

(Translation)



Management's Discussion and Analysis  
For the operating results of FY2017

Global Green Chemicals Public Company Limited

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## **Executive Summary**

In 2017, palm oil production in domestic and international market had improved since recovery from drought causing by El Nino effect in 2016. As palm oil inventory remained high, crude palm oil (CPO) price continuously declined, as well as Crude Palm Kernel Oil (CPKO) price decreased. This year, the Thai government biodiesel mandate was set to B5 and B7, which increased from B3, B5 and B7 in previous year. Fatty Alcohols(FA) market in 2017 had improved from previous year, driven by demand for Natural FA since its price could compete to Synthetic FA price.

Based on market situation as above, the Global Green Chemicals Public Limited (“GGC” or “the company”) operated at a full utilization, which resulted to FY17 Methyl Ester (ME or so call “Biodiesel”) sales volume of 344,173 tons, increased from FY16 sales volume of 281,688 tons, or rose by 22%. FY17 FA sales volume was posted 111,152 tons, grew from FY16 sales volume of 100,140 ton, or increased by 11%.

The company reported FY17 sales revenue of THB 19,472 million (up 13%yoy), while the company showed FY17 EBITDA of THB 1,138 million (down 22%yoy). In addition, GGC has recognized profit of THB 88 million from Thai Ethoxylate Co. Ltd., (TEX) a subsidiary of GGC, producing Fatty Alcohol Ethoxylate (Derivative product of FA). As a result, the GGC announced net profit for FY17 of THB 521 million (down 44%yoy), attributed to the lower profitability of Methyl Ester due to the lower feedstock price discount when the CPO price was weak and the impact from the appreciation of the THB, in which the THB was appreciated from 35.9 THB/USD at the beginning of 2017 to 32.5 THB/USD at the end of the year or 10% appreciation.

Nevertheless, GGC’s financial position for the year ended 2017 remains strong, with total asset of THB 14,535 million which comprised of cash and short-term investment amounted to THB 4,122 million; with total liabilities of THB 3,462 million; with total equities of THB 11,073 million.

## Operating Performance

Table 1 : Consolidated Performance FY 2016 vs. FY 2017

Unit (Million Baht)	4Q16	3Q17	4Q17	yoy	qoq	FY 16	FY 17	yoy
Sales Revenue	4,120	5,180	5,219	27%	1%	17,200	19,472	13%
EBITDA	273	211	387	42%	84%	1,460	1,138	-22%
EBITDA Margin (%)	6.6%	4.1%	7.4%	0.8%	-0.6%	8.5%	5.8%	-2.6%
Net Profit	142	55	251	76%	359%	937	521	-44%
EPS (Baht/Share)	0.19	0.05	0.24	27%	359%	1.27	0.56	-56%
Stock Gain/(Loss) & NRV	49	-143	-62	-227%	-57%	356	-664	-286%
Adjusted EBITDA <sup>(1)</sup>	224	354	449	101%	27%	1,104	1,802	63%
Adjusted EBITDA Margin (%)	5.4%	6.8%	8.6%	3.2%	1.8%	6.4%	9.3%	2.8%

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

Table 2 : Sales Revenue breakdown by business unit (Unit: THB million)

