotion expense.
5. Losses from crude and product oil hedging contract by THB 136 million due to crude oil price fluctuations in this quarter.
6. Gains from Foreign Exchange Forward Contract recorded THB 95 million, due to forward buying of foreign currency for the 3E project in the amount of \$ 36.5 million; the forward rate stipulated in the contract was lower than the rate at the end of the period.
7. Losses from foreign exchange in the amount of THB 39 million, due to the Thai Baht depreciating which led to losses on loans and foreign currency trade payables, however there was gain from foreign exchange under loans to related business and foreign currency account receivables.
8. Impairment loss from the petroleum exploration and production assets, and investments in subsidiaries of THB 412 million (\$12 million) since the expected selling price of Galoc oil field is likely to be lower than its book value, as the company has signed for the share selling agreement of the subsidiary indirectly owned by the group, which owns 55.8% of Galoc field, with Tamaarind Galoc Pte. Ltd.
9. Share of profit of associated companies in the amount of THB 23 million, consisting of 1.) THB 25 million from Star Energy Group Holdings Pte. Ltd. 2.) THB -5.8 million from PetroWind Energy Inc. 3.) THB -6.6 million from Ubon Bio Ethanol Plc. 4.) THB 11 million from Bongkot Marine Services Co., Ltd.



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



## 1.) Refinery and Trading Business Group

### Crude Oil Price Situation

(Unit : USD/BBL)

Crude Oil Price	Q2/2017	Q1/2018	Q2/2018			YoY	QoQ	6M	6M	YoY
	AVG	AVG	MAX	MIN	AVG	%	%	2017	2018	%
Dubai (DB)	49.68	63.96	77.29	64.69	72.07	45%	13%	51.38	68.01	32%
Dated Brent (DTD)	49.64	66.82	80.29	66.48	74.39	50%	11%	51.72	70.58	36%
DTD/DB	-0.04	2.86	5.14	-0.66	2.33	N/A	-19%	0.33	2.56	673%

### Crude Oil Price Situation

Dubai crude oil price in Q2/2018 when compared to Q2/2017 rose by 22.39 \$/BBL, a result of the global oil market tightening, after OPEC constantly reduced oil production at rates which exceeded initial agreement, which led to global OECD oil stock to dip below its 5 year average; greatly tightening the oil market.

Dubai crude price in Q2/2018 on average increased by 8.11 \$/BBL when compared to Q1/2018 is due to OPEC adjusting their production levels far below their agreed upon target by 150% during Q2/2018, which can mostly be attributed to reductions by Saudi Arabia, and production difficulties in Venezuela, as well as the US opting out of the Iran nuclear agreement they had with various global super powers i.e. the United Kingdom, Russia, France, Germany, and China; at the same time announcing trade sanctions on Iran, this factor alone would cause Iran to have the tendency to lower oil production. The previous sanction imposed during 2012, Iran's production lowered by approximately 1 MBPD. Furthermore, global crude supply is additionally affected by Libya's main export depot sustaining damage from the war between its government and rebel faction, thus crude production in Libya is lowered to 150 KBD from their 850 KBD normal level, remaining at that level for 20 days before returning to normal capacity.

The difference between Dated Brent and Dubai price average in Q2/2018 compared to Q2/2017 increased by 2.37 \$/BBL was due to more Asian refineries switching to Light grade crude, especially Chinese refineries, which has also lowered purchase of Heavy grade crude due to OPEC's production reduction that caused the product's shortage and price increase.

Difference between Dated Brent and Dubai price in Q2/2018, on average decreased by 0.54 \$/BBL when compared to Q1/2018 was due to high pressure from Dubai crude demand increasing during the Middle East's Summer combined with lack of Heavy grade crude supplies from Venezuela that served to reinforced the Dubai crude price increase.





## Crack Spreads Situation

(Unit: USD/BBL)

Crack Spreads	Q2/2017	Q1/2018	Q2/2018			YoY	QoQ	6M	6M	YoY
	AVG	AVG	MAX	MIN	AVG	%	%	2017	2018	%
UNL95/DB	14.17	13.69	15.50	7.69	12.15	-14%	-11%	14.44	12.92	-11%
IK/DB	10.78	16.05	17.77	12.08	15.29	42%	-5%	11.04	15.67	42%
GO/DB	11.34	14.76	16.03	11.66	14.63	29%	-1%	11.59	14.69	27%
FO/DB	-1.78	-4.96	-1.70	-7.04	-4.45	-151%	10%	-2.48	-4.71	-90%

## Crack Spreads Analysis

- The Mogas / Dubai crack spread (UNL95/DB) in Q2/2018 averaged at 12.15 \$/BBL which decreased by 2.02 \$/BBL from Q2/2017, influenced by decreasing demand for Mogas after oil price adjusted upward.

The Mogas/Dubai crack spread (UNL95/DB) decreased by 1.54 \$/BBL compared to the 13.69 \$/BBL averaged in Q1/2018 in response to increasing supplies from China after announcing its 2nd round of export quotas in May later than usual, normally made in March. Thus, leading to an abundant of supplies entering the market, and combined with global Mogas stock remaining well above the average level of the past 5 years, stock started accumulating during Q1/2018's winter, leaving the market with low purchasing power.
- Jet (Kerosene) / Dubai crack spread in Q2/2018 averaged at 15.29 \$/BBL which increased by 4.51 \$/BBL when compared to Q2/2017, a result of demand from the rapidly growing E-Commerce sector, which subsequently increased the demand for aircraft deliveries.

Jet (Kerosene) / Dubai crack spread decreased by 0.76 \$/BBL, compared to the average 16.05 \$/BBL of the previous quarter. The difference had been influenced by lowering demand due to warming weather in the summer.
- Gas Oil / Dubai crack spread in Q2/2018 averaged at 14.63 \$/BBL which increased by 3.29 \$/BBL compared to Q2/2017 with respect to rising pressure from excessive demands in Asia, especially investments in basic infrastructure project by India's government sector, and from increases in investment of mining businesses in Australia.

