



Bangchak Corporation Plc.

Management Discussion & Analysis of Business Operation

For the quarter ended September 30th, 2019



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Executive Summary

Summary of the Company and its subsidiaries' operating results for the quarter ended 30th September 2019

Unit: THB Million	Q3/2019	Q2/2019	QoQ	Q3/2018	YoY	9M2019	9M2018	YoY
Total Revenue	46,481	48,326	-4%	53,461	-13%	140,343	143,244	-2%
Accounting EBITDA	2,141	2,189	-2%	4,160	-49%	6,289	10,518	-40%
<i>Refinery and Trading Business Group</i> ^{1/}	631	650	-3%	2,142	-71%	1,799	5,349	-66%
<i>Marketing Business Group</i> ^{2/}	680	630	8%	468	45%	1,920	1,712	12%
<i>Power Plant Business Group</i> ^{3/}	710	721	-2%	1,542	-54%	2,168	2,999	-28%
<i>Bio-Based Product Business Group</i> ^{4/}	296	136	118%	149	98%	626	624	0.3%
<i>Natural Resource Business Group</i> ^{5/}	(101)	145	-170%	(81)	-26%	21	24	-11%
<i>Others</i> ^{6/}	(75)	(94)	20%	(61)	-24%	(245)	(190)	-29%
Net profit attributable to owners of the parent	370	528	-30%	1,856	-80%	1,112	4,009	-72%
Basic earnings per share (Baht)	0.27	0.38		1.35		0.81	2.91	

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

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

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

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

5/ EBITDA from Natural Resources business of Nido Petroleum Pty. Ltd., BCP Energy International Pte. Ltd., BCP Innovation Pte. Ltd., BCPR Co., Ltd. and share of profit from associated companies

6/ Others items and elimination

As for the performance for the first 9 months of 2019, Bangchak Corporation Plc. ("the Company") and its subsidiaries earned revenue from the rendering of goods and services THB 140,343 million (-2% YoY), recorded EBITDA THB 6,289 million (-40% YoY), and a net profit of THB 1,621 million, of which the **net profit attributable to owners of the parent of THB 1,112 million** (-72% YoY), and **earnings per share at THB 0.81**.

As for Q3/2019 performance, the Company and its subsidiaries earned revenue from sales of goods and rendering services THB 46,481 million (-4% QoQ, -13% YoY), recorded EBITDA THB 2,141 million (-2% QoQ, -49% YoY), and recorded net profit at THB 370 million; of which the **net profit attributable to owners of the parent THB 370 million** (-30% QoQ, -80% YoY). **Earnings per share was THB 0.27**, with performance from each business group as follow:

Performance of the **Refinery and Oil Trading Business Group** recorded a significant improvements in Operating GRM from the previous quarter, due to the increment of every finished product and crude oil price crack spreads, with supporting factors ranging from the maintenance of various refineries in North Asia, as well as concerns over supplies tightening after the attack of the large Saudi Arabian refineries in this past September. During this quarter Bangchak refinery had a utilization rate of 110.8 KBD due to the planned maintenance of the Hydrocracking Unit to replace its catalyst from mid-July to mid-August. The unit has currently resumed operation and operates at full capacity. Despite the higher Fuel Oil yield portion during this quarter, the refinery benefited from the increasing price of Low



Sulphur Fuel Oil, as preparations were made for the transition into the adoption of Low Sulphur Fuel Oil as the fuel source for shipping vessels following the mandate of the IMO which will begin enforcement in 2020. Nevertheless, from the volatility of global crude oil in price throughout the quarter, especially the Dubai crude oil price which dropped during early August to September from concerns over the trade war between the US and China, combined with the Thai Baht appreciating against the US Dollar affecting the value of the company's inventory, resulted in this quarter's Inventory Loss of THB 1,163 million, negatively affecting the refinery's business performance. As for the oil trading business operated by BCP Trading Pte. Ltd., there was an increase in trade and transactions volume of crude oil and finished products. A result of the company moving forwards with the expansion of its trade transactions with new partners with respect to the company's strategic plan to enlarge the business.

Marketing Business Group recorded 5% higher total sales volume YoY, especially retail market sales which increased 9% from the Company's policy which continues to prioritize retail market expansion. Nonetheless, sales volume slightly declined from the previous quarter. Due to this quarter being a part of the low season and has entered the rainy season resulted in floods in many areas; the impact of such event caused utilization of vehicles and fuel consumption to be lower. However, the Company's sales of B20 Diesel through the retail channel has doubled from the previous quarter after debuting the Hi-Diesel B20S which is of higher quality than the normal B20 Diesel. At the same time, the Company increased the number of service stations with B20 Diesel available to cover every region, which was responded positively by customers. The Company also sells B10 Diesel in tandem with the policy of the Ministry of Energy. Bangchak is still increasing its market share in terms of sales volume through service stations, and the cumulative market share from January to August was 15.9% (based on information from the Department of Energy Business). There was also the expansion of service station locations along with the development and expansion of Non-Oil business. As of the end of Q3/2019 the number of service stations was 1,188 locations. For the Net Marketing Margin that lowered from the previous quarter was caused by the price of finished products in the global market increasing in September, while the company was unable to adequately adjust retail prices to keep up with the increasing product cost.

Power Plant Business Group earned lower revenue from sales and rendering of services both for projects in Thailand and Japan due to seasonality, as the shift to the rainy season resulted in the lower average irradiation hours, especially for the solar power plant projects located in Thailand which are the main source of revenue. Altogether, the amount of electricity sold increased both QoQ and YoY, from the commencement of commercial operations of the Thailand based wind power plant project "Lom Ligor" in full quarter, combined with the realized performance from the hydro power plant project in Laos PDR, "Nam San 3A" which BCPG has acquired a 100% shareholding since late September, even with the divestment of assets in the Nikaho and Nagi projects in Japan in September 2018. From the said divestments, the company recorded profit from selling of the assets at THB 795 million, leading to the EBITDA of this quarter being lower than that of the same period of the previous year. Moreover, in the quarter, the company realized a share of profit from associated company in the amount of THB 123 million, comprised of profit sharing from the wind power plant in the Philippines THB 16 million, and profit sharing from the geothermal power plant in Indonesia THB 107 million.

Bio Based Product Business Group, the **Biodiesel business** reported production and sales volume of B100 products increased from the government sector policy to support the higher usage of Biodiesel (B100) in the energy



sector; both for B20 and B10 Diesel. Therefore demand for consumption in the B100 market increased, and has caused the company's gross profit to improve from the previous quarter. However, within this year the company is still affected by the situation of the crude palm oil price which was still at a low level, and the global market price of Glycerin that has adjusted downwards. As for the **Ethanol business**, its production and sales volume of Ethanol products increased from the same period of the previous year, from the plant at the Bo Ploy district, Kanchanaburi province which increased their production capacity from 200,000 liters per day to 300,000 liters per day, and an increase QoQ after plants resuming operating after its scheduled maintenance. Gross profit increased from the higher amount of Ethanol sold, and the Bangchak Bioethanol (Chachoengsao) Co., Ltd. improved its management of raw material cost. Also, within this quarter KSL Green Innovation Plc. made adjustments to lower their molasses cost in accordance to the announcement regarding average price of molasses sold in the country during 2018/2019 causing gross profit to increase.

Natural Resources Business Group recorded its performance softened due to the previous quarter recording gains from changes in investment interest at THB 94 million from OKEA's initial public offering, and also THB 82 million gain on foreign exchange forward contract, whereas, this quarter the gain on foreign exchange forward contract was only THB 1 million. Moreover, within this quarter the company realized share of loss from its associated company, OKEA, of which performance retracted as crude oil sales from the Draugen field consisted of only 1 cargo and Gjøa field's average production declined due to its scheduled maintenance in August. The company also recorded an increase in exploration expense coinciding with the operation plans of OKEA, and realized loss on foreign exchange as the US Dollar appreciated against the Norwegian Krone (NOK). However, during this quarter there were no impairments on Technical Goodwill, due to adjustments of production profile and cost of production of the Gjøa field.