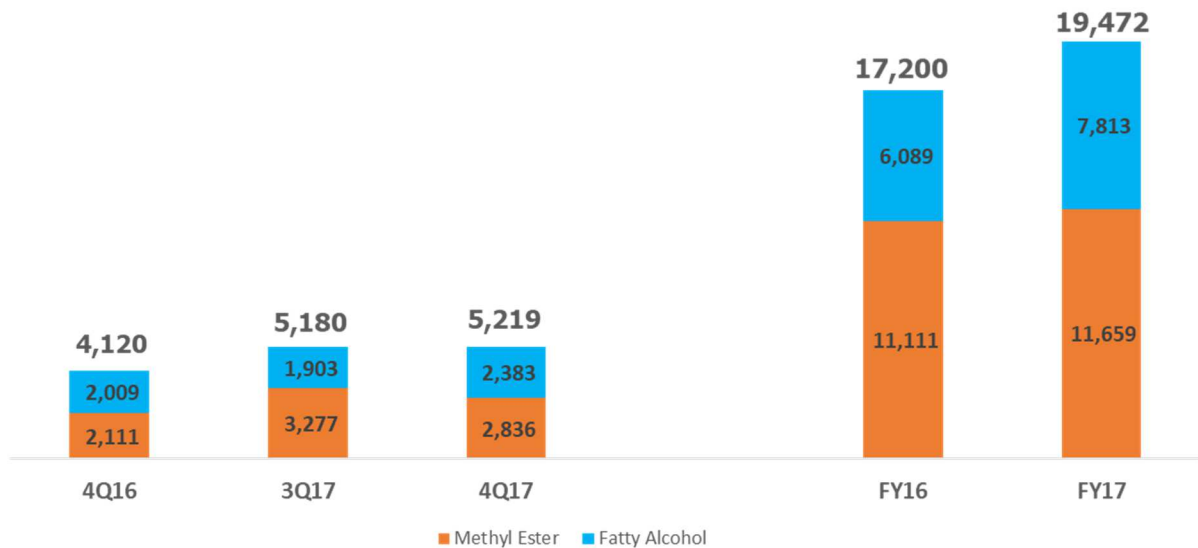
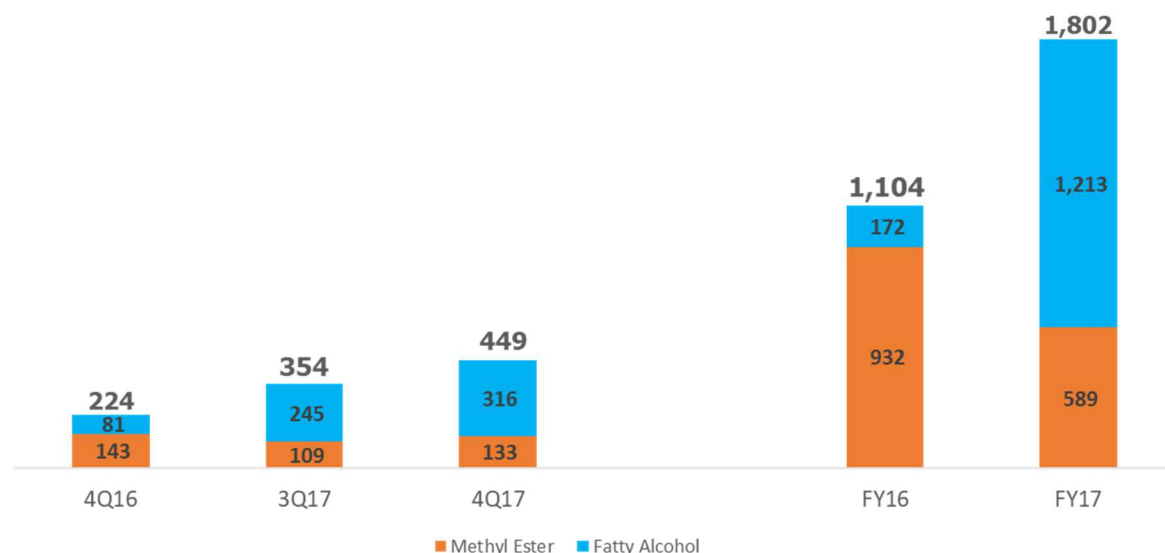


Table 3: Adjusted EBITDA breakdown by business unit (Unit: THB million)



