



IRPC Public Company Limited

Management Discussion and Analysis

**Operating Results for the Second Quarter and
the First Six Months of 2019**



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Management Discussion and Analysis (MD&A)

IRPC Public Company Limited and its subsidiaries

Operating Results for the Second Quarter and the First Six Months of 2019

Executive Summary

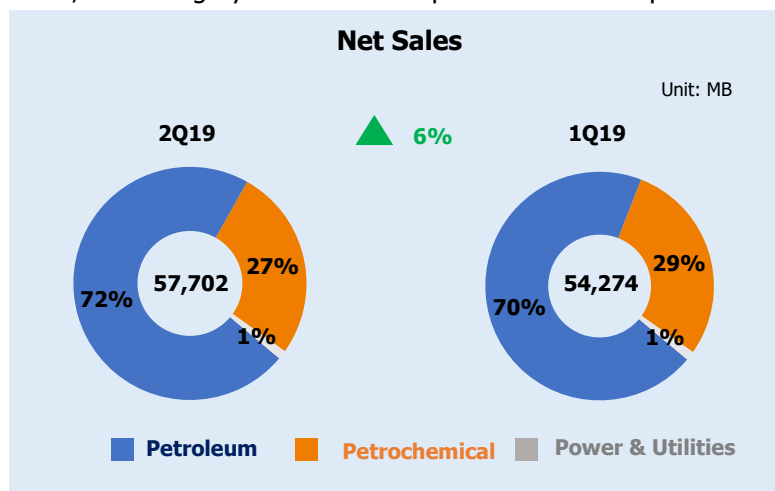
	Unit	Quarter			Change		1H		YoY
		2Q19	2Q18	1Q19	YoY	QoQ	2019	2018	
Crude Intake	Million bbl	18.78	19.10	17.97	(2%)	4%	36.75	38.28	(4%)
Sales ^[1]	Million Baht	63,710	70,902	59,721	(10%)	7%	123,430	136,996	(10%)
Net Sales ^[2]	Million Baht	57,702	65,367	54,274	(12%)	6%	111,976	125,855	(11%)
Market GIM	Million Baht	5,429	8,493	4,958	(36%)	10%	10,387	17,062	(39%)
	USD/bbl ^[3]	9.11	13.86	8.68	(34%)	5%	8.90	13.96	(36%)
Accounting GIM	Million Baht	5,920	10,708	5,678	(45%)	4%	11,598	19,481	(40%)
	USD/bbl	9.94	17.47	9.94	(43%)	0%	9.94	15.93	(38%)
EBITDA	Million Baht	2,304	7,162	2,355	(68%)	(2%)	4,659	12,551	(63%)
Net Profit	Million Baht	507	4,050	153	(87%)	231%	660	6,801	(90%)

Note: ^[1] **Sales** includes (1) Petroleum Sales (2) Petrochemical Sales (3) Power and Utilities Sales
(4) Sales of tank farm and port service, etc

^[2] **Net Sales** includes (1) Petroleum Sales (excluding excise tax) (2) Petrochemical Sales (3) Power and Utilities Sales

^[3] **Market GIM per bbl** : [(Market GIM / Crude Intake)/exchange rate]

The operating results in the second quarter of 2019 compared to those in the first quarter: In the second quarter of 2019 (2Q19), the Company reported net sales of Baht 57,702 million, increasing by 6% when compared to the first quarter of 2019 (1Q19) - the increase in both



products price by 4% and sales volume by 2%. The crude intake was up to 206,000 barrels per day from 200,000 barrels per day in 1Q19 after RDCC unit and petrochemical plants resumed the operation from their planned shutdown.

The Market GIM was Baht 5,429 million (USD 9.11 per barrel) increasing by 10% as a result of the increasing volume of high-value products after the RDCC unit resumed the operation though the products spread continued to decrease especially petrochemical

products as a consequence of a sluggish global economy caused by prolonged U.S.-China trade war. However, the Company continues to implement the Everest Forever (E4E) program in order to enhance the efficiency throughout the organization. The net stock gain was Baht 491 million, mainly from oil hedging gain, declining by Baht 229 million owing to higher LCM. Hence, the Accounting GIM was Baht 5,920 million (USD 9.94 per barrel), rose by 4%. The other incomes were Baht 723 million, increasing by 71% mostly due to the warranty claim of the UHV project amounting to Baht 271 million. The operating expenses were Baht 3,974 million, increasing by Baht 595 million. The increase followed the new regulation about employee benefit under Labor Protection Act (effective on May 5, 2019), which stipulates additional legal severance pay rates for employees who work for an uninterrupted period of twenty years or more. Such employees are entitled to receive compensation of 400 days at the employees' latest wage rate, up from 300 days. The Company had the EBITDA of Baht 2,304 million, decreasing by 2%. The financial cost decreased by Baht 410 million mainly owing to the gain of Baht 488 million from Cross Currency Swap (CCS) transactions. With Thai Baht appreciation continuously, led to the decline of USD liability amount in term of Baht currency, the Company had foreign exchange gain of Baht 213 million, increasing by Baht 86 million. Therefore, the Company had the net profit of Baht 507 million in 2Q19, increasing by 231% when compared to the results in the first quarter.

The operating results in the second quarter of 2019 compared to those in the second quarter of 2018: The Company's net sales declined by Baht 7,665 million or by 12%. The main reason was the decrease of selling prices following the decline in crude oil price. The crude intake decreased by 4,000 barrels per day. The Market GIM was down by Baht 3,064 million or 36% (USD 4.75 per barrel) mainly due to the significant decrease of both petroleum and petrochemical products spread despite the decrease of the crude premium. The net stock gain was down by Baht 1,724 million when compared to Baht 2,215 million in the second quarter of 2018. The Accounting GIM declined by 45% and the EBITDA declined by Baht 4,858 million or 68%. However, as a result of the continuous Baht appreciation, the gain from CCS transactions was up by Baht 452 million and the financial cost was down by Baht 460 million. The foreign exchange gain based on the USD liability increased by Baht 286 million while the profit from the investment decreased by Baht 90 million. The net profit in 2Q19 decreased by Baht 3,543 million or 87% when compared to that in the same quarter of last year.

The operating results in the first six months of 2019 (1H19) compared to those in the first six months of 2018(1H18) : The Company reported net sales of Baht 111,976 million, decreasing by 11%. The main reason was the decrease of selling prices following the crude oil price. The crude intake was 203,000 barrels per day down by 8,000 barrels per day because the RDCC unit ceased the operation for 28 days in the first quarter. The Market GIM was Baht 10,387 million (USD 8.90 per barrel), decreasing by 39% as a result of the significant decrease of both petroleum and petrochemical products spread. The spread decrease was effected by many factors including the prolonged U.S.-China trade war, the new capacity in the region and the increasing production rate in the U.S. The net stock

gain was Baht 1,211 million, declining by Baht 1,208 million. Hence, the Accounting GIM was Baht 11,598 million (USD 9.94 per barrel), down by 40%. The other incomes were Baht 1,145 million, up by Baht 371 million or 48% mostly due to the warranty claim of the UHV Project. The operating expenses were Baht 7,353 million, increasing by Baht 394 million mostly from higher staff cost. The Company had the EBITDA of Baht 4,659 million, decreasing by 63%. The net financial cost was Baht 364 million, decreasing by Baht 545 million. It was mainly owing to gain of Baht 571 million from CCS, up by Baht 502 million. As a result of Baht appreciation, the Company had foreign exchange gain of Baht 340 million, increasing by Baht 316 million. In addition, the Company had the corporate income tax benefit of Baht 4 million because of the decreasing operating results plus the increasing in BOI privileges proportion while it had the tax expenses of Baht 1,186 million last year. The Company had the net profit of Baht 660 million in 1H19, decreasing by 90% when compared to that in 1H18.