Other Important Events in the Quarter

- In August, the Company announced its interim dividend payment for the first six-month period of 2019 to the Company's shareholders at THB 0.50 per share, totaling THB 688 million. The dividend has been paid to the shareholders on 10th September 2019.

- During September 2019, BCPG Indochina Company Ltd. (Subsidiary of BCPG Plc.) invested in a hydropower plant project in Laos PDR with total installed capacity of 69 megawatts. The indirect subsidiary acquired of 100% share of Nam San 3A Power Sole Co., Ltd. ("Nam San 3A") from Phongsavath Roads and Bridges Construction and Irrigation Sole Co., Ltd. for an amount of not exceeding USD 174 million (approximately THB 5,352 million). Nam San 3A is a Build-Operate-Transfer concessionaire to develop and operate the Project, and is a contracting party to the power purchase agreement with Take-or-Pay Condition with Électricité du Laos ("EDL"). The contract duration is 27 years starting from 29th January 2016. From the period from acquisition date until 30th September 2019, the business recorded a revenue of USD 0.52 million (approximately THB 16 million), and net profit of USD 0.36 million (approximately THB 11 million), which has been consolidated into the Company's group performance.



Statement of Income

Consolidated Statement of Income (Unit: Million Baht)	Q3/2019	Q2/2019	QoQ	Q3/2018	YoY	9M2019	9M2018	YoY
Revenue from sale of goods and rendering of services	46,481	48,326	-4%	53,461	-13%	140,343	143,244	-2%
Cost of sale of goods and rendering of services	(44,034)	(45,738)	-4%	(49,640)	-11%	(133,127)	(132,237)	1%
Gross Profit	2,447	2,588	-5%	3,821	-36%	7,215	11,007	-34%
Interest income and dividend income	31	31	0%	11	188%	99	39	155%
Other income	97	77	26%	891	-89%	256	1,131	-77%
Selling and administrative expenses	(1,730)	(1,897)	-9%	(1,782)	-3%	(5,348)	(5,228)	2%
Exploration and evaluation expense	(0.1)	(0.2)	-33%	(8)	-99%	(5)	(31)	-85%
Gain (loss) from crude and product oil price hedging contract	6	(28)	N/A	(95)	N/A	7	(304)	N/A
Gain (loss) from foreign currency forward contracts	(4)	27	N/A	(28)	N/A	12	67	N/A
Gain (loss) on foreign exchange	115	168	N/A	230	N/A	340	363	N/A
Loss from impairment of assets	-	-	N/A	(14)	N/A	-	(425)	N/A
Share of profit of associate and JV	38	156	-75%	118	-67%	352	233	51%
Profit/(loss) before finance costs and income tax expense	1,001	1,121	-11%	3,143	-68%	2,928	6,853	-57%
Finance costs	(412)	(421)	-2%	(401)	3%	(1,276)	(1,140)	12%
Profit/(loss) before income tax expense	589	700	-16%	2,742	-79%	1,653	5,712	-71%
Income tax (expense) credit	(38)	(25)	53%	(526)	-93%	(31)	(1,002)	-97%
Profit for the period	551	675	-18%	2,216	-75%	1,621	4,710	-66%
Owners of the parent	370	528		1,856		1,112	4,009	
Non-controlling interests	181	147		359		510	700	
Earnings per share (Baht per Share)	0.27	0.38		1.35		0.81	2.91	

Q3/2019 performance of the Company and its subsidiaries reported a consolidated net profit of THB 551 million, a decline of 18% QoQ and a decline of 75% YoY. Net profit attributable to owners of the parent was THB 370 million, and earnings per share was THB 0.27, mainly due to the following reasons:

1. Revenue from sales of goods and rendering of services totaled at THB 46,481 million, a decrease of 4% QoQ, mainly from petroleum related businesses. For the Company, revenue declined from the selling price per unit which was lower by 7% QoQ, even though the Company's total sales volume increased 5% QoQ, and BCPT Trading Pte., Ltd. recorded a higher trading volume and trading parties.

When compared to Q3/2018, revenue declined 13% YoY, predominantly due to the decline in revenue from petroleum related businesses following the lower selling price per unit, while total sales volume was at a similar level to the previous year.



2. Gross profit was recorded at THB 2,447 million, a decline of 5% QoQ, mainly from Total GRM which was USD 4.00 per barrel, compared to USD 4.53 per barrel in Q2/2019, declined from the refinery business' Inventory Loss of THB 1,163 million (including lower of cost or market (LCM) THB 15 million), a larger loss from the previous quarter which recorded Inventory Loss of THB 107 million (including lower of cost or market (LCM) THB 15 million). This was due to the global crude oil price volatility in the quarter. Moreover, Net Marketing Margin softened from THB 0.83 to THB 0.77 per liter, following the higher global finished oil product prices, especially in September, while retail price at the service stations was not able to adjust coinciding with higher product costs.

When compared to Q3/2018, gross profit reduced by 36% YoY, mainly from the refinery business which reported a lower refinery margin, as the production rate and high value product yield decreased due to its Hydrocracking Unit maintenance. Also, in Q3/2018 recorded an Inventory Gain of THB 241 million.

3. Other incomes were recorded at THB 97 million, a decline of 89%, as BCPG Plc. recorded a profit from selling of solar power plant assets to infrastructure fund in Japan at THB 795 million in Q3/2018.
4. Selling, general and administrative expense was THB 1,730 million, a reduction of 9% QoQ. Mostly from the personnel expenses in the Company group, as in the previous quarter, there was a provision for retirement benefits and past service cost in accordance to the Labor Protection Act, which was amended on 5th April 2019, to include a requirement that an employee who is terminated after having been employed by the same employer for an uninterrupted period of twenty years or more, receives severance payment of 400 days of wages at the most recent rate.

When compared to Q3/2018, selling, general and administrative expense decreased by 3% YoY, mostly from the personnel expenses in the Company group.

5. Gains from foreign exchange was THB 115 million from the appreciation of Thai Baht in comparison to other foreign currencies, leading to most gains being generated from conversions of loans and account payables in foreign currencies of the Company.
6. Share of profit from associated companies was THB 38 million, comprising of (1) Star Energy Holdings Pte. Ltd. THB 107 million (2) PetroWind Energy Inc. THB 16 million (3) Ubol Bio Ethanol Plc. THB -6 million (4) Bongkot Marine Services Co., Ltd. THB 9 million (5) OKEA ASA THB -88 million.



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

1.) Refinery and Trading Business Group

Crude Oil Price Situation

(Unit : USD/BBL)

Crude oil price	Q3/2019			Q2/2019	QoQ	Q3/2018	YoY	9M	9M	YoY
	Max	Min	AVG	AVG	+/-	AVG	+/-	2019	2018	+/-
Dubai (DB)	67.55	56.45	61.26	67.55	-6.29	74.22	-12.96	64.02	70.10	-6.08
Dated Brent (DTD)	68.20	55.25	62.00	68.86	-6.86	75.16	-13.16	64.59	72.13	-7.54
DTD/DB	4.34	-2.63	0.74	1.32	-0.57	0.94	-0.20	0.57	2.03	-1.46

Crude Oil Price Situation

Dubai crude oil price in Q3/2019 on average lowered by 6.29 \$/BBL compared to Q2/2019, with respect to pressures from worries over the trade war between the US and China that escalated, after the two countries retaliate against each other by increasing duties on imported goods, which has led to declining growth of global demand for oil. Also, oil price received was weighted down from concerns over economic recession; after the US reported that the short term bond yield has exceeded the long term bond yield. However, oil price was supported by the high tension being built from the situation in the Middle East, predominantly with the attacks of 2 refineries owned by Saudi Aramco, Saudi Arabia's national oil company. The attack was carried out by drones on the 14th September 2019, which consequently resulted in a fire. The incident resulted in Saudi Arabia having to temporarily halt oil production by 50% or the equivalent of 5.7 million barrels per day, Saudi Arabia is the largest crude oil producer amongst the OPEC members.

