



Global Green Chemicals Public Company Limited

Management Discussion and Analysis
For the operating results of 1Q2019



Executive Summary

In 1Q2019, palm oil production and crude palm oil (CPO) inventory have remained high in both domestic and international market, consequence to drastically lower crude palm oil (CPO) and crude palm kernel oil (CPKO) prices than that of 1Q2018. Under these circumstances, the government has maintained the biodiesel mandated at B7 in this quarter. In addition, the government has announced the various measurements to enhance the consumption of B20, for instance, supporting the use of B20 in public buses and other public transportations, by extending price subsidies on B20 to be cheaper than B7 at 5 Baht/litre by State Oil Fund from the end of February 2019 to the end of May 2019 and accelerating to increase the numbers of gas stations selling B20 to 1,000 stations within end of this year. For natural fatty alcohols market, in 1Q2019, it was better than 1Q2018, as its price was more attractive than synthetic fatty alcohols price due to the decreasing of crude palm kernel oil price situation. Meanwhile, supply from natural fatty alcohols and synthetic fatty alcohols were tight which were impacted by the announcement of permanent shutdown of a synthetic fatty alcohols plant in Europe and temporary shutdown in some Chinese fatty alcohols plants due to more strictly safety control and more stringent environmental regulations by its government.

Due to the aforementioned situation, the Global Green Chemical Public Limited (“GGC” or “the Company”) recorded methyl ester sales volume at 94,703 tons, a decrease of 8,051 tons or 8% compared to the same quarter of the previous year. While, fatty alcohols sales volume was sold at 24,798 tons, increased by 563 tons or 2% from 1Q2018. As above reasons and the declining of products’ selling prices following the dip in crude palm oil price and crude palm kernel oil price, the company reported sales revenue of THB 2,816 million, decreased from 1Q2018 by THB 1,815 million or 39% and EBITDA of THB 143 million in this quarter was lower than the previous year by THB 68 million or 32%. The result was primarily from the lower profitability of methyl ester caused by a higher market competition and a decrease in crude palm oil price regarding to supply glut. However, the company has been improving the inventory management to be more efficient since the second half of 2018, resulted to the lower stock loss. As aforementioned, the company realized net profit of THB 22 million, a decrease of 66% compare to 1Q2018.

As of 31 March 2019, the company has total assets in the amount of THB 12,799 million which comprised of cash and short-term investment amounted to THB 3,882 million, with total liabilities of THB 3,069 million and total equities of THB 9,730 million. In this regard, the company’s financial position remains strong with low debt-to-equity ratio and high current ratio.

Operating Performance

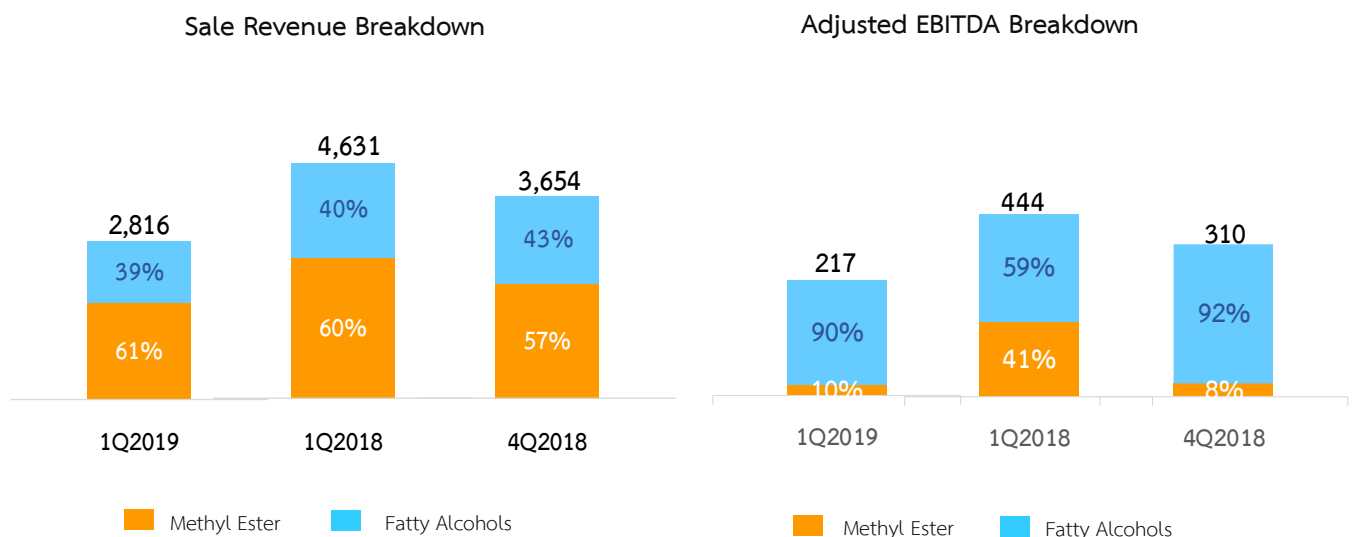
Exhibit 1 : Consolidated Company's Performance comparison of 1Q2019 vs. 1Q2018 vs. 4Q2018

