



IRPC Public Company Limited

Management Discussion and Analysis

Operating Results for the Third Quarter
and Nine-Month period of 2019



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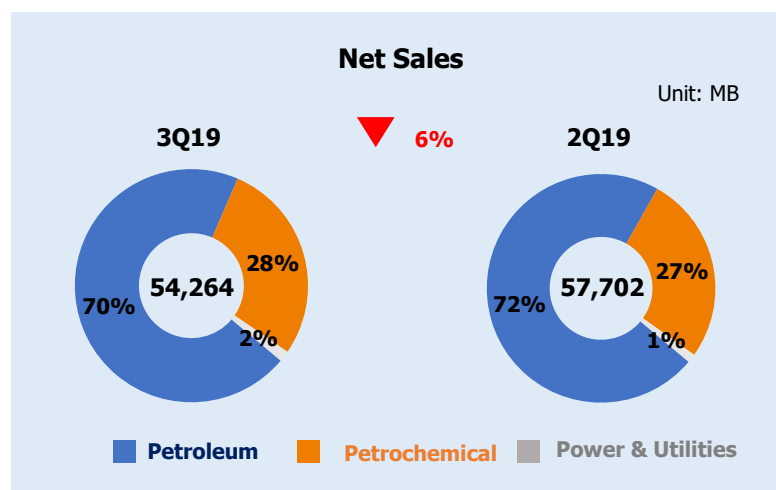
Management Discussion and Analysis (MD&A)
IRPC Public Company Limited and its subsidiaries
Operating Results for Third Quarter and Nine-Month period of 2019
Executive Summary

	Unit	Quarter			Change		9 months		YoY
		3Q19	3Q18	2Q19	YoY	QoQ	2019	2018	
Crude Intake	Million bbl	17.73	18.68	18.78	(5%)	(6%)	54.48	56.96	(4%)
Sales ^[1]	Million Baht	60,127	73,819	63,710	(19%)	(6%)	183,557	210,815	(13%)
Net Sales ^[2]	Million Baht	54,264	68,831	57,702	(21%)	(6%)	166,240	194,686	(15%)
Market GIM	Million Baht	5,563	7,667	5,429	(27%)	2%	15,950	24,729	(36%)
	USD/bbl ^[3]	10.15	12.37	9.11	(18%)	11%	9.30	13.44	(31%)
Accounting GIM	Million Baht	4,230	8,738	5,920	(52%)	(29%)	15,828	28,219	(44%)
	USD/bbl	7.72	14.10	9.94	(45%)	(22%)	9.23	15.34	(40%)
EBITDA	Million Baht	738	5,258	2,304	(86%)	(68%)	5,397	17,809	(70%)
Net Profit	Million Baht	(1,321)	2,560	507	n.a.	n.a.	(661)	9,362	(107%)

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 third quarter of 2019 compared to those in the second


quarter: In the third quarter of 2019 (3Q19), the Company reported net sales of Baht 54,264 million, decreasing by 6% when compared to the second quarter of 2019 (2Q19). This was attributed to a 7% decrease in average selling prices following crude oil price while a 1% increase in sales volume despite a 6% decline in crude intake of 193,000 barrels

per day due to planned shutdown of ADU1.

The market GIM was Baht 5,563 million (USD 10.15 per barrel), improved by 2% as the favorable petroleum products spread especially Diesel and Gasoline against the higher crude premium

encouraged by tension in the Middle East. Besides, the petrochemical business still affected by the global economic slowdown from the 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.

In 3Q19, crude oil price had continuously decreased from previous quarter, resulted in the net stock loss of Baht 1,333 million against the net stock gain of Baht 491 million in 2Q19. This caused lower Accounting GIM by 29% to Baht 4,230 million (USD 7.72 per barrel). Meanwhile, the other incomes amounting to Baht 361 million falling 50% due to the record of warranty claim of the UHV project of Baht 271 million in the previous quarter. The operating expenses were Baht 3,473 million, decreasing by 13% because there was non-recurring item followed the new regulation about employee benefit under Labor Protection Act last quarter. These resulted in the EBITDA of Baht 738 million, decreasing by 68%.

The financial cost of Baht 486 million, rose by Baht 509 million owing to the gain of Baht 488 million from Cross Currency Swap (CCS) transactions in 2Q19. Regarding the appreciation of Thai Baht, it led to a decline of USD liability amount in term of Baht currency, so the Company reported foreign exchange gain of Baht 30 million comparing with foreign exchange gain of Baht 213 million last quarter. This was because Thai Baht strengthened by 0.15 baht against the U.S. dollar in 3Q19, less strengthen compared to the previous quarter, where Thai Baht appreciated by 1.06 baht per U.S. dollar. In addition, the Company recorded a profit from the sale of land in Ban Khai District, Rayong Province to WHA Industrial Estate Rayong Company Limited amounted to Baht 124 million and also recorded the corporate income tax benefit amounting to Baht 330 million as a lower performance. All of the above-mentioned results led to the net loss of Baht 1,321 million in 3Q19 in comparison with the net profit of Baht 507 million in 2Q19.

The operating results in the third quarter of 2019 compared to those in the third quarter of 2018: The Company's net sales declined by Baht 14,567 million or by 21%. The main reason was the decrease of average selling prices following the decline in crude oil price. The crude intake of 193,000 barrels per day decreased by 5%. The Market GIM reduced by Baht 2,104 million or 27% (decreased by USD 2.22 per barrel) mainly due to the decrease in petrochemical products spread from trade war impact along with the increase of crude premium. The net stock gain fell by Baht 2,404 million from the net stock gain of Baht 1,071 million in 3Q18 to the net stock loss of Baht 1,333 million. This brought about a decline in Accounting GIM by Baht 4,508 million or 52% and a decline in EBITDA by Baht 4,520 million or 86%. Plus, lower gain from investments, Baht 95 million. These resulted in the net loss of Baht 1,321 million in 3Q19 against the net profit of Baht 2,560 million in 3Q18.

The operating results in Nine-Month period of 2019 (9M19) compared to those in Nine-Month period of 2018 (9M18): The Company reported net sales of Baht 166,240 million, decreasing by 15%. The main reason was the decrease of average selling prices in accordance with the lower of crude oil price. The crude intake was 200,000 barrels per day down by 9,000 barrels per day because of the planned shutdown of RDCC unit and ADU1 for 28 days and 18 days, respectively. The Market GIM was Baht 15,950 million (USD 9.30 per barrel), decreasing by 36% as a result of the significant decrease of both petroleum and petrochemical products spread which driven by the U.S.-China trade war tension, the new capacity and the increasing of Shale oil production in the U.S.

The net stock loss was Baht 122 million comparing with the net stock gain of Baht 3,490 million in 9M18 as the crude oil price plunged. Hence, the Accounting GIM was Baht 15,828 million (USD 9.23 per barrel), down by 44%. The other incomes were Baht 1,506 million, up by 32% mostly due to the warranty claim of the UHV Project. The operating expenses were Baht 10,826 million, increasing by Baht 391 million mostly from higher staff cost. The Company had the EBITDA of Baht 5,397 million, decreasing by 70%.

