



IRPC Public Company Limited

Management Discussion and Analysis

**For the Third Quarter and
nine-month period ended
September 30, 2018**

Management Discussion and Analysis (MD&A)

IRPC Public Company Limited and its subsidiaries

For the Third Quarter and nine-month period ended September 30, 2018

Executive Summary

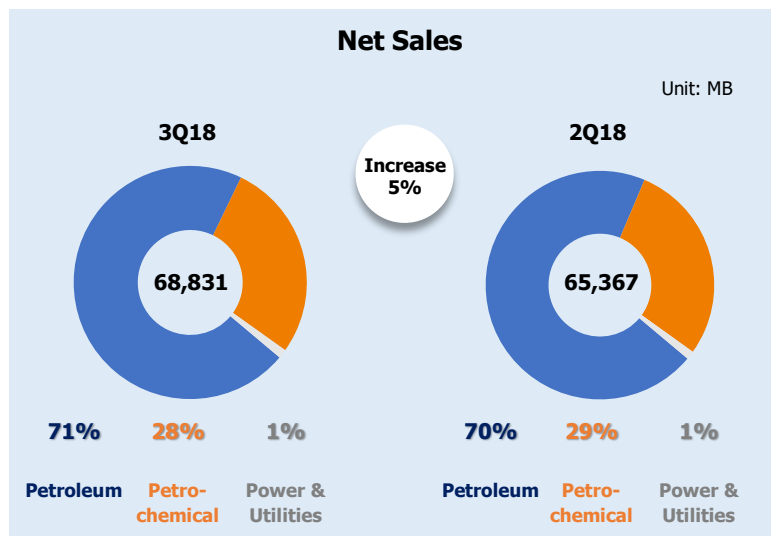
	Unit	Quarter			Change		9 months		YoY
		3Q18	3Q17	2Q18	YoY	QoQ	2018	2017	
Crude Intake	Million bbl	18.68	18.48	19.10	1%	(2%)	56.96	46.49	23%
Sales ^[1]	Million Baht	73,819	56,724	70,902	30%	4%	210,815	151,211	39%
Net Sales ^[2]	Million Baht	68,831	52,355	65,367	31%	5%	194,686	139,151	40%
Market GIM	Million Baht	7,667	9,331	8,493	(18%)	(10%)	24,729	23,333	6%
	USD/bbl ^[3]	12.37	15.05	13.86	(18%)	(11%)	13.44	14.57	(8%)
Accounting GIM	Million Baht	8,738	9,974	10,708	(12%)	(18%)	28,219	23,773	19%
	USD/bbl	14.10	16.09	17.47	(12%)	(19%)	15.34	14.85	3%
EBITDA	Million Baht	5,258	6,635	7,162	(21%)	(27%)	17,809	13,890	28%
Net Profit	Million Baht	2,560	3,248	4,050	(21%)	(37%)	9,362	6,841	37%

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 third quarter of 2018 compared to the second quarter of 2018: In the 3Q18 the



utilization rate was 203 KBD (thousand barrel per day) or 18.68 million barrels, slightly decreased by 2% when compared to the second quarter of 2018 (2Q18), QoQ owing to planned shutdown for a month of the Hyvahl unit in UHV project for its catalyst replacement in every 2 years and the RDCC unit for catalyst cooler system's tie-in preparation. Net Sales was Baht 68,831 million,

increased 5% from 2Q18. This was due mainly to the increase in average product prices towards higher crude oil price. The Market GIM in 3Q18 was Baht 7,667 million (USD 12.37 per barrel), decreasing by

10% as planned shutdown for Hyvahl and RDCC units as mentioned above and lower products spread, though lower crude premium when compared with 2Q18.

The Company reported net stock gain of Baht 1,070 million or USD 1.73 per barrel in 3Q18, thanks to higher crude oil price so that the Accounting GIM was Baht 8,738 million or USD 14.10 per barrel, decreased 18%, QoQ. The operating expenses (OPEX) was reduced by Baht 117 million or 3% mainly from maintenance and staff expenses. This caused the 3Q18 EBITDA of Baht 5,258 million, fell by 27% QoQ. The financial costs of Baht 500 million, increased by Baht 63 million or 14% as a result of lower gains from financial derivatives - Cross Currency Swap and Interest Rate Swap of Baht 33 million. There were gains from exchange rate amounting to Baht 57 million, rose by Baht 130 million from Thai Baht appreciation against USD. The company reported corporate income tax expenses of Baht 395 million, decreasing by Baht 400 million from 2Q18 due mainly to performance in promotion privileges by Thailand's Board of Investment on net income (BOI net income) and the weakened non-BOI performance. Therefore, the 3Q18 net profit was Baht 2,560 million, dropped by Baht 1,490 million or 37% from the previous quarter.

The third quarter of 2018 compared to the third quarter of 2017: When compared to the third quarter of 2017 (3Q17), YoY, crude intake in 3Q18 increased by 0.2 million barrels from the 3Q17 of 18.48 million barrels. Net Sales rose by Baht 16,476 million or 31% because of 27% increase in sales volume and 4% increase in average product prices. The Market GIM decreased by Baht 1,664 million or 18% driven by lower of products spread while net stock gain increased by Baht 428 million. This resulted in a lower of Accounting GIM by Baht 1,236 million or 12% as well as a lower of EBITDA by Baht 1,377 million (21%). Meanwhile, financial costs were down by Baht 210 million because there were losses from financial derivatives amounting to Baht 231 million in 3Q17 as well as a drop in corporate income tax by Baht 451 million due to performance from BOI net income. As a result, the net profit in 3Q18 decreased by Baht 688 million or 21%, YoY.

9 months of 2018 compared to 9 months of 2017: In the first nine months of 2018, 9M18, crude intake was 56.96 million barrels or 209 KBD, increased by 23% when compared to the same period last year. The Company had net sales of Baht 194,686 million, rose by 40%. This was attributed to 19% increase in selling prices following the crude oil price as well as 21% increase in sales volume according to 1 month major turnaround during 1Q17. The higher market GIM by Baht 1,396 million or 6% plus the higher net stock gain by Baht 3,050 million, resulted to EBITDA of Baht 17,809 million, an increase of Baht 3,919 million or 28%. In addition, the depreciation and amortization expenses increased by Baht 1,094 million due to the projects' completion. As a consequence, the net profit was Baht 9,362 million, improved by Baht 2,521 million or 37% when compared to the same period of last year.

