



### 13. Essential financial information

#### Financial Statements

##### (1) Report of Certified Public Accountant

Financial Statement	Auditor	Company
<b>2017</b>	Mr. Natthaphong Tantichatanon Certified Public Accountants, Registration Number 8829	KPMG Phoomchai Audit Ltd
<b>2016</b>	Mr. Natthaphong Tantichatanon Certified Public Accountants, Registration Number 8829	KPMG Phoomchai Audit Ltd
<b>2015</b>	Mr. Winid Silamongkol Certified Public Accountants, Registration Number 3378	KPMG Phoomchai Audit Ltd

KPMG have audited the consolidated and separate financial statements of Bangchak Corporation Public Company Limited and its subsidiaries (the “Group”) and of Bangchak Corporation Public Company Limited (the “Company”), respectively, which comprise the consolidated and separate statements of financial position as of 31 December 2017, the consolidated and separate statements of income and comprehensive income, changes in equity and cash flows for the year then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

In the Auditor’s opinion, the accompanying consolidated and separate financial statements present fairly, in all material respects, the financial position of the Group and the Company, respectively, as of 31 December 2017 and their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRSs).

The Auditor conducted an audit in accordance with Thai Standards on Auditing (TSAs). The Auditor's responsibilities, under those standards, are further described in the Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements section of the report. The Auditor is independent of the Group and the Company in accordance with the Code of Ethics for Professional Accountants issued by the Federation of Accounting Professions under the Royal Patronage of His Majesty the King that is relevant to the audit of the consolidated and separate financial statements. The Auditor has fulfilled other ethical responsibilities in accordance with these requirements. The Auditor believes that the audit evidence that obtained is sufficient and appropriate to provide a basis for the Auditor's opinions.

Key audit matters are those matters that, in the Auditor's professional judgment, were of most significance in an audit of the consolidated and separate financial statements of the current period. These matters were addressed in the context of an audit of the consolidated and separate financial statements as a whole, and in forming the Auditor's opinion thereon, and the Auditor does not provide a separate opinion on these matters.



<b>Business combination and acquisition of investment in associates</b>	
<b>Refer to Notes 3 (a), 4 and 12 to the financial statements.</b>	
<b>The key audit matter</b>	<b>How the matter was addressed in the audit</b>
<p>During 2017, certain subsidiary has amalgamated with other company and the Group has acquired 2 investments in associates in alternative energy business in foreign countries. The Group has assessed the fair value of assets acquired and liabilities assumed and consideration transferred with resulting differences recognized as goodwill and share of profit of associates from bargain purchases, respectively.</p> <p>Due to the materiality of the transactions and the significant judgment and complexities involved in determining the fair value, the Auditor considered as the key audit matter.</p>	<p>The Auditor's procedures included the following:</p> <ul style="list-style-type: none"> <li>- Evaluated the appropriateness of the identification of the net assets acquired at the date of acquisition including understanding on the procedures on identification of fair value on net assets acquired which was prepared by the management.</li> <li>- Evaluated the independence and competency of independent appraiser.</li> <li>- Involved KPMG valuation specialist to evaluate valuation methodology and financial parameters applied to the discount rate.</li> <li>- Evaluated significant assumptions underpinning the fair value valuations reference to internal and external information and mathematical accuracy.</li> <li>- Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standard.</li> </ul>

<b>Impairment of oil exploration &amp; production assets and investment in subsidiaries</b>	
<b>Refer to Notes 3 (b) and 11 to the financial statements.</b>	
<b>The key audit matter</b>	<b>How the matter was addressed in the audit</b>
<p>The outlook for oil market continues to be challenging and future oil prices are still continuing to fluctuate. The recoverable amount of assets is derived from discounted cash flow projections which reflect a number of assumptions and estimates by the management. The Auditor considered as key audit matter.</p>	<p>The Auditor's procedures included the following:</p> <ul style="list-style-type: none"> <li>- Understand the management's operation plan, process of the indicators identification and impairment testing process and tested the calculation of recoverable amount prepared by the management.</li> <li>- Assessed the key assumptions estimated by the management with reference to internally and externally derived sources after taking into account the historical forecasting accuracy.</li> </ul>



	<ul style="list-style-type: none"> <li>- Involved KPMG valuation specialist to evaluate valuation methodology and financial parameters applied to the discount rate.</li> <li>- Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standard.</li> </ul>
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<b>Valuation of inventories</b>	
<b>Refer to Notes 3(g) and 10 to the financial statements.</b>	
<b>The key audit matter</b>	<b>How the matter was addressed in the audit</b>
Inventories are measured at the lower of cost and net realizable value. As a result of fluctuation in crude oil and oil products price which may cause the net realizable value to be lower than cost.	<p>The Auditor's procedures included the following:</p> <ul style="list-style-type: none"> <li>- Verified the appropriateness of the net realizable value calculation.</li> <li>- Checked the selling prices of finished goods with the reference market price and contract price.</li> <li>- Considered the adequacy of disclosures in accordance with Thai Financial Reporting Standard.</li> </ul>

The Auditor draw attention to note 12 to the financial statements. The Group has hired an independent appraiser to determine the fair value of net assets within investments in associates in Indonesia; however, the reviews have not yet been completed. Therefore, value to be recognized is yet to be finally determined, allocated and is subject to potential amendment depending on the finalization of the appraisal by independent appraisers. The Auditor is not modified in respect of this matter.

Management is responsible for the other information. The other information comprises the information included in the annual report, but does not include the consolidated and separate financial statements and



the Auditor's report thereon. The annual report is expected to be made available to the Auditor after the date of this auditor's report.

In the Auditor's opinion on the consolidated and separate financial statements does not cover the other information and the Auditor will not express any form of assurance conclusion thereon.

In connection with an audit of the consolidated and separate financial statements, the Auditor's responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated and separate financial statements or the Auditor's knowledge obtained in the audit, or otherwise appears to be materially misstated.

Management is responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with TFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated and separate financial statements, management is responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting



unless management either intends to liquidate the Group and the Company or to cease operations, or has no realistic alternative but to do so. Those charged with governance are responsible for overseeing the Group's and the Company's financial reporting process.

The Auditor's objectives are to obtain reasonable assurance about whether the consolidated and separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes the Auditor's opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with TSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated and separate financial statements.

As part of an audit in accordance with TSAs, the Auditor exercises professional judgment and maintain professional skepticism throughout the audit. The Auditor also:

- Identify and assess the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for the Auditor's opinion. The risk of not detecting a material misstatement resulting from fraud is higher



than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's and the Company's ability to continue as a going concern. If the Auditor concludes that a material uncertainty exists, the Auditor would be required to draw attention in an audit report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify the Auditor's opinion. The Auditor's conclusions are based on the audit evidence obtained up to the date of an auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and whether the consolidated and separate financial



statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. The Auditor is responsible for the direction, supervision and performance of the group audit. The Auditor remain solely responsible for the Auditor's opinion.

The Auditor communicated with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that the Auditor identified during an audit.

The Auditor also provided those charged with governance with a statement that the Auditor has complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on the Auditor's independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, the Auditor determines those matters that were of most significance in the audit of the consolidated and separate financial statements of the current period and are therefore the key audit matters. The Auditor describes these matters in the Auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, The Auditor determines that a matter should not be





communicated in an audit report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.



(2) Consolidated financial statements as of December 31<sup>st</sup>, 2017

Statement of financial position

(Unit: Baht Million)

	2017		2016		2015	
	Amount	%	Amount	%	Amount	%
<b>Current assets</b>						
Cash and cash equivalents	10,106	8.9	19,287	18.9	7,872	9.6
Current investments	220	0.2	1,719	1.7	4,519	5.5
Trade accounts receivable	7,511	6.6	6,022	5.9	5,234	6.4
Other receivables	1,340	1.2	1,191	1.2	742	0.9
Inventories	15,720	13.8	14,560	14.3	13,945	17.0
Current tax assets	52	0.0	-	-	-	-
Oil fuel fund subsidies receivable	1,341	1.2	894	0.9	825	1.0
Other current assets	-	-	477	0.5	489	0.6
Asset classified as held for sale	-	-	-	-	173	0.2
<b>Total current assets</b>	<b>36,291</b>	<b>31.8</b>	<b>44,150</b>	<b>43.4</b>	<b>33,800</b>	<b>41.2</b>
<b>Non-current assets</b>						
Investments in associate and joint ventures	14,400	12.6	840	0.8	774	0.9
Other long-term investments	4,347	3.8	739	0.7	328	0.4
Investment properties	343	0.3	360	0.4	459	0.6
Property, plant and equipment	48,049	42.1	46,462	45.6	40,044	48.9
Goodwills	1,602	1.4	-	-	-	-
Leasehold rights	2,311	2.0	1,939	1.9	1,644	2.0
Intangible assets	3,731	3.3	5,013	4.9	2,779	3.4
Deferred tax assets	1,000	0.9	547	0.5	560	0.7
Other non-current assets	2,035	1.8	1,734	1.7	1,555	1.9
<b>Total non-current assets</b>	<b>77,820</b>	<b>68.2</b>	<b>57,632</b>	<b>56.6</b>	<b>48,143</b>	<b>58.8</b>
<b>Total assets</b>	<b>114,110</b>	<b>100.0</b>	<b>101,783</b>	<b>100.0</b>	<b>81,942</b>	<b>100.0</b>
<b>Liabilities</b>						
<b>Current liabilities</b>						
Short-term loan from financial institutions	4,046	3.5	7,444	7.3	-	-
Trade accounts payable	10,016	8.8	8,766	8.6	4,994	6.1
Other payables	3,018	2.6	3,209	3.2	2,755	3.4
Current portion of long-term loans from financial institutions	2,218	1.9	1,697	1.7	1,026	1.3
Current portion of debenture	-	-	2,000	2.0	-	-
Excise tax and oil fuel fund payable	3,037	2.7	1,069	1.1	778	0.9
Income tax payable	690	0.6	493	0.5	78	0.1
Short-term provisions	-	-	502	0.5	-	-
Other current liabilities	844	0.7	896	0.9	858	1.0
<b>Total current liabilities</b>	<b>23,869</b>	<b>20.9</b>	<b>26,076</b>	<b>25.6</b>	<b>10,489</b>	<b>12.8</b>
<b>Non-current liabilities</b>						
Long-term loans from financial institutions	20,649	18.1	14,458	14.2	16,648	20.3
Debentures	13,990	12.3	13,988	13.7	15,984	19.5
Deferred tax liabilities	590	0.5	601	0.6	280	0.3
Liabilities on long-term lease	34	0.0	38	0.0	43	0.1
Employee benefit obligations	1,949	1.7	1,770	1.7	1,571	1.9
Provision for the decommissioning cost	811	0.7	870	0.9	848	1.0
Other non-current liabilities	86	0.1	75	0.1	95	0.1
<b>Total non-current liabilities</b>	<b>38,109</b>	<b>33.4</b>	<b>31,798</b>	<b>31.2</b>	<b>35,470</b>	<b>43.3</b>
<b>Total liabilities</b>	<b>61,979</b>	<b>54.3</b>	<b>57,874</b>	<b>56.9</b>	<b>45,959</b>	<b>56.1</b>
<b>Equity</b>						
Issued and paid-up share capital	1,377	1.2	1,377	1.4	1,377	1.7
Additional paid-in capital	13,858	12.1	12,960	12.7	11,366	13.9
Retained earnings	27,985	24.5	25,085	24.6	22,859	27.9
Warrants	19	0.0	-	-	-	-
Other components of equity	2,411	2.1	121	0.1	(121)	(0.1)
Non-controlling interests	6,482	5.7	4,366	4.3	502	0.6
<b>Non-controlling interests</b>	<b>52,132</b>	<b>45.7</b>	<b>43,909</b>	<b>43.1</b>	<b>35,983</b>	<b>43.9</b>
<b>Total liabilities and equity</b>	<b>114,110</b>	<b>100.0</b>	<b>101,783</b>	<b>100.0</b>	<b>81,942</b>	<b>100.0</b>



# Statement of income

(Unit: Baht Million)