UNIT: M THB	1Q2019	1Q2018	% YoY	4Q2018	% QoQ
Sales Revenue	2,816	4,631	-39%	3,654	-23%
EBITDA	143	211	-32%	286	-50%
EBITDA Margin (%)	5.1%	4.6%	0.5%	7.8%	-2.7%
Stock Gain/(Loss) & NRV	-74	-233	-68%	-24	208%
Adjusted EBITDA ⁽¹⁾	217	444	-51%	310	-30%
Adjusted EBITDA Margin (%)	7.7%	9.6%	-1.9%	8.5%	-0.8%
Net Profit	22	64	-66%	171	-87%
Extra item	-	-	n.a.	272 ⁽²⁾	n.a.
Net Profit	22	64	-66%	443	-95%
EPS (Baht/share)	0.02	0.06	-67%	0.43	-95%

Note : (1) Adjusted EBITDA refers to EBITDA excluding impact of Stock Gain/(Loss) and NRV

(2) Extra item was tax income from deferred tax assets amounting to THB 272 million.

Exhibit 2 : Sales revenue and Adjusted EBITDA breakdown by business unit comparison of 1Q2019 vs. 1Q2018 vs. 4Q2018 (million THB)



Market Overview by business

Methyl Ester (Biodiesel)

Exhibit 3: Product and Feedstock Prices

Average Price	1Q2019	1Q2018	% YoY	4Q2018	% QoQ
Methyl Ester (B100) (Baht/litre) ⁽¹⁾	20.74	24.66	-16%	21.78	-5%
Methyl Ester (B100) (Baht/kg.) ⁽²⁾	23.98	28.51	-16%	25.18	-5%
Crude Palm Oil (CPO) (Baht/kg.) ⁽³⁾	16.04	20.34	-21%	16.94	-5%
EPPO P2F (Baht/kg) ⁽⁴⁾	4.87	5.14	-5%	5.22	-7%
Biodiesel Mandate	B7	B7		B7	

Note : (1) Reference Price of EPPO
 (2) Conversion ratio: 0.865 Tons = 1,000 Liters
 (3) Reference Price of DIT
 (4) Market ME Price - Mixed Feedstock according to EPPO's B100 formula

An average of the 1Q2019 crude palm oil (CPO-DIT) price was at 16.04 Baht/kg, being less than 1Q2018 crude palm oil price by 4.30 Baht/kg or down 21%, which was the same direction as the soften in Malaysian crude palm oil price (CPO-MPOB) due to high inventory. In addition, there was a pressure from soy bean oil price weak which is the substitute goods to CPO. On the domestic methyl ester demand, it was estimated at 375,000 tons which was close to the same period of previous year, although, the government has attempted to build up demand of B20 by announcing the variety of measurements. While in 1Q2018, the government asked collaboration from fuel traders M.7 to keep more inventory of methyl ester to absorb domestic palm oil surplus, as a result, demand of domestic methyl ester grew higher than usual. Due to the lower crude palm oil price, methyl ester price in 1Q2019 was at 23.98 Baht/kg, dropped by 4.53 Baht/kg or down 16% from the same period of previous year.