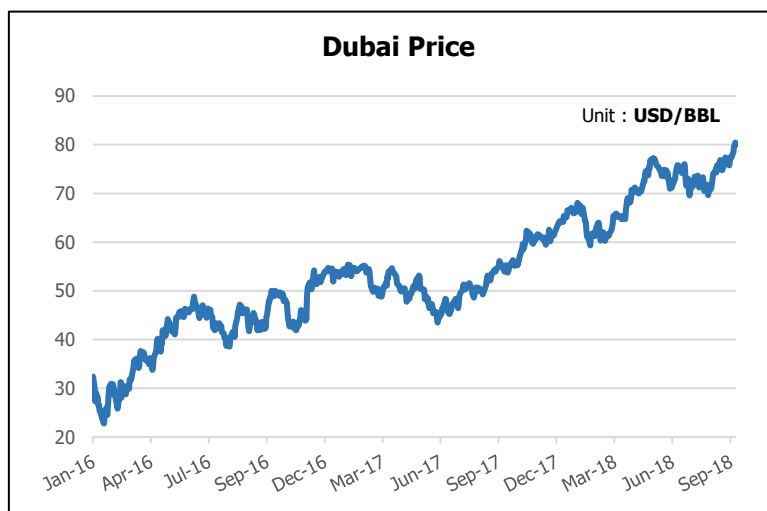
Operating Performance and Financial Position

1. Operating Performance by Business Units

1.1. Petroleum business unit

1.1.1 Petroleum Market Overview

Crude oil price in 3Q18 moved between USD 69.61 and 80.45 per barrel, with an average of USD 74.28 per barrel. An average crude oil price in 3Q18 increased by USD 2.19 per barrel from 2Q18 and hit the highest level of USD 80.45 per barrel in late September 2018. The crude oil price remained high on the concern over the tight supply situation according to lower Iran's oil exports due to the U.S. sanctions by 4 November 2018, rapid decline of Venezuela's crude oil production due its economic crisis as well as lower than expectation of U.S. incremental crude oil production.as oil pipeline limitation. Nevertheless, concerns over the global economy regarding the new wave of trade war and the financial crisis in developing countries may affect the decrease in oil demand.



In 4Q18, the crude oil price is expected to move in the range of USD 80 - 85 per barrel. This is resulted from the following factors;

- The U.S. sanctions against Iran which affects to many countries to reduce their crude imports from Iran such as Japan, South Korea and Europe. Therefore, the Iranian crude oil

exports may decline by 1.0 - 1.5 million barrels per day.

- The fall of Venezuela crude oil production to around 1 million barrels per day in Dec 2018 due to their economic crisis and lower their investment in energy sector.
- The additional OPEC and Non-OPEC abilities to replace the shortfall and underproduction from both Iran and Venezuela to pressure on crude supply.

However, U.S. trade war concerns and the currency crisis in developing countries may affect global oil demand. The U.S. – China Trade war is poised to intensify after the U.S. President announced the fourth-round tariff plan worth more than USD 267 billion on 7 September, 2018, increasing from USD 200 billion in the third-round tariff plan. Moreover, the developing countries such as Turkey, Argentina and Indonesia have encountered to their currencies depreciation which will cause the

1.1.2 Crude Intake and Capacity

Petroleum	Quarter			% Change		9 months		YoY
	3Q18	3Q17	2Q18	YoY	QoQ	2018	2017	
Crude Intake								
Million barrels	18.68	18.48	19.10	1%	(2%)	56.96	46.49	23%
KBD	203	201	210	1%	(3%)	209	170	23%
Utilization Rate								
Refinery	94%	93%	98%	1%	(4%)	97%	79%	18%
RDCC	75%	95%	104%	(20%)	(29%)	95%	72%	23%
Lube Base Oil	82%	87%	84%	(5%)	(2%)	85%	73%	12%


In 3Q18, crude intake was 18.68 million barrels or 203 thousand barrels per day (KBD). The utilization rate was 94%, decreasing by 4% when compared with 2Q18 crude intake of 210 KBD or 98% utilization rate. This was caused by the planned shutdown for a month of the Hyvahl unit in UHV project for its catalyst replacement in every 2 years and the RDCC unit

The utilization rate of lube base oil plant in 3Q18 was 82%, decreasing by 2% from 84% utilization rate of 2Q18 and declining by 5% from 87% utilization rate of 3Q17. This was caused by planned maintenance shutdown of Deasphalting Unit (DAU unit) to install the efficiency improved equipment.


1.1.3 Petroleum Sales

Products	Sales Volume (Million Barrel)				
	Quarter			9 months	
	3Q18	3Q17	2Q18	2018	2017
Refinery	15.29	14.25	15.03	45.39	37.34
Lube Base Oil	1.69	1.82	1.78	5.26	4.64
Total	16.98	16.07	16.81	50.65	41.98

Sales Value (Million Baht)				
Quarter			9 months	
3Q18	3Q17	2Q18	2018	2017
43,998	31,053	41,246	122,800	82,772
4,915	4,327	4,688	14,248	11,706
48,913	35,380	45,934	137,048	94,478



In 3Q18, net sales of petroleum businesses increased by 6% from 2Q18 due to increase in average product prices and sales volume



In 3Q18, net sales of petroleum businesses were Baht 48,913 million, increasing by Baht 2,979 million or 6% from 2Q18 owing to 5% increase in average product prices following the rising crude oil price as well as 1% increase in sales volume mainly from Naphtha.

When compared with 3Q17, the net sales were up by Baht 13,533 million or 38% YoY, mainly from 32% increase in average product prices following the rising crude oil price and 6% increase in sales volume. The rise in sales volume was mainly from ULG95 from Gasoline Maximization project, as well as Fuel Oil.

For 9M18, net sales of petroleum businesses were Baht 137,048 million, rising by Baht 42,570 million or 45% when compared with the same period last year (9M17). This was caused by 24% increase in average product prices following the rising crude oil price plus 21% increase in sales volume from 41.98 million barrels to 50.65 million barrels according to the major maintenance shutdown during 1Q17. The risen sales volume was mainly from Gas Oil and ULG95, after the start-up of Gasoline Maximization Project since November 2017.

1.1.4 Petroleum Sales Breakdown

Products	Quarter					
	3Q18		3Q17		2Q18	
	Local	Export	Local	Export	Local	Export
Refinery	55%	45%	56%	44%	60%	40%
Lube Base Oil	41%	59%	38%	62%	38%	62%
Total	54%	46%	54%	46%	58%	42%

9 months			
2018		2017	
Local	Export	Local	Export
60%	40%	60%	40%
41%	59%	50%	50%
58%	42%	59%	41%

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The percentage of domestic and export of petroleum product sales in 3Q18 was 54% and 46% respectively. The percentage of export sales was up by 4% comparing with 2Q18, mainly from Gas Oil and Naphtha products in Refinery group. Meanwhile, the domestic sales of Asphalt product in Lube Base Oil group increased.

When compared with 3Q17, the percentage of domestic and export were comparable at 54% and 46%. The percentage of export sales rose from Gas Oil and Fuel Oil in Refinery group, while the percentage of domestic sales increased from Lube Base Oil product in Lube Base group.

The export products in 3Q18 mostly shipped to Singapore, Malaysia and Cambodia, respectively.

For 9M17, the percentage of domestic and export was 58% and 42% accordingly. The percentage of export sales slightly increased by 1% from Asphalt and Naphtha products. On the other hand, the percentage of domestic sales increased from Gas Oil and ULG95.