Statement of Income	2017		2016		2015	
	Amount	%	Amount	%	Amount	%
Revenue from sale of goods and rendering of services	172,138	100.0	144,705	100.0	151,140	100.0
Cost of sale of goods and rendering of services	(158,596)	(92.1)	(132,809)	(91.8)	(139,686)	(92.4)
<b>Gross Profit</b>	<b>13,543</b>	<b>7.9</b>	<b>11,896</b>	<b>8.2</b>	<b>11,454</b>	<b>7.6</b>
Investment income	156	0.1	191	0.1	248	0.2
Other income	1,085	0.6	337	0.2	294	0.2
Selling expenses	(4,026)	(2.3)	(3,786)	(2.6)	(3,215)	(2.1)
Administrative expenses	(3,138)	(1.8)	(2,350)	(1.6)	(1,960)	(1.3)
Exploration and evaluation expense	(48)	(0.0)	(60)	(0.0)		
Gain (loss) from crude and product oil price hedging contract	366	0.2	107	0.07	(407)	(0.3)
Gain (loss) from foreign currencies forward contract	(225)	(0.1)	39	0.03	(155)	(0.1)
Gain on foreign exchange	889	0.5	237	0.2	178	0.1
Reversal of allowance for loss (loss) from impairment of assets	(1,518)	(0.9)	37	0.0	(65)	0.0
Share of profit of associate and joint ventures	815	0.5	21	0.0	12	0.0
Gain on bargain purchase	-	0.0	227	0.2	-	0.0
<b>Profit before finance costs and income tax expense</b>	<b>7,898</b>	<b>4.6</b>	<b>6,902</b>	<b>4.8</b>	<b>6,385</b>	<b>4.2</b>
Finance costs	(1,452)	(0.8)	(1,484)	(1.0)	(1,615)	(1.1)
<b>Profit before income tax expense</b>	<b>6,446</b>	<b>3.7</b>	<b>5,418</b>	<b>3.7</b>	<b>4,770</b>	<b>3.2</b>
Income tax expense	(41)	(0.0)	(689)	(0.5)	(673)	(0.4)
<b>Profit for the year</b>	<b>6,405</b>	<b>3.7</b>	<b>4,729</b>	<b>3.3</b>	<b>4,097</b>	<b>2.7</b>
<b>Profit (loss) attributable to:</b>						
Owners of the Company	5,778	3.4	4,773	3.3	4,151	2.7
Non-controlling interests	627	0.4	(44)	0.0	(53)	0.0
<b>Profit for the year</b>	<b>6,405</b>	<b>3.7</b>	<b>4,729</b>	<b>3.3</b>	<b>4,097</b>	<b>2.7</b>
<b>Earnings per share</b>						
Basic earnings per share	4.20		3.47		3.01	



# Statement of cash flows

(Unit: Baht Million)

	2017	2016	2015
<b>Cash flows from operating activities</b>			
Profit for the year	6,405	4,729	4,097
<i>Adjustments for</i>			
Depreciation	4,780	4,461	4,466
Amortisation	355	273	243
(Reversal of) allowance for bad and doubtful debts expense	(0.36)	(2.09)	(0.27)
Unrealised loss on foreign exchange	308	90	270
Reversal of allowance for loss on decline in value of inventories	8	(98)	(882)
(Reversal of) allowance for loss from impairment of assets	1,518	(37)	65
(Gain) loss on disposal of property, plant and equipment	(37)	(8)	75
Interest income and dividend income	(156)	(191)	(248)
Gain on disposal of other investment	35	(29)	-
Gain on bargain purchase	-	(227)	-
Provision for employee benefit	192	145	145
Deferred revenue	(7)	(5)	(2)
Provision for customer loyalty programmes	48	32	23
Share of profit of associate and joint ventures, net of income tax expense	(815)	(21)	(12)
Finance costs	1,452	1,484	1,615
Income tax expense	41	689	673
	<b>14,031</b>	<b>11,286</b>	<b>10,526</b>
<b>Changes in operating assets and liabilities</b>			
Trade accounts receivable	(1,434)	(797)	807
Other receivables	(555)	(81)	652
Inventories	(753)	(515)	1,287
Other current assets	-	-	1,412
Other non-current assets	(387)	(373)	(64)
Trade accounts payable	1,357	3,775	(1,007)
Other payables	(11)	87	(403)
Other current liabilities	1,961	354	(416)
Employee benefit obligations	(84)	(31)	(29)
Other non-current liabilities	25	(0)	(56)
Cash generated from operating activities	14,150	13,704	12,710
Income tax paid	(299)	(416)	(677)
<b>Net cash from operating activities</b>	<b>13,851</b>	<b>13,288</b>	<b>12,033</b>
<b>Cash flows from investing activities</b>			
Interest received	136	209	212
(Increase) decrease in current investments	1,500	2,799	(3,896)
(Increase) decrease in long-term investments	(1,140)	(168)	(165)
Net cash outflow for investment in joint ventures	(29)	(44)	-
Net cash outflow on acquisition of subsidiary	(13,347)	(963)	(2,407)
Dividend received	65	3	2
Cash inflow from disposal of other investment	78	203	-
Purchase of property, plant and equipment	(5,522)	(9,370)	(4,845)
Sale of property, plant and equipment	499	120	53
Increase in leasehold right	(564)	(451)	(390)
Proceeds from leasehold right	5	-	-
Purchase of intangible assets	(641)	(492)	(107)
<b>Net cash from (used in) investing activities</b>	<b>(18,960)</b>	<b>(8,154)</b>	<b>(11,343)</b>
<b>Cash flows from financing activities</b>			
Financial cost paid	(1,305)	(1,641)	(1,615)
Increase in long term loans from financial institutions	(3,937)	7,362	-
Proceeds from issuance of subsidiary's share capital	-	75	-
Payment of change in ownership interest in subsidiary without a change in control	(35)	-	-
Proceeds from long - term loans	8,868	9,611	1,122
Repayment of long - term loans	(2,069)	(12,032)	(1,356)
Proceeds from issuance of debentures	-	-	2,996
Dividend paid	(3,311)	(2,754)	(2,039)
Proceeds from exercise of share options	27	-	-
Redemption of debenture	(2,000)	-	-
Net proceeds from subsidiaries' shares issuance without change in control	-	5,771	-
<b>Net cash from (used in) financing activities</b>	<b>(3,761)</b>	<b>6,391</b>	<b>(893)</b>
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>(8,870)</b>	<b>11,524</b>	<b>(202)</b>
Cash and cash equivalents as at 1 January	<b>19,287</b>	<b>7,872</b>	<b>7,954</b>
Effect of exchange rate changes on balances held in foreign currencies	(310)	(110)	120
<b>Cash and cash equivalents as at 31 December</b>	<b>10,106</b>	<b>19,287</b>	<b>7,872</b>



### (3) Financial Ratios

#### Management Discussion and Analysis on Financial Ratios of 2017 and 2016 <sup>1/</sup>

<b>Statement of income / Return Ratios</b>		<b>2017</b>	<b>2016</b>	<b>2015</b>
Revenue from sale of goods and rendering of services	Million Baht	172,138	144,705	151,140
Net profit	Million Baht	6,405	4,729	4,097
Net earnings per share <sup>1/</sup>	Baht/share	4.2	3.47	3.01
Net profit / sales and service revenue	%	3.72	3.27	2.71
Rate of return on shareholders'equity <sup>2/</sup>	%	13.57	12.73	12.07
Rate of return on assets <sup>3/</sup>	%	7.32	7.51	8.04

<b>Statement of financial position / Financial Ratios</b>		<b>2017</b>	<b>2016</b>	<b>2015</b>
Total assets	Million Baht	114,110	101,783	81,942
Total liabilities	Million Baht	61,979	57,874	45,959
Shareholders'equity	Million Baht	52,132	43,909	35,983
Current Ratio	times	1.52	1.69	3.22
DSCR (Principle Interest)	times	2.50	1.80	3.73
Debt with interest payable to equity	times	0.78	0.86	0.94
Book value per share <sup>4/</sup>	Baht/share	33.15	30.93	25.77

Note: financial reports of the company and subsidiaries in 2014 were restated, due to changes of accounting policies which financial report standard of the company revised and became effective from Jan.1, 2014.

<sup>1/</sup> Only profit (loss) attributable to owners of the company

<sup>2/</sup> The numerator of ROE is defined as the Profit attributable to owners of the Company and have to be annualized.

<sup>3/</sup> The numerator of ROA is defined as EBIT and have to be annualized.

<sup>4/</sup> Only the equity of the owners of the company

#### Financial Ratios Calculation

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
DSCR	=	EBITDA (Yearly) / (Paid for long-term debt + Financial cost)
Interest Bearing Debt to Equity (times)	=	(Current portion of short-term and long-term loans from financial institutions + Debentures) / Total equity attributable to



## 14. Management Discussion and Analysis

### 1. Summary of the Company and its subsidiaries' operating result for the year ended 31<sup>th</sup> December 2017.

EBITDA Structure of the Company and its subsidiaries								
	Q4/2016	Q3/2017	Q4/2017	YoY	QoQ	FY2016	FY2017	YoY
<b>Total Revenue</b>	<b>40,481</b>	<b>39,009</b>	<b>46,306</b>	<b>14%</b>	<b>19%</b>	<b>144,705</b>	<b>172,138</b>	<b>19%</b>
<b>Accounting EBITDA</b>	<b>3,061</b>	<b>3,580</b>	<b>3,494</b>	<b>14%</b>	<b>-2%</b>	<b>11,363</b>	<b>13,663</b>	<b>20%</b>
<i>Refinery Business</i> <sup>1/</sup>	2,367	2,198	2,256	-5%	3%	5,756	7,596	32%
<i>Marketing Business</i> <sup>2/</sup>	(3)	474	302	N/A	-36%	2,527	2,301	-9%
<i>Power Plant Business</i> <sup>3/</sup>	568	781	812	43%	4%	2,559	3,088	21%
<i>Bio-Based Product Business</i> <sup>4/</sup>	131	159	132	1%	-17%	326	529	62%
<i>Resource Business</i> <sup>5/</sup>	71	44	16	-77%	-62%	323	286	-11%
<i>Others</i>	(0.3)	(35)	(30)	N/A	13%	99	(3)	-103%
<i>Elimination</i>	(73)	(41)	6	108%	115%	(228)	(134)	41%
Profit attributable to owners of the Company	<b>918</b>	<b>1,316</b>	<b>1,386</b>	<b>51%</b>	<b>5%</b>	<b>4,773</b>	<b>5,778</b>	<b>21%</b>
<b>Basic earnings per share (Baht)</b>	<b>0.67</b>	<b>0.96</b>	<b>1.01</b>			<b>3.47</b>	<b>4.20</b>	

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 Green Net Co., Ltd., Bangchak Retail Co., Ltd., and share of profit from Oam Suk Social Enterprise Co., Ltd.

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

4/ EBITDA from BBGI Co., Ltd. (Bangchak Biofuel Co., Ltd., Bangchak Bioethanol (Chachoengsao) Co., Ltd., KSL Green Innovation Plc.) and share of profit from Ubon Bioethanol Co., Ltd.

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

**Performance of Bangchak Corporation Plc. (“The Company”) and its subsidiaries in 2017 recorded total revenue from sales of goods and rendering of services at THB 172,138 million, an increase of 19% YoY, recorded EBITDA of THB 13,663 million, an increase of 20% YoY, with net profit of THB 6,405 million, an increase of 35% YoY, with net profit attributable to owners of the Company of THB 5,778 million, or earning per shares of THB 4.20.**

**For Q4/2017, the company and its subsidiaries recorded revenue from sales and rendering of services of THB 46,306 million, an increase of 19% QoQ, and recorded total EBITDA of THB 3,494 million, a decrease of 2% QoQ, net profit of THB 1,567 million, an increase of 5% QoQ, with net profit attributable to owners of the Company of THB 1,386 million, or earning per shares of THB 1.01.**



The company and its subsidiaries performance improved, especially the **Refinery Business Group** which still maintains its average crude run at a high level. In 2017, average crude run was recorded at 111.37 KBD, and Bangchak Refinery had its record high of crude run at 121.64 KBD throughout March. Gross refinery margin increased from the widening crack spread between finished product and crude oil in every product category, and from the higher average crude oil price; resulting in an Inventory Gain of THB 834 million, exceeding 2016's. Moreover, there was an additional gain from GRM Hedging.

**Marketing Business Group**, recorded the increase of total sales volume, especially from throughput volume through service stations, which has the second largest market share and is constantly on the rise. However, intensifying market competition has affected the total marketing margin, and the increasing investment in Non-Oil businesses; which is in the developing phase of its infrastructure and location expansion, thus incurring high Selling, General and Administrative expense in its initial phase, resulting in the soften operation performance compared to last year.

**Power Plant Business Group**, performance improved due to the commencement of the Solar Co-op commercial operation in Thailand, and the Nikaho and Nagi Project in Japan. Along with further investments in Wind Power Plant Business in the Philippines, and Geothermal Power Plant Business in Indonesia, resulting in 2017's PPA capacity increasing to 332 MW from 145 MW in 2016.