The net financial cost was Baht 850 million, decreasing by Baht 559 million. It was mainly due to gain of Baht 571 million from CCS. Also, there was foreign exchange gain of Baht 370 million, increased by Baht 288 million, as a consequence of stronger Thai Baht against the U.S. dollar. The gain from investment dropped by Baht 272 million while there was the corporate income tax benefit of Baht 334 million because of the decreasing operating results. All of the above-mentioned results led to the net loss of Baht 661 million in 9M19, decreasing by 107% when compared to that in 9M18.

Key incident in 3Q2019

- **Investment in Guangzhao Saiju Performance Polymer Ltd.**

In August 2019, the Company made a payment for the capital increase in Guangzhao Saiju Performance Polymer Ltd. ("GZSJ") who is the major operator of plastic product e-commerce business in China. The investment will be the subscription of capital increased shares equivalent to 15% of total registered capital, in an amount of RMB 135 million or equivalent to the estimated investment value of THB 650 million.

- **Investment in I-Polymer Company Limited**

In August 2019, the Company made a payment for the capital increase in I-Polymer Company Limited. The registered capital was amounting to THB 120 million by which the Company and GZSJ will hold the shares equivalent to 55% and 45% of total shares, respectively. Such the subsidiary will be incorporated to conduct the e-commerce trading focusing in plastic products in Thailand.

- **Investment in WHA Industrial Estate Rayong Company Limited**

In September 2019, the Company made a payment for the investment in WHA Industrial Estate Rayong Company Limited. The registered capital of the joint venture is Baht 650 million of which the investment portion of 40 percent or equivalent to Baht 260 million will be held by the Company.

- **Sales of land in Ban Khai district, Rayong province**

In September 2019, the Company sold and transferred land right in Ban Khai District, Rayong Province to WHA Industrial Estate Rayong Company Limited with the land of approximate 2,152 rai. This equivalent to Baht 624 million. The Company recorded gain from sales of land by Baht 124 million

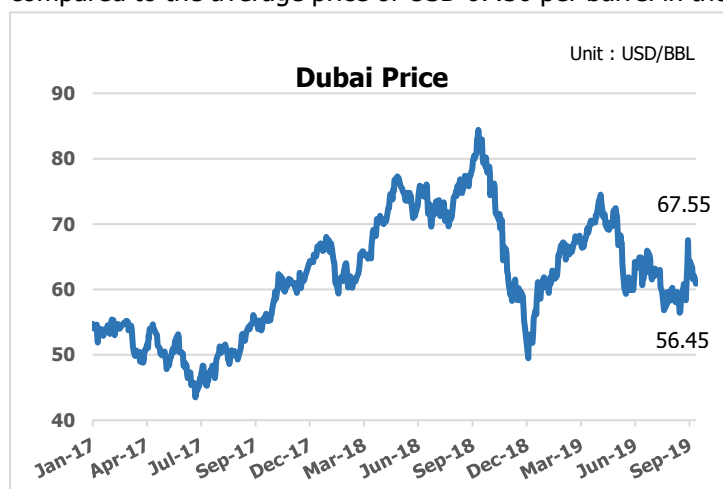
Operating Performance

1. Operating Performance by Business Units

1.1. Petroleum business unit

1.1.1 Petroleum Market Overview

Crude oil situation in the third quarter of 2019: The global consumption was 101.4 million barrels per day, increasing by 1.1 million barrels per day from 2Q19. The Dubai price range was USD 56.45-67.55 per barrel. The average price was USD 61.16 per barrel, fell by USD 6.20 per barrel when compared to the average price of USD 67.36 per barrel in the previous quarter. The crude oil price had



fluctuated throughout the period. The slump of crude oil price was caused by the concern on crude oil demand that likely to continue to decline until 2020 as a consequent of the prolonged trade war between the U.S. and China depresses economic growth. On the other hand, OPEC maintained low production capacity to balance the market. However, the crude oil prices

surged towards the end of the quarter after a devastating attack on Saudi Aramco facilities resulting in the highest crude oil price in mid-September and return to normal levels at the end of September through a rapid recovery in oil production.

Crude oil outlook in the fourth quarter of 2019: The price is forecasted to move between USD 58 and 62 per barrel. The supportive factors are the expectation of higher refinery utilization rate in relation with the new shipping standards (IMO) as well as the lower-than-expected of the U.S. crude oil exports formerly expected to increase considerably after the completion of the oil pipeline for export. This attribute to the increase in drilling cost of shale oil and the increase in freight rate after the U.S. imposed sanctions on Chinese shipping companies for Iranian oil dealings which trigger to lower competitiveness of the U.S. crude oil. Moreover, the collaboration in the ongoing production cut by OPEC+ to intensify the control procedures and stabilize crude oil prices, up from 1.2 million barrels till March next year which member countries believe that it is inadequate to control oil price. And also tensions in the Middle East are the factors that helps support the price of crude oil. However, the market is still watching on trade negotiations between the United States and China which is unclear. The U.S. government recently posted that the trade agreement will be signed in early November given hope for bringing an end to the U.S.-China trade war.

1.1.2 Crude Intake and Capacity

Petroleum	Quarter			% Change		9 months		YoY
	3Q19	3Q18	2Q19	YoY	QoQ	2019	2018	
Crude Intake								
Million barrels	17.73	18.68	18.78	(5%)	(6%)	54.48	56.96	(4%)
KBD	193	203	206	(5%)	(6%)	200	209	(4%)
Utilization Rate								
Refinery	90%	94%	96%	(4%)	(6%)	93%	97%	(4%)
RDCC	113%	75%	114%	38%	(1%)	99%	95%	4%
Lube Base Oil	79%	82%	82%	(3%)	(3%)	82%	85%	(3%)

In 3Q19, crude intake was 17.73 million barrels (193 KBD), 90% U-Rate, decreasing by 6% QoQ due to planned maintenance shutdown of ADU1

In 3Q19, crude intake was 17.73 million barrels or 193,000 barrels per day (193 KBD). The utilization rate was 90%, decreasing by 6% when compared with 2Q19 of 96% utilization rate and declining by 4% when compared with 3Q18 of 94% utilization rate. This was caused by the ADU1 unit's planned maintenance shutdown approximately 2 weeks for cleaning and inspection of heat exchanger.

The utilization rate of RDCC plant in 3Q19 was 113%, almost the same level with 2Q19 of 114% utilization rate. When compared with 3Q18 of 75% utilization rate, it rose by 38% owing to the 1 month planned shutdown of the RDCC unit for catalyst cooler system installation in 3Q18.

The utilization rate of lube base oil plant in 3Q19 was 79%, decreasing by 3% from 2Q19 and 3Q18 of 82% utilization rate. This was resulted from a maintenance shutdown of the lube base improvement equipment.

1.1.3 Petroleum Sales

Products	Sales Volume (Million Barrel)					Sales Value (Million Baht)				
	Quarter			9 months		Quarter			9 months	
	3Q19	3Q18	2Q19	2019	2018	3Q19	3Q18	2Q19	2019	2018
Refinery	14.87	15.29	14.92	43.95	45.39	34,136	43,998	37,005	104,477	122,800
Lube Base Oil	1.68	1.69	1.71	5.20	5.26	4,059	4,915	4,462	12,958	14,248
Total	16.55	16.98	16.63	49.15	50.65	38,195	48,913	41,467	117,435	137,048

In 3Q19, net sales of petroleum businesses decreased by 8%, QoQ, due to the declining average price following crude oil price and slight decrease in sales volume

In 3Q19, net sales of petroleum businesses were Baht 38,195 million, declining by Baht 3,272 million or 8% from 2Q19. This was contributed to 7% decrease in average products prices following the dropping crude oil price as well as 0.48% decrease in sales volume from 16.63 million barrels in 2Q19 to 16.55 million barrels in 3Q19. The declining sales

volume was mainly from Diesel.

