



MANAGEMENT DISCUSSION & ANALYSIS

3Q2023



PTT PUBLIC COMPANY LIMITED

Management's Discussion and Analysis (MD&A) and operating result for the three-month and nine-month periods ended 30 September 2023

Executive Summary

Unit: Million Baht	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
Sales Revenue	884,610	778,065	802,683	(9.3%)	3.2%	2,570,029	2,337,438	(9.1%)
EBITDA	92,280	92,625	146,025	58.2%	57.7%	415,969	342,658	(17.6%)
Net Profit	8,875	20,107	31,297	>100.0%	55.7%	72,510	79,259	9.3%
Earnings per share (Baht/share)	0.31	0.70	1.09	>100.0%	55.7%	2.55	2.77	8.6%
Average Dubai Price (US\$/barrel)	96.9	77.8	86.7	(10.5%)	11.4%	100.2	81.6	(18.6%)

In the third quarter of 2023 (3Q2023), PTT and its subsidiaries reported Earnings before Interest, Tax, Depreciation and Amortization (EBITDA) in an amount of Baht 146,025 million, increased by Baht 53,745 million or 58.2% from the third quarter of 2022 (3Q2022) at Baht 92,280 million. This was mainly from Petrochemical and Refining business. Refining business's performance increased due to an increase in stock gain. PTT Group's stock gain in 3Q2023 was approximately Baht 20,000 million, while in 3Q2022 there was a stock loss approximately Baht 25,000 million. In addition, market GRM increased from US\$ 6.8 per bbl in 3Q2022 to US\$ 11.3 per bbl in 3Q2023 due to higher spread of gasoline and fuel oil over crude oil, lower crude premium, as well as an increase in sales volume. Moreover, Petrochemical business's performance increased mainly from Aromatics business on account of higher product to feed. Gas business's performance increased mainly from Supply and Marketing (S&M) business due to lower gas cost of industrial customers following pool gas price and higher sales volume despite lower average selling price. In addition, Natural Gas for Vehicles (NGV) business had better performance owing to lower gas cost following pool gas price, as well as higher selling price. Whereas, Others business's performance decreased from disposal of coal business in the first quarter of 2023 (1Q2023). In 3Q2023, net income of PTT and its subsidiaries was Baht 31,297 million increased by Baht 22,422 million or more than 100.0% from 3Q2022 at Baht 8,875 million following the higher EBITDA and lower loss on foreign exchange rate. Moreover, there were a loss recognition of non-recurring items (PTT's portion after tax) in 3Q2023 approximately Baht 40 million mainly from impairment of asset under PTT Global Management Co., Ltd. (PTTGM) offset with the discount from production shortfall of PTT. While, in 3Q2022, there was a loss recognition of approximately Baht 2,000 million mainly from impairment loss on assets held-for-sale from project in Brazil of PTT Exploration and Production Public Company Limited (PTTEP) and PTT's contribution to oil fund during economic crisis offset with the discount from production shortfall of PTT.

In 3Q2023, PTT and its subsidiaries reported EBITDA in an amount of Baht 146,025 million, increased by Baht 53,400 million or 57.7% from the second quarter of 2023 (2Q2023) at Baht 92,625 million. This was mainly from Petrochemical and Refining business. Refining business's performance increased as market GRM rose from US\$ 4.1 per bbl in 2Q2023 to US\$ 11.3 per bbl in 3Q2023 due to higher spread of diesel and jet over crude oil and higher stock gain. PTT Group's stock gain in 3Q2023 was approximately Baht 20,000 million, while there was a stock loss

approximately Baht 4,000 million in 2Q2023. Petrochemical business's performance also increased mainly from Olefins which had higher sales volume. In addition, **Exploration and Production business's** performance increased due to higher average selling price and sales volume. **New Business and Infrastructure business's** performance also increased mainly from Global Power Synergy Public Co., Ltd. (GPSC) due to higher gross margin from Small Power Producer (SPP) power plant which was driven by higher sales volume of electricity and steam, as well as lower energy cost. Besides, **Gas business's** performance increased due to an improvement in NGV business performance from lower gas cost following lower pool gas price together with an increase in average selling price for all customers. Additionally, Gas Separation Plant (GSP)'s gross margin increased following higher sales volume. **In 3Q2023, PTT and its subsidiaries' net income amounting to Baht 31,297 million increased by Baht 11,190 million or 55.7% from 2Q2023 at Baht 20,107 million following higher EBITDA and lower loss on foreign exchange rate. However, there were loss recognition of non-recurring items (PTT's portion after tax) approximately Baht 40 million, while in 2Q2023, there was a gain recognition approximately Baht 20 million.**

For the first nine-month of 2023 (9M2023), PTT and its subsidiaries reported EBITDA in an amount of Baht 342,658 million decreased by Baht 73,311 million or 17.6% from the first nine-month of 2022 (9M2022) at Baht 415,969 million. This was mainly from Petrochemical and Refining business's performance. Refining business had lower performance as market GRM decreased from US\$ 11.4 per bbl in 9M2022 to US\$ 7.9 per bbl in 9M2023 due to lower spread of diesel, jet, and gasoline over crude oil in spite of a decrease in crude premium. Moreover, PTT Group's stock gain decreased, as there was stock gain approximately Baht 10,000 million in 9M2023 compared with approximately Baht 22,000 million in 9M2022 despite an increase in sales volume. In addition, Petrochemical business's performance decreased from Olefins' lower product to feed and sales volume. While Aromatics' performance increased from higher spread of Paraxylene (PX) to feed in spite of lower sales volume. Others business's performance also decreased from disposal of coal business in 1Q2023. In addition, Exploration and Production business's performance decreased due to lower average selling price, notwithstanding a slight increase in average sales volume. In 9M2023, net Income of PTT and its subsidiaries was Baht 79,259 million increased by Baht 6,749 million or 9.3% from the net profit amounting to Baht 72,510 million in 9M2022 mainly from lower loss on derivatives as well as higher gain on foreign exchange rate despite the decrease in EBITDA. In this regard, there were loss recognition of non-recurring items (PTT's portion after tax) in 9M2023 approximately Baht 100 million mainly from non-cash accounting transactions at the end of concession of Bongkot Project of PTTEP offset with the discount from production shortfall of PTT. While, in 9M2022, the loss recognition was approximately Baht 2,600 million mainly from impairment loss on assets held-for-sale from project in Brazil of PTTEP and income tax from sale of the investment in GPSC of Thai Oil Public Co., Ltd. (TOP) offset with the discount from production shortfall of PTT.

As of 30 September 2023, PTT and its subsidiaries had the total assets amounting to Baht 3,537,458 million increased by Baht 121,826 million or 3.6% from 31 December 2022 which had total assets amounting to Baht 3,415,632 million mainly from an increase in cash and cash equivalents and short-term investments primarily driven by PTT Group's operating activities, as well as an increase in Property, Plant, and Equipment (PPE) contributed largely from PTTEP's exploration and evaluation assets of G1/61 Project and G2/61 Project and TOP's construction in progress of Clean Fuel Project (CFP). Whereas, the total liabilities were reported at Baht 1,905,724 million increased by Baht 23,785 million or 1.3% from 31 December 2022 at Baht 1,881,939 million mainly from an increase in trade accounts payable following higher purchase volume, while income tax payable decreased. Moreover, the total shareholders' equity was Baht 1,631,734 million increased by Baht 98,041 million or 6.4% from 31 December 2022 at Baht 1,533,693 million as a result of PTT and its subsidiaries' performance for 9M2023 offset with dividend payment from the operating results of the second half of 2022 amounting to Baht 0.70 per share and interim dividend from the operating results of the first half of 2023 amounting to Baht 0.80 per share. Non-controlling interests increased mainly from net income of subsidiaries.

Economic Overview in the Third Quarter of 2023

The world economy in 3Q2023 expanded at a slower rate from 2Q2023 due to a slowdown in Chinese economy as a result of the continued contraction of private investment, particularly in real estate sector which continued to face severe liquidity stress and high levels of debt, a decline in exports in line with the global economic slowdown, as well as the higher base effect in the previous year as a result of the relaxation of lockdown in 2022. Furthermore, Euro Area economy contracted due to the continued monetary policy tightening in a bit to tame the remaining higher-than-target-threshold inflation. In the September 2023 meeting, the European Central Bank (ECB) raised its key rates for the tenth consecutive time since the interest rate adjustment cycle began in July 2022, bringing the rate to 4.5%. Meanwhile, the US economy accelerated, primarily driven by continuous growth in private consumption amid a robust labor market. The International Monetary Fund (IMF) in October 2023 maintained its 3.0% global growth forecast for 2023.

According to S&P Global's report in November 2023, the world's demand for oil in 3Q2023 averaged at 103.5 Million Barrels Per Day (MMBD), increased from 2Q2023 and 3Q2022 which were average of 102.2 and 101.8 MMBD, respectively amid strong demand during summer driving season, along with Chinese economic recovery and improving demand from developing countries (Non-OECD).

