



**IRPC Public Company Limited**

# **Management Discussion and Analysis**

**Operating Results for Year 2021 and the Fourth Quarter of 2021**



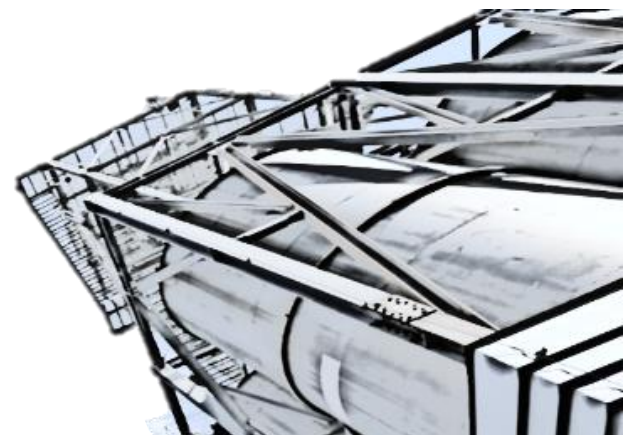
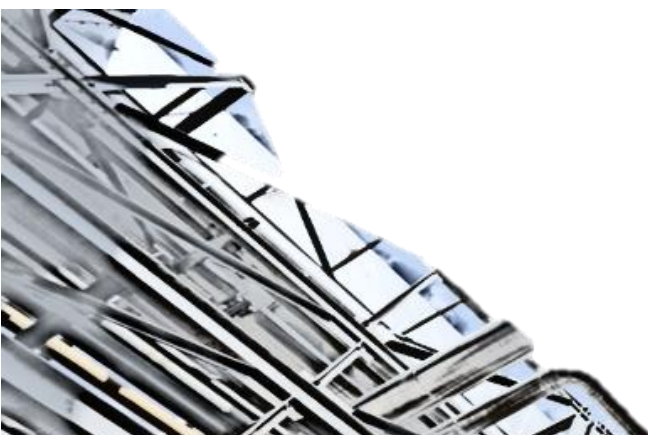
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# Table of Contents

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Executive Summary.....	1
Operating Performance .....	5
1. Operating Performance by Business Units .....	5
1.1 Petroleum business unit .....	5
1.2 Petrochemical business unit.....	11
1.3 Power Plant and Utility business units .....	17
2. Total Operating Performance .....	18
Financial Positions as of 31 December 2021.....	24
Other Factors Influencing Financial Performance.....	29



## Management Discussion and Analysis (MD&A)

### IRPC Public Company Limited and its subsidiaries

### Operating Results for Year 2021 and the Fourth Quarter of 2021

#### Executive Summary

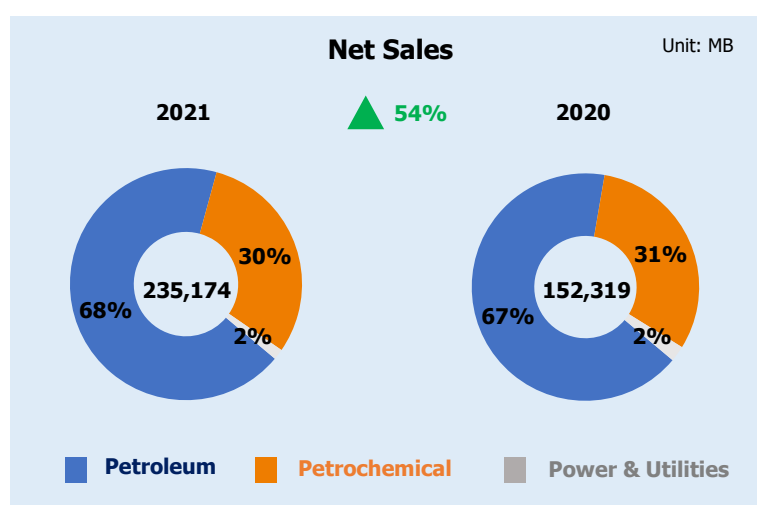
	Unit	Quarter			Change		Year		YoY
		4Q21	4Q20	3Q21	YoY	QoQ	2021	2020	
Crude Intake	Million bbl	18.23	18.12	17.58	1%	4%	70.19	70.35	(0.2%)
Sales <sup>[1]</sup>	Million Baht	72,445	46,693	67,017	55%	8%	255,115	174,463	46%
Net Sales <sup>[2]</sup>	Million Baht	67,840	40,661	62,088	67%	9%	235,174	152,319	54%
Market GIM	Million Baht	6,680	6,144	7,216	9%	(7%)	29,588	19,414	52%
	USD/bbl <sup>[3]</sup>	10.92	11.01	12.40	(1%)	(12%)	13.12	8.78	49%
Accounting GIM	Million Baht	6,947	7,507	9,544	(7%)	(27%)	40,692	17,825	128%
	USD/bbl	11.36	13.45	16.40	(16%)	(31%)	18.04	8.06	124%
EBITDA	Million Baht	3,094	3,781	6,190	(18%)	(50%)	26,961	4,692	475%
Net Profit	Million Baht	2,194	1,608	2,155	36%	2%	14,505	(6,152)	336%

Note: <sup>[1]</sup> **Sales** include (1) Petroleum Sales (2) Petrochemical Sales (3) Power and Utilities Sales  
(4) Sales of tank farm and port service, etc

<sup>[2]</sup> **Net Sales** include (1) Petroleum Sales (excluding excise tax) (2) Petrochemical Sales (3) Power and Utilities Sales

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

**The operating results in 2021 compared to those in 2020:** In 2021, the Company registered net sales of Baht 235,174 million increasing by 54% from those in 2020. This attributed to a 55% increase in average selling prices following higher crude oil price versus a 1% decrease in sales volume. The average crude intake was 192,000 barrels per day, similar with that in 2020.



The Market Gross Integrated Margin (Market GIM) was Baht 29,588 million (USD 13.12 per barrel) rising by 52% following an increase in both petroleum and petrochemical products spreads as the COVID-19 pandemic continued to unwind after widespread vaccination as well as lockdown lifts in several countries, while the crude premium rose.

The crude oil price extremely increased from USD 42.21 per barrel in 2020 to USD 69.24 per barrel in 2021 as the tight crude oil market situation. The occurrence was mainly caused by loosening pandemic-related restrictions. Plus, OPEC and allies cooperated to control oil production, especially an additional crude oil output cut of 1 million barrel per day by Saudi Arabia at the beginning of the year. Meanwhile, the U.S. crude oil production slightly rose. Hence, the Company had the net stock gain of Baht 11,104 million or USD 4.92 per barrel involving the stock gain of Baht 13,112 million while the loss on Lower of Cost or Market (LCM) of Baht 54 million and the realized oil hedging loss of Baht 1,954 million compared to the net stock loss of Baht 1,589 million or USD 0.72 per barrel in 2020. Therefore, the Accounting Gross Integrated Margin (Accounting GIM) was Baht 40,692 million or USD 18.04 per barrel increasing by Baht 22,867 million or USD 9.98 per barrel. The operating expenses were Baht 13,594 million decreasing by 2%. These led to the earnings before interest, tax, depreciation and amortization (EBITDA) of Baht 26,961 million increasing by Baht 22,269 million or 475%.

The Company recorded the depreciation expenses of Baht 8,587 million declining by 4%. The net financial cost was Baht 1,699 million decreasing by 8% because of lower interest rate. The loss on financial derivatives amounted to Baht 302 million declining by 28% and the loss on foreign exchange from US Dollar - Borrowings was Baht 474 million increasing by Baht 472 million owing to the Thai Baht depreciation. The Company had outstanding USD debt of 140 million at the end of 2021. Meanwhile, there was the unrealized gain on oil hedging of Baht 313 million compared to the unrealized loss on oil hedging of Baht 961 million. The gain on investments was Baht 719 million rising by 112%. The Company had the corporate income tax amounting to Baht 2,351 million compared to the 2020 corporate income tax benefit of Baht 1,554 million because of the significantly improving operating results. All previously mentioned resulted in the 2021 net profit of Baht 14,505 million against the net loss of Baht 6,152 million in 2020.

**The operating results in the fourth quarter of 2021 (4Q21) compared to those in the third quarter of 2021 (3Q21):** In 4Q21, the Company reported net sales of Baht 67,840 million increasing by 9% from those in the previous quarter. This attributed to a 9% increase in average selling prices following higher crude oil price. The average crude intake was 198,000 barrels per day, up by 4%. This was mainly from the HYVAHL unit of RDCC plant's planned maintenance shutdown taking 45 days in 3Q21. Market GIM was Baht 6,680 million (USD 10.92 per barrel) decreasing by 7% owing to a spread reduction of almost all Petrochemical products and Lube Base Oil.

In 4Q21, the Company had the net stock gain of Baht 267 million or USD 0.44 per barrel including the stock gain of Baht 2,122 million versus the loss on LCM of Baht 54 million and the realized oil hedging loss of Baht 1,801 million. The net stock gain dropped by Baht 2,061 million from that in the prior quarter. The Accounting GIM was Baht 6,947 million or USD 11.36 per barrel decreasing by 27%, while the operating expenses were Baht 3,670 million increasing by 12%. These resulted in the EBITDA of Baht 3,094 million declining by 50%.



The Company registered the depreciation expenses amounting to Baht 2,068 million decreasing by 3% and the net financial cost was Baht 402 million decreasing by 6%. There was the gain on financial derivatives amounting to Baht 107 million compared to the loss on financial derivatives of Baht 225 million in 3Q21. Furthermore, there was the gain on foreign exchange from US Dollar - borrowings of Baht 70 million compared to the loss on foreign exchange of Baht 262 million in the previous quarter owing to the Thai Baht appreciation. The Company had the outstanding USD debt of 140 million at the end of 4Q21. Meanwhile, there was the unrealized gain on oil hedging amounting to Baht 1,526 million compared to unrealized loss on oil hedging of Baht 685 million in 3Q21. The gain on investments was Baht 215 million rising by 34% from that in 3Q21. The Company had the corporate income tax of Baht 319 million, down by 31%. All previously mentioned resulted in the net profit of Baht 2,194 million in 4Q21 raising by 2%, QoQ.