When compared with 3Q18, the net sales were down by Baht 10,718 million or 22%, mainly from 19% decrease in average products prices and 3% decrease in sales volume. The decline in sales volume was mainly from Diesel and Fuel Oil.

For 9M19, net sales of petroleum businesses were Baht 117,435 million, decreased by Baht 19,613 million or 14% from 9M18. This resulted from 11% decline in average products prices following the decreased crude oil price as well as 3% decrease in sales volume from 50.65 million barrels to 49.15 million barrels. The decreased sales volume was mainly from Diesel, Fuel Oil and Gasoline while Naphtha's sales volume increased.

1.1.4 Petroleum Sales Breakdown

Products	Quarter						9 months			
	3Q19		3Q18		2Q19		2019		2018	
	Local	Export	Local	Export	Local	Export	Local	Export	Local	Export
Refinery	58%	42%	55%	45%	61%	39%	59%	41%	60%	40%
Lube Base Oil	41%	59%	41%	59%	40%	60%	41%	59%	41%	59%
Total	56%	44%	54%	46%	59%	41%	57%	43%	58%	42%

For 3Q19, the percentage of domestic and export of petroleum product was 56% and 44% respectively. The percentage of domestic sales decreased by 3% comparing with 2Q19, mainly from Diesel. When compared with 3Q18, the percentage of domestic increased by 2%, mainly from Fuel Oil. The export products in 3Q19 mostly shipped to Singapore, Cambodia and Malaysia, respectively.

Compared with 9M18, the percentage of domestic and export of petroleum product was 57% and 43% consecutively. The percentage of domestic declined by 1%, mainly from Diesel and Gasoline.

1.1.5 Petroleum Products Spread

Average price (USD/MT)	Quarter			% Change		9 months		YoY
	3Q19	3Q18	2Q19	YoY	QoQ	2019	2018	
Dubai Crude Oil (USD/bbl)	61.16	74.28	67.36	(18%)	(9%)	64.02	70.09	(9%)
Petroleum (USD/bbl)								
Naphtha – Dubai	(7.8)	(1.3)	(9.1)	n.a.	14%	(8.1)	(1.1)	n.a.
ULG95 – Dubai	11.7	11.6	7.5	1%	56%	7.6	12.5	(39%)
Gas Oil 0.05%S - Dubai	15.4	14.4	12.4	7%	24%	13.5	14.6	(8%)
FO 180 3.5%S - Dubai	0.9	(2.5)	(2.3)	136%	139%	(0.3)	(4.0)	93%
Lube Base Oil (USD/MT)								
500SN - FO 180 3.5%S	283	417	287	(32%)	(1%)	300	470	(36%)
150BS - FO 180 3.5%S	451	471	473	(4%)	(5%)	468	534	(12%)
Asphalt - FO 180 3.5%S	(2)	(41)	(4)	95%	50%	(15)	(55)	73%

The spread between Petroleum products and raw material in 3Q19
The spread between Petroleum products and Dubai

- **Naphtha Spread - Higher:** Naphtha–Dubai spread in 3Q19 was USD -7.8 per barrel, increasing by 14% from USD -9.1 per barrel of 2Q19. This was caused by increasing demand from the resuming operation of Naphtha Cracker after maintenance shutdown period as well as higher Naphtha demand to blend for Gasoline production. When compared with 3Q18 of USD -1.3 per barrel, it sharply decreased.

- **ULG95 Spread-Higher:** ULG95-Dubai spread was USD 11.7 per barrel, remarkably increased by 56% from USD 7.5 per barrel of 2Q19, due to higher demand during U.S. driving season, lower export according to higher domestic consumption in India, Indonesia and China together with a lower supply as the refineries’ annual maintenance shutdown during September and October. When compared with 3Q18 of USD 11.6 per barrel, its spread was unchanged.

- **Gas Oil Spread-Higher:** Gasoil-Dubai spread was USD 15.4 per barrel, rose by 24% from 2Q19 of USD 12.4 per barrel. It was because of higher demand in India and Vietnam as well as higher export to Europe owing to lower export volume from the U.S. and the Middle East. Furthermore, Gas Oil price tends to increase driven by the new IMO regulations that cause higher Gas Oil demand in

order to replace high sulphur fuel oil or to be blended as low sulphur fuel oil. When compared with 3Q18 of USD 14.4 per barrel, it moved up by 7%.

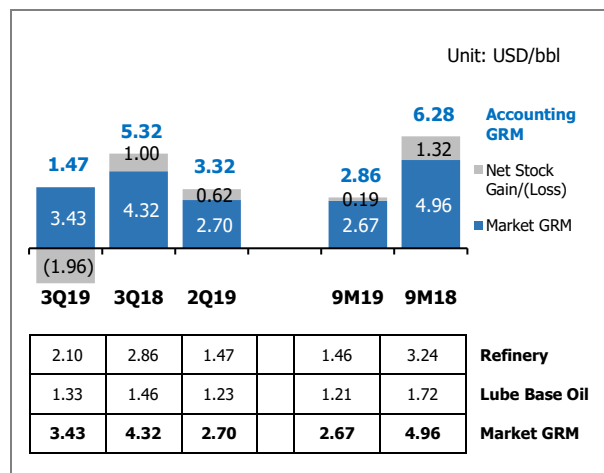
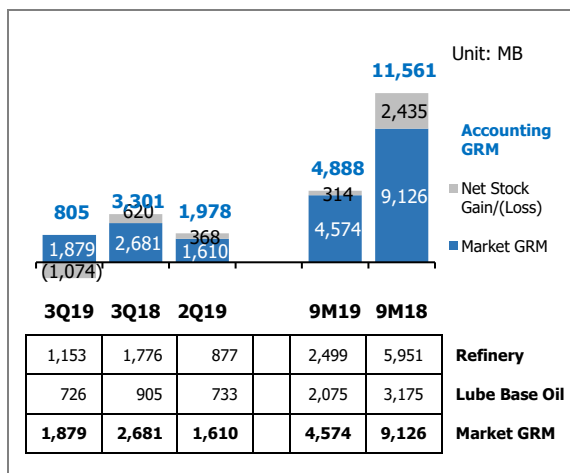
- Fuel Oil Spared - Higher:** Fuel Oil-Dubai spread was USD 0.9 per barrel, significantly increased by 139% from 2Q19 of USD -2.3 per barrel. It was because bunker traders tried to keep high sulphur fuel oil (HSFO) at low level and increase low sulphur fuel oil inventories toward the new IMO regulations applying in the beginning of 2020. While the demand of HSFO remained stable. This resulted in high volatile fuel oil prices. When compared with 3Q18 of USD -2.5 per barrel, it rose by 136%.

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

- 500 SN Spread- Unchanged:** Lube base 500 SN-Fuel Oil spread was USD 283 per ton, being unchanged from 2Q19 of USD 287 per ton. 500 SN Group I spread continuously dropped because of monsoon season and the concern on the U.S.- China trade war. Moreover, 500 SN Group II producer tried to lower the price in order to reduce inventory and pressure 500 SN Group I to lower its price also. When compared with 3Q18 of USD 417 per ton, its spread declined by 32%.