Unit: US\$/barrel	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
Average Dubai Crude Oil Price	96.9	77.8	86.7	(10.5%)	11.4%	100.2	81.6	(18.6%)
Gasoline Crack Spread	13.2	16.6	18.9	43.2%	13.9%	22.0	18.0	(18.2%)
Diesel Crack Spread	35.2	14.6	26.9	(23.6%)	84.2%	32.6	22.2	(31.9%)
HSFO 3.5% Crack Spread	(22.3)	(8.7)	(5.4)	75.8%	37.9%	(11.3)	(10.1)	10.6%
GRM-Singapore Crack	7.1	4.0	9.5	33.8%	>100.0%	12.2	7.2	(41.0%)

Dubai crude oil price in 3Q2023 averaged at US\$86.7 per barrel which increased from US\$77.8 per barrel in 2Q2023. This was driven from the continued improvement in demand, particularly from the transport sector, while oil supply tightened due to ongoing production cuts by OPEC and its allies (OPEC+) to support crude oil price. However, when compared with 3Q2022 at US\$96.9 per barrel, oil price declined as a result of alleviated concerns on geopolitical tension between Russia and Ukraine compared with last year despite tighten supply.

Petroleum product prices at Singapore spot market

- Gasoline crack spread averaged at US\$18.9 per barrel in 3Q2023, rose from US\$16.6 per barrel in 2Q2023 and US\$13.2 per barrel in 3Q2022, driven by robust demand during the summer driving season in the US and Europe. Furthermore, the low US inventory also supported the crack spread.

- **Diesel crack spread** averaged at US\$26.9 per barrel in 3Q2023, a notable increase from US\$14.6 per barrel in 2Q2023 due to the reduction of refinery operation in certain regions caused by a heatwave, coupled with OPEC+ production cuts. However, when compared with 3Q2022 at US\$35.2 per barrel, diesel crack spread eased due to alleviated supply concerns stemmed from geopolitical tensions between Russia and Ukraine.
- **High-Sulfur Fuel Oil 3.5% crack spread** averaged at US\$-5.4 per barrel in 3Q2023, improved from US\$-8.7 per barrel in 2Q2023 and US\$-22.3 per barrel in 3Q2022 driven by solid summer demand for electricity production amid higher temperature in the Middle East, coupled with constrained supply from refineries.

Singapore Gross Refining margin (GRM) in 3Q2023 averaged at US\$9.5 per barrel, increased from US\$4.0 and US\$7.1 per barrel in 2Q2023 and 3Q2022, respectively, following high travel demand during summer and limited diesel and gasoline supplies. In addition, the delayed in commencement of new refineries was a factor supporting GRM.

Unit: US\$/Ton	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
HDPE: CFR SEA	1,104	1,036	1,032	(6.5%)	(0.4%)	1,259	1,051	(16.5%)
PP: CFR SEA - Film	1,088	997	969	(10.9%)	(2.8%)	1,275	1,020	(20.0%)
BZ: FOB Korea	978	873	899	(8.1%)	3.0%	1,097	901	(17.9%)
BZ -Naphtha	264	271	251	(4.9%)	(7.4%)	274	254	(7.3%)
PX: CFR Taiwan	1,088	1,030	1,073	(1.4%)	4.2%	1,145	1,046	(8.6%)
PX - Naphtha	374	429	425	13.6%	(0.9%)	323	400	23.8%
Naphtha (MOPJ)	714	601	648	(9.2%)	7.8%	822	646	(21.4%)
Propane (C3): ARAMCO CP	682	520	473	(30.6%)	(9.0%)	777	564	(27.4%)

In 3Q2023, the price of Petrochemical products in the Olefin segment decreased from 2Q2023 amid pressure from excess supply, delayed end-user product demand, and economic uncertainty in China resulting from the real estate crisis and a weakening yuan. Meanwhile, the Aromatic prices increased mainly from the rising crude oil and naphtha prices despite the persistent low demand.

- **Olefin Product:** The prices of High-Density Polyethylene (HDPE) and Polypropylene (PP) in 3Q2023 decreased from 2Q2023. This was primarily due to high inventory levels as the demand for end-user product was delayed. Moreover, the resuming production at the Propane Dehydrogenation (PDH) plant which produces PP in the North Asian region after maintenance downtime and the commencement of operation at new facilities in China also caused the decline in HDPE and PP prices. Additionally, there was excess supply from China, India, Vietnam, and Malaysia entering the Southeast Asian market. However, there were factors supported

Olefins product prices from higher raw material prices, including crude oil and naphtha, as well as Chinese economic stimulus measures.

- **Aromatics:** The price of Benzene (BZ) in 3Q2023 increased from 2Q2023, mainly driven by rising crude oil and naphtha prices, which also led to a higher price of Styrene Monomer (SM) despite persistently low demand. Moreover, the addition of SM production following the restart of downstream plants and startups of new SM plants in the region supported demand for BZ during this period. The price of Paraxylene (PX) in 3Q2023 increased from 2Q2023, following a similar trend in crude oil prices and higher demand for downstream markets in both Purified Terephthalic Acid (PTA) and Polyester, especially from China. Meanwhile, producers in other countries reduced their operating rates due to low profitability. Moreover, rising demand for PX as a gasoline blending component amid higher gasoline margins also supported PX price. However, a significant increase in crude oil and naphtha prices resulted in a decrease in BZ and PX spreads.

Compared to 3Q2022, the prices of Petrochemical products in the Olefin and Aromatic segments decreased, in line with the decline in crude oil and naphtha prices. This occurred amid market uncertainties surrounding the recovery of the Chinese economy and the global economic slowdown.

The price of Propane in 3Q2023 continuously decreased from 2Q2023 due to low demand from major importers in Asia such as China, Japan, and South Korea, amid the high level of domestic inventory, and an increase in transportation costs. Furthermore, the new 5-year high of Propane inventory in the US also exerted significant pressure on Propane price. However, the reduction in supply of Propane in the Middle East due to the extension of OPEC+ oil production cuts until the end of 2023, along with an increase in oil prices, served as factors supporting Propane price from dropping significantly.

Compared to 3Q2022, the price of Propane decreased as a result of the slowdown of global economy, declining crude oil prices, and a significant increase in Propane inventory in the US.

The Thai economy in 3Q2023 continued to expand from the slower growth in 2Q2023, supported mainly by strong growth in private consumption following the recovery in household incomes, especially in the service sector, and the tourism sectors following the continued recovery in foreign tourist from nearly all nationalities. Meanwhile, Thai exports remained contracted amid the global demand slowdown. Furthermore, the successful formation of the new government within the specified timeframe had a positive impact on business and investment confidence, as well as public spending. The Bank of Thailand in September 2023 projected its 2023 Gross Domestic Product (GDP) forecast to be 2.8%, down from 3.6% projected in May 2023.

Non-recurring Items in the First Nine Month of 2023 until Present

January 2023

- **PTT:** On 1 January, to support public sector on energy prices, PTT extended the cap of NGV retail price until 15 June 2023, previously from 16 December 2022 to 15 March 2023. For the taxi in Bangkok Metropolitan Area, the NGV retail price had been capped at 13.62 Baht/ kg. and for general cars at 17.59 Baht/ kg. Subsequently, on 16 June 2023, PTT has extended the cap of NGV retail price further by capping the retail price at 14.62 Baht/kg. for taxi in Bangkok Metropolitan Area and 18.59 Baht/kg. for public cars until 31 December 2023. For general car, the price has been capped at 18.59 Baht/kg. until 15 September 2023 and adjusted to 19.59 Baht/kg. until 15 December 2023. Nevertheless, for LPG, PTT ended the 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 since 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 called Nautilus to provide the subsea horizontal repair service which could lower risks and reduce 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) divested its entire investment, 100% of the total issued shares, in PTT Mining Limited

	<p>(PTTML) to an affiliate of PT Astrindo Nusantara Infrastruktur Tbk (Astrindo) and completed the settlement with the total value of US Dollar 486 million (including interest). As a result, PTTML ceased to be the subsidiary of PTTIH. In addition, this transaction divested all of PTT's investment in the coal business which is aligned with PTT's strategy towards sustainability and clean energy.</p>
<p>March 2023</p>	<ul style="list-style-type: none"> ● PTT & GPSC: 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) in the first quarter of 2023 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.
<p>April 2023</p>	<ul style="list-style-type: none"> ● PTT: 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.
<p>May 2023</p>	<ul style="list-style-type: none"> ● PTT & PTTEP: On 10 May, PTT has issued unsubordinated and unsecured debenture No. 1/2023 for the total amount of Baht 1,000 million with 2 years tenor at coupon rate of 2.31% per annum and PTTEP Treasury Center Company Limited (a subsidiary of PTTEP Group) has issued senior guaranteed debentures with a bondholders' representative for Baht 1,500 million with 3 years tenor at coupon rate of 2.51% per annum to the institutional investors. This is the first time of Thai capital market to issue the digital debenture through the DIF: Web Portal under the Sandbox project which is a part of the Digital Infrastructure development of the Securities and Exchange Commission, Thailand, to support digital bond transaction. ● PTTEP: On 30 May, PTTEP Energy Development Company Limited (PTTEP ED) (a subsidiary of PTTEP) has signed the Production Sharing Contract (PSC) for G1/65 and G3/65 with 100% interest and PTTEP ED is the sole operator of both blocks. The PSC was effective from 1 June 2023 onwards.
<p>June 2023</p>	<ul style="list-style-type: none"> ● PTT: On 9 June, Arun Plus Company Limited (Arun Plus) (PTT's 100% subsidiary) and Contemporary Amperex Technology Co., Ltd (CATL) has reached an agreement to establish the Cell-to-Pack (CTP) lithium-ion battery assembly plant located in the Eastern Economic



Corridor, Chonburi province, Thailand with total investment value of Baht 3,600 million. This is the advanced battery manufacturing technology that directly assembles the battery cells into pack without assembling a module, resulting in higher energy efficiency, lightweight and safety. PTT is ready to produce battery for all types of electric vehicles with advanced technology to enhance Thailand's EV production capability. The plant is expected to start assembling cell-to-pack batteries in 2024 with the total capacity of 6 GWh per year.