## Market Overview of Major Products

### Market Overview of Methyl Ester (ME or B100)

Table 4 : Product and Feedstocks' prices

Average Price	4Q16	3Q17	4Q17	yoy	qoq	FY 16	FY 17	yoy
Methyl Ester (B100) (Baht per Litre) <sup>(1)</sup>	33.60	26.34	24.81	-26%	-6%	35.09	28.76	-18%
Crude Palm Oil (CPO) (Baht per Kg) <sup>(2)</sup>	30.14	22.43	20.48	-32%	-9%	31.95	24.88	-22%
Market P2F of Methyl Ester (B100) (Baht per Kg) <sup>(3)</sup>	4.70	4.80	4.93	5%	3%	4.41	4.96	12%
Biodiesel Mandate	B3, B5	B7	B7			B3, B5, B7	B5, B7	

Note : (1) Reference Price of EPPO (2) Reference Price of DIT (3) Market ME Price - Mixed Feedstock according to EPPO's B100 formula

In 2017, domestic crude palm oil prices (CPO-DIT) had been on a downward trend. FY17 CPO-DIT price was at 24.88 THB/kg, declined by 7.07 THB/kg (down 22%yoy) from previous year, mainly due to Thailand palm oil inventory level recovery from drought effect in FY16. The average palm oil inventory was seen higher than previous year by 162,753 tons to 405,560 tons (up 67%yoy) this year. Similarly, FY17 ME demand were 1.2 million tons, growing from prior year by 0.2 million tons (up 17%yoy). Such demand growth was driven by government biodiesel mandate. The FY17 mandate was set at B5 at the beginning of the year and was raised to B7 on May 8, 2017, while FY16 mandate was reduced from B7 to B5 on July 25, 2016 and adjusted down to B3 on August 25, 2016 before lifted back to B5 on November 25, 2016 in order to maintain price equilibrium of domestic CPO prices. In FY17 ME EPPO price was fallen following CPO-DIT prices dropped to 28.76 THB/liter (down 18%yoy).

Comparing to 4Q16, 4Q17 demand was higher year-on-year, according to B7 was applied. As well as 4Q17 had stronger demand than previous quarter, attributed to high seasonal demand from diesel consumption during travel season. Nonetheless, domestic palm oil inventory remained high, which resulted to lower CPO-DIT prices as low as 20.48 THB/kg in 4Q17. Correspondingly, EPPO ME prices fell to 24.81 THB/kg, following lower CPO prices.

FY17 ME EPPO P2F (the spread between ME and feedstock prices as per EPPO announce formula) was seen higher by 12%yoy to 4.96 THB/kg from 4.41 THB/kg in FY16. Comparing among 4Q17, 4Q16 and 3Q17, 4Q17 ME EPPO P2F improved to 4.93 THB/kg (up 5%yoy, up 3%qoq) from 4.70 THB/kg in 4Q16 and from 4.80 THB/kg in 3Q17 due to higher methanol price. as ME EPPO price formula was based on palm oil and methanol.

## Market Overview of Fatty Alcohols

Table 5 : Product and Feedstocks' prices

Average Price	4Q16	3Q17	4Q17	yoy	qoq	FY 16	FY 17	yoy
Fatty Alcohols Short Chain (USD per ton) <sup>(1)</sup>	3,243	3,425	3,500	8%	2%	3,533	3,363	-5%
Fatty Alcohols Mid Cut (USD per ton) <sup>(1)</sup>	2,146	1,810	2,177	1%	20%	1,778	2,074	17%
Fatty Alcohols Long Chain (USD per ton) <sup>(1)</sup>	1,311	1,414	1,414	8%	0%	1,248	1,401	12%
Fatty Alcohols Mixed Chains (USD per ton) <sup>(1) (2)</sup>	1,983	1,820	2,054	4%	13%	1,759	1,975	12%
Crude Palm Kernel Oil (CPKO) (USD per ton) <sup>(3)</sup>	1,505	1,156	1,304	-13%	13%	1,299	1,244	-4%
Market P2F of Fatty Alcohols	177	433	488	176%	13%	201	483	140%

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)

In 2017, average CPKO-MPOB was at 1,244 USD/ton, decreased from prior year by 55 USD/ton or 4%. The primary cause was from global palm oil inventory recovery after El Niño effect in 2016.