**The operating results in the fourth quarter of 2021 (4Q21) compared to those in the fourth quarter of 2020 (4Q20):** The Company's net sales were up by Baht 27,179 million or 67%, attributed to a 68% increase in the average selling prices following higher crude oil price versus a 1% decrease in sales volume. The average crude intake was 198,000 barrels per day increasing by 1%. The Market GIM improved by Baht 536 million or 9% in accordance with an increase in almost all petroleum products spreads when compared with those in the same period last year. The net stock gain decreased by Baht 1,096 million. Therefore, the Accounting GIM declined by Baht 560 million, while the operating expenses decreased by Baht 273 million. All mentioned above brought a decrease in EBITDA by Baht 687 million or 18%, YoY.

The Company recorded a decline in the depreciation by Baht 173 million. The net financial cost was down by Baht 70 million due to the lower interest rate. The gain on financial derivatives dropped by Baht 71 million. The gain on foreign exchange from US Dollar - Borrowings decreased by Baht 204 million. However, there was the unrealized gain on oil hedging rose by Baht 719 million, along with an increase in the gain on investment by Baht 88 million and a decrease in the corporate income tax by Baht 46 million. These resulted in the net profit of Baht 2,194 million in this period increasing by Baht 586 million or 36%.

### Key incidents in 2021

- **The issuance of debentures**

On 20 May 2021, the Company has completed fund raising from the issuance of unsubordinated and unsecured debentures in 5 tranches in a total amount of Baht 12,000 million including;

**Tranche 1:** The debentures are offered to Individual Investors in the amount of Baht 4,000 million with tenor of 5 years. The debentures have a fixed coupon rate of 3.00% per annum.

**Tranche 2 - 5:** The debentures are offered to the Institutional Investors and/ or High Net Worth Investors in the amount of Baht 8,000 million with tenor of 3 - 15 years. The debentures have a fixed coupon rate of 1.77% - 4.10% per annum.

- **The investment in Innopolymed Company Limited**

The Company jointly invested in Innopolymed Company Limited with Innobic (Asia) Company Limited, a subsidiary of PTT Public Company Limited. The registered capital was Baht 260 million by which the Company and Innobic (Asia) Company Limited hold the shares being equivalent to 60% and 40% of the total shares respectively. Thus, such company has been the subsidiary of the Company. The objective of Innopolymed Company Limited is to operate the production and distribution of non-woven fabric and medical consumables businesses. Such company has been completed its registration in 2Q21.

- **The investment in Vajira Lab for Society Company Limited**

The Company jointly invested in Vajira Lab for Society Company Limited by holding shares with Navamindrachiraj University in the equal proportion at 50% of the total shares in 2Q21. Thus, such company has been the joint venture of the Company with the registered capital of Baht 22 million. The objective of such company is to set up a laboratory providing sampling, analysis and certification services for medical devices in terms of a social - enterprise.

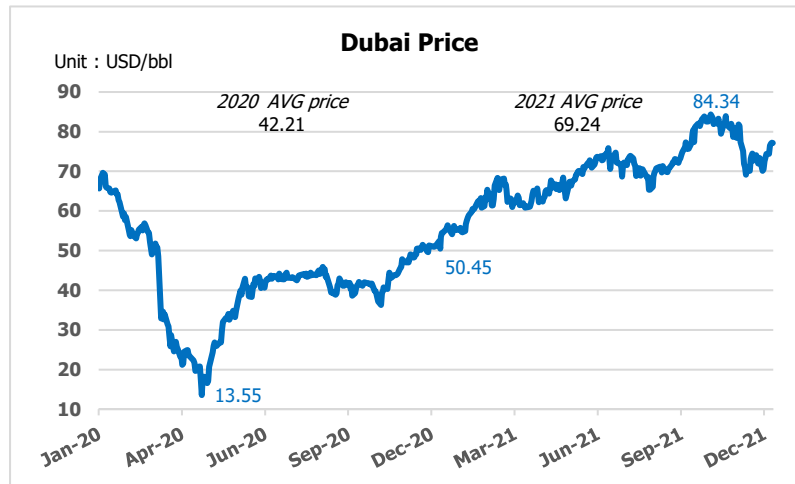
**Operating Performance**

**1. Operating Performance by Business Units**

**1.1 Petroleum business unit**

**1.1.1 Petroleum Market Overview**

**Crude oil situation in 2021:** The global oil consumption was 98.4 million barrels per day rising by 5.1 million barrels per day compared to the 2020 oil consumption of 93.3 million barrels per day. The



Dubai price in 2021 moved between USD 50.45 per barrel and USD 84.34 per barrel, with an average of USD 69.24 per barrel that rose by USD 27.03 per barrel from USD 42.21 per barrel in 2020. This was mainly because overall situations of COVID-19 pandemic improved continuously being consistent with COVID-19

vaccine distribution. These occurrences led to eases of epidemic-related restrictions entailing rising oil demand. Furthermore, OPEC and allies cooperated to reduce crude oil production, especially Saudi Arabia announcing to provide an additional production cut of around 1 million barrel per day in early 2021, while the U.S. crude oil production increased by only 0.7 million barrels per day from that in early 2021. Meanwhile, the oil production growth was 2 times lower than the oil demand growth that led to a tight-supply condition boosting the crude oil price.

**Crude oil situation in the fourth quarter of 2021 (4Q21):** The global oil consumption was 102 million barrels per day being approximate to that in 3Q21. The Dubai price moved between USD 69.11 per barrel and USD 84.34 per barrel, with an average of USD 78.35 per barrel rising by USD 6.68 per barrel from USD 71.67 per barrel in 3Q21. This was mainly because OPEC and allies still dominated global crude oil production and they determined to gradually increase the production by 0.4 million barrels per day from August 2021 to April 2022 in order to meet the demand. Moreover, the U.S. crude oil production level was still low while the oil demand recovered continuously resulting in a gradual decrease in the U.S. crude oil inventory. In the meantime, the spread of Omicron variant, a new strain of COVID-19 being officially discovered in late November entailed market concerns about effects of such spread as Omicron could spread itself faster than other existing variants could. The concerns swiftly dumped the crude oil price by approximately USD 10 per barrel in early December; however, recent data of Omicron outbreak showed that such strain had low severity, which calmed the market concerns down afterwards, hence a rebound of the crude oil price in late 2021.







**1.1.5 Petroleum Products Spread**

Average price	Quarter			% Change		Year		YoY
	4Q21	4Q20	3Q21	YoY	QoQ	2021	2020	
Dubai Crude Oil (USD/bbl)	78.35	44.62	71.67	76%	9%	69.24	42.21	64%
<b>Petroleum (USD/bbl)</b>								
Naphtha - Dubai	3.6	(1.3)	2.1	377%	71%	1.4	(1.8)	178%
ULG95 - Dubai	15.5	4.1	11.8	278%	31%	11.1	4.4	152%
Gas Oil 0.05%S - Dubai	11.4	3.7	5.4	208%	111%	6.7	6.1	10%
FO 180 3.5%S - Dubai	(6.9)	(0.6)	(3.4)	(1,050%)	(103%)	(4.9)	(3.0)	(63%)
<b>Lube Base Oil (USD/MT)</b>								
500SN - FO 180 3.5%S	671	473	895	42%	(25%)	845	389	117%
150BS - FO 180 3.5%S	1,087	567	1,356	92%	(20%)	1,234	514	140%
Asphalt - FO 180 3.5%S	(29)	20	(43)	(245%)	33%	(11)	38	(129%)

**The spread between Petroleum products and raw material**
**The spread between Petroleum products and Dubai**

- **Naphtha Spread - Higher:** Naphtha - Dubai spread in 2021 was USD 1.4 per barrel increasing by 178% from USD -1.8 per barrel in 2020. This was because the price of LPG, a raw material for olefins production, was high, hence increasing Naphtha demand for substituting LPG utilization in such production. In addition, higher Gasoline spread led to increasing Naphtha demand for producing Gasoline.

Naphtha - Dubai spread in 4Q21 was USD 3.6 per barrel increasing by 71% from USD 2.1 per barrel in 3Q21. This was owing to high Gasoline and LPG prices boosting Naphtha demand for substituting the use of such products. By comparing with 4Q20 of USD -1.3 per barrel, the spread improved by 377%.

- **ULG95 Spread - Higher:** ULG95 - Dubai spread in 2021 was USD 11.1 per barrel increasing by 152% from USD 4.4 per barrel in 2020 thanks to eases of COVID-19-related restrictions, especially in European countries and the U.S., which entailed rising Gasoline demand. In the meantime, the Gasoline demand in Asia at the end of 2021 reached the pre-pandemic level.

ULG95 - Dubai spread in 4Q21 was USD 15.5 per barrel enhancing by 31% from USD 11.8 per barrel in 3Q21 as the demand improved regularly, especially in the U.S., owing to better overall COVID-19 pandemic situations. The Gasoline demand in China and India increased as well and surpassed their pre-pandemic levels. By comparing with 4Q20 of USD 4.1 per barrel, the spread rose by 278%.

- **Gas Oil Spread - Higher:** Gas Oil - Dubai spread in 2021 was USD 6.7 per barrel increasing by 10% from USD 6.1 per barrel in 2020 due to the rising price of LNG, being a raw material for power generation, hence escalating Diesel demand for substituting LNG utilization or so-called Gas-to-oil switching.

Gas Oil - Dubai spread in 4Q21 was USD 11.4 per barrel improving by 111% from USD 5.4 per barrel in 3Q21. This was because Diesel demand enhanced seasonally over a quarter, particularly in Asia that the Diesel demand recovered following the lockdown eases, while a Diesel export from China declined due to refinery maintenance shutdowns. The Gas-to-oil switching also supported the Diesel price. By comparing with 4Q20 of USD 3.7 per barrel, the spread was up by 208%.