- **PTT:** On 21 June, PTT's Board of Directors has reviewed and approved the revision of PTT and its wholly owned subsidiaries' investment plan for year 2023 from Baht 33,344 million to Baht 93,598 million. The revision of the above 2023 investment plan is mainly from the adjustment of investment in wholly owned subsidiaries e.g. the capital investment to support the joint venture of PTT LNG Company Limited in LNG receiving terminal 2 project and the investment expansion in electric vehicle value chain business mainly from the electric vehicle manufacturing plant of Horizon Plus Company Limited and the battery manufacturing plant of Arun Plus Company Limited. Meanwhile, the investment in other core businesses to ensure national energy security still proceed as planned e.g. Gas Separation Plant (GSP) unit 7 to replace GSP unit 1, Bang Pakong–South Bangkok Power Plant Transmission Pipeline project, 5th Onshore Pipeline.
- **PTTEP:** On 22 June, FutureTech Energy Ventures Company Limited (FTEV) (a subsidiary of PTTEP) and consortium partners, consisting of POSCO Holdings, Samsung Engineering Co., Ltd., Korea East-West Power Co., Ltd., Korea Southern Power Co., Ltd., and MESCAT Middle East DMCC, have been awarded the Green Hydrogen Concession Block in the Sultanate of Oman and entered into the Project Development Agreement and Sub-Usufruct Agreement with Hydrogen Oman SPC (Hydrom) for the exclusive business development and production rights of green hydrogen project in Block Z1-02 for 47 years. The consortium will carry out the feasibility and technical studies, in order to finalize the total capital expenditure requirement for the project. The project is expected to commence production in 2030 with a capacity of approximately 220,000 tons of green hydrogen per year, including the installment of renewable energy from solar and wind with planed capacity of 5 gigawatts.
- **GPSC:** On 27 June, GPSC's Board of Directors Meeting approved an inclusion of Battery Energy Storage System (BESS) to a business operation scope and a capital increase in Avaada Energy Private Limited (AEPL) amounted to 42.93% stake in accordance with GPSC's shareholding. The investment in AEPL will be made through Global Renewable Synergy Company Limited (GRSC) (a wholly owned subsidiary of GPSC). Total investment value is approximately INR 19,167 million or equivalent to about Baht 8,625 million. The capital injection schedule is subject to potential development, with the first batch amounting to INR 8,649 million or approximately Baht 3,892 million was injected on 25 July 2023.

July 2023

- **GPSC:** On 25 July, GPSC's Board of Directors Meeting approved the dissolution of Helios 5 Company Limited (Helios 5), in which GPSC holds 50%. The dissolution of Helios 5 aims to minimize administrative costs since the project of the subsidiary was not selected under the Energy Regulatory Commission (ERC)'s regulations and announcements according to the ERC's notification on 30 September 2022 regarding the purchase of electricity generated from renewable energy sources under the Feed-in Tariff (FiT) scheme 2022 – 2030 for the power plants with no fuel costs B.E. 2565 (2022). The dissolution the subsidiary has no impact to GPSC's strategic plan.

August 2023

- **PTT:** On 16 August, the Board of Directors of Arun Plus Company Limited (Arun Plus) (PTT's 100% subsidiary) approved Arun Plus to enter into a joint venture agreement with KWANG YANG MOTOR Company Limited (KYMCO) and KYMCO CAPITAL PRIVATE EQUITY MANAGEMENT Company Limited (KC) (the subsidiary of KYMCO) to establish Aionex Company Limited (Aionex), a joint venture company which Arun Plus KYMCO and KC hold 51%, 29% and 20% respectively, with the registered capital not exceeding of Baht 600 million. Aionex's vision aims to be a leader of two-wheeler electric vehicle in Thailand and ASEAN which include not only to sale and produce two-wheeler electric vehicle, but also to provide battery swapping service. The establishment of Aionex is expected to be completed and to start operation by 2023.
- **PTTEP:** On 21 August, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA), a subsidiary of PTTEP, has entered into a Sale and Purchase Agreement (SPA) on 18 August 2023 to sell its total interests in petroleum retention lease AC/RL7, altogether with all obligations to INPEX Cash Maple Pty Ltd and TotalEnergies Exploration Australia Pty Ltd. PTTEP AAA is holding 100% interests in the retention lease. Completion of the sale, which is subject to the conditions prescribed in the SPA, is expected by the end of 2023.

September 2023

- **PTTEP:** On 1 September, PTTEP International Limited (PTTEPI), a subsidiary of PTTEP, has signed an agreement to acquire 33.3333% stake in block G12/48 from TotalEnergies EP Thailand. The completion of this acquisition is conditional to necessary government approvals and is anticipated within 2023. After completion, PTTEPI, which is the operator, will hold 100% interest in the block.
- **PTTEP:** On 4 September, PTTEP has dissolved an inactive subsidiary, namely PTTEP G7 Limited, with effective on 31 August 2023 in order to improve operational efficiency and minimize administrative costs. This has no impact to PTTEP's operations.
- **TOP:** On 4 September, there was an oil spill on 3 September 2023 during the oil discharge around the area of the Single Buoy Mooring (SBM-2) of Thai Oil Public Company Limited's refinery in Sriracha, Chonburi. The Company has mitigated the situation with an immediate

response. Consequently, the oil leakage is under control and no human injury caused. Currently, the oil spill incident has not materially interrupted the refinery operation.

- PTT: On 21 September, PTT's Board of Directors, approved the dissolution of PTT Energy Resources Company Limited (PTTER) (a wholly owned subsidiary of PTT). The registration of dissolution is expected to be completed in December 2023. The dissolution of PTTER is aligned with PTT's policy to close down the dormant company. This has no impact to PTT's business operation.
- PTT: On 21 September, PTT's Board of Directors approved a resolution of interim dividend payment for the first six-month performance of year 2023 to PTT's shareholders at the rate of Baht 0.80 per share, totaling approximately Baht 22,851 million, or 48% of the consolidated net income. The Record Date to entitle rightful shareholders who may receive the interim dividend was on 5 October 2023. The payment of the interim dividend was made on 20 October 2023.

Financial Results of PTT Group by Business

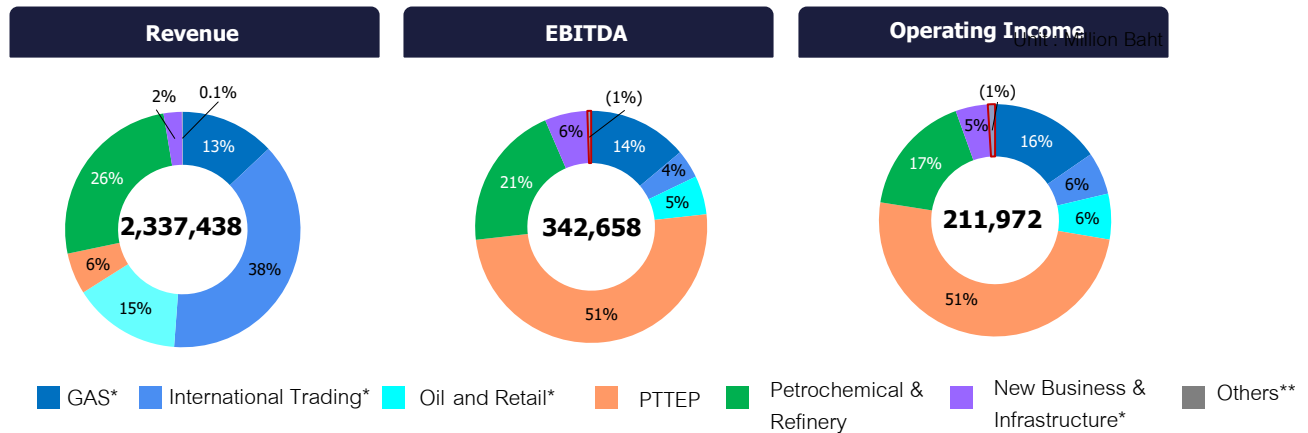
Financial performance of 3Q2023 compared with 3Q2022 and 2Q2023 as well as 9M2023 compared with 9M2022 are summarized as follows:

Unit : Million Baht	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
Sales revenue	884,610	778,065	802,683	(9.3%)	3.2%	2,570,029	2,337,438	(9.1%)
: Exploration & Production	88,503	67,479	78,206	(11.6%)	15.9%	239,740	221,178	(7.7%)
: Gas	199,251	177,812	162,971	(18.2%)	(8.3%)	543,040	504,895	(7.0%)
: Oil & Retail	195,156	187,994	191,952	(1.6%)	2.1%	585,090	577,837	(1.2%)
: International Trading	623,448	490,357	533,216	(14.5%)	8.7%	1,730,729	1,486,610	(14.1%)
: Petrochemical & Refining	382,621	318,466	348,695	(8.9%)	9.5%	1,173,219	998,207	(14.9%)
: New Business & Infrastructure	42,915	31,239	30,144	(29.8%)	(3.5%)	105,449	97,288	(7.7%)
: Others	10,198	1,041	1,051	(89.7%)	1.0%	28,498	5,042	(82.3%)
EBITDA	92,280	92,625	146,025	58.2%	57.7%	415,969	342,658	(17.6%)
: Exploration & Production	67,615	53,271	62,828	(7.1%)	17.9%	184,736	174,470	(5.6%)
: Gas	6,926	18,574	18,873	>100.0%	1.6%	49,338	48,524	(1.6%)
: Oil & Retail	2,787	5,240	7,565	>100.0%	44.4%	19,625	18,833	(4.0%)
: International Trading								
- Excluding effect of FX and derivatives	1,348	1,939	8,765	>100.0%	>100.0%	23,362	13,897	(40.5%)
- Including effect of FX and derivatives	4,097	2,787	2,351	(42.6%)	(15.6%)	9,101	9,964	9.5%
: Petrochemical & Refining	(553)	8,465	43,394	>100.0%	>100.0%	112,542	70,899	(37.0%)
: New Business & Infrastructure	6,609	6,163	7,862	19.0%	27.6%	13,945	20,779	49.0%
: Others	4,317	(1,004)	(763)	<(100.0)%	24.0%	12,281	(1,853)	<(100.0)%
Depreciation and amortization expenses	45,141	41,040	48,388	7.2%	17.9%	122,521	130,686	6.7%
Operating income (loss)	47,139	51,585	97,637	>100.0%	89.3%	293,448	211,972	(27.8%)
: Exploration & Production	44,703	34,017	37,018	(17.2%)	8.8%	125,401	109,248	(12.9%)
: Gas	2,267	13,977	13,359	>100.0%	(4.4%)	35,727	33,734	(5.6%)
: Oil & Retail	1,167	3,588	5,962	>100.0%	66.2%	14,935	13,951	(6.6%)
: International Trading								
- Excluding effect of FX and derivatives	938	1,649	8,415	>100.0%	>100.0%	22,696	12,970	(42.9%)
- Including effect of FX and derivatives	3,687	2,497	2,001	(45.7%)	(19.9%)	8,435	9,037	7.1%
: Petrochemical & Refining	(11,488)	(2,728)	32,032	>100.0%	>100.0%	80,132	37,311	(53.4%)
: New Business & Infrastructure	2,863	2,226	4,233	47.9%	90.2%	4,308	9,857	>100.0%
: Others	3,458	(1,121)	(883)	<(100.0)%	21.2%	10,109	(2,208)	<(100.0)%
Share of net income from investments in joint ventures and associates	156	317	552	>100.0%	74.1%	4,603	1,397	(69.7%)
Loss (Reversal) on impairment of assets	3,646	(1)	130	(96.4%)	>100.0%	4,134	269	(93.5%)
Gain (loss) on derivatives	13,072	1,640	(17,530)	<(100.0)%	<(100.0)%	(70,412)	(17,758)	74.8%
Gain (loss) on foreign exchange	(19,850)	(7,905)	(1,781)	91.0%	77.5%	(27,159)	426	>100.0%
EBIT	37,290	49,313	82,803	>100.0%	67.9%	199,290	206,081	3.4%
Finance costs	10,141	11,437	11,969	18.0%	4.7%	26,736	34,249	28.1%
Income taxes	16,459	14,111	24,512	48.9%	73.7%	73,107	61,989	(15.2%)
Net income	8,875	20,107	31,297	>100.0%	55.7%	72,510	79,259	9.3%
Earnings per share (Baht/share)	0.31	0.70	1.09	>100.0%	55.7%	2.55	2.77	8.6%

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

Segmentation Performance of PTT Group

The details of revenue, EBITDA and operating income by segmentation of 9M2023 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 Group

	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
Average selling price (US\$/BOE ¹)	53.7	45.7	48.6	(9.5%)	6.3%	53.6	48.1	(10.3%)
Average sales volume (BOED ²)	478,323	444,868	467,452	(2.3%)	5.1%	457,237	457,737	0.1%

Note: ¹BOE: Barrels of Oil Equivalent

²BOED: Barrels of Oil Equivalent per Day

Third quarter of 2023 compared with Third quarter of 2022

In 3Q2023, sales revenue of PTTEP was Baht 78,206 million, decreased by Baht 10,297 million or 11.6% from 3Q2022 as the average selling price decreased by 9.5% from US\$ 53.7 per BOE in 3Q2022 to US\$ 48.6 per BOE in 3Q2023, and the average sales volume decreased by 2.3% from 478,323 BOED in 3Q2022 to 467,452 BOED in 3Q2023 primarily from end-of-concession of Bongkot Project in March 2023 and lower entitlement of Oman Block 61 Project, offset with higher gas nomination from buyer of G2/61 Project and successful ramp up of natural gas production of G1/61 Project to 400 MMSCFD at the end of June 2023 as planned.

EBITDA in 3Q2023 was Baht 62,828 million, decreased by Baht 4,787 million or 7.1% from 3Q2022. The operating income in 3Q2023 was Baht 37,018 million, decreased by Baht 7,685 million or 17.2% from 3Q2022 mainly due to a decrease in sales revenue as aforementioned. In addition, operating expenses increased primarily from higher maintenance activities of G1/61 Project and G2/61 Project, together with higher decommissioning costs of Malaysia

Project. However, royalty expense decreased primarily from higher portion of sales revenue from projects under Profit Sharing Contracts in Thailand, along with lower sales revenue from projects in Malaysia.

The overall performance of Exploration and Production business decreased mainly due to a decrease in operating income as aforementioned. Moreover, there was loss on oil price hedging instruments in 3Q2023 due to an upward trend of forward oil price, while there was gain on oil price hedging instruments in 3Q2022. However, there was a lower loss on foreign exchange rate due to less depreciation of Baht against US Dollar in 3Q2023 compared to 3Q2022. In addition, the impairment loss on assets held-for-sale of PTTEP Brazil Investments in Oil and Gas Exploration and Production Limitada (PTTEP BL) as part of portfolio rationalization to withdraw all investment in Brazil of PTTEP was recognized in 3Q2022, while there is no such transaction in 3Q2023.

Third quarter of 2023 compared with Second quarter of 2023

In 3Q2023, sales revenue of PTTEP was Baht 78,206 million, increased by Baht 10,727 million or 15.9% from 2Q2023 as the overall average selling price increased by 6.3% from US\$ 45.7 per BOE in 2Q2023 to US\$ 48.6 per BOE in 3Q2023, and the overall average sales volume increased by 5.1% from 444,868 BOED in 2Q2023 to 467,452 BOED in 3Q2023. This was due to the fact that primarily G1/61 Project has successfully ramped up its natural gas production from 210 MMSCFD to 400 MMSCFD at the end of June 2023 as planned. In addition, the crude oil sales of Malaysia Block K Project increased as a result of the maintenance shutdown on Floating Production Storage Offloading (FPSO) in the previous quarter.

EBITDA in 3Q2023 was Baht 62,828 million, increased by Baht 9,557 million or 17.9% from 2Q2023 and the operating income in 3Q2023 was Baht 37,018 million, increased by Baht 3,001 million or 8.8% from 2Q2023 mainly due to an increase in sales revenue as aforementioned. However, operating expenses increased primarily from Malaysia Project due to higher sales volume. In addition, depreciation, depletion and amortization increased primarily from G1/61 Project due to higher sales volume and capitalization of asset, along with Malaysia Project due to higher sales volume.

Despite the increase in operating income, the overall performance of Exploration and Production business decreased primarily due to an increase in income taxes mainly from the projects in Oman and Malaysia on account of higher profits.

First nine-month of 2023 compared with First nine-month of 2022

In 9M2023, sales revenue of PTTEP was Baht 221,178 million, decreased by Baht 18,562 million or 7.7% from 9M2022 as the average selling price decreased by 10.3% from US\$ 53.6 per BOE in 9M2022 to US\$ 48.1 per BOE in 9M2023. However, the average sales volume increased by 0.1% from 457,237 BOED in 9M2022 to 457,737 BOED in 9M2023 primarily from full period recognition of sales volume from G1/61 Project and G2/61 Project. In addition, G1/61

Project has successfully ramped up the natural gas production to 400 MMSCFD at the end of June 2023 as planned. However, this was offset by lower sales volume from end-of-concession of Bongkot Project and lower entitlement of Oman 61 Project.

EBITDA in 9M2023 was Baht 174,470 million, decreased by Baht 10,266 million or 5.6% from 9M2022 and the operating income in 9M2023 was Baht 109,248 million, decreased by Baht 16,153 million or 12.9% from 9M2022 mainly due to a decrease in sales revenue as aforementioned. In addition, operating expenses increased primarily from higher sales volume from G1/61 Project and G2/61 Project. Meanwhile, royalty expense decreased mainly from higher portion of sales revenue from projects under Profit Sharing Contracts in Thailand and lower sales revenue from projects in Malaysia.

Despite the decrease in operating income, the overall performance of Exploration and Production business increased primarily from significant lower loss on oil price hedging instruments due to less upward trend of forward oil price in 9M2023 as compared to 9M2022. In addition, income taxes decreased mainly from projects in Thailand, Oman, and Malaysia due to lower profits. However, there was a gain recognition from non-cash accounting transactions at the end of concession of Bongkot Project in 9M2023, While, there was a loss recognition of the impairment on assets of PTTEP BL in 9M2022.