Compared to 4Q2018, crude palm oil price was reduced by 0.90 Baht/kg or down 5% to at 16.04 Baht/kg because the inventory level still remains at 400,000 tons. In the meantime, the measurements to stimulate domestic consumption of palm oil were rarely impact; for example, cooperating with EGAT to purchase crude palm oil as fuel for power generation and stimulating the use of B20. On the demand side, methyl ester domestic demand in 1Q2019 was at 375,000 tons, an increase of 23,400 tons or 7% from the previous quarter, mainly due to government continually encourages the use of B20; for instance, supporting the consumption of B20 in public buses and other public transportations, by increasing price subsidies on B20 to be cheaper than B7 at 5 Baht/litre supporting by State Oil Fund, until 31st May 2019 and persuading fleet trucks to use of B20 and accelerating to increase the numbers of gas stations selling B20 to 1,000 stations

within end of this year. Due to crude palm oil price softness, methyl ester price was at 23.98 Baht/kg, decreased from the previous quarter by 1.20 Baht/kg or down 5%

The average EPPO P2F in 1Q2019 (the difference between ME EPPO price and mixed feedstock prices) was at 4.87 Baht/kg, decreased by 0.27 Baht/kg or 5% compared to 1Q2018. Compare to 4Q2018, it was reduced by 0.35 Baht/kg or down 7%. These were mainly resulted from the decreasing of methanol price which was a factor in the ME EPPO price formula.

Fatty Alcohols

Exhibit 4 : Products and Feedstocks' prices

Average Price (USD/ton)	1Q2019	1Q2018	% YoY	4Q2018	% QoQ
Fatty Alcohols ⁽¹⁾					
- Short Chain	3,249	3,618	-10%	3,538	-8%
- Mid Cut	1,241	1,796	-31%	1,231	1%
- Long Chain	1,183	1,271	-7%	1,164	2%
Average Fatty Alcohols ⁽²⁾	1,365	1,784	-23%	1,395	-2%
Crude Palm Kernel Oil (CPKO) ⁽³⁾	677	1,138	-41%	717	-6%
Market P2F of Fatty Alcohols	553	419	32%	535	3%

Note : (1) Reference Price of ICIS

(2) Average price of fatty alcohols with production proportion: Short Chain 8% Mid Cut 62% and Long Chain 30%

(3) Reference Price of Malaysian Palm Oil Board (MPOB)

Crude palm kernel oil price (MPOB) in 1Q2019 was at 677 USD/ton, dropped from 1Q2018 by 461 USD/ton or 41% and when compared to the previous quarter, it was decreased by 40 USD/ton or 6%. The primary cause was supply flood into the market, while the market demand was limited, chiefly from a growing health concern, trade barriers from some countries and increasing production of substitute goods which is coconut oil, attributed to pressure on crude palm kernel oil price.

Natural fatty alcohols demand in 1Q2019 improved from 1Q2018 and 4Q2018 due to more attractive natural fatty alcohols price than synthetic fatty alcohols price as crude palm kernel oil price falling. On the other hand, fatty alcohols supply was much tight because of the announcement of permanent shutdown of a synthetic fatty alcohols plant in Europe and temporary shutdown in some Chinese fatty alcohols plants due

to more strictly safety control and more stringent environmental regulations by its government. Moreover, the market demand was improved by having demand from agriculture sector and construction sectors that stocked its product for sales during summer in China.

Due to demand and supply factors as mentioned, Market P2F of natural fatty alcohols in 1Q2019 was at 553 USD/ton, improved by 134 USD/ton or 32% from 1Q2018 and increased by 18 USD/ton or 3% from 4Q2018.

Operating Performance by business unit

Methyl Ester (ME) Business Unit Operating Performance

Exhibit 5 : Keys Operating Performance of ME Business Unit

	1Q2019	1Q2018	% YoY	4Q2018	% QoQ
Utilization (%) ⁽¹⁾	102%	119%	-17%	112%	-10%
Sales Volume (ton)	94,703 ⁽²⁾	102,754	-8%	97,431 ⁽³⁾	-3%
Sales Volume (million litre) ⁽⁴⁾	109	119	-8%	113	-3%
Sales Revenue (million baht)	1,714	2,774	-38%	2,079	-18%
EBITDA (million baht)	3	163	-98%	1	200%
EBITDA margin (%)	0.2%	5.9%	-5.7%	0.0%	0.2%
Stock Gain/(Loss) & NRV(million baht)	-18	-17	5.9%	-25	-28%
Adjusted EBITDA (million baht) ⁽⁵⁾	21	180	-88%	26	-19%
Adjusted EBITDA Margin (%)	1.2%	6.5%	-5.3%	1.3%	-0.1%

Note : (1) Nameplate Capacity 300,000 tons per year from methyl ester plant 1

(2) In 1Q2019, GGC had sales volume from methyl ester plant 2 of 15,678 tons. However, the company could only realize the total sales volume from methyl ester plant 1 because methyl ester plant 2 is under testing run for commercial operation.