- Asphalt spread - Higher:** Asphalt-Fuel Oil spread was USD -2 per ton, moved up by 50% from 2Q19 of USD -4 per ton. This was because of less regional supply after refiners used more light-crude oil to produce low Sulphur oil supporting by the IMO’s new regulation despite lower demand from the Southeast Asia construction during rainy season. When compared to 3Q18 of USD -41 per ton, its spread rose by 95%.

1.1.6 Gross Refining Margin





In 3Q19, Market GRM rose by Baht 268 million, QoQ, as a rise in products spread, especially Diesel and Gasoline despite higher crude premium



Market GRM in 3Q19 was Baht 1,879 million or USD 3.43 per barrel, improved by Baht 268 million or USD 0.73 per barrel from 2Q19. This was owing to a rise in products spread, especially Diesel and Gasoline despite higher crude premium. However, Market GRM decreased by Baht 802 million or USD 0.89 per barrel when compared with 3Q18, mainly because of higher crude premium.

In 3Q19, there was the net stock loss of Baht 1,074 million or USD 1.96 per barrel, comprising of stock loss of Baht 1,044 million and oil hedging loss of Baht 161 million despite gain from a reversal of LCM of Baht 131 million. Hence, Accounting GRM was Baht 805 million or USD 1.47 per barrel, dropping by Baht 1,173 million, QoQ, and by Baht 2,496 million, YoY.

For 9M19, Market GRM was Baht 4,574 million or USD 2.67 per barrel, declining by 4,552 million or USD 2.29 per barrel. This resulted from a decrease in petroleum products spread. The net stock gain was Baht 314 million or USD 0.19 per barrel including stock loss of Baht 654 million, gain from a reversal of LCM of Baht 665 million and oil hedging gain of Baht 303 million. Thus, Accounting GRM was Baht 4,888 million or USD 2.86 per barrel, decreasing by Baht 6,673 million or USD 3.42 per barrel from the same period last year.

1.2 Petrochemical business units

1.2.1 Petrochemical Market Overview

Petrochemical market situation in the third quarter of 2019: petrochemical demand slightly dropped from 2Q19 amid the U.S.- China trade war unease that has not been settled despite ongoing negotiations. It threatens the global economy and worsen the global GDP. According to the IMF, it trimmed 2019 global growth forecast from 3.3% to 3.2%. Likewise, The National Statistical Office of China published the China's GDP in 3Q19 of 6.0%, the lowest growth in 27 years which was lower than previous forecast at 6.1%. In addition, the reduction of plastic bags and single-use plastics consumption that would effectively eliminate a major source of marine pollution contributing to the decline in use of virgin plastics. While increasing the consumption of durable plastics such as durable plastic containers, coffee mug, as well as the increasing in the packaging plastics in order to meet the increasing consumption through the internet causing the demand for plastic continues to rise.

Petrochemical market outlook in the fourth quarter of 2019: The market keeps watching on the trade deal between the United States and China. The situation tends to ease after President Donald Trump revealed on October 21, 2019 that it will be able to sign an agreement with China Phase 1, which is in the process of preparing preliminary trade agreement. Besides, the plastic products demand is expected to increase during the coming year-end festivities and the Chinese New

Year that begins on January 25, 2020. Another factor to support the increasing demand is continuously stimulating the economy from both domestic and other countries. While the new large petrochemical capacity in the region pressures the market till next year.

1.2.2 Petrochemical Capacity

	Quarter			% Change		9 months		YoY
	3Q19	3Q18	2Q19	YoY	QoQ	2019	2018	
Utilization Rate								
Olefins Group	101%	95%	99%	6%	2%	96%	93%	3%
Aromatics and Styrenics Group	96%	97%	99%	(1%)	(3%)	92%	100%	(8%)

In 3Q19, the utilization rate of Olefins was 101%, being similar with 2Q19 of 99% utilization rate. When compared with 3Q18 of 95% utilization rate, it increased by 6% due to the lower utilization rate to balance feedstock regarding to RDCC planned shutdown for catalyst cooler system installation in 3Q18.

For 9M19 the utilization rate of Olefins was 96%, increasing by 3% when compared with 9M18 of 93% utilization rate. It was owing to higher Polyolefins' utilization rate after the implementation of plant's efficiency improvement program resulting in less maintenance downtime.

The utilization rate of Aromatics and Styrenics in 3Q19 was 96%, decreasing by 3% from 2Q19 of 99% utilization rate. This was caused by the ABS unit shutdown to enhance the production efficiency and to clean the equipment. When compared with 3Q18, utilization rate was similar at 97% due to planned maintenance shutdown of Aromatics plants and SAN unit in 3Q18.

For 9M19, the utilization rate of Aromatics and Styrenic was 92%, decreasing by 8% when compared with 9M18 of 100% utilization rate. This was due to the replacement of catalyst in the EBSM plant and the new control unit's equipment in ABS plant in order to improve the plant's production efficiency during 1Q19.

petrochemical exported products in 3Q19 mostly shipped to Hong Kong, Singapore and Vietnam, respectively.

For 9M19, the proportion of Petrochemical sales were 55% domestic and 45% export. The domestic sales increased by 3%, mostly from PP in Olefins group.

1.2.5 The spread between key petrochemical products and raw material

Average price (USD/MT)	Quarter			% Change		9 months		YoY
	3Q19	3Q18	2Q19	YoY	QoQ	2019	2018	
Naphtha	494	667	541	(26%)	(9%)	518	629	(18%)
Olefins								
Ethylene - Naphtha	307	550	283	(44%)	8%	333	600	(45%)
HDPE – Ethylene	282	267	395	6%	(29%)	313	351	(11%)
HDPE – Naphtha	589	817	678	(28%)	(13%)	646	951	(32%)
Propylene – Naphtha	368	361	255	2%	44%	314	377	(17%)
PP – Propylene	218	256	337	(15%)	(35%)	282	280	1%
PP – Naphtha	586	617	592	(5%)	(1%)	596	657	(9%)
Aromatics								
BZ - Naphtha	185	189	84	(2%)	120%	113	234	(52%)
TOL - Naphtha	163	121	108	35%	51%	122	125	(2%)
MX – Naphtha	209	217	164	(4%)	27%	176	189	(7%)
Styrenics								
SM –Naphtha	533	757	523	(30%)	2%	526	779	(32%)
ABS – Naphtha	932	1,248	955	(25%)	(2%)	962	1,352	(29%)
ABS – SM	399	491	432	(19%)	(8%)	436	573	(24%)
PS (GPPS) – Naphtha	721	898	763	(20%)	(6%)	757	947	(20%)
PS (GPPS) – SM	188	141	240	33%	(22%)	231	168	38%

The spread between Petrochemical products and raw material in 3Q19

The spread between Polyolefins (HDPE/PP) and Naphtha

- **HDPE Spread - Lower:** HDPE-Naphtha spread was USD 589 per ton, decreasing by 13% from USD 678 per ton in 2Q19, due to a slow demand during rainy season plus an increase supply after

HDPE producers resumed their operations. When compared with 3Q18 of USD 817 per ton, its spread was down by 28%.