Gas Business Group

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

Unit: Ton	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
LPG	834,689	836,065	813,281	(2.6%)	(2.7%)	2,467,555	2,502,554	1.4%
Ethane	427,589	446,717	468,820	9.6%	4.9%	1,301,214	1,320,138	1.5%
Propane	354,517	289,881	373,578	5.4%	28.9%	955,680	829,001	(13.3%)
NGL	110,890	117,964	125,835	13.5%	6.7%	380,549	363,510	(4.5%)
Pentane	11,500	14,466	15,545	35.2%	7.5%	37,614	43,073	14.5%
Total	1,739,185	1,705,093	1,797,059	3.3%	5.4%	5,142,612	5,058,276	(1.6%)
Utilization rate (%)	68.8%	73.6%	77.5%	8.7%	3.9%	77.3%	73.7%	(3.6%)

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

Unit: US\$ per Ton	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
LPG ^{1/}	677	500	469	(30.7%)	(6.2%)	777	558	(28.2%)
LDPE ^{2/}	1,300	1,036	993	(23.6%)	(4.2%)	1,533	1,053	(31.3%)
LLDPE ^{2/}	1,100	1,014	990	(10.0%)	(2.4%)	1,276	1,026	(19.6%)
HDPE ^{2/}	1,104	1,036	1,032	(6.5%)	(0.4%)	1,259	1,051	(16.5%)
Propane ^{1/}	682	520	473	(30.6%)	(9.0%)	777	564	(27.4%)

Note: ^{1/} 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

^{2/} South East Asia - Spot Price

Third quarter of 2023 compared with Third quarter of 2022

In 3Q2023, Gas business reported sales revenue of Baht 162,971 million, decreased by Baht 36,280 million or 18.2% from 3Q2022. This resulted mainly from a decrease in sales revenue of S&M business due to lower average selling prices following pool gas price, along with a decrease in industrial customers' selling price in line with reference prices. While, sales volume (calculated at heating value of 1,000 BTU per cubic feet) increased by 491 MMSCFD or 12.0% from 4,105 MMSCFD in 3Q2022 to 4,596 MMSCFD in 3Q2023 mainly from power plant customers who switch back to use natural gas for electricity generation following the lower trend of LNG price. In addition, there was lower electricity generation from hydropower plants following the lower water level in 2023 together with the higher electricity demand from economic recovery.

Sales revenue of Transmission pipelines (TM) business decreased mainly from lower gas pipeline tariff rates which 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 5-year 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 from August 2022 onwards.

In addition, revenue of GSP business decreased from the decline in average selling prices of all products following the petrochemical referenced prices despite the increase in sales volume (including NGL derived from Dew Point Control units) which increased from 1,739,185 tons in 3Q2022 to 1,797,059 tons in 3Q2023 or 3.3% mainly from Ethane and Propane following the higher GSP's production in line with higher supply of gulf gas after the ramp up of G1/61's production to 400 MMSCFD since end of June 2023.

In 3Q2023, EBITDA of gas business was reported at Baht 18,873 million, increased by Baht 11,947 million or more than 100.0%. The operating income was reported at Baht 13,359 million, increased by Baht 11,092 million or more than

100.0%. This was mainly from higher performance of S&M business mainly from industrial customers as the gas cost decreased following the pool gas price despite the decrease in average selling prices.

In addition, NGV's performance has improved due to a decrease in gas cost following the pool gas price, along with the increase in NGV selling price for all customers.

However, gross profit of GSP business dropped from a decrease in average selling prices of all products in accordance with the petrochemical referenced prices despite the lower feed cost following lower gulf gas price and the increase in sales volume. In addition, performance of TM business decreased due to the revision of gas pipeline tariff as aforementioned.

Third quarter of 2023 compared with Second quarter of 2023

In 3Q2023, Gas business reported sales revenue of Baht 162,971 million, decreased by Baht 14,841 million or 8.3%. This resulted mainly from a decrease in sales revenue of S&M business following the sales volume (calculated at heating value of 1,000 BTU per cubic feet) which decreased by 254 MMSCFD or 5.2% from 4,850 MMSCFD in 2Q2023 to 4,596 MMSCFD in 3Q2023 mainly from lower demand of power plant customers and the higher electricity generation from hydropower plants due to seasonal factor. In addition, average selling prices decreased following pool gas price, as well as the decreased industrial customers selling prices following the reference prices.

Sales revenue of GSP business increased due to the higher sales volume (including NGL derived from Dew Point Control units), which increased from 1,705,093 tons in 2Q2023 to 1,797,059 tons in 3Q2023 or 5.4% mainly from higher GSP's production in line with higher supply of gulf gas from G1/61 Project.

In 3Q2023, EBITDA of Gas business was reported at Baht 18,873 million, increased by Baht 299 million or 1.6%. Performance of NGV business increased from lower gas cost following pool gas price together with an increase in selling prices for all customers as well as the decrease in overall sales volume. In addition, gross profit of GSP business increased driven by higher sales revenue as aforementioned.

Gross profit of S&M business decreased due to lower sales volume and lower average selling prices as mentioned, even though the gas cost for industrial customers decreased following the lower pool gas price.

However, the operating income was reported at Baht 13,359 million, decreased by Baht 618 million or 4.4% due to higher depreciation and amortization expenses following the capitalization of assets.

First nine-month of 2023 compared with First nine-month of 2022

In 9M2023, Gas business reported sales revenue of Baht 504,895 million, decreased by Baht 38,145 million or 7.0%. This resulted mainly from a decrease in sales revenue of S&M business due to lower average selling prices following

pool gas price, together with lower selling prices of industrial customers following the reference prices despite the higher average sales volume (calculated at heating value of 1,000 BTU per cubic feet) which increased by 224 MMSCFD or 5.2% from 4,286 MMSCFD in 9M2022 to 4,510 MMSCFD in 9M2023 mainly due to power plant customers from an increase in electricity consumption following higher temperature together with lower trend of imported LNG price. In addition, there was a lower electricity generation from hydropower plants following the lower water level in 2023.

In addition, sales revenue of TM business decreased mainly from the revision of gas pipeline tariff as aforementioned. Also, sales revenue of GSP business decreased due to lower average selling prices in overall products following the petrochemical referenced prices. Furthermore, sales volume (including NGL derived from Dew Point Control units) in all products decreased from 5,142,612 tons in 9M2022 to 5,058,276 tons in 9M2023 or 1.6% from lower gulf gas supply and lower demand of petrochemical customers driven by the declining trend in plastic pellet prices.

In 9M2023, EBITDA of Gas business was reported at Baht 48,524 million, decreased by Baht 814 million or 1.6%. The operating income was reported at Baht 33,734 million, decreased by Baht 1,993 million or 5.6%. This was mainly from a decrease in GSP's gross profit from lower average selling prices of all products following the referenced prices as well as lower sales volume. Also, EBITDA of TM business decreased mainly from the revision of gas pipeline tariff as aforementioned.

However, S&M's gross margin rose mainly from lower gas cost of industrial customers following the lower pool gas price and higher sales volume despite the decreased average selling prices as aforementioned. Nevertheless, the discount from production shortfall in 9M2023 decreased when compared to 9M2022 as the contract with natural gas producer of Erawan gas field expired in April 2022.

Besides, NGV's performance increased due to lower gas cost following pool gas price together with an increase in selling prices as aforementioned.

2. Downstream Petroleum Business Group

Oil and Retail Business Group

	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
Average Sales Volume* (Unit: Million Liter)	6,284	6,905	6,756	7.5%	(2.2%)	19,867	20,663	4.0%
Average selling prices (Unit: US\$ per barrel)								
Gasoline	110.1	94.4	105.6	(4.1%)	11.9%	122.2	99.7	(18.4%)
Jet	129.3	91.7	112.8	(12.8%)	23.0%	129.4	103.8	(19.8%)
Diesel	132.1	92.3	113.6	(14.0%)	23.1%	132.8	103.8	(21.8%)

*The average sales volume of domestic oil segment only

Third quarter of 2023 compared with Third quarter of 2022

In 3Q2023, sales revenue of Oil and Retail business group was Baht 191,952 million, decreased by Baht 3,204 million or 1.6% from 3Q2022 mainly from the decline in selling price following global oil price. While overall sales volume increased by 472 million liters or 7.5% from 6,284 million liters or equivalent to 429,630 barrels per day in 3Q2022 to 6,756 million liters or equivalent to 461,900 barrels per day in 3Q2023, mainly from an increase in sales volume of jet and diesel as a result of economic recovery. While Non-Oil business group's revenue increased from the recovery of economic activities and the expansion of food and beverage stores.

EBITDA in 3Q2023 was Baht 7,565 million, increased from 3Q2022 by Baht 4,778 million or more than 100.0%. The operating profit in 3Q2023 was Baht 5,962 million, increased by Baht 4,795 million or more than 100.0% from 3Q2022 due to higher overall average gross margin per liter, largely from diesel and gasoline. EBITDA of Non-Oil business group increased from higher food and beverage businesses' gross margin.

As a result, the overall performance of Oil and Retail business group increased as compared to 3Q2022 due to higher EBITDA.

Third quarter of 2023 compared with Second quarter of 2023

In 3Q2023, sales revenue of Oil and Retail business was Baht 191,952 million, increased by Baht 3,958 million or 2.1% from 2Q2023 due to an increase in selling price following global oil price. While, overall sales volume decreased by 149 million liters or 2.2% from 6,905 million liters or equivalent to 477,275 barrels per day in 2Q2023 to 6,756 million liters or equivalent to 461,900 barrels per day in 3Q2023, mainly due to a decrease in sales volume of diesel and gasoline in rainy season, as well as heightened travel activities during the holiday season in 2Q2023. However, Non-Oil business group's revenue decreased largely from convenient stores due to seasonal factor.

