



# MANAGEMENT DISCUSSION & ANALYSIS 1Q2023

Management's Discussion and Analysis (MD&A) and operating result for the first quarter of 2023 ended  
31 March 2023

Executive Summary

Unit : Million Baht	1Q2022	4Q2022	1Q2023	%Inc. (Dec.)	
				YoY	QoQ
Sales Revenue	758,465	797,174	756,690	(0.2%)	(5.1%)
EBITDA	140,912	75,319	104,008	(26.2%)	38.1%
Net Profit	24,792	18,665	27,855	12.4%	49.2%
Earnings per share (Baht/share)	0.87	0.65	0.98	12.6%	50.8%
Average Dubai Price (US\$/barrel)	95.6	84.8	80.3	(16.0%)	(5.3%)

In the first quarter of 2023 (1Q2023), Earnings before Interest, Tax, Depreciation and Amortization (EBITDA) of PTT and its subsidiaries was reported at Baht 104,008 million, decreased by Baht 36,904 million or 26.2% from the first quarter of 2021 (1Q2022) at Baht 140,912 million. This was mainly from Petrochemical and Refining business. Refining business's performance decreased primarily due to higher stock loss in this period when PTT Group's stock loss increased approximately by Baht 34,000 million as compared to 1Q2022 in spite of the rise in Market Gross Refining Margin (GRM) from US\$ 6.1 per bbl in 1Q2022 to US\$ 8.4 per bbl in 1Q2023 supported by higher spread of diesel, aviation and gasoline over crude oil and the increase in sales volume. Moreover, Petrochemical business's performance also decreased from lower sales volume together with lower spreads in most of products. In addition, Gas business's performance decreased mainly from Gas Separation Plant (GSP) business due to lower average selling price in almost all products following the decline in petrochemical referenced prices and lower sales volume as well as higher gas cost according to an increase in gulf gas price. Performance of Transmission pipeline business (TM) also decreased from the adjustment of the gas pipeline tariff rates according to the resolution of the Energy Regulatory Commission (ERC) which has been effective since August 2022. While gross margin of Supply and Marketing (S&M) business increased from higher average selling price of industrial customers which increased higher than the increased in gas cost which is linked to fuel oil referenced price. Exploration and Production business's performance rose from the increase in average sales volume. New Business and Infrastructure business's performance increased from pharmaceutical business and GPSC from SPP power plants supported by the increase in Ft. Net income of PTT and its subsidiaries in 1Q2023 was Baht 27,855 million, increased by Baht 3,063 million or 12.4 % from the 1Q2022 at Baht 24,792 million despite the decline in EBITDA. This was resulted from lower loss on derivatives and higher gain on foreign exchange rate in 1Q2023 in spite of higher finance costs and corporate income taxes. Moreover, in 1Q2023, there were loss recognition of non-recurring items (PTT's portion) after tax approximately Baht 100 million mainly from non-cash accounting transactions at the end of concession of Bongkot Project of PTT Exploration and Production Public Company Limited (PTTEP) offset with the discount from production shortfall (Shortfall) of PTT. Meanwhile, in 1Q2022 there were gain recognition of non-recurring items approximately Baht 900 million mainly from Shortfall of PTT and gain on Ichinoseki Solar Power 1 GK divestment of GPSC.

For the 1Q2023, EBITDA of PTT and its subsidiaries was reported at Baht 104,008 million, increased by Baht 28,689 million or 38.1% as compared to Fourth quarter of 2022 (4Q2022) at Baht 75,319 million. This was mainly from **Petrochemical and Refining business** which Refining business's performance increased due to lower stock loss in this quarter when PTT Group's stock loss was decreased approximately by Baht 11,000 million. In addition, market GRM rose from US\$ 7.9 per bbl in 4Q2022 to US\$ 8.4 per bbl in 1Q2023 due to higher spread of gasoline over crude oil as well as lower crude premium. Petrochemical business's performance also increased from higher product spreads of both Olefins and Aromatics despite lower sales volume. **International Trading business's** performance increased primarily from higher margin per unit of out-out trading of refined products. **Oil and Retail business's** performance increased following higher average gross margin per liter, mainly from diesel and gasoline. In addition, **New Business and Infrastructure business's** performance increased from SPP power plants due to the increase in Ft together with the decrease in natural gas and coal costs. However, **Exploration and Production business's** performance decreased from lower average sales volume and average selling price. **Gas business's** performance also dropped from the lower gross profit of S&M business driven primarily from lower average selling price of industrial customer following the drop in fuel oil referenced price in global market together with higher gas cost due to higher pool gas price. Whereas, gross profit of GSP business improved from lower feed cost following the lower gulf gas price despite the decrease in overall sales volume as a result of lower demand from customers. **Net income of PTT and its subsidiaries in 1Q2023 was Baht 27,855 million, increased by Baht 9,190 million or over 49.2% from the 4Q2022 at Baht 18,665 million** in accordance to the improved EBITDA coupled with lower loss on derivatives and depreciation and amortization expenses. Moreover, in 1Q2023, there were loss recognition of non-recurring items (PTT's portion) after tax approximately Baht 100 million as aforementioned which decreased from 4Q2022 which had a loss recognition of non-recurring items approximately Baht 7,700 million mainly from PTTEP's impairment loss on Mozambique Area 1 Project and the provision for the class action settlement from Montara incident. However, there was a lower FX gain in 1Q2023 as compared to 4Q2022.

As of 31 March 2023, PTT and its subsidiaries had the total assets amounting to Baht 3,416,864 million, increased by Baht 1,232 million or 0.04% from 31 December 2022 which had the total asset amounting to Baht 3,415,632 million mainly from the increase in cash and cash equivalents from PTT Group's operating activities. Property, Plant, and Equipment (PPE) also increased mainly from Thai Oil Public Company Limited (TOP)'s additional construction in progress of Clean Fuel Project (CFP) as well as PTTEP's exploration and evaluation assets of G1/61 Project and G2/61 Project. Whereas the total liabilities were reported at Baht 1,851,237 million, decreased by Baht 30,702 million or 1.6% from 31 December 2022 due to the decrease in other accounts payables together with lower interest-bearing debt as a result of lower long-term loans and bond. Moreover, the total shareholders' equity as of 31 March 2023 was Baht 1,565,627 million, increased by Baht 31,934 million or 2.1% as a result of the increase in PTT and its subsidiaries' net income in 1Q2023.

## Economic Overview in the First Quarter of 2023

The **global economy** in 1Q2023 grew at a slower rate from 4Q2022, following a slowdown in major economies, namely the US and Euro Area, as a result of the continuing monetary policy tightening of major central banks in a bit to tame the remaining high inflation, including the Federal Reserves at its May 2023 meeting raised its federal funds rate for the tenth consecutive time since the interest rate adjustment cycle began in March 2022 to a range of 5.00% to 5.25%, together with addition pressure from the troubled financial institutions, following the collapse of Silicon Valley Bank in the US and the liquidity crisis at Credit Suisse Bank in Europe, as well as the ongoing conflict between Russia and Ukraine. Meanwhile, Chinese economy expanded, following the recovery of both private consumption and industrial production activities after lifting the Zero-COVID policy. The International Monetary Fund (IMF) in April 2023 revised down its global growth forecast for 2023 to 2.8% from its January 2023 forecast of 2.9%.

According to S&P Global's report in April 2023, the world's demand for oil in 1Q2023 averaged of 100.1 million barrels per day (MMBD), which decreased from 4Q2022's average of 100.7 MMBD due to the slowdown of the US and European economies amid high inflation and rising interest rates from several central banks. However, compared to 1Q2022's level of 98.1 MMBD, the world's demand for oil increased due to economic growth, including China's recovery after reopening its country.

Unit: US\$/barrel	1Q2022	4Q2022	1Q2023	% Inc. (Dec.)	
				YoY	QoQ
Average Dubai Crude Oil Price	95.6	84.8	80.3	(16.0%)	(5.3%)
Gasoline Crack Spread	17.8	9.4	18.7	5.1%	98.9%
Diesel Crack Spread	19.5	39.3	25.2	28.6%	(35.9%)
FO Crack Spread (180 – 3.5%S)	(8.3)	(22.5)	(16.3)	(96.4%)	27.6%
GRM-Singapore Crack	8.0	6.3	8.2	2.5%	30.2%

**Dubai crude oil price** in 1Q2023 was averaged at US\$80.3 per barrel, decreased from 4Q2022 at US\$84.8 per barrel and decreased from 1Q2022 at US\$95.6 per barrel as the market eased concerns that sanctions would tighten the supply, with Russia continuing to export crude oil to non-European buyers steadily. This was compounded by market concerns about the situation of financial institutions in the US and Europe, while non-OPEC oil producers increased production continuously, leading to an excess of supply over demand. Although the OPEC+ group had plans to reduce production to balance supply and demand.

### Petroleum product prices at Singapore spot market

- **Gasoline crack spread** averaged US\$18.7 per barrel in 1Q2023, up from US\$9.4 per barrel in 4Q2022 and US\$17.8 per barrel in 1Q2022 due to the recovery of the Chinese demand and the increasing trend of the blend component that adds octane level to gasoline amidst the transition to summer-grade gasoline in the US and the increasing proportion of the additive naphtha to gasoline blend in Europe.

- Diesel crack spread** averaged US\$25.2 per barrel in 1Q2023, down from US\$39.3 per barrel in 4Q2022 due to the export of refined oil from Russia entering into Asia that began to have an effect after the imposition of sanctions. Additionally, there were increased contributions from new refineries that pushed down the price differential. However, compared to 1Q2022 at US\$19.6 per barrel, the diesel crack spread was higher as the Europe has to sought diesel from the other sources to replace diesel from Russia.
- High-Sulfur Fuel Oil 3.5% crack spread (HSFO)** averaged US\$-16.3 per barrel in 1Q2023, up from US\$-22.5 per barrel in 4Q2022 due to increased demand for fuel oil from China for electricity and shipping. However, compared to 1Q2022 at US\$-8.3 per barrel, the high-sulfur fuel oil 3.5% crack spread was lower due to higher export volume from Russia to the regional.