**Bio-based Product Business** recorded better performance. Ethanol Fuel Business's performance improved from the realization of Bangchak Bioethanol (Chachoengsao) Co., Ltd.'s full year operation performance. Moreover, average selling price and sales volume of Ethanol increased, due to the rise in demand for Ethanol used domestically. As for the Biodiesel business, performance retracted slightly due to the contracting palm oil price throughout the year, affecting the average selling price of B100 products and caused an Inventory Loss of THB 224 million, higher from the previous year. Nevertheless, B100 product sales volume increased from the government's announcement of increasing B100 product blended with Diesel.

**Natural Resources Business Group** performance retracted due to the Exploration and Production Business's production and sales volume decreased from the previous year; according to the Natural Decline Curve, although selling price may have adjusted upward to coincide with market price. Moreover, there was an allowance for impairment losses according to accounting standard in the amount of THB 1,528 million in the consolidated financial statements, which is a record of asset impairment in the Gulita and Mid-Galoc oil fields, and the assessment of resource reserves in the Galoc field which was lower than last year.

In 2017, the company group had an organization restructure of the Bio-based Product Business Group, through the amalgamation between BPP Holding Co., Ltd., a subsidiary of the company, and KSL GI Co., Ltd., a subsidiary of Khon Kaen Sugar Industry Plc., to form BBGI Co., Ltd. As a result of the amalgamation, the Company realized KSL Green Innovation Plc.'s performance for two months (November to December 2017). Due to the amalgamation, the assessment of fair value of assets and



liabilities received from the acquisition is required according to accounting standards, resulting in the Company realizing goodwill from acquisition in the amount of THB 1,602 million in the consolidated financial statement.

On the other hand, in 2017 the company recorded a decrease in the tax expense, due to receiving tax returns in the amount of THB 897 million from the corporate income tax in 2007, 2009 and 2010, including the interest income from the tax return in the amount of THB 401 million.

Consolidated Statement of Income	Q4/2016	Q3/2017	Q4/2017	YoY	QoQ	FY2016	FY2017	YoY
Revenue from sale of goods and rendering of services	40,481	39,009	46,306	14%	19%	144,705	172,138	19%
Cost of sale of goods and rendering of services	(36,704)	(35,450)	(42,711)	16%	20%	(132,809)	(158,596)	19%
<b>Gross Profit</b>	<b>3,776</b>	<b>3,559</b>	<b>3,594</b>	<b>-5%</b>	<b>1%</b>	<b>11,896</b>	<b>13,543</b>	<b>14%</b>
Interest income and dividend income	54	45	12	-78%	-74%	191	156	-18%
Other income	130	238	441	240%	86%	343	1,085	216%
Selling and administrative expenses	(2,065)	(1,773)	(2,327)	13%	31%	(6,135)	(7,164)	17%
Exploration and evaluation expense	(12)	(12)	(11)	-10%	-6%	(60)	(48)	-20%
Gain (loss) from crude and product oil price hedging contract	(66)	86	46	169%	-47%	107	366	240%
Gain (loss) from foreign currency forward contracts	(32)	(259)	17	152%	106%	39	(225)	-672%
Gain (loss) on foreign exchange	(253)	299	227	190%	-24%	237	889	276%
Reversal of allowance for gain/(loss) from impairment of assets	31	(1,358)	(78)	-349%	94%	37	(1,518)	N/A
Share of profit (loss) of associate	16	420	324	N/A	-23%	21	815	N/A
Gain (loss) from purchase price negotiation	-	-	-	N/A	N/A	227	-	N/A
<b>Profit before finance costs and income tax expense</b>	<b>1,578</b>	<b>1,244</b>	<b>2,244</b>	<b>42%</b>	<b>80%</b>	<b>6,902</b>	<b>7,898</b>	<b>14%</b>
Finance costs	(415)	(379)	(380)	-9%	0.1%	(1,484)	(1,452)	-2%
<b>Profit/(loss) before income tax expense</b>	<b>1,163</b>	<b>865</b>	<b>1,865</b>	<b>60%</b>	<b>116%</b>	<b>5,418</b>	<b>6,446</b>	<b>19%</b>
Income tax (expense) credit	(167)	630	(298)	78%	147%	(689)	(41)	-94%
<b>Profit for the period</b>	<b>996</b>	<b>1,495</b>	<b>1,567</b>	<b>57%</b>	<b>5%</b>	<b>4,729</b>	<b>6,405</b>	<b>35%</b>
Owners of the Company	918	1,316	1,386	51%	5%	4,773	5,778	21%
Non-controlling interests	77	179	181	134%	1%	(44)	627	N/A
<b>Earnings per share (Baht per Share)</b>	<b>0.67</b>	<b>0.96</b>	<b>1.01</b>			<b>3.47</b>	<b>4.20</b>	





2017 Performance by the company and its subsidiaries recorded a Net Profit of THB 6,405 million, (+35% YoY), net profit attributable to the owners of the company in the amount of THB 5,778 million (+21, YoY), or earning per shares of THB 4.20, mainly due to the following reasons:

1. Total revenue from sales of goods and rendering of services was THB 172,138 million, increased by 19% YoY, mainly from petroleum related businesses, with respect to average selling price of finished products which increased considerably following global oil price, combined with the total sales volume of the company increased by 4% YoY. Further, revenue from the Power Plant business and Bio-based Product business increased as well.
2. Gross Profit was recorded at THB 13,543 million, increased by 14% YoY, mainly attributed to the refinery business. In 2017, Total GRM was 7.23 \$/BBL an increase of 0.70 \$/BBL when compared to 2016. The refinery business recorded an Inventory Gain of THB 834 million, an increase of THB 244 million. Gross profit for the Ethanol Fuel Business improved from increasing average selling price of Ethanol products, while the Biodiesel business recorded a decrease in gross profit from the palm oil price contraction leading to lowered average selling price of B100 and suffered an Inventory Loss of THB 224 million.
3. Other Income of THB 1,085 million, increased by THB 742 million, majorly attributed to the company receiving interest income from the corporate tax return in the amount of THB 401 million, income from construction delay compensation in the amount of THB 175 million, and compensations for damages caused by oil contamination in the amount of THB 63 million. Also, BCPG Plc. recorded a gain from bargain purchase of THB 137 million, from the settlement of deferred payments in relation to the business acquisition of the SunEdison group in Japan.
4. Selling and administrative expenses was recorded at THB 7,164 million, an increase of 17% YoY, the increment was mainly contributed from (1) depreciation from increasing investments made by the company group, (2) the company group's human resources related expenses, (3) the company's and Bangchak Retail Co., Ltd.'s logistic cost in accordance with increased sales volume, (4) lease payment for oil depot and land for service station expansion, and (5) office expenses.
5. Gains from crude and product oil price hedging contract increased by THB 258 million.
6. Losses from Foreign Exchange Forward Contract recorded at THB 225 million, mainly from BCPG's loss from Foreign Exchange Forward Contracts of THB 304 million, to hedge against exchange rate volatility for its investment in the Wind Power Plant project in the Philippines and the Geothermal Power Plant project in Indonesia. However, due to the appreciating THB, leading to loss



- suffered from the Foreign Exchange Forwards Contract. On the other hand, the company made gains from the Foreign Exchange Forward Contract in the amount of THB 79 million, mostly from the Foreign Exchange Forward Contract made to hedge against exchange rate volatility for foreign currency loan to related parties.
7. Gains on foreign exchange was recorded at THB 889 million, an increase of THB 653 million, due to the appreciating THB, resulting of the change in foreign exchange of trade account payable and foreign currency loans.
  8. Losses from impairment asset THB 1,518 million, mainly from impairment of assets in Gurita and Mid-Galoc oil field of Nido Petroleum Ltd. in the amount of THB 1,528 million.
  9. Share of profit from associated company of THB 815 million, an increase of THB 794 million, can mostly be attributed to BCPG Plc.'s investment acquisition in the Wind Power Plant project in the Philippines and the Geothermal Power Plant project in Indonesia.
  10. Tax expense was credited due to the company receiving income tax return in 2007, 2009 and 2010 in the amount of THB 897 million.

## Important Events in 2017

### □ March 2017

- The company established a subsidiary in accordance to the resolution of the company's board of directors, namely, BBP Holding Co., Ltd. registered in Thailand with initial registered capital of THB 700 million, in which the company holds 100% share, to conduct businesses regarding bio-based products business operation, and to support the company's restructuring.
- The solar power plant project under BCPG Plc., a subsidiary of the company, commenced commercial operation as follow: Nagi Solar Power Plant in Okayama Prefecture, Japan with PPA capacity of 10.5 MW and 1 Solar Co-op project with PPA capacity of 5 MW.

### □ April 2017

- The resolution of the 2017 Annual General Meeting of Shareholders on the 5<sup>th</sup> of April, 2017 approved the change of the company's name and Memorandum of Association, including the entire company's Articles of Association in its entirety; the company's name was changed from "The Bangchak Petroleum Public Company Limited" to "**Bangchak Corporation Public Company Limited**", this name change is meant to transform the company's public image and give clarity to the company's business operations; aside from businesses in petroleum, the company has expanded into other businesses which is a



continuation of the current business, or other businesses that compliments the main business with technology or innovation.

#### □ May 2017

- The Bangchak refinery temporarily shut down the Hydrogen Production Unit and the Hydrocracking unit, ensuring maximum safety, coinciding with refining strategy and the company's new product structure; the aforementioned units were shut down for a total of 22 days from the 19<sup>th</sup> of May, 2017 to the 9<sup>th</sup> of June 2017, with other units remaining operational.
- The company unveiled the Hi Premium Diesel S product, an innovation of the premium diesel line to cater to the demand of premium diesel customers. With the creation of the Hi Premium Diesel S, Bangchak incorporated premium attributes, resulting in next level power, while being balanced eco-friendly with high level refining technology to create pure uncontaminated finished product; with Cetane level peaking at 70, performing spectacularly on level ground and slope surfaces. The Hi Active Cleansing additive keeps the fuel injector cleaner than before leading to the fossil fuel engine being fully utilized and prolonging the life of the engine. Also its EURO 5 standard lowers pollution emission with sulfur levels 5 times lower than the EURO 4 standard.
- BCPG Plc., a subsidiary of the company has acquired the shares of CapAsia ASEAN Wind Holdings Cooperatief U.A. from the Netherlands, which was a holding company holding 40% stakes in PetroWind Energy Inc., totaling of USD 26.49 Million (approximately THB 922 Million). PetroWind Energy Inc. is operating wind power plants in Nabas, the Philippines (wind power plant of 36 MW in operation, 14 MW in development, and effectively 20 MW installation capacity belongs to BCPG Plc.).

#### □ June 2017

- The Company transferred its shareholding in subsidiaries and associated company which operate bio-based products business, totaling of 3 companies, to BBP Holding Co., Ltd., in order to restructure its bio-based products business unit shareholding structure. Bangchak still hold the shares in the aforementioned companies directly and indirectly, details as follows:

Company	Old Shareholding Structure	Restructured Shareholding Structure
1. BBP Holding Co., Ltd.	Bangchak Corporation Plc. (100%)	Bangchak Corporation Public Company Limited (100%)
2. Bangchak Biofuel Co., Ltd. (BBF)	Bangchak Corporation Plc. (70%)	BBP Holding Co., Ltd. (70%)



Company	Old Shareholding Structure	Restructured Shareholding Structure
3. Bangchak Bioethanol (Chachoengsao) Co., Ltd. (BBE)	Bangchak Corporation Plc. (85%)	BBP Holding Co. , Ltd. (85%)
4. Ubon Bio Ethanol Co., Ltd. (UBE)	Bangchak Corporation Plc. (21.3%)	BBP Holding Co. , Ltd. (21.3%)

#### □ July 2017

- BCP Innovation Pte. Ltd. (BCPI), a subsidiary of the company, had made additional investment in Lithium Americas Corp. (LAC) at the amount of 50 million shares at the purchase price of CAD 0.85 per share, totaling in investment value of CAD 42.5 million (approximately THB 1,089 million). LAC is a listed company in the Toronto Stock Exchange, Canada; it operates Lithium mines in Argentina and the United States of America. Thus, BCPI holds 16.1% of LAC's shares (thereafter, some shareholders exercised their rights to convert their stock options into common stocks, thus BCPI currently holds 15.9% of LAC shares.)
- BCPG Plc., a subsidiary of the company, has invested in Star Energy Group Holding Pte. Ltd. (SEGHPL) for the amount of 280,000 shares, or 33.33% of total SEGHPL shares outstanding, a capital investment of USD 355.69 million (approximately THB 11,956 million) to enter into a joint venture for the Geothermal Power Plant project in Indonesia with production attributed to BCPG in the amount of 182 MW, comprised of operating projects capacity of 158 MW PPA, and developing projects capacity of 24 MW PPA.