Operating Performance

1. Operating Performance by Business Units

1.1. Petroleum business unit

1.1.1 Petroleum Market Overview

Crude oil situation in the second quarter of 2019: The global demand was around 100.3 million barrels per day. The Dubai price was USD 59.33 – 74.49 per barrel. The average price was USD 67.36 per barrel, up by USD 3.83 per barrel when compared to the average price of USD 63.53 per barrel in the 1Q19. The favorable reasons were the reinstatement of U.S sanction against Iran which already withdrew the waiver in the beginning of May, the OPEC and Non-Opec's agreement to reduce





the production, the additional China crude oil import quotas, and Poland and Germany's suspension of oil imports from Russia through Druzhba Pipeline (1 million barrel capacity) over the quality concern about the chloride found in the pipeline. These reasons push the crude oil prices up from the beginning of the year until April.

After that, the prices went down as a result of the U.S. rising crude oil production which was up to the highest level of 12.4 million barrels per day and the demand shrinkage following the sluggish global economy and the U.S. – China trade war. However, the prices rose in the end of the quarter as a consequence of rising crude oil demand as the refineries resumed the operation after the maintenance shutdown and the concern over Middle-East crude oil supply after the oil tanker was attacked in the Strait of Hormuz and after Iran shot the U.S drone down.

Crude oil outlook in the third quarter of 2019: The price is forecasted to range from USD 60 to 67 per barrel. It is attributed to the OPEC and Non-OPEC's agreement to extend the reduction of crude oil production of around 1.2 million barrels per day for 9 months which will end in March 2020, the tension in the Strait of Hormuz and the hurricane season in the U.S. which may lead to the reduction of crude oil production in the Gulf of Mexico. However, there are some factors which may push the price down. The production in the U.S. may increase. The rising supply from Permian crude pipeline to Mexico, which is the country's primary crude oil export terminal and this project is expected to be completed in the second half of 2019. Also, the U.S. – China trading negotiation is still unclear.

1.1.2 Crude Intake and Capacity

Petroleum	Quarter			% Change		1H		YoY
	2Q19	2Q18	1Q19	YoY	QoQ	2019	2018	
Crude Intake								
Million barrels	18.78	19.10	17.97	(2%)	4%	36.75	38.28	(4%)
KBD	206	210	200	(2%)	3%	203	211	(4%)
Utilization Rate								
Refinery	96%	98%	93%	(2%)	3%	94%	98%	(4%)
RDCC	114%	104%	70%	10%	44%	92%	105%	(13%)
Lube Base Oil	82%	84%	84%	(2%)	(2%)	83%	86%	(3%)


In 2Q19, crude intake was 18.78 million barrels (206 KBD), increasing QoQ from the resuming operation after the planned shutdown of RDCC plant


In 2Q19, crude intake was 18.78 million barrels or 206,000 barrels per day (KBD). The utilization rate was 96%, increased from 1Q19 of 200,000 barrels per day or 93% utilization rate. This was resulted from the resuming operation after the planned shutdown of RDCC plant for catalyst cooler equipment installation in 1Q19. When compared with 2Q18, utilization rate was similar at 98% with crude intake of 210,000 barrels per day.

The utilization rate of RDCC plant in 2Q19 was 114 %, increasing by 44% from 1Q19 of 70% utilization rate, mainly due to the resuming operation after planned shutdown in 1Q19. When compared with 2Q18, the utilization rate was 104%, rising by 10%.

Lube base oil plant's utilization rate in 2Q19 was 82%, aligned with the previous quarter and 2Q18 of 84% utilization rate.

1.1.3 Petroleum Sales

Products	Sales Volume (Million Barrel)					Sales Value (Million Baht)				
	Quarter			1H		Quarter			1H	
	2Q19	2Q18	1Q19	2019	2018	2Q19	2Q18	1Q19	2019	2018
Refinery	14.92	15.03	14.16	29.08	30.10	37,005	41,246	33,337	70,341	78,802
Lube Base Oil	1.71	1.78	1.81	3.52	3.58	4,462	4,688	4,437	8,899	9,333
Total	16.63	16.81	15.97	32.60	33.68	41,467	45,934	37,773	79,240	88,135

1.1.5 Petroleum Products Spread

Average price	Quarter			% Change		1H		YoY
	2Q19	2Q18	1Q19	YoY	QoQ	2019	2018	
Dubai Crude Oil (USD/bbl)	67.36	72.09	63.53	(7%)	6%	65.45	67.99	(4%)
Petroleum (USD/bbl)								
Naphtha – Dubai	(9.1)	(1.4)	(7.5)	N/A	(21%)	(8.3)	(0.9)	N/A
ULG95 – Dubai	7.5	12.1	3.7	(38%)	103%	5.6	12.9	(57%)
Gas Oil 0.05%S - Dubai	12.4	14.6	12.8	(15%)	(3%)	12.6	14.7	(14%)
FO 180 3.5%S - Dubai	(2.3)	(4.4)	0.6	48%	N/A	(0.9)	(4.7)	81%
Lube Base Oil (USD/MT)								
500SN - FO 180 3.5%S	287	481	330	(40%)	(13%)	308	497	(38%)
150BS - FO 180 3.5%S	473	544	482	(13%)	(2%)	478	566	(16%)
Asphalt - FO 180 3.5%S	(4)	(68)	(40)	94%	90%	(22)	(62)	65%