- **Fuel Oil Spread - Lower:** High Sulphur Fuel Oil (HSFO) - Dubai spread in 2021 was USD -4.9 per barrel declining by 63% from USD -3.0 per barrel in 2020 owing to weak HSFO demand following congestions at certain major ports and decreasing crude oil exports from the U.S. and countries in the Middle East. In addition, HSFO production increased according to improving refinery utilization, which pressured the HSFO price.

HSFO - Dubai spread in 4Q21 was USD -6.9 per barrel dropping by 103% from USD -3.4 per barrel in 3Q21 as the HSFO demand was weak following the port congestions. While the Gross Refining Margin revived encompassing growing overall refinery utilization, resulted in the rising HSFO production. By comparing with 4Q20 of USD -0.6 per barrel, the spread reduced by USD 6.3 per barrel.

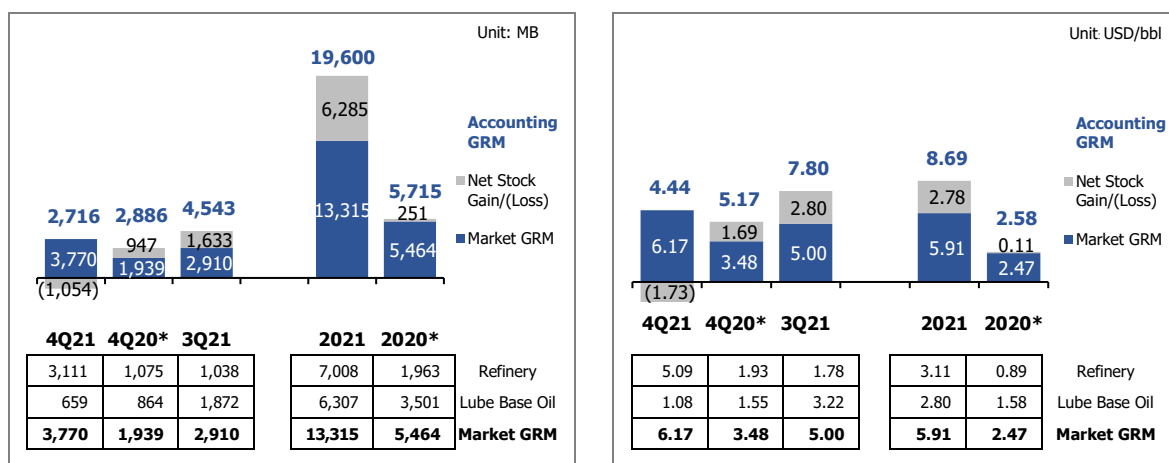
#### **The spread between Lube Base Oil products and FO 180 3.5%S**

- **500 SN Spread - Higher:** Lube Base 500SN - Fuel Oil spread in 2021 was USD 845 per ton increasing by 117% from USD 389 per ton in 2020 owing to the declining supply according to maintenance shutdowns of several Lube Base Oil plants, whilst the Lube Base Oil demand was steady.

500SN - Fuel Oil spread in 4Q21 was USD 671 per ton dropping by 25% from USD 895 per ton in 3Q21 as the supply recovered after the heavy shutdown period of the refinery plants was over. Meanwhile, the demand was pressured as certain factories in China adjusted their operating rates down because of insufficient power issues in China. By comparing with 4Q20 of USD 473 per ton, the spread rose by 42%.

- **Asphalt Spread - Lower:** Asphalt - Fuel Oil spread in 2021 was USD -11 per ton declining by 129% from USD 38 per ton in 2020 as the Asphalt demand decreased owing to budget allocation focusing more on boosting economies and healthcare systems, thus lower budget for infrastructure improvement. Moreover, the Asphalt demand in China was curbed by Zero COVID policies leading to lockdowns in certain areas of China.

Asphalt - Fuel Oil spread in 4Q21 was USD -29 per ton increasing by 33% from USD -43 per ton in 3Q21 as the demand in 3Q21 was constrained amid rainy season. By comparing with 4Q20 of USD 20 per ton, the spread was down by 245%.

**1.1.6 Gross Refining Margin**


Remark : \* Reclassified GRM and Net Stock Gain/(Loss)

*In 2021, Market GRM was Baht 13,315 million or USD 5.91 per barrel escalating by Baht 7,851 million or USD 3.44 per barrel, YoY, as most petroleum products spreads improved.*

The Gross Refining Margin (Market GRM) in 2021 was Baht 13,315 million or USD 5.91 per barrel escalating by Baht 7,851 million or USD 3.44 per barrel, YoY. This was mainly because most petroleum products spreads improved, especially the spreads of Gasoline and Lube Base Oil. The Company obtained a net stock gain of Baht 6,285 million or USD 2.78 per barrel comprising of a stock gain of Baht 8,243 million versus a loss on Lower of cost or market (LCM) of Baht 4 million and a realized oil hedging loss of Baht 1,954 million. Such figures led to the Accounting Gross Refining Margin (Accounting GRM) equaling to Baht 19,600 million or USD 8.69 per barrel increasing by Baht 13,885 million or USD 6.11 per barrel, YoY.

In 4Q21, the Market GRM was Baht 3,770 million or USD 6.17 per barrel rising by Baht 860 million or USD 1.17 per barrel compared to that in 3Q21, mainly because of improving spreads of most petroleum products, especially Diesel, while Lube Base Oil spread softened. Besides, by comparing YoY, the Market GRM increased by Baht 1,831 million or USD 2.69 per barrel.

In 4Q21, there was a net stock loss equaling Baht 1,054 million or USD 1.73 per barrel comprising of a net stock gain of Baht 751 while a LCM loss of Baht 4 million and a realized oil hedging loss of Baht 1,801 million. This entailed the Accounting GRM of Baht 2,716 million or USD 4.44 per barrel reducing by Baht 1,827 million or USD 3.36 per barrel, QoQ. Also, by comparing YoY, the Accounting GRM declined by Baht 170 million or USD 0.73 per barrel.

## 1.2 Petrochemical business unit

### 1.2.1 Petrochemical Market Overview

**Petrochemical market situation in 2021:** The overall demand for petrochemical products in 2021 increased from that in the previous year being in accordance with a global economic growth of 5.5% that was supported by the improved COVID-19 pandemic situations over a year. Such pandemic prompted consumers to work from home and become more concerned about their health resulting in greatly rising petrochemical products demand for food packaging as well as hygiene and medical related equipment. In addition, large-scale economic stimulus measures from various parts of the world such as the U.S., Europe, and Thailand also encouraged the demand recovery. However, the supply chain disruption being caused by shortages of semiconductor chips as well as ships and containers, along with elevated freight costs, remained major impediments lowering the demand for petrochemical products significantly owing to rising prices following higher costs. These obstacles were seen in certain industries including automotive, electrical and electronics appliances. Furthermore, according to the COVID-19 situations, there were some new production capacity in Asia being initially planned to start the commercial production in late 2020 that were postponed to the second half of 2021 and 2022. The postponement entailed pressured petrochemical product prices in late 2021 due to the expanding production capacity, particularly from China, South Korea, India, and Vietnam.

**Petrochemical market situation in the fourth quarter of 2021 (4Q21):** Overall, the demand for petrochemical products increased thanks to the improved COVID-19 pandemic situations leading to eases of lockdown measures in several countries and resumption of economic activities. These encompassed enhanced demand for end products in Polyolefins group such as food and beverage packaging as well as hygiene and medical related equipment. Moreover, according to China's energy crisis resulting in Power Rotation measures being applied along with Dual-control policy, several Chinese petrochemical producers had to cut their production, which affected the supply and helped support the prices.

The market for Styrenics products in Asia was still affected by a lack of semiconductor chips and the increased freight costs due to ship and container shortages. Thus far, the issues pressured the Asian Styrenics products demand regularly, especially in the export of electrical appliances and electronics industries facing rising costs. The average prices of Styrenics products declined continuously since mid November as the peak season of the demand from electronics manufacturing finished earlier than usual; besides, most end buyers retarded their orders to manage inventory levels before year end.





**1.2.4 Petrochemical Sales Breakdown**

Products	Quarter						Year			
	4Q21		4Q20		3Q21		2021		2020	
	Local	Export	Local	Export	Local	Export	Local	Export	Local	Export
Olefins Group	67%	33%	68%	32%	59%	41%	64%	36%	64%	36%
Aromatics and Styrenics Group	45%	55%	46%	54%	41%	59%	45%	55%	40%	60%
<b>Total</b>	<b>57%</b>	<b>43%</b>	<b>60%</b>	<b>40%</b>	<b>51%</b>	<b>49%</b>	<b>56%</b>	<b>44%</b>	<b>55%</b>	<b>45%</b>

Remark : Included sales of Trading business (iPolymer)

The proportion of domestic and export petrochemical sales in 2021 was 56:44. The domestic sales proportion increased by 1% from that in 2020, mainly from PP in Olefins group and entire Aromatics and Styrenics products. Meanwhile, the petrochemical exports in 2021 were mainly shipped to Singapore, Hong Kong and Vietnam respectively.

In 4Q21, the proportion of domestic and export petrochemical sales was 57:43. The domestic sales proportion was up by 6% from that in 3Q21 being mainly from PP and HDPE in Olefins group along with PS in Styrenics group. Still, when compared to 4Q20, the domestic sales proportion was down by 3%, mainly from SAN, CCM and Acetylene Black, while was supported by the sales of PP, HDPE, EPS and PS.