#### □ August 2017

- The Board of Directors of Bangchak Corporation Plc. resolved to approve profit allocation from appropriated retained earnings for an interim dividend payment to the company's shareholders at THB 1.05 per share, for the total amount of THB 1,446 million, equivalent to 47% of net profit from the first six-month period of 2017, which was paid on the 26<sup>th</sup> of September, 2017.
- The company has commenced production of electricity and steam from the third co-generation power plant (GTG-3), with capacity production of 12 MW and 42 tons of steam per hour. This being a part of the 3E project (Efficiency, Energy, and Environmental Project), lowering the cost of producing electricity and steam due to it utilizing natural gas as fuel, and also goes towards lowering the amount of greenhouse gas emitted from the refinery.



- **September 2017** The Company debuted an innovation and business incubating institution known as Bangchak Initiative and Innovation Center (BiiC), its objective is to create the Green Ecosystem to promote innovation in various fields with emphasis on Green Energy and Bio-Based product businesses which can be used to further domestic and international business ventures, as well as supporting the Government's Thailand 4.0 policy; heading towards being Asia's leading Green Innovation company.
- **October 2017** Following the approval of the Board of Directors of the company to proceed with the amalgamation between BBP Holding Co., Ltd. (a subsidiary of Bangchak Corporation PCL) and KSL GI Limited Company (a subsidiary of Khon Kaen Sugar Industry PLC, KSL) the newly created company from the amalgamation is BBGI Co., Ltd., its main business is the production and selling of Bio-Based products such as Ethanol and Biodiesel. BCP will hold a 60% share in the newly formed company and KSL will have 40% ownership.

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

### 1) Refinery Business Group

#### Crude Oil Price Situation

(Unit: USD/BBL)

Crude Oil Price	Q4/2016	Q3/2017	Q4/2017			YoY	QoQ			
	AVG	AVG	MAX	MIN	AVG	%	%	FY2016 AVG	FY2017 AVG	YoY %
Dubai (DB)	48.25	50.43	64.36	53.73	59.31	23%	18%	41.43	53.14	28%
Dated Brent (DTD)	49.33	52.08	66.54	55.19	61.26	24%	18%	43.73	54.19	24%
DTD/DB	1.08	1.65	4.26	-0.26	1.95	80%	18%	2.30	1.05	-54%

#### Crude Oil Price Situation

Dubai crude oil price in 2017 when compared to 2016 on average increased by 11.71 \$/BBL in respect to policy enacted by OPEC members and Non-OPEC members led by Russia to jointly reduce crude production.

Dubai crude price in Q4/2017 on average increased by 8.88 \$/BBL when compared to Q3/2017, with respect to the OPEC and Non-OPEC countries' joint decision to extend their production reduction period by 9 months to the end of December 2018. The market received pressure from the tension in the Middle East due to the conflict between Saudi Arabia and Iran over concerns of war in Yemen, Lebanon, and sabotage on the oil pipeline in Bahrain. Also, the International Energy Agency (IEA) forecasted that the reduction of production rate between OPEC members since January 2017 to March 2018 to be 86% of the amount stated in the agreement, which is considerably high. Aside from this, the increased demand during Winter had



refineries around the world maximizing their utilization rate, especially those located in the United States; leading to crude reserves in the United States to decrease continuously.

However, crude oil price received significant pressure from the increase in production of crude oil in the United States that rose to 9.8 million barrels per day in December, leading to oil production in the United States to increase from 8.9 million barrels per day in 2016 to 9.2 million barrels per day in 2017 and to 10 million barrels per day in 2018, which will exceed previous record high at 9.6 MBD that was set in 1970.

The average spread between the Dated Brent and Dubai in 2017 decreased by 1.25 \$/BBL when compared to 2016, resulted from the pressure to limit production and export of Heavy Sour Crude by the OPEC group following their agreement to lower crude oil production.

The average spread between the Dated Brent and Dubai price in Q4/2017 increased by 0.30 \$/BBL when compared to Q3/2017, due to supply reduction from the emergency maintenance of the underwater crude pipeline in the North Sea of Europe.

### Crack Spreads Situation

(Unit: USD/BBL)

Crack Spreads	Q4/2016	Q3/2017	Q4/2017		YoY		QoQ	FY2016		
	AVG	AVG	MAX	MIN	AVG	%	%	AVG	AVG	%
UNL95/DB	14.59	16.10	15.52	12.08	14.42	-1%	-10%	14.83	14.85	0.2%
IK/DB	12.27	13.13	15.08	11.97	13.27	8%	1%	11.56	12.13	5%
GO/DB	12.04	13.83	14.36	10.94	13.01	8%	-6%	10.80	12.51	16%
FO/DB	-1.63	-1.35	-1.68	-4.93	-3.03	-86%	-125%	-4.97	-2.33	53%

### Crack Spreads Analysis

- The Mogas/Dubai crack spread (UNL95/DB) in 2017 was averaged at 14.85 \$/BBL, an increase of 0.02 \$/BBL compared to 2016, this is due to growing demands from China and India with respect to the increase in sales of new vehicle that resulted from the growth of middle class and economic expansion.

The Mogas/Dubai crack spread (UNL95/DB) in Q4/2017 averaged at 14.42 \$/BBL, decreased by 1.68 \$/BBL when compared to Q3/2017, due to pressure from demand in the United States that lowered after the holiday season coming to an end, and the reactivation of refineries in the United States after being affected by Hurricane Harvey. Aside from this, Mogas price was pressured by the wavering demands from the Northern hemisphere during winter, leading to Mogas reserves in the United States being on the rise throughout December.





- Jet(Kerosene)/Dubai crack spread (IK/DB) in 2017 averaged at 12.13 \$/BBL, increased by 0.57 \$/BBL when compared to 2016, with respect to increase in demand for air travel, along with high demand for Diesel that helped pushed the price of Jet (Kerosene) to increase following suit. However, pressure for Kerosene demand decreased from households in India, having started to switch to LPG for fuel during meal preparation.

Jet(Kerosene)/Dubai crack spread (IK/DB) in Q4/2017 was on average 13.27 \$/BBL an increase of 0.14 \$/BBL when compared to the previous quarter, as a result of demand for heating oil during the winter in the United States where the temperature was record cold in over 100 years.

- Gasoil/ Dubai (GO/DB) crack spread in 2017 was averaged at 12.51 \$/BBL, increased by 1.71 \$/BBL compared to 2016, supported by demand in the recovering mining sector in China and Indonesia, and demand from the transportation increased, also the demands from basic infrastructure construction in India increased.

Gasoil/ Dubai (GO/DB) crack spread in Q4/2017 averaged at 13.01 \$/BBL, a decrease of 0.82 \$/BBL compared to the previous quarter, with respect to the lowered diesel exports from Asia to Europe and South America, due to US refineries reactivating after having been affected by Hurricane Harvey. As well as, Diesel supplies from Asia could not be sent the west, due to high reserves level in Europe from high refining margin, leading European refineries to produce at a high rate.

- Fuel Oil/Dubai crack spread (FO/DB) in 2017 averaged at -2.33 \$/BBL, rose by 2.64 \$/BBL when compared to 2016, this is attributed to lower Fuel Oil supply from the reduction in OPEC production, especially Heavier Crude that is valued lower than Lighter Crude, and has yields high amount of Fuel Oil. Also, various refineries, especially in Russia and Asia increased utilization of cracking unit, effectively lowering Fuel Oil production, a factor that supports GRM in Asia.

Fuel Oil/Dubai crack spread (FO/DB) in Q4/2017 was on average -3.03 \$/BBL, a decline of 1.68 \$/BBL when compared to the previous quarter, the spread decreased from Pakistan's lowered import volume, due to the government's temporarily ban on using Fuel Oil as fuel for electricity production, after mounting pollution problems, aside from this, Fuel Oil price also received pressure from the increase in supply due to refineries around the world operating at high utilization rate.

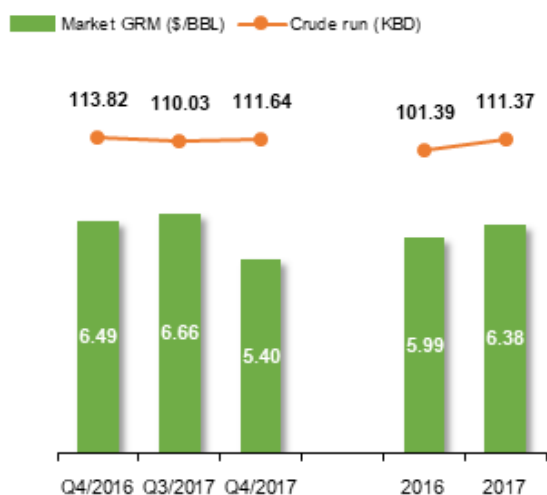


## Refinery Business Group

Refinery Business Group Performance	Q4/2016	Q3/2017	Q4/2017	YoY	QoQ	FY2016	FY2017	YoY
Average Crude Run (KBD)	113.82	110.03	111.64	-2%	1%	101.39	111.37	10%
Utilization Rate (%)	95%	92%	93%			84%	93%	
<b>(Unit: Million Baht)</b>								
Market GRM	2,416	2,261	1,837	-24%	-19%	7,887	8,844	12%
GRM Hedging	(74)	68	46	-162%	-33%	112	348	212%
Inventory Gain/ (Loss) <sup>1/</sup>	907	450	1,094	21%	143%	590	834	41%
<b>Total GRM</b>	<b>3,250</b>	<b>2,779</b>	<b>2,977</b>	<b>-8%</b>	<b>7%</b>	<b>8,588</b>	<b>10,026</b>	<b>17%</b>
<b>EBITDA</b>	<b>2,367</b>	<b>2,198</b>	<b>2,256</b>	<b>-5%</b>	<b>3%</b>	<b>5,756</b>	<b>7,596</b>	<b>32%</b>
<b>(Unit: THB/USD)</b>								
Average FX (THB/USD)	35.57	33.55	33.11	-7%	-1%	35.47	34.11	-4%

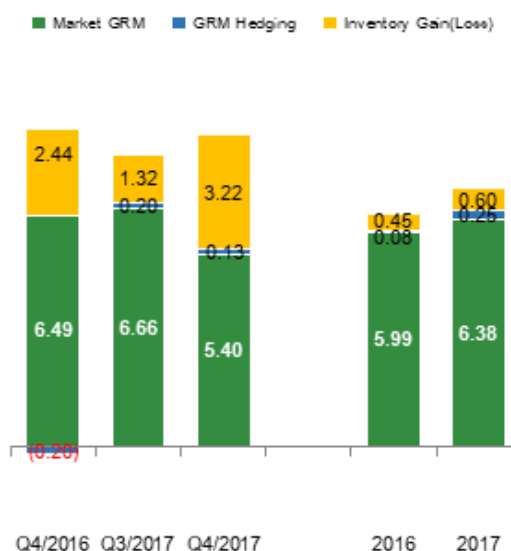
Note: 1/ Inventory Gain/ (Loss) was included a reversal of LCM.