1.1.5 Petroleum Product Spread

Average price (USD/MT)	Quarter			% Change		9 months		YoY
	3Q18	3Q17	2Q18	YoY	QoQ	2018	2017	
Dubai Crude Oil (USD/bbl)	74.28	50.49	72.09	47%	3%	70.09	51.12	37%
Petroleum (USD/bbl)								
Naphtha – Dubai	(1.3)	(0.2)	(1.4)	N.A.	7%	(1.1)	(0.1)	N.A.
ULG95 – Dubai	11.6	16.1	12.1	(28%)	(4%)	12.5	15.0	(17%)
Gas Oil 0.05%S - Dubai	14.4	13.9	14.6	4%	(1%)	14.6	12.4	18%
FO 180 3.5%S - Dubai	(2.5)	(1.4)	(4.4)	(79%)	43%	(4.0)	(2.1)	(90%)
Lube Base Oil (USD/MT)								
500SN - FO 180 3.5%S	417	528	481	(21%)	(13%)	470	512	(8%)
150BS - FO 180 3.5%S	471	579	544	(19%)	(13%)	534	624	(14%)
Asphalt - FO 180 3.5%S	(41)	(28)	(68)	(46%)	40%	(55)	(26)	(112%)

- **Naphtha Spread - Higher:** Naphtha–Dubai spread in 3Q18 was USD -1.3 per barrel, increasing by 7% from USD -1.4 per barrel of 2Q18. This was caused by the petrochemical producers used more Naphtha as feedstock because of the higher price of LPG

- **ULG95 Spread – Lower:** ULG95–Dubai spread in 3Q18 was USD 11.6 per barrel, decreasing by 4% when compare to 2Q18 due to decelerated demand according to the end of U.S.

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driving season and the becoming of monsoon season. The U.S. and Europe gasoline inventories were at the high level. In addition, China and South Korea increase their export volume. These factors were stab pressured on the ULG95 price.

- **Gas Oil Spread – Unchanged:** Gas Oil - Dubai spread was USD 14.4 per barrel being unchanged from 2Q18. The export volume increased because Chinese Refineries resumed their operations after their maintenance shutdown at the end of late 2Q18 while high demand from North Asia and Australia, including South Africa, supported its price.

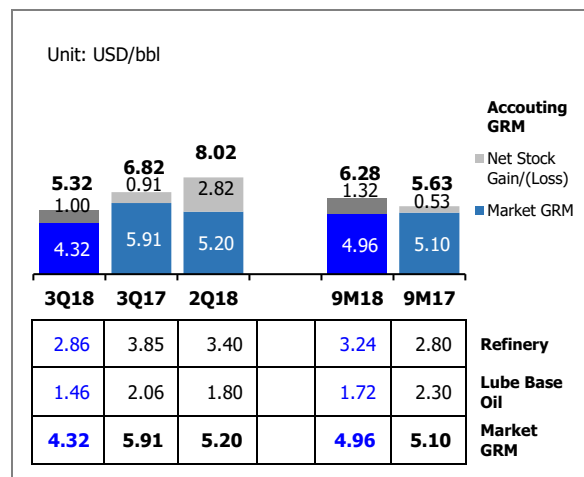
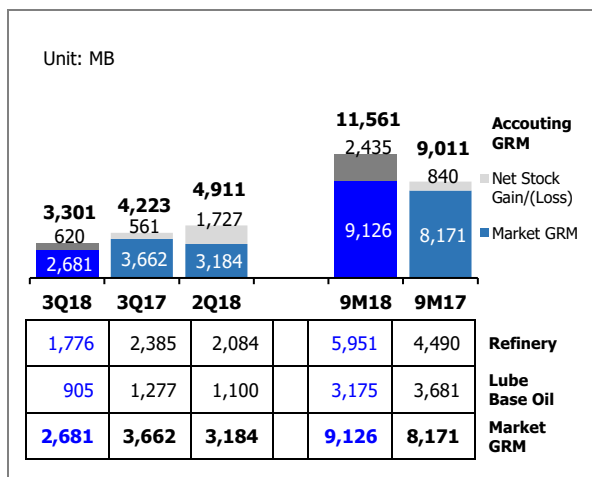
- **Fuel Oil Spared - Higher:** Fuel Oil-Dubai spread was USD -2.5 per barrel, increasing by 43% from 2Q18. This was owing to the higher demand from Europe and Persian Gulf resulted in a decrease of Singapore inventory. In addition, the export volume of Iranian fuel oil continued declining according to U.S. sanctions.

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

- **500 SN Spread – Lower:** Lube Base (500 SN) - Fuel Oil spread was 417 USD per ton, down by 13% QoQ, due to China's lower import after rapidly weakening RMB against USD. This caused China's import prices higher than local prices and the producers had to lower their product prices.

- **Asphalt Spread - Higher:** Asphalt - Fuel Oil spread was USD -41 per ton, increased by 40% QoQ. This was due mainly to supply constrains as the asphalt producers turned to produce fuel oil instead of asphalt following higher fuel oil prices as well as a fire incident at Kemaman refinery in Malaysia during the end of 3Q18.

1.1.6 Gross Refinery Margin



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In 3Q18, Market GRM decreased QoQ due to the lower product spread and planned shutdown of Hyvahl and RDCC units versus lower crude premium



The Market Gross Refinery Margin (Market GRM) in 3Q18 was Baht 2,681 million or USD 4.32 per barrel, decreased by Baht 503 million or USD 0.88 per barrel from 2Q18 and decreased by Baht 981 million or USD 1.59 per barrel from 3Q17. This was caused by the lower product spreads and the planned shutdown of the Hyvahl unit for its catalyst replacement in every 2 years and the RDCC unit for catalyst cooler system's tie-in preparation versus the declined crude

premium.

In 3Q18, there was the net stock gain of Baht 620 million or USD 1.00 per barrel, comprising of stock gain of Baht 566 million and oil hedging gain of Baht 54 million. Hence, Accounting GRM was Baht 3,301 million or USD 5.32 per barrel, declined by Baht 1,610 million or USD 2.70 per barrel from 2Q18 and Baht 922 million or USD 1.50 per barrel from 3Q17.

For 9M18, Market GRM was Baht 9,126 million or USD 4.96 per barrel, rose by Baht 955 million owing to the increase in Gas Oil spread whereas the decrease in Lube Base Oil and Fuel Oil spreads. The net stock gain of Baht 2,435 million or USD 1.32 per barrel included the net stock gain of Baht 2,327 million or USD 1.26 per barrel and oil hedging gain of Baht 108 million or USD 0.06 per barrel. Therefore, the company reported Accounting GRM of Baht 11,561 million or USD 6.28 per barrel.