The spread between Petroleum products and Dubai

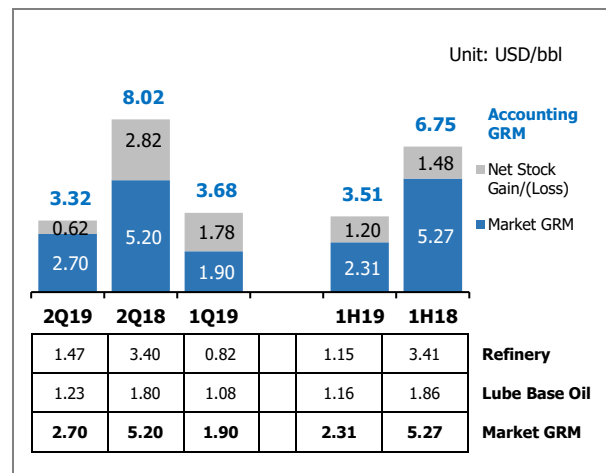
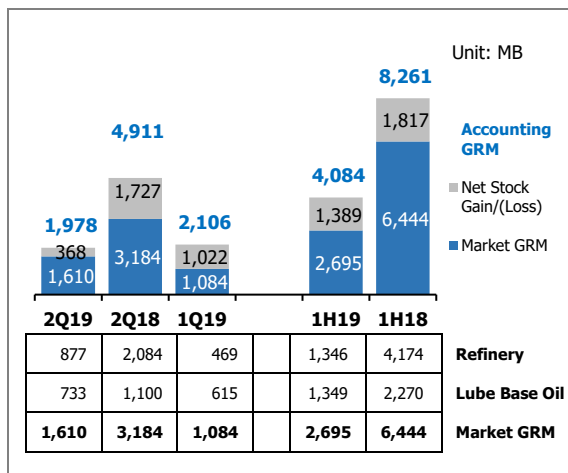
- Naphtha Spread-Lower:** Naphtha-Dubai spread was USD –9.1 per barrel, decreased by 21% when compared to previous quarter of USD –7.5 per barrel. This was caused by a pressure from lower demand from Olefin Plants' (Naphtha Cracker) annual maintenance shutdown and a higher export from U.S. Shale Oil which have high naphtha yield. Furthermore, Naphtha export moved to the Asia instead of Venezuela after U.S. sanctions. When compared with 2Q18 of USD -1.4 per barrel, it sharply decreased.
- ULG95 Spread-Higher:** ULG95-Dubai spread was USD 7.5 per barrel, increased by 103% from USD 3.7 per barrel of 1Q19, due to lower supply as the refineries' annual maintenance shutdown. In addition, production in Europe had dropped because of crude oil contamination and a massive fire erupted at a crude oil refinery in Philadelphia resulted in the refinery permanently closed. When compared with 2Q18 of USD 12.1 per barrel, its spread declined by 38%.
- Gas Oil Spread-Lower:** Gasoil-Dubai spread was USD 12.4 per barrel, slightly decreased by 3% from USD 12.8 per barrel of 1Q19. The main reasons were an increase in Diesel export quotas from China and a rise in China's crude oil import. However, the European demand increased according to the lower production as the Russian crude oil contaminated with organic chloride. When compared with 2Q18 of USD 14.6 per barrel, its spread declined by 15%.

- Fuel Oil Spared-Lower:** Fuel Oil-Dubai spread was USD -2.3 per barrel, sharply decrease by USD 2.9 per barrel when compared to 1Q19 of USD 0.6 per barrel. This was owing to weaker marine fuel demand toward economic slowdown and the concern over trade war between the U.S. and China. When compared with 2Q18 of USD -4.4 per barrel, its spread increased USD 2.1 per barrel or 48%.

The spread between Lube Base Oil products and FO 180 3.5%S

- 500 SN Spread- Lower:** Lube base 500SN-Fuel Oil spread was USD 287 per ton, decreasing by 13% from USD 330 per ton last quarter, because producers lowered prices in order to reduce their inventories. When compared with 2Q18 of USD 481 per ton, its spread declined by 40%.
- Asphalt Spread - Higher:** Asphalt - Fuel Oil spread was USD -4 per ton, increased by 90% from USD -40 per ton of 1Q19, due to a higher construction demand in Southeast Asia as well as a lower regional supply from the maintenance shutdown plants in Singapore. When compared with 2Q18 of USD -68 per ton, its spread rose by 94%.

1.1.6 Gross Refining Margin



In 2Q19, Market GRM rose, QoQ, as an increase in high-value products and higher sales volume according to the resuming operation of the RDCC plant despite a decline in products spread



Market GRM in 2Q19 was Baht 1,610 million or USD 2.70 per barrel, rose by Baht 526 million or USD 0.80 per barrel from 1Q19. This caused by an increase in high-value products and a higher sales volume according to the resuming operation after planned shutdown of the RDCC plant last quarter despite a decline in products spread. However, Market GRM decreased by Baht 1,574 million or USD 2.50 per barrel when compared with 2Q18, mainly because products spread decreased sharply.

In 2Q19, there was the net stock gain of Baht 368 million or USD 0.62 per barrel, comprising of stock gain of Baht 36 million and oil hedging gain of Baht 463 million despite a loss of LCM of Baht

131 million. Hence, Accounting GRM was Baht 1,978 million or USD 3.32 per barrel, dropping by Baht 128 million from 1Q19 and decreasing by Baht 2,933 million from 2Q18.

For 1H19, Market GRM was Baht 2,695 million or USD 2.31 per barrel, declining by 3,749 million or USD 2.96 per barrel. This resulted from a decrease in almost all petroleum products spread especially Diesel and Gasoline as well as the planned shutdown of RDCC plant in 1Q19. The net stock gain was Baht 1,389 million or USD 1.20 per barrel including stock gain of Baht 391 million, gain from a reversal of LCM of Baht 534 million and oil hedging gain of Baht 464 million. Thus, Accounting GRM was Baht 4,084 million or USD 3.51 per barrel, decreasing by Baht 4,177 million or USD 3.24 million from the same period last year.

1.2 Petrochemical business units

1.2.1 Petrochemical Market Overview

Petrochemical market situation in the second quarter of 2019: The additional demand for the petrochemical products still decreased continuously toward soften global economic growth. According to the World Bank, Global economic growth is projected to soften from a downwardly revised from 2.9% in January 2019 to 2.6% in June 2019. The pressure came from the effect from the prolonged U.S. – China trade war which seemed to be escalating when the U.S. announced the new tariff rate applied exclusively to Chinese goods – electronics, electrical appliances, clothes and toys – up from 10% to 25% on 10 May 2019. China retaliated by imposing higher tariff from 10% to 25% for the energy and medical products imported from the U.S. approximately USD 60 billion effective on 1 June 2019. All mentioned had an impact on import and export businesses for both the U.S. and China. As a result of the uncertainty of the trade war, buyers were more prudent to make the orders. They ordered just what were needed and lowered the inventory to avoid the price risk. However, the changing consumer behavior was favorable to the price support. Most consumers made the orders online and used more plastic products in daily life, especially the packaging products. This encouraged more demand for the plastic products and the polymer.

Petrochemical market outlook in the third quarter of 2019: The demand for the polymer will be higher for several favorable reasons. It may come to the end of the U.S. - China trade war after G20 meeting on 28-29 June 2019. The fire incident of the major refinery and petrochemical plant in Texas, U.S., had an effect on the olefin supply. China decided to move the manufacturing base to Southeast Asia to avoid the U.S. tariff increase. China also stimulates the economy to respond the effect from the trade war by decreasing the manufacturers' VAT from 16% to 13% and increasing the budget for the government expenses, etc. However, there might be a pressure. The demand during rainy season may lower. The additional capacity comes from the major petrochemical plant in Malaysia at the end of this year. The U.S. might impose more tariff rate as they claimed that China did not buy more agricultural products as promised.

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Compared with 2Q18, net sales decreased by Baht 3,300 million or 18%, due to 13% decrease in average selling prices according to lower raw material prices as well as 5% decrease in sales volume by 26,000 MT.