**1.2.5 The spread between key petrochemical products and raw material**

Average price (USD/MT)	Quarter			% Change		Year		YoY
	4Q21	4Q20	3Q21	YoY	QoQ	2021	2020	
Naphtha	745	408	676	83%	10%	646	380	70%
<b>Olefins</b>								
Ethylene - Naphtha	348	460	316	(24%)	10%	362	333	9%
HDPE - Ethylene	215	227	248	(5%)	(13%)	279	294	(5%)
HDPE - Naphtha	563	687	564	(18%)	(0.2%)	641	627	2%
Propylene - Naphtha	193	479	254	(60%)	(24%)	320	395	(19%)
PP - Propylene	365	260	306	40%	19%	335	207	62%
PP - Naphtha	558	739	560	(24%)	(0.4%)	655	602	9%
<b>Aromatics</b>								
BZ - Naphtha	200	121	317	65%	(37%)	268	105	155%
TOL - Naphtha	43	26	87	65%	(51%)	83	58	43%
MX - Naphtha	28	49	115	(43%)	(76%)	104	91	14%
<b>Styrenics</b>								
SM - Naphtha	409	546	502	(25%)	(19%)	532	383	39%
ABS - Naphtha	1,462	1,627	1,682	(10%)	(13%)	1,713	1,142	50%
PS (GPPS) - Naphtha	867	975	840	(11%)	3%	955	731	31%

## The spread between petrochemical products and raw material

### The spread between Polyolefins group and Naphtha

- **HDPE Spread - Higher:** HDPE - Naphtha spread in 2021 was USD 641 per ton increasing by 2% from that in 2020 of USD 627 per ton as the COVID-19 pandemic situations improved, so the demand for construction in Southeast Asia started to recover.

HDPE - Naphtha spread in 4Q21 was USD 563 per ton being approximate to that in the previous quarter of USD 564 per ton. This was due to seasonally declining demand for construction during winter, while new capacity in China and South Korea increased. When compared with 4Q20 of USD 687 per ton, the spread decreased by 18%

- **PP Spread - Higher:** PP - Naphtha spread in 2021 was USD 655 per ton increasing by 9% from that in 2020 of USD 602 per ton thanks to the improving COVID-19 pandemic situations leading to the recovering demand, both domestic and international ones. The increasing demand is mainly in the food packaging industry and industries relating to hygiene and medical equipment, according to work from home behaviors.

PP - Naphtha spread in 4Q21 was USD 558 per ton being close to that in the previous quarter of USD 560 per ton. This was owing to the increasing Naphtha price following the rising Dubai price. Meanwhile, the demand fell towards the end of the year as downstream producers maintained their optimal inventory levels together with the increasing of new supply from China, South Korea, India, and Vietnam. However, China's Dual-control policy caused several Chinese producers reduced their operating rates. When compared with 4Q20 of USD 739 per ton, the spread decreased by 24%.

### The spread between Aromatics group and Naphtha

- **TOL and MX Spread - Higher:** In 2021, Toluene - Naphtha spread and Mixed Xylene - Naphtha spread were USD 83 per ton and USD 104 per ton respectively rising by 43% and 14% when compared with those in 2020. This was mainly caused by improving PX market sentiments, which resulted in the increasing demand for Toluene and Mixed Xylene, the major raw materials being used in PX production.

In 4Q21, Toluene - Naphtha spread and Mixed Xylene - Naphtha spread were USD 43 per ton and USD 28 per ton respectively, down by 51% and 76% accordingly when compared with those in 3Q21. This was due to the volatile product prices being in accordance with crude oil and Naphtha prices. The product prices in December declined significantly because of the concerns about the Omicron variant of COVID-19 and the manufacturers had maintained optimal inventory levels during year end. When compared with 4Q20, Toluene - Naphtha spread increased by 65% while Mixed Xylene - Naphtha spread decreased by 43%.

### The spread between Polystyrenics group and Naphtha

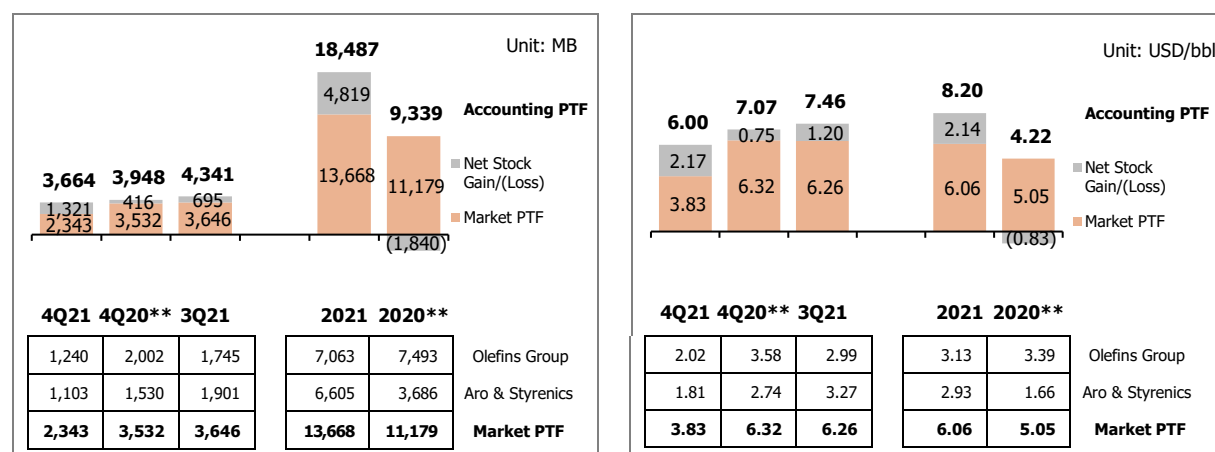
- ABS Spread - Higher:** ABS - Naphtha spread in 2021 was USD 1,713 per ton increasing by 50% when compared to USD 1,142 per ton in 2020. This was supported by the improving COVID-19 pandemic situations and the resumption of economic activities. The occurrences enhanced the demand for finished goods in the industries covering electrical and electronic appliances, medical and hygienic equipment as well as automotive.

ABS - Naphtha spread was USD 1,462 per ton in 4Q21, down by 13% when compared to USD 1,682 per ton in 3Q21. This was due to continuously rising production costs and freight costs following shortages of semiconductor chips and containers. Consequently, the demand for automotive as well as electrical and electronic uses dropped. In addition, most end-buyers retarded their orders to manage inventory levels before year end that caused the peak demand season ended earlier than usual. When compared with 4Q20 of USD 1,627 per ton, the spread decreased by 10%.

- PS Spread - Higher:** PS - Naphtha spread in 2021 was USD 955 per ton increasing by 31% when compared to USD 731 per ton in 2020. This was due to the increasing demand in food and beverage packaging industry, along with the electrical and electronics appliances industry, according to the work from home behaviors and the gradually recovering economic activities.

PS – Naphtha spread in 4Q21 was USD 867 per ton moving up by 3% from 3Q21 of USD 840 per ton from the tight supply in Southeast Asia due to annual maintenance shutdowns across the region. When compared with 4Q20 of USD 975 per ton, the spread decreased by 11%.

#### 1.2.6 Product to Feed Margin (Product to Feed : PTF)\*



Remark : \* Included Trading business (iPolymer)

\*\* Reclassified PTF and Net Stock Gain/(Loss)



*In 2021, the Market PTF was Baht 13,668 million enhancing by Baht 2,489 million from that in 2020 as most petrochemical products spreads improved owing to overall economic situations reviving from COVID-19 pandemic.*



The Market Product to Feed Margin (Market PTF) in 2021 was Baht 13,668 million or USD 6.06 per barrel enhancing by Baht 2,489 million or USD 1.01 per barrel from that last year. This was because there were spread improvements of most petrochemical products, especially those in Olefins and Styrenics groups according to revived overall economic situations from COVID-19 pandemic. The Company obtained the net stock gain of Baht 4,819 million or USD 2.14 per barrel comprising of the stock gain of Baht

4,869 million against the LCM loss of Baht 50 million. The aforementioned figures led to the Accounting Product to Feed Margin (Accounting PTF) equaling Baht 18,487 million or USD 8.20 per barrel rising by Baht 9,148 million or USD 3.98 per barrel from that in the previous year.

In 4Q21, the Market PTF was Baht 2,343 million or USD 3.83 per barrel being down by Baht 1,303 million or USD 2.43 per barrel from that in the prior quarter. This was because most petrochemical products spreads reduced as the product price situations were pressured by meager demand while the raw material price increased following the crude oil price. By comparing with 4Q20, the Market PTF dropped by Baht 1,189 million or USD 2.49 per barrel owing to the lower spreads of most petrochemical products, especially those in Olefins and Styrenics groups.

In 4Q21, the net stock gain of the petrochemical businesses was Baht 1,321 million or USD 2.17 per barrel comprising of the stock gain equaling Baht 1,371 million against the LCM loss of Baht 50 million. Hence, the Company obtained the Accounting PTF amounting to Baht 3,664 million or USD 6.00 per barrel, which decreased by Baht 677 million or USD 1.46 per barrel, QoQ, and reduced by Baht 284 million or USD 1.07 per barrel, YoY.



### 1.3 Power Plant and Utility business units

#### Capacity and Sales

	Quarter			% Change		Year		YoY
	4Q21	4Q20	3Q21	YoY	QoQ	2021	2020	
<b>Utilization Rate</b>								
Electricity	74%	71%	75%	3%	(1%)	75%	70%	5%
Steam	58%	64%	61%	(6%)	(3%)	61%	64%	(3%)
<b>Sales (Baht million)</b>								
Electricity	499	495	489	1%	2%	2,032	2,027	0.2%
Steam	314	271	286	16%	10%	1,107	1,175	(6%)
Others	57	56	57	2%	0%	319	231	38%
<b>Total</b>	<b>870</b>	<b>822</b>	<b>832</b>	<b>6%</b>	<b>5%</b>	<b>3,459</b>	<b>3,433</b>	<b>1%</b>

**Utilization rates of Electricity and Steam** In 2021, the utilization rate of Electricity was 75% increasing by 5% from that in 2020 of 70% while the utilization rate of Steam was 61% in 2021 reducing by 3% from that last year.

In 4Q21, the utilization rate of Electricity was 74% being approximate to that in 3Q21 of 75%; however, by comparing YoY, the rate increased by 3%. The utilization rate of Steam in 4Q21 was 58% declining by 3%, QoQ, and by 6%, YoY due to a planned maintenance shutdown of the power plant unit in 4Q21.