1.2 Petrochemical business units

1.2.1 Petrochemical Market Overview

In 3Q18, Petrochemical product prices continued to rise according to steadily increase of crude oil price. The crude oil price rallied on concerns over tight supply since the U.S. reimposed the sanction against Iran while the petrochemical products prices increased gradually due to the soften demand during rainy season as well as the weakening RMB against USD due to the concerns over U.S. – China Trade war tensions and the issuance of monetary policies by Chinese government to stable the RMB and contribute to economic growth. The weaken RMB caused the manufacturers' delay to purchase petrochemical products in order to diminish the risk of exchange rate fluctuations and reconsidered to move production base to other countries that will have no direct effects of such events.

The petrochemical demand during 4Q18 is expected to be robust amid the manufacturing season during festivals at the end of the year and early of next year. Also, the demand growth remains strong following the global growth then the product spreads are likely to increase. However, the concerns over the tension of trade war between U.S. – China and the high crude oil price may cause the turmoil of global economy.

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Compared with 3Q17, net sales increased by Baht 2,807 million or 17% YoY due to 18% increase in average selling prices according to higher raw material prices while 1% decrease in sales volume from 455 KMT to 451 KMT.

For 9M18, net sales of petrochemical businesses were Baht 55,265 million, up by Baht 12,591 million or 30% from 9M17. The main reason was 22% increase in sales volume according to planned major turnaround in 1Q17 and 8% increase in average selling prices. The net sales from Olefins group of Baht 33,165 million, contributed 60% of total net sales in 9M18.

1.2.4 Petrochemical Sales Breakdown

Products	Quarter						9 months			
	3Q18		3Q17		2Q18		2018		2017	
	Local	Export	Local	Export	Local	Export	Local	Export	Local	Export
Olefins Group	59%	41%	58%	42%	54%	46%	57%	43%	61%	39%
Aromatics and Styrenics Group	45%	55%	42%	58%	44%	56%	45%	55%	49%	51%
Total	53%	47%	51%	49%	50%	50%	52%	48%	56%	44%

For 3Q18, the proportion of Petrochemical sales were 53% domestic and 47% export. The domestic sales increased by 3% from last quarter as the weaken demand during Ramadan in last quarter. Meanwhile, the increase in export sales included PP and SM.

When compared with 3Q17, domestic sales increased by 2%, mainly from PP products after the start-up of PPE and PPC plants since late 2017 and Mixed Xylene product in Aromatics group.

The petrochemical exported products in 3Q18 mostly shipped to Hong Kong, Singapore and Vietnam, respectively.

When compared with 9M17, domestic sales drop by 4% mostly from HDPE product in Olefins group while PP domestic sales volume increased. The export sales increased from PP products out of PPE&PPC plants in Olefins group as well as products in Aromatics group.

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1.2.5 The spread between key petrochemical products and raw material

Average price (USD/MT)	Quarter			% Change		9 months		YoY
	3Q18	3Q17	2Q18	YoY	QoQ	2018	2017	
Naphtha	667	468	641	43%	4%	629	471	34%
Olefins								
Ethylene - Naphtha	550	622	581	(12%)	(5%)	600	586	2%
HDPE – Ethylene	267	201	427	33%	(37%)	351	219	60%
HDPE – Naphtha	817	823	1,008	(1%)	(19%)	951	805	18%
Propylene – Naphtha	361	323	362	12%	(0%)	377	351	7%
PP – Propylene	256	356	298	(28%)	(14%)	280	317	(12%)
PP – Naphtha	617	679	660	(9%)	(7%)	657	668	(2%)
Aromatics								
BZ - Naphtha	189	291	201	(35%)	(6%)	234	344	(32%)
TOL - Naphtha	121	159	115	(24%)	5%	125	176	(29%)
MX – Naphtha	217	182	164	19%	32%	189	192	(2%)
Styrenics								
SM -Naphtha	757	775	771	(2%)	(2%)	779	773	1%
ABS - Naphtha	1,248	1,377	1,379	(9%)	(9%)	1,352	1,328	2%
ABS – SM	491	602	608	(18%)	(19%)	573	555	3%
PS (GPPS) - Naphtha	898	977	945	(8%)	(5%)	947	962	(2%)
PS (GPPS) - SM	141	202	174	(30%)	(19%)	168	189	(11%)

The spread between key products and raw material in 3Q18 compared with 2Q18
The spread between Polyolefins (HDPE/PP) and Naphtha

- HDPE Spread - Lower:** HDPE - Naphtha spread in 3Q18 was USD 817 per ton, decreasing by 19% from 2Q18 of USD 1,008 per ton, due to the sluggish demand from the rainy and monsoon seasons plus supply increase from producers' resumption their operations after maintenance shutdowns.
- PP Spread - Lower:** PP - Naphtha spread was USD 617 per ton in 3Q18, dropped by 7% from 2Q18 of USD 660 per ton, owing to the higher naphtha price versus stable PP price according to tight supply from Cracker plant's maintenance shutdown.

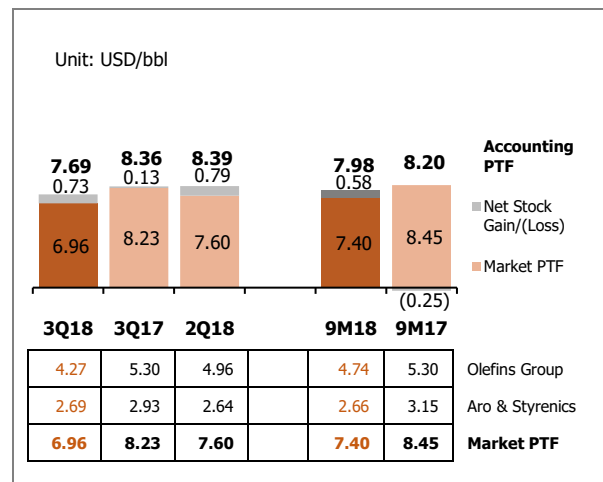
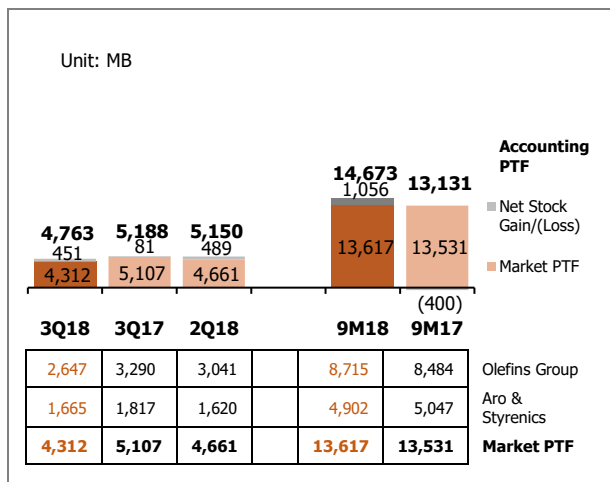
The spread between Aromatics Group and Naphtha

- **TOL Spread – Higher:** Toluene - Naphtha spread in 3Q18 was USD 121 per ton, increasing by 5% from 2Q18 of USD 115 per ton due to the robust demand.
- **MX Spread - Higher:** Mixed Xylene - Naphtha spread in 3Q18 was USD 217 per ton, increasing by 32% from 2Q18 of USD 164 per ton, because of increasing demand for Paraxylene and tight supply from maintenance shutdowns in Asia.