### Market GRM and Crude Run



### Total GRM

Unit: USD/BBL







Total Sales Volume in each market category of the Company								
Marketing Business	Q4/2016	Q3/2017	Q4/2017	YoY	QoQ	FY2016	FY2017	YoY
Retail	921	934	1,002	9%	7%	3,609	3,820	6%
Industrial	570	483	553	-3%	14%	2,180	2,196	1%
<b>Total</b>	<b>1,492</b>	<b>1,417</b>	<b>1,555</b>	<b>4%</b>	<b>10%</b>	<b>5,789</b>	<b>6,016</b>	<b>4%</b>
Wholesale Business								
Petroleum traders in accordance with section 7	258	170	173	-33%	2%	807	707	-12%
Export	247	295	336	36%	14%	934	1,121	20%
<b>Total</b>	<b>505</b>	<b>465</b>	<b>509</b>	<b>1%</b>	<b>10%</b>	<b>1,741</b>	<b>1,828</b>	<b>5%</b>
<b>Total Sales Volume</b>	<b>1,997</b>	<b>1,883</b>	<b>2,064</b>	<b>3%</b>	<b>10%</b>	<b>7,530</b>	<b>7,844</b>	<b>4%</b>

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

2017 performance compared to 2016, the Refinery Business group recorded EBITDA of THB 7,596 million, an increase of THB 1,839 million, attributed to EBITDA from Bangchak refinery of THB 7,450 million, BCP Trading Pte., Ltd. of THB 37 million, shares of profit from Bongkot Marine Service Co., Ltd. of THB 4 million, and has elimination of THB 105 million, with factors affecting operations as follow:

1. The Bangchak Refinery 2017 average crude run was at 111.37 KBD or 93% utilization rate, which is higher than the average production rate of the previous year which has a Turn Around Maintenance (TAM).
2. Total gross refinery margin in 2017 was 7.23 \$/BBL, an increase of 0.70 \$/BBL from the previous year, due to Market GRM increment of 12% this year. This was a result of the increased production rate and crack spread between finished product and crude price improved, especially for Diesel which is the refinery's main product. The gasoil-dubai (GO/DB) crack spread increased more than 16% from the previous year, accompanied by commencement of the 12 MW Co-Generation Power Plant, a part of the 3E program, thus enabling the Bangchak refinery to lower its utility costs. Aside from this, the refinery recorded gain from GRM hedging in the amount of THB 348 million.
3. The refinery business in 2017 recorded an Inventory Gain of THB 834 million, increasing from the previous year due to rising average crude oil price. Average DB crude and DTD Brent increased by 11.71 \$/BBL and 10.46 \$/BBL, respectively, when compared to 2016.
4. In 2017, BCP Trading Pte., Ltd. recorded a revenue of THB 12,509 million, with transaction pertaining to buying and selling of petroleum products in the amount of 5.69 million barrels, the main product traded is the Diesel product and Base Benzene 95. Furthermore, BCP Trading Pte., Ltd. will play an integral role in



acquiring supplies, and buying and selling of crude oil and finished products for Bangchak refinery business group in the future.

Q4/2017 when compared to Q3/2017 the Refinery Business Group recorded EBITDA of THB 2,256 million, an increase of THB 58 million, attributed to the following, EBITDA from Bangchak refinery of THB 2,196 million, BCP Trading Pte., Ltd. of THB 7 million, share of profit from Bongkot Marine Service Co., Ltd. in the amount of THB 7 million, and has elimination of THB 46 million, with factors affecting operations as follow:

1. The Bangchak Refinery recorded an average crude run at 111.64 KBD which is slightly higher than Q3/2017 where the Hydrocracking Unit was a malfunction.
2. Total gross refinery margin for Q4/2017 was 8.75 \$/BBL, an increase of 0.57 \$/BBL from the previous quarter, while Market GRM in Q4/2017 was lower, as a result of the crack spread between the most finished product and crude price which narrowed, combined with crude oil cost which rose from the widened spread between DTD Brent and Dubai crude to be averaged at 1.95 \$/BBL during the quarter, while in Q3/2017 DTD/DB was averaged at 1.65 \$/BBL. However, within this quarter the refinery business recorded gains from GRM hedging in the amount of THB 46 million.
3. In Q4/2017, the refinery business recorded an Inventory Gain of THB 1,094 million, significantly increased from the previous quarter, due to the rising average crude oil price. Average DB crude and DTD Brent increased by 8.88 \$/BBL and 9.18 \$/BBL, respectively, when compared to Q3/2017.
4. Within the quarter, BCP Trading Pte., Ltd. recorded a revenue of THB 4,089 million, with transaction pertaining to buying and selling of petroleum product in the amount of 1.82 million barrels, a significant increase from the previous quarter where 0.89 million barrels was transacted.



## 2) Marketing Business Group

### Marketing Business Group Performance

Sales Volume (Million Liter)	Q4/2016	Q3/2017	Q4/2017	YoY	QoQ	FY2016	FY2017	YoY
Retail (Service Stations)	921	934	1,002	9%	7%	3,609	3,820	6%
Industrial	570	483	553	-3%	14%	2,180	2,196	1%
<b>Total</b>	<b>1,492</b>	<b>1,417</b>	<b>1,555</b>	<b>4%</b>	<b>10%</b>	<b>5,789</b>	<b>6,016</b>	<b>4%</b>
Sales volume in each product category(Million Liter)								
LPG	14	23	25	80%	11%	73	77	6%
Gasoline	11	7	8	-25%	13%	42	43	3%
Gasohol	416	427	442	6%	4%	1,650	1,688	2%
Jet Fuel	225	200	209	-7%	5%	822	841	2%
Diesel	771	714	825	7%	15%	2,992	3,171	6%
Fuel Oil and Others	55	47	46	-17%	-3%	211	196	-7%
<b>Total</b>	<b>1,492</b>	<b>1,417</b>	<b>1,555</b>	<b>4%</b>	<b>10%</b>	<b>5,789</b>	<b>6,016</b>	<b>4%</b>
<b>Total Marketing Margin (Baht / Liter)</b>	<b>0.56</b>	<b>0.73</b>	<b>0.70</b>	<b>26%</b>	<b>-5%</b>	<b>0.79</b>	<b>0.77</b>	<b>-2%</b>
<b>EBITDA (Million Baht)</b>	<b>(3)</b>	<b>474</b>	<b>302</b>	<b>N/A</b>	<b>-36%</b>	<b>2,527</b>	<b>2,301</b>	<b>-9%</b>

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

2017 performance of the Marketing Business Group recorded EBITDA of THB 2,301 million, lowered by THB 226 million compared to 2016, attributed to the following: EBITDA from Bangchak marketing business of THB 2,497 million, Bangchak Green Net Co., Ltd. of THB 94 million, Bangchak Retail Co., Ltd. of THB -229 million, and has elimination of THB 62 million with factors affecting operations as follow:

1. In 2017, overall sales volume of the Marketing Business increased 227 million liters, mainly from the volume sold in the retail business which grew 6%, as the company focuses on service stations sales. The company carried out various marketing strategies, also increasing service station network to be more encompassing, and the development of Non-oil businesses synergy to increase oil product sales volume. The increase in sales volume can be attributed mostly to Diesel and Gasohol 95 product.
2. Total 2017 Marketing Margin decreased slightly from the previous year, due to higher market competition that affected the total marketing margin. This is in part due to lubricant production cost in 2017 that increased, while the company was unable to adjust lubricant selling price to coincide with the rising cost.
3. As of the end of 2017, the number of service stations totals at 1,114 branches with 62 new service stations opening; most are full size service station with modern aesthetic on the main roads and areas with potential. Improvements to the quality of previously owned service station were made to push sales volume per service station, however stations with sales volume below target were still being closed.



4. The company remains at the second rank in market share of sales through service station, and has been gaining shares consistently, the cumulative market share as of 2017 was 15.4%, an increase from 2016's 15.1%.
5. As for the Non-oil business, the company continues to develop and expand its business consistently to add variety to the Non-oil business and other services in the service station, including the convenience store business, "SPAR", and the Inthanin Coffee Shop under the management of Bangchak Retail Co., Ltd., to answer to consumers' needs for increased convenience and comfort when entering the Bangchak service station. As of the end of 2017, there are altogether 446 branches of Inthanin Coffee and 33 branches of SPAR, however, due to Bangchak Retail Co., Ltd. is in the middle of developing its infrastructure and expanding the branches of SPAR accordingly, thus incurring high selling, general and administrative expenses in the beginning, leading the Bangchak Retail Co., Ltd. to record a negative EBITDA.

Q4/2017 performance compared to Q3/2017 for the Marketing Business Group recorded EBITDA of THB 302 million, lowered by THB 172 million, attributed to the following: EBITDA from Bangchak marketing business of THB 384 million, Bangchak Green Net Co., Ltd. THB 6 million, Bangchak Retail Co., Ltd. THB -86 million, and has elimination of THB 3 million, with factors affecting operations as follow:

1. In Q4/2017, overall sales volume of the Marketing Business increased with contributions from both the industrial and retail market in tandem with increasing domestic demand from the holiday season and harvesting season amongst the agriculture customers and related businesses. The increase in sales volume can be attributed mostly to Diesel and Gasohol of which its sales increased by 15% and 4%, respectively.
2. Total Marketing Margin in Q4/2017 decreased slightly compared to the previous quarter, due to retail margin which reduced as a result of product cost increment, combined with the 1.50 THB/Liter reduction in retail price on the 26<sup>th</sup> of October, 2017 to alleviate travel cost for travelers looking to join the royal cremation ceremony of King Rama IX, and the policy to freeze retail price, during December 2017 as a gift for consumers that were traveling during the new year period.
3. The number of service stations as of the end of December 2017 totals at 1,114 branches with an increase of 21 new service stations from the previous quarter.
4. The company is still able to retain its second place in market share of sales volume through service station. In the last quarter of 2017, the market share is considerably high, shares from the period between October to December 2017 was at 16.2%, 15.8%, and 15.7%, respectively.
5. Normally, the selling, general and administrative expenses within the fourth quarter of any year would be higher, from expenses related with human



resources and market promotion expenses, including annual service station maintenance expenses, leading to the quarter's recorded EBITDA to be lower than any other quarter of the year.

### 3) Power Plant Business

Power Plant Business Performance	Q4/2016	Q3/2017	Q4/2017	YoY	QoQ	FY2016	FY2017	YoY
Solar Power Business – Thailand	63.02	65.38	65.72	4%	1%	254.40	265.17	4%
Phase 1-3 (118 MW)	62.66	60.69	61.02	-3%	1%	254.03	247.72	-2%
Cooperative Solar Project (12 MW)	0.36	4.69	4.70	N/A	0.1%	0.36	17.45	N/A
Solar Power Business – Japan (30 MW)	4.90	12.85	7.23	47%	-44%	19.48	41.24	112%
<b>Total Electricity Sales (Million kWh)</b>	<b>67.93</b>	<b>78.24</b>	<b>72.95</b>	<b>7%</b>	<b>-7%</b>	<b>273.88</b>	<b>306.40</b>	<b>12%</b>
<b>Revenue (Million Baht)</b>	<b>757</b>	<b>854</b>	<b>781</b>	<b>3%</b>	<b>-9%</b>	<b>3,084</b>	<b>3,322</b>	<b>8%</b>
<b>EBITDA</b>	<b>568</b>	<b>781</b>	<b>812</b>	<b>43%</b>	<b>4%</b>	<b>2,559</b>	<b>3,088</b>	<b>21%</b>

Performance comparison between 2017 and 2016, the Power Plant business recorded a revenue of THB 3,322 million, an increase of THB 238 million and recorded EBITDA of THB 3,088 million, an increase of THB 528 million, with the following factors affecting operations as follow:

1. Solar power plant projects in Thailand recorded an increase in electricity sales from the contribution of the Solar Co-op project (PPA 12 MW), which has continued to commence commercial operation since December 2016 to March 2017, led to the projects in Thailand having an increase in PPA capacity to 130 MW from the previous 118 MW. As for the electricity sales of phase 1 to 3 of the project in Thailand, for this year has slightly adjusted downward (-2%) from the lower average irradiation hours due to increase rainfall compared to 2016.
2. Solar power plant project in Japan recorded an increase in electricity sales from the realization of the entire year's operation of the Nikaho project (PPA 8.8 MW) which commenced operation in July 2016, and the performance of the Nagi project (PPA 10.5) which commenced in March 2017, resulting in the projects in Japan producing a combined PPA capacity of 30 MW from the previous 20 MW at the end of 2016.
3. Realized share of profit from investment in associated companies in the amount of THB 749 million, attributed to Wind Power Plant in the Philippines in the amount of THB 341 million (production net to BCPG 14.4 MW) which was comprised of gain on purchase of THB 362 million, and share of profit from operation of THB -21 million. There was also a share of profit from investment in Geothermal Power Plant in Indonesia in the amount of THB 408 million



(production net to BCPG 158 MW) which was comprised of gain on purchase of THB 296 million, and share of profit from operation of THB 113 million.