For 1H19, net sales of petrochemical businesses were Baht 30,979 million, dropping by Baht 5,228 million or 14% from the same period last year. This caused by 12% decline in average selling prices following lower raw material and 2% decrease in sales volume by 18,000 MT, mainly from SM and SAN products in Styrenics Group.

1.2.4 Petrochemical Sales Breakdown

Products	Quarter						1H			
	2Q19		2Q18		1Q19		2019		2018	
	Local	Local	Local	Export	Local	Export	Local	Export	Local	Export
Olefins Group	59%	41%	54%	46%	63%	37%	61%	39%	56%	44%
Aromatics and Styrenics Group	47%	53%	44%	56%	52%	48%	49%	51%	46%	54%
Total	54%	46%	50%	50%	59%	41%	56%	44%	52%	48%

For 2Q19, the proportion of Petrochemical sales were 54% domestic and 46% export. The domestic sales decreased by 5% from last quarter, mostly from PP product in Olefins group and products in Styrenics group. When compared with 2Q18, domestic sales increased by 4%, mainly from HDPE product in Olefins group and Mixed Xylene in Aromatics and Styrenics group. The petrochemical exported products in 2Q19 mostly shipped to Hong Kong, Singapore and Vietnam, respectively.

For 1H19, the domestic sales increased by 4%, mostly from PP product in Olefins group.

1.2.5 The spread between key petrochemical products and raw material

Average Price (USD/MT)	Quarter			% Change		1H		YoY
	2Q19	2Q18	1Q19	YoY	QoQ	2019	2018	
Naphtha	541	641	519	(16%)	4%	530	611	(13%)
Olefins								
Ethylene - Naphtha	283	581	409	(51%)	(31%)	346	623	(44%)
HDPE – Ethylene	395	427	262	(7%)	51%	329	394	(16%)
HDPE – Naphtha	678	1,008	671	(33%)	1%	675	1,017	(34%)
Propylene – Naphtha	255	362	320	(30%)	(20%)	287	384	(25%)
PP – Propylene	337	298	291	13%	16%	314	293	7%
PP – Naphtha	592	660	611	(10%)	(3%)	601	677	(11%)
Aromatics								
BZ - Naphtha	84	201	71	(58%)	18%	77	255	(70%)
TOL - Naphtha	108	115	93	(6%)	16%	101	126	(20%)
MX – Naphtha	164	164	154	0%	6%	159	173	(8%)
Styrenics								
SM - Naphtha	523	771	523	(32%)	0%	523	790	(34%)
ABS - Naphtha	955	1,379	1,000	(31%)	(5%)	977	1,403	(30%)
ABS – SM	432	608	477	(29%)	(9%)	454	613	(26%)
PS (GPPS) - Naphtha	763	945	788	(19%)	(3%)	775	971	(20%)
PS (GPPS) - SM	240	174	265	38%	(9%)	252	181	39%

The spread between Polyolefins (HDPE/PP) and Naphtha

- **HDPE Spread - Unchanged:** HDPE-Naphtha spread was USD 678 per ton, being stable from USD 671 per ton in 1Q19 due to higher HDPE pipe grade demand for construction during summer together with shortage supply among the shutdown plants in Asia. When compared with 2Q18 of USD 1,008 per ton, its spread was down by 33%.

- **PP Spread - Lower:** PP-Naphtha was USD 592 per ton, decreasing by 3% from USD 611 per ton in 1Q19, due to soften demand during Ramadan plus sluggish demand from China according to the U.S. - China trade war escalation. The product price was firm while naphtha price was sharply risen following crude oil price. When compared with 2Q18 of USD 660 per ton, its spread declined by 10%.

The spread between Aromatics (Toluene and Mix Xylene) and Naphtha

- TOL spreads - Higher:** Toluene-Naphtha spread was USD 108 per ton, increasing by 16% from USD 93 per ton in 1Q19, due to higher Toluene demand to be components of gasoline in the U.S. and lower supply from maintenance shutdown period. When compared with 2Q18 of USD 115 per ton, its spread declined by 6%.

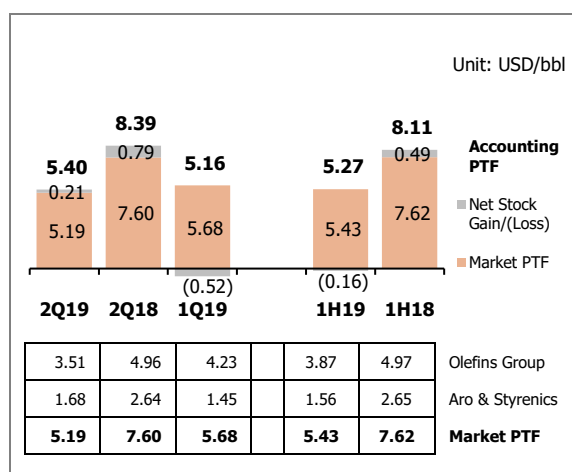
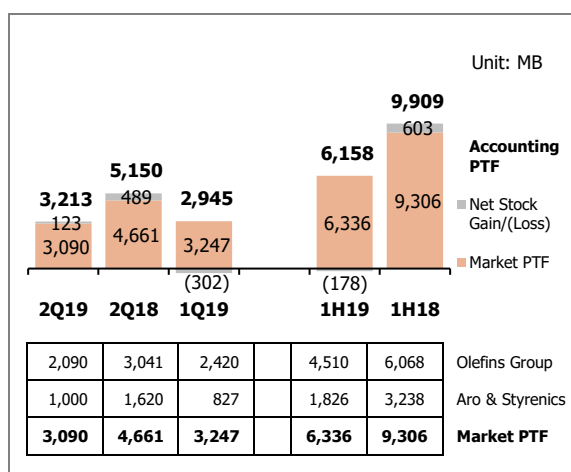
- MX Spread – Higher:** Mixed xylene -Naphtha spread of USD 164 per ton increased 6% from USD 154 per ton in 1Q19, because of an increase demand to be feedstock for new PX plant in China. When compared with 2Q18, its spread was unchanged.

The spread between Polystyrenics (ABS/PS) and Naphtha

- ABS Spread – Lower:** ABS-Naphtha spread was USD 955 per ton, decreasing by 5% from USD 1,000 per ton in 1Q19, due to soften Chinese demand in accordance with the U.S. – China trade war. The ABS price could not move over Naphtha price, which continued increased following the crude oil price since the beginning of the year. When compared with 2Q18 of USD 1,379 per ton, its spread declined by 31%.

- PS Spread – Lower:** PS – Naphtha spread was USD 763 per ton, decreasing by 3% from USD 788 per ton in 1Q19, by the impact of the U.S. – China trade war tension. When compared with 2Q18 of USD 945 per ton, its spread declined by 19%.