Dubai crude price in Q3/2019 compared to Q3/2018 declined by 12.96 \$/BBL due to pressures from concerns over the global economic recession that resulted from the trade war between the US and China which has caused the global oil demand to decline. Coinciding with the International Monetary Fund (IMF) publishing their new assessment of economic trends anticipated that the global economy is on a course towards the slowest growth expansion ever since the financial crisis in 2009; due to the repercussion of the trade war between the US and China making wide-reaching impact. Also, the IMF adjusted global economic growth in 2019 downward to 3.0% from the previous estimation of 3.3%. Moreover the IEA reduced their 2019 oil demand growth in their October 2019 report; which was reduced by 100,000 barrels per day to the level of 1.0 million barrels per day.

Dated Brent and Dubai spread (DTD/DB) in Q3/2019 on average adjusted downward by 0.57 \$/BBL when compared to Q2/2019, due to pressure from Dubai crude oil demand that increased during summer in the Middle East, combined with the deficit of Heavy crude oil supplies from Iran and Venezuela which reinforced Dubai crude oil price to increase.

Dated Brent and Dubai spread (DTD/DB) in Q3/2019 on average decline by 0.20 \$/BBL when compared to Q3/2018, due to pressures from light crude supplies that has reverted to its excess position in the market, while supplies in the previous year were tight. As such, crude production from the US adjusted to peak capacity from the beginning of this year to the level of 12.30 million barrels per day.



Crack Spreads Situation

(Unit: USD/BBL)

Crack Spreads	Q3/2019			Q2/2019	QoQ	Q3/2018	YoY	9M	9M	YoY
	Max	Min	AVG	AVG	+/-	AVG	+/-	2019	2018	+/-
UNL95/DB	17.93	8.26	11.63	7.57	4.06	11.52	0.12	7.72	12.45	-4.73
IK/DB	17.62	13.95	15.74	12.19	3.55	14.48	1.26	13.66	15.27	-1.60
GO/DB	16.68	13.75	15.34	12.37	2.97	14.34	1.00	13.52	14.57	-1.06
FO/DB	14.68	-8.81	1.11	-2.34	3.45	-2.48	3.59	-0.21	-3.96	3.75

Crack Spreads Analysis

- Gasoline and Dubai crack spread (UNL95/DB) in Q3/2019 averaged at 11.63 \$/BBL, an increase of 4.06 \$/BBL when compared to the previous quarter, due to the mounting pressure from the maintenance of multiple refineries in North Asia. Moreover, there were demand for Gasoline from the west as a consequence of the fire incident and closure of the Philadelphia Energy Solutions refinery in late June 2019, combined with anxiety over major shortage after the attack of the Saudi Arabian refineries on 14th September 2019; causing supplies to tighten within the region.

Gasoline and Dubai crack spread (UNL95/DB) crack spread increased 0.12 \$/BBL compared to the average 11.52 \$/BBL in Q3/2018, supported by multiple refineries within the region encountering issues, the refineries in Vietnam and the Philippines to name a few, being factors that lowered excess supplies.

- Jet (Kerosene) and Dubai crack spread (IK/DB) in Q3/2019 averaged at 15.74 \$/BBL, an increase of 3.55 \$/BBL compared to the previous quarter, supported by demand from tourism travel during the summer, which led to increased air travel.

Jet (Kerosene) and Dubai crack spread (IK/DB) increased 1.26 \$/BBL from the average of 14.48 \$/BBL in Q3/2018, after various refineries in the region underwent their turnaround maintenance, as well as some that encountered difficulties; consequently lowering the excess supplies.

- Gasoil and Dubai crack spread (GO/DB) in Q3/2019 averaged at 15.34 \$/BBL, an increase of 2.97 \$/BBL compared to the previous quarter, as demand for low Sulphur diesel rose due to a transitional period where preparations are being made for the utilization of marine fuel with low Sulphur content not exceeding 0.5% in 2020. Gasoil price was further supported by supply anxieties that had tightened after the attack on the Saudi Arabian refineries, subsequently led diesel fuel to be exported from Asia to Europe as to fill in for the shortage of supplies.

Gasoil and Dubai crack spread (GO/DB) increased by 1.00 \$/BBL compared to the averaged 14.34 \$/BBL in Q3/2018, an effect of some refineries experiencing difficulties such as the refineries in Vietnam and the Philippines, which led to a reduction of excess supplies. Moreover, demand for low Sulphur diesel rose as preparations were being made for the transition into the adoption of sea faring fuel with low Sulphur level not exceeding 0.5% in 2020.



- Fuel Oil and Dubai crack spread (FO/DB) in Q3/2019 averaged at 1.11 \$/BBL, an increase of 3.45 \$/BBL compared to the previous quarter, due to unrest situation within the Strait of Hormuz, causing ship owners to avoid refueling bunker fuel oil in the Middle Eastern area, but to refuel from Singapore instead. Also, supplies in the region tightened as most traders have lowered their stocks of bunker fuel with high Sulphur content, and have replaced them with low Sulphur bunker fuel to prepare for the transition towards adopting the use of bunker fuel oil with Sulphur content not exceeding 0.5% in 2020.

Fuel Oil and Dubai crack spread (FO/DB) increased 3.59 \$/BBL compared to the average of -2.48 \$/BBL in Q3/2018, this was supported by the tightening supplies within the region, as most traders have lowered their stock of high Sulphur bunker fuel oil and have transitioned into stocking low Sulphur bunker fuel oil as to prepare for the transition to the utilization of bunker fuel oil with Sulphur content not exceeding 0.5% in 2020, whereas demand for high Sulphur bunker fuel oil remained.

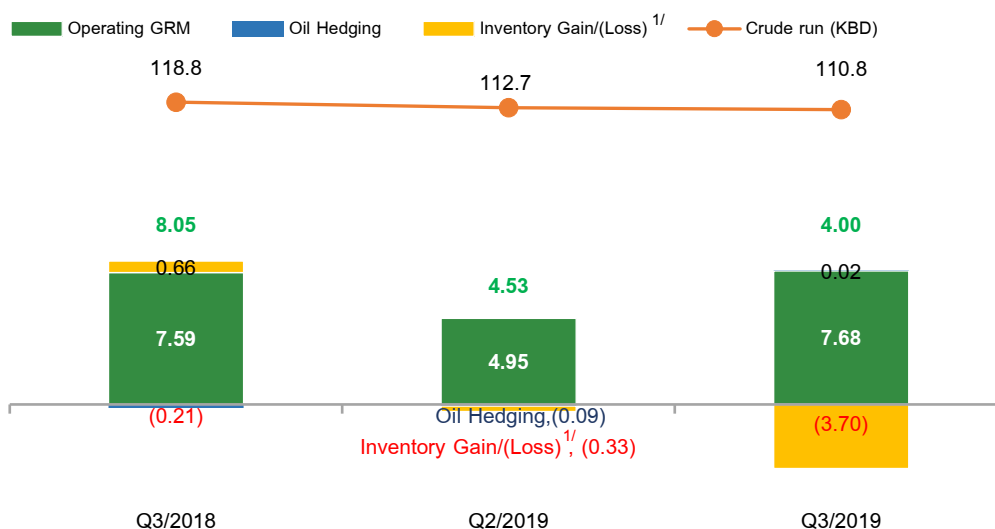
Refinery and Trading Business Group Performance