- **PP Spread -Unchanged:** PP-Naphtha was USD 586 per ton, being stable compared with USD 592 per ton in 2Q19, owing to the impact of the U.S.-China trade war. However, low supply during maintenance period in the region help supported its price. When compared with 3Q18 of USD 617 per ton, its spread decreased by 5%.

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

- **TOL spreads - Higher:** Toluene - Naphtha spread was USD 163 per ton, increasing by 51% from USD 108 per ton in 2Q19. This was caused by a higher Toluene demand to be components of Gasoline as its price has increased. In addition, there was lower supply during maintenance shutdown period in the region. When compared with 3Q18 of USD 121 per ton, its spread increased by 35%.

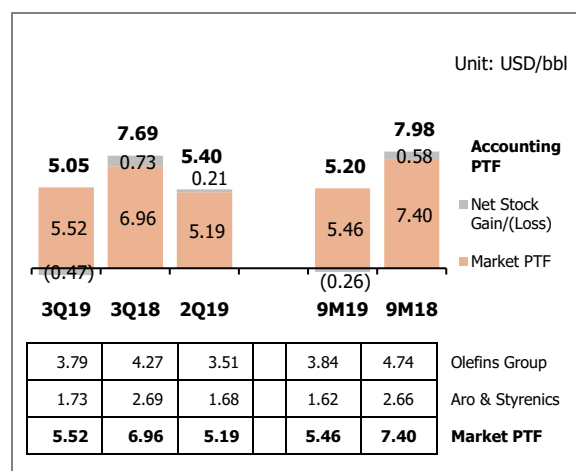
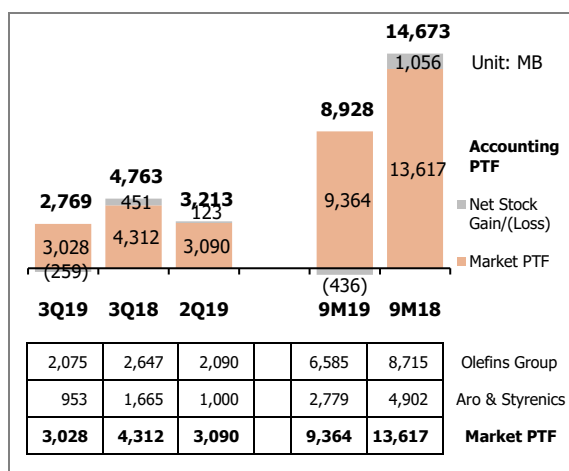
- **MX Spread – Higher:** Mixed xylene - Naphtha spread was USD 209 per ton, rising by 27% from USD 164 per ton in 2Q19, because of an increase in demand to be feedstock for new PX capacity. When compared with 3Q18 of USD 217 per ton, its spread decreased by 4%.

The spread between Polystyrenics (ABS/PS) and Naphtha

- **ABS Spread – Lower:** ABS-Naphtha spread was USD 932 per ton, slightly declined by 2% from USD 955 per ton in 2Q19. This resulted from low demand in China as the impact of the U.S. – China trade war tension. When compared with 3Q18 of USD 1,248 per ton, its spread decreased by 25%.

- **PS Spread – Lower:** PS – Naphtha spread was USD 721 per ton, decreasing by 6% from USD 763 per ton in 2Q19. This was caused by weaken demand in China as the impact of the U.S. – China trade war tension. When compared with 3Q18 of USD 898 per ton, its spread was down by 20%.

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



1.3 Power Plant and Utility business units

1.3.1 Power Plant Capacity and Sales

	Quarter			% Change		9 months		YoY
	3Q19	3Q18	2Q19	YoY	QoQ	2019	2018	
Utilization Rate								
Electricity	73%	76%	74%	(3%)	(1%)	71%	78%	(7%)
Steam	60%	76%	63%	(16%)	(3%)	61%	77%	(16%)
Sales (Million Baht)								
Electricity	494	517	511	(4%)	(3%)	1,539	1,440	7%
Steam	263	279	311	(6%)	(15%)	850	750	13%
Others	62	64	64	(3%)	(3%)	187	183	2%
Total	819	860	886	(5%)	(8%)	2,576	2,373	8%

In 3Q19, the utilization rate of Electricity was 73%, which closed to 2Q19 utilization rate of 74% while it was down by 3% when compared with 3Q18. The utilization rate of steam in 3Q19 was 60%, declined by 3%, QoQ and 16%, YoY. This resulted from the maintenance shutdown of sub unit in Power Plant, resulting in a decrease in utilization rate of Electricity and Steam.

In 3Q19, the net sales of power and utility businesses were Baht 819 million, decreasing by 8%, QoQ and 5%, YoY. This was due mainly to a lower sales volume amid planned maintenance shutdown of customer's plants despite an increase in average selling price.

In 9M19, the net sales of power and utility businesses were Baht 2,576 million, increasing by Baht 203 million or 8% from 9M18 owing to a rise in sales volume and average selling price of power and utility.

2. Total Operating Performance

Total Operating Performance of IRPC and its subsidiaries for quarter 3Q19 and 9M19 are as follow;

	Unit : Million Baht					Unit : USD per barrel				
	Quarter			9 months		Quarter			9 months	
	3Q19	3Q18	2Q19	2019	2018	3Q19	3Q18	2Q19	2019	2018
Average FX (THB/USD)	30.88	33.15	31.76	31.47	32.31					
Total Crude Intake (Mbbbl)	17.73	18.68	18.78	54.48	56.96					
Average Crude (USD/bbl) ⁽¹⁾	64.79	77.13	70.15	66.93	73.32					
Sales ⁽²⁾	60,127	73,819	63,710	183,557	210,815	109.82	119.21	106.81	107.06	114.55
Net Sales ⁽³⁾	54,264	68,831	57,702	166,240	194,686	99.11	111.15	96.74	96.96	105.79
Cost of Feedstock (Market Price)	(48,701)	(61,164)	(52,273)	(150,290)	(169,957)	(88.96)	(98.78)	(87.63)	(87.66)	(92.35)
Market GIM	5,563	7,667	5,429	15,950	24,729	10.15	12.37	9.11	9.30	13.44
Stock Gain/(Loss)	(1,320)	1,017	176	(1,266)	3,389	(2.41)	1.64	0.30	(0.74)	1.84
Lower of Cost or Market	148	-	(148)	841	(7)	0.27	-	(0.25)	0.49	(0.00)
Oil Hedging Gain/(Loss)	(161)	54	463	303	108	(0.29)	0.09	0.78	0.18	0.06
Accounting GIM	4,230	8,738	5,920	15,828	28,219	7.72	14.10	9.94	9.23	15.34
Other Incomes ⁽⁴⁾	361	371	723	1,506	1,145	0.66	0.60	1.21	0.88	0.62
Selling Expenses	(380)	(375)	(366)	(1,111)	(1,120)	(0.69)	(0.61)	(0.61)	(0.65)	(0.61)
Accounting GIM and Other Incomes	4,211	8,734	6,278	16,223	28,244	7.69	14.09	10.54	9.46	15.35
OPEX	(3,473)	(3,475)	(3,974)	(10,826)	(10,435)	(6.34)	(5.61)	(6.67)	(6.31)	(5.67)
EBITDA	738	5,258	2,304	5,397	17,809	1.35	8.48	3.87	3.15	9.68
Depreciation	(2,173)	(2,046)	(2,135)	(6,324)	(6,132)	(3.97)	(3.30)	(3.58)	(3.69)	(3.33)
EBIT	(1,435)	3,212	169	(927)	11,677	(2.62)	5.18	0.29	(0.54)	6.35
Net Financing Cost	(486)	(500)	23	(850)	(1,409)	(0.89)	(0.81)	0.04	(0.50)	(0.77)
Gain/(Loss) from Foreign Exchange	30	57	213	370	82	0.05	0.09	0.36	0.22	0.04
Gain/(Loss) from impairment and disposal of fixed assets	122	(5)	(2)	112	46	0.22	(0.01)	(0.00)	0.07	0.02
Gain/(Loss) from Investment	108	203	112	303	575	0.20	0.33	0.19	0.18	0.31
Other Expenses	18	(2)	5	18	(2)	0.03	(0.00)	0.01	0.01	(0.00)
Net Profit/(Loss) before Income Tax	(1,643)	2,965	520	(974)	10,969	(3.01)	4.78	0.89	(0.56)	5.95
Income Tax	330	(395)	(5)	334	(1,581)	0.60	(0.64)	(0.01)	0.19	(0.86)
Gain/(Loss) from non-controlling interests	(8)	(10)	(8)	(21)	(26)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
Net Profit/(Loss)	(1,321)	2,560	507	(661)	9,362	(2.42)	4.12	0.87	(0.38)	5.08
Earning per share (EPS) (Baht/share)	(0.06)	0.13	0.02	(0.03)	0.46					