**The net sales of Power and Utility businesses** In 2021, the Company recorded the net sales of Power and Utility businesses equaling Baht 3,459 million, up by Baht 26 million or 1% compared with that in 2020 of Baht 3,433 million.

In 4Q21, the net sales of Power and Utility businesses were Baht 870 million rising by 5%, QoQ, mainly from the increasing average selling prices of Steam. Besides, by comparing YoY, the net sales improved by 6% thanks to the increasing average selling prices of Electricity and Steam.

## 2. Total Operating Performance

Total Operating Performance of IRPC and its subsidiaries for year 2021 and 4Q21 are as follow;

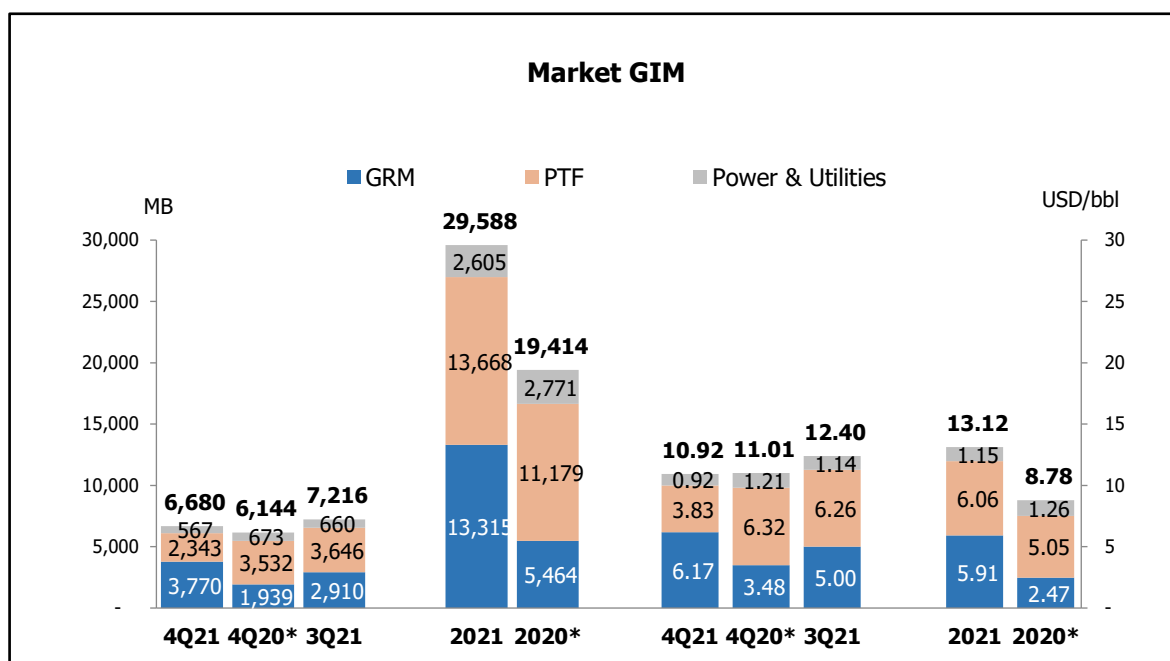
	Unit : Million Baht					Unit : USD per barrel				
	Quarter			Year		Quarter			Year	
	4Q21	4Q20	3Q21	2021	2020	4Q21	4Q20	3Q21	2021	2020
Average FX (THB/USD)	33.55	30.78	33.09	32.15	31.46					
Total Crude Intake (Mbbbl)	18.23	18.12	17.58	70.19	70.35					
Average Crude (USD/bbl) <sup>(1)</sup>	81.36	45.18	74.95	72.43	43.80					
Sales <sup>(2)</sup>	72,445	46,693	67,017	255,115	174,463	118.45	83.72	115.20	113.05	78.83
Net Sales <sup>(3)</sup>	67,840	40,661	62,088	235,174	152,319	110.92	72.90	106.73	104.22	68.82
Cost of Feedstock (Market Price)	(61,160)	(34,517)	(54,872)	(205,586)	(132,905)	(100.00)	(61.89)	(94.33)	(91.10)	(60.04)
<b>Market GIM</b>	<b>6,680</b>	<b>6,144</b>	<b>7,216</b>	<b>29,588</b>	<b>19,414</b>	<b>10.92</b>	<b>11.01</b>	<b>12.40</b>	<b>13.12</b>	<b>8.78</b>
Stock Gain (Loss)	2,122	1,614	2,661	13,112	(3,485)	3.47	2.89	4.57	5.81	(1.57)
Lower of Cost or Market	(54)	-	-	(54)	162	(0.09)	-	-	(0.02)	0.07
Realized Gain (Loss) on Oil Hedging	(1,801)	(251)	(333)	(1,954)	1,734	(2.94)	(0.45)	(0.57)	(0.87)	0.78
<b>Net Stock Gain (Loss)</b>	<b>267</b>	<b>1,363</b>	<b>2,328</b>	<b>11,104</b>	<b>(1,589)</b>	<b>0.44</b>	<b>2.44</b>	<b>4.00</b>	<b>4.92</b>	<b>(0.72)</b>
<b>(Accounting GIM)</b>	<b>6,947</b>	<b>7,507</b>	<b>9,544</b>	<b>40,692</b>	<b>17,825</b>	<b>11.36</b>	<b>13.45</b>	<b>16.40</b>	<b>18.04</b>	<b>8.06</b>
Other Incomes <sup>(4)</sup>	401	573	472	1,968	2,176	0.66	1.03	0.81	0.87	0.98
Selling Expenses	(584)	(356)	(536)	(2,105)	(1,375)	(0.95)	(0.64)	(0.92)	(0.93)	(0.62)
<b>Accounting GIM and Other Incomes</b>	<b>6,764</b>	<b>7,724</b>	<b>9,480</b>	<b>40,555</b>	<b>18,626</b>	<b>11.07</b>	<b>13.84</b>	<b>16.29</b>	<b>17.98</b>	<b>8.42</b>
OPEX	(3,670)	(3,943)	(3,290)	(13,594)	(13,934)	(6.00)	(7.07)	(5.65)	(6.03)	(6.29)
<b>EBITDA</b>	<b>3,094</b>	<b>3,781</b>	<b>6,190</b>	<b>26,961</b>	<b>4,692</b>	<b>5.07</b>	<b>6.77</b>	<b>10.64</b>	<b>11.95</b>	<b>2.13</b>
Depreciation	(2,068)	(2,241)	(2,130)	(8,587)	(8,952)	(3.38)	(4.02)	(3.66)	(3.81)	(4.04)
<b>EBIT</b>	<b>1,026</b>	<b>1,540</b>	<b>4,060</b>	<b>18,374</b>	<b>(4,260)</b>	<b>1.69</b>	<b>2.75</b>	<b>6.98</b>	<b>8.14</b>	<b>(1.91)</b>
Net Financial Cost	(402)	(472)	(429)	(1,699)	(1,847)	(0.66)	(0.85)	(0.74)	(0.75)	(0.83)
Gain (Loss) on Financial Derivatives	107	178	(225)	(302)	(419)	0.17	0.32	(0.39)	(0.13)	(0.19)
Gain (Loss) on Foreign Exchange from Borrowing	70	274	(262)	(474)	(2)	0.11	0.49	(0.45)	(0.21)	-
Unrealized Gain (Loss) on Oil Hedging	1,526	807	(685)	313	(961)	2.50	1.45	(1.18)	0.14	(0.43)
Gain (Loss) on Impairment and Disposal of Fixed Assets	(27)	(472)	-	(46)	(535)	(0.04)	(0.85)	-	(0.02)	(0.24)
Gain (Loss) on Investment	215	127	161	719	339	0.35	0.23	0.28	0.32	0.15
Other Expenses	-	(1)	1	(1)	1	-	(0.00)	0.00	(0.00)	0.00
<b>Net Profit (Loss) before Income Tax</b>	<b>2,515</b>	<b>1,981</b>	<b>2,621</b>	<b>16,884</b>	<b>(7,684)</b>	<b>4.12</b>	<b>3.54</b>	<b>4.50</b>	<b>7.49</b>	<b>(3.45)</b>
Income Tax	(319)	(365)	(460)	(2,351)	1,554	(0.52)	(0.65)	(0.79)	(1.04)	0.70
Gain (Loss) on non-controlling interests	(2)	(8)	(6)	(28)	(22)	-	(0.01)	(0.01)	(0.01)	(0.01)
<b>Net Profit (Loss)</b>	<b>2,194</b>	<b>1,608</b>	<b>2,155</b>	<b>14,505</b>	<b>(6,152)</b>	<b>3.60</b>	<b>2.88</b>	<b>3.70</b>	<b>6.44</b>	<b>(2.76)</b>
<b>Earning per share (EPS) (Baht/Share)</b>	<b>0.11</b>	<b>0.08</b>	<b>0.11</b>	<b>0.71</b>	<b>(0.30)</b>					

Note : <sup>(1)</sup> Average market prices of crude used in the production process

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

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

<sup>(4)</sup> Including land, tank farm and port service etc.