The spread between Polystyrenics (ABS/PS) and Naphtha

- **ABS Spread - Lower:** ABS-Naphtha spread in 3Q18 was USD 1,248 per ton, decreasing by 9% from 2Q18 of USD 1,379 per ton owing to an increase in utilization rate as well as a decline in demand from China against US-China trade war.
- **PS Spread - Lower:** PS-Naphtha spread in 3Q18 was USD 898 per ton, slightly dropped by 5% from 2Q18 of USD 945 per ton due to high production volume from major Chinese producers and lower demand amid rainy season.

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



In 3Q18, market PTF was down by Baht 349 million, QoQ, from the decline in product spreads



In 3Q18, the Market Product to Feed (Market PTF) of Baht 4,312 million or USD 6.96 per barrel decreased by Baht 349 million or USD 0.64 per barrel from 2Q18 and Baht 795 million or USD 1.27 per barrel from 3Q17. This was resulted from the decline in the petrochemical product spreads.

According to the net stock gain of Baht 451 million or USD 0.73 per barrel in 3Q18, the company had Accounting PTF of Baht 4,763 million or USD 7.69 per barrel. When compared with last quarter, it

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declined by Baht 387 million or USD 0.70 per barrel and declined by Baht 425 million or USD 0.67 per barrel from the same period last year.

For 9M18, Market PTF of Baht 13,617 million or USD 7.40 per barrel increased by Baht 86 million as a result of Company's major turnaround in 1Q17. The net stock gain was Baht 1,056 million. Thus, the Company had Accounting PTF of Baht 14,673 million or USD 7.98 per barrel.

1.3 Power Plant and Utility business units
1.3.1 Power Plant Capacity and Sales

	Quarter			% Change		9 months		YoY
	3Q18	3Q17	2Q18	YoY	QoQ	2018	2017	
Utilization Rate								
Electricity	76%	89%	81%	(13%)	(5%)	78%	75%	3%
Steam	76%	85%	79%	(9%)	(3%)	77%	71%	6%
Sales (Million Baht)								
Electricity	517	441	472	17%	10%	1,440	1,192	21%
Steam	279	234	251	19%	11%	750	665	13%
Others	64	49	61	31%	3%	183	142	29%
Total	860	724	784	19%	10%	2,373	1,999	19%

In 3Q18, the electricity utilization rate was 76%, down by 5% from 2Q18 and 13% from 3Q17. The utilization rate of steam in 3Q18 was 76%, declined by 3%, QoQ and 9%, YoY. This resulted from lower usage of both electricity and steam amid RDCC and Hyvahl planned shutdown during this period.

In 3Q18, the net sales of Power and Utility businesses were Baht 860 million, increasing by 10% QoQ, due mainly to an increase in sales volume to EGAT during RDCC & Hyvahl planned shutdown. When compare to the same period last year, it increased 19%, because of higher internal use after lower purchasing from IRPC Clean Power Company Limited (IRPCCP) since it was shutdown for the commissioning of the Phase II in 2Q18.

In 9M18, the net of sales Power and Utility businesses were Baht 2,373 million, increasing by Baht 374 million or 19% due to the company's major turnaround during 1Q17.

1.4 Total Operating Performance

Total Operating Performance of IRPC and its subsidiaries for quarter 3Q18 and 9 months 2018 are as follow;

	Unit : Million Baht					Unit : USD per barrel				
	Quarter			9 months		Quarter			9 months	
	3Q18	3Q17	2Q18	2018	2017	3Q18	3Q17	2Q18	2018	2017
Average FX (THB/USD)	33.15	33.55	32.09	32.31	34.44					
Total Crude Intake (Mbbbl)	18.68	18.48	19.10	56.96	46.49					
Average Crude (USD/bbl) ⁽¹⁾	77.13	52.42	75.49	73.32	52.63					
Sales ⁽²⁾	73,819	56,724	70,902	210,815	151,211	119.21	91.49	115.68	114.55	94.44
Net Sales ⁽³⁾	68,831	52,355	65,367	194,686	139,151	111.15	84.44	106.65	105.79	86.91
Cost of Feedstock (Market Price)	(61,164)	(43,024)	(56,874)	(169,957)	(115,818)	(98.78)	(69.39)	(92.79)	(92.35)	(72.34)
Market GIM	7,667	9,331	8,493	24,729	23,333	12.37	15.05	13.86	13.44	14.57
Stock Gain/(Loss)	1,017	1,098	2,177	3,389	1,662	1.64	1.77	3.55	1.84	1.04
Lower of Cost or Market	-	(0)	(6)	(7)	(1)	-	(0.00)	(0.01)	(0.00)	(0.00)
Oil Hedging Gain/(Loss)	54	(455)	44	108	(1,221)	0.09	(0.73)	0.07	0.06	(0.76)
Accounting GIM	8,738	9,974	10,708	28,219	23,773	14.10	16.09	17.47	15.34	14.85
Other Incomes ⁽⁴⁾	371	376	396	1,145	1,120	0.60	0.61	0.65	0.62	0.70
Selling Expenses	(375)	(325)	(350)	(1,120)	(896)	(0.61)	(0.52)	(0.57)	(0.61)	(0.56)
Accounting GIM and Other Incomes	8,734	10,025	10,754	28,244	23,997	14.09	16.18	17.55	15.35	14.99
OPEX	(3,475)	(3,390)	(3,592)	(10,435)	(10,107)	(5.61)	(5.47)	(5.86)	(5.67)	(6.31)
EBITDA	5,258	6,635	7,162	17,809	13,890	8.48	10.71	11.69	9.68	8.68
Depreciation	(2,046)	(2,029)	(2,047)	(6,132)	(5,038)	(3.30)	(3.27)	(3.34)	(3.33)	(3.15)
EBIT	3,212	4,606	5,115	11,677	8,852	5.18	7.44	8.35	6.35	5.53
Net Financing Cost	(500)	(710)	(437)	(1,409)	(1,789)	(0.81)	(1.15)	(0.71)	(0.77)	(1.12)
Gain/(Loss) from Foreign Exchange	57	90	(73)	82	677	0.09	0.15	(0.12)	0.04	0.42
Gain/(Loss) from impairment and disposal of fixed assets	(5)	-	51	46	238	(0.01)	-	0.08	0.02	0.15
Gain/(Loss) from Investment	203	109	202	575	322	0.33	0.17	0.33	0.31	0.19
Other Expenses	(2)	-	(0)	(2)	(9)	(0.00)	-	-	-	(0.01)
Net Profit/(Loss) before Income Tax	2,965	4,095	4,858	10,969	8,290	4.78	6.61	7.93	5.95	5.16
Income Tax	(395)	(846)	(795)	(1,581)	(1,445)	(0.64)	(1.36)	(1.30)	(0.86)	(0.90)
Gain/(Loss) from non-controlling interests	(10)	(1)	(13)	(26)	(4)	(0.02)	-	(0.02)	(0.01)	-
Net Profit/(Loss)	2,560	3,248	4,050	9,362	6,841	4.12	5.25	6.61	5.08	4.26