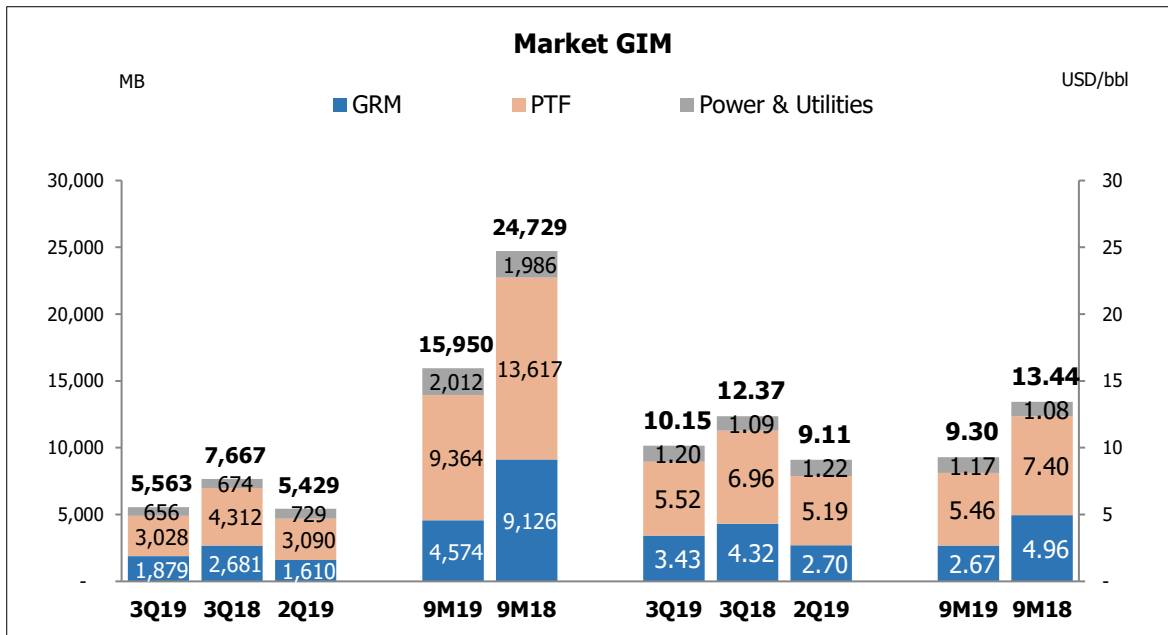
Note : ⁽¹⁾ Average market prices of crude used in the production process

⁽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)

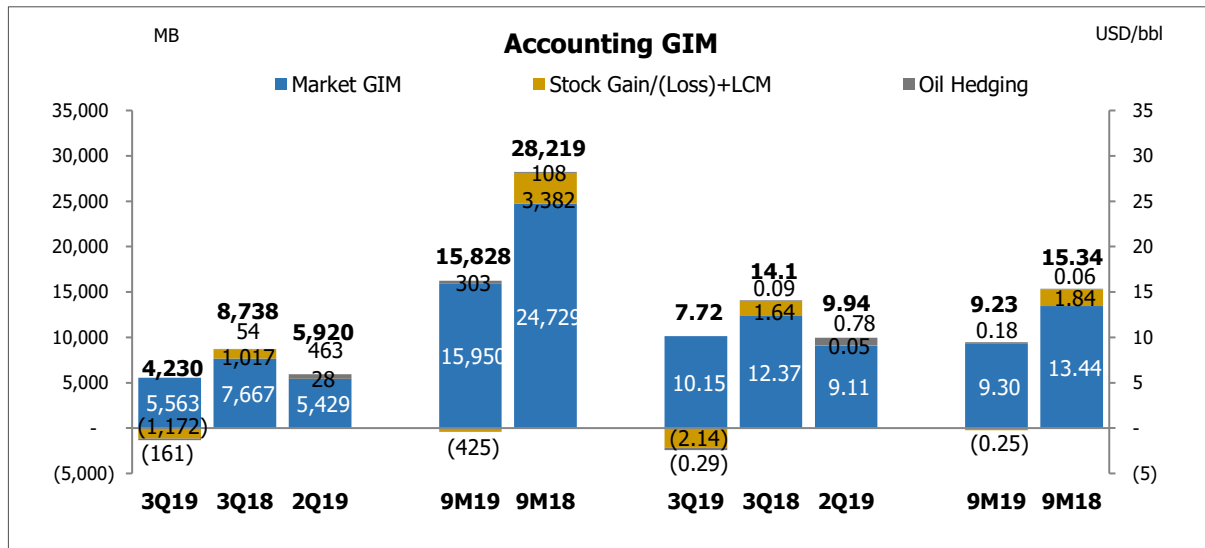


In 3Q19, Market GIM of Baht 5,563 million or USD 10.15 per barrel increased by Baht 134 million or USD 1.04 per barrel from last quarter. The main reasons were higher petroleum product spread while higher crude premium of USD 0.84 per barrel. Meanwhile, the efficiency improvement program- E4E helped support the Market GIM.

When compared with 3Q18, Market GIM dropped by Baht 2,104 million or USD 2.22 per barrel, owing to the decline in petrochemical products spread as well as higher crude premium of USD 0.79 per barrel.

For 9M19, Market GIM was Baht 15,950 million or USD 9.30 per barrel, decreasing Baht 8,779 million or USD 4.14 per barrel from the same period last year. This was because of the sharply decline in petroleum and petrochemical products spread as a consequence of the trade war between U.S. and China.

2.2 Accounting Gross Integrated Margin (Accounting GIM)



In 3Q19, Accounting GIM was Baht 4,230 million or USD 7.72 per barrel, declining by Baht 1,690 million or USD 2.22 per barrel when compared with 2Q19. It was because there was net stock loss of Baht 1,333 million or USD 2.43, compared with 2Q19 net stock gain of Baht 491 million or USD 0.83 per barrel. Meanwhile, Market GIM rose by Baht 134 million or USD 1.04 per barrel from last quarter.