(3) In 4Q2018, GGC had sales volume from methyl ester plant 2 of 7,109 tons. However, the company could only realize the total sales volume from methyl ester plant 1 because methyl ester plant 2 is under testing run for commercial operation.

(4) Conversion ratio: 0.865 Tons = 1,000 Liters

(5) Adjusted EBITDA refers to EBITDA excluding impact of Stock Gain/(Loss) and NRV

Operating performance comparison between 1Q2019 vs. 1Q2018

In 1Q2019, the company recorded methyl ester revenue of THB 1,714 million, declined from 1Q2018 by 38%. This was due to the fact that the company could only recognize the sales revenue from sales volume from methyl ester plant 1, resulting to the decrease in sales volume of 23%. However, once included amount of sales volume from methyl ester plant 2, the total sales volume of methyl ester was decreased by 8,051 tons or 8%. In addition, the sales revenue was also impacted by methyl ester selling price dropped in relation to the soften of crude palm oil price and glycerine price in 1Q2019 was significantly decreased, attributed to a decline in by-product's revenue. Furthermore, the company had impact from a decrease in crude palm oil price resulted to a decrease in feedstock price discount, and an effect from Stock Loss & NRV of THB 18 million. Based on these factors, EBITDA was recorded at THB 3 million, a decrease of 98% and the company reported Adjusted EBITDA of THB 21 million, a decrease of 88%.

Operating performance comparison between 1Q2019 vs. 4Q2018

On quarter by quarter basis, methyl ester business unit's revenue in 1Q2019 was declined by THB 365 million or down 18%, although, sales volume from both plants was close to the previous quarter. However, the company could only recognize sales volume from methyl ester plant 1, thus, the sales volume was decreased by 13% due to an increase of methyl ester plant 2's sales volume. In addition, the company had impact from methyl ester's selling price declined in accordance with a decrease in crude palm oil price and decrease of by-product's revenue. However, the company has been improving the inventory management to be more efficient since the second half of 2018, as a result, the company realized a decreased Stock Loss & NRV of THB 7 million or 28%, compared to 4Q2018. Due to above reasons, EBITDA was recorded at THB 3 million, increased from the previous quarter by 200% and Adjusted EBITDA was reported at THB 21 million, dropped by THB 5 million or 19%.

Fatty Alcohol (FA) Business Unit Operating Performance

Exhibit 6 : Keys Operating Performance of FA Business Unit

	1Q2019	1Q2018	% YoY	4Q2018	% QoQ
Utilization (%)	111%	101%	10%	129%	-18%
Sales Volume (Ton)	24,798	24,235	2%	33,442	-26%
Revenue from Sales (million baht)	1,102	1,857	-41%	1,575	-30%
EBITDA (million baht)	140	48	192%	285	-51%
EBITDA Margin (%)	12.7%	2.6%	10.1%	18.1%	-5.4%
Stock Gain/(Loss) & NRV	-56	-216	-74%	1	-5700%
Adjusted EBITDA (million baht) ⁽¹⁾	196	264	-26%	284	-31%
Adjusted EBITDA Margin (%)	17.8%	14.2%	3.6%	18.0%	-0.2%

Note : (1) Adjusted EBITDA refers to EBITDA excluding impact of Stock Gain/(Loss) and NRV

Operating performance comparison between 1Q2019 vs. 1Q2018

Fatty alcohols business recorded revenue of THB 1,102 million in 1Q2019, decreased from 1Q2018 by 41% mainly due to the decreasing of natural fatty alcohols price following the decreasing of crude palm kernel oil price by 41%, though the company recorded a slightly increasing of sales volume compared to the same quarter of the previous year, up 2% mainly from improving of demand. As a result of crude palm oil price drop, the company realized Stock Loss & NRV of THB 56 million, a decrease of 74%. However, the company has been improving the inventory management to be more efficient since the second half of 2018, resulted to the lower Stock Loss. Accordingly, EBITDA was reported at THB 140 million, an increase of 192% and Adjusted EBITDA was recorded at THB 196 million, a decrease of 26%.