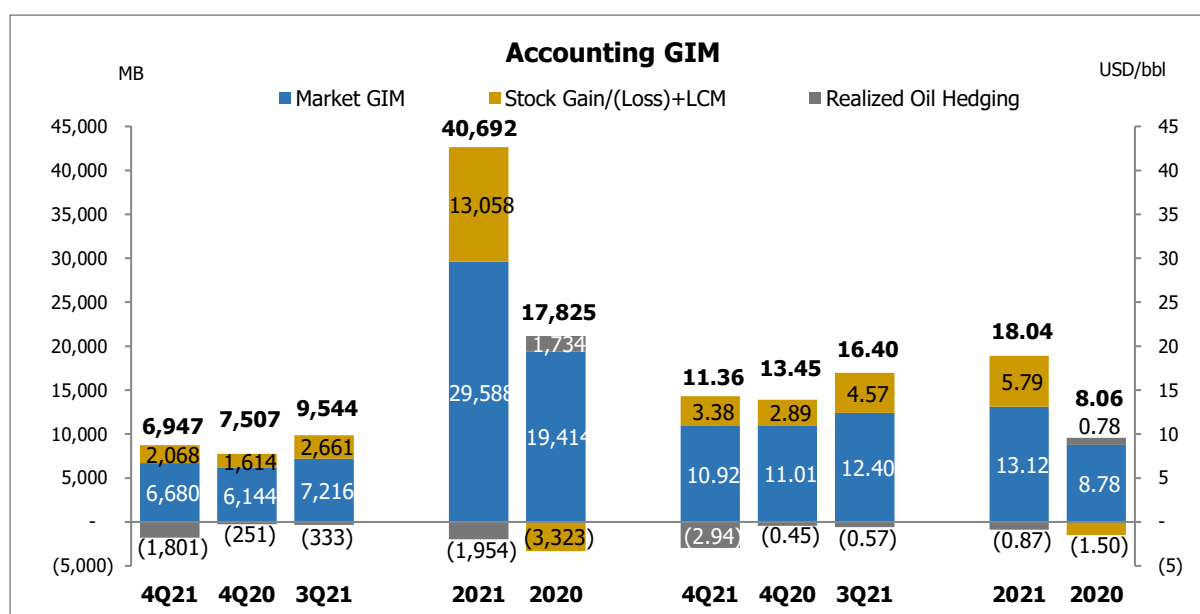
**2.1 Market Gross Integrated Margin (Market GIM)**


Remark : \* Reclassified GRM and PTF

The Market Gross Integrated Margin (Market GIM) in 2021 was Baht 29,588 million or USD 13.12 per barrel increasing by Baht 10,174 million or USD 4.34 per barrel from that last year. This was mainly from improvements of most petroleum and petrochemical products spreads having similar trends to crude oil price. Such improvements was owing to the progressed overall COVID-19 pandemic situations. The Market GIM was also supported by the Company's efficiency-enhancement projects for production processes and the whole organization being performed regularly. However, the crude premium increased by USD 1.60 per barrel.

In 4Q21, the Company recorded the Market GIM of Baht 6,680 million or USD 10.92 per barrel declining by Baht 536 million or USD 1.48 per barrel, QoQ, mainly from the decreasing spreads of most petrochemical products and Lube Base Oils. Still, the crude premium was down by USD 0.27 per barrel.

By comparing with 4Q20 of Baht 6,144 million or USD 11.01 per barrel, the Market GIM surged by Baht 536 million as most petroleum products spreads rose. Nevertheless, the crude premium was up by USD 2.45 per barrel.

**2.2 Accounting Gross Integrated Margin (Accounting GIM)**


The Accounting Gross Integrated Margin (Accounting GIM) in 2021 was Baht 40,692 million or USD 18.04 per barrel rising by Baht 22,867 million or USD 9.98 per barrel from that last year as the Market GIM increased by Baht 10,174 million or USD 4.34 per barrel. In addition, the Company obtained the net stock gain of Baht 11,104 million or USD 4.92 per barrel comprising of the stock gain amounting to Baht 13,112 million or USD 5.81 per barrel versus the LCM loss of Baht 54 million or USD 0.02 per barrel and the realized oil hedging loss of Baht 1,954 million or USD 0.87 per barrel while there was a net stock loss amounting to Baht 1,589 million or USD 0.72 per barrel in 2020.

In 4Q21, the Company recorded the Accounting GIM of Baht 6,947 million or USD 11.36 per barrel reducing by Baht 2,597 million or USD 5.04 per barrel, QoQ. This was due to a decrease in the Market GIM of Baht 536 million or USD 1.48 per barrel and a decrease in the net stock gain of Baht 2,061 million or USD 3.56 per barrel compared with those in the previous quarter. Meanwhile, the Company obtained the net stock gain of Baht 267 million or USD 0.44 per barrel in 4Q21 comprising of the stock gain equaling Baht 2,122 million or USD 3.47 per barrel against the LCM loss of Baht 54 million or USD 0.09 per barrel and the realized oil hedging loss amounting to Baht 1,801 million or USD 2.94 per barrel.

By comparing 4Q21 with 4Q20, the Accounting GIM was down by Baht 560 million or USD 2.09 per barrel as the net stock gain decreased by Baht 1,096 million while the Market GIM increased by Baht 536 million.

### 2.3 Other Incomes

Other incomes consist of port and tank farm services and other services. In 2021, the Company had other incomes of Baht 1,968 million decreasing by Baht 208 million from that in the previous year due to an income reclassification of iPolymer Company Limited from other incomes to sales of petrochemical businesses.

In 4Q21, the Company recorded other incomes amounting to Baht 401 million declining by Baht 71 million, QoQ, and by Baht 172 million, YoY.

### 2.4 Operating Expenses

In 2021, the Company had operating expenses of Baht 13,594 million decreasing by Baht 340 million from that in the prior year, mainly from maintenance cost, consulting expense and employee expenses in terms of employment reorganization through "New Organization with Agile Human (NOAH)".

In 4Q21, the Company recorded operating expenses of Baht 3,670 million increasing by Baht 380 million, QoQ, mainly from the maintenance cost. However, by comparing YoY, the operating expenses dropped by Baht 273 million, mainly from the employee expenses in terms of employment reorganization through NOAH as well as the maintenance cost.

Regarding the research and development (R&D) expenses for enhancing the Company's competitiveness, there were Baht 232 million in 2021. Such expenses comprised of expenses for internal and external R&D, salaries of staffs in the R&D department and costs of utilities supporting R&D activities amounting to Baht 189 million along with expenses for R&D equipment amounting to Baht 43 million.

### 2.5 Depreciation

In 2021, the depreciation was Baht 8,587 million decreasing by Baht 365 million from that in the prior year, mainly from fully depreciated assets.

In 4Q21, the depreciation was Baht 2,068 declining by Baht 62 million, QoQ, and by Baht 173 million, YoY.

### 2.6 Net Financial Cost

In 2021, the net financial cost was Baht 1,699 million declining by Baht 148 million from that last year. In 4Q21, the net financial cost was 402 dropping by Baht 27 million, QoQ, and by Baht 70 million, YoY, mainly from long-term loans and new debentures having a lower interest rate than that of the maturity bond.



### **2.7 Gain (Loss) on Financial Derivatives**

In 2021, there was a loss on financial derivatives amounting to Baht 302 million, mainly from a loss on Cross Currency Swap (CCS) of Baht 313 million while a gain on Interest Rate Swap (IRS) of Baht 41 million. By comparing with 2020, the loss declined by Baht 117 million.

In 4Q21, there was a gain on financial derivatives of Baht 107 million, mainly from a CCS gain amounting to Baht 78 million and an IRS gain of Baht 34 million while there was a net loss on financial derivatives of Baht 225 million in 3Q21. By comparing 4Q21 with 4Q20, the financial derivatives gain was down by Baht 71 million.

### **2.8 Gain (Loss) on Foreign Exchange from Borrowing**

In 2021, the Company recorded a loss on foreign exchange from U.S. dollar-borrowings of Baht 474 million as Thai Baht was weaker from 30.21 Baht per USD at the end of 2020 to 33.59 Baht per USD at the end of 2021. The loss was up by Baht 472 million from that last year. In any case, the Company had long-term liabilities in USD amounting to USD 140 million at the end of 2021.

In 4Q21, the Company recorded a gain on foreign exchange from US dollar-borrowings of Baht 70 million while there was a loss on the foreign exchange of Baht 262 million in 3Q21. This was owing to stronger Thai Baht, from 34.09 Baht per USD at the end of 3Q21 to 33.59 Baht per USD at the end of 4Q21. Nevertheless, while comparing 4Q21 with 4Q20, the gain reduced by Baht 204 million.

### **2.9 Unrealized Gain (Loss) on Oil Hedging**

In 2021, the Company recorded the unrealized gain on oil hedging of Baht 313 million while there was the unrealized loss on oil hedging amounting to Baht 961 million in 2020.

In 4Q21, the Company obtained the unrealized gain on oil hedging of Baht 1,526 million while there was the unrealized loss on oil hedging amounting to Baht 685 million in the previous quarter. By comparing 4Q21 with 4Q20, the unrealized gain on oil hedging increased by Baht 719 million.

### **2.10 Gain (Loss) on Impairment and Disposal of Fixed Assets**

In 2021, the Company recorded the loss on impairment and disposal of fixed assets of Baht 46 million declining by Baht 489 million from that in the prior year. In 4Q21, there was the loss on impairment and disposal of fixed assets of Baht 27 million reducing by Baht 445 million, YoY as the Company recorded an impairment from the postponement of Maximum Aromatics (MARS) project amounting to Baht 456 million and the write-off of intangible assets - dredging in 2020.

### **2.11 Gain (Loss) on Investments**

In 2021, there was the gain on investments of Baht 719 million increasing by Baht 380 million from that in the previous year. In 4Q21, there was the gain on investments equaling Baht 215 million rising by Baht 54 million, QoQ, and by Baht 88 million, YoY. This was mainly from increasing profit sharing from investments in associates and joint ventures.