Gas Oil / Dubai crack spread decreased by 0.13 \$/BBL compared to the average 14.76 \$/BBL in the previous quarter due to mounting supplies after various refineries came back from their TAM periods, combined with extensive reduction in demand from the Chinese fishery sector after the South and East China Sea entered its off-season.
- Fuel Oil / Dubai crack spread in Q2/2018 was on average -4.45 \$/BBL which decreased by 2.68 \$/BBL compared to Q2/2017 due to demand pressure from the Asia and Middle East electricity production sector decreasing.



Fuel Oil / Dubai crack spread increased 0.51 \$/BBL compared to the average -4.96 \$/BBL in the previous quarter which was affected by incremental demand in the Middle East, after the region entered its summer season, leading to higher fuel oil demand for electricity production.

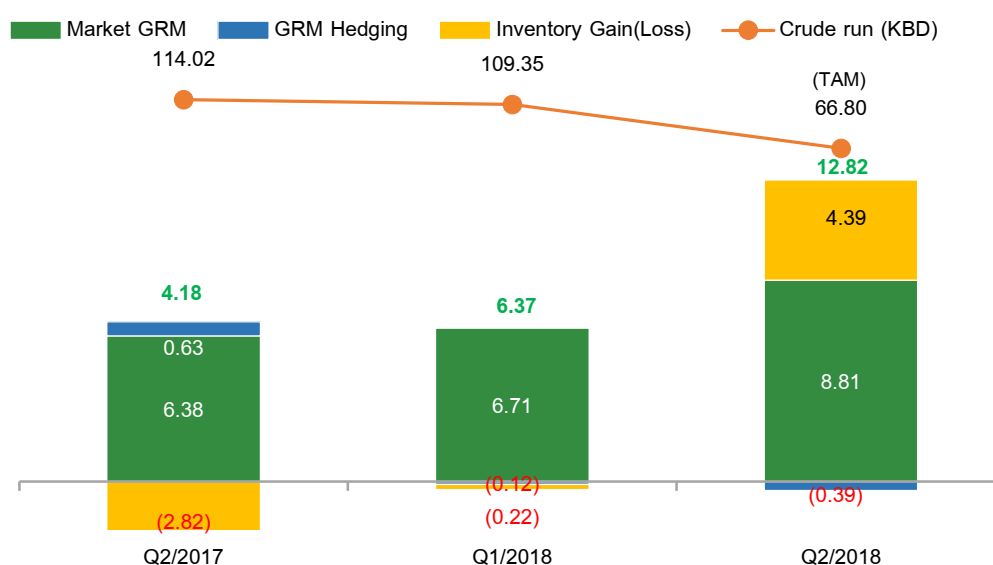
## Refinery and Trading Business Group Performance

Performance of the Refinery and Trading Business group in Q2/2018 recorded EBITDA of THB 1,929 million, attributed to the operations of the Bangchak refinery THB 1,844 million, to BCP Trading Co., Ltd. THB 18 million, and shares of profit from the Bongkot Marine Service Co., Ltd. in the amount of THB 11 million.

Refinery Business Performance	Q2/2017	Q1/2018	Q2/2018	YoY	QoQ	6M2017	6M2018	YoY
Average Crude Run (KBD)	114.02	109.35	66.80	-41%	-39%	111.92	87.96	-21%
Utilization Rate (%)	95%	91%	56%			0.93	0.73	
Average FX (THB/USD)	34.47	31.71	32.09			34.88	31.90	
<b>(Unit: Million Baht)</b>								
Market GRM	2,280	2,095	1,719	-25%	-18%	4,745	3,814	-20%
GRM Hedging	225	(37)	(75)	-133%	102%	235	(112)	-148%
Inventory Gain/ (Loss) <sup>1/</sup>	(1,010)	(70)	856	-185%	N/A	(711)	787	-211%
<b>Total GRM</b>	<b>1,495</b>	<b>1,988</b>	<b>2,501</b>	<b>67%</b>	<b>26%</b>	<b>4,269</b>	<b>4,489</b>	<b>5%</b>
<b>EBITDA</b>	<b>916</b>	<b>1,279</b>	<b>1,929</b>	<b>111%</b>	<b>51%</b>	<b>3,142</b>	<b>3,207</b>	<b>2%</b>

## GRM and Crude Run

Unit: \$/BBL



Total Sales Volume in each market category of the Company								
Marketing Business	Q2/2017	Q1/2018	Q2/2018	YoY	QoQ	6M2017	6M2018	YoY
Retail	952	997	1,008	6%	1%	1,884	2,005	6%
Industrial	552	517	447	-19%	-14%	1,160	963	-17%
<b>Total</b>	<b>1,504</b>	<b>1,514</b>	<b>1,455</b>	<b>-3%</b>	<b>-4%</b>	<b>3,044</b>	<b>2,969</b>	<b>-2%</b>
Wholesale Business								
Petroleum traders in accordance with section 7	178	151	144	-19%	-4%	363	295	-19%
Export	287	199	141	-51%	-29%	490	340	-31%
<b>Total</b>	<b>465</b>	<b>350</b>	<b>285</b>	<b>-39%</b>	<b>-18%</b>	<b>853</b>	<b>635</b>	<b>-26%</b>
<b>Total Sales Volume</b>	<b>1,969</b>	<b>1,864</b>	<b>1,740</b>	<b>-12%</b>	<b>-7%</b>	<b>3,897</b>	<b>3,604</b>	<b>-8%</b>

Note: Sales volume does not include oil swaps between major oil companies and sales of crude oil products

Q2/2018 performance compared to Q2/2017, the Refinery Business group recorded an increase in EBITDA of THB 1,013 million, with factors affecting operations as follow:

- The Bangchak Refinery average production rate was at 66.80 KBD or 56% utilization rate of refinery capacity (-39%, YoY), as the refinery had been through its turnaround maintenance (TAM) from the 30<sup>th</sup> of April, 2018 to the 13<sup>th</sup> of June, 2018; a total of 45 days.
- In this quarter, total gross refinery margin (GRM) was THB 2,501 million an increase of 67% compared to Q2/2017's THB 1,495 million.
  - Market GRM decreased by THB 561 million when compared to Q2/2017, due to the lowered production rate during the TAM period. However, Market GRM average per barrel in Q2/2018 improved, from a 42% YoY increase in average IK/DB crack spread, and the average GO/DB crack spread that rose more than 29% YoY. Furthermore, the refinery effectively managed the stocks of finished products to be sold during the TAM, resulting in the better refinery margin in this quarter.
  - Within this quarter the refinery business recorded a loss on crude and product oil price hedging contract in the amount of THB 75 million, while there was a gain of THB 225 million in Q2/2017. The hedging loss can be attributed to the crude inventory management prior to the refinery's maintenance period, while Dubai crude price were on the rise throughout the quarter.
  - The refinery business recorded an inventory gain in the amount of THB 856 million, resulting from the sharp rise in average crude oil price during the quarter, while in Q2/2017 recorded an inventory loss in the amount of THB 1,010 million (included LCM of THB 7 million). Average Dubai crude in Q2/2018 increased by 22.38 \$/BBL when compared to Q2/2017.
- BCP Trading Co., Ltd. recorded THB 11,429 million in revenue, an increase of 251% from Q2/2017 with oil product trading transaction of 4.55 million barrels. The majority of trade consist of gasoline, crude oil, fuel oil, and Naphtha. The higher earning stemmed from the procurement of finished product for the refinery during TAM, as well as fostering strong ties to trade partners and market conditions that was facilitative towards increasing trade volume.



Q2/2018 performance compared to Q1/2018, the Bangchak refinery business recorded an increased EBITDA of THB 650 million due to factors affecting operations as follow:

- 1 Bangchak Refinery average production rate was lower than of Q1/2018 (-39% QoQ) due to the planned turnaround maintenance (TAM).
- 2 Total gross refinery margin was THB 2,501 million, an increase of 26%, compared to Q1/2018 which had GRM at THB 1,988 million.
  - Market GRM was lowered by THB 375 million when compared against Q1/2018, due to lessened production rate during maintenance period, and diminishing crack spreads, as well as stock management of finished products.
  - Within the quarter, there was a loss from crude and product oil price hedging contract by THB 75 million, while in Q1/2018 the loss was THB 37 million.
  - Refinery business reported an inventory gain of THB 856 million, resulting from the rising average crude price throughout Q2/2018, while in Q1/2018 suffered inventory loss in the amount of THB 70 million.
- 3 In Q2/2018, BCP Trading Co., Ltd. recorded revenue increment of 202% from Q1/2018, due to increasing petroleum product trading transactions, in addition to rising crude and finished product price.

## 2.) Marketing Business Group

Marketing Business Group Q2/2018 performance recorded EBITDA of THB 509 million, attributed to the Bangchak marketing business in the amount of THB 533 million, Bangchak Green Net Co., Ltd., of THB 41 million, and Bangchak Retail Co., Ltd. of THB -44 million.

Marketing Business								
Sales Volume (Million Litre)	Q2/2017	Q1/2018	Q2/2018	YoY	QoQ	2017	2018	YoY
Retail (Service Stations)	952	997	1,008	6%	1%	1,884	2,005	6%
Industrial	552	517	447	-19%	-14%	1,160	963	-17%
<b>Total</b>	<b>1,504</b>	<b>1,514</b>	<b>1,455</b>	<b>-3%</b>	<b>-4%</b>	<b>3,044</b>	<b>2,969</b>	<b>-2%</b>
Sales volume in each product category (Million Litre)								
LPG	15	37	40	161%	7%	29	77	167%
Gasoline	15	9	8	-51%	-19%	27	17	-38%
Gasohol	420	404	412	-2%	2%	820	816	-1%
Jet Fuel	188	209	215	14%	3%	432	424	-2%
Diesel	819	802	735	-10%	-8%	1,632	1,538	-6%
Fuel Oil and Others	46	53	45	-3%	-15%	104	98	-6%
<b>Total</b>	<b>1,504</b>	<b>1,514</b>	<b>1,455</b>	<b>-3%</b>	<b>-4%</b>	<b>3,044</b>	<b>2,969</b>	<b>-2%</b>
<b>Total Marketing Margin (Baht / Litre)</b>	<b>0.83</b>	<b>0.83</b>	<b>0.75</b>	<b>-10%</b>	<b>-10%</b>	<b>0.83</b>	<b>0.79</b>	<b>-5%</b>
<b>EBITDA (Million Baht)</b>	<b>669</b>	<b>735</b>	<b>509</b>	<b>-24%</b>	<b>-31%</b>	<b>1,525</b>	<b>1,244</b>	<b>-18%</b>

Note: marketing margin of Bangchak only



Performance comparison between Q2/2018 and Q2/2017 of the Marketing Business recorded a decrease in EBITDA of THB 160 million, with the following factors affecting operation as follow:

1. Sales volume of the Marketing Business lowered by 3%, YoY, mainly decreased from the industrial market. This was due to the lower volume of finished products being produced because of the 2018 turnaround maintenance (TAM), thus stock management had been put in place, in order not to interfere with the retail market sales volume, the main sales channel. Constant growth can be observed in the retail sales volume from the customer base expansion strategy that the company has employed.
2. Net Marketing Margin decreased from the same period of last year, both in the retail and industrial market. The retail margin was affected by the significantly and sudden rise of crude oil price in the global market, especially in June, which resulted in the company adopting a stabilizing retail price policy to alleviate consumers' burden of rising cost, together with the fact that the company pegged its retail price in April during the long holiday to support domestic commute, essentially lowering retail marketing margin
3. As of Q2/2018, the total number of BCP service stations was 1,140 branches, expanded by 71 branches compared to the end of Q2/2017, which are mostly standard service stations with modern aesthetics, situated on high potential locations.
4. The company's market share in terms of retail sales volume remains in the second place and continues to grow. The company was able to increase its retail sales volume for motor fuel by 7.0% YoY, while the total industry's service station sales volume grew only 3.1%. This resulted in the company's cumulative market share for January to May 2018 to be at 15.7%, an increase of 0.5% YoY, and the market share was able to reach 16% in May 2018. This was a result of service stations expansion in potential areas, keeping standard of services, and various sales promotion program to increase throughput per station.
5. As for the Non-oil business operated under the Bangchak Retail Co., Ltd. still perseveres with development and expansion, both for the SPAR supermarket business & convenience stores, and Inthanin Coffee shop. Therefore, as of the end of Q2/2018 there was a total of 492 branches of Inthanin Coffee shops and 35 branches of the SPAR convenience store.
6. Bangchak Retail Co., Ltd. saw increase in revenue from branch expansion of their Non-oil businesses, however the cost of selling, general and administrative expense remains high, leaving the Bangchak Retail Co., Ltd.'s EBITDA still in the negative, therefore effectively lowering the Marketing Business group's EBITDA within this quarter.

Q2/2018 performance compared to Q1/2018, the Marketing Business Group recorded a decreased EBITDA of THB 225 million with factors affecting operations as follow:

1. The Marketing Business's sales volume decreased 4%, QoQ, a result of the lower sales in the industrial market that was affected by the company's stock management during 2018 TAM, to reduce the effects on the retail market's sales.
2. Net marketing margin decreased, compared to the previous quarter, a result of price pegging during April and June due to the aforementioned reason. Moreover, Q2/2018 was a period in which crude oil price made constant gains, whereas retail prices were hardly able to keep up with the pace at which the cost of the products were



rising. While in Q1/2018, crude price adjusted downward within the quarter, essentially leaving the retail market margin at a high level.

- The number of service stations as of Q2/2018 totals at 1,140 branches with the opening of 15 new service stations from the previous quarter.

### 3.) Power Plant Business

Power Plant Business Performance	Q2/2017	Q1/2018	Q2/2018	YoY	QoQ	6M2017	6M2018	YoY
Solar Power Business – Thailand	68.07	66.03	66.70	-2%	1%	134.07	132.73	-1%
Phase 1-3 (118 MW)	62.67	61.52	61.77	-1%	0.4%	126.01	123.29	-2%
Cooperative Solar Project (12 MW)	5.40	4.51	4.92	-9%	9%	8.06	9.44	17%
Solar Power Business – Japan (30 MW)	14.56	9.16	14.89	2%	63%	21.15	24.04	14%
<b>Total Electricity Sales (Million kWh)</b>	<b>82.63</b>	<b>75.19</b>	<b>81.58</b>	<b>-1%</b>	<b>9%</b>	<b>155.22</b>	<b>156.77</b>	<b>1%</b>
<b>Revenue (Million Baht)</b>	<b>890</b>	<b>801</b>	<b>874</b>	<b>-2%</b>	<b>9%</b>	<b>1,688</b>	<b>1,675</b>	<b>-1%</b>
Share of profit (loss) from associated companies								
Wind Power Plant	43	14	(6)	-114%	-142%	43	8	-81%
Geothermal Power Plant	N/A	55	25	N/A	-54%	-	80	N/A
<b>EBITDA</b>	<b>789</b>	<b>664</b>	<b>793</b>	<b>1%</b>	<b>19%</b>	<b>1,494</b>	<b>1,457</b>	<b>-3%</b>

Power Plant Business performance in Q2/2018 recorded revenue of THB 874 million, a decrease of THB 16 million compared to Q2/2017, and recorded EBITDA of THB 793 million which increased by THB 4 million YoY. The following factors affected operations as thus:

- Solar power plant projects in Thailand recorded a total electricity sales slightly lower than the same period of the previous year, mainly due to lower average irradiation hours, as there was a longer than usual rainy season.
- Solar power plant projects in Japan recorded a slight increase in electricity sales from the same period of the previous year, chiefly from the commercial operation of the Gotemba project (PPA of 4 MW) on 16<sup>th</sup> of April, 2018. While the average irradiation hours of other projects decreased due to the weather conditions in Japan, which witnessed torrential rainfall and was exposed to lesser sunshine duration.
- Realized share of profit from investment in associated companies in the amount of THB 19 million; a reduction from the same period of the previous year, with respect to the following factors:
  - Share of loss from the wind power plant in the Philippines in the amount of THB 5.9 million, comprised of profit from operation THB 2.4 million, better than Q2/2017 which recorded an operating loss of THB 9.9 million. The improved performance was due to the higher wind speed from 2 Tropical Depressions traveled into the area. However, in Q2/2017 share of profit was recorded for 6 months from January to June 2017 after BCPG Plc. has successfully received PetroWind Energy Inc. shares in May 2017. While within this quarter, share of profit was realized for the 3 months period as per usual practice, and thus making this quarter's performance seemed to decline.



- Share of profit from the Geothermal Power Plant business was recorded at THB 25 million, share of profit from operation was THB 90.5 million. While in the same period of the previous year there was no realization of share of profit.
4. The Power Plant Business recorded lower selling, general and administrative expenses when compared to the same period of the previous year, from its effective cost control, combined with the same period of the previous year recorded a one-time expense regarding employees' ESOP warrant and business acquisition. From the stated reasons above, the Power Plant Business was able to record higher EBITDA compared to the previous year.