1.2.6 Product to Feed Margin (Product to Feed : PTF)



In 2Q19, Market PTF of Baht 3,090 million or USD 5.19 per barrel decreased by Baht 157 million or USD 0.49 per barrel from 1Q19, owing to a decline in the petrochemical products spread including PP, ABS and PS versus an increase in volume of high-value products. Moreover, Market PTF declined by Baht 1,571 million or USD 2.41 per barrel when compared to 2Q18 due to a

The net stock gain of Baht 123 million or USD 0.21 per barrel in 2Q19, including stock gain of Baht 140 million while a loss of LCM of Baht 17 million. Therefore, the company had Accounting PTF of Baht 3,213 million or USD 5.40 per barrel. When compared with last quarter, it increased by Baht 268 million or USD 0.24 per barrel while fell by Baht 1,937 million or USD 2.99 per barrel from 2Q18.

For 1H19, Market PTF was Baht 6,336 million or USD 5.43 per barrel, dropping by Baht 2,970 million or USD 2.19 per barrel from the same period last year. The main reason was the sharply decline in petrochemical products spread as a result of the trade war between U.S. and China. Meanwhile, the Company reported the net stock loss of Baht 178 million attributed to the stock loss of Baht 337 million but there was gain from the reversal of LCM amounting to Baht 159 million. As such, the Accounting PTF was Baht 6,158 million or USD 5.27 per barrel. It was down by Baht 3,751 million or USD 2.84 per barrel when compared to the same period last year.

1.3.1 Power Plant Capacity and Sales

	Quarter			% Change		1H		YoY
	2Q19	2Q18	1Q19	YoY	QoQ	2019	2018	
Utilization Rate								
Electricity	74%	81%	67%	(7%)	7%	71%	80%	(9%)
Steam	63%	79%	59%	(16%)	4%	61%	78%	(17%)
Sales (Baht million)								
Electricity	511	472	534	8%	(4%)	1,045	922	13%
Steam	311	251	277	24%	12%	587	471	25%
Others	64	61	61	5%	5%	126	120	5%
Total	886	784	872	13%	2%	1,758	1,513	16%

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In 2Q19, the utilization rate of Electricity was 74% increased by 7%, QoQ, and the utilization rate of Steam was 63% increased by 4%, QoQ. This resulted from the planned shutdown of RDCC plant and Petrochemical plants in 1Q19. When compared with 2Q18, the utilization rate of Electricity and Steam were lower by 7% and 16%, respectively.

In 2Q19, the net sales of power and utility businesses were Baht 886 million, increasing by Baht 14 million or 2%, QoQ. This was due mainly to an increase in steam sales volume to IRPC Industrial zone while a decrease in electricity sales volume to EGAT.

When compare to the same period last year, net sales of power and utility businesses were Baht 784 million, increasing by Baht 102 million or 13% owing to the increase in both sales volume and average selling price of power and utility.

In 1H19, the net sales of power and utility businesses were Baht 1,758 million, rising by Baht 245 million or 16% from 1H18.

2. Total Operating Performance

Total Operating Performance of IRPC and its subsidiaries for quarter 2Q19 and 1H19 are as follow;

	Unit : Million Baht					Unit : USD per barrel				
	Quarter			1H		Quarter			1H	
	2Q19	2Q18	1Q19	2019	2018	2Q19	2Q18	1Q19	2019	2018
Average FX (THB/USD)	31.76	32.09	31.78	31.77	31.90					
Total Crude Intake (Mbbl)	18.78	19.10	17.97	36.75	38.28					
Average Crude (USD/bbl) ⁽¹⁾	70.15	75.49	65.54	67.90	71.42					
Sales ⁽²⁾	63,710	70,902	59,721	123,430	136,996	106.81	115.68	104.57	105.72	112.19
Net Sales ⁽³⁾	57,702	65,367	54,274	111,976	125,855	96.74	106.65	95.04	95.91	103.06
Cost of Feedstock (Market Price)	(52,273)	(56,874)	(49,316)	(101,589)	(108,793)	(87.63)	(92.79)	(86.36)	(87.01)	(89.10)
Market GIM	5,429	8,493	4,958	10,387	17,062	9.11	13.86	8.68	8.90	13.96
Stock Gain/(Loss)	176	2,177	(122)	54	2,372	0.30	3.55	(0.21)	0.05	1.94
Lower of Cost or Market	(148)	(6)	841	693	(7)	(0.25)	(0.01)	1.47	0.59	(0.01)
Oil Hedging Gain/(Loss)	463	44	1	464	54	0.78	0.07	0.00	0.40	0.04
Accounting GIM	5,920	10,708	5,678	11,598	19,481	9.94	17.47	9.94	9.94	15.93
Other Incomes ⁽⁴⁾	723	396	422	1,145	774	1.21	0.65	0.74	0.98	0.63
Selling Expenses	(366)	(350)	(365)	(731)	(745)	(0.61)	(0.57)	(0.64)	(0.63)	(0.61)
Accounting GIM and Other Incomes	6,278	10,754	5,734	12,012	19,510	10.54	17.55	10.04	10.29	15.95
OPEX	(3,974)	(3,592)	(3,379)	(7,353)	(6,959)	(6.67)	(5.86)	(5.92)	(6.30)	(5.70)
EBITDA	2,304	7,162	2,355	4,659	12,551	3.87	11.69	4.12	3.99	10.25
Depreciation	(2,135)	(2,047)	(2,016)	(4,151)	(4,086)	(3.58)	(3.34)	(3.53)	(3.56)	(3.35)
EBIT	169	5,115	339	508	8,465	0.29	8.35	0.59	0.43	6.90
Net Financing Cost	23	(437)	(387)	(364)	(909)	0.04	(0.71)	(0.68)	(0.31)	(0.74)
Gain/(Loss) from Foreign Exchange	213	(73)	127	340	24	0.36	(0.12)	0.22	0.29	0.02
Gain/(Loss) from impairment and disposal of fixed assets	(2)	51	(8)	(10)	51	(0.00)	0.08	(0.01)	(0.01)	0.04
Gain/(Loss) from Investment	112	202	83	195	372	0.19	0.33	0.14	0.17	0.30
Other Expenses	5	-	(5)	-	-	0.01	-	(0.01)	-	-
Net Profit/(Loss) before Income Tax	520	4,858	149	669	8,003	0.89	7.93	0.25	0.57	6.52
Income Tax	(5)	(795)	9	4	(1,186)	(0.01)	(1.30)	0.02	0.00	(0.97)
Gain/(Loss) from non-controlling interests	(8)	(13)	(5)	(13)	(16)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
Net Profit/(Loss)	507	4,050	153	660	6,801	0.87	6.61	0.26	0.56	5.54
Earning per share (EPS) (Baht/share)	0.02	0.20	0.01	0.03	0.33					