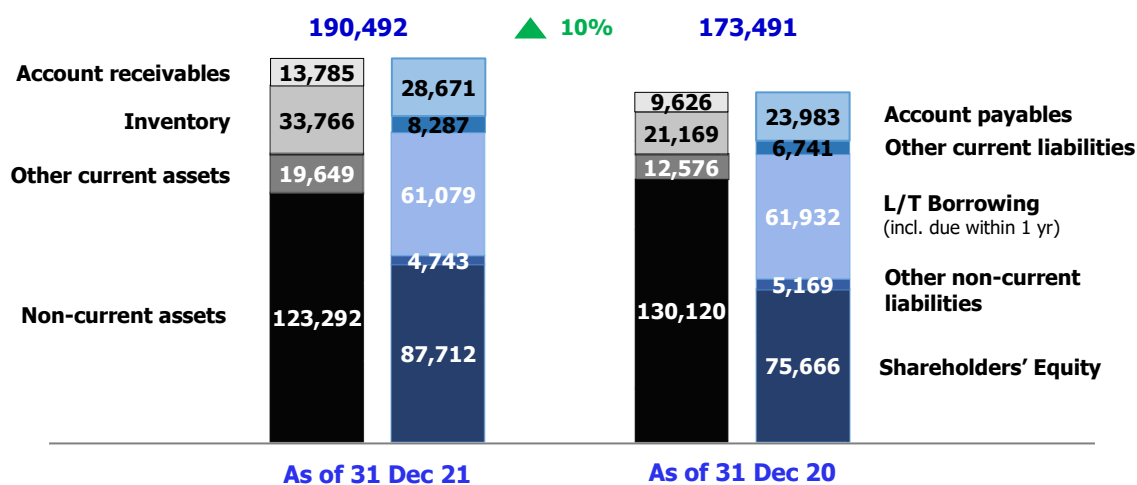
## 2.12 Corporate Income Tax

In 2021, the Company recorded the corporate income tax of Baht 2,351 million while recorded the corporate income tax benefit of Baht 1,554 million last year, owing to the significantly improved performance.

For 4Q21, the Company recorded the corporate income tax amounting to Baht 319 million declining by Baht 141 million, QoQ due to the softened performance. By comparing YoY, the corporate income tax reduced by Baht 46 million thanks to growing adoption of investment promotions.

**Financial Positions as of 31 December 2021**

(Unit: Million Baht)


**Assets**

As of December 31, 2021, the Company had total assets of Baht 190,492 million increasing by Baht 17,001 million or 10% from that on December 31, 2020. It was due to the following reasons:

- Trade receivables:** increased by Baht 4,159 million or 43% from that at the end of 2020, mainly due to a rise in average selling prices following the crude oil price. The Company's credit term policy is about 7 - 120 days and most customers made payment on schedule. As of December 31, 2021, there were trade receivables being overdue of over 3 months amounting to Baht 46 million which incorporated in the Company's provision for doubtful debt of Baht 30 million. The average collection period for 2021 was 17 days decreasing by 4 days from that at the end of 2020.

Trade receivables by payment period are as follows;

(Unit : Million Baht)	2021			2020		
	Other parties	Related parties	Total	Other parties	Related parties	Total
Current	7,533	4,911	12,444	5,272	3,628	8,900
Overdue	1,335	36	1,371	744	12	756
- less than 3 months	1,303	22	1,325	714	12	726
- over 3 months but less than 12 months	4	14	18	2	-	2
- over 12 months	28	-	28	28	-	28
<b>Total</b>	<b>8,868</b>	<b>4,947</b>	<b>13,815</b>	<b>6,016</b>	<b>3,640</b>	<b>9,656</b>
Less Allowance for doubtful accounts	(30)	-	(30)	(30)	-	(30)
<b>Total Account Receivables</b>	<b>8,838</b>	<b>4,947</b>	<b>13,785</b>	<b>5,986</b>	<b>3,640</b>	<b>9,626</b>

- **Inventory:** increased by Baht 12,597 million or 60%, mainly due to a 62% increase in the crude oil price and products prices following market situations. The average inventory period was 44 days decreasing by 5 days from that at the end of 2020.

- **Other current assets:** increased by Baht 7,073 million or 56%. This was mainly attributed to an increase in amounts due from related parties by Baht 2,769 million, a rise in cash and cash equivalents by Baht 2,385 million and an increase in refundable value-added tax by Baht 1,943 million.

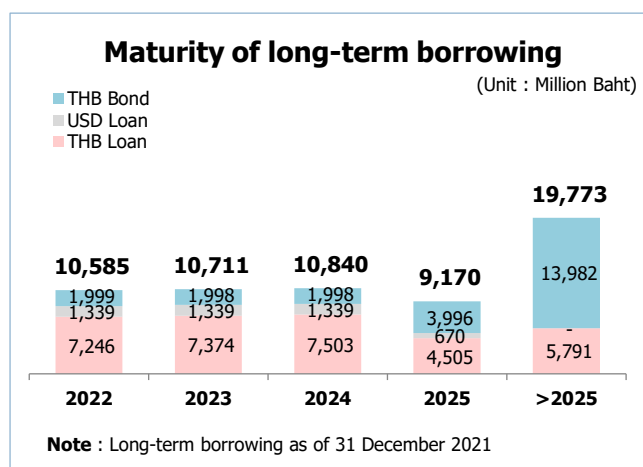
- **Non-current assets:** decreased by Baht 6,828 million or 5%, mainly due to a decline in fixed assets and investment properties of Baht 5,497 million. Most of which dropped due to an increase of the accumulated depreciation. Moreover, there was a decline in deferred tax assets by Baht 1,660 million. Meanwhile, investments in subsidiaries, joint ventures and associates rose by Baht 607 million.

### **Liabilities**

As of December 31, 2021, the Company had total liabilities of Baht 102,780 million increasing by Baht 4,955 million or 5% compared to that at the end of 2020. It was due to the following reasons:

- **Trade payables:** increased by Baht 4,688 million or 20%. It was mainly due to an increase in the crude oil price following the market situations while a decrease in accrued crude payable volume. The average payment period was 42 days decreasing by 9 days from that at the end of 2020.

- **Other current liabilities:** increased by Baht 1,546 million or 23%, mainly due to an increase in advance receipts for goods of Baht 1,071 million, an increase in accrued bonus expenses of Baht 796 million and a rise in corporate income tax payable of Baht 593 million, while there were a decrease in other payables of Baht 483 million and a decrease in financial derivative liabilities of Baht 313 million.



- **Long - term borrowing including current portion within one year:** decreased by Baht 853 million, mainly due to the redemption of maturity bond of Baht 6,890 million and loans repayment to financial institutions of Baht 6,450 million, while there was the issuance of unsubordinated and unsecured debentures in the amount of Baht 12,000 million and the loss on foreign exchange of Baht 474 million.

**The details of long-terms borrowing are shown below;**

(Unit: Million Baht)

	Dec 31, 2021	Dec 31, 2020	Change
Thai Baht Bonds	23,972	18,873	5,099
USD Loan	4,688	4,207	481
Thai Baht Loan	32,419	38,852	(6,433)
<b>Total</b>	<b>61,079</b>	<b>61,932</b>	<b>(853)</b>
less current portion of long-term borrowing	(10,585)	(13,335)	2,750
<b>Net Outstanding Borrowing</b>	<b>50,494</b>	<b>48,597</b>	<b>1,897</b>

**Note :** As of December 31, 2021, the Company had Cross Currency Swap (CCS) in a total amount of USD 110 million.

**Shareholders' Equity**

As of December 31, 2021, shareholders' equity amounted to Baht 87,712 million, which sharply increased from what was stated as of 31 December 2020 by Baht 12,046 million or 16%. This was mainly from a rise in the net profit amounting to Baht 14,505 million versus a decline in the dividend paid by Baht 2,857 million.

**Statement of Cash Flow**

(Unit : Million Baht)

		Jan – Dec 21	Jan – Dec 20
1	EBITDA	26,961	4,692
2	Change in operating assets and liabilities	(15,619)	6,457
3	Net cash flows from (used in) operating activities	11,342	11,149
4	Net cash flows from (used in) investing activities	(2,853)	(3,871)
5	Net cash flows from (used in) financing activities	(6,104)	(1,463)
6	<b>Net increase (decrease)</b>	<b>2,385</b>	<b>5,815</b>
7	Cash at beginning	8,851	3,036
8	<b>Cash at ending</b>	<b>11,236</b>	<b>8,851</b>

As of December 31, 2021, the ending cash was Baht 11,236 million. Net cash flow increased by Baht 2,385 million, which was mainly contributed from the following items:

- **Net cash inflow from operating activities:** of Baht 11,342 million. The cash inflow was mainly from EBITDA of Baht 26,961 million, an increase in trade payables of Baht 4,689 million and an increase in advance receipts for goods of Baht 1,071 million. Nevertheless, the cash outflow was mainly from an increase in inventory of Baht 12,767 million, an increase in trade receivables of Baht 4,161 million, an increase in amounts due from related parties of Baht 2,768 million and an increase in refundable value-added tax by Baht 1,943 million.

- **Net cash outflow from investing activities:** of Baht 2,853 million, mainly from disbursement for the completion of the expansion and efficiency improvement projects of Baht 2,932 million. Nevertheless, the cash inflow was from dividend received from joint ventures and associates of Baht 117 million.

- **Net cash outflow from financing activities:** of Baht 6,104 million. The cash outflow mainly comprised of the repayment for long-term loans and bond of Baht 13,340 million, dividend payment of Baht 2,857 million and interest payment of Baht 1,769 million. Still, there was net cash inflow that was mainly from the issuance of debentures amounting to Baht 11,983 million.

### Key Financial Ratios

	Unit	Quarter			Year	
		4Q21	4Q20	3Q21	2021	2020
<b>Profitability Ratios</b>						
EBITDA Margin	%	4.27	8.10	9.24	10.57	2.69
Net Profit Margin	%	3.03	3.44	3.22	5.69	(3.53)
Earnings per share	Baht/share	0.11	0.08	0.11	0.71	(0.30)
Return on Equity*	%	17.79	(7.75)	20.45	17.79	(7.75)
<b>Liquidity Ratios</b>						
Current Ratio	time	1.41	0.98	1.47	1.41	0.98
Quick Ratio	time	0.53	0.42	0.63	0.53	0.42
<b>Financial Policy Ratios</b>						
Net Interest bearing Debt to Equity	time	0.57	0.70	0.60	0.57	0.70
Net Interest bearing Debt to EBITDA*	time	1.92	11.64	1.64	1.92	11.64

**Note:** \*Annualized

### Liquidity and Capital Structure

In 2021, current ratio was 1.41 times increasing by 0.43 times compared with that in 2020 of 0.98 times. This was mainly owing to a rise in inventory and trade receivables. Thus, the Company has sufficient liquidity for its operations. At the end of 2021, net interest bearing debt to equity ratio was 0.57 times decreasing by 0.13 times from that in 2020 of 0.70 times. This was mainly due to an increase in shareholders' equity from retained earning. The Company could complete all payments on due date and comply with all of the Financial Covenants.