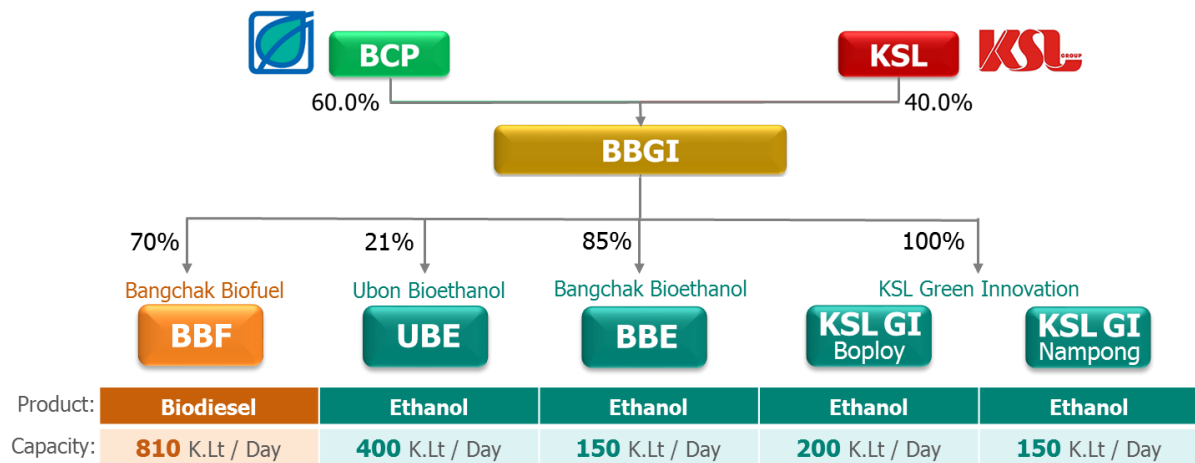
4. Recorded losses from foreign currency forward contract in the amount of THB 304 million. Due to the forward contract for foreign exchange which was made to hedge against foreign exchange rates volatility, for the investments in the Wind Power Plant in the Philippines and the Geothermal Power Plant project in Indonesia; however, the appreciating Thai Baht led to loss from the foreign currency forward contract. However, from the appreciation of Thai Baht, BCPG has also recorded gain on foreign exchange of THB 72 million, as the company has a loan from financial institutions in JPY and USD, resulting in the amount of the loan to lower from the effect of exchange rate changes on balances held in foreign currencies.

Performance comparison between Q4/2017 and Q3/2017, the Power Plant business recorded a revenue of THB 781 million, a decrease of THB 73 million, and recorded EBITDA of THB 812 million, an increase of THB 31 million, with the following factors affecting operations as follow:

1. Solar power plant projects in Thailand recorded similar electricity sales as the previous quarter, both for phase 1 to 3 and Solar Co-op project. Although average irradiation hours were lower in winter, which normally has shorter daylight hours, however, the lower temperature improved the efficiency of electricity production.
2. The solar power plant project in Japan recorded a decrease in electricity sales, which is the main reason for this quarter's decrease in revenue, due to lowered average irradiation hours in every project site, especially the Nikaho project (PPA 8.8 MW) due to the winter weather condition in Japan that has lower amount of light and was met by snowfall.
3. Share of profit from investment in the Wind Power Plant in the Philippines and Geothermal Power Plant in Indonesia was THB 301 million.

#### **4) Bio-based Product Business Group**

As of the 31<sup>st</sup> of October, 2017, the company reorganized its shareholding structure in the Bio-Based Business Group through the amalgamation between BBP Holding Co., Ltd. (a subsidiary of Bangchak Corporation Plc.) and KSL GI Co., Ltd. (a subsidiary of Khon Kaen Sugar Industry Plc.) resulting in the newly formed BBGI Co., Ltd., and has resulted in the company's current shareholding structure in the Bio-Based Product Business Group as follow:



As for the performance of the Bio-Based product business in 2017, revenue was recorded at THB 8,073 million, an increase of THB 980 million, and EBITDA was recorded at THB 529 million, an increase of THB 203 million, which included a share of profit of THB 62 million from Ubon Bio Ethanol Co., Ltd., and the effect of amalgamation resulted in operation performance from KSL Green Innovation Plc. to be realized from November 2017 onwards, which contributed EBITDA of THB 21 million.

For Q4/2017, the Bio-Based product business recorded revenue of THB 2,365 million, an EBITDA of THB 132 million, which included a share of profit from Ubon Bio Ethanol Co., Ltd. of THB 16 million.

### Biodiesel Business by Bangchak Biofuel Co., Ltd.

Biodiesel Business Performance								
	Q4/2559	Q3/2017	Q4/2017	YoY	QoQ	2016	2017	YoY
Average Daily Production Rate (Thousands of liters per day)	398	689	748	88%	9%	406	670	65%
Utilization Rate (%)	49%	85%	92%			80%	83%	
B100 Sales Volume (Million liter)	39	63	72	84%	15%	215	249	16%
Revenue (Million Baht)	1,189	1,653	1,745	47%	6%	6,830	6,699	-2%
EBITDA (Million Baht)	70	68	82	17%	21%	262	260	-1%

Average Sales Price (Source: Department of Energy Business, Ministry of Energy)								
B100 (Baht / Liter)	33.58	26.39	24.79	-26%	-6%	35.11	28.80	-18%
Crude Palm Oil (CPO) (Baht / Kg.)	30.13	22.40	20.49	-32%	-9%	31.95	24.85	-22%





2017 performance compared to 2016 performance, the Biodiesel business recorded sales revenue of THB 6,699 million, lowered by THB 131 million, and recorded EBITDA of THB 260 million, lowered by THB 2 million. Factors that affected operations were as follow:

1. Within 2017, average production was 670 thousands of liters per day (+65%) from the realization of full year performance of the second Biodiesel plant which commenced commercial operation since July 2016, increasing maximum production rate to 810 thousands of liters per day from 360 thousands of liters per day.
2. B100 product sales volume increased by 34 million liters, due to the government's 2017 mandate to increase B100 product mixing portion in Diesel fuel as follow:

B100 mixing portion	7% mixing portion	5% mixing portion	3% mixing portion
2017	238 days	127 days	0 days
2016	206 days	68 days	92 days

3. Average selling price of B100 product significantly decreased from the previous year, and was mainly responsible for the Biodiesel business's lowered revenue, which follows the trend of Crude Palm Oil price that contracted. In 2017, the domestic Crude Palm Oil price was still low and has continued to drop from the beginning of the year, due to increase of oil palm with respect to weather conditions that supports increase palm yields, combined with domestic Crude Palm Oil stock remaining at an all-time high during latter part of the year, affecting the average selling price of B100 product and the cost of Crude Palm Oil.
4. Average gross margin per unit of B100 product lowered due to declining average selling price. As well as Crude Palm Oil price constantly lowering throughout the year, led to an inventory loss of THB 224 million (including an allowance for loss on decline in value of inventories (LCM) of THB 8 million.)

As for Q4/2017 performance compared to Q3/2017, the Biodiesel business recorded sales revenue of THB 1,745 million, an increase of THB 92 million, and recorded EBITDA of THB 82 million, an increase of THB 14 million due to the following factors that affected operations as follow:

1. The B100 product sales volume increased by 9 million liters and caused the average daily production rate to adjust upward, mainly due to the ordered volume for B100 product from BCP and other customers which increased





compared to the previous quarter, following the increased amount of Diesel sold domestically; a result of the holiday season combined with the start of the sugar cane milling season of the sugar mills, leading to high demand for Diesel fuel in the nation.

2. Average gross margin per unit of the B100 product adjusted upwards from the increase in production rate, lowering average cost per unit. Overall, average selling price of B100 product adjusted downward from the previous quarter from the Crude Palm Oil price crisis due to excess supplies of palm oil in the market. Thus, the Biodiesel business recorded an inventory loss of THB 84 million (including an allowance for loss on decline in value of inventories (LCM) of THB 8 million.)

### Ethanol Fuel Business by Bangchak Bioethanol (Chachoengsao) Co., Ltd.

Fuel Ethanol business performance by Bangchak Bioethanol (Chachoengsao) Co., Ltd.								
	Q4/2559	Q3/2017	Q4/2017	YoY	QoQ	2016	2017	YoY
Average Daily Production Rate (Thousands of liters per day)	125	129	131	5%	2%	125	120	-4%
Utilization Rate (%)	83%	86%	88%			83%	80%	
Ethanol Sales Volume (Million liter)	11.1	11.1	12.3	11%	11%	11.1	42.7	286%
Revenue (Million Baht)	263	279	303	15%	9%	263	1,057	302%
<b>EBITDA (Million Baht)</b>	<b>46</b>	<b>74</b>	<b>55</b>	<b>20%</b>	<b>-27%</b>	<b>42</b>	<b>228</b>	<b>439%</b>
<b>Average Sales Price (Source: Department of Energy Business, Ministry of Energy)</b>								
Ethanol (Baht / Liter)	23.11	25.13	24.91	8%	-1%	23.12	24.79	7%

2017 performance compared to 2016 performance, the Ethanol Fuel business of Bangchak Bioethanol (Chachoengsao) Co., Ltd. recorded sales revenue of THB 1,057 million, increased by THB 794 million, and recorded EBITDA of THB 228 million, increased by THB 186 million. Factors that affected operations are as follows:

1. Sales volume of Ethanol fuel in 2017 increased due to realization of full year performance by the Bangchak Bioethanol (Chachoengsao) Co., Ltd.'s Ethanol plant which commenced commercial operations in September 2016.
2. Average daily production rate in 2017 decreased from the previous year due to planned annual maintenance, while in 2016 the Ethanol plant had been in operation for 4 months, thus was not subjected to maintenance.
3. Average selling price of Ethanol product in 2017 increased by 7% from the increased demand for Ethanol usage in the country following increased sales volume of Gasohol E20 and E85 from the previous year, combined with molasses price adjusted upward; it being the main ingredient for the production



of Ethanol fuel in the country, from decrease in quantity of sugar cane in the market

4. Average gross margin per unit of Ethanol product increased from the increment of average selling price of Ethanol product, as a result of cassava price; main raw ingredient of the Bangchak Bioethanol (Chachoengsao) Co., Ltd. decreased in the first 9 months of this year, from the lowered percentage of starch in harvested cassava, in tandem with China, main global importer, put downward pressure on the price of cassava chip and flour from Thailand.

As for Q4/2017 performance compared to Q3/2017, the Ethanol fuel business had sales revenue of THB 303 million, an increase of THB 24 million and recorded EBITDA of THB 55 million, a decrease of THB 20 million due to the following factor that affected operations as follow:

1. Sales volume of Ethanol product increased, mainly due to the ordered volume from BCP, main customer, increased compared to the previous quarter following the increase in the Gasohol products sold by the company.
2. Average gross margin per unit of Ethanol product adjusted downward compared to the previous quarter, partly from slight decline in average selling price of Ethanol product. While average raw material cost increased from the rise in the price of cassava during November to December 2017, a result of deficit cassava supplies in the market due to emergence of the product's harvesting season.
3. Overall in Q4/2017 the Bangchak Bioethanol (Chachoengsao) Co., Ltd. recorded an increase in selling, general and administrative expenses from the environmental improvement made to the factory, which is only one-time expense.

## 5) Natural Resources Business Group

As for the performance of the Natural Resources Businesses Group in 2017 recorded EBITDA of THB 286 million, mainly attributed from the Exploration and Production Business, with performance as follow:

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

E&P Business Performance	Q4/2016	Q3/2017	Q4/2017	YoY	QoQ	FY2016	FY2017	YoY
Production Volume <sup>1/</sup> (barrels per day net to Nido)	2,631	2,156	2,045	-22%	-5%	2,860	2,231	-22%
Sales Volume (barrels net to Nido)	203,224	203,807	206,052	2%	1%	996,657	820,560	-18%
Revenue (Million Baht)	327	336	388	19%	16%	1,503	1,510	0.5%
<b>EBITDA (Million Baht)</b>	<b>71</b>	<b>44</b>	<b>25</b>	<b>-65%</b>	<b>-44%</b>	<b>323</b>	<b>295</b>	<b>-9%</b>

Note: 1/ production volume of Galoc oil field only



2017 performance compared to 2016, the exploration and production business had a revenue of THB 1,510 million, an increase of THB 7 million and recorded EBITDA of THB 295 million, a decrease of THB 28 million, with the following factors affecting operations as follow:

1. In 2017, the Galoc oil field production had an Uptime of 99.95% and an average production volume of 3,993 barrels per day (2,231 barrels per day net to Nido, 22% lower than the previous year from the Natural Decline Curve)
2. Total sales volume net to Nido was 820,560 barrels (Galoc 787,250 barrels and Nido & Matinloc 33,310 barrels.)
3. Sales revenue increased due to average selling price adjusted upward following Dubai crude oil price, with average Dubai price in 2017 was at 53.14 \$/BBL while in 2016 it was at 41.43 \$/BBL.
4. Allowance for impairment loss of asset was recorded according to accounting standard at USD 45.03 million (approximately THB 1,528 million) from impairment for exploration and appraisal of the Gurita area, the cessation of plans to develop crude production in the Mid-Galoc area, as the development is not commercially justifiable, and from the assessment of reserve volume of the resource in the Galoc area decreasing from the previous year.