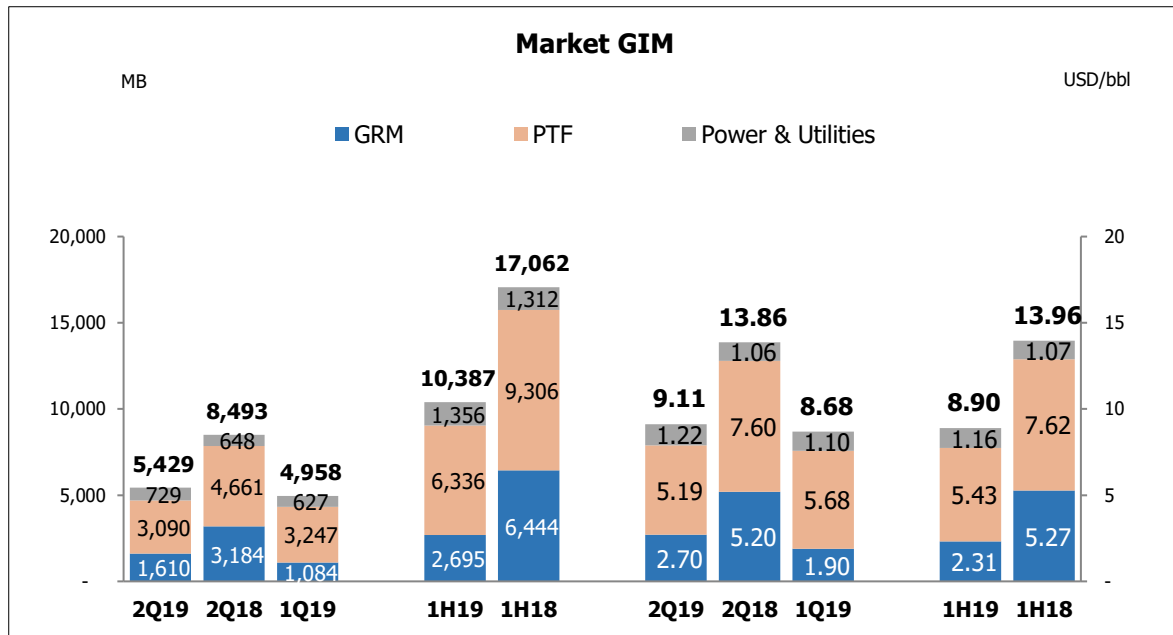
Note : ⁽¹⁾ Average market prices of crude used in the production process

⁽²⁾ Sales includes (1) Petroleum Sales (2) Petrochemical Sales (3) Power and Utilities Sales (4) Sales of tank farm and port service, etc

⁽³⁾ Net Sales includes (1) Petroleum Sales (excluding excise tax) (2) Petrochemical Sales (3) Power and Utilities Sales

⁽⁴⁾ Including port, tank farm and service etc.

2.1 Market Gross Integrated Margin (Market GIM)

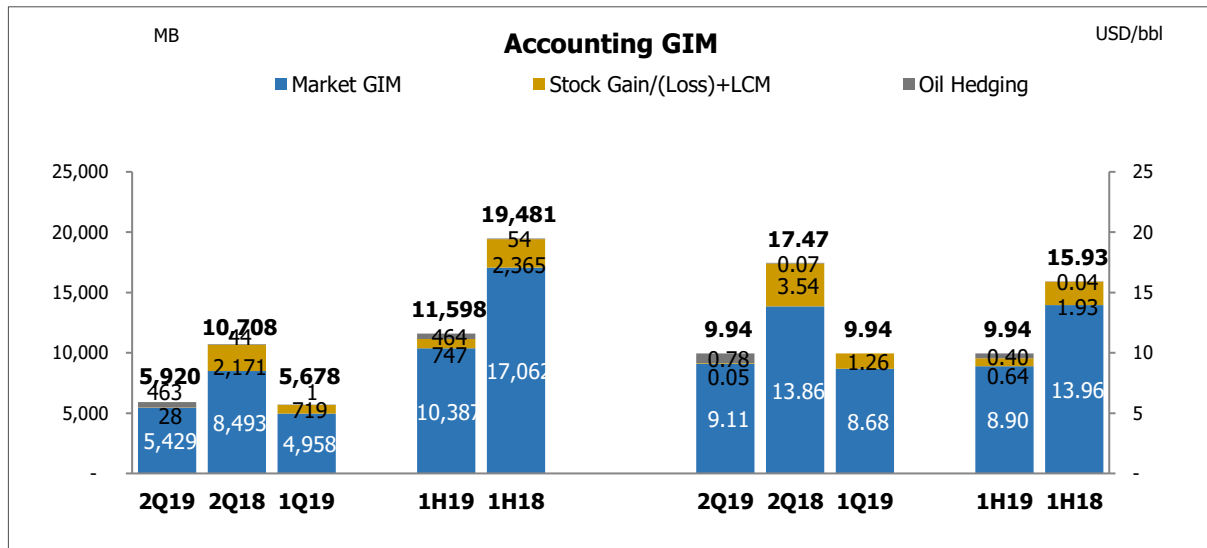


In 2Q19, Market GIM of Baht 5,429 million or USD 9.11 per barrel increased by Baht 471 million or USD 0.43 per barrel from last quarter. The main reasons were the resuming operation after the planned shutdown of RDCC plant in 1Q19 while lower petroleum and petrochemical products spread and higher crude premium of USD 0.78 per barrel. Meanwhile, the efficiency improvement program-E4E helped support the Market GIM.

When compared with 2Q18, Market GIM dropped by Baht 3,064 million or USD 4.75 per barrel, owing to the significant decline in petroleum and petrochemical products spread while crude premium was lower by USD 0.61 per barrel.

For 1H19, Market GIM was Baht 10,387 million or USD 8.90 per barrel, decreasing by Baht 6,675 million or USD 5.06 per barrel from 1H18. This was because of the sharply decline in petroleum and petrochemical products spread as a result of the trade war between U.S. and China concern as well as the planned shutdown of RDCC plant in 1Q19 although crude premium was lower by USD 0.98 per barrel.

2.2 Accounting Gross Integrated Margin (Accounting GIM)



In 2Q19, Accounting GIM of Baht 5,920 million or USD 9.94 per barrel rose by Baht 242 million from 1Q19. This resulted from an increase in Market GIM of Baht 471 million versus a decrease in net stock gain of Baht 229 million owing to higher LCM.

When compared with 2Q18, Accounting GIM decreased by Baht 4,788 million or USD 7.53 per barrel because of a decrease in Market GIM of Baht 3,064 million or USD 4.75 per barrel as well as a decrease in net stock gain of Baht 1,724 million or USD 2.78 per barrel.

For 1H19, Accounting GIM of Baht 11,598 million or USD 9.94 per barrel decreased by Baht 7,883 million or USD 5.99 per barrel when compared with the same period last year. This caused by a decline in Market GIM of Baht 6,675 million or USD 5.06 per barrel together with a drop in net stock gain of Baht 1,208 million or USD 0.93 per barrel.

2.3 Other incomes

Other incomes consist of port and tank farm services and other services. In 2Q19, the Company had other incomes amounting to Baht 723 million, increased by Baht 301 million from 1Q19 due to an increase in warranty claim of UHV project amounting to Baht 271 million. When compared with 2Q18, other incomes rose by Baht 327 million, mainly from a rise in warranty claim as mentioned above as well as an increase in tank farm services.

For 1H19, other incomes of Baht 1,145 million rose by Baht 371 million compared with the same period last year, mainly owing to an increase in warranty claim of UHV project and tank farm services.