Performance comparison between Q2/2018 and Q1/2018, the Power Plant Business recorded an increase of revenue in the amount of THB 72 million, and recorded an increase EBITDA of THB 128 million, with the following factor affecting operation as follow:

1. The solar power plant projects in Thailand recorded an increase in total electricity sales compared to the previous quarter, as in this quarter average irradiation hours marginally increased from longer daylight hours following a change in season, albeit seeing an increase in rainfall from the previous quarter.
2. The solar power plant project in Japan recorded an increase in electricity sales from higher irradiation hours on every site due to Japan entering its summer season, which led to lower level of snowfall, and has a longer daylight hours when compared to the previous quarter, even though within this quarter the country was met with a high amounts of rain late in the quarter.
3. Realized share of profit from investment in associated companies at a lesser amount than the previous quarter due to:
  - Share of profit from the Wind Power Plant in the Philippines decreased as a result of the seasonal change that reduced wind speed in the area where the project is located, leading to lower electricity production from the previous quarter.
  - Share of profit from the Geothermal Power Plant decreased, majorly from an increase in finance cost given to one-time item booked during the quarter of full amortization of deferred issuance cost resulted from refinancing activity to lengthen debt tenor, loosen debt covenant and increase free cash flow.
4. In the quarter the Power Plant Business recorded other income from insurance claim for damaged solar panel due to Typhoon in Japan in the amount of THB 99 million. At the same time, selling, general and administrative expense was decreased, mainly from the lower personnel related expenses, and the tightening of expenses which are unrelated to revenue generation. From the stated reason above, the Power Plant Business was able to record higher EBITDA compared to the previous quarter.



#### 4.) Bio-Based Product Business

The Bio-Based Business Group performance in Q2/2018, recorded EBITDA totaled at THB 171 million, mainly attributed to the Biodiesel Production Business THB 122 million and to the Ethanol Production Business THB 74 million, with performance as follow:

Note: BBGI Plc. is in the process of filing for its initial public offering with the The Securities and Exchange Commission.

##### Biodiesel Business

Bio-Based Product Business	Q2/2017	Q1/2018	Q2/2018	YoY	QoQ	6M2017	6M2018	YoY
Average Daily Production Volume(K.L./day) (Production Capacity 930 K.L./day)	669	788	675	1%	-14%	621	731	18%
B100 Sales Volume (Million litre)	61	73	68	12%	-6%	114	141	24%
Revenue (Million Baht)	1,662	1,718	1,608	-3%	-6%	3,301	3,325	1%
<b>Average Sales Price (Source: Department of Energy Business, Ministry of Energy)</b>								
B100 (Baht / Litre)	29.80	24.59	25.02	-16%	2%	32.00	24.80	-22%
Crude Palm Oil (CPO) (Baht / Kg.)	25.72	20.33	20.88	-19%	3%	28.26	20.60	-27%

Q2/2018 performance compared to Q2/2017 performance, the Biodiesel business earned a revenue of THB 1,608 million, a decline of THB 54 million, with factors that affected operations as follow:

1. Average production rate was at 675 thousand litres per day (+1% YoY).
2. B100 product sales volume increased by 7 million litres, as in the quarter, the B100 mixing portion in Diesel product was at 7% throughout the period, while during the same period of the previous year it was 5% and 7% (from the 8<sup>th</sup> of May, 2017 government announced to change the mixture from 5% to 7%)
3. Gross profit increased from the declining price of crude palm oil, due to weather conditions that was accommodating oil palm production, which led to an influx of crude palm oil production, and domestic stock of crude palm oil was at high levels which coincides with the declining reference price in the Malaysian market.

Performance compared between Q2/2018 and Q1/2018, the Biodiesel business recorded a softened revenue of THB 110 million due to the following factors that affected operations as follow:

1. Average daily production decreased by 14% QoQ, due to high levels of B100 product stock continuing from the previous quarter, after the government asked for cooperation from oil fuel producers to increase crude palm oil purchase to aid farmers, which has led to the rise in B100 product stocks.
2. B100 products sales volume declined, as Bangchak refinery, the major customer, underwent turnaround maintenance, effectively lowering purchase orders.
3. Gross profit declined from raw material cost increasing seasonally.



## Denatured Ethanol Business

Denatured Ethanol Business	Q2/2017	Q1/2018	Q2/2018	YoY	QoQ	6M2017	6M2018	YoY
Average Daily Production Volume (K.L./day)								
Bangchak Bioethanol (Chachoengsao)(BBE) (Production capacity 150 K.L./day )	91	130	96	6%	-26%	109	113	4%
KSL Green Innovation (KGI) (Production capacity 150 K.L./day )	N/A	311	336	N/A	8%	N/A	323	N/A
Ethanol Sales Volume (Million litre)	9	37	36	315%	-4%	19	73	278%
Revenue (Million Baht)	213	867	836	293%	-4%	475	1702	258%
<b>Average Sales Price (Source: Department of Energy Business, Ministry of Energy)</b>								
Ethanol (Baht / Litre)	25.06	24.49	23.59	-6%	-4%	24.60	24.05	-2%

For Q2/2018 performance compared to Q2/2017, Denatured Ethanol business recorded THB 836 million in revenue, an increase of THB 623 million with factors affecting operations are as follow:

1. In Q2/2018, Bangchak Bioethanol (Chachoengsao) Co., Ltd.'s average daily production rate was at 96 thousand litres per day, production rate was under-utilized due to its annual maintenance. As for KSL Green Innovation Plc., average daily production rate was 336 thousand litres per day.
2. Denatured Ethanol product sales volume increased as in this year, there was the realization of the performance of KSL Green Innovation PCL which amalgamated with Bangchak Bioethanol (Chachoengsao) Co., Ltd. on the 31<sup>st</sup> of October, 2017.
3. Average selling price of Denatured Ethanol product decreased, while raw material cost made from cassava increased significantly as it is near the end of harvesting season where less of the produce entered the market; cassava produce available was inadequate for demand, combined with the price of exported cassava was at high level. This results in the lower gross profit of Bangchak Bioethanol (Chachoengsao) Co., Ltd.'s in this quarter.