EBITDA in 3Q2023 was Baht 7,565 million, increased by Baht 2,325 million or 44.4% from 2Q2023. The operating profit in 3Q2023 was Baht 5,962 million, increased by Baht 2,374 million or 66.2% from 2Q2023 due to higher overall average gross margin per liter, largely from diesel, gasoline, and fuel oil. However, EBITDA of Non-Oil business decreased following lower gross margin which was in line with lower sales revenue of convenient stores and higher net operating expenses from outsource expenses as well.

The overall performance of Oil and Retail business group increased as compared to 2Q2023 following the higher EBITDA from Oil business group.

First nine-month of 2023 compared with First nine-month of 2022

In 9M2023, sales revenue of Oil and Retail business group was Baht 577,837 million, decreased by Baht 7,253 million or 1.2% from 9M2022 due to lower selling price following global oil price. While, overall sales volume increased by 796 million liters or 4.0% from 19,867 million liters or equivalent to 457,737 barrels per day in 9M2022 to 20,663 million liters or equivalent to 476,077 barrels per day in 9M2023 mainly due to an increase in sales volume of jet fuel as a result of economic recovery and market expansion. Moreover, Non-Oil business group's revenue increased from the recovery of economic activities and store expansion.

EBITDA in 9M2023 was Baht 18,833 million, decreased from 9M2022 by Baht 792 million or 4.0%. The operating profit in 9M2023 was Baht 13,951 million, decreased by Baht 984 million or 6.6% from 9M2022 mostly from a decrease in overall average gross margin per liter mainly from diesel. However, Non-Oil business group's EBITDA increased in line with the rise in gross margin from increasing sales revenue.

As a result, the overall performance of Oil and Retail business declined as compared to 9M2022 following lower EBITDA.

International Trading Business Group

Unit: Million Liter	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
Average sales volume	40,064	51,452	52,828	31.9%	2.7%	104,825	145,163	38.5%

Third quarter of 2023 compared with Third quarter of 2022

In 3Q2023, sales revenue of International Trading business was Baht 533,216 million, decreased by Baht 90,232 million or 14.5% from 3Q2022 due to a decrease in product selling prices following the fall in global petroleum and petrochemical prices despite an increase in sales volume which rose by 12,764 million liters or 31.9% from 40,064 million liters or equivalent to 2,739,133 barrels per day in 3Q2022 to 52,828 million liters or equivalent to 3,611,794 barrels per day in 3Q2023. This was mainly from higher volume of imported LNG for electricity production and imported crude

for domestic refineries following the recovery of economic activities, as well as the higher volume of crude and refined products from out-out trading activities due to the continuous expansion of trading opportunities.

EBITDA, adjusted by the impact from foreign exchange rate and derivatives in 3Q2023 was Baht 2,351 million, decreased by Baht 1,746 million or 42.6%. The operating profit, adjusted by the impact from foreign exchange rate and derivatives in 3Q2023 was Baht 2,001 million, decreased by Baht 1,686 million or 45.7% due to lower margin per unit of domestic condensate following the decrease in oil-priced linked formula despite a increase in sales volume.

Third quarter of 2023 compared with Second quarter of 2023

Sales revenue of International Trading business in 3Q2023 was Baht 533,216 million, increased by Baht 42,859 million or 8.7% from 2Q2023 due to an increase in product selling prices following the rise in global petroleum prices. In addition, sales volume increased by 1,376 million liters or 2.7% from 51,452 million liters or equivalent to 3,556,374 barrels per day in 2Q2023 to 52,828 million liters or equivalent to 3,611,794 barrels per day in 3Q2023. This was mainly from higher sales volume of refined products and LNG from out-out trading activities following the recovery of economic activities and the continuous expansion of trading opportunities.

EBITDA, adjusted by the impact from foreign exchange rate and derivatives, in 3Q2023 was Baht 2,351 million, decreased by Baht 436 million or 15.6%. The operating profit, adjusted by the impact from foreign exchange rate and derivatives, in 3Q2023 was Baht 2,001 million, decreased by Baht 496 million or 19.9%. This was primarily from lower margin per unit of out-out trading activities and domestic condensate despite an increase in sales volume as aforementioned.

First nine-month of 2023 compared with First nine-month of 2022

Sales revenue of International Trading business in 9M2023 was Baht 1,486,610 million, decreased by Baht 244,119 million or 14.1% from 9M2022 due to lower product selling price following the fall in global petroleum and petrochemical prices. Although, sales volume increased by 40,338 million liters or 38.5% from 104,825 million liters or equivalent to 2,415,176 barrels per day in 9M2022 to 145,163 million liters or equivalent to 3,344,567 barrels per day in 9M2023. This was mainly from higher volume of refined products and crude from out-out trading activities following the recovery of economic activities and the continuous expansion of trading opportunities, as well as higher volume of imported LNG for electricity production following higher domestic demand due to warmer weather in 2023.

EBITDA, adjusted by the impact from foreign exchange rate and derivatives, in 9M2023 was Baht 9,964 million, increased by Baht 863 million or 9.5%. The operating income, adjusted by the impact from foreign exchange rate and derivatives in 9M2023 was Baht 9,037 million, increased by Baht 602 million or 7.1%. This was mainly from higher sales

volume, along with higher margin from out-out trading activities from well-managed trading costs, encompassing freight, and effective risk management amid market price volatility. Whereas, margin per unit of domestic condensate decreased.

Petrochemical and Refinery Business Group

Unit: US\$ per barrel	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
Market GRM	6.8	4.1	11.3	66.2%	>100.0%	11.4	7.9	(30.7%)
Inventory gain (loss) excl. NRV	(7.9)	(1.8)	6.5	>100.0%	>100.0%	2.6	0.4	(84.6%)
Hedging gain (loss)	(1.8)	0.5	(2.5)	(38.9%)	<(100.0%)	(7.3)	(0.5)	93.2%
Accounting GRM	(2.9)	2.8	15.3	>100.0%	>100.0%	6.7	7.8	16.4%
Refinery Utilization rate* (%)	97.7%	103.1%	101.0%	3.3%	(2.1%)	100.2%	102.3%	2.1%

*From 3 Refineries: TOP, GC and IRPC

Unit: US\$ per Ton	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
Olefins								
Naphtha (MOPJ)	714	601	648	(9.2%)	7.8%	822	646	(21.4%)
HDPE	1,104	1,036	1,032	(6.5%)	(0.4%)	1,259	1,051	(16.5%)
LDPE	1,300	1,036	993	(23.6%)	(4.2%)	1,533	1,053	(31.3%)
LLDPE	1,100	1,014	990	(10.0%)	(2.4%)	1,276	1,026	(19.6%)
PP	1,088	997	969	(10.9%)	(2.8%)	1,275	1,020	(20.0%)
Aromatics								
Condensate	820	636	716	(12.7%)	12.6%	863	677	(21.6%)
PX (TW)	1,088	1,030	1,073	(1.4%)	4.2%	1,145	1,046	(8.6%)
PX (TW) – Condensate	268	394	357	33.2%	(9.4%)	282	369	30.9%
BZ	978	873	899	(8.1%)	3.0%	1,097	901	(17.9%)
BZ – Condensate	158	237	183	15.8%	(22.8%)	234	224	(4.3%)

Third quarter of 2023 compared with Third quarter of 2022

In 3Q2023, sales revenue of Petrochemical and Refining business was Baht 348,695 million, decreased by Baht 33,926 million or 8.9% primarily due to Petrochemical business, both from Olefins and Aromatics businesses as a consequence of the lower average selling price of products, as well as the decrease in sales volume of Aromatics business due to planned turnaround of GC's Aromatics plants in 3Q2023 and IRPC's lower utilization rate in line with market situation while the sales volume of Olefins business increased because of planned turnaround of GC's Olefins and HDPE plants in 3Q2022.

Moreover, sales revenue of Refinery business also decreased due to lower average selling price following the decrease in global petroleum product prices. However, sales volume increased primarily from an increase in PTT Group refineries' utilization rates from 97.7% in 3Q2022 to 101.0% in 3Q2023.

EBITDA of Petrochemical and Refining business in 3Q2023 was Baht 43,394 million, increased by Baht 43,947 million or more than 100.0% from loss of Baht 553 million in 3Q2022. There was operating income of Baht 32,032 million in 3Q2023, increased by Baht 43,520 million or more than 100.0% when compared with operating loss of Baht 11,488 million in 3Q2022, details are as follows:

- **Refinery performance** increased due to the higher stock gain (there was stock gain of US\$ 6.5 per bbl in 3Q2023 versus stock loss of US\$ 7.9 per bbl in 3Q2022). Moreover, market GRM increased from US\$ 6.8 per bbl in 3Q2022 to US\$ 11.3 per bbl in 3Q2023 mainly from an increase in product spreads of gasoline and fuel oil over crude oil and a decrease in crude premium. Besides, there was an increase in sales volume as aforementioned.
- **Petrochemical performance** also increased mainly from Aromatics business as the spreads of PX and BZ increased while sales volume decreased as aforementioned. Olefins business's performance slightly increased due to an increase in sales volume as aforementioned while PE's product spreads decreased.

The overall performance of Petrochemical and Refining business in 3Q2023 increased when compared with 3Q2022 due to an increase in operating income as aforementioned, as well as less loss on foreign exchange rate following the less Thai Baht depreciation in 3Q2023 compared with 3Q2022. Although there was more loss from oil price hedging in 3Q2023 than in 3Q2022.