Refinery Business Performance	Q3/2019	Q2/2019	QoQ	Q3/2018	YoY	9M2019	9M2018	YoY
Average Crude Run (KBD)	110.8	112.7	-2%	118.8	-7%	111.2	98.4	13%
Utilization Rate (%)	92%	94%		99%		93%	82%	
Average FX (THB/USD) (Unit: Million Baht)	30.89	31.76		33.15		31.47	32.32	
Operating GRM	2,416	1,611	50%	2,752	-12%	5,107	6,566	-22%
GRM Hedging	6	(28)	N/A	(78)	N/A	7	(190)	N/A
Inventory Gain/ (Loss) ^{1/}	(1,163)	(107)	N/A	241	N/A	(1,279)	1,028	N/A
Total GRM	1,258	1,476	-15%	2,916	-57%	3,834	7,404	-48%
EBITDA	631	650	-3%	2,142	-71%	1,799	5,349	-66%

Note: 1/ Inventory Gain/(Loss) in the table included LCM

GRM and Crude Run

Unit: \$/BBL



Note: 1/ Inventory Gain/(Loss) in the table included LCM



Total Sales Volume in each market category of the Company	Q3/2019	Q2/2019	QoQ	Q3/2018	YoY	9M2019	9M2018	YoY
Marketing Business								
Retail	1,077	1,093	-2%	990	9%	3,202	2,996	7%
Industrial	447	449	-1%	460	-3%	1,385	1,424	-3%
Total	1,523	1,543	-1%	1,451	5%	4,587	4,420	4%
Wholesale Business								
Petroleum traders in accordance with section 7	151	149	1%	178	-15%	437	473	-7%
Export	323	205	58%	352	-8%	774	692	12%
Total	474	354	34%	530	-11%	1,211	1,165	4%
Total Sales Volume	1,998	1,896	5%	1,981	1%	5,798	5,585	4%

Note: Sales volume does not include oil swaps between major oil companies (petroleum traders in accordance with section 7) and sales of crude oil products

Performance for Q3/2019, the refinery business recorded EBITDA THB 631 million, a decline of THB 19 million compared to Q2/2019 with the following factors affecting performance as follow:

- Bangchak refinery averaged production in Q3/2019 was 110.8 KBD or 92% utilization rate, a 2% lower than the previous quarter, due to the Hydrocracking Unit's 30 days maintenance during the middle of July to middle of August, in order to replace its catalyst, as to uphold its efficiency to coincide with the company's refining plans, while the other units operating as regularly. Presently the aforementioned Hydrocracking Unit has resumed normal operation.
- Within this quarter, the refinery's Total Gross Refinery Margin (Total GRM) was THB 1,258 million or 4.00 \$/BBL, a decrease of 15% compared to Q2/2019 which recorded Total GRM of THB 1,476 million or 4.53 \$/BBL, mainly due to the following reasons:
 - Operating GRM increased THB 805 million, a significant increase when compared to Q2/2019, mainly from finished product and reference crude oil crack spreads which adjusted upward – a result of various refineries undergoing maintenance in North Asia, and a support from concerns over tightening supplies after the attack on two large Saudi Arabian refineries perpetrated by drones on 14th September 2019. Average Gasoline and Dubai crack spread (UNL95/DB) increased by 4.06 \$/BBL. Average Jet (Kerosene) and Dubai crack spread (IK/DB) increased by 3.55 \$/BBL. Average Gasoil and Dubai crack spread (GO/DB) increased by 2.97 \$/BBL. Finally, average Fuel Oil crack spread (FO/DB) increased 3.45 \$/BBL. Altogether, the higher crack spreads has led this quarter's GRM to be quite satisfactory, even with high Fuel Oil yield due to the maintenance of the Hydrocracking unit during the quarter. Nonetheless, Fuel Oil produced from Bangchak refinery is low Sulphur Fuel Oil which contains not more than 0.3% Sulphur content. The product has pricing benefits which has increased from the market transition to Low Sulphur Fuel Oil for the shipping industry (Sulphur content not exceeding 0.5%) under the IMO mandate which will be in effect from 2020 onwards.
 - The refinery business's inventory loss amounted to THB 1,163 million (including lower of cost or market (LCM) THB 15 million), a result of the volatile global crude oil price during the quarter. Dubai crude oil price significantly declined during August to early September, pressured by the worries on the trade war



between the US and China that would cause global economic as well as global oil demand to slow down. Also, the appreciating Thai Baht effectively lowered the value of company's inventory. While in comparison, Q2/2019 inventory loss was THB 107 million (including loss of cost of market (LCM) THB 15 million).

3. BCP Trading Pte. Ltd. ("BCPT") reported gross profit increment from Q2/2019 from growth in its transactions both in terms of trade volume and discovering new trade partners. During this quarter BCPT transacted crude oil and petroleum products trading of 6.80 million barrels, an increase of 1.94 million barrels compared to the previous quarter.

Performance comparison between Q3/2019 and Q3/2018, the refinery business group recorded EBITDA decreases of THB 1,511 million, with the following factors affecting performance:

1. Bangchak refinery's average production rate decreased 7% YoY, as there was a maintenance of Hydrocracking Unit to replace its catalyst as to maintain efficiency to coincide with the company's refining plans.
2. Total Gross Refinery Margin (Total GRM) declined by THB 1,657 million when compared to Q3/2018, mainly due to the following reasons:
 - Operating GRM decreased THB 336 million compared to Q3/2018. In the quarter, the refinery's production rate declined from the Hydrocracking Unit maintenance, however inadvertently gained from the price of Low Sulphur Fuel Oil that improved.
 - The refinery business recorded inventory loss in the amount of THB 1,163 million (including lower of cost or market (LCM) THB 15 million). In the beginning of the quarter, the average Dubai crude oil price increased from the previous quarter, however, during early August through early September 2019 crude oil price severely declined. In the contrary, there was an inventory gain in Q3/2018 of THB 241 million from the average crude price that rose during that respective quarter.
3. BCPT recorded its gross profit lowered from Q3/2018, due to rising cost of goods sold after Freight cost rose from the tensions in the Middle East. However, BCPT experienced an increase in finished product and crude oil transactions by 2.32 million barrels compared to Q3/2018, especially in the Fuel Oil product category. Aside from exporting from Thailand, the company was able to further utilize its current trade partners abroad to form an overseas trading (out-out) relationship, and the company has made preparations to trade Low Sulphur Fuel Oil in accordance with the IMO 2020 specification in the Singapore market. As such, the company is moving ahead with the expansion of trade transactions with new partners, following the company's strategic plans to expand the business.



2.) Marketing Business Group

Marketing Business								
Sales Volume (Million Litre)	Q3/2019	Q2/2019	QoQ	Q3/2018	YoY	9M2019	9M2018	YoY
Retail (Service Stations)	1,077	1,093	-2%	990	9%	3,202	2,996	7%
Industrial	447	449	-1%	460	-3%	1,385	1,424	-3%
Total	1,523	1,543	-1%	1,451	5%	4,587	4,420	4%
Sales volume in each product category (Million Litre)								
LPG	36	36	0%	45	-21%	106	122	-13%
Gasoline	8	7	17%	4	77%	23	21	6%
Gasohol	428	428	0%	424	1%	1,269	1,240	2%
Jet Fuel	239	242	-1%	209	14%	693	633	9%
Diesel	776	792	-2%	723	7%	2,382	2,261	5%
Fuel Oil and Others	38	37	1%	45	-16%	115	142	-19%
Total Sales Volume	1,523	1,543	-1%	1,451	5%	4,587	4,420	4%
Total Marketing Margin (Baht/Litre)	0.77	0.83	-7%	0.70	11%	0.77	0.76	1%
EBITDA (Million Baht)	680	630	8%	468	45%	1,920	1,712	12%

Note: marketing margin of Bangchak only

Performance of Q3/2019 compared to Q2/2019, Marketing Business Group recorded an EBITDA of THB 680 million, an increment of THB 50 million QoQ, with the following factors affecting performance:

1. Total sales volume of the marketing business declined slightly. Retail sales volume softened with this quarter being the low season and entering rainy season. Moreover, Tropical Storm Podul and Kajiki caused flooding in several regions, and adversely affected vehicle usage and oil products sales volume both in retail and industrial markets. However, the company's B20 Diesel retail sales doubled from the previous quarter, after the company debuted the Bangchak Hi-Diesel B20S, which surpasses in quality from the normal B20 in the market. Whereas industrial market sales volume lowered slightly from the intense market competition.
2. Net marketing margin declined compared to the previous quarter, as in September, global finished product price increased after the shutdown maintenance of several refineries in North Asia, combined with concerns over supply shortages following the attacks on 2 refineries in Saudi Arabia, leaving the company unable to adjust its service station retail price to coincide with higher product costs.
3. The company has operated a strategy to expand its customer base and to garner higher sales volume per station, by expanding the number of standard sized service stations to cover more areas with high potential. As of Q3/2019, the total number of service stations was 1,188 locations, with 10 new stations. As a result, the company's retail sales market shares has continuously increased, with the cumulative market share between January to August 2019 at 15.9% (data from Department of Energy Business, Ministry of Energy). Further, the Company has been promoting sales of B20 Diesel product with the "Bangchak B20 for diesel car, reduce the pollution, and reduce fuel cost" campaign, as it started to provide its B20 diesel in its service station since Q1/2019, and has since expanded the number of stations with B20 availability to cover more areas. Moreover, the company has also developed the "Hi-Diesel B20S" product, to raise the quality of B20 fuel with the Green S technology that helps the engine operate at maximum performance, which was met with positive reactions



from customers. Further, Bangchak has also open distribution channels for B10 Diesel according to the policy of the Ministry of Energy.

4. In this quarter, marketing business recorded a lower selling, general and administrative expense by 10% QoQ, as the previous quarter recorded an increase in provision for retirement benefits according to the Labor Protection Act that was revised on 5 April 2019.
5. Bangchak Retail Co., Ltd. ("BCR") is still continuously developing and expanding the Inthanin coffee shop. The coffee shops has been opened both within and outside the vicinity of Bangchak service stations, in order to broaden its customer base and able to better reach consumers, examples of the coffee shop branches are the Metropolitan Electricity Authority (MEA) head office, Faculty of Education – Chulalongkorn University, and Unio Sukhumvit 72 condominium, to name a few. While expansion to Cambodia has reached its 6th branch. With the branch expansions, improved stores management, and controlled selling general and administrative expenses, BCR's revenue increased by 16% YoY, and EBITDA rose by 21%.

Marketing Business performance in Q3/2019 when compared to Q3/2018, recorded EBITDA of THB 680 million, an increment of THB 212 million, with factors affecting operations as follow:

1. Total sales volume of marketing business group grew 5% YoY, primarily from the company's policy which continues to prioritize retail market expansion, resulted in the retail sales volume grew 9% YoY, due to continuous customer base expansion according to the Company's strategy and introduction of B20 diesel in Bangchak service stations, to promote the adoption of high quality fuel, to help reduce pollution from engine combustion. This resulted in the retail sales volume increment. Whereas the industrial market experienced intense competition.
2. Net marketing margin increased from the same period of the previous year. As Q3/2018 experienced sharp spikes in global crude oil price, coupled with the government measures to appoint retail Diesel price ceiling at THB 30 per liter, resulting in a mismatched in retail price with the rising cost.
3. The Company's cumulative market share from January to August 2019 was at 15.9%, whereas the cumulative share from January to August 2018 was 15.6%. The number of Bangchak service stations as of Q3/2019 amounts to 1,188 locations, with 54 new service stations commencing operations compared to Q3/2018.
4. The Non-oil business under the supervision of BCR is still developing and expanding its business continuously. As of Q3/2019, the number of SPAR convenient stores was 46 locations (an increase of 8 branches YoY), and the number of Inthanin Coffee Shop was 559 locations (an increase of 67 locations YoY). BCR has entered into partnership with Grab Food and Get Food, in order to provide foods and drinks from SPAR convenience stores and Inthanin coffee shop to more consumers. From the branches expansion, better management of the stores, cost controlling, and promotional campaign, BCR's revenue increased by 41% YoY, and EBITDA rose by 29%



3.) Power Plant Business

Power Plant Business Performance	Q3/2019	Q2/2019	QoQ	Q3/2018	YoY	9M2019	9M2018	YoY
Solar Power Business – Thailand	65.75	73.33	-10%	64.24	2%	210.95	196.97	7%
<i>Phase 1-3 (118 MW – Adder 8 THB)</i>	57.57	64.23	-10%	57.08	1%	185.38	180.37	3%
<i>Cooperative Solar (12 MW – FIT 5.66 THB)</i>	4.61	5.03	-8%	4.52	2%	14.14	13.96	1%
<i>Government Solar (8.94 MW – FIT 4.12 THB)</i>	3.26	3.77	-13%	2.65	23%	10.57	2.65	N/A
<i>Solar rooftop (0.80 MW)</i>	0.30	0.31	-4%	N/A	N/A	0.86	N/A	N/A
Solar Power Business – Japan (14.7 MW)	5.00	5.38	-7%	13.87	-64%	14.47	37.91	-62%
Wind Power Business – Thailand (9.0 MW - Adder 3.5 THB)	4.29	2.54	69%	N/A	N/A	6.83	N/A	N/A
Hydro Power Business - Laos (69.0 MW)	7.70	N/A	N/A	N/A	N/A	7.70	N/A	N/A
Total Electricity Sales (Million kWh)	82.74	81.25	2%	78.12	6%	239.96	234.89	2%
Revenue (Million Baht)	790	848	-7%	830	-5%	2,445	2,505	-2%
Share of profit (loss) from associated companies								
Wind Power Plant	16	(12)	N/A	21	-21%	33	29	16%
Geothermal Power Plant	107	74	44%	93	15%	274	173	58%
EBITDA (Million Baht)	710	721	-2%	1,542	-54%	2,168	2,999	-28%

Power Plant business performance in Q3/2019 recorded EBITDA of THB 710 million which declined by THB 11 million when compared to Q2/2019, with the following factors affecting operations as follow:

- Solar power plant projects in Thailand recorded lower total electricity sales by 10% QoQ, mainly due to higher rainfall compared to the previous quarter, which is a result of the seasonal factor, causing a decline of the average irradiation hours, and became the main factor affected this quarter's revenue.
- Solar power plant projects in Japan recorded a decrease of electricity sales by 7% QoQ, as the country entered its rainy season late in the quarter, resulting in a lower average irradiation hours.
- Wind power plant project based in Thailand, "Lom Ligor", started the operation in April 2019, recorded higher electricity sales by 69% QoQ, due to Thailand entering its rainy season, which was its high season and experienced strong wind speed, effectively leading to the power plant to generate a high amounts of electricity. Moreover, this quarter the power plant commenced commercial operation for a full quarter.
- Hydro power plant project in Laos "Nam San 3A", which BCPG Plc. fully acquired 100% of the shares since late September 2019, realized the amount of electricity sales of 7.7 Million kWh.
- Recorded shares of profit from investments in associated companies THB 123 million, which was higher than the previous quarter by THB 61 million, with details as follow:
 - Share of profit from the wind power plant business in the Philippines was recorded at THB 16 million, comprised of share of profit from operation THB 24 million, and an amortization in rights in agreement to sell electricity in amount of THB 8 million. Share of profit from operation increased from the previous quarter by THB 28 million, due to higher wind speed during the monsoon season, combined with the numbers of tropical storms sweeping in more frequent than normal, resulting in a higher electricity generated from the



previous quarter. Moreover, interest expense was reduced after the company's associated company had negotiated with financial institutions to lower its loan interest to the level close to its previous rate since early July 2019.

- Share of profit from the geothermal power plant in Indonesia was THB 107 million, attributed to share of profit from operation THB 199 million, and an amortization in right in agreement to sell electricity THB 93 million. Share of profit from operation grew from the previous quarter by THB 30 million, as there were fewer maintenance days.