Overall, demand for Natural FA improved from previous year as price trended toward to equilibrium condition where price of Natural FA could be competitive to Synthetic FA. Moreover, Natural FA supply was relatively tight as Brazil producer and many Chinese producers have reduced their production, since they were affected by the volatility of CPKO

On qoq basis, demand for Natural FA in 4Q17 climbed up from 3Q17, mainly due to Synthetic FA prices remains high following an increase of crude oil prices, and the supply shortage of Natural FA within the region resulting to the FA users to stock the FA products to support their downstream production for New Year Gifting Season.

Based on market situation mentioned as above, 4Q17 and FY17 FA Market P2F grew yoy to 488 USD/ton and to 483 USD/ton, respectively.

## Operating Performance by business unit

### Performance Analysis for Methyl Ester Business (ME) Unit

Table 6 : Operating Performance of Methyl Ester(ME) Business Unit

	4Q16	3Q17	4Q17	yoy	qoq	FY 16	FY 17	yoy
Plant Utilization Rate (%) <sup>(1)</sup>	59%	112%	100%	69%	-11%	82%	101%	19%
Sales Volume (Tons) <sup>(2)</sup>	53,038	97,373	91,716	73%	-6%	281,688	344,173	22%
Sales Volume (Million Litres)	61	113	106	73%	-6%	326	398	22%
Sales Revenue (Million Baht)	2,111	3,277	2,836	34%	-13%	11,111	11,659	5%
EBITDA (Million Baht)	59	101	85	44%	-16%	802	382	-52%
EBITDA Margin (%)	2.8%	3.1%	3.0%	0.2%	-0.1%	7.2%	3.3%	-3.9%
Stock Gain/(Loss) & NRV	-83	-8	-48	-42%	530%	-130	-206	58%
Adjusted EBITDA (Million Baht) <sup>(3)</sup>	143	109	133	-7%	22%	932	589	-37%
Adjusted EBITDA Margin (%)	6.8%	3.3%	4.7%	-2.1%	1.4%	8.4%	5.0%	-3.3%

Note : (1) Nameplate Capacity 300,000 Tons per year (2) Conversion ratio: 0.865 Tons = c.1,000 Litres

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

#### Operating performance 4Q17 vs. 4Q16

4Q17 ME revenues was posted at THB 2,836 million (up 34%yoy), attributed to 1) 73%yoy higher of sales volume which came from biodiesel mandate of B7 in 4Q17, while it was B5 in 4Q16, and 2) higher revenue from ME byproducts and other revenue. With softness of CPO-DIT prices, GGC's margin was affected from the lower feedstock price discount, which led to the company's 4Q17 EBITDA of THB 85 million (up 44%yoy), and Adjusted EBITDA of THB 133 million (down 7%yoy).

#### Operating performance 4Q17 vs. 3Q17

On qoq basis, GGC posted 4Q17 revenue of THB 2,836 million (down 13%qoq), though sale volume was close to previous period, ME EPPO prices was down following the CPO price. Hence, GGC EBITDA was THB 85 million (down 16%qoq) due to higher stock loss than previous period. Nevertheless, the company's adjusted EBITDA improved by 22%qoq to THB 133 million.

#### Operating performance FY17 vs. FY16

FY17 ME revenue was relatively flat, amounted to THB 11,659 million (up 5%yoy). Though GGC accomplished 22% ME sales volume higher than that of previous year, GGC's revenue was pressured from the weakness in ME EPPO prices (following the soften of CPO-DIT price). Larger sales volume this year was supported from higher biodiesel mandate and from government special request for private sector to stock crude palm oil and biodiesel. Nonetheless, the company's revenue slightly increased, which benefited from higher revenue from byproducts and other income. As a result, EBITDA and Adjusted EBITDA were declined to THB 382 million (down 52%yoy) and THB 589 million (down 37%yoy), respectively.