Performance comparison between Q2/2018 and Q1/2018, Denatured Ethanol business recorded a revenue decreased by THB 31 million, with the following factors affecting operations as follow:

1. Bangchak Bioethanol (Chachoengsao) Co., Ltd. average daily production rate reduced from the previous quarter, due to its annual maintenance between the 6<sup>th</sup> to the 24<sup>th</sup> of May, 2018, a total of 19 days, while KSL Green Innovation Plc.'s daily production rate rose.
2. Sales volume of Denatured Ethanol product decreased from the previous quarter, as Bangchak Bioethanol (Chachoengsao) Co., Ltd. had to undergo its annual maintenance, while KSL Green Innovation Plc. sales volume increased in accordance to increased market demand.
3. Gross profit per unit of Denatured Ethanol product from both cassava and molasses declined from the lower average selling price, as amount of aggregate stock in the country was at a high level, while at the same time the cost for the product's raw material was on the rise.

## 5.) Natural Resources Business Group

For the performance of the Natural Resources Businesses Group in Q2/2018, EBITDA was recorded THB 36 million, mainly attributed to the Exploration and Production Business, with performance as follow:

### The Exploration and Production Business by Nido Petroleum Limited

E&P Business Performance	Q2/2017	Q1/2018	Q2/2018	YoY	QoQ	6M2017	6M2018	YoY
Production Volume <sup>1/</sup> (barrels per day net to Nido)	2,279	1,936	1,829	-20%	-6%	2,364	1,882	-20%
Sales Volume (barrels net to Nido)	207,337	195,439	203,521	-2%	4%	410,701	398,960	-3%
Revenue (Million Baht)	387	425	505	30%	19%	786	930	18%
<b>EBITDA (Million Baht)</b>	<b>93</b>	<b>91</b>	<b>59</b>	<b>-37%</b>	<b>-36%</b>	<b>226</b>	<b>150</b>	<b>-34%</b>

Note: 1/ production volume of Galoc oil field only

Q2/2018 performance compared to Q2/2017, the exploration and production business recorded THB 505 million in revenue, an increase of THB 118 million, and an EBITDA of THB 59 million, a decline of THB 35 million, with the following factors affecting operations as follow:

1. The Galoc oil field production recorded an Uptime of 99.95% and an average production volume of 3,273 barrels per day (1,829 barrels per day net to Nido, 20% lower than the previous year according to the Natural Decline Curve.)
2. Sales revenue increased due to Dubai crude oil price adjusting upwards more than 45%, with average Dubai price in Q2/2018 was at 72.07 \$/BBL while in Q2/2017 it was at 49.68 \$/BBL. The total sales volume net to Nido was 203,521 barrels (with volume from the Galoc field at 196,739 barrels and Nido & Martinloc at 6,782 barrels.)
3. During the quarter, Nido's gross profit increased together with a better management of selling, general and administrative expenses. However, suffered loss from crude oil price hedging contract, and foreign exchange losses, compared to the same period of the previous year that recorded gains in crude oil price hedging contract, and foreign exchange gains.

Q2/2018 performance compared to Q1/2018, the exploration and production business recorded an increase in revenue by THB 80 million, however recorded a lowered EBITDA of THB 32 million, with the following factors affecting operations as follow:

1. Average production volume (net to Nido) was 6% lower than the previous quarter according to the Natural decline curve.
2. Revenue from sales increased following Dubai crude oil price upward trajectory, with its average in Q2/2018 was at 72.07 \$/BBL while, in Q1/2018, it was at 63.96 \$/BBL.
3. In the quarter, Nido's gross profit increased from rising selling price, however had to endure losses from in crude oil price hedging contract.

In Q2/2018, the company established a subsidiary in Thailand, BCPR Co., Ltd. The aforementioned company will set up its own subsidiary based in Singapore, BCPR Pte. Ltd. to co-invest with Seacrest Capital Group, to acquire the Draugen Field and Gjøa petroleum field from A/S Norske Shell. The investment would be done through share subscription from OKEA AS's capital increment; the company is lawfully established in Norway, which conducts development and production of petroleum in Norway. Bangchak's share subscription will not exceed 90% of the newly registered capital, which is valued at no more than NOK 939 million (or THB 3,760 million.)

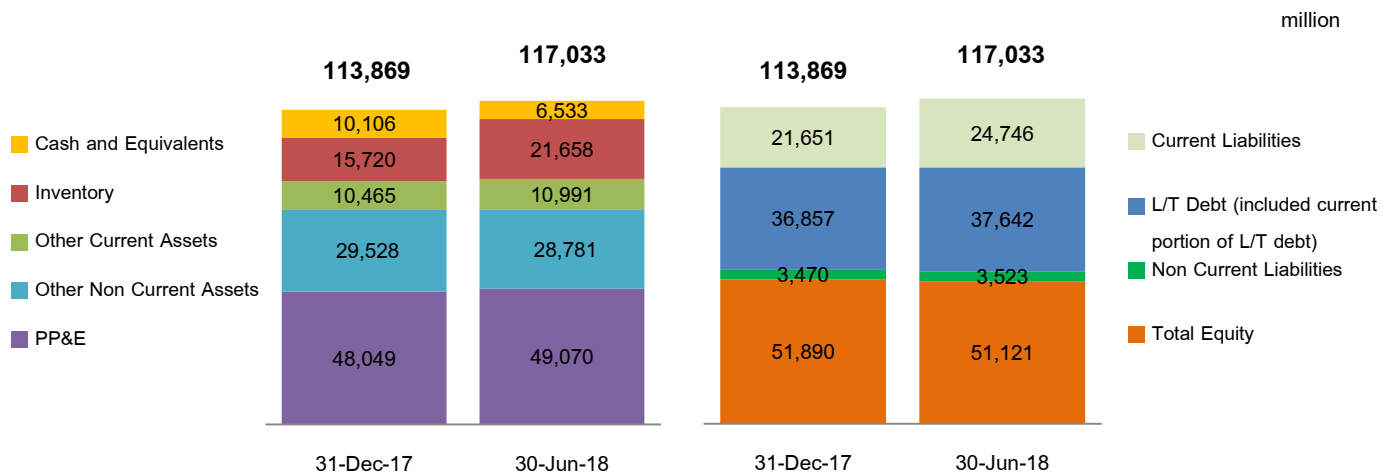
In the quarter, the company group has signed a share selling agreement in Nido Production Galoc Pty. Ltd., which was the company's indirect subsidiary that holds 55.8% stake of the Galoc petroleum field, with Tamarind Galoc Pte. Ltd., valued at USD 20 million (or approximately THB 660 million). The transaction resulted in the company group to record an impairment loss in Galoc oil field asset in the consolidated financial statement at THB 412 million, and record an impairment loss in investments in subsidiaries in separate financial statement at THB 272 million.