Operating performance comparison between 1Q2019 vs. 4Q2018

On quarter by quarter basis, the revenue of fatty alcohol business was recorded at THB 1,102 million, decreased from 4Q2018 by 30%, primarily from the declining of sales volume caused by annual planned maintenance for catalyst changing at the beginning of January for 11 days and low seasonal demand after New Year. In addition, due to a decrease in crude palm kernel oil price, the company realized a decreased Stock Loss & NRV of THB 56 million. Accordingly, EBITDA was recorded at THB 140 million, declined by 51% and Adjusted EBITDA was reported at THB 196 million, a decrease of 31%.

Consolidated Profit & Loss statement

Exhibit 7 : Consolidated Profit & Loss Statement comparison of 1Q2019, 1Q2018 and 4Q2018

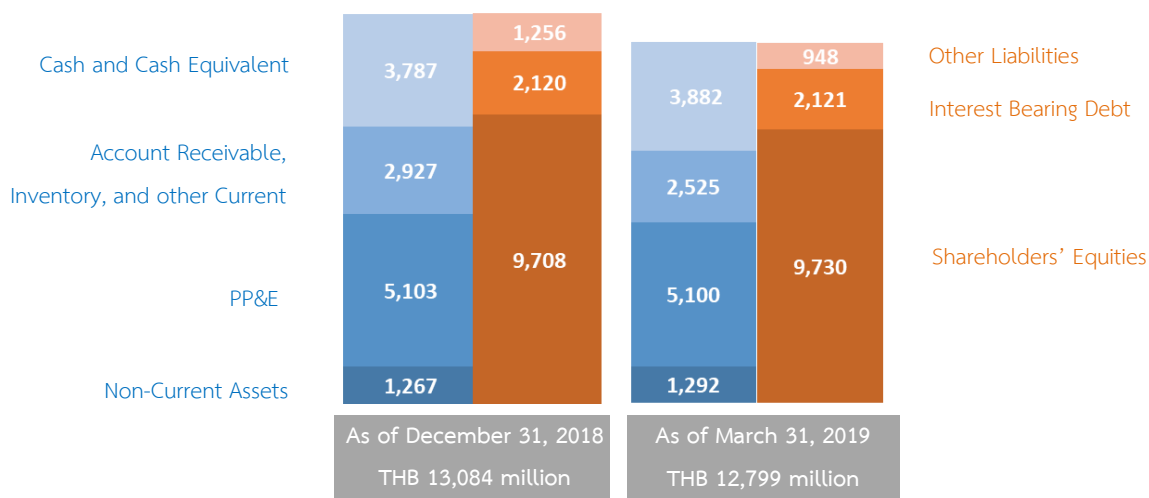
	1Q2019		1Q2018		YoY		4Q2018		QoQ	
	MB	%	MB	%	MB	%	MB	%	MB	%
Sale Revenue	2,816	100	4,631	100	(1,815)	(39)	3,654	100	(838)	(23)
Feedstock	(1,975)	(70)	(3,522)	(76)	1,547	(44)	(2,575)	(70)	600	(23)
Net Realizable Value (NRV)	(7)	(0)	2	0	(9)	(450)	(4)	(0)	(3)	75
Product to Feed Margin	834	30	1,111	24	(277)	(25)	1,075	29	(241)	(22)
Variable Costs	(403)	(14)	(495)	(11)	92	(19)	(484)	(13)	81	(17)
Fixed Costs	(133)	(5)	(126)	(3)	(7)	6	(163)	(4)	30	(18)
Stock Gain/(Loss)	(67)	(2)	(235)	(5)	168	(71)	(20)	(1)	(47)	235
SG&A	(110)	(4)	(72)	(2)	(38)	53	(140)	(4)	30	(21)
Other Income	22	1	28	1	(6)	(21)	18	0	4	22
EBITDA	143	5	211	5	(68)	(32)	286	8	(143)	(50)
Depreciation and Amortization	(111)	(4)	(139)	(3)	28	(20)	(125)	(3)	14	(11)
EBIT	32	1	72	2	(40)	(56)	161	4	(129)	(80)
Net Financial Costs	(4)	(0)	(5)	(0)	1	(20)	(5)	(0)	1	(20)
FX Gain/Loss ⁽¹⁾	(3)	(0)	(27)	(1)	24	(89)	(1)	(0)	(2)	200
Share of Profit/(Loss) from investment	1	0	20	0	(19)	(95)	9	0	(8)	(89)
Income Tax Expenses	(4)	(0)	4	0	(8)	(200)	7	0	(11)	(157)
Net Profit bef extra items	22	1	64	1	(42)	(66)	171	5	(149)	(87)
Extra item net of tax ⁽²⁾	-	n.a.	-	n.a.	-	n.a.	272	7	(272)	(100)
Net Profit after extra items	22	1	64	1	(42)	(66)	443	12	(421)	(95)