## Operating Performance Analysis for Fatty Alcohol Business Unit

Table 7 : Operating Performance of Fatty Alcohols Business Unit

	4Q16	3Q17	4Q17	yoy	qoq	FY 16	FY 17	yoy
Plant Utilization Rate (%)	105%	123%	121%	16%	-2%	98%	112%	14%
Sales Volume (Tons)	28,048	31,574	32,045	14%	1%	100,140	111,152	11%
Sales Revenue (Million Baht)	2,009	1,903	2,383	19%	25%	6,089	7,813	28%
EBITDA (Million Baht)	213	109	303	42%	177%	658	755	15%
EBITDA Margin (%)	10.6%	5.7%	12.7%	2%	7.0%	10.8%	9.7%	-1.1%
Stock Gain/(Loss) & NRV	132	-136	-14	-110%	-90%	486	-458	-194%
Adjusted EBITDA (Million Baht) <sup>(1)</sup>	81	245	316	290%	29%	172	1,213	605%
Adjusted EBITDA Margin (%)	4.0%	12.9%	13.3%	9%	0.4%	2.8%	15.5%	12.7%

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

### [Operating performance 4Q17 vs. 4Q16](#)

FA sales revenues recorded THB 2,383 million in 4Q17 (up 19% yoy), attributed to 14% yoy higher sales volume, which was mainly due to producers in China and Brazil who were FA net importer reducing their production level to avoid feedstock prices volatility. In this period, EBITDA were recorded at THB 303 million (up 42% yoy), while adjusted EBITDA were recorded at THB 316 million (up 290% yoy) which reflected to FA market recovery.

### [Operating performance 4Q17 vs. 3Q17](#)

On qoq basis, 4Q17 FA sales revenues was posted THB 2,383 million (up 25% qoq) attributed to high seasonal demand for manufacturing New year gifting products and FA prices gained following higher price of CPKO-MPOB. The company was reported 4Q17 EBITDA of THB 303 million (up 177% qoq) and adjusted EBITDA of THB 316 million (up 29% qoq). Such result was due to market improving and lower stock loss comparing to previous period, was reported at THB 245 million.

### [Operating performance FY17 vs. FY16](#)

FY17 FA sales revenues was posted THB 7,813 million (up 28% yoy), attributed to sales volume of growth of 11% (FY17=111,152 tons) and higher market selling prices. In this period, demand for Long Chain Fatty Alcohol from Africa, Asia and South America was much higher than last year as some producers were have reduced their production due to CPKO price volatility. Hence, FY17 FA EBITDA was recorded at THB 755 million (up 15% yoy), while adjusted EBITDA was recorded at THB 1,213 million (up 605% yoy) as GGC recognized stock gain last year while recognized stock loss this year.