**Singapore Gross Refining margin (GRM)** during 1Q2023 averaged at US\$8.2 per barrel, increased from 6.3 US dollars per barrel in 4Q2022 due to the recovering demand for gasoline, while there was pressure from the increasing production volume. However, compared to 1Q2022's average of US\$8.0 per barrel, the GRM was slightly increasing as the low reserve levels of each product.

Unit : US\$/Ton	1Q2022	4Q2022	1Q2023	% Inc. (Dec.)	
				YoY	QoQ
HDPE: CFR SEA	1,330	1,033	1,085	(18.4%)	5.0%
PP: CFR SEA – Film	1,387	995	1,096	(21.0%)	10.2%
BZ: FOB Korea	1,073	825	930	(13.3%)	12.7%
BZ-Naphtha	196	152	241	23.0%	58.6%
PX: CFR Taiwan	1,087	979	1,034	(4.9%)	5.6%
PX-Naphtha	210	306	345	64.3%	12.7%
Naphtha (MOPJ)	877	673	689	(21.4%)	2.4%
Propane (C3): ARAMCO CP	803	617	700	(12.8%)	13.5%

**Petrochemical prices**, both olefins and aromatics, in 1Q2023 increased from 4Q2022 due to supporting factors such as the tight supply of naphtha resulting from seasonal maintenance, especially in the Asian region, and high crude oil prices.

- Olefins:** High density polyethylene (HDPE) price increased comparing to 4Q2022 due to the demand from infrastructure development in China. Similarly, Polypropylene (PP) price also increased comparing to the previous quarter, partly from the reduction of production capacity of the Propane dehydrogenation (PDH) plant as higher propane prices that made production economic infeasible, especially during February. However, the sluggish global economy, lower-than-expected inventory buildup before Ramadan, and new supplies entering the market, particularly in China, limited the price increases.

- **Aromatics:** Benzene (BZ) price increased from 4Q2022 following tight supply from seasonal maintenance, particularly in Asia. Moreover, BZ spread over naphtha, which are still at high levels in the US, has resulted in recent increased export from Asia to US, despite higher transportation costs. However, decreasing demand from styrene monomer (SM) producers following reduction in operating rate due to low profitability, and high BZ inventory levels in China put pressure on increasing BZ price. Paraxylene (PX) price and PX spread over naphtha increased from 4Q2022, following an increased demand for purified terephthalic acid (PTA) producers due to better margin and new PTA production facilities in China, combining with supply constraints from maintenance shutdowns of several PX facilities in Asia and rising demand for PX as gasoline blending component. However, the slower recovery in demand of polyester from Chinese producers and new production capacity in China put pressure on an increase in PX price.

Comparing with 1Q2022, petrochemical prices of Olefins and Aromatics in 1Q2023 decreased, in line with decrease in crude and naphtha prices, following market concerns about the economic downturn in several countries, and increased supply from refineries in Asia.

The price of propane in 1Q2023 increased compared to 4Q2022 due to decreased supply in the Middle East, such as Saudi Aramco and ADNOC (Abu Dhabi National Oil Company), which lowered their output due to maintenance shutdowns. This was compounded by increased demand in Asia during the winter season and the relaxation of COVID-19 measures in China, which led to a rebound in economic activities within the country. However, the decreasing use of propane as a feedstock for PDH plants, along with decreasing crude oil prices and the sluggish global economy, had put downward pressure on propane prices.

Compared to 1Q2022, the price of propane decreased, following the downward trend in crude oil prices, the sluggish global economy, and the significant increase in propane inventory levels in the US.

Thai economy in 1Q2023 continued to expand from 4Q2022, supported mainly by the tourism sector which showed clear signs of recovery, particularly Chinese tourists who have increased their travel to Thailand after China reopened its borders on 8 January 2023, and India lifted its COVID-19 (RT-PCR) testing requirement for travelers returning from Thailand since 13 February 2023. Additionally, Private consumption and investment continued to recover in line with improving economic activities, especially in tourism-related services, amid increasing in business confidence and the labor market recovering closer to the pre-COVID-19 level. Government spending continued to expand due to the acceleration of budget disbursement, especially in large-scale infrastructure investment prior to the announce of the dissolution of parliament in late March 2023 in preparation for the general election in May 2023. Meanwhile, merchandise exports experienced a contraction amid the global economic slowdown and partly due to high base effect. The Bank of Thailand in March 2023 revised down its Thai economic growth rates forecast for 2023 to 3.6% from its previous estimate of 3.7% in November 2022.

## Non-recurring Items in the first quarter of 2023 until Present

Summary of non-recurring items in the first quarter of 2023 until present are as follows:

### January 2023

- **PTT:** On 1 January, to support public sector on energy prices, PTT has extended the cap of NGV retail price previously from 16 December 2022 to 15 March 2023 until 15 June 2023. For the taxi in Bangkok Metropolitan Area the retail price has capped at 13.62 Baht/kg and the NGV retail price for general cars has capped at 17.59 Baht/kg. Additionally, PTT has extended the period of LPG's discount for low-income household who sell food or operate food stalls through the State Welfare Card by Baht 100 per person per month until 31 March 2023.
- **PTTEP:** On 10 January, PTTEP has established Bedrock Analytics Company Limited ("Bedrock") with registered capital of Baht 5,000,000 through 100% shareholding owned by AI and Robotics Ventures Company Limited, a subsidiary of PTTEP to operate Artificial Intelligence and technology businesses. Bedrock will use the Geospatial Location Intelligence Platform and AI Technology to provide advanced location insights. Moreover, Bind Systems Company Limited has been established with registered capital of Baht 5,000,000, with 100% shareholding by AI and Robotics Ventures Company Limited, a subsidiary of PTTEP. The company will use Web 3.0 technology to provide security, privacy, and seamless access to Digital Identity and Personal / Enterprise data. The establishment of this company is to enhance competitiveness and identify new technology development opportunities, which aligns with PTTEP's strategy.
- **PTTEP:** On 17 January, PTTEP has established a subsidiary to develop and commercialize Artificial Intelligence technology which is S2 Robotics Company Limited with registered capital of Baht 1,000,000, with 100% shareholding by Rovula (Thailand) Company Limited, a subsidiary of PTTEP. S2 Robotics will use AI and Robotics (Nautilus) to provide the subsea horizontal repair service while reducing risks and repair time. The establishment of this company is to enhance competitiveness and identify new technology development opportunities, which aligns with PTTEP's strategy.
- **GPSC:** On 30 January, GPSC and Copenhagen Infrastructure Partners Group ("CIP") via CI NMF I Cooperatief U.A. ("CI NMF I") have established WindPower Development Company Limited ("WPD") with registered capital of Baht 1,000,000. GPSC and CI NMF I hold 51% and 49% of the shares in WPD, respectively. The objectives of this company are to jointly explore opportunities in wind energy and develop wind projects with a focus in Thailand.

### February 2023

- **PTT:** On 15 February, PTT International Holdings Limited ("PTTIH") (a wholly owned subsidiary of PTT) divest its entire investment, being 100% of the total issued shares, in PTT Mining Limited ("PTTML") to an affiliate of PT Astrindo Nusantara Infrastruktur Tbk ("Astrindo"), and complete the settlement with the total value of USD 486 million (including interest). As a result, PTTML ceases to be the subsidiary of PTTIH. In addition, this transaction will divest all of PTT's

	<p>investment in the coal business which is aligned with PTT's strategy towards sustainability and clean energy.</p>
March 2023	<ul style="list-style-type: none"><li>● <b>PTT &amp; GPSC:</b> On 10 March, Global Renewable Power Co., Ltd. ("GRP") (a subsidiary which PTT indirectly holds 50% and GPSC holds 50%) has completed the establishment of Global Renewable Power China (Shanghai) Co., Ltd. ("GRP China") with the registered capital of Yuan 5,340,000 (or approximately Baht 27,768,000), in which GRP holds 100%. The objective of the company's establishment is to support the investment and development of renewable business in China, in accordance with PTT group's investment strategy of Future Energy business.</li></ul>
April 2023	<ul style="list-style-type: none"><li>● <b>PTT:</b> On 21 April, the Board of Directors of Energy Complex Company Limited ("EnCo") ( a subsidiary which PTT holds 50%) on 10 April 2023, has approved EnCo to joint venture with One Origin Public Company Limited ("ONEO") through the purchase of 50% shares of One District Rayong 2 Co., Ltd. (a subsidiary of ONEO which ONEO holds 99.9997% of shares) from ONEO at the amount of Baht 46 million. On 11 April 2023, EnCo has signed a share purchase and sale agreement, and the payment has been completed on 21 April 2023. The objective of this joint venture is to jointly develop a hotel business in the Origin Smart City Rayong project, in order to support the expansion of business sector in the Eastern Economic Corridor (EEC) and the tourism sector after economic recovery from the COVID-19.</li></ul>



## Financial Results of PTT Group by Business

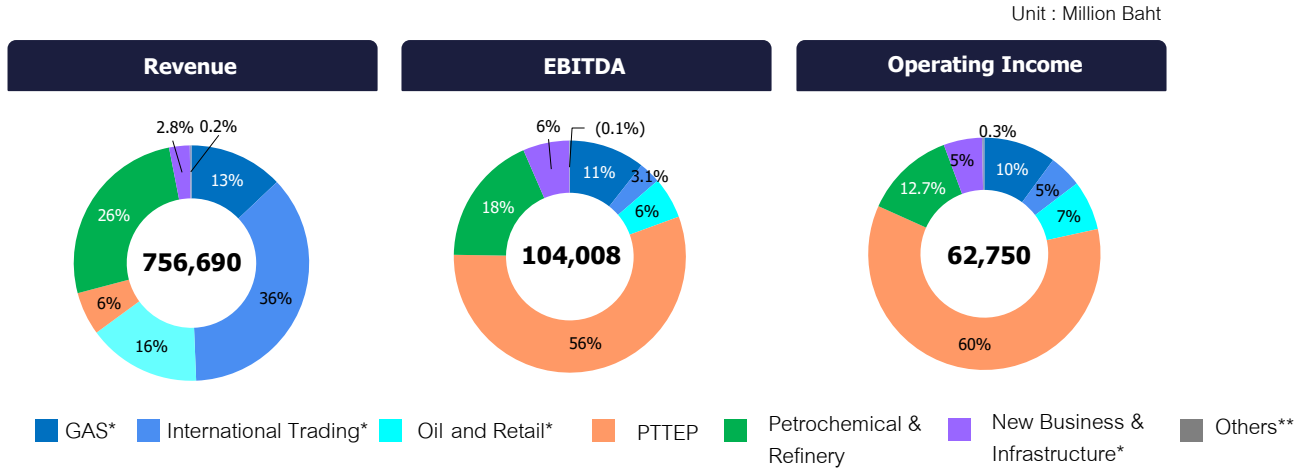
Financial performance of 1Q2023 compared with 1Q2022 and 4Q2022 are summarized as follows:

Unit : Million Baht	1Q2022	4Q2022	1Q2023	% Inc. (Dec.)	
				YoY	QoQ
<b>Sales revenue</b>	<b>758,465</b>	<b>797,174</b>	<b>756,690</b>	<b>(0.2%)</b>	<b>(5.1%)</b>
: Exploration & Production	68,149	91,610	75,493	10.8%	(17.6%)
: Gas	169,216	165,812	164,112	(3.0%)	(1.0%)
: Oil & Retail	177,909	206,655	197,891	11.2%	(4.2%)
: International trading	482,985	441,837	463,037	(4.1%)	4.8%
: Petrochemical & Refining	361,248	300,459	331,046	(8.4%)	10.2%
: New Business & Infrastructure	28,954	42,975	35,905	24.0%	(16.5%)
: Others	5,626	9,164	2,950	(47.6%)	(67.8%)
<b>EBITDA</b>	<b>140,912</b>	<b>75,319</b>	<b>104,008</b>	<b>(26.2%)</b>	<b>38.1%</b>
: Exploration & Production	53,465	69,237	58,371	9.2%	(15.7%)
: Gas	19,520	11,869	11,077	(43.3%)	(6.7%)
: Oil & Retail	6,686	1,337	6,028	(9.8%)	>100%
: International trading					
- Excluding effect of FX and derivatives	15,625	(9,465)	3,193	(79.6%)	>100%
- Including effect of FX and derivatives	1,219	(366)	4,826	>100%	>100%
: Petrochemical & Refining	43,373	(2,823)	19,040	(56.1%)	>100%
: New Business & Infrastructure	2,927	2,447	6,754	>100%	>100%
: Others	1,365	2,803	(86)	<(100%)	<(100%)
<b>Depreciation and amortization expenses</b>	<b>37,117</b>	<b>44,809</b>	<b>41,258</b>	<b>11.2%</b>	<b>(7.9%)</b>
<b>Operating income (loss)</b>	<b>103,795</b>	<b>30,510</b>	<b>62,750</b>	<b>(39.5%)</b>	<b>&gt;100%</b>
: Exploration & Production	36,431	45,630	38,213	4.9%	(16.3%)
: Gas	15,089	7,178	6,398	(57.6%)	(10.9%)
: Oil & Retail	5,177	(321)	4,401	(15.0%)	>100%
: International trading					
- Excluding effect of FX and derivatives	15,502	(9,753)	2,906	(81.3%)	>100%
- Including effect of FX and derivatives	1,096	(654)	4,539	>100%	>100%
: Petrochemical & Refining	32,696	(13,951)	8,007	(75.5%)	>100%
: New Business & Infrastructure	143	(868)	3,398	>100%	>100%
: Others	806	2,681	(204)	<(100%)	<(100%)
<b>Share of net income from investments in joint ventures and associates</b>	<b>1,949</b>	<b>1,246</b>	<b>528</b>	<b>(72.9%)</b>	<b>(57.6%)</b>
<b>Loss on impairment of assets</b>	<b>(5)</b>	<b>8,475</b>	<b>140</b>	<b>&gt;100%</b>	<b>(98.3%)</b>
<b>Gain (loss) on derivatives</b>	<b>(48,979)</b>	<b>(4,502)</b>	<b>(1,868)</b>	<b>96.2%</b>	<b>58.5%</b>
<b>Gain (loss) on foreign exchange</b>	<b>5,712</b>	<b>32,711</b>	<b>10,112</b>	<b>77.0%</b>	<b>(69.1%)</b>
<b>EBIT</b>	<b>64,262</b>	<b>50,364</b>	<b>73,965</b>	<b>15.1%</b>	<b>46.9%</b>
<b>Finance costs</b>	<b>7,445</b>	<b>10,355</b>	<b>10,843</b>	<b>45.6%</b>	<b>4.7%</b>
<b>Income taxes</b>	<b>21,728</b>	<b>17,355</b>	<b>23,366</b>	<b>7.5%</b>	<b>34.6%</b>
<b>Net income</b>	<b>24,792</b>	<b>18,665</b>	<b>27,855</b>	<b>12.4%</b>	<b>49.2%</b>
<b>Earnings per share (Baht/share)</b>	<b>0.87</b>	<b>0.65</b>	<b>0.98</b>	<b>12.6%</b>	<b>50.8%</b>

Note: Others Business includes coal business that was divested in 1Q2023

## Segmentation Performance of PTT Group

The details of revenue, Earnings before Interest, Tax, Depreciation and Amortization (EBITDA) and operating income by segmentation of 1Q2023 are as follows:



\* Including PTT own operation and PTT's affiliates \*\*Including coal that was divested in 1Q2023 and others.

### 1. Upstream Petroleum and Gas Business Group

#### Petroleum Exploration and Production Business: PTT Exploration and Production Public Co., Ltd. (PTTEP)

	1Q2022	4Q2022	1Q2023	%Inc.(Dec.)	
				YoY	QoQ
Average selling price (US\$/BOE)	51.4	52.8	50.0	(2.7%)	(5.3%)
Average sales volume (BOED)	427,368	500,456	460,817	7.8%	(7.9%)

#### First quarter of 2023 compared with First quarter of 2022

In 1Q2023, sales revenue of PTTEP was Baht 75,493 million, increased by Baht 7,344 million or 10.8% from 1Q2022 as the average sales volume increased by 7.8% from 427,368 BOED in 1Q2022 to 460,817 BOED in 1Q2023 primarily from first production of G1/61 and G2/61 Projects since April 2022, offset with Bongkot Project end of concession in March 2023. However, the average selling price decreased by 2.7% from US\$ 51.4 per BOE in 1Q2022 to US\$ 50.0 per BOE in 1Q2023.

EBITDA in 1Q2023 was Baht 58,371 million, increased by Baht 4,906 million or 9.2% from 1Q2022 mainly due to an increase in sales revenue as aforementioned. However, operating expenses increased primarily from starting production of G1/61 and G2/61 Projects since April 2022. As a result, the operating income in 1Q2023 amounting to Baht 38,213 million, increasing by Baht 1,782 million or 4.9% from 1Q2022.

The overall performance of Exploration and Production business increased following the loss on derivatives decreased by Baht 6,741 million due to a downward trend of forward oil price, and the increase in operating income as aforementioned. Moreover, there were gain recognition from non-cash accounting transactions at the end of concession of Bongkot Project of Baht 1,034 million (see appendix).

### First quarter of 2023 compared with Fourth quarter of 2022

In 1Q2023, sales revenue of PTTEP was Baht 75,493 million, decreased by Baht 16,117 million or 17.6% from 4Q2022 as the overall average sales volume decreased by 7.9% from 500,456 BOED in 4Q2022 to 460,817 BOED in 1Q2023 primarily from lower gas sales volume from Oman Block 61 Project, Arthit Project, and Malaysia Block H Project, as well as lower crude sales volume from Algeria Hassi Bir Rekaiz Project. In addition, the overall average selling price decreased by 5.3% from US\$ 52.8 per BOE in 4Q2022 to US\$ 50.0 per BOE in 1Q2023.

EBITDA in 1Q2023 was Baht 58,371 million, decreased by Baht 10,866 million or 15.7% from 4Q2022 mainly due to a decrease in sales revenue as aforementioned. However, administrative expenses decreased. As a result, the operating income in 1Q2023 was Baht 38,213 million, decreasing by Baht 7,417 million or 16.3% from 4Q2022.

The overall performance of Exploration and Production business increased primarily due to the recognition of non-recurring items amounting to Baht 1,034 million in 1Q2023. While, in 4Q2022, there was loss approximately Baht 9,400 million (see appendix) despite a decrease in operating income as aforementioned.

### Gas Business Group

The details of all product sales volume from GSPs are as follows:

Unit: Ton	1Q2022	4Q2022	1Q2023	% Inc.(Dec.)	
				YoY	QoQ
LPG	807,925	834,351	853,208	5.6%	2.3%
Ethane	486,571	451,074	404,601	(16.8%)	(10.3%)
Propane	262,167	183,537	165,542	(36.9%)	(9.8%)
NGL	133,037	123,585	119,710	(10.0%)	(3.1%)
Pentane	13,383	11,188	13,062	(2.4%)	16.8%
<b>Total</b>	<b>1,703,083</b>	<b>1,603,735</b>	<b>1,556,123</b>	<b>(8.6%)</b>	<b>(3.0%)</b>

The details of reference product prices of GSPs are as follows:

Unit: US\$ per Ton	1Q2022	4Q2022	1Q2023	% Inc.(Dec.)	
				YoY	QoQ
LPG <sup>1/</sup>	803	612	706	(12.1%)	15.4%
LDPE <sup>2/</sup>	1,640	1,110	1,130	(31.1%)	1.8%
LLDPE <sup>2/</sup>	1,346	999	1,074	(20.1%)	7.5%
HDPE <sup>2/</sup>	1,330	1,033	1,085	(18.4%)	5.0%
Propane <sup>1/</sup>	803	617	700	(12.8%)	13.5%

**Note:** <sup>1/</sup> Global Gas Price (Contract Price Saudi Aramco) as a reference for selling prices of petrochemical customers, LPG calculated from the proportion of Propane and Butane by 50:50

<sup>2/</sup> South East Asia - Spot Price

### First quarter of 2023 compared with First quarter of 2022

In 1Q2023, gas business reported sales revenue of Baht 164,112 million, decreasing by Baht 5,104 million or 3.0%. This resulted mainly from the decrease in sales revenue of TM business due to the adjusted gas pipeline tariff rates which the Energy Regulatory Commission (ERC) has approved the criteria of natural gas tariff for natural gas transportation licensee through pipeline for two components; the Demand Charge (Td) in the period of 2022-2026 and Commodity Charge (Tc) for year 2022 according to new natural gas pricing structure. The revised gas pipeline tariff rates were effective since August 2022. In addition, revenue of GSP business decrease from lower sales volume (including NGL derived from Dew Point Control units) which decreased from 1,703,083 tons in 1Q2022 to 1,556,123 tons in 1Q2023 or 8.6% following the lower demand of petrochemical customer due to major planned maintenance shutdown together with the adjustment of gas management plan by allocating more gulf gas to power plant customers instead of using other fuel, which had higher price, resulted to lower gas to GSP. Besides, the selling price in all products decreased following the petrochemical referenced prices.