Notes : (1) Including Gain/(Loss) from FX and Derivatives

(2) Extra item was tax income from deferred tax assets amounting to THB 272 million.

Statement of Financial Position

Exhibit 8 : Consolidated Financial Position as of March 31, 2019 and as of December 31, 2018



Assets

As of March 31, 2019, the company had total assets of THB 12,799 million, a decrease of THB 285 million when compared to December 31, 2018, primarily from a decrease in current assets of THB 307 million, which could describe as follow:

- 1) A decrease in inventory of THB 217 million, because in December 2018 the company had to reserve more raw materials for production during New Year 2019 and the declining of raw material prices;
- 2) A decrease in account receivable chiefly from the declining of products' selling prices compared to 4Q2018; and
- 3) An increase in cash and cash equivalent of THB 95 million caused by the decreasing of working capital.

Liabilities

As of March 31, 2019, the company had total liabilities of THB 3,069 million, a decrease of THB 307 million or 9%, mainly attributed to a decrease in account payable of THB 260 million since this quarter the company was not required to keep additional raw materials volume while in December 2018, the company was required to reserve for production during New Year 2019, a decrease in the raw materials prices in 1Q2019 and a decrease in payable to contractor of THB 27 million due to payment to contractor as per project progress.

Shareholder's equities

As of March 31, 2019, the company had total shareholder's equity of THB 9,730 million, increased from December 31, 2018 by THB 22 million which was resulted from the profit of THB 22 million.

Statement of Cash Flows

The company had cash from operating activities of THB 246 million which consists of

1) the cash from net profit of THB 22 million; and

2) other operating activities of THB 224 million mainly due to a decrease in account receivable and inventory.

The company had spent cash for investing activities of THB 90 million, which composed of obtaining PP&E for THB 121 million, chiefly from investing in methyl ester plant 2, and investment in GGC KTIS Bio Industrial Company Limited amounting to THB 30 million and a decrease in short-term investment of THB 50 million.

The company had cash flow spending for financial activities of THB 17 million, which was spent for interest payment and payment of installments according to financial leases.

Key Financial Ratios

Exhibit 9 : Key Financial Ratios comparison of 1Q2019, 1Q2018 and 4Q2018

Key Financial Ratio	1Q2019	1Q2018	4Q2018
Current ratio (x)	5.2	7.5	4.4
EBITDA to sales revenue (%)	5.1	4.6	7.8
Net profit to sales revenue (%)	0.8	1.4	12.1
Return on total assets (%)	(10.9)	3.9	(10.5)
Return on equity (%)	(11.5)	4.6	(11.2)
Debt to equity (x)	0.3	0.3	0.3
Interest bearing debt to equity (x)	0.2	0.2	0.2
Interest bearing debt to EBITDA (x)	2.5	2.3	2.3

Notes:

Current ratio (x)	=	Current assets divided by current liabilities
EBITDA to sales revenue (%)	=	EBITDA divided by sale volume
Net profit to sales revenue (%)	=	Net profit divided by sales revenue
Return on total assets (%)	=	Net profit divided by average total assets
Return on equity (%)	=	Net profit divided by average equities attributed to owners of the company
Debt to equity (x)	=	Total debt divided by shareholders' equities
Interest bearing debt to equity (x)	=	Interest bearing debt divided by shareholder' equities
Interest bearing debt to EBITDA (x)	=	Interest bearing debt divided by EBITDA