## Consolidated Operating Performance

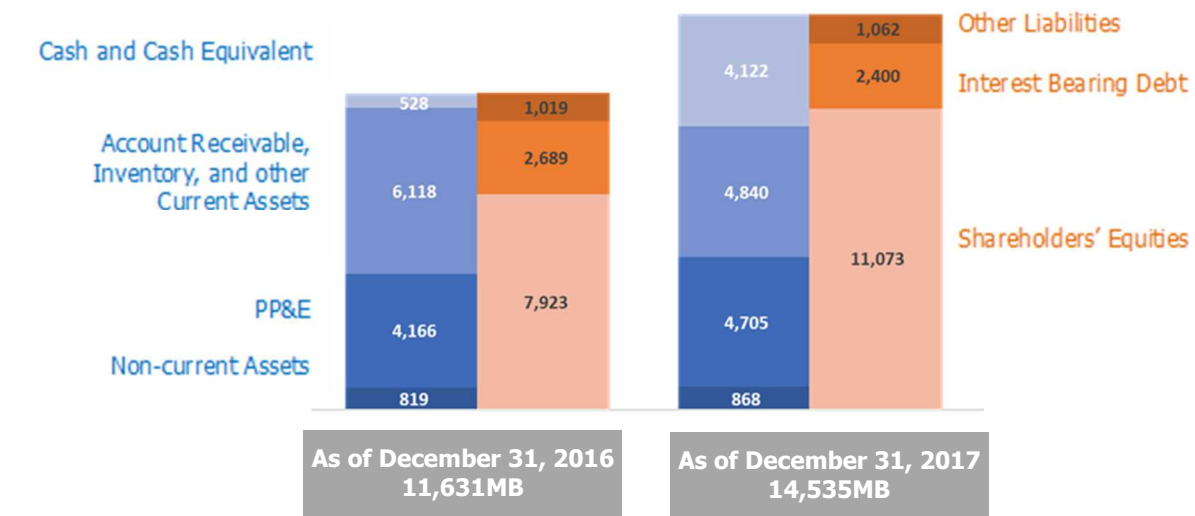
Unit (Million Baht)	4Q16		3Q17		4Q17		yoy		qoq		FY 16		FY 17		yoy	
	MB	%	MB	%	MB	%	MB	%	MB	%	MB	%	MB	%	MB	%
<b>Sales Revenue</b>	4,120	100	5,180	100	5,219	100	1,099	27	39	1	17,200	100	19,472	100	2,272	13
Feedstock	(3,341)	(81)	(4,167)	(80)	(4,078)	(78)	(737)	22	88	(2)	(13,936)	(81)	(15,131)	78	(1,195)	9
NRV	(0)	(0)	18	0	(1)	(0)	(1)	na.	(18)	(103)	(0)	(0)	(2)	0	(2)	na.
<b>Product to Feed Margin</b>	<b>779</b>	<b>19</b>	<b>1,031</b>	<b>20</b>	<b>1,140</b>	<b>22</b>	<b>361</b>	<b>46</b>	<b>109</b>	<b>11</b>	<b>3,264</b>	<b>19</b>	<b>4,339</b>	<b>22</b>	<b>1,075</b>	<b>33</b>
Other Variable Costs	(326)	(8)	(468)	(9)	(448)	(9)	(122)	37	20	(4)	(1,403)	(8)	(1,693)	9	(290)	21
Fixed Costs	(130)	(3)	(130)	(3)	(149)	(3)	(19)	15	(20)	15	(522)	(3)	(555)	3	(33)	6
Stock Gain/(Loss)	49	1	(161)	(3)	(61)	(1)	(110)	(226)	99	(62)	356	2	(662)	3	(1,018)	(286)
SG&A	(112)	(3)	(72)	(1)	(114)	(2)	(3)	2	(42)	58	(283)	(2)	(342)	2	(59)	21
Other Income	12	0	11	0	20	0	8	63	10	92	48	0	52	0	3	7
<b>EBITDA</b>	<b>272</b>	<b>7</b>	<b>211</b>	<b>4</b>	<b>387</b>	<b>7</b>	<b>115</b>	<b>42</b>	<b>176</b>	<b>84</b>	<b>1,460</b>	<b>8</b>	<b>1,138</b>	<b>6</b>	<b>(321)</b>	<b>(22)</b>
Depreciation and Amortization	(139)	(3)	(143)	(3)	(143)	(3)	(4)	3	(1)	0	(545)	(3)	(564)	3	(20)	4
<b>EBIT</b>	<b>134</b>	<b>3</b>	<b>68</b>	<b>1</b>	<b>244</b>	<b>5</b>	<b>110</b>	<b>83</b>	<b>176</b>	<b>258</b>	<b>915</b>	<b>5</b>	<b>574</b>	<b>3</b>	<b>(341)</b>	<b>(37)</b>
Finance Costs	(22)	(1)	(12)	(0)	(8)	(0)	14	(63)	4	(31)	(60)	(0)	(57)	0	2	(2)
FX Gain/(Loss) <sup>(1)</sup>	22	1	(22)	(0)	(8)	(0)	(30)	(135)	14	(65)	33	0	(80)	(0)	(113)	(345)
Shares of profit/(loss) from investment	24	1	15	0	27	1	3	13	12	82	104	1	87	0	(17)	(17)
Income Tax Expenses	(15)	(0)	6	0	(4)	(0)	11	(73)	(10)	(173)	(30)	(0)	(2)	0	28	(94)
<b>Net Profit</b>	<b>143</b>	<b>3</b>	<b>55</b>	<b>1</b>	<b>251</b>	<b>5</b>	<b>108</b>	<b>76</b>	<b>196</b>	<b>359</b>	<b>962</b>	<b>6</b>	<b>521</b>	<b>3</b>	<b>(441)</b>	<b>(46)</b>
<b>Profit/(Loss) attributable to</b>																
Owners of the company	142	3	55	1	251	5	109	77	196	359	938	5	521	3	(416)	(44)
																0
<b>Adjusted EBITDA <sup>(2)</sup></b>	<b>224</b>	<b>5</b>	<b>354</b>	<b>7</b>	<b>449</b>	<b>9</b>	<b>226</b>	<b>101</b>	<b>95</b>	<b>27</b>	<b>1,104</b>	<b>6</b>	<b>1,802</b>	<b>9</b>	<b>699</b>	<b>63</b>