Third quarter of 2023 compared with Second quarter of 2023

In 3Q2023, sales revenue of Petrochemical and Refining business was Baht 348,695 million, increased by Baht 30,229 million or 9.5% primarily due to Refinery business from an increase in average selling price following an increase in global petroleum product prices. However, sales volume decreased primarily from a decrease in PTT Group refineries' utilization rates from 103.1% in 2Q2023 to 101.0% in 3Q2023 mainly from IRPC's lower utilization rate in line with market situation and TOP's oil spill incident at the Single Buoy Mooring in September 2023.

However, sales revenue of Petrochemical business decreased mainly from Aromatics business as the sales volume decreased from planned turnaround of GC's Aromatics plants in 3Q2023 while the average selling price increased. Sales revenue of Olefins business was closed to the previous quarter due to an increase in sales volume as a result of less planned maintenance shutdown of GC's Olefins plants in 3Q2023 than in 2Q2023 despite the lower average selling price of Olefins products.

EBITDA of Petrochemical and Refining business in 3Q2023 was Baht 43,394 million, increased by Baht 34,929 million or more than 100.0% from Baht 8,465 million in 2Q2023. There was operating income of Baht 32,032 million in 3Q2023, increased by Baht 34,760 million or more than 100.0% when compared with operating loss of Baht 2,728 million in 2Q2023, details are as follows:

- **Refinery performance** increased as Market GRM increased from US\$ 4.1 per bbl in 2Q2023 to US\$ 11.3 per bbl in 3Q2023 mainly from an increase in product spreads of diesel and jet over crude oil. Moreover, stock gain increased (there was stock gain of US\$ 6.5 per bbl in 3Q2023 versus stock loss of US\$ 1.8 per bbl in 2Q2023) while sales volume decreased as aforementioned.
- **Petrochemical performance** also increased mainly from Olefins business due to an increase in sales volume as aforementioned in spite of a decrease in PE spreads. On the other hand, Aromatics business performance decreased primarily due to a decrease in sales volume as aforementioned, as well as the decrease in BZ and PX spread.

The overall performance of Petrochemical and Refining business in 3Q2023 increased compared to 2Q2023 due to an increase in operating income as aforementioned and a decrease in loss on foreign exchange rate following the less Thai Baht depreciation in 3Q2023 than in 2Q2023. Although there was higher loss from oil price hedging in 3Q2023 as compared to 2Q2023.

First nine-month of 2023 compared with First nine-month of 2022

In 9M2023, sales revenue of Petrochemical and Refining business was Baht 998,207 million, decreased by Baht 175,012 million or 14.9% primarily due to Refinery business from a decrease in average selling price following the decrease in global petroleum product prices. However, sales volume increased primarily from higher refineries' utilization rates of PTT Group from 100.2% in 9M2022 to 102.3% in 9M2023.

Sales revenue of Petrochemical business, both from Olefins and Aromatics businesses, decreased due to the lower average selling price. In addition, sales volume decreased due to the lower utilization rate in line with market situation and planned turnaround of Olefins and Aromatics plants in 9M2023.

EBITDA of Petrochemical and Refining business in 9M2023 was Baht 70,899 million, decreased by Baht 41,643 million or 37.0% from Baht 112,542 million in 9M2022. There was operating income of Baht 37,311 million in 9M2023 decreased by Baht 42,821 million or 53.4% when compared with Baht 80,132 million in 9M2022, details are as follows:

- **Refinery performance** decreased as Market GRM decreased from US\$ 11.4 per bbl in 9M2022 to US\$ 7.9 per bbl in 9M2023 mainly from a decrease in product spreads of diesel, jet, and gasoline over crude oil, while crude premium decreased. Moreover, stock gain decreased (there was stock gain of US\$ 0.4 per bbl in 9M2023 versus US\$ 2.6 per bbl in 9M2022). Conversely, there was an increase in sales volume as aforementioned.
- **Petrochemical performance** also decreased mainly from Olefins business due to a decrease in PE spreads and sales volume as aforementioned, while Aromatics business performance increased from PX and byproduct spread despite a decrease in sales volume as aforementioned.

However, the overall performance of Petrochemical and Refining business in 9M2023 increased when compared with 9M2022 due to the significant decrease in loss from oil price hedging in 9M2023 and a decrease in loss on foreign exchange rate following the less Thai Baht depreciation in 9M2023 than in 9M2022.

3. New Business and Infrastructure Business Group

	3Q2022	2Q2023	3Q2023	% Inc. (Dec.)		9M2022	9M2023	% Inc. (Dec.)
				YoY	QoQ			
Power sales volume (GWh)	5,494	3,590	3,771	(31.4%)	5.0%	15,977	11,568	(27.6%)
Steam sales volume (Thousand tons)	3,831	3,422	3,516	(8.2%)	2.7%	11,288	9,963	(11.7%)

Third quarter of 2023 compared with Third quarter of 2022

In 3Q2023, sales revenue of New Business and Infrastructure business was Baht 30,144 million, decreased by Baht 12,771 million or 29.8%. This was owing primarily to GPSC's Independent Power Producer (IPP) power plants whose Energy Payment (EP) revenue decreased due to lower dispatch volume to Electricity Generating Authority of Thailand (EGAT) and reserve shutdown of GHECO-One power plant instructed by EGAT since March 2023. Furthermore, revenue from Small Power Producer (SPP) power plants also decreased following lower electricity and steam average selling prices. Moreover, sales revenue of PTTGM's pharmaceutical business decreased compared to 3Q2022 when there was a large order of Lenalidomide after being launched in the US.

EBITDA in 3Q2023 was Baht 7,862 million, increased by Baht 1,253 million or 19.0%. The operating profit in 3Q2023 was Baht 4,233 million, increased by Baht 1,370 million or 47.9% mainly from higher gross profit of GPSC following an increase in gross profit of SPP power plants due to higher profit margin on electricity sales to industrial customers in line with Ft which better reflected energy prices compared with previous period when electricity selling price substantially lagged behind

the soaring energy cost. Moreover, energy cost also decreased. Meanwhile, gross profit of PTTGM decreased following lower sales revenue.

The overall performance of New Business and Infrastructure business in 3Q2023 increased when compared with 3Q2022 mainly from GPSC following the higher performance in line with increase in EBITDA.

Third quarter of 2023 compared with Second quarter of 2023

In 3Q2023, sales revenue of New Business and Infrastructure business was Baht 30,144 million, decreased by Baht 1,095 million or 3.5% mainly from GPSC whose revenue from SPP power plants decreased due to lower electricity and steam average selling prices despite an increase in electricity and steam sales volume. However, revenue from PTTGM's pharmaceutical business increased following higher sales volume especially in the US and South Korea.

EBITDA in 3Q2023 was Baht 7,862 million, increased by Baht 1,699 million or 27.6%. The operating profit in 3Q2023 was Baht 4,233 million, increased by Baht 2,007 million or 90.2% from 2Q2023 primarily from higher gross profit of GPSC's SPP power plants mainly from higher electricity and steam sales volume and lower energy cost, together with resumed operation of GLOW Phase 5 power plant where maintenance shutdown was scheduled in previous quarter.

The overall performance of New Business and Infrastructure business in 3Q2023 increased when compared with 2Q2023 following the improved EBITDA of GPSC as aforementioned.

First nine-month of 2023 compared with First nine-month of 2022

In 9M2023, sales revenue of New Business and Infrastructure business was Baht 97,288 million, decreased by Baht 8,161 million or 7.7% mainly from revenue of GPSC's IPP power plants whose EP revenue decreased due to lower dispatch volume to EGAT. While, revenue of PTTGM's pharmaceutical business increased from deliveries of Lenalidomide throughout this year after being launched in the US since September 2022.

EBITDA in 9M2023 was Baht 20,779 million, increased by Baht 6,834 million or 49.0%. The operating profit in 9M2023, was Baht 9,857 million, increased by Baht 5,549 million or over 100.0% primarily from higher gross profit of GPSC's SPP power plants as it better reflected energy prices together with lower energy cost. In addition, gross profit of PTTGM's pharmaceutical business also increased from higher revenue as aforementioned.

The overall performance of New Business and Infrastructure business in 9M2023 increased when compared with 9Q2022 mainly from performances of GPSC and PTTGM following the higher EBITDA as aforementioned.