In 4Q21, current ratio was 1.41 times decreasing by 0.06 times compared with that in 3Q21 of 1.47 times. This was mainly owing to a rise in trade payables. Thus, the Company has sufficient liquidity for its operations. At the end of 4Q21, net interest bearing debt to equity ratio was 0.57 times decreasing by 0.03 times from that in 3Q21 of 0.60 times. This was mainly due to an increase in shareholders' equity from retained earning. 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 [average]
Collection period	=	365 / Account receivable turnover
Inventory turnover	=	Cost of Goods Sold / Average Inventory [average]
Inventory period	=	365 / Inventory turnover
Account payable turnover	=	Cost of sales / Average account payable [average]
Payment period	=	365 / Account payable turnover
EBITDA margin	=	EBITDA / Revenue from Sales
Profit margin	=	Net Profit (Owner of the parent) / Revenue from Sales
Return on equity	=	Net Profit (Owner of the parent) / Average shareholders' equity (Owner of the parent)
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) [average] / EBITDA



## Other Factors Influencing Financial Performance

### 2022 Business Outlook

#### 1. Petroleum Business

**2022 Crude oil outlook:** The global oil demand forecast is approximately 103 million barrels per day reaching the pre-COVID-19 demand level. Such demand forecast increases by about 4.6 million barrels per day from 98.4 million barrels per day in 2021 thanks to improving overall COVID-19 pandemic situations that can be seen from extensive vaccine distribution, both main and booster doses, along with lower severity of the symptoms. These result in eases of COVID-19-related restrictions being followed by rising economic activities and improving confidence of economic recovery. Office of the National Economic and Social Development Council forecasts that global economic growth is expected to be 4.8% being supported by the restriction eases and the government's economic stimulus that was also executed in 2021. For 2022 global oil supply, it is forecast to increase by 6.6 million barrels per day, YoY, to 103 million barrels per day being approximate to the global oil demand. The crude oil supply increase is mainly from OPEC of 2.9 million barrels per day; besides, OPEC and allies determine to gradually increase the production of 0.4 million barrels per day per month until April 2022. Moreover, the U.S. production is expected to rise at least 1 million barrel per day owing to a stable-high trend of the crude oil price boosting the U.S. producers' investment confidence, and if the U.S.' sanctions on Iran are lifted as expected, there will be around 1.4 million barrels per day of Iranian crude oil exports in 2H22. The Dubai price in 2022 is expected to be between USD 67 per barrel and USD 75 per barrel being close to the 2021 average price of USD 69 per barrel. Nevertheless, one of factors that may affect the 2022 crude oil price includes concerns over COVID-19 pandemic that may limit the oil demand recovery if there is a new surge in COVID-19 cases. Also, the ineffective lift of the U.S.' sanctions on Iran as well as unplanned shutdowns of crude oil production may lead to a robust tight-supply condition that might help escalate the crude oil price.

#### 2. Petrochemical Business

**2022 Petrochemical outlook:** The demand for petrochemical products in 2022 is expected to improve along with the global economic recovery. The Office of the National Economic and Social Development Council forecast that the global economy will grow by 4.8% following the recovery of major economies such as the U.S., Eurozone, U.K., Australia, and the newly industrialized economies (NIEs) that have eased pandemic control measures. Additionally, improvements in vaccine distribution and the development of antiviral medications will also boost market confidence. These lead to a petrochemical products demand growth forecast of 3-4% each year, mainly from dominant end-user-focused industries such as food packaging, hygiene and medical equipment, construction, electrical and electronic, automotive, and robotic. Nevertheless, threats to the petrochemical outlook involve new variants of COVID-19 and inflationary pressures, which increase faster than predicted that may result in tighter financial conditions. Furthermore, a reduction of single-use plastic consumption to resolve environmental issues needs to be monitored closely as this may affect the demand for petrochemical

products and plastic pellets in the future. A lack of ships and containers continues to drive up freight costs; besides, the lack is expected to be a significant obstacle that may result in considerable demand decreases in several industries, such as automotive as well as electrical and electronic, due to the rising prices following higher costs.

In 2022, it is expected that there will be certain new capacity beginning their commercial production in response to the increasing demand, especially in China as this may favor China's self-sufficiency economic strategy, along with Malaysia of which the new capacity start-up is postponed from the prior year owing to the COVID-19 pandemic situations. According to these new capacity, product price spreads may be pressured. However, China imposed Power Rotation measures in association with Dual-control measures to limit domestic energy consumption towards the end of 2021 causing some Chinese manufacturers to reduce their petrochemical production rates, which may help alleviate concerns about the expected increase in the addition capacity.

## **Investment Projects**

### **1. Investment Project Progress**

**The Ultra Clean Fuel Project (UCF):** The objective of the UCF Project is to increase refinery plant's efficiency and upgrade diesel quality to meet the Euro 5 (Euro V) standard in accordance with the Ministry of Energy's policy determining that starting from 1 January 2024, diesel distribution must meet Euro V standards. Under the Euro 5 standard, the permitted sulfur level will decline to 10 parts per million (PPM) from 50 PPM under Euro 4. The project will increase the Company's competitiveness through the rising demand for Low Sulfur Diesel in domestic market and ASEAN Economic Community (AEC). The UCF project is able to reinforce competitiveness of the Company involving Diesel as a main product; besides, the project is environmentally friendly and in line with the Company's Eco Factory policy. Meanwhile, the Board of Directors approved the Final Investment Decision (FID) in 3Q21. Currently, the project is under a construction process and has been planned to commercial operate within 1Q24. Once the project is completed, the Company's capacity will be able to convert entire high-sulfur Diesel to low-sulfur Diesel following Euro V standards.

## 2. Investment Plan

The Board of Directors has approved the company's five-year (Year 2022-2026) investment plan in an aggregate amount of Baht 41,350 million. The details are as follow:

(Unit : Million Baht)

Investment Projects	2022	2023	2024	2025	2026	Total
(1) Ultra Clean Fuel Project (UCF)	6,108	2,544	1,698	108	-	<b>10,458</b>
(2) Strengthen Project	1,200	325	-	-	-	<b>1,525</b>
(3) General and Maintenance Projects	4,415	2,796	2,284	2,310	3,101	<b>14,906</b>
(4) Others	8,969	4,945	418	65	64	<b>14,461</b>
<b>Total</b>	<b>20,692</b>	<b>10,610</b>	<b>4,400</b>	<b>2,483</b>	<b>3,165</b>	<b>41,350</b>

The investment projects are the investment plan which will encourage the Company's business growth where the major investment contributes to strategic and value added projects.

### **Sustainable Framework**

Year 2021 is another year of the success in sustainability for the Company. IRPC has maintained a membership of the Dow Jones Sustainability Indices (DJSI), the world's most trusted index for success of sustainable organizations, for 8 consecutive years in the Oil & Gas Refining and Marketing industry. The Company was also awarded the Sustainability Awards of Honor by SET Awards as IRPC in one of listed companies conducting businesses in accordance with sustainable development guidelines. Furthermore, the Company has been considered as one of sustainable listed companies in the Thailand Sustainability Investment (THSI) for 7 consecutive years and has been a large corporation receiving the Human Rights Awards for 3 consecutive years. These successes reflect IRPC's earnestness to drive a sustainable organization by adopting human centric principles in every dimension, not only for enhancing business and financial opportunities but also for contributing shared values to the society and reducing environmental impacts. Plus, the human centric principles is able to support the United Nations' Sustainable Development Goals.

According to the Company's 2021 strategy preparation, IRPC has upgraded the sustainable framework to one of key drivers supporting the Company's growth to ensure continuity and efficiency of sustainability management that is valued as a crucial foundation driving the Company to achieve its new vision and mission as well as to build trust amongst entire stakeholders. The Company's 2021 strategy includes strategic objectives being divided into 3 groups as follows:

**1) Climate Change Strategy "Carbon Plus"** The Company creates a low carbon economy through environmentally friendly production processes and development of products and services along with reduction of greenhouse gas emissions. This strategic objective obtains main purposes of creating a guarantee of water and sanitation to ensure sustainable management and availability for all, providing new energy that is accessible affordable, reliable and sustainable for

everyone as well as coping with climate change. The Company has set a target of 20% greenhouse gas emissions reduction by 2030. Such target was set in consideration of the country and industrial intentions to reduce greenhouse gas emissions, technological potential and the ability to invest in greenhouse gas emissions reduction. In addition, the Company has also considered the Net Zero Emission target to be in line with the Company's business plan as well as in line with PTT Group's greenhouse gas emission reduction targets.

**2) Circular Economy Strategy "Living Plus"** through innovation for the most efficient resource utilization involving turning waste into value. The main objectives are to build a resilient infrastructure, promote comprehensive and sustainable industrial development, and promote innovation plus ensure sustainable production and consumption. The Company has a strategy to seek new businesses in clean energy and related fields including the studies in the carbon storage business along with green hydrogen energy business.

**3) Creating Social Value Strategy "Recognition Plus"** This objective creates a positive impact on health and well-being of the society through hygiene-focused products being safe for consumers and environment. The main goals are to terminate hunger, achieve food security, enhance nutrition and promote sustainable agriculture. Such objective also promotes well-being of the community, ensures equal opportunity for everyone to access to good-quality education covering all knowledge fields and promotes lifelong learning opportunities. The Company has applied the "KPMG's True Value Assessment" to measure the social value being generated by the Company's activities. Furthermore, the Company conducted a Social Return Assessment (SROI) being used for decision making on implementation of future social projects in order to ensure that IRPC's ongoing projects can create value for the community and the society, along with sustainable business growth.