# Statement of Financial Position



## Financial Position of the Company and its subsidiaries (Consolidated)



### Assets

As of June 30<sup>th</sup> 2018, the company and its subsidiaries has Total Assets in the amount of THB 117,033 million, an increase of THB 3,164 million when compared to December 31<sup>st</sup>, 2017, changes in assets are as follow:

- Cash and cash equivalents decreased by THB 3,573 million. Details are stated in Analysis of the Cash Flow Statement
- Net Trade Account Receivable decreased THB 320 million, primarily from the company's trade account receivable, following the decline in sales volume, although selling price was increased.
- Other receivables increased by THB 806 million. Mainly as BCPG Plc. booked insurance claim receivable from the solar panels damaged from typhoon by THB 106 million (JPY 340 million). Receivable from revenue department, as buying VAT amount was higher than selling VAT amount by THB 378 million.
- Inventory increased by THB 5,937 million, mainly from the higher crude oil and oil product reserves volume, as well as their prices.
- Other long term investment decreased by THB 1,603 million, primarily from the change in net fair value change in available-for-sale investment (LAC) of which share price reduced from CAD 11.18 as of 31<sup>st</sup> December 2017, to be CAD 7.03 as of 30<sup>st</sup> June 2018.
- Property, plant and equipment net increased by THB 1,020 million, investment was made primarily in 1.) refinery machinery of THB 1,517 million, 2.) sales equipment, and office equipment at THB 551 million, 3.) power plant work in progress at THB 853 million, 4.) business acquisition in Lom Ligor of BCPG Plc. at THB 174 million. 5.) with depreciation for the period recorded at THB 2,174 million. 6.) Impairment in petroleum exploration and production assets at THB 412 million.



## Liabilities

As of June 30<sup>th</sup> 2018, the Company and its subsidiaries has Total Liabilities in the amount of THB 65,912 million, increased by THB 3,933 million, changes in liabilities were as follow:

- Short term loans increased by THB 3,813 million, mainly from the company increased by THB 3,500 million, and from the company's subsidiaries increased by THB 260 million.
- Trade Accounts Payable increased by THB 751 million, primarily from oil trading business of THB 779 million, from its higher transaction volume.
- Excise Tax and Oil fund expense payable decreased by THB 1,274 million according to the lower oil products sales volume.
- Loans from financial institutions increased by THB 785 million, from the company's subsidiaries loan drawdown by THB 1,536 million, while repaid by THB 1,104 million. There was also adjustments to the effects of foreign currency conversion of financial statement in the amount of THB 342 million.

## Equities

As of June 30<sup>th</sup> 2018, the company and its subsidiaries' Total Equity was THB 51,121 million, Total Equity attributable to owners of the Company was THB 44,501 million, a decrease of THB 978 million, mostly increased from the Net Profit for the period of THB 2,153 million, while decreased in other component of equity by THB 1,640 million (result of differences in net fair value change in available-for-sale investment (LAC) which reduced by THB 1,593 million, and loss in foreign currency conversion of financial statement of THB 53 million). However, had a share of profit in other comprehensive income of THB 6 million. Book value per share was THB 32.32.



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



As of June 30<sup>th</sup> 2018, the Company and its subsidiaries had net cash used in operating activities of THB 1,421 million, net cash used in investing activities of THB 3,887 million, and net cash received from financing activities of THB 1,708 million. As a result, net cash and cash equivalents decreased by THB 3,600 million, as there was cash in the amount of THB 10,106 million as of January 1<sup>st</sup>, 2018, and the effects of exchange rate conversion on balances held in foreign currencies in the amount of THB 27 million, resulting in remaining cash as of June 30<sup>th</sup> 2018 in the amount of THB 6,533 million, details for each activity are as follow:

Cash Flows (Unit: Million Baht)	30-Jun-17	30-Jun-18
Net cash received (used in) operating activities	3,778	(1,421)
Net cash received (used in) investing activities	(4,350)	(3,887)
Net cash received (used in) financing activities	(5,139)	1,708
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>(5,711)</b>	<b>(3,600)</b>
Cash and cash equivalents as at 1 January	19,287	10,106
Effect of exchange rate changes on balances held in foreign currencies	12	27
<b>Cash and cash equivalents as at 30 June</b>	<b>13,588</b>	<b>6,533</b>

Details of cash received and used are as follows:

- 1) Net cash used in operational activities in the amount of THB 1,421 million are mainly attributed to:
  - Cash received from operating activities of THB 6,534 million, which was from Net Profit of THB 2,494 million, added back Non-Cash Expenses of THB 2,825 million, added back Financial Costs and Tax expense of THB 1,215 million.
  - Net cash used in operating assets and liabilities of THB 7,260 million, mainly from (1) payment for goods and services, THB 5,961 million (2) received payment from account receivables THB 476 million (3) Other liabilities increased by THB 674 million (4) Trade account payable increased by THB 606 million (5) Other short term liabilities reduced by THB 1,334 million, primarily from a decrease in excise tax and oil fund payables.
- 2) Net Cash used in investing activities of THB 3,887 million, mainly from:
  - Cash received from interest and dividends in the amount of THB 73 million.
  - Cash paid for share purchase in Lom Ligor Co., Ltd. to invest in wind power plant by THB 204 million.
  - Cash paid for investment in property, plant and equipment in the amount of THB 3,366 million, mainly attributed to investment in heavy machinery, refinery cracking units and depots, service station sites and other company equipment
  - Cash paid for the right to lease by THB 349 million.