Performance comparison between Q3/2019 and Q3/2018, power plant business recorded an EBITDA decrease of THB 832 million, with the following factor affecting operation as follow:

1. Solar power plant projects in Thailand recorded a slight increase in electricity sales compared to the same period of the previous year; a result of the commencement of commercial operation of 2 solar power plant projects in collaboration with the War Veteran Organization (WVO) (PPA 8.94 MW) since July 2018.
2. Solar power plant projects in Japan recorded a decrease in electricity sales by 64% YoY, after the divestment of the Nikaho and the Nagi project (total PPA 19.3 MW) to the Infrastructure Fund in Japan during September 2018. The mentioned divestment has also caused BCPG Plc. to record THB 795 million profit from the selling of asset in Q3/2018.
3. Wind power plant project based in Thailand, "Lom Ligor" recorded electricity sales of 4.3 Million kWh. The project commenced commercial selling of its electricity since April 2019.
4. Hydro power plant project in Laos "Nam San 3A", which BCPG Plc. fully acquired 100% of the shares since late of September 2019, generated electricity of 7.7 Million kWh in this quarter.
5. Realized an increase in the share of profit from investment in associated companies by THB 9 million, compared to the same period of the previous year, due to the following factors:
 - Share of profit from the wind power plant business in the Philippines declined by THB 5 million, attributed to a decline in share of profit from operations, mainly from an increase of interest expense in accordance with the Philippines government's policy, combined with the lowered wind speed.
 - Share of profit from the geothermal power plant business in Indonesia increased by THB 14 million, from capacity factor that was higher.



4.) Bio-Based Product Business

As for the performance of Bio-based Product Business Group in Q3/2019, EBITDA was recorded for a total of THB 296 million, an increase of THB 160 million and THB 147 million, when compared to Q2/2019 and Q3/2018, respectively.

Biodiesel Business

Biodiesel Business Performance	Q3/2019	Q2/2019	QoQ	Q3/2018	YoY	9M2019	9M2018	YoY
B100 Production Volume (Million Litre)	79.51	74.11	7%	62.69	27%	220.88	194.99	13%
B100 Sales Volume (Million Litre)	86.94	82.07	6%	66.07	32%	240.16	207.09	16%
Revenue (Million Baht)	1,604	1,453	10%	1,460	10%	4,332	4,785	-9%
Gross Profit (Million Baht)	66	59	12%	82	-20%	184	305	-40%
Average Sales Price (Source: Department of Energy Business, Ministry of Energy)								
B100 (Baht/Litre)	21.74	21.20	3%	25.18	-14%	21.24	24.93	-15%
Crude Palm Oil (CPO) (Baht/Kg.)	16.85	17.26	-2%	20.23	-17%	16.70	20.47	-18%

Q3/2019 performance of Bio-Based Business Group, compared to Q2/2019:

1. B100 product production volume in Q3/2019 was at 79.51 million liters, an increase of 7% QoQ, corresponding to the B100 product sales volume that rose 6% QoQ, which was due to the higher B100 product demand following the government's measures to support B20 Diesel usage with price incentives for the product to be cheaper than normal Diesel, in order to adhere to the government sector's policy to support further use of B100 product in the energy sector. Bangchak Corporation Plc. recorded double B20 Diesel sales volume compared to the previous quarter, after the introduction of its Hi-Diesel B20S which has a higher quality than normal B20 products. Moreover, the company has also launched its B10 Diesel sales to comply with the Ministry of Energy's policy.
2. Average selling price and sales volume for B100 products increased from the previous quarter, resulting in the sales revenue for this quarter to be recorded at THB 1,604 million, an increment of 10% QoQ, following the aforementioned demand growth in B100 product.
3. Gross profit in Q3/2019 recorded at THB 66 million, an increase of 12%, from the higher sales volume and average selling price of B100 product compared to the prior quarter, while crude palm oil raw material cost adjusted downward, combined with the global Glycerin price that improved.

Performance comparison between Q3/2019 and Q3/2018:

1. B100 product production volume in Q3/2019 rose by 27% YoY, corresponding to the increment in B100 product sales volume, due to government policy promoting B20 Diesel usage which started in July 2018. Where Bangchak Corporation Plc., a major customer, was able to significantly increase its sales volume from the same period of the previous year.



2. Sales revenue grew THB 144 million from the higher sales volume, while average selling price of B100 products adjusted downward from the same period of the previous year, in tandem with the direction of the crude palm oil price that remained at a low level, due to the high level of domestic palm oil stock.
3. Gross profit declined 20% YoY, although sales revenue from B100 product improved, but global glycerin price dropped significantly from the same period of the previous year, resulting in lower gross profit.

Ethanol Business

Ethanol Business Performance	Q3/2019	Q2/2019	QoQ	Q3/2018	YoY	9M2019	9M2018	YoY
Production Volume (Million Litre)								
Bangchak Bioethanol (Chachoengsao) (BBE)	13.15	9.25	42%	11.85	11%	33.99	32.23	5%
KSL Green Innovation (KGI)	40.02	34.44	16%	30.61	31%	116.83	91.23	28%
Ethanol Sales Volume (Million Litre)	51.18	45.84	12%	46.48	10%	144.92	116.86	24%
Revenue (Million Baht)	1,096	1,002	9%	1,156	-5%	3,169	2,858	11%
Gross Profit (Million Baht)	182	74	N/A	63	N/A	362	277	31%
Average Sales Price (Source: Department of Energy Business, Ministry of Energy)								
Ethanol (Baht / Litre)	21.96	21.96	0%	23.40	-6%	22.09	23.83	-7%

Performance comparison between Q3/2019 and Q2/2019:

1. Total production volume of ethanol product was at 53.17 million liters, an increase of 22% QoQ, attributed to Bangchak Bioethanol (Chachoengsao) Co.,Ltd. ("BBE")'s production increment by 42% compared to the previous quarter. This was the result of Q2/2019's annual shutdown maintenance in May. While KSL Green Innovation Plc. ("KGI")'s production increased 16% from the previous quarter, as in Q2/2019, the plants located in Bo Ploy district, Kanchanaburi province and Nam Pong district, Khon Kaen province had both undergone scheduled maintenance in April 2019.
2. Total ethanol sales volume was recorded at 51.18 million liters, an increment of 12% QoQ, after BBE and KGI plants resumed normal operation following the planned shutdown maintenance.
3. Sales revenue was recorded at THB 1,096 million, expanded 9% from the higher total sales volume of ethanol products, while average selling price stayed at a similar level to the previous quarter.
4. Gross profit from ethanol business rose considerably, due to the increased total ethanol product sales volume, and the better raw material cost management of BBE. Moreover, KGI has adjusted the molasses raw material cost lower following the announced average molasses domestic selling price during 2018/2019, to better reflect the actual raw material cost for the year 2019, which allowed the gross margin to improve.

Performance comparison between Q3/2019 and Q3/2018:

1. Total production volume of ethanol product grew 25% YoY. KGI's production increased by 31%, after the ethanol plant at Bo Ploy district, Kanchanaburi province expanded its production capacity from 200,000 liters per day to 300,000 liters per day.
2. Total ethanol product sales volume increased by 10% YoY, primarily from higher sales volume of KGI, following the capacity expansion of its ethanol plant at Bo Ploy district, Kanchanaburi province, allowing the company to be able to serve the domestic ethanol demand which grew in tandem with the continuously increasing gasohol usage.
3. Average selling price of ethanol product declined from the same period of the previous year, as domestic ethanol stock remained at a high level, resulting in the sales revenue in the quarter to decline 5% YoY.
4. Gross profit of the ethanol business significantly rose from the same period of last year, mainly due to the better raw material cost management of BBE. Moreover, KGI has adjusted the molasses raw material cost lower following the announced average molasses domestic selling price during 2018/2019, to better reflect the actual raw material cost for the year 2019, which allowed the gross profit to improve.