In addition, sales revenue of S&M business increased following the increase in the average selling price according to higher pool gas price while sales volume (calculated at heating value of 1,000 BTU per cubic feet) decreased by 344 MMSCFD or 7.8% from 4,422 MMSCFD in 1Q2022 to 4,078 MMSCFD in 1Q2023 mainly from lower supply of gulf gas during the transition of concession. Moreover, the electricity consumption in Thailand decreased both industrial sector following economic recession and household sector due to many companies required employees to return the office after the relieve of COVID-19 situation as well as lower gas production of GSP as aforementioned.

In 1Q2023, EBITDA of gas business was reported at Baht 11,077 million, decreasing by Baht 8,443 million or 43.3%. The operating income was reported at Baht 6,398 million, decreasing by Baht 8,691 million or 57.6%. This was mainly from lower gross profit of GSP business due to lower average selling prices in almost products following the

petrochemical referenced prices, including lower sales volume as aforementioned as well as higher feed gas cost which in line with gulf gas price.

Moreover, EBITDA of S&M business increased from higher average selling prices of industrial customers which increased higher than the increased in gas cost following the higher referenced price. However, sales volume dropped following lower electricity. Besides, there was a decrease in shortfall discount in 1Q2023 compared to the same period of last year.

Besides, NGV's performance has dropped due to the increase in gas cost following pool gas price. Whereas, the capped NGV retail price for other vehicle has increased from 15.59 Baht/kg. (during 16 November 2021 to 15 September 2022) to 16.59 Baht/kg. (during 16 September 2022 to 15 December 2022) and to 17.59 Bath/kg (during 16 December 2022 to 15 June 2023). For the taxi in Bangkok Metropolitan Area (under the NGV for the same breath Project), NGV price has been capped at 13.62 Baht/kg from 1 November 2021 to 15 June 2023.

#### First quarter of 2023 compared with fourth quarter of 2022

In 1Q2023, Gas business reported sales revenue of Baht 164,112 million, decreased by Baht 1,700 million or 1.0% from 4Q2022. This resulted mainly from sales revenue of GSP business decreased due to the lower of sales volume (including NGL derived from Dew Point Control units), which declined from 1,603,735 tons in 4Q2022 to 1,556,123 tons in 1Q2023 or 3.0% according to the lower demand of petrochemical customers as a result of the major planned maintenance shutdown together with higher gas allocation to power plant customers as aforementioned. In addition, the average selling prices slightly increased due to higher petrochemical reference prices.

Sales revenue of S&M business decreased due to the lower average selling prices to industrial customers due to the decreased reference price, although the average sales volume (calculated at heating value of 1,000 BTU per cubic feet) increased by 173 MMSCFD or 4.4% from 3,905 MMSCFD in 4Q2022 to 4,078 MMSCFD in 1Q2023 mainly from higher gas demand from power plant customers in substitute of diesel or other fuels which had higher price.

In 1Q2023, EBITDA of Gas business was reported at Baht 11,077 million, decreased by Baht 792 million or 6.7%. The operating income was reported at Baht 6,398 million, decreased by Baht 780 million or 10.9%. This was mainly from the lower gross profit of S&M business driven by the lower average selling prices of industrial customers following lower fuel oil referenced price together with higher gas cost following higher pool gas price. Besides, in 1Q2023 shortfall discount decreased as compared to previous quarter. Whereas, gross profit of GSP business improved from lower feed cost following gulf gas price and the slightly increase in average selling prices despite the decrease in overall sales volume in accordance with lower demand from petrochemical customers and lower production of GSP as aforementioned.

NGV's loss decreased due to the increase in average selling prices of general cars by 1.00 Baht/kg since 16 December 2022 while the retail price for taxi groups in Bangkok and Vicinities (under the NGV for the same breath Project) is still capped at 13.62 baht/kg from 1 November 2021 to 15 June 2023. However, gas cost increased owing to higher pool gas price.



## 2. Downstream Petroleum Business Group

### Oil and Retail Business Group

	1Q2022	4Q2022	1Q2023	%Inc. (Dec.)	
				YoY	QoQ
<b>Average Sales Volume*</b> (Unit: Million Liter)	6,724	6,979	7,002	4.1%	0.3%
<b>Average Selling Prices</b> (Unit: US\$ per barrel)					
Gasoline	113.3	94.2	99.0	(12.6%)	5.1%
Aviation	111.8	118.3	106.8	(4.5%)	(9.7%)
Diesel	115.1	124.2	105.5	(8.3%)	(15.1%)

\*The average sales volume of domestic oil segment only

### First quarter of 2023 compared with First quarter of 2022

In 1Q2023, sales revenue of Oil and Retail business group was Baht 197,891 million, increased by Baht 19,982 million or 11.2% from 1Q2022 mainly from lower selling price in 1Q2022 due to the delayed in retail oil price adjustment to relieve people's burden. Additionally, sales volume increased by 278 million liters or 4.1% from 6,724 million liters or equivalent to 469,928 barrels per day in 1Q2022 to 7,002 million liters or equivalent to 489,357 barrels per day in 1Q2023, mainly from the increase of sales volume of aviation fuel following more travel from better COVID-19 situation. Non-oil business group's revenue increased from the recovery of economic activities.

In 1Q2023, EBITDA was Baht 6,028 million, decreased from 1Q2022 by Baht 658 million or 9.8% due to lower overall average gross margin per liter, largely from diesel and gasoline. While average gross margin per liter of aviation fuel increased. EBITDA of non-oil business decreased even gross margin increased. However, operating expenses increased in line with economic situation and increase in sales volume. As a result, the overall performance of Oil and Retail business declined as compared to 1Q2022. The operating profit in 1Q2023 was Baht 4,401 million, decreased by Baht 776 million or 15.0% from 1Q2022.

### First quarter of 2023 compared with Fourth quarter of 2022

In 1Q2023, sales revenue of Oil and Retail business was Baht 197,891 million, decreased by Baht 8,764 million or 4.2% from 4Q2022 due to the decline in global oil price. While overall sales volume slightly increased by 23 million liters or 0.3% from 6,979 million liters or equivalent to 477,147 barrels per day in 4Q2022 to 7,002 million liters or equivalent to 489,357 barrels per day in 1Q2023, mainly due to aviation fuel from more international travel. While diesel and gasoline's sales volume slightly decreased from less domestic travel as compared to 4Q2022 which was a high season. Non-oil business' revenue declined from lower sales volume of raw materials sold to franchisees due to raw materials stocking in 4Q2022 to support festive season.

In 1Q2023, EBITDA was Baht 6,028 million, increased by Baht 4,691 million or more than 100.0% from 4Q2022 due to higher overall average gross margin per liter, largely from diesel and gasoline despite higher cost in 4Q2022 from the products imported during domestic refinery turnaround period. Additionally, net operating expenses decreased, mainly from maintenance and advertising, public relations, and sales promotion expenses. EBITDA of non-oil business increased as net operating expenses decreased, mostly in advertising and public relations expenses even gross margin decreased in line with lower revenue. The increase in EBITDA resulted in higher operating profit by Baht 4,722 million or more than 100.0% to Baht 4,401 million in 1Q2023. As a result, the overall performance of Oil and Retail business increased.

### International Trading Business Group

Unit : Million Liter	1Q2022	4Q2022	1Q2023	%Inc. (Dec.)	
				YoY	QoQ
Average sales volume	36,235	22,257	40,889	12.8%	83.7%

### First quarter of 2023 compared with First quarter of 2022

In 1Q2023, sales revenue of International Trading business was Baht 463,037 million, decreased by Baht 19,948 million or 4.1% from 1Q2022 due to the decrease in product selling prices following the fall in global oil price while sales volume increased by 4,654 million liters or 12.8% from 36,235 million liters or equivalent to 2,532,400 barrels per day in 1Q2022 to 40,889 million liters or equivalent to 2,857,660 barrels per day in 1Q2023. This was mainly from higher volume of crude imports for domestic refineries following the demand recovery, higher volume of LNG imports for electricity production to substitute lower supply of gulf gas, and higher crude and refined products out-out trading due to the recovery of world economy.

EBITDA, adjusted by the impact from foreign exchange rate and derivatives, in 1Q2023 was Baht 4,826 million, increased by Baht 3,607 million or more than 100.0% mainly from higher margin per unit of refined products and sales volume, coupled with the reversal of loss on inventory mark-to-market. The operating profit, adjusted by the impact from foreign exchange rate and derivatives in 1Q2023 was Baht 4,539 million, increased by Baht 3,443 million or over 100.0%.

### First quarter of 2023 compared with Fourth quarter of 2022

Sales revenue of International Trading business in 1Q2023 was Baht 463,037 million, increased by Baht 21,200 million or 4.8% from 4Q2022 due to the increase in sales volume by 18,632 million liters or 83.7% from 22,257 million liters or equivalent to 1,521,687 barrels per day in 4Q2022 to 40,889 million liters or equivalent to 2,857,660 barrels per day in 1Q2023. This was mainly from higher volume of crude imports for domestic refineries after resumed operation from planned turnaround in 4Q2022, higher LNG imports for electricity production to substitute the use of other higher-priced fuels. However, product selling prices decreased following the fall in global oil price.