Q4/2017 performance compared to Q3/2017, the Exploration and Production business recorded a revenue of THB 388 million, an increase of THB 53 million with recorded EBITDA of THB 25 million, decreased by THB 19 million, with the following factors affecting operations as follow:

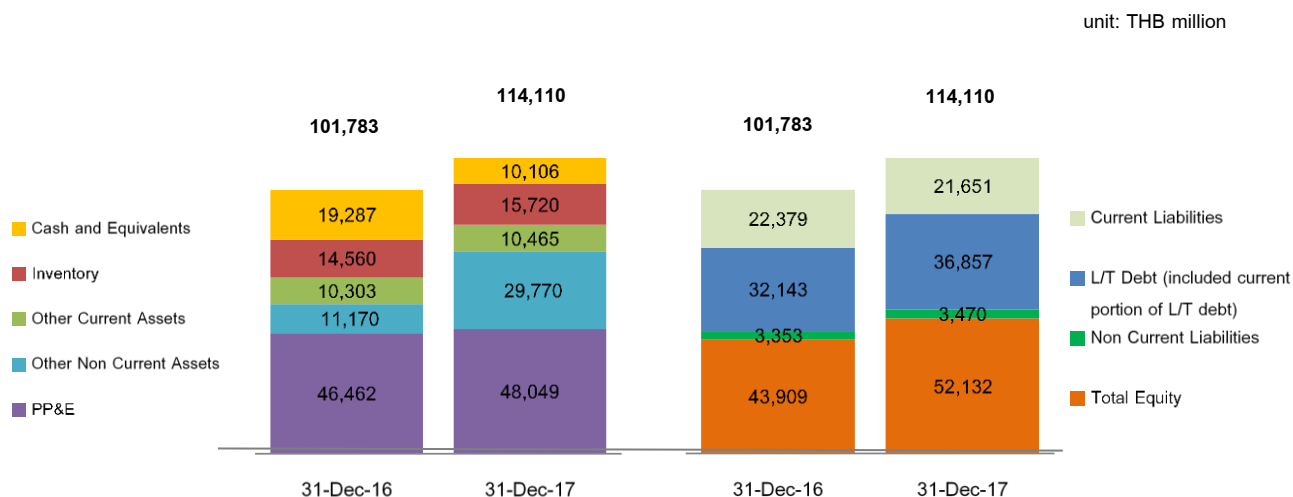
1. The Galoc oil field production had an Uptime of 100% and an average production rate of 3,659 barrels per day (2,045 barrels net to Nido.)
2. Total sales volume net to Nido was 206,052 barrels (Galoc 196,961 barrels and Nido & Matinloc 9,091 barrels.)
3. Sales Revenue was THB 388 million, an increase due to average selling price adjusted upward following Dubai crude oil price, with average Dubai price in Q4/2017 was at 59.32 \$/BBL, compare to the Dubai price of 50.49 \$/BBL in Q3/2017.
4. Impairment loss from asset was USD 1.86 million (approximately THB 63.30 million) from the assessment of reserve volume of the resource in the Galoc area decreasing from the previous year.



## Statement of Financial Position

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

unit: THB million



## Assets

As of December 31<sup>st</sup>, 2017, the company and its subsidiaries has Total Assets in the amount of THB 114,110 million, an increase of THB 12,328 million when compared to December 31, 2016, changes in assets are as follow:

- Cash and cash equivalents decreased by THB 9,181 million. Details are stated in Analysis of the Cash Flow Statement
- Net Trade Account Receivable increased THB 1,489 million, comprised of the company's account receivables increased by THB 194 million due to the rising sales volume and average selling price in 2017, and BCP Trading Pte. Ltd. account receivables increasing by THB 1,089 million from the increase in transaction volume, and also from the increase in account receivables from KSL Green Innovation Plc. through the business amalgamation.
- Inventory increased by THB 1,160 million, mainly due to oil inventory of which average cost rose in tandem with the increasing oil price in the global market, especially finished oil products of which average cost increased significantly. The company's inventory volume of finished oil products was at 2.0 million barrels, increasing from the previous year. As for crude oil inventory, the company had stored 3.5 million barrels, which is lower than the previous year, whereas average cost adjusted upwards. Inventory value increment was also partially from BCP Trading Pte. Ltd.'s inventory growth.



- Oil Fund Subsidy Receivable increased THB 447million, mostly attributed to the increase in average rate of subsidy per kilogram for the LPG product, and the increasing length of time to receive subsidies for Gasohol E20 and E85 product.
- Investment in subsidiaries which shown in company only financial statement increased by THB 972 million, but eliminations between related parties led to investments in subsidiaries to be shown as zero in consolidated financial statement, with details as follow:
  - BPP Holding Co., Ltd. was established with a registered capital of THB 1,700 million to mainly manage the Bio-based product business and to support the restructuring of the Bio-based product business. From the mentioned restructuring, the company has sold its investment in ordinary shares of 70% in Bangchak Biofuel Co., Ltd, and 85% in Bangchak Bioethanol (Chachoengsao) Co., Ltd. to BPP Holding Co., Ltd.
  - BCP Energy International Pte. Ltd. increased its capital by the amount of THB 37 million to purchase the remaining shares of Nido Petroleum Limited from minor shareholders, to increase its shareholding in Nido to 100%. However, there was an allowance for impairment loss from asset according to accounting standards for BCP Energy International Pte. Ltd. in the amount of THB 1,293 million.
  - BCP Innovation Pte. Ltd. increased its capital by the amount of THB 1,149 million to acquire additional shares from lithium Americas Corp.'s capital increment.
- Investment in Associates and Joint Ventures increased THB 13,561 million, mostly from BCPG Plc., a subsidiary of the company, which has acquired ownership in CapAsia ASEAN Wind Holdings Cooperatief U.A, which holds a 40% stakes in PetroWind Energy Inc., a company that operates Wind Power Plants in the Philippines, and from its share acquisition of Star Energy Group Holdings Pte. Ltd., which holds a 33.33% stakes in the Star Energy Investments Ltd. (SEIL), a company that operates a Geothermal Power Plant in Indonesia, and realized share of profit from the acquired power plants.
- Other long term investment increased by THB 3,607 million, mostly from BCP Innovation Pte. Ltd., a subsidiary of the company, which increased its ownership in LAC by the amount of CAD 42.5 million or approximately THB 1,089 million. Recorded net fair value change in available-for-sale investment (LAC) in the amount of THB 2,722 million, while the company received investment return in MFC in the amount of THB 73 million.
- Property, plant and equipment net increased by THB 1,587 million, investment was made primarily in refinery machinery, sales equipment, and office equipment at THB 4,183 million, and interest expense booked as construction cost of THB 126 million. BCPG Plc.'s incremental was from the construction work on solar power plants both domestically and in Japan in the amount of THB 654



million. Assets increased from the amalgamation of BBGI Co., Ltd. in the amount of THB 1,491 million, with depreciation for the year recorded at THB 4,780 million.

- Intangible Assets decreased by THB 1,281 million, due to investment that has to do with exploration and assessment of THB 404 million, license to operate and development cost for packaged software in the amount of THB 215 million. However, intangible assets were reduced due to asset impairment for the expenses used in the exploration and production of the Gurita PSC and the Mid-Galoc oil field in the amount of THB 1,465 million, loss from foreign exchange conversion of the financial statement in the amount of THB 305 million, and amortization at THB 134 million, the remaining is the right for electricity grid connections and contracts for buying and selling electricity.
- Deferred tax asset increased by THB 454 million, mostly from the deferred income tax for the impairment loss of investment.

### **Liabilities**

As of December 31<sup>st</sup>, 2017, the Company and its subsidiaries has Total Liabilities in the amount of THB 61,979 million, increased by THB 4,104 million, changes in liabilities were as follow:

- Short-term loan from financial institution was lowered by THB 3,398 million, mainly due to the repayment of loans in foreign currency.
- Trade Accounts Payable increased by THB 1,250 million, mainly from the increase in BCP Trading Pte., Ltd.'s Trade Account Payable by THB 1,023 million, due to higher transaction volume.
- Excise Tax and Oil fund expense payable increased by THB 1,968 million, resulting from the change in payment period from daily to monthly, which led to outstanding balance in 2017 to represent 30 days' sales value, compared to the 10 days' sales value in 2016.
- Loans from financial institutions and debentures (including current portion of long-term loans) increased by THB 4,714 million, mainly from additional loan draw down in the amount of THB 8,868 million (mainly from BCPG Plc.), and from the business amalgamation of THB 400 million, repayment of loans to financial institution in the amount of THB 2,161 million, as well as repayment for the company's debenture in the amount of THB 2,000 million, and adjustments to the effects of THB appreciation on the financial statement in the amount of THB 393 million.
- Estimate of short-term loan decreased by THB 502 million as BCPG settled deferred payments with respect to the contract business acquisition of solar power plants in Japan from the SunEdison group.





## Equities

As of December 31<sup>st</sup>, 2017, the company and its subsidiaries' Total Equity was THB 52,132 million, Total Equity attributable to owners of the Company was THB 45,650 million, an increase of THB 6,107 million, mostly from the Net Profit for the period of THB 5,778 million, paid dividend of THB 2,822 million, loss from actuarial science from employees benefits program of THB 56 million. Other capital surplus reduced by THB 272 million, from the change of shareholding in BBGI Group, but recorded capital surplus increment of THB 1,170 million from amalgamation (BBGI). Warrant of rights to purchase BCPG Plc. ordinary shares increased by THB 19 million. There was also an increase in other component of equity by THB 2,290 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 33.15.

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

As for 2017, the Company and its subsidiaries had net cash received from operating activities of THB 13,851 million, net cash used in investing activities of THB 18,960 million, and net cash used in financing activities of THB 3,761 million. As a result, net cash and cash equivalents decreased by THB 8,870 million, as there was cash in the amount of THB 19,287 million as of January 1<sup>st</sup>, 2017, and the effects of exchange rate conversion on balances held in foreign currencies in the amount of THB -310 million, resulting in remaining cash as of December 31<sup>st</sup>, 2017 in the amount of THB 10,106 million, details for each activity are as follow:

Details of cash received and used are as follows:

Cash Flows (Unit: THB Million)	FY2016	FY2017
Net cash received (used in) operating activities	13,288	13,851
Net cash received (used in) investing activities	(8,155)	(18,960)
Net cash received (used in) financing activities	6,391	(3,761)
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>11,524</b>	<b>(8,870)</b>
Cash and cash equivalents as at 1 January	7,872	19,287
Effect of exchange rate changes on balances held in foreign currencies	(109)	(310)
<b>Cash and cash equivalents as at 31 December</b>	<b>19,287</b>	<b>10,106</b>

1) Net cash received from operating activities of THB 13,851 million from:

- Net cash received from operating activities of THB 14,031 million, which was from Net Profit of THB 6,405 million, added back Non-Cash Expenses of THB 6,133 million, and Financial Costs and Tax expense of THB 1,493 million.



- Net Cash used in the operating assets of THB 3,130 million, decreased from cash reduction from Trade Accounts Receivable of THB 1,434 million, from Other Receivables of THB 555 million, from Inventory of THB 753 million, and from Other Current Assets of THB 387 million.
- Net Cash received from operating liabilities of THB 3,249 million, due to an increase in Trade Accounts Payable of THB 1,357 million, Other Payables decreased by THB 11 million, Other Liabilities increased by THB 1,902 million.
- During the period, Net cash paid for Corporate Income Tax was THB 299 million, Corporate Income Tax return was THB 948 million, and paid for Corporate Income Tax in cash to the Revenue Department in the amount of THB 1,247 million.

2) Net Cash used in investing activities of THB 18,960 million, mainly from

- Net cash received from interest income of THB 136 million, and dividends received from associate company, namely, Ubon Bioethanol Co., Ltd. and Fuel Pipeline Transportation Co., Ltd. in the amount of THB 65 million.
- Net cash received from the selling of investment in MFC in the amount of THB 78 million.
- Net cash paid for investment in Lithium Americas Corp. “LAC”, and investment in start-up companies in the amount of THB 1,140 million.
- Net cash paid for investment in associate companies and joint ventures in the amount of THB 13,388 million, the company increased investment in Bongkot Marine Services Co., Ltd. by THB 29 million. While BCPG Plc. invested THB 922 million in CapAsia ASEAN Wind Holdings Cooperatief U.A. which holds 40% stakes in PetroWind Energy Inc., a company that operates 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 Star Energy Investments Ltd. (SEIL) that operates Geothermal Power Plant in Indonesia. Moreover, there was THB 481 million cash paid to settle 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.
- Cash paid for investment in property, plant, and equipment in the amount of THB 5,522 million, mainly from investments in refinery machinery and equipment, marketing and office equipment of the company for THB 4,183 million, construction work in progress on Solar Power Plant for THB 836 million, investment in marketing equipment and construction work in progress for branches of Bangchak Retail Co., Ltd. of THB 187 million, and investment in Other Assets in the amount of THB 316 million.
- Net cash received from selling property, plant, and equipment THB 499 million, mostly from selling Suimei Power Plant Project in Japan by BCPG Plc.
- Net cash paid for the leasehold right of service stations of THB 559 million





- Net cash paid for the purchase of intangible assets by THB 641 million, mostly for the expense of petroleum exploration and evaluation of Nido Petroleum Ltd.