3) Net Cash received from financing activities of THB 1,708 million, mainly from:

- Cash paid for financial cost in the amount of THB 829 million.
- Dividend paid in the amount of THB 1,705 million, attributed to the company THB 1,515 million and BCPG Plc. paid dividend for non-controlling interest in the amount of THB 190 million.
- Cash received from short term loans from financial institution in the amount of THB 3,760 million, mainly attributed to the company in THB 3,500 million and BBGI Plc. in the amount of THB 260 million,
- Cash received from long term loans in the amount of THB 1,536 million, mainly attributed to BCPG Plc.
- The company and its subsidiaries repaid long term loans from financial institutions by THB 1,104 million.

## Financial Ratios



### Financial Ratios (Consolidated)

Profitability Ratios (%)	Q2/2017	Q1/2018	Q2/2018	6M2017	6M2018
Gross Profit Margin	5.52%	7.53%	8.47%	7.36%	8.00%
EBITDA Margin	5.87%	6.77%	7.39%	7.59%	7.08%
Net Profit Margin	2.67%	3.02%	2.54%	3.85%	2.78%
Return on Equity (ROE)	13.23%	11.17%	11.33%		
Return on Assets (ROA)	8.28%	6.40%	6.74%		

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

	30-Jun-17	31-Mar-18	30-Jun-18
<b>Liquidity Ratios</b>			
Current Ratio	1.92	1.67	1.26
Quick Ratio	1.23	0.72	0.52
<b>Financial Policy Ratios</b>			
Interest bearing Debt to Equity	0.80	0.78	0.81
Net Interest bearing Debt to Equity	0.45	0.64	0.68
	<b>Q2/2017</b>	<b>Q1/2018</b>	<b>Q2/2018</b>
DSCR	2.38	2.25	3.62

\* DSCR Calculation is not including long term debt prepayment



## Financial Ratios Calculation

▪ Gross Margin	=	Gross Profit / Revenue from sale of goods and rendering of services
▪ EBITDA Margin (%)	=	EBITDA / Revenue from sale of goods and rendering of services
▪ Profit Margin (%)	=	Profit attributable to owners of the Company / Revenue from sale of goods and rendering of services
▪ Return on Equity (%)	=	Profit attributable to owners of the Company (Yearly) / Total Equity attributable to owners of the Company (Average)
▪ Return on Assets (%)	=	EBIT (Yearly) / Total Asset (Average)
▪ Current Ratio (times)	=	Current Asset / Current Liabilities
▪ Quick Ratio (times)	=	(Cash & Equivalents + Short term investments + Trade Account Recievable) / Current Liabilities
▪ DSCR	=	EBITDA (Yearly) / (Paid for long-term debt + Finance cost)
▪ Interest bearing Debt to Equity (times)	=	Interest bearing Debt / Total equity
▪ Net Interest bearing Debt to Equity	=	(Interest bearing Debt – Cash and cash equivalents – Current investments) / Total equity

Note:

1/ Average Total Equity attributable to owners of the Company

- Yearly = (Total Equity attributable to owners of the Company of the year before + Total Equity attributable to owners of the Company of this year) / 2
- Quarterly = (Total Equity attributable to owners of the Company of the quarter of the year before + Total Equity attributable to owners of the Company the quarter this year) / 2

2/ Average Total Assets

- Yearly = (Total Assets of the year before + Total Assets of the Company of this year) / 2
- Quarterly = (Total Assets of the Company of the quarter of the year before + 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.

Environment Management Accounting : EMA	Q2/2017	Q2/2018	Δ
<b>Material Costs of Product Outputs</b>			
: Consist of crude oil, ethanol, biodiesel, chemical, energy and utilities in production	24,120	17,449	(6,671)
<b>Material Costs of Non-Product Outputs</b>			
: Consist of slop and sludge oil, waste water, chemical surplus	18.00	76.47	58.47
<b>Waste and Emission Control Costs</b>			
: Consist of maintenance cost of environmental control equipment and depreciation and other fees	66.95	61.64	(5.31)
<b>Prevention and Other Environmental Management Costs</b>			
: Consist of monitoring and measurement cost, environmental management system expenses	4.86	6.51	1.65
<b>Total Expenses</b>	<b>24,210</b>	<b>17,594</b>	<b>(6,616)</b>
<b>Benefit from by-product and waste recycling</b>	(2.41)	(1.86)	0.55

Total environmental cost in Q2/2018 decreased from Q2/2017 by approximately THB 6,616 million (-27%) mainly due to Material Cost of Product Output decreased by THB 6,671 million with respect to the average production rate decreased from 114 KBD in Q2/2017 to 67 KBD in Q2/2018. At the same time, Material Costs of Non-Product Outputs was higher by THB 58.47 million in accordance with the quantity of product that is below quality standard increased, while Waste and Emission Control Costs decreased by THB 5.31 million (-8%), primarily from depreciation of environmental control equipment that decreased by THB 4.6 million. Aside from the aforementioned, Prevention and Other Environmental Management Costs increased by THB 1.66 million (+34%) from the increase in monitoring and measurement cost which increased by THB 1.4 million.

Benefits from by-products and waste recycling declined by THB 0.55 Million (-23%), mostly due to amount of sellable Liquid Sulfur declined.

## Air quality from the refinery's flue

To monitor the environment, the Company has been constantly measuring air quality emitted from the refinery's various flues, to which the amount of pollutant such as dust, nitrogen oxide, and sulfur dioxide emitted is far below the required standard set by the Thai Ministry of Industry.