EBITDA, adjusted by the impact from foreign exchange rate and derivatives, in 1Q2023 was Baht 4,826 million, increased by Baht 5,192 million or over 100.0% primarily from higher margin per unit of out-out trading of refined products mainly LPG and Gasoline and the increase in sales volume. Furthermore, there was the reversal of loss on inventory mark-to-market. The operating profit, adjusted by the impact from foreign exchange rate and derivatives, in 1Q2023 was Baht 4,539 million, increased by Baht 5,193 million or more than 100.0%.

### Petrochemical and Refinery Business Group

Unit: US\$ per barrel	1Q2022	4Q2022	1Q2023	%Inc. (Dec.)	
				YoY	QoQ
Market GRM	6.1	7.9	8.4	37.7%	6.3%
Inventory gain (loss) excl. NRV	10.3	(8.7)	(3.5)	<(100.0%)	59.8%
Hedging gain (loss)	(7.6)	(0.8)	0.5	>100.0%	>100.0%
Accounting GRM	8.8	(1.6)	5.4	(38.6%)	>100.0%
Refinery Utilization rate (%)	100.7%	76.1%	102.8%	2.1%	26.7%

\*From 3 Refineries: TOP, GC and IRPC

Unit : US\$ per Ton	1Q2022	4Q2022	1Q2023	%Inc. (Dec.)	
				YoY	QoQ
<b>Olefins</b>					
Naphtha (MOPJ)	877	673	689	(21.4%)	2.4%
HDPE	1,330	1,033	1,085	(18.4%)	5.0%
LDPE	1,640	1,110	1,130	(31.1%)	1.8%
LLDPE	1,346	999	1,074	(20.2%)	7.5%
PP	1,387	995	1,098	(20.8%)	10.4%
<b>Aromatics</b>					
Condensate	836	732	678	(18.9%)	(7.4%)
PX (TW)	1,087	979	1,034	(4.9%)	5.6%
PX (TW) – Condensate	251	247	356	41.8%	44.1%
BZ	1,074	824	930	(13.4%)	12.9%
BZ – Condensate	238	92	252	5.9%	>100.0%

### First quarter of 2023 compared with First quarter of 2022

In 1Q2023, sales revenue of Petrochemical and Refining business was Baht 331,046 million, decreased by Baht 30,202 million or 8.4% primarily due to Petrochemical business from both Olefins and Aromatics business due to the decrease in sales volume as a result of IRPC and GC's planned turnaround in 1Q2023 as well as lower average selling price of products.

However, sales revenue of Refinery business increased mainly from the increase in sales volume. This resulted primarily from the fact that PTT Group refineries' utilization rates increased from 100.7% in 1Q2022 to 102.8% in 1Q2023 in spite of the decrease in average selling price following the decrease in global petroleum product prices.

EBITDA of Petrochemical and Refining business in 1Q2023 was Baht 19,040 million decreased by Baht 24,333 million or 56.1% from Baht 43,373 million in 1Q2022. There was operating income of Baht 8,007 million in 1Q2023, decreasing by Baht 24,689 million or 75.5% when compared to operating income of Baht 32,696 million in 1Q2022 details as follows:

- **Refinery performance** decreased as there was stock loss of US\$ 3.5 per bbl in 1Q2023 versus gain of US\$ 10.3 per bbl in 1Q2022. Conversely, Market GRM increased from US\$ 6.1 per bbl in 1Q2022 to US\$ 8.4 per bbl in 1Q2023 mainly from the increase in product spreads of aviation, gasoil, and gasoline over crude oil. Moreover, there was the increase in sales volume as aforementioned.
- **Petrochemical performance** also decreased mainly from Olefins business due to the decrease in sales volume as aforementioned and the decrease in product spreads.

The overall performance of Petrochemical and Refining business in 1Q2023 decreased compared to 1Q2022 due to the decrease in operating income as aforementioned. Although there was gain from oil price hedging derivatives in 1Q2023 while the transaction was reported as a significant loss in 1Q2022.

### First quarter of 2023 compared with Fourth quarter of 2022

In 1Q2023, sales revenue of Petrochemical and Refining business was Baht 331,046 million, increased by Baht 30,587 million or 10.2% primarily owing to Refinery business from the increase in sales volume due to PTT Group refineries' utilization rates increased from 76.1% in 4Q2022 to 102.8% in 1Q2023 after GC, IRPC and TOP's refineries resumed from planned turnaround in 4Q2022.

However, the sales revenue of Petrochemical business was close to the previous quarter. Even though, there was the decrease in sales volume as a result of planned turnaround of Olefins plants as aforementioned. Nevertheless, average selling price of most products increased.

EBITDA of Petrochemical and Refining business in 1Q2023 was Baht 19,040 million increased by Baht 21,863 million or more than 100.0% from loss of Baht 2,823 million in 4Q2022. There was an operating income of Baht 8,007 million in 1Q2023, increased by Baht 21,958 million or more than 100.0% when compared to operating loss of Baht 13,951 million in 4Q2022 details as follows:

- **Refinery performance** improved due to the increase in sales volume as aforementioned as well as the lower stock loss (There was stock loss of US\$ 3.5 per bbl in 1Q2023 versus loss of US\$ 8.7 per bbl in 4Q2022). Moreover, Market GRM increased from US\$ 7.9 per bbl in 4Q2022 to US\$ 8.4 per bbl in 1Q2023 from the rise in gasoline's product spreads and the decrease in crude premium.
- **Petrochemical performance** also increased mainly from the increase in both Olefins and Aromatics' product spreads following the demand recovery for end products in spite of the decrease in sales volume as aforementioned.

The overall performance of Petrochemical and Refining business improved in 1Q2023 increased compared to 4Q2022 due to the increase in operating income as aforementioned as well as gain from oil price hedging in 1Q2023, compared to hedging loss in 4Q2022. Nevertheless, there was the decrease in gain on foreign exchange rate compared to the previous quarter.



### 3. New Business and Infrastructure Group

	1Q2022	4Q2022	1Q2023	%Inc. (Dec.)	
				YoY	QoQ
Power sales volume (GWh)	5,220	5,689	4,071	(22.0%)	(28.4%)
Steam sales volume (Thousand tons)	3,710	3,222	3,053	(17.7%)	(5.2%)

#### First quarter of 2023 compared with First quarter of 2022

In 1Q2023, sales revenue of New Business and Infrastructure group was Baht 35,905 million, increased by Baht 6,951 million or 24.0%. This was owing primarily to PTTGM which started to recognize revenue from pharmaceutical business of Lotus Pharmaceuticals, Inc. since April 2022. Moreover, GPSC's revenue from Small Power Producer (SPP) power plants increased on account of higher electricity selling prices following the increase in Fuel Adjustment Cost (Ft) and higher steam selling prices following the rise in natural gas price, as well as higher sales volume. However, sales revenue of Independent Power Producer (IPP) power plants decreased due to lower Energy Payment (EP) revenue due to lower dispatch volume to EGAT and more planned maintenance shutdown of GHECO-One in 1Q2023 than 1Q2022.

EBITDA, in 1Q2023, was Baht 6,754 million, increased by Baht 3,827 million or over 100.0% mainly from higher gross profit of PTTGM from the increase in revenue as mentioned and higher gross profit of GPSC from SPP power plants as aforementioned. In addition, gross profit of IPP power plants increased as average coal cost was lower due to inventory management while higher revenue from upward trend of coal price. As a result, the operating profit in 1Q2023 was Baht 3,398 million, increased by Baht 3,255 million or over 100.0%. In this regard, the overall performance of New Business and Infrastructure group increased largely from PTTGM and GPSC as a result of the increase in EBITDA.

#### First quarter of 2023 compared with Fourth quarter of 2022

In 1Q2023, sales revenue of New Business and Infrastructure group was Baht 35,905 million, decreased by Baht 7,070 million or 16.5% mainly from GPSC's revenue from IPP power plants decreased due to lower Availability Payment (AP) and EP revenue in view of longer planned maintenance shutdown of GHECO-One in 1Q2023 than 4Q2022 and lower dispatch volume to EGAT. Nonetheless, SPP power plants's revenue increased on account of higher average selling prices and sales volume of both electricity and steam. Additionally, PTTGM's sales revenue also increased from deliveries of generic drug 'Lenalidomide' which were absent in the US market in the prior quarter.

EBITDA in 1Q2023 was Baht 6,754 million, increased by Baht 4,307 million or over 100.0% mainly from higher gross profit of GPSC from SPP power plants owing to the increase in Ft. Moreover, electricity sales to industrial customers improved as a result of the decrease of coal and natural gas cost as well as the slight increase in electricity sales volume. Furthermore, gross profit of PTTGM increased from higher revenue contribution from pharmaceutical business as aforementioned. As a

result, the operating profit in 1Q2023 was Baht 3,398 million, increased by Baht 4,266 million or over 100.0% from 4Q2022. The overall performance of New Business and Infrastructure group increased in accordance with higher EBITDA of GPSC and PTTGM as aforementioned.