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

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



## Statement of Financial Position



### Assets

As of December 31, 2017, the company had total assets of THB 14,535 million, increased from December 31, 2016 by THB 2,904 million or 25% from details as follows: an increase of THB 3,056 million cash from IPO, an increase of THB 331 million from account receivable, a decrease of THB 1,596 million from lower inventory, and an increase of non-current asset of THB 900 million (mostly from Methyl Ester project plant 2) but there was depreciation of non-current assets of THB 499 million.

### Liabilities

As of December 31, 2017, the company had total liabilities of THB 3,462 million, decreased from December 31, 2016 by THB 246 million or 7%, mainly attributable to THB 302 million lower account payable since the company did not need to reserve inventory as last year there was the feedstock supply shortage from flood situation in the south of Thailand. However, the company had higher account payable to construction of THB 201 million due to payable from construction of Methyl Ester 2. Moreover, the short-term loan was repaid THB 60 million, while long-term loan was repaid THB 231 million.

### Shareholders' Equities

As of December 31, 2017, the company had total shareholders' equities of THB 11,073 million, increased from December 31, 2016 by THB 3,150 million or 40%. This increasing was contributed from newly issue of IPO share THB 3,056 million, FY17 net profit of THB 521 million whereas there was the dividend payment of THB 259 million as per Annual General Meeting on March 21, 2017 resolution and the interim dividend payment of THB 154 million as the company's BOD approved resolution on August 9, 2017 for the 1H2017 performance.

## **Statement of Cash Flows**

As of December 31, 2017 the company had cash from operating activities of THB 2,096 million which included 1) cash from net profit of THB 521 million, and non-cash adjustment and other operating activities of THB 1,575 million; 2) Cash flow from investing activities of THB 2,464 million, which was spent to invest in bank deposit for THB 1,700 million, and THB 740 million for Methyl Ester project plant 2; and 3) Cash Flow from financing activities of THB 2,264 million, composing of cash received from IPO, short-term loan and long-term loan repayment, and dividend payment.

## **Key Financial Ratios**

<b>Financial Ratios</b>	<b>FY16</b>	<b>FY17</b>
Current Ratio(x)	5.2	6.9
EBITDA to sales revenue(%)	8.5	5.8
Net Profit to sales revenue(%)	5.6	2.7
Return on total assets(%)	8.7	4.0
Return on equity(%)	11.3	5.5
Debt to equity(x)	0.5	0.3
Interest bearing debt to equity(x)	0.3	0.2
Interest bearing debt to EBITDA(x)	1.8	2.1

## **Notes :**

Current Ratio (Times)	=	Current assets divided by current liabilities
EBITDA to sales revenue (%)	=	EBITDA divided by sales revenue
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 attributable to owners of the company
Debt to equity (Times)	=	Total debt divided by shareholders' equities
Interest bearing debt to equity (Times)	=	Interest bearing debt divided by shareholders' equities
Interest bearing debt to EBITDA (Times)	=	Interest bearing debt divided by EBITDA