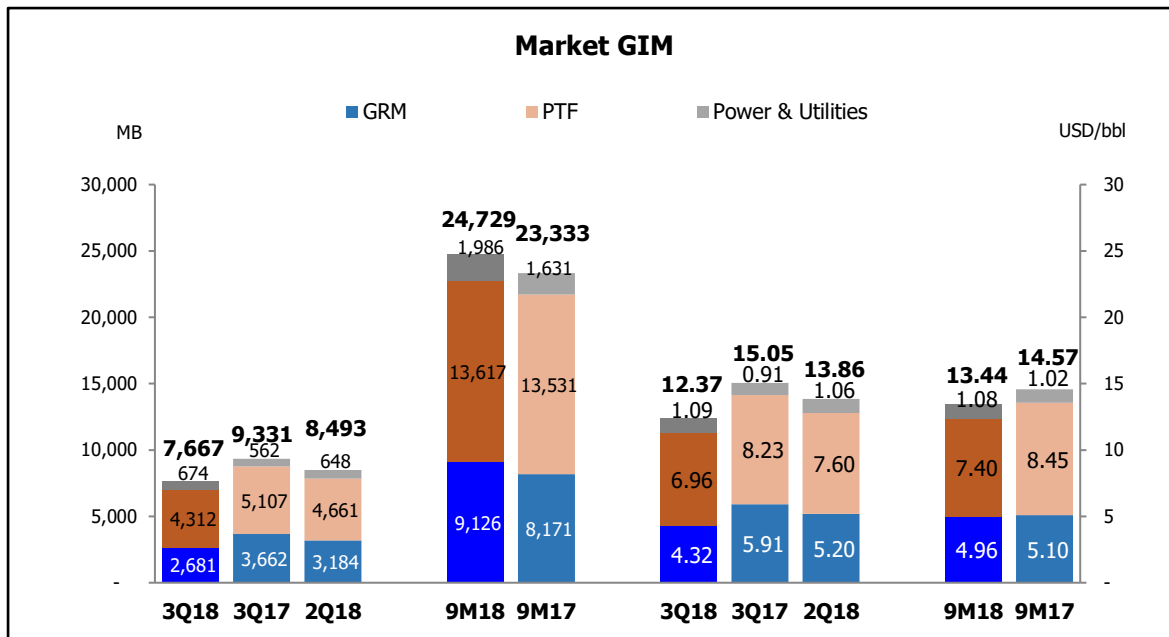
Note : ⁽¹⁾ Average market prices of crude used in the production process

⁽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.

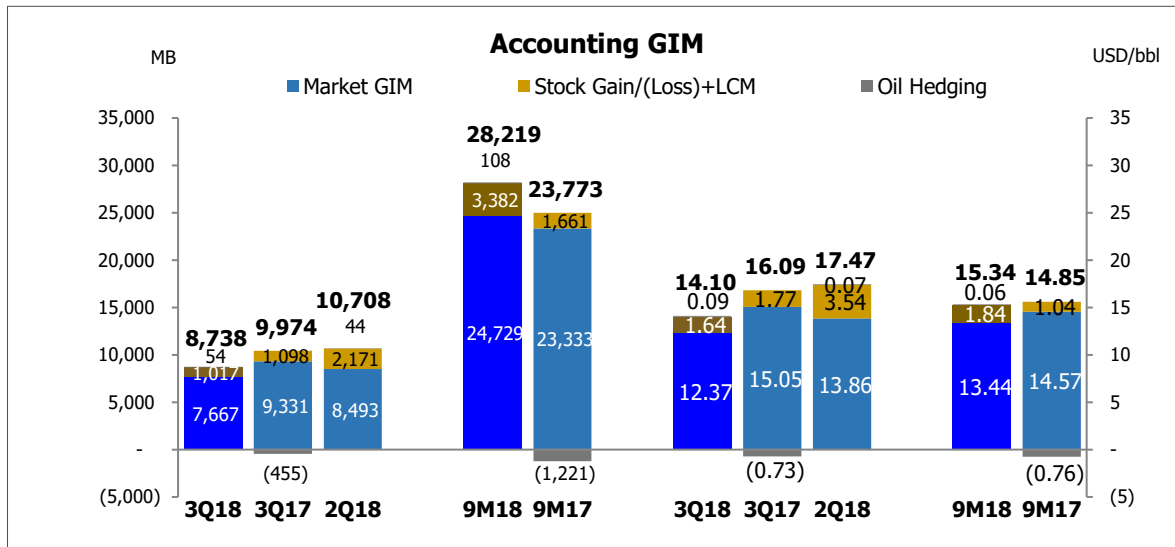
1.4.1 Market Gross Integrated Margin (Market GIM)



In 3Q18, Market Gross Integrated Margin (Market GIM) of Baht 7,667 million or USD 12.37 per barrel decreased by Baht 826 million or USD 1.49 per barrel from 2Q18 and decreased by Baht 1,664 million or USD 2.68 per barrel from 3Q17. This was mainly caused by planned shutdown for Hyvahl and RDCC units and lower products spread, though lower crude premium when compared with 2Q18.

For 9M18, Market GIM of Baht 24,729 million or USD 13.44 per barrel, rose by Baht 1,396 million due to company's major turnaround during 1Q17. Therefore, utilization and sales volume in 1Q17 were lower than normal level. Whereas the crude premium in 9M18 increased and most of product spreads decreased.

1.4.2 Accounting Gross Integrated Margin (Accounting GIM)



In 3Q18, Accounting Gross Integrated Margin (Accounting GIM) of Baht 8,738 million or USD 14.10 per barrel declined by Baht 1,970 million or USD 3.37 per barrel from 2Q18. This resulted from the decrease in Market GIM of Baht 826 million or USD 1.49 per barrel and drop in net stock gain of Baht 1,144 million or USD 1.88 per barrel. When compared with 3Q17, Accounting GIM decreased by Baht 1,236 million or USD 1.99 per barrel because of a decline in Market GIM of Baht 1,664 million or USD 2.68 per barrel versus an increase in net stock gain of Baht 428 million or USD 0.69 per barrel.

For 9M18, Accounting GIM of Baht 28,219 million or USD 15.34 per barrel rose by Baht 4,446 million or USD 0.49 per barrel from the same period last year, including an increase in Market GIM of Baht 1,396 million together with a rise in net stock gain of Baht 3,050 million.

1.4.3 Other incomes

Other incomes consist of port and tank farm services and other services. In 3Q18, the Company had other incomes amounting to Baht 371 million, decreased by Baht 25 million from 2Q18 and decreased by Baht 5 million from 3Q17. This resulted from lower crude run according to Hyvahl and RDCC planned shutdown.