## Overall Performance of PTT and its Subsidiaries

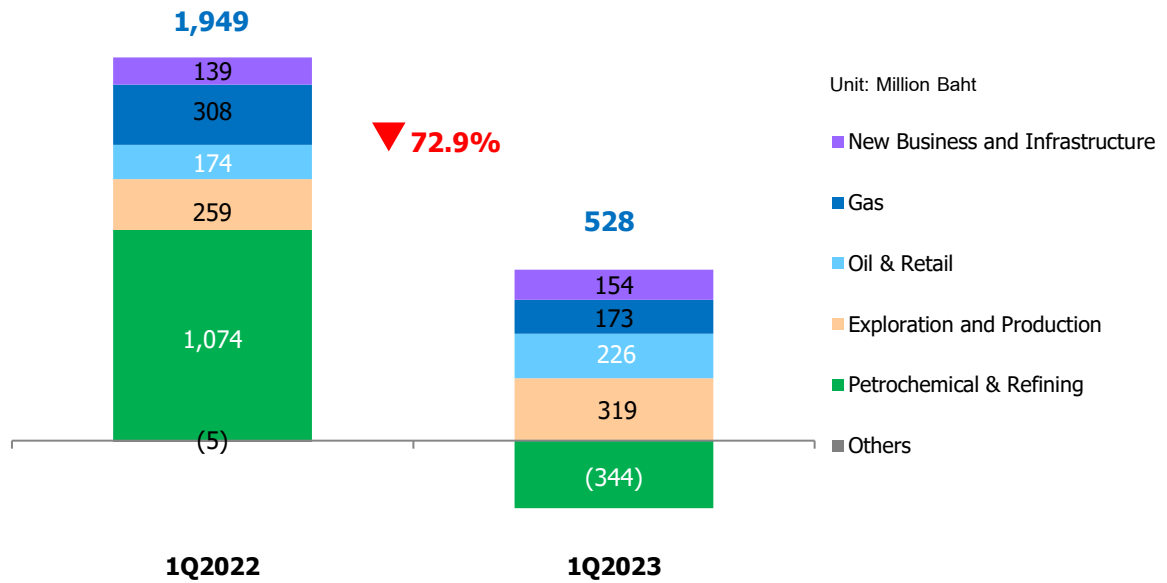
### First quarter of 2023 compared with First quarter of 2022

In 1Q2023, sales revenue of PTT and its subsidiaries was reported at Baht 756,690 million decreased from 1Q2022 by Baht 1,775 million or 0.2% mainly from sales revenue of Petrochemical and Refining business as sales volume in Petrochemical business decreased from planned maintenance shutdown of petrochemical plant in 1Q2023 as well as lower average selling price. In addition, sales revenue of International Trading business decreased due to lower product selling prices following the decline in global oil price despite the increase in sales volume. Whereas sales revenue of Oil and Retail business and Exploration and Production business increased mainly from the increase in sales volume in spite of the lower average selling price following the global oil price. Furthermore, sales revenue of New Business and Infrastructure also increased from pharmaceutical business which started to recognize revenue from Lotus since April 2022. In addition, revenue of GPSC increased from SPP power plants in view of the increases in Ft and natural gas prices.

EBITDA in 1Q2023 was Baht 104,008 million, decreased by Baht 36,904 million or 26.2%. This was mainly from Petrochemical and Refining business. Refining business's performance decreased primarily due to higher stock loss in this period when PTT Group's stock loss increased approximately by Baht 34,000 million as compared to 1Q2022. Refining business's performance dropped inspite of the rise in Market GRM from US\$ 6.1 per bbl in 1Q2022 to US\$ 8.4 per bbl in 1Q2023 supported by higher spread of diesel, aviation and gasoline over crude oil as well as the increase in sales volume. Moreover, Petrochemical business's performance also decreased from lower sales volume together with lower spreads in most of products. In addition, Gas business's performance decreased mainly from GSP business due to lower average selling price in almost all products following the decline in petrochemical referenced prices together with lower sales volume as well as higher gas cost according to an increase in gulf gas price. Performance of TM business also decreased from the adjustment of the gas pipeline tariff rates according to the resolution of the ERC which has been effective since August 2022. While performance of S&M business increased from higher average selling price of industrial customers which increased higher than the increase in gas cost following the referenced price. Exploration and Production business's performance surged from the increase in average sales volume. New Business and Infrastructure business's performance improved from pharmaceutical business and GPSC from higher SPP power plants revenue following the increase in Ft.

The depreciation and amortization expenses of 1Q2023 were Baht 41,258 million, increased by Baht 4,141 million or 11.2% mainly from G1/61 Project of PTTEP.

Share of profit from investments in joint ventures and associates



In 1Q2023, the share of profit from investments in joint ventures and associates was Baht 528 million, decreased by Baht 1,421 million or 72.9% from 1Q2022. This was primarily from lower performance of joint ventures in Petrochemical and Refining business mainly from HMC Polymers Company Limited (HMC) and PTT Asahi Chemical Company Limited (PTTAC) in view of lower product to feed.

In 1Q2023, loss on derivatives was Baht 1,868 million, loss decreased by Baht 47,111 million or 96.2% compared to 1Q2022 mainly from commodity derivatives of PTTT, GC, PTTEP, and TOP.

In 1Q2023, gain on foreign exchange rate was Baht 10,112 million, increased by Baht 4,400 million or 77.0% compared to 1Q2022 mostly from increasing in unrealized gain on US currency loans as a result of stronger Thai Baht appreciation in 1Q2023 than 1Q2022. (Thai Baht appreciation in 1Q2023 was Baht 0.47 per US Dollar, Thai Baht appreciation in 1Q2022 was Baht 0.14 per US Dollar).

Finance costs was Baht 10,843 million in 1Q2023 increased by Baht 3,398 million or 45.6% mainly from the increase in debentures and loans of PTTEP, GC, and PTT as well as higher interest rate in line with global market.

In 1Q2023, there was loss recognition of non-recurring items (PTT's portion) after tax of approximately by Baht 100 million while in 1Q2022, there was gain recognition approximately of Baht 900 million (see appendix).

The corporate income taxes in 1Q2023 was Baht 23,366 million, increased by Baht 1,638 million or 7.5% mainly from higher performance of PTTEP.

As aforementioned, this was resulted in PTT Group's net profit in 1Q2023 amounting to Baht 27,855 million, increased by Baht 3,063 million or 12.4% from the net profit amounting to Baht 24,792 million in 1Q2022.

## First quarter of 2023 compared with Fourth quarter of 2022

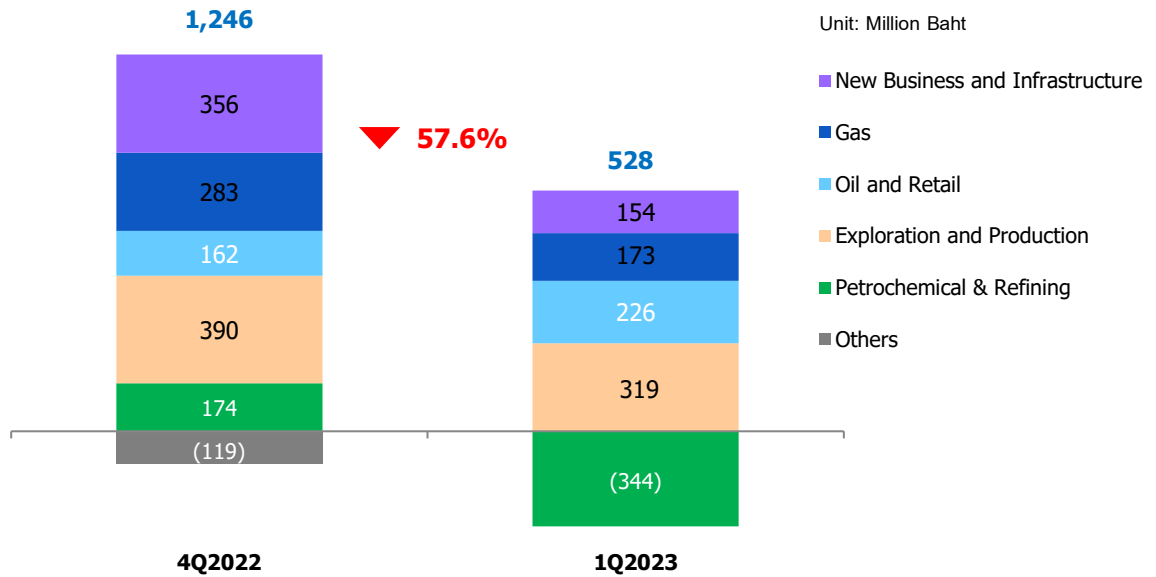
In 1Q2023, PTT and its subsidiaries' sales revenue was reported at Baht 756,690 million, decreased from 4Q2022 by Baht 40,484 million or 5.1%. Sales revenue of Exploration and Production business decreased due to lower average sales volume and selling price. In addition, sales revenue of Oil and Retail business also decreased from lower selling prices in accordance with the decline in global oil price. Moreover, New Business and Infrastructure Group's revenue decreased mainly from GPSC's revenue from IPP power plants decreased from lower AP and EP revenues. Sales revenue of Gas business also decreased mainly from the decrease in sales revenue of S&M business due to the lower average selling price of industrial customer following the reference prices, despite the increase in average sales volume. Furthermore, GSP business's sales revenue also declined from lower demand of petrochemical customers. However, sales revenue of Petrochemical and Refining business increased mainly from the increase in sales volume as a result of the increased in Group refineries' utilization rates which was resumed from major turnaround of refinery plants in 4Q2022. In addition, sales revenue of International Trading also increased following higher sales volume of crude imports for domestic refineries, and more LNG imports for electricity production, in spite of lower product selling prices according to the fall in global oil price.

EBITDA in 1Q2023 was Baht 104,008 million, increased by Baht 28,689 million or 38.1%. This was mainly from Petrochemical and Refining business. Refining business's performance increased due to lower stock loss in this quarter when PTT Group's stock loss was decreased approximately by Baht 11,000 million. In addition, market GRM rose from US\$ 7.9 per bbl in 4Q2022 to US\$ 8.4 per bbl in 1Q2023 due to higher spread of gasoline over crude oil as well as lower crude premium. Petrochemical business's performance also increased primarily from higher product spreads of both Olefins and Aromatics despite lower sales volume. International Trading business's performance increased mainly from higher margin per unit of refined products from out-out trading. Oil and Retail business's performance also increased following higher average gross margin per liter, mainly from diesel and gasoline. Additionally, New Business and Infrastructure business's performance increased from higher revenue of SPP power plants as a result of the increase in Ft together with the decrease in natural gas and coal costs. Nonetheless, Exploration and Production business's performance decreased from lower average sales volume and average selling price. Gas business's performance also dropped from the lower gross profit of S&M business driven primarily from lower average selling price of industrial customer following the drop in fuel oil referenced price in global market along with higher gas cost following higher pool gas price. Whereas gross profit of GSP business improved from lower feed cost following the lower gulf gas price despite the decrease in overall sales volume in view of lower demand from customers.

The depreciation and amortization expenses in 1Q2023 were Baht 41,258 million, decreased by Baht 3,551 million or 7.9% mainly from PTTEP on account of higher reserved volume of G1/61 Project and lower sales volume of S1 and Arthit Projects.



## Share of profit from investments in joint ventures and associates



In 1Q2023, the share of profit from investments in joint ventures and associates was Baht 528 million, decreased by Baht 718 million or 57.6% mainly from lower performance of associate in Petrochemical and Refining businesses. This is due to the fact that in 4Q2022 GC recognized gain on bargain purchase of investment in AGC Vinythai Public Company Limited (AVT).