5.) Natural Resources Business Group

Petroleum Production and Exploration	Q3/2019	Q2/2019	QoQ	Q3/2018	YoY
EBITDA (THB Million)	(101)	145	N/A	(81)	-26%
Associated Company OKEA:					
Share of profit from OKEA (THB Million)	(88)	102	N/A	N/A	N/A
Production Volume – Net to OKEA (KBD)					
Draugen Field	9.65	9.24	4%	N/A	N/A
Gjøa Field	8.14	10.50	-23%	N/A	N/A
Realized Liquids price (USD/BBL)	56.40	60.70	-7%	N/A	N/A
Realized Gas price (USD/m ³)	0.11	0.15	-27%	N/A	N/A

Performance of Natural Resources Business in Q3/2019 recorded an EBITDA loss of THB 101 million, a decline of THB 247 million from Q2/2019, due to the following operating factors:

1. Realized share of loss from associated company OKEA at THB 88 million.
 - During the quarter, Draugen field recorded an average production rate (net to OKEA) at the level similar to the previous quarter, and 1 cargo of crude oil sales compared to the 2 cargoes sold during the last quarter. For Gjøa field, average production rate (net to OKEA) decreased due to its planned shutdown maintenance in August.
 - Expenses was higher from the Exploration expense, which occurred according to OKEA's operation plan. Also, there was a loss on foreign exchange, as the US Dollar appreciated against the Norwegian Krone.



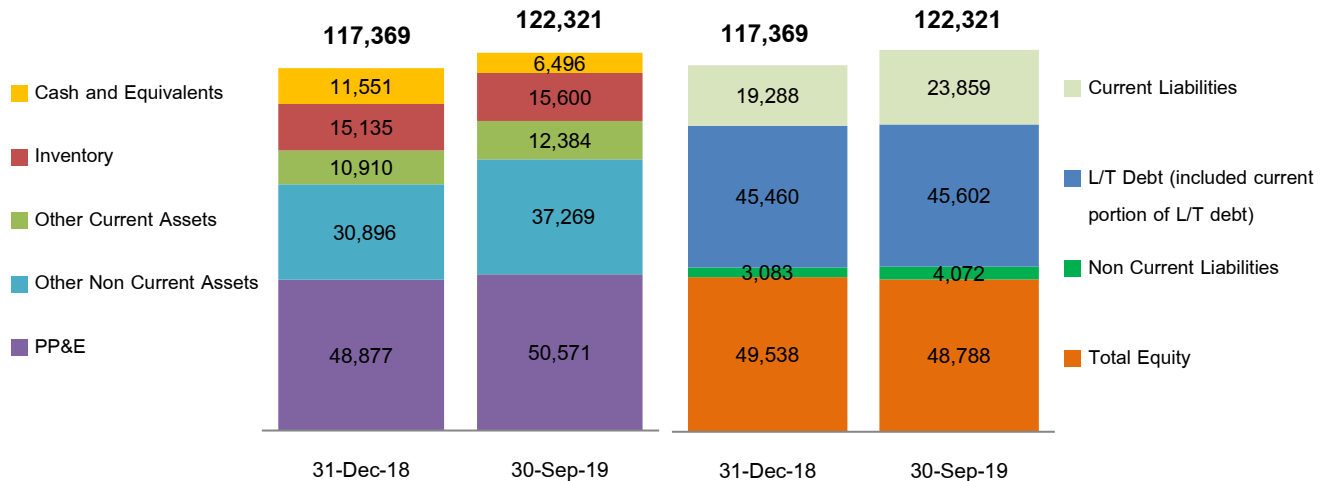
- There was no impairment loss on Technical Goodwill in the quarter, due to adjustments in Gjøa field's production profile and production cost. However, share of profit from associated company OKEA was lower, as in the previous quarter, there was a gain from changes in investment interest at THB 94 million from OKEA's initial public offering (IPO) of its shares.
2. Natural Resources Business Group recorded a gain on foreign exchange forward contract at THB 1 million. Whereas in Q2/2019 the gain on foreign exchange forward contracts was THB 82 million.

In Q3/2018, the Company group has divested its shareholding in Nido Production (Galoc) Pty. Ltd., which holds the right in the Galoc oil field, to Tamarind Galoc Pte. Ltd. As a result, performance during the quarter was mainly administrative expenses and profit from the provision of working capital settlement related to the transaction.

Statement of Financial Position

Financial Position of the Company and its subsidiaries (Consolidated)

Unit: THB million



Assets

As of 30th September 2019, the Company and its subsidiaries recorded Total Assets in the amount of THB 122,321 million, an increase of THB 4,953 million compared to 31st December 2018, changes in assets are as follows:

- Cash and cash equivalents decreased by THB 5,054 million. Details are stated in analysis of the Cash Flow Statement.
- Inventory increased by THB 465 million, mainly from the Company increasing its oil products inventory by about 0.5 million barrels.
- Other current assets increased THB 1,474 million, mainly from:
 - Trade account receivables increased by THB 1,654 million, mainly attributed to BCPT's trade account receivables, due to its higher trading transaction, both in terms of volume and new trade partners.
- Other non-current assets rose by THB 6,374 million, mainly due to:
 - Long term loan to related parties increased by THB 776 million, mostly from long term loan to LAC, according to contractual obligations.
 - Other long term investments increased by THB 141 million, from the investment in additional 3 Startup companies in the amount of USD 8.5 million, or approximately THB 283 million. Moreover, for the Company's subsidiaries, there was adjustment in net fair value on available-for-sale investment (LAC) which decreased by THB 111 million (Fair value on available-for-sale investment (LAC) declined THB 46 million, and Effect of movement in exchange rate decreased by THB 65 million). LAC share price decreased from CAD 4.31 per share as of 31st December 2018 to CAD 5.28 per share as of 30th September 2019.
 - Goodwill increased by THB 1,084 million, and Intangible assets increased by THB 4,139 million. Primarily from BCPG Plc.'s 100% share acquisition in Hydro power plant in Lao PDR.



5. Property, plant and equipment net increased by THB 1,694million. (Depreciation for the period was THB 3,335million.) There were investments made chiefly in Efficiency, Energy, and Environment Enhancement Project (3E) in the amount of THB 2,501 million, and investments for equipment in preparation for the refinery's annual turnaround maintenance in 2020. Investment in power plant business (BCPG) both in Japan and Thailand of THB 1,290 million, and Bio-based products business of the BBGI group's additional investment of THB 334 million to expand the ethanol production plant's capacity and the construction of its refined glycerin plant.

Liabilities

As of 30th September 2019, the Company and its subsidiaries has Total Liabilities of THB 73,533 million, an increase of THB 5,702 million, changes in liabilities are as follows:

1. Current Liabilities increased by THB 4,571 million, mainly contributed by:
 - Short term loan from financial institution increased by THB 2,149 million, mainly of BCPG Plc.
 - Trade Accounts Payable increased by THB 2,560 million, predominantly from the crude payment which was paid early in December 2018 since the payment term fell due during the New Year holiday, and oil trading business recorded a higher transaction volume.
 - Other current liabilities increased THB 364 million, mainly from BCPG Plc.'s accrued payment for its investment of THB 1,231 million, construction expenses payables and accrued transportation expenses increased by THB 728 million. While other accrued expenses and liabilities reduced by THB 1,587 million.
 - Excise Tax and Oil fund expense payable decreased by THB 750 million, as sales volume of refinery oil products sold in September 2019 was lower than in December 2018, combined by tax rate for Oil fund which reduced by THB 1 per liter for Gasohol 91 and 95 products, and reduced by THB 0.15 per liter for Diesel product which is the main product of the Company.
2. Long term loans from financial institutions and debentures (including current portion of long term debt) increased by THB 142 million, comprised of additional loan draw down of the Company and its subsidiaries at THB 6,107 million, debenture repayment at maturity by THB 4,000 million, loan repayment by THB 1,617 million. There was also adjustments for the effects of exchange differences on translating financial statement resulted in a gain of THB 337 million, debt issuance cost and amortization of debt issuance cost at THB 12 million.
3. Other non-current liabilities increased by THB 989 million. Mainly increased from debt provision of BCPG Plc. from its investment in Hydro power plant in Lao PDR, and provision for retirement benefits and past service cost in accordance to the Labor Protection Act, which was amended on 5th April 2019, to include a requirement that an employee who is terminated after having been employed by the same employer for an uninterrupted period of twenty years or more, receives severance payment of 400 days of wages at the most recent rate.