When compared with 3Q18, Accounting GIM decreased by Baht 4,508 million or USD 6.38 per barrel because there was net stock loss of Baht 1,333 million or USD 2.43 per barrel in 3Q19 compared with net stock gain of Baht 1,071 million or USD 1.73 per barrel in 3Q18. Besides, Market GIM also declined by Baht 2,104 million or USD 2.22 per barrel.

For 9M19, Accounting GIM of Baht 15,828 million or USD 9.23 per barrel decreased by Baht 12,391 million or USD 6.11 per barrel when compared with the same period last year. This was caused by 9M19 net stock loss of Baht 122 million or USD 0.07 per barrel, compared with 9M18 net stock gain of Baht 3,490 million or USD 1.90 per barrel, together with a decline in Market GIM of Baht 8,779 million or USD 4.14 per barrel.

2.3 Other incomes

Other incomes consist of port and tank farm services and other services. In 3Q19, the Company had other incomes amounting to Baht 361 million, declined by Baht 362 million from 2Q19 due to there was warranty claim of UHV project amounting to Baht 271 million in 2Q19. When compared with 3Q18, other incomes dropped by Baht 10 million, mainly from a decrease in port and storage tank services.

For 9M19, other incomes of Baht 1,506 million rose by Baht 361 million compared with the same period last year, mainly owing to an increase in warranty claim of UHV project.

2.4 Operating Expenses

In 3Q19, the operating expenses of Baht 3,473 million decreased by Baht 501 million from 2Q19 and by Baht 2 million from 3Q18. This resulted from a decline in employee benefit expense in 2Q19 and maintenance expense. The Company recorded the 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.

For 9M19, there was the operating expenses of Baht 10,826 million, rose by Baht 391 million from 9M18, mainly because of a rise in employee benefit expense and maintenance expense versus a decrease in consulting fee.

2.5 Depreciation and Amortization Expenses

In 3Q19, the depreciation of Baht 2,173 million increased by Baht 38 million, QoQ and Baht 127 million, YoY. For 9M19, the depreciation of Baht 6,324 million rose by Baht 192 million from 9M18. The main reason was the completion of the expansion and efficiency improvement projects such as the Catalyst Cooler project that started commercial operation since May 1, 2019.

2.6 Financial Costs

In 3Q19, financial costs were Baht 486 million, increasing by Baht 509 million from 2Q19, mainly due to there was gain from CCS amounting to Baht 488 million in 2Q19. When compared with 3Q18, financial costs declined by Baht 14 million.

For 9M19, financial costs of Baht 850 million decreased by Baht 559 million from the same period last year, mainly owing to higher gain from CCS as well as a decline in interest payment due to lower interest rate.

2.7 Gain/(Loss) from Foreign Exchange

In 3Q19, the Company recorded gain from foreign exchange of Baht 30 million, comparing with foreign exchange gain of Baht 213 million last quarter. This was because Thai Baht strengthened by 0.15 baht against the U.S. dollar in 3Q19, less strengthen compared to the previous quarter, where Thai Baht appreciated by 1.06 baht per U.S. dollar. When compared with 3Q18 of foreign exchange gain of Baht 57 million, this was because Thai Baht was less strengthened than that in 3Q18 versus higher outstanding USD debt. The Company has outstanding USD debt of USD 200 million at the end of 3Q19.

For 9M19, there was gain from foreign exchange of Baht 370 million while there was gain from foreign exchange of Baht 82 million in 9M18. It was higher as a result of Thai Baht appreciation from Baht 32.61 per USD at the end of 2018 to Baht 30.77 per USD at the end of 3Q19.

2.8 Gain/(Loss) from Impairment and disposal of fixed assets

In 3Q19, the Company had gain from impairment and disposal of fixed assets of Baht 122 million, rising by Baht 124 million from last quarter and Baht 127 million from 3Q18. For 9M19, gain from impairment and disposal of fixed assets was up by Baht 66 million from the same period last year. It was because there was the disposal of land at Ban Khai District, Rayong Province to WHA Industrial Estate Rayong Co., Ltd in 3Q19.

2.9 Gain/(Loss) from Investments

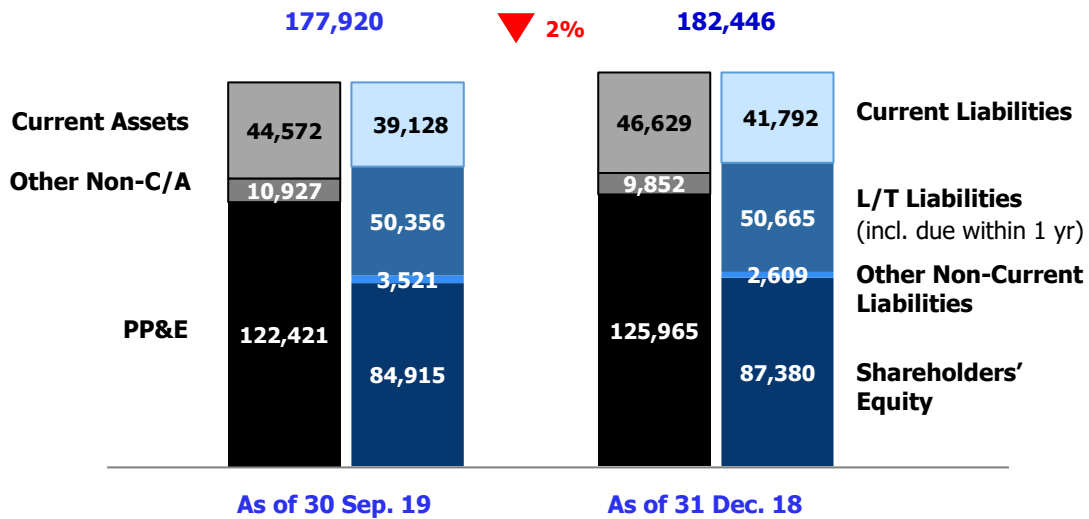
In 3Q19, there was gain from investments of Baht 108 million, decreased by Baht 4 million from 2Q19 and Baht 95 million from 3Q18. For 9M19, gain from investments declined by Baht 272 million from 9M18. This resulted from lower equity values in associates and joint ventures.

2.10 Corporate Income Tax

The Company recorded the corporate income tax benefit amounting to Baht 330 million in 3Q19. Income tax expense decreased by Baht 335 million from 2Q19 and Baht 725 million from 3Q18. For 9M19, the company recorded the corporate income tax benefit amounting to Baht 334 million, dropping by Baht 1,915 million. This was mainly caused by the decline in operating performance.

Financial Positions as of 30 September 2019

(Unit: Million Baht)


Assets

As of September 30, 2019, the Company had total assets of Baht 177,920 million, decreased by Baht 4,526 million or 2% from December 31, 2018. It was due to the following reasons:

- **Account receivables** increased by Baht 173 million or 1% from the end of 2018, mainly due to an increase in average selling prices following crude oil price. As of September 30, 2019, there were overdue more than 3-months account receivables amounting to Baht 38 million or only 0.31% 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 3Q19, increased by 2 days from 2018.

- **Inventory** decreased by Baht 2,012 million or 7% due to a decrease in crude oil price while the inventories volume slightly increased. The average inventory period was 41 days, increased by 1 day from 2018.