2.4 Operating Expenses

In 2Q19, the operating expenses of Baht 3,974 million increased by Baht 595 million, QoQ. This resulted from an increase in employee benefit expense under The new Labor Protection Act, effective on May 5, 2019. It stated that the employers provide additional legal severance pay rates for employees who have worked for an uninterrupted period of twenty years or more. Such employees are entitled to receive compensation from 300 days to 400 days. When compared with 2Q18, a rise in operating expenses of Baht 382 million was owing to an increase in employee benefit expense and maintenance expense.

For 1H19, there was the operating expenses of Baht 7,353 million, rose by Baht 394 million from 1H18, mainly because of a rise in employee benefit expense and maintenance expense versus the drop in consulting fee and donation.

2.5 Depreciation and Amortization Expenses

In 2Q19, the depreciation of Baht 2,135 million increased by Baht 119 million, QoQ and Baht 88 million, YoY. For 1H19, the depreciation of Baht 4,151 million rose by Baht 65 million from 1H18. The main reason was the completion of expansion and efficiency improvement projects such as the Catalyst Cooler project that started commercial operation since May 1, 2019.

2.6 Financial Costs

In 2Q19, financial costs were down by Baht 410 million from 1Q19, mainly due to gain from CCS amounting to Baht 488 million in 2Q19 and gain from CCS amounting to Baht 83 million in 1Q19. When compared with 2Q18, financial costs declined by Baht 460 million, mainly owing to higher gain from CCS.

For 1H19, financial costs of Baht 364 million decreased by Baht 545 million from the same period last year, mainly owing to higher gain from CCS.

2.7 Gain/(Loss) from Foreign Exchange

In 2Q19, the Company recorded gain from foreign exchange of Baht 213 million, most of which were unrealized. It increased by Baht 86 million from 1Q19, owing to Thai Baht appreciation from Baht 31.98 per USD at the end of 1Q19 to Baht 30.92 per USD at the end of 2Q19. When compared with 2Q18, there was loss from foreign exchange of Baht 73 million. The Company has outstanding USD debt of USD 200 million at the end of 2Q19.

For 1H19, there was gain from foreign exchange of Baht 340 million while there was gain from foreign exchange of Baht 24 million in 1H18. It was higher due to Thai Baht appreciation.

2.8 Gain/(Loss) from Investments

In 2Q19, there was gain from investments of Baht 112 million, increased by Baht 29 million from 1Q19 due to higher equity values in associates and joint ventures. However, gain from investments declined by Baht 90 million from 2Q18, owing to lower equity values in associates and joint ventures.

For 1H19, there was gain from investments of Baht 195 million, declined by Baht 177 million from 1H18, mainly from lower equity values in associates and joint ventures.

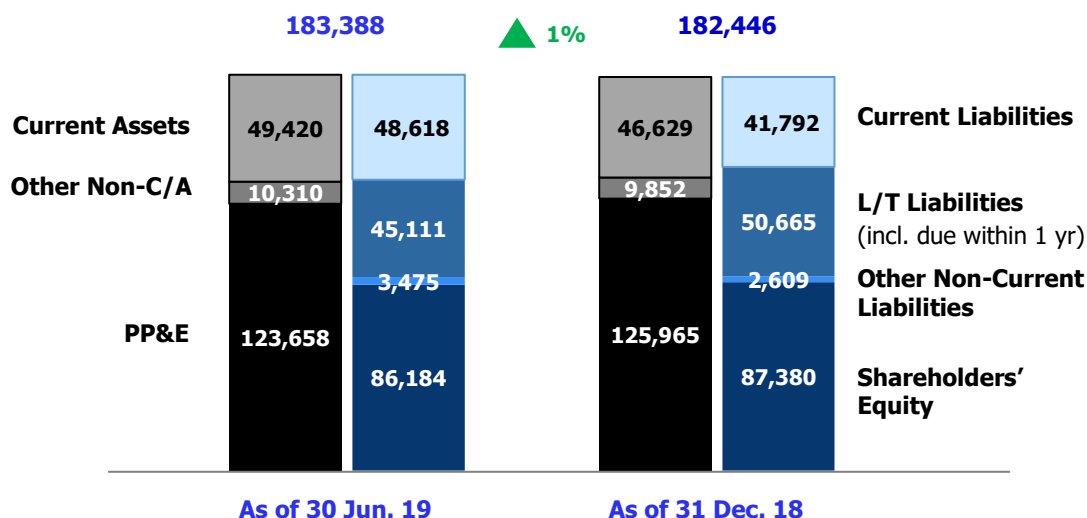
2.9 Corporate Income Tax

The Company recorded the corporate income tax expense amounting to Baht 5 million in 2Q19 compared with 1Q19 of the corporate income tax benefit amounting to Baht 9 million. The corporate income tax expense increased by Baht 14 million due to performance improvement. When compared with 2Q18, the corporate income tax expense of Baht 795 million dropped by Baht 790 million due to lower performance together with an increase in BOI privileges proportion.

For 1H19, the company recorded the corporate income tax benefit amounting to Baht 4 million compared with 1H18 of the corporate income tax expense amounting to Baht 1,186 million. The corporate income tax expense decreased by Baht 1,189 million due to lower performance and an increase in BOI privileges proportion.

Financial Positions as of 30 June 2019

(Unit: Million Baht)



Assets

As of June 30, 2019, the Company had total assets of Baht 183,388 million, increased by Baht 942 million from December 31, 2018. It was due to the following reasons:

- **Account receivables** increased by Baht 368 million or 3% from the end of 2018, mainly due to an increase in product selling prices following crude oil price. As of June 30, 2019, there were overdue more than 3-months account receivables amounting to Baht 33 million or only 0.26% of the total account receivables which incorporated in the provision for doubtful debt of Baht 29 million. The average collection period was 18 days in 2Q19, increased by 2 days from 2018.

- **Inventory** increased by Baht 3,051 million or 11% due to an increase in inventory volume from 9.09 million barrels at the end of 2018 to 10.89 million barrels at the end of 2Q19 following higher crude intake. The average inventory period was 45 days, increased by 5 days from 2018.

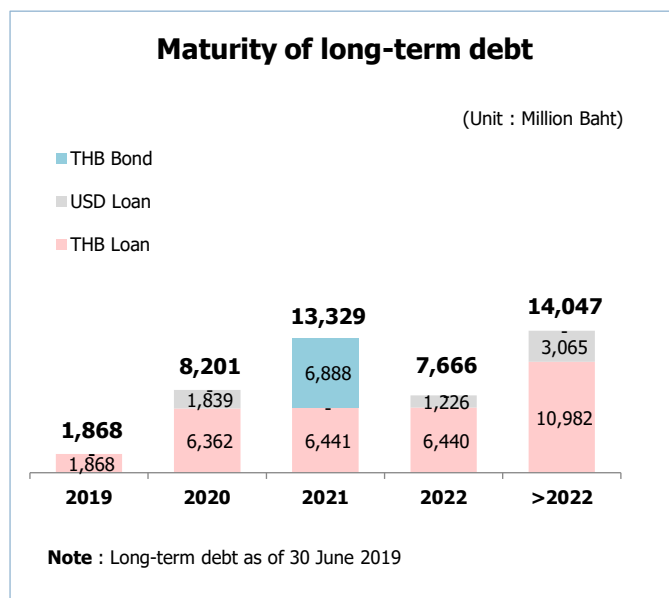
- **Other current assets** decreased by Baht 628 million or 11%. This was mainly attributed to a decrease in refundable value-added-tax of Baht 960 million and a decrease in bank deposit of Baht 423 million whereas an increase in asset held for sale of Baht 465 million, owing to the reclassification from non-current assets to current assets of land selling to WHA Industrial Estate in Rayong, and the increase in other receivables of Baht 291 million.