For 9M18, other incomes were Baht 1,145 million, up by Baht 25 million from the same period last year. This was mainly owing to a rise of shipments following an increase in sales volume.

1.4.4 Operating Expenses

In 3Q18, the operating expenses of Baht 3,475 million declined by Baht 117 million QoQ mainly from maintenance expenses and staff costs (In 2Q18, the Company recorded long-term employee benefit expenses in accordance with accounting standards). When compared with 3Q17, an increase

in operating expenses of Baht 85 million was owing to the rise in the staff costs versus the drop of consulting fee and donation.

For 9M18, the operating expenses of Baht 10,435 million increased by Baht 328 million, mainly because of a rise in staff costs as mention above versus the drop of consulting fee and donation.

1.4.5 Depreciation and Amortization Expenses

In 3Q18, the depreciation of Baht 2,046 million slightly declined by Baht 1 million QoQ while increased by Baht 17 million YoY. For 9M18, the depreciation was Baht 6,132 million, rising by Baht 1,094 million from 9M17. This resulted from asset increase after the completion of the expansion and efficiency improvement projects such as Polypropylene Expansion Project (PPE), Polypropylene Compounding Project (PPC) and Gasoline Maximization Project. In addition, the major turnaround expenses were capitalized as the assets and be amortized for 5 years since 2Q17.

1.4.6 Financial Costs

In 3Q18, financial costs of Baht 500 million was up by Baht 63 million from 2Q18 as a result of lower gain from financial derivatives - Cross Currency Swap and Interest Rate Swap of Baht 33 million. When compared with 3Q17, financial costs declined by Baht 210 million because there were losses from financial derivatives contracts of Baht 231 million in 3Q17.

For 9M18, financial cost of Baht 1,409 million declined by Baht 380 million because of a decrease of interest expenses as the repayment of long-term loan, lower interest rate and also higher gains from financial derivatives contracts.

1.4.7 Gain/(Loss) from Foreign Exchange

In 3Q18, the Company reported the gain from foreign exchange of Baht 57 million. When compared with 2Q18, this was due mainly to loan drawdown amounted USD 200 million in 3Q18. Thai Baht appreciated against USD when compared the foreign exchange rate on the date of drawdown and the date of quarter end. While there was loss from foreign exchange of Baht 73 million in 2Q18 and there was gain from foreign exchange of Baht 90 million in 3Q17.

For 9M18, the Company recorded gain from foreign exchange of Baht 82 million, mainly the unrealized gain from foreign exchange according to loan drawdown amounting to USD 200 million in 3Q18. Thai Baht appreciated against USD when compared the foreign exchange rate on the date of drawdown and the date of ending period. While there was gain from foreign exchange of Baht 677 million due to Baht appreciation from Baht 36 per USD at the end of 2016 to Baht 33.53 per USD at the end of 3Q17.

The Company has outstanding USD debt of USD 200 million at the end of 3Q18.

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

In 3Q18, the company had loss from impairment and disposal of fixed assets of Baht 5 million while gain from impairment and disposal of fixed assets of Baht 51 million in 2Q18 due mainly to disposal of land in Tapong Subdistrict, Rayong Province.

Gain from impairment and disposal of fixed assets in 9M18 was Baht 46 million while gain from impairment and disposal of fixed assets of Baht 238 million in 9M17 including gain from the reversal of impairment from the appraisal of investment property of Baht 232 million in accordance with a disclosure of the Company's and its subsidiary's property, plant and equipment appraisal in 2017 compared with fair value in 2012.

1.4.9 Gain/(Loss) from Investments

In 3Q18, there was gain from investments of Baht 203 million, slightly increased by Baht 1 million from 2Q18 and rose by Baht 94 million from 3Q17. For 9M18, gain from investments was Baht 575 million, up by Baht 253 million from 9M17. This was caused by the higher of equity values in associates.

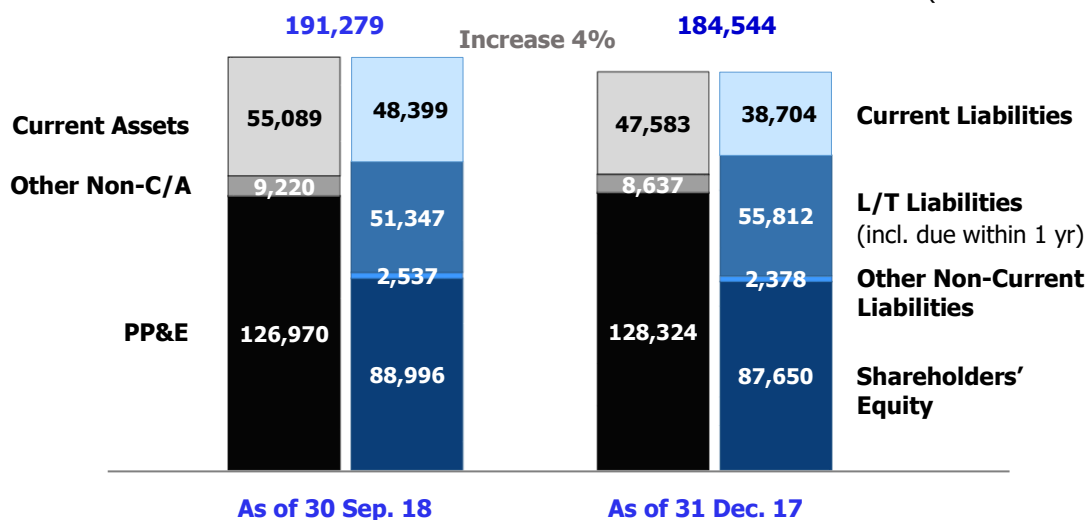
1.4.10 Corporate Income Tax

The corporate income tax of Baht 395 million in 3Q18 declined by Baht 400 million from 2Q18 and Baht 451 million from 3Q17 as profits from BOI and lower earning before tax in 3Q18.

For 9M18, the corporate income tax of Baht 1,581 million increased by Baht 136 million from 9M17 owing to improved performance versus the increase of BOI net income.