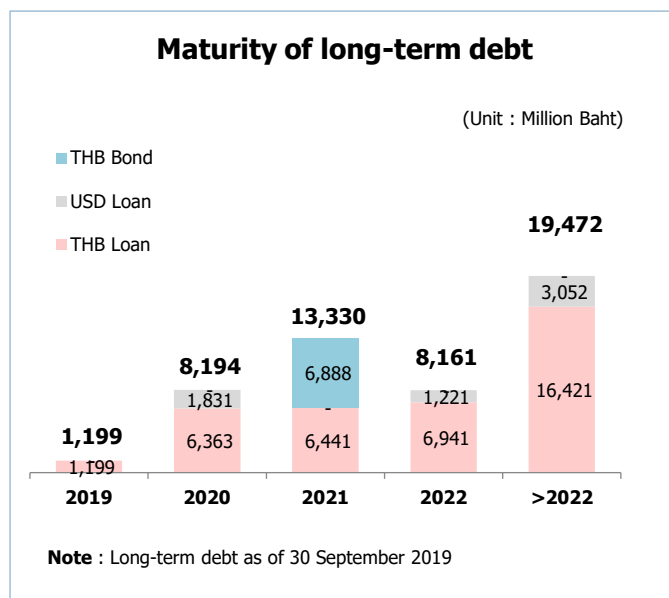
- **Other current assets** decreased by Baht 218 million or 4%. This was mainly attributed to a decrease in refundable value-added-tax of Baht 1,154 million while an increase in bank deposit of Baht 731 million and other receivables of Baht 168 million.

- **Non-current assets** decreased by Baht 2,470 million or 2% mainly due to a decrease in fixed assets and investment properties of Baht 3,485 million which mostly declined by an increase of the accumulated depreciation and sales of land in Ban Khai District, Rayong Province while increasing from the other long-term investment comprising of an increase in investment in Guangzhao Saiju Performance Polymer Ltd. ("GZSJ") by acquiring from GZSJ's capital increased equivalent to 15% of total registered capital, in amount of RMB 135 million or equivalent to Baht 600 million, and an investment in associates and joint ventures increased by Baht 397 million.

Liabilities

As of September 30, 2019, the Company had total liabilities of Baht 93,005 million, decreasing by Baht 2,061 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 3,900 million or 58% for working capital.
- **Account payables** decreased by Baht 4,003 million or 15%. It was due to a decrease of crude oil payable at the end of 3Q19 while an increase in crude oil price. The average payment period was 36 days equal to the end of 2018.



- **Other current liabilities** decreased by Baht 2,561 million or 29%, due to construction payables and other fixed assets payable decreased by Baht 1,845 million, accrued bonus decreased by Baht 1,471 million, other payables decreased by Baht 363 million, while an increase in advance receipts for goods of Baht 389 million and an increase in short-term loan from related parties of Baht 1,000 million.

- **Long-term loans including current portion within one year** decreased by Baht 309 million, mainly due to loan repayment of Baht 5,904 million and recording of unrealized foreign exchange gains by Baht 370 million according to Baht appreciation, while an increase by long-term loans drawdown amounted to Baht 5,950 million.

The details of long-terms debt are shown below;

(Unit: Million Baht)

	Sep 30, 2019	Dec 31, 2018	Change
Thai Baht Bonds	6,888	10,250	(3,362)
USD Loan	6,104	6,463	(359)
Thai Baht Loan	37,364	33,952	3,412
Total	50,356	50,665	(309)
less current portion of long-terms loan	(5,043)	(7,104)	2,061
Net Outstanding Debt	45,313	43,561	(1,752)

Note: As of 30 September 2019, the Company had currency swap contracts of Cross Currency Swap (CCS) in a total amount of USD 280 million.

- **Other non-current liabilities** were up by Baht 912 million. This resulted from an increase in employee benefit obligations by Baht 891 million and an increase in other non-current liabilities by Baht 21 million.

Shareholders' Equity

As of 30 September 2019, shareholders' equity was amounted to Baht 84,915 million, which was lower than what was stated as at 31 December 2018 by Baht 2,465 million. This was mainly from dividend paid by Baht 1,837 million and net loss amounted to Baht 661 million.

Statement of Cash Flow

(Unit : Million Baht)

		Jan.-Sep. 2019	Jan.-Sep. 2018
1	EBITDA	5,397	17,809
2	Change in operating assets and liabilities	(2,049)	(8,144)
3	Net cash flows from (used in) operating activities	3,348	9,665
4	Net cash flows from (used in) investing activities	(4,821)	(5,271)
5	Net cash flows from (used in) financing activities	2,204	(4,203)
6	Net increase (decrease)	731	191
7	Cash at beginning	2,338	2,145
8	Cash at ending	3,069	2,336

As of 30 September 2019, the ending cash was Baht 3,069 million. Net cash flow increased by Baht 731 million, which was mainly contributed from the following items;

- **Net cash inflow from operating activities** of Baht 3,348 million consisted of EBITDA of Baht 5,397 million and changes in the operating assets and liabilities of Baht 2,049 million. The cash outflows from the operating transactions included a decrease in account payable of Baht 4,004 million, a decrease in accrued bonus of Baht 1,471 million, a decrease in other payable of Baht 363 million. Nevertheless, the cash inflows from operating transactions increased from a decrease in inventory of Baht 2,756 million and a decrease in refundable VAT of Baht 1,154 million.

- **Net cash outflow from investing activities** of Baht 4,821 million, mainly from disbursement for projects such as Catalyst Cooler project, the investment in GZSJ and WHA Industrial Estate Rayong Co., Ltd. While, there was cash inflow from dividend received from UBE Chemicals (Asia) Plc. of Baht 99 million.

- **Net cash inflow from financing activities** of Baht 2,204 million; mainly from long-term loan drawdown of Baht 5,950 million, short-term loan drawdown of Baht 4,900 million and gain from financial derivatives contracts of Baht 587 million. Nevertheless, net cash outflow included long-term loan repayment of Baht 5,904 million, dividend payment of Baht 1,837 million and interest payment of Baht 1,501 million.

Key Financial Ratios

	Unit	Quarter		
		3Q19	3Q18	2Q19
Profitability Ratios				
EBITDA Margin	%	1.23	7.12	3.62
Net Profit Margin	%	(2.20)	3.47	0.80
Earnings per share	Baht/share	(0.06)	0.13	0.02
Return on Equity*	%	(1.02)	14.15	1.52
Liquidity Ratios				
Current Ratio	time	1.01	1.00	0.91
Quick Ratio	time	0.35	0.33	0.27
Financial Policy Ratios				
Net Debt to Equity	time	0.69	0.69	0.63
Net Debt to EBITDA*	time	7.91	2.49	5.88

Note: *Annualized

Liquidity and Capital structure

In 3Q19, current ratio was 1.01 times, increasing by 0.10 times compared with 2Q19 of 0.91 times. This was mainly due to a decrease in current liabilities of Baht 9,864 million mainly from account payable and short-term loan from financial institutions while a decrease in current assets of Baht 4,849 million mainly from inventory. The Company has sufficient liquidity for its operations.

At the end of 3Q19, net debt to equity ratio was 0.69 times, increasing by 0.06 times from 2Q19 of 0.63 times. This was mainly due to an increase 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