Equities

As of 30th September 2019, the Company and its subsidiaries' total equity was THB 48,788 million, declined by THB 749 million. Mainly changed from the net profit for the period of THB 1,621 million, paid dividend by THB 1,664 million, effects from change in accounting policy resulted in a reduction of retained earnings by THB 54 million, while other components of equity decreased by THB 678 million (a result of differences in net fair value change in available-for-sale investment (LAC) which decreased by THB 46 million, and decreased from differences on translating financial statement and share of other comprehensive income of associates of THB 632 million). Total equity attributable to owners of the parent was THB 41,756 million, and book value per share was THB 30.33.



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

For the Q3/2019, the Company and its subsidiaries recorded net cash received from operating activities of THB 4,873 million, net cash used in investing activities of THB 9,463 million, net cash used in financing activities of THB 169 million, and effect of exchange rate changes on cash and cash equivalents in the amount of THB 295 million. As a result, net cash and cash equivalents decreased by THB 5,054 million. There was cash in the amount of THB 11,551 million as of 1st January 2019, resulting in remaining cash as of 30th September 2019 to be recorded at THB 6,496 million. Details for each activity are as follows:

Cash Flows (Unit: Million Baht)	30 Sep 19	30 Sep 18
Net cash from (used in) operating activities	4,873	348
Net cash from (used in) investing activities	(9,463)	(3,313)
Net cash from (used in) financing activities	(169)	(295)
Effect of exchange rate changes on cash and cash equivalents	(295)	53
Net increase (decrease) in cash and cash equivalents	(5,054)	(3,207)
Cash and cash equivalents as at 1 January	11,551	10,106
Cash and cash equivalents as at 30 June	6,496	6,899

Details of cash received and used are as follows:

- Net cash from operating activities in the amount of THB 4,873 million, mainly attributed to:
 - Cash received from operating activities was THB 5,840 million, which was generated from net profit of THB 1,621 million, added back non-cash expenses of THB 2,912 million, added back financial costs and tax expense of THB 1,307 million.
 - Net cash used for operating assets and liabilities of THB 446 million, mainly from (1) trade account receivable increased by THB 1,711 million (2) other receivables decreased by THB 371 million (3) inventory decreased by THB 228 million (4) other non-current assets increased by THB 115 million. (5) trade account payables increased by THB 2,716 million (6) other payables and other liabilities decreased by THB 1,935 million.
 - Corporate income tax paid was THB 522 million.
- Net Cash used in investing activities of THB 9,463 million, mainly from:
 - Cash paid for investment in associated companies, joint ventures and other investments of THB 3,755 million. Comprised of BCPG's acquisition of Hydro power plant in Lao PDR, and investments in additional 3 Startup businesses.
 - Cash paid for investment in Property, Plant and Equipment was THB 4,666 million. Mostly are work in progress on the Efficiency, Energy, and Environment Enhancement Project (3E), investment for equipment in preparation

for the refinery's annual turnaround maintenance in 2020, power plant business, and bio-based product business.

- Cash paid for loan to related parties was THB 807 million, mainly comprised of loans to LAC, under contractual obligation.
- Cash paid for the right to lease and Intangible assets by THB 360 million.

3. Net cash used in financing activities was THB 169 million, mainly from:

- Cash paid as financial cost in the amount of THB 1,350 million.
- Dividend payment was THB 1,664 million, comprising of the Company's at THB 1,377 million, BCPG Plc.'s dividend payment to non-controlling interests in the amount of THB 287 million.
- Cash received through short term loans from financial institutions increased by THB 2,331 million.
- Proceeds from exercise of share options of THB 24 million.
- Cash paid for debenture repayments at maturity THB 4,000 million.
- Cash received from long term loans from financial institution amounted to THB 6,107 million which is attributed to the Company THB 2,550 million, BCPG Plc.'s THB 3,048 million, and to BBGI Plc.'s THB 509 million.
- The Company and its subsidiaries repaid long term loans owed to financial institutions THB 1,617 million



Financial Ratios

Financial Ratios (Consolidated)

Profitability Ratios (%)	Q3/2019	Q2/2019	Q3/2018	9M2019	9M2018
Gross Profit Margin	5.26%	5.35%	7.15%	5.14%	7.68%
EBITDA Margin	4.61%	4.53%	7.78%	4.48%	7.34%
Net Profit Margin	1.19%	1.40%	4.14%	1.16%	3.29%
Return on Equity ^{1/} (ROE)	-1.00%	2.41%	12.50%		
Return on Assets (ROA)	1.14%	2.99%	8.28%		

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

	30 Sep 19	31 Jun 19	30 Sep 18
Liquidity Ratios (Times)			
Current Ratio	1.19	1.59	1.43
Quick Ratio	0.57	0.71	0.69
Financial Policy Ratios (Times)			
Interest Bearing Debt to Equity	1.08	0.97	0.86
Net Interest Bearing Debt to Equity	0.94	0.85	0.72
	Q3/2019	Q2/2019	Q3/2018
DSCR ^{2/} (Times)	1.50	1.34	2.48

2/ DSCR Calculation is not including long term debt prepayment



Financial Ratios Calculation

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

Note:

1/ Average Total Equity attributable to owners of the parent

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

Quarterly = (Total Equity attributable to owners of the parent of the quarter of the year before + Total Equity attributable to owners of the parent of 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 parent 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 (including current portion of long-term 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: Million Baht)

Environment Management Accounting : EMA	Q3/2019	Q3/2018	Δ
Material Costs of Product Outputs : Crude oil, ethanol, biodiesel, chemical, energy and utilities in production	25,097	31,295	(6,198)
Material Costs of Non-Product Outputs : Consist of slop and sludge oil, waste water, chemical surplus	25.85	11.35	14.50
Waste and Emission Control Costs : Maintenance cost of environmental control equipment and depreciation and other fees	84.53	68.39	16.14
Prevention and Other Environmental Management Costs : Monitoring and measurement cost, environmental management system expenses	2.90	1.26	1.64
Total Expenses	25,210	31,376	(6,166)
Benefit from by-product and waste recycling (Negative number means revenue)	(6.48)	(6.29)	0.19

Total environmental cost in Q3/2019 decreased from Q3/2018 by approximately THB 6,166 million (-20% YoY) mainly due to Material Cost of Product Output which was lower by THB 6,198 million, with respect to the less average production rate from 118.8 KBD in the same period of previous year to 110.8 KBD in the quarter, and crude price decreased 17% from the previous year. Material Costs of Non-Product Outputs was higher by THB 14.50 million, in accordance with the increase in products that were below quality standard of THB 14.76 million due to the refinery equipment changing during July to August 2019.

Waste and Emission Control Costs increased by THB 17.78 million (+26% YoY), primarily from depreciation of the pollution emission control devices increased THB 21.35 million, as there was additional investment in refinery environmental protection equipment. Moreover, monitoring and measurement cost increased by THB 1.64 million, while environmental protection equipment maintenance cost and waste management cost decreased by THB 2.60 million, and THB 3.13 million, respectively.

Benefits from by-products and waste recycling increased by THB 0.19 Million (+3% YoY), mostly due to amount of sellable liquid sulfur increased.

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.