2. Financial Positions

(Unit: Million Baht)



2.1 Assets

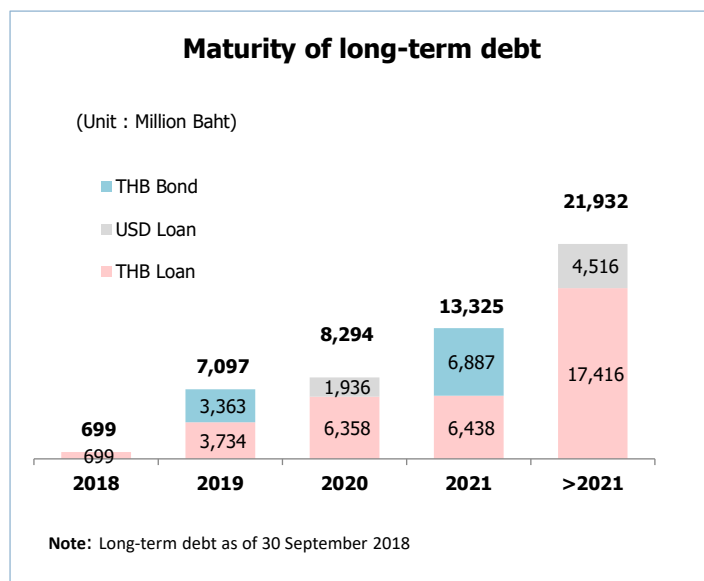
As of September 30, 2018, the Company had total assets of Baht 191,279 million, increased by Baht 6,735 million from December 31, 2017. It was due to the following reasons:

- Account receivables increased by Baht 2,792 million or 22% mainly due to higher product's selling prices. As of September 30, 2018, there were overdue more than 3 months account receivables amounting to Baht 22 million or only 0.14% of the total account receivables which incorporated in the provision for doubtful debt. The average collection period was 18 days in 3Q18, compared with 19 days at the end of 2017.
- Inventory increased by Baht 3,175 million or 11% mainly due to an increase in inventory following the high crude oil price. Whereas the inventories decreased from 10.53 million barrels at the end of 2017 to 9.76 million barrels at the end of 3Q18 due to higher crude intake and higher sales volume. The average inventory period was 42 days, compared with 52 days at the end of 2017.
- Other current assets increased by Baht 1,539 million or 32% mainly attributed to an increase in refundable value-added-tax of Baht 1,511 million and an increase in other account receivables of Baht 240 million versus a decline in prepaid insurance and advance payment for fixed assets of Baht 190 million and an decrease of prepaid withholding tax for tax of Baht 112 million.
- Non-current assets decreased by Baht 771 million or 1% due to a decrease in fixed assets of Baht 1,490 million, because of an increase of the accumulated depreciation and amortization of fixed assets and non-core land disposal, while an increase in investments in associates and joint venture amounting to Baht 706 million.

2.2 Liabilities

As of September 30, 2018, the Company had total liabilities of Baht 102,283 million, increasing by Baht 5,389 million or 6%, compared to the end of 2017. It was due to the following reasons:

- Short-terms loans from financial institutions increased by Baht 9,443 million for working capital for crude payment due to the higher crude oil price.
- Account payables increased by Baht 3,343 million or 13%. It was mainly owing to 6% increase in crude payables volume and 22% increase in crude oil price. The payment period was 39 days, compared to 43 days at the end of 2017.



- Other current liabilities decreased by Baht 3,091 million or 32% mainly attributed to a decrease in excise tax payable of Baht 1,348 million, a decrease in construction payables of Baht 666 million, decrease in other payables of Baht 461 million and a decrease in accrued bonus of Baht 424 million.

- Long-Term loans including current portion of long-terms loan decreased by Baht 4,465 million, mainly due to loan

repayment of Baht 10,945 million, while there was the long-term loan drawdown of USD 200 million (approximate Baht 6,565 million) in 3Q18.

The details of long-terms debt are shown below;

	Sep 30, 2018	Dec 31, 2017	Change
Thai Baht Bonds	10,250	15,248	(4,998)
USD Loan	6,452	4,097	2,355
Thai Baht Loan	34,645	36,467	(1,822)
Total	51,347	55,812	(4,465)
less current portion of long-terms loan	(6,604)	(10,660)	4,056
Net Outstanding Debt	44,743	45,152	(409)

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 450 million as of 30 September 2018.

- Other non-current liabilities were up by Baht 159 million. This resulted from an increase in employee benefit obligations by Baht 200 million versus a decline in deferred tax liability by Baht 41 million.

2.3 Shareholders' Equity

As of 30 September 2018, shareholders' equity was amounted to Baht 88,996 million, which was higher than what was stated as at 31 December 2017 by Baht 1,346 million. This was mainly from an increase in net profit amounting to Baht 9,362 million while the dividend payment of Baht 7,959 million, the decrease of non-controlling interests due to the status changed of subsidiary to joint venture amounting to Baht 54 million and a decrease in the fair value of available-for-sale investments amounting to Baht 5 million.

3. Statement of Cash Flow

(Unit : Million Baht)

		Jan. – Sep. 2018	Jan. – Sep. 2017
1	EBITDA	17,809	13,890
2	Change in operating assets and liabilities	(8,144)	743
3	Net cash flows from (used in) operating activities	9,665	14,633
4	Net cash flows from (used in) investing activities	(5,271)	(9,433)
5	Net cash flows from (used in) financing activities	(4,203)	(3,483)
6	Net increase (decrease)	191	1,717
7	Cash at beginning	2,145	2,042
8	Cash at ending	2,336	3,759

As of 30 September 2018, the ending cash was Baht 2,336 million. Net cash flow increased by Baht 191 million, which was mainly contributed from the following items;

- Net cash inflow from operating activities of Baht 9,665 million consisted of EBITDA of Baht 17,809 million and changes in the operating assets and liabilities of Baht 8,144 million. The cash outflows from the operating transactions included an increase in inventory of Baht 3,596 million, an increase in account receivables of Baht 2,909 million, an increase in refundable VAT of Baht 1,538 million, an increase in prepaid income tax of Baht 1,105 million, a decrease in other payable of Baht 1,798 million and a decrease in accrued bonus of Baht 423 million. Furthermore, the cash inflows from operating transactions included an increase in account payables of Baht 3,501 million.
- Net cash outflow from investing activities of Baht 5,271 million, mainly from projects such as Catalyst Cooler project, PP Compounding (PPC) project and land purchasing for future development.

- Net cash outflow from financing activities of Baht 4,203 million; mainly the long-term loan payments of Baht 4,448 million, the interest payment of Baht 1,553 million and the dividend payment of Baht 7,959 million while there were the short-term loans drawdowns of Baht 9,731 million as well as gains from financial derivatives contracts by Baht 49 million.

4. Key Financial Ratios

	Unit	Quarter		
		3Q18	3Q17	2Q18
Profitability Ratios				
EBITDA Margin	%	7.12	11.70	10.10
Net Profit Margin	%	3.47	5.73	5.71
Earnings per share	Baht/share	0.13	0.16	0.20
Return on Equity	%	14.15	11.11	15.47
Liquidity Ratios				
Current Ratio	time	1.00	0.85	0.90
Quick Ratio	time	0.33	0.32	0.29
Financial Policy Ratios				
Net Debt to Equity	time	0.69	0.74	0.61
Net Debt to EBITDA	time	2.49	3.30	2.21

Liquidity and Capital structure

In 3Q18, current ratio was 1.00 time, up by 0.10 times from 2Q18 of 0.90 times due to an increase of inventory towards higher crude oil price. The Company have sufficient liquidity for its operations.

At the end of 3Q18, Net Debt to Equity ratio was 0.69 times, increasing by 0.08 from 2Q18. This was mainly due to an increase in short-term loans for working capital. The Company could complete all payments on due date and comply with all of the Financial Covenants.

Executive Summary
Performance
Financial Positions
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