### 3) Net cash used in financing activities of THB 3,761 million, mainly from

- Cash paid for finance costs of THB 1,305 million.
- Dividend paid of THB 3,310 million, comprised of dividend from the company of THB 2,822 million, dividend paid to shareholders outside the group from BCPG Plc. and Bangchak Biofuel Co., Ltd. of THB 489 million.
- Short term loan decreased by THB 3,937 million, mainly from the foreign currency loan repayment from the company.
- Cash received from long term loan increment of THB 8,868 million, mainly from BCPG Plc.'s long-term loan increased by THB 8,848 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 2,069 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 ownership 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 27 million.

### Financial Ratios (Consolidated)

Profitability Ratios (%)	Q4/2016	Q3/2017	Q4/2017	FY2016	FY2017
Gross Profit Margin	9.30%	9.12%	7.76%	8.22%	7.87%
EBITDA Margin	7.56%	9.18%	7.84%	7.85%	7.94%
Net Profit Margin	2.44%	3.83%	3.38%	3.27%	3.72%
Return on Equity (ROE)	12.70%	13.09%	13.57%		
Return on Assets (ROA)	7.51%	7.09%	7.31%		

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



	31 Dec 16	30 Sep 17	31 Dec 17
<b>Liquidity Ratios</b>			
Current Ratio	1.69	1.61	1.52
Quick Ratio	1.10	0.85	0.80
<b>Financial Policy Ratios</b>			
Interest bearing Debt to Equity	0.86	0.94	0.78
Net Interest bearing Debt to Equity	0.38	0.70	0.59
	<b>Q4/2016</b>	<b>Q3/2017</b>	<b>Q4/2017</b>
DSCR	1.80	2.43	2.50

\*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 Receivable) / 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.

Unit: THB Million

Environment Management Accounting : EMA	FY2016	FY2017	△
<b>Material Costs of Product Outputs</b>			
: Consist of crude oil, ethanol, biodiesel, chemical, energy and utilities in production	73,360	94,982	21,622
<b>Material Costs of Non-Product Outputs</b>			
: Consist of slop and sludge oil, waste water, chemical surplus	77.26	93.19	15.93
<b>Waste and Emission Control Costs:</b> Consist of maintenance cost of environmental control equipment and depreciation and other fees	314.54	279.17	(35.37)
<b>Prevention and Other Environmental Management Costs</b>			
: Consist of monitoring and measurement cost, environmental management system expenses	25.2	17.33	(7.87)
<b>Total Expenses</b>	<b>73,777</b>	<b>95,372</b>	<b>21,595</b>
<b>Benefit from by-product and waste recycling</b>	(15.61)	(12.26)	(3.35)

Total environmental cost in 2017 increased from 2016 by approximately THB 21,595 million (+29%) mainly due to Material Cost of Product Output increased by THB 21,622 million with respect to increase in Crude Oil price from the previous year by 21%. However, average production rate increased from 101.39 KBD in 2016 to 111.37 KBD in 2017. Also Material Costs of Non-Product Outputs increased by THB 15.93 million in accordance with the quantity of product that is below quality standard increased by THB 16.18 million, while Waste and Emission Control Costs decreased by THB 35.37 million (-11%), primarily from maintenance cost for environmental equipment, depreciation of environmental control equipment, and waste management that decreased by THB 12.17 million, THB 11.54 million, and THB 11 million, respectively. Aside from the aforementioned Prevention and Other Environmental Management Costs decreased by THB 7.87 million (-31%) from the decrease in



monitoring and measurement cost that lowered by THB 10 million. Benefits from by-products and waste recycling decreased by THB 3.35 Million (-21%) due to sellable residue steel and aluminum scrap decreased by THB 3.64 million, while Liquid Sulfur value increased by THB 0.46 million.

#### **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.

## **Management's Perspective towards 2018 Performance**

### **Economic Situation Perspective**

The world economy in 2018 is expected to continue to expand from the economies in various countries, especially developing countries, have started to recover. The US in particular, is expected to expand their economy from their tax reform policy. However, although the overall global economy is on the road to recovery, inflation is still low, as wages in developed country did not adjust upward to coincide with lowering unemployment rate. Thus, it is expected that the policy to increase interest rate of major countries will be made gradually, in tandem with the Balance Sheet Normalization by the US Federal Reserves and the Qualitative Easing Tapering by European Central Bank.

As for Thai economy in 2018, it is expected to expand consistently from the previous year, supported by the strengthening world economy that has led to the growth of Thai exports and tourism sector, increasing government spending, and investments from multinational corporations on the Eastern Economic Corridor initiative. As for household consumption, overall has a potential for growth, as the group of first time car owners have started to finish their installment payments, also consumption by high income group continues to expand.

### **Oil Price Situation Perspective**

The price of crude oil which has been adjusted upward to the range of 60 to 70 \$/BBL since the beginning of 2018 has increase the prospect for production of Shale Oil based petroleum product in the US for this year. However, global crude oil demand is still expanding from the recovering economy, and the extension of the agreement to lower production between OPEC members and Non-members to the end of 2018 will result in reserves around the world to adjust downward. Further, it is speculated that Saudi Arabia will still regulate their production limitation to maintain oil price before Initial Public Offering of Saudi Aramco; the world's largest oil company, by the end of 2018. Also, it is forecasted that the OPEC members will decide to gradually increase production, rather than make a sudden termination of their agreement to stabilize the

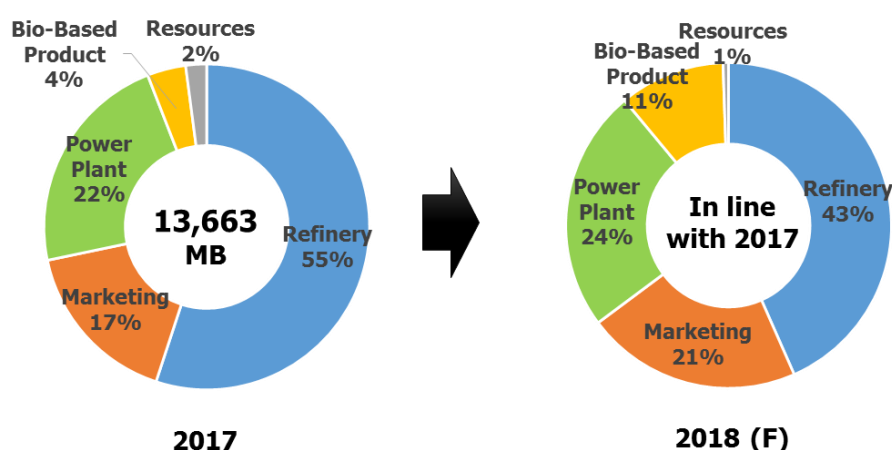


oil market. Moreover, the expanding Asia's economy outlook, and the European Central Bank preparing to implement their contractionary monetary policy within this year, are factors that would cause various currencies to appreciate against the USD, and will have positive impact on commodity prices, including oil price. BCP expects that crude oil price will adjust upward marginally to average between 55-70 \$/BBL.

The spread between DTD Brent and Dubai (DTD/DB) is expected to increase to average at 1.5-2.5 \$/BBL when the ESPO II oil pipeline begins their operation; allowing Russia to export more of their crude oil to China and Asia, replacing Asian imports of crude oil from the Middle East, aside from this, Russia will be able to lower their export of crude oil to Europe, thus resulting in higher price of Dated Brent when compared to Dubai.

As for the gross refinery margin, it is forecasted that the GRM of Dubai crude oil from Hydrocracking refinery in Singapore will be close to that of 2017's. It is expected that GRM for the first half of the year will be substantial, due to high demand levels from the freezing weather condition in various countries, and from the turnaround maintenance and emergency shutdown of various refineries. However, GRM for the latter half of the year has been anticipated to be slightly lower from lagging demand due to increasing crude price, operations of new refineries, and expansion of current production in many Asian countries.

### Management perspective towards 2018 performance trends



In 2018, management expected that EBITDA performance for Bangchak Business Group's would be roughly in the same level as the previous year, due to this year, Bangchak refinery will undergo a Turnaround Maintenance in Q2/2018, which will result in the refinery to be underperforming from 2017. However, various businesses under the company's group are expected to make improvements in performance, especially the marketing business which continues to follow its strategy to increase service stations networks, combined with increasing variety in Non-oil



businesses to push retail sales volume and retain market share consistently. Also, the Bio-based product business will pursue expansion plans in preparation for its Initial Public Offering in the Stock Exchange of Thailand in late 2018.

Key factors for each business are as follow:

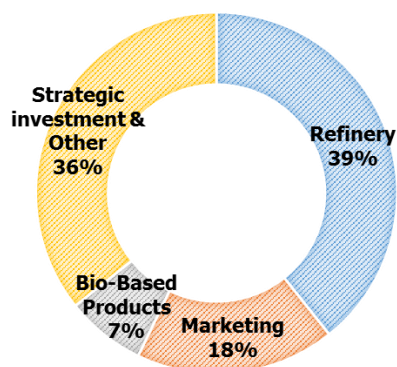
Business	Important Estimations
<b>Refinery Business</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Plans for 2018 TAM to last approximately 45 days during Q2/2018, resulting in the expected average 2018 crude run to be at 100 - 102 KBD</li> <li><input type="checkbox"/> Estimated Market GRM to be in the 6 to 7 \$/BBL range.</li> <li><input type="checkbox"/> The 3E Project will commence the construction of the CCR and Debottlenecking project as planned.</li> <li><input type="checkbox"/> Consistently carrying out the refinery efficiency improvement program to increase GRM.</li> </ul>
<b>Marketing Business</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Sales volume estimated to grow approximately 5 - 7%</li> <li><input type="checkbox"/> Approximate Marketing Margin is THB 0.75 – 0.80 per liter.</li> <li><input type="checkbox"/> Plans to increase service stations by 80 locations in highly potential areas with emphasis on modern brand image promoting Greenovative Experience, while making improvements to existing service stations to increase convenience for the consumers.</li> <li><input type="checkbox"/> Putting emphasis on Non-oil businesses to meet consumers' needs and increase the ability to compete in retail market, with plans to open 30 SPAR branches and expand 200 Inthanin Coffee branches, aside from this there are plans to expand Inthanin Coffee abroad to Cambodia and Laos PDR.</li> </ul>
<b>Bio-based Product Business</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> The Biodiesel business expects to increase sales volume, with forecast that the government will retain B100 mixing portions in Diesel product at 7% all year. Production rate is also planned to increase, with utilization rate expected at 95%.</li> <li><input type="checkbox"/> The Ethanol business by Bangchak Bioethanol (Chachoengsao) Co., Ltd. and KSL Green Innovation Plc. estimates higher sales volume and plans an average production rate at full capacity.</li> <li><input type="checkbox"/> Plans to further invest in value-added Bio-based product business, developing Bio-based technology to create high value Bio-based product such as Refined Glycerin in preparation for getting listed in the Stock Exchange of Thailand.</li> </ul>
<b>Natural Resource Business and Business Development</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> The E&amp;P business expects production from Galoc field to be at 1,700 barrels per day (net to Nido).</li> <li><input type="checkbox"/> Develop innovation businesses / investing in start-ups through Bangchak Initiative and Innovation Center (BIIC), focusing on innovations in engineering and clean energy technology that is environmentally friendly, energy management, and Bio-based technology.</li> </ul>





### Capital Expenditures Plan for 2018

The Bangchak Group estimates its Capital Expenditure coinciding with its 2018 budget which has been approved by the company's Board of Directors (excluded BCPG Plc.), in total THB 14,000 million, with details as follow:



Unit: THB million	Investment Estimation
Refinery	5,500
Marketing	2,500
Bio-Based Products	1,000
Strategic investment & Other	5,000
<b>Total</b>	<b>14,000</b>

### Research & Development and Innovation

In 2017, the Company worked on research & development and innovation concerning enhancing biodegradation of contaminated soil, Bio-Jet Fuel Catalytic Synthesis Using Micro tube, a cleaning warmer system of solar cell in solar farm for the highest energy efficiency and product development, which total costs was approximately Baht 4.8 million.