In 1Q2023, there was loss on derivatives amounting to Baht 1,868 million, loss decreased by Baht 2,634 million or 58.5% mainly from lower loss on finance derivatives from GC and PTTEP, as well as higher gain on commodity derivatives from TOP while PTTT had higher loss on commodity derivatives.

In 1Q2023, gain on foreign exchange was Baht 10,112 million, decreased by Baht 22,599 million or 69.1% mainly from lower unrealized gain on US currency loans as a result of less Thai Baht appreciation compared to last quarter. (Thai Baht appreciation in 1Q2023 was Baht 0.47 per US Dollar, Thai Baht appreciation in 4Q2022 was Baht 3.34 per US Dollar).

Finance costs was Baht 10,843 million in 1Q2023 which was close to 4Q2022.

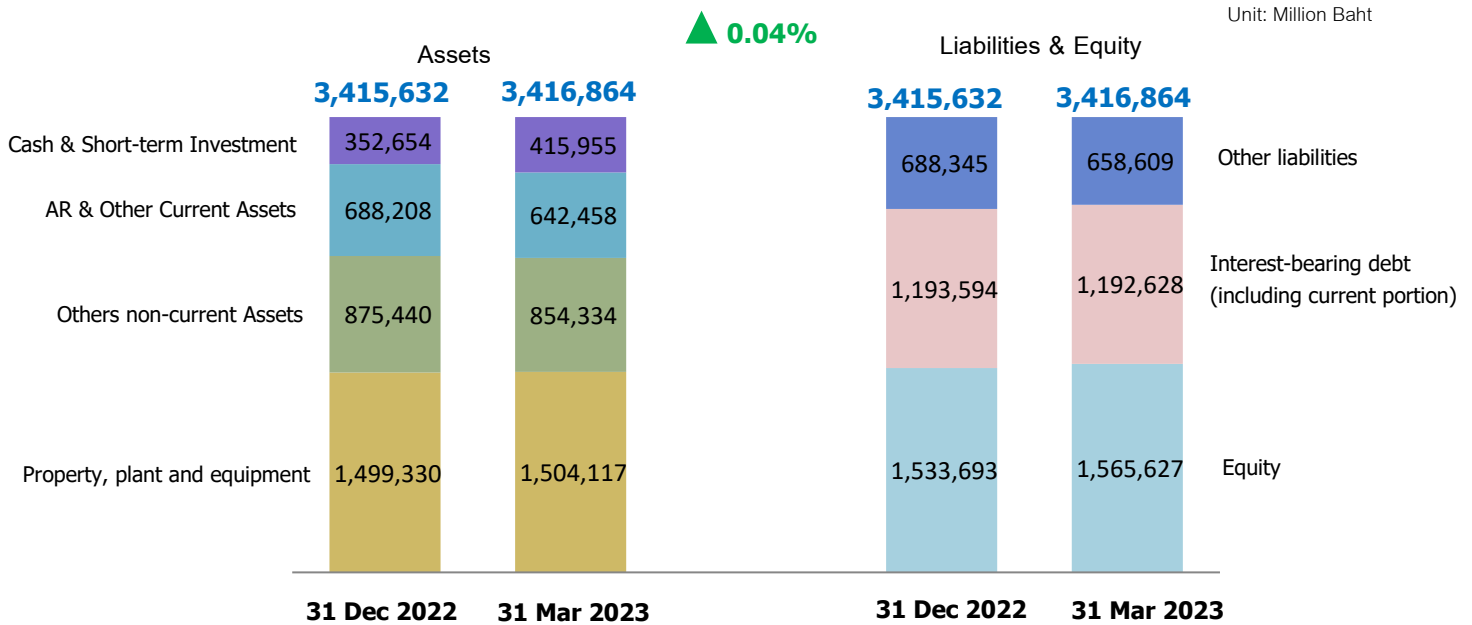
In 1Q2023, there was loss recognition of non-recurring items (PTT's portion) after tax of approximately by Baht 100 million while in 4Q2022, there was loss recognition approximately Baht 7,700 million (see appendix).

The corporate income taxes in 1Q2023 was Baht 23,366 million, increased by Baht 6,011 million or 34.6% resulted primarily from higher performance of GC, IRPC, and OR.

As a result, PTT and its subsidiaries' net profit in this quarter amounting to Baht 27,855 million, increased by Baht 9,190 million or 49.2% from net profit of Baht 18,665 million in 4Q2022.

## The Analysis of PTT Group Consolidated Financial Position

As of 31 March 2023 compared with 31 December 2022



### Assets

As of 31 March 2023, total assets of PTT Group were Baht 3,416,864 million, slightly increased by Baht 1,232 million compared with 31 December 2022 mainly from the followings:

- : Cash and cash equivalents and short-term investments increased by Baht 63,301 million primarily from PTT Group's operating activities.
- : Trade account receivables and other current assets decreased by Baht 45,750 million or 6.6% mainly from the followings;
  - Other account receivables decreased by Baht 36,498 million mainly due to a decrease in refund receivable from the Oil Fuel Fund and a decrease in prepayments for decommissioning costs in PTTEP's Bongkot project.
  - Assets Held for sale decreased by Baht 22,230 million from the sale of coal business of PTTGM.
  - Inventories increased by Baht 19,091 million due to higher selling prices and increase in inventory levels, mainly from PTT.
- : Other non-current assets decreased by Baht 21,106 million or 2.4%, mainly from;
  - Deferred tax assets decreased by Baht 7,692 million, primarily due to the end of concession of the Bongkot project of PTTEP.

- Long-term investments decreased by Baht 7,141 million mainly from the reclassification of partial debt securities of PTT to short-term investments.

: Property, plant, and equipment (PPE) increased by Baht 4,787 million or 0.3% largely from TOP's construction in progress of Clean Fuel Project (CFP) and PTTEP's exploration and evaluation assets of G1/61 Project and G2/61 Project.

### Liabilities

As of 31 March 2023, PTT Group had total liabilities of Baht 1,851,237 million, decreased by Baht 30,702 million or 1.6% from 31 December 2022, mainly from the followings:

: Other liabilities decreased by Baht 29,736 million or 4.3% mainly from the decreased in other accounts payables of GC and OR as well as the decrease in derivatives liabilities of PTTT. While, trade account payables increased due to higher purchase volume and higher prices mainly from PTT.

: Interest-bearing debt decreased by Baht 966 million or 0.1% due to the decrease in long-term loans and bond by Baht 18,967 million owing largely to TOP, PTT, and GC despite the increase in short-term loans by Baht 18,063 million mainly from TOP, GC, and IRPC.

### Equity

As of 31 March 2023, PTT Group had total shareholders' equity of Baht 1,565,627 million, increasing by Baht 31,934 million or 2.1% from 31 December 2022 as a result of the 1Q2023 net income of Baht 27,855 million. Additionally, non-controlling interests increased by Baht 8,660 million mainly from higher net income of subsidiaries.

## Liquidity

For the 3-month ended 31 March 2023, PTT Group had net increase in cash and cash equivalents amounting to Baht 57,693 million. There was cash and cash equivalents at the beginning of the period of Baht 340,054 million. As a result, cash and cash equivalents at the end of the period was Baht 397,747 million. Details of cash flow by activities are as follows:

	Unit: Million Baht
	PTT Group
Net cash provided by operating activities	103,449
Net cash used in investing activities	(38,251)
Net cash used in financing activities	(8,598)
Effects of exchange rates on cash and cash equivalents	(1,020)
Exchange differences on translation	2,113
Net increase in cash and cash equivalents during the period	57,693
Cash and cash equivalents at the beginning of the period	340,054
Cash and cash equivalents at the end of the period	397,747

Net cash provided by operating activities of Baht 103,449 million was derived from Baht 63,122 million of profit before income taxes, adjusted to net cash provided by (used in) operating activities. The increase in cash flow from operating activities resulted mainly from Baht 41,258 million of depreciation and amortization expenses, and Baht 10,843 million of finance costs. The decrease in cash flow from operating activities mainly resulted from Baht 8,006 million of unrealized loss on fair value of commodity contracts, Baht 5,681 million of gain on foreign exchange rate, Baht 5,573 million of reversal of allowance for changes in value of inventories and the change in net operating assets resulting in the increase in cash flow of Baht 23,177 million while there was income taxes paid of Baht 11,614 million.

Net cash used in investing activities was Baht 38,251 million mainly resulted from the followings;

: The cash outflow of investments in property, plant and equipment, investment property, intangible assets, and exploration and evaluation assets amounting to Baht 49,032 million, mainly due to investment in exploration and production assets in G1/61 Project, G2/61 Project, and Zawtika Project of PTTEP, additional investment of GC's Olefins 2/2 Modification project, GPSC's SPP Replacement project, the 7th Gas Separation Plant, the 5th transmission pipeline project, Bang Pakong– South Bangkok power plant transmission pipeline project, and GSP Logistics Management of PTT, and CFP project of TOP.

: The cash inflow of business acquisition and long-term investments amounting to Baht 9,229 million, mainly from disposal of coal business of PTTGM.

Net cash used in financing activities was Baht 8,598 million, mainly from the followings:

: Finance costs paid amounting to Baht 9,213 million mainly from GC, PTT, and TOP.

: The net cash inflow of short-term and long-term loans amounting to Baht 509 million mainly from IRPC, PTTT, GPSC and PTTGM.