- **Non-current assets** decreased by Baht 1,850 million or 1% mainly due to a decrease in fixed assets and investment properties of Baht 2,284 million which mostly declined by land disposal reclassification from non-current assets to current asset as mentioned above and an increase of the accumulated depreciation while deferred tax assets increased by Baht 237 million and investment in associates and joint ventures increased by Baht 194 million.

Liabilities

As of June 30, 2019, the Company had total liabilities of Baht 97,204 million, increasing by Baht 2,138 million or 2%, compared to the end of 2018. It was due to the following reasons:

- **Short-terms loans from financial institutions** increased by Baht 4,700 million or 70% for working capital.
- **Account payables** increased by Baht 4,607 million or 18%. It was owing to an increase in crude oil price following market situation and an increase in the crude oil payable as of the end of this period. The average payment period was 43 days, increased by 7 days from 2018.



- **Other current liabilities** decreased by Baht 2,481 million or 28%, due to accrued bonus decreased by Baht 1,899 million, construction payables and fixed assets payable decreased by Baht 578 million as well as other payables decreased by Baht 192 million while an increase in advance payment by Baht 264 million.

Long- term loans including current portion within one year decreased by Baht 5,554 million, mainly due to loan repayment of Baht 5,234 million and

recording of unrealized foreign exchange gains by Baht 340 million according to Baht appreciation.

The details of long-terms debt are shown below;

(Unit: Million Baht)

	Jun 30, 2019	Dec 31, 2018	Change
Thai Baht Bonds	6,888	10,250	(3,362)
USD Loan	6,130	6,463	(333)
Thai Baht Loan	32,093	33,952	(1,859)
Total	45,111	50,665	(5,554)
less current portion of long-terms loan	(5,417)	(7,104)	1,687
Net Outstanding Debt	39,694	43,561	(3,867)

Note: The Company had currency swap contracts of Cross Currency Swap (CCS), Thai Baht debentures/long-term borrowing to swap principal from Thai Baht to US dollar and to swap interest rate on Thai Baht principal to interest rate on US dollar principals, and Principal Only Swap (POS), Thai Baht debentures/long-term borrowing to swap principal from Thai Baht to US dollar, in a total amount of USD 280 million as of 30 June 2019.

- **Other non-current liabilities** were up by Baht 866 million. This resulted from an increase in employee benefit obligations by Baht 833 million and an increase in other non-current liabilities by Baht 33 million.

Shareholders' Equity

As of 30 June 2019, shareholders' equity was amounted to Baht 86,184 million, which was lower than what was stated as at 31 December 2018 by Baht 1,195 million. This was mainly from dividend paid by Baht 1,837 million while an increase in net profit amounting to Baht 660 million.

Statement of Cash Flow

(Unit : Million Baht)

		Jan.-Jun. 2019	Jan.-Jun. 2018
1	EBITDA	4,659	12,551
2	Change in operating assets and liabilities	619	(889)
3	Net cash flows from (used in) operating activities	5,278	11,662
4	Net cash flows from (used in) investing activities	(2,831)	(2,491)
5	Net cash flows from (used in) financing activities	(2,870)	(8,966)
6	Net increase (decrease)	(423)	205
7	Cash at beginning	2,338	2,145
8	Cash at ending	1,915	2,350

As of 30 June 2019, the ending cash was Baht 1,915 million. Net cash flow decreased by Baht 423 million, which was mainly contributed from the following items;

- **Net cash inflow from operating activities** of Baht 5,278 million consisted of EBITDA of Baht 4,659 million and changes in the operating assets and liabilities of Baht 619 million. The cash inflows from the operating transactions included an increase in account payable of Baht 4,615 million, a decrease in refundable VAT of Baht 960 million. Nevertheless, the cash outflows from operating transactions included an increase in inventory of Baht 2,253 million, a decrease in accrued bonus of Baht 1,899 million, an increase in account receivable of Baht 421 million and an increase in other receivables of Baht 291 million.

- **Net cash outflow from investing activities** of Baht 2,831 million, mainly from disbursement for projects such as Catalyst Cooler project.

- **Net cash outflow from financing activities** of Baht 2,870 million; mainly from the long-term loan repayment of Baht 5,234 million, dividend payment of Baht 1,837 million, interest payment

of Baht 1,046 million while short-term loan drawdown of Baht 4,700 million and gain from financial derivatives contracts by Baht 577 million.

Key Financial Ratios

	Unit	Quarter		
		2Q19	2Q18	1Q19
Profitability Ratios				
EBITDA Margin	%	3.62	10.10	3.94
Net Profit Margin	%	0.80	5.71	0.26
Earnings per share	Baht/share	0.02	0.20	0.01
Return on Equity	%	1.52	15.47	0.70
Liquidity Ratios				
Current Ratio	time	0.91	0.90	0.96
Quick Ratio	time	0.27	0.29	0.31
Financial Policy Ratios				
Net Debt to Equity	time	0.63	0.61	0.66
Net Debt to EBITDA	time	5.88	2.21	6.00

Note: *Annualized

Liquidity and Capital structure

In 2Q19, current ratio was 0.91 times, decreasing by 0.05 times compared with 1Q19 of 0.96 times. This was mainly due to an increase in current liabilities mainly from account payable and a decrease in current assets mainly from account receivable. The Company has sufficient liquidity for its operations.

At the end of 2Q19, net debt to equity ratio was 0.63 times, decreasing by 0.03 times from 1Q19 of 0.66 times. This was mainly due to a decrease in long-term loan. The Company could complete all payments on due date and comply with all of the Financial Covenants.

Note:

Account receivable turnover	=	Sales / Average account receivable before doubtful account
Collection period	=	360 / Account receivable turnover
Inventory turnover	=	Cost of Goods Sold / Average Inventory
Inventory period	=	360 / Inventory turnover
Account payable turnover	=	Cost of sales / Average account payable
Payment period	=	360 / Account payable turnover
EBITDA margin	=	EBITDA / Revenue from Sales
Profit margin	=	Net Profit / Revenue from Sales
Return on equity	=	Net Profit / Average shareholders' equity
Current ratio	=	Current assets / Current liabilities
Quick ratio	=	(Cash + Marketable Securities + Account Receivable) / Current Liabilities
Net Interest bearing Debt to Equity	=	(Interest bearing Debt – Cash) / Total Equity
Net Interest bearing Debt to EBITDA	=	(Interest bearing Debt – Cash) / EBITDA