#### Financial ratios and earnings per share of PTT Group

Financial Ratio	Unit	1Q2022	1Q2023
<u>Profitability Ratios</u>			
Gross profit margin	%	17.54	12.21
Net profit margin	%	4.63	5.25
<u>Solvency Ratios</u>			
Interest coverage	Times	18.93	9.59
<u>Earnings per share</u>			
Earnings per share	Baht/share	0.87	0.98

Financial Ratio	Unit	Dec 31, 2022	Mar 31, 2023
<u>Liquidity Ratios</u>			
Current ratio	Times	1.76	1.82
Quick ratio	Times	0.96	1.09
<u>Solvency Ratios</u>			
Debt to equity	Times	0.78	0.76

Note:

Gross profit margin	=	Gross profit divided by Sales and service income
Net profit margin	=	Net profit divided by Sales and service income
Interest coverage	=	EBITDA divided by Finance costs
Earnings per share	=	Net income attributable to ordinary shareholders divided by the weighted average number of ordinary shares which are held by third parties during the periods
Current ratio	=	Current assets divided by Current liabilities
Quick ratio	=	(Cash and cash equivalent + Current investments + Accounts receivable) divided by Current Liabilities
Debt to equity	=	Interest bearing debt divided by Total shareholder's equity

## Economic Outlook in the Second Quarter of 2023

The world economy in 2Q2023 is expected to grow at a slower rate from 1Q2023, following the tighter monetary policy of major economies, especially in the US and Euro Area, aimed at cooling down high inflation to return to the target range, the banking sector turmoil in the US and Europe, as well as an expected prolonged conflict between Russia and Ukraine. However, Chinese economy is expected to continue to recover, following the country's reopening amid government stimulus measures and efforts for economic recovery, which will gradually boost consumer and business confidences, although the real estate sector remains weak and exports show signs of slowing down in line with the global economy.

According to the S&P Global's report in April 2023, global oil demand in 2023 is expected to expand by 2.2 MMBD from the year 2022 to reach 101.9 MMBD, due to the global economic expansion and the gradual return of demand in China after the lifting of the Zero-COVID policy and reopening of the country. However, the OPEC+ group estimates that the market still has excess supply, so they announced an additional oil production cut plan by 1.16 MMBD from May to December 2023. The previous plan was to reduce production by 2 MMBD, in conjunction with Russia's announcement of a plan to reduce production by 0.5 MMBD from March to the end of the year to bring crude oil supplies into balance. In 2Q2023, Dubai crude oil price is expected to average at US\$77 - 82 per barrel, and Singapore GRM is expected to average at US\$3.0 – 4.0 per barrel.

The price of petrochemical products, specifically olefins, in 2Q2023 is expected to decrease due to weakened consumer demand for end products together with increased supply in the region. On the other hand, the aromatics market in 2Q2023 is expected to increase due to the growing naphtha demand as a component for gasoline blending.

- **Olefins prices** in 2Q2023 is expected to decrease, with average price of \$1,050 – 1,100 per ton for HDPE and \$1,020 – 1,070 per ton for PP, due to sluggish demand for end products, particularly for durable and High-end products, combined with increasing supply from new capacity, especially China, and increased production capacity from petrochemical plants due to improved margins. However, the seasonal maintenance of petrochemical plants in East Asia will support market prices from sharp declines.
- **Aromatics prices** in 2Q2023 is expected to be increased. BZ and PX prices are projected to be around US\$955 - 1,005 per ton and US\$1,095 - 1,145 per ton, respectively from the expected increase in demand after the Ramadan season in late April, tight supply from seasonal maintenance, and higher naphtha prices due to the growing naphtha demand as a component for gasoline blending, which gasoline stock is expected to increase before driving season in the US. However, an upcoming of new capacities in China will put pressure on the market.

The price of propane in 2Q2023 is expected to trend downwards, with propane prices expected to fluctuate within the range of US\$550-570 per ton, due to the onset of the summer season in Asia and the US, resulting in decreased demand for propane as a heating fuel. In addition, the supply from the Middle East has returned to normal, following the completion of maintenance shutdowns by Saudi Aramco and ADNOC since late March. However, there are factors that are expected to support propane demand, particularly from PDH plants, especially in China, which are gradually coming online, and from the expected decrease in propane production capacity due to OPEC+ oil production cuts starting from May 2023.

The Thai economy in 2Q2023 is expected to keep expanding from 1Q2023, with tourism sector showing a good recovery trend as Chinese tourists expected to bounce back significantly, and a gradual easing of China-Thailand flights constraints. Private consumption and investment are likely to continue to expand, supported by the recovery of economic activities, especially in tourism-related services, as well as labor market improvement. Meanwhile, merchandise exports may continue to decline amid global economic slowdown and high base effect. The upcoming general election, which will take place on May 14, 2023, would support economic growth through spending on election and political campaigns. However, Thai economy expansion would remain highly uncertain and could face downside risks, including global economic slowdown from monetary policy tightening and banking sector turmoil in advanced economies, escalating geopolitics tensions, and political uncertainties as any delay of the formation of a new government could deter investment sentiment and future government spending.

## Major Project Plan

### Gas Business Group: The progress of major projects

#### Pipelines Transmission Projects

- The 5<sup>th</sup> Transmission Pipeline (Rayong - Sai Noi – North/South Bangkok power plants)
  - Total Project Progress as of March 2023: 96.87% (Including 3 phases construction)
  - COD: within 2023

#### Gas Separation Plant Unit 7 (GSP#7)

PTT is constructing the Gas Separation Plant Unit 7 (GSP#7) in Map Ta Phut Industrial Estate, Rayong Province to replace gas separation plant Unit 1 (GSP#1) and to increase the efficiency of the gas separation plant's production process. The GSP #7 is designed to have a maximum capacity of 460 MMSCFD. It is scheduled to COD in the first quarter of 2024.

#### Gas Separation Plant Unit 8 (GSP#8)

Project Progress as of March 2023: PTT is in the process of preparing Front End Engineering Design and hiring a contractor in 2023.

#### LNG Project:

Currently, PTT have long term LNG contracts with Qatargas, Shell, BP, and Petronas at 5.2 MTA and has a capability to procure LNG in order to fulfill the country demand growth in the future.

In addition, PTT procures additional 1 MTA of long-term LNG contract from PTT Global LNG Co., Ltd. (PTTGL) to further enhance national energy security and the first gas delivery will be in 2026.

- Other LNG Receiving Terminal Project (LNG Receiving Terminal 3):
  - On 24 September 2019, the Cabinet approved the private entity selection, negotiations and the draft of the contract between Public Private Partnership (PPP) and the Industrial Estate Authority of Thailand (IEAT) on the development of Map Ta Phut seaport phase 3 (Section 1) as proposed by the Eastern Economic Corridor Office. Gulf MTP LNG Terminal Co., Ltd., a new joint venture company between PTT Tank Terminal Co., Ltd. (PTT Tank) and Gulf Energy Development Public Co., Ltd. (GULF) with shareholding of 30%, and 70%, respectively, is to proceed land reclamation with the investment cost of approximately Baht 12,900 million which is expected to be completed by 2024, as well as having the right to construct LNG terminal 3 phase 1 with the capacity not less than 5 MTA. The LNG terminal 3 phase 1 has an investment cost approximately Baht 28,000 million which is expected to be completed by the year 2027.



Summary Planned Shutdown for Gas Separation Plants in 2023

Plant	1Q2023	2Q2023	3Q2023	4Q2023
GSP #1			SD (20 – 27 Jul.: 8 days)	
GSP #2			TD (1 – 30 Sep : 30 days)	TD (1 – 4 Oct :4 days)  Major SD (1 – 18 Nov :18 days)
GSP #3			Major SD (1 – 18 Sep :18 days)	TD (1 Nov – 4 Dec :34 days)
ESP			TD 50% (1 – 30 Sep : 30 days)	TD 50% (1 – 4 Oct : 4 days)  TD 50% (1 Nov – 4 Dec :34 days)

\*TD: Turndown

\*\*SD: Shutdown



## Appendix

**Exploration and Production Business** consists of PTT Exploration and Production Public Co., Ltd. (PTTEP)

**Natural Gas Business** consists of PTT natural gas business unit, PTT Natural Gas Distribution Co., Ltd. (PTTNGD, PTT LNG Co., Ltd (PTTLNG) and PTT Global Management Co., Ltd. (PTTGM)

**Oil and Retail Business** consists of PTT Oil and Retail Business Public Co., Ltd. (OR)

**International Trading Business** consists of PTT international business unit, PTT International Trading Pte. Ltd. (PTTT), PTT International Trading London Limited (PTTT LDN) and PTT International Trading USA Incorporated (PTTT USA)

**Petrochemical and Refinery Business** consists of PTT Global Chemical Public Co., Ltd. (GC), Thai Oil Public Co., Ltd. (TOP), IRPC Public Co., Ltd. (IRPC), and PTT Tank Terminal Co., Ltd. (PTT TANK)

**New Business and Infrastructure Business** consists of PTT New Business and Infrastructure business unit, Global Power Synergy Public Co., Ltd. (GPSC), PTT Energy Solution Co., Ltd. (PTTES), Energy Complex Co., Ltd. (EnCo), PTT Digital Solutions Co., Ltd. (PTT DIGITAL) and PTT Global Management Co., Ltd. (PTTGM)

**Other Business** consists of Business Services Alliance Co., Ltd. (BSA), PTT Green Energy Pte. Ltd. (PTTGE), PTT Treasury Center Co., Ltd. (PTT TCC), PTT Energy Resources Co., Ltd. (PTTER) and PTT Global Management Co., Ltd. (PTTGM)

*Note: \*PTTGM owns shares in many companies which operate in various businesses such as Natural Gas Business, New Business and Infrastructure Business, Other Business (that including performance of Coal Business that was divested during 1Q2023)*

## Appendix

The majority of non-recurring items after tax (PTT's portion) in 1Q2023 was loss recognition approximately of Baht 100 million, meanwhile 1Q2022 was gain recognition approximately of Baht 900 million and 4Q2022 was loss recognition approximately of Baht 7,700 million. The major items are summarized as follows:

Unit: Million Baht

Business	Item	1Q2022	4Q2022	1Q2023
Exploration and Production business	Impairment loss on Mozambique Area One Project		~ (4,300)	
	The provision for the Class Action settlement from Montara incident		~ (3,000)	
	Loss after reclassifying net assets of Block 17/06 Project (Angola)		~ (350)	
	Income from adjustment of contingent liabilities of Oman Block 61 project		~ 1,600	
	Write off asset from the end of concession of Bongkot Project			~ (500)
Gas business	Contribution to oil fund during energy crisis		(2,000)	
	Benefit from discount from production shortfall	~700	~300	~50
New Business and Infrastructure	Gain on Ichinoseki Solar Power 1 GK divestment of GPSC	~350		