Overall Performance of PTT and its Subsidiaries

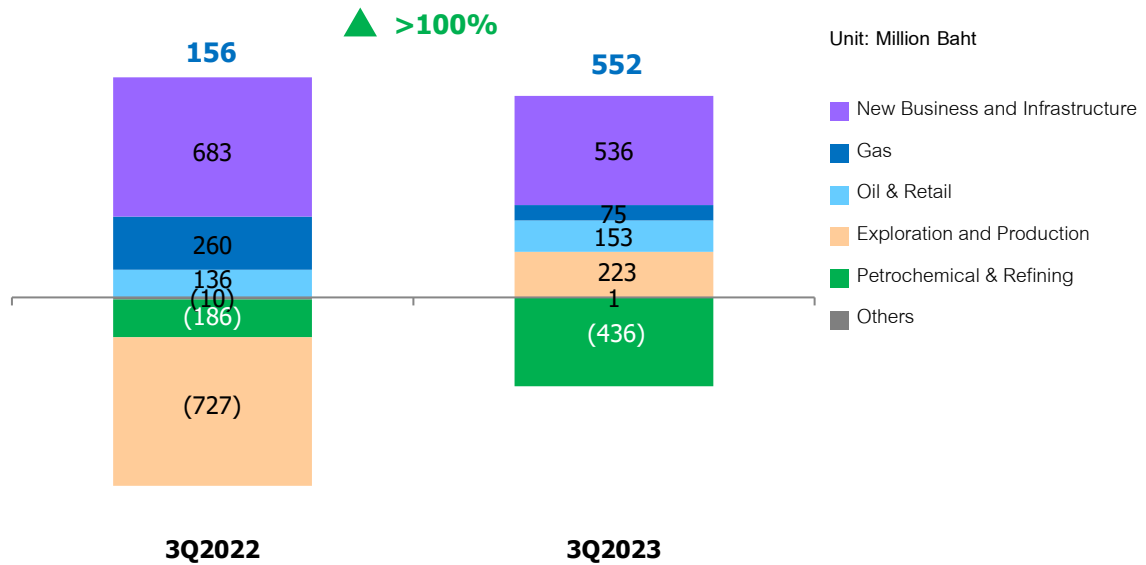
Third quarter of 2023 compared with Third quarter of 2022

In 3Q2023, sales revenue of PTT and its subsidiaries was reported at Baht 802,683 million decreased from 3Q2022 by Baht 81,927 million or 9.3%. This was driven mainly by a decrease in sales revenue of International Trading business and Petrochemical and Refining business which was in line with the fall in global petroleum and petrochemical prices despite an increase in sales volume. Gas business's sales revenue declined mainly from S&M business in line with lower average selling price following pool gas price, as well as lower selling price to industrial customers following the drop in referenced price in spite of higher sales volume. In addition, sales revenue of New Business and Infrastructure group decreased both from IPP and SPP power plants following a decrease in overall electricity and steam sales volume. Additionally, Exploration and Production business's sales revenue decreased mainly from the lower average selling price and sales volume. Others business's sales revenue declined from disposal of coal business in 1Q2023.

EBITDA in 3Q2023 was Baht 146,025 million, increased by Baht 53,745 million or 58.2%. This was mainly from Petrochemical and Refining business. Refining business's performance increased mainly due to an increase in stock gain. PTT Group's stock gain in 3Q2023 was approximately Baht 20,000 million, while in 3Q2022 there was a stock loss approximately Baht 25,000 million. In addition, market GRM increased from US\$ 6.8 per bbl in 3Q2022 to US\$ 11.3 per bbl in 3Q2023 due to higher spread of gasoline and fuel oil over crude oil, lower crude premium, as well as an increase in sales volume. Moreover, Petrochemical business's performance increased mainly from Aromatics business on account of higher product to feed. Gas business's performance increased mainly from S&M business due to lower gas cost of industrial customers following pool gas price and higher sales volume despite lower average selling price. Additionally, NGV business had better performance owing to lower gas cost following pool gas price, as well as higher selling price. Oil and Retail business's performance also increased mainly from an increase in average gross margin per liter and sales volume. Whereas Others business's performance decreased from disposal of coal business in 1Q2023.

The depreciation and amortization expenses of 3Q2023 were Baht 48,388 million, increased by Baht 3,247 million or 7.2% mainly from G1/61 Project of PTTEP.

Share of profit from investments in joint ventures and associates



In 3Q2023, the share of profit from investments in joint ventures and associates was Baht 552 million, increased by Baht 396 million or more than 100.0% from 3Q2022. This was from higher performance of joint ventures in Exploration and Production business mainly from APICO LLC due to the write off of exploration wells in Thailand in 3Q2022. However, performance of joint ventures in Petrochemical and Refining business was lower mainly from NatureWorks LLC following the lower sales volume and product spread, and New Business and Infrastructure business's associates had lower performance mainly from Xayaburi Power Company Limited (XPCL) according to lower water level compared with 3Q2022 when water level was higher than normal.

In 3Q2023, loss on derivatives was Baht 17,530 million, increased by Baht 30,602 million or more than 100.0% mainly from commodity derivatives of PTT International Trading Pte. Ltd. (PTTT) and TOP.

In 3Q2023, loss on foreign exchange rate was Baht 1,781 million, decreased by Baht 18,069 million or 91.0% mostly from a decrease in unrealized loss on US currency loans as a result of less Thai Baht depreciation in 3Q2023 than 3Q2022. (Thai Baht depreciation in 3Q2023 was Baht 0.97 per US\$, while Thai Baht depreciation in 3Q2022 was Baht 2.61 per US\$).

Finance costs was Baht 11,969 million in 3Q2023, increased by Baht 1,828 million or 18.0% mainly due to an increase in bonds and loans of PTT, PTTEP, GC, and GPSC as well as higher interest rate in line with money market.

In 3Q2023, there were loss recognition of non-recurring items (PTT's portion after tax) approximately Baht 40 million, while in 3Q2022, there were loss recognition approximately Baht 2,000 million (see appendix).

The corporate income taxes in 3Q2023 was Baht 24,512 million, increased by Baht 8,053 million or 48.9% mainly from higher performance of TOP and PTT.

As a result, PTT and its subsidiaries' net profit in this quarter amounting to Baht 31,297 million, increased by Baht 22,422 million or more than 100.0% from net profit of Baht 8,875 million in 3Q2022.

Third quarter of 2023 compared with Second quarter of 2023

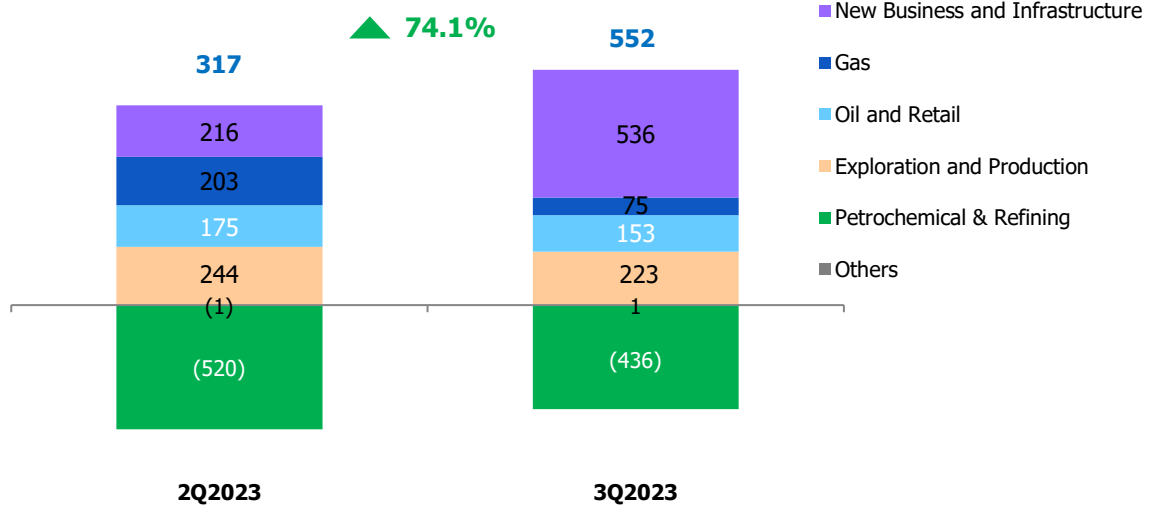
In 3Q2023, PTT and its subsidiaries' sales revenue was reported at Baht 802,683 million, increased from 2Q2023 by Baht 24,618 million or 3.2%. This was mainly from higher sales revenue of International Trading business and Exploration and Production business following higher average selling price in line with global petroleum price and higher sales volume. In addition, Petrochemical and Refining business and Oil and Retail Business's sales revenue also increased from higher average selling price despite lower sales volume. However, sales revenue of Gas business declined which resulted mainly from S&M business as a result of lower sales volume of the power customers following the lower electricity consumption in the country and higher electricity generation from hydropower plants in rainy season combined with lower average selling price following pool gas price. While, GSP business's sales revenue increased due to higher production volume following an increase in gulf gas production of G1/61. New business and Infrastructure business's sales revenue also decreased mainly from GPSC which had lower revenue from SPP power plants due to the drop in average electricity and stream selling prices despite the higher average sales volume. However, revenue from PTTGM's pharmaceutical business increased following higher sales volumes especially in the US and South Korea.

EBITDA in 3Q2023 was Baht 146,025 million, increased by Baht 53,400 million or 57.7%. This was mainly from Petrochemical and Refining business. Refining business's performance increased as market GRM rose from US\$ 4.1 per bbl in 2Q2023 to US\$ 11.3 per bbl in 3Q2023 due to higher spread of gasoil and jet over crude oil and higher stock gain. PTT Group's stock gain in 3Q2023 was approximately Baht 20,000 million, while there was a stock loss of approximately Baht 4,000 million in 2Q2023. Petrochemical business's performance also increased mainly from Olefins which had higher sales volume. In addition, Exploration and Production business's performance increased due to higher average selling price and sales volume. Moreover, Oil and Retail business's performance increased mainly from higher average gross margin per unit, even lower sales volume. New Business and Infrastructure business's performance also increased mainly from GPSC due to higher gross margin from SPP which was driven by higher sales volume of electricity and steam, as well as lower energy cost. Besides, Gas business's EBITDA increased due to an improve in NGV's business performance from lower gas cost following lower pool gas price together with an increase in average selling price for all customers. Additionally, GSP's gross margin increased following higher sales volume.

The depreciation and amortization expenses in 3Q2023 were Baht 48,388 million, increased by Baht 7,348 million or 17.9% mainly from G1/61 Project from higher sales volume and capitalization of completed assets together with higher sales volume of Malaysia Project.

Share of profit from investments in joint ventures and associates

Unit: Million Baht



In 3Q2023, the share of profit from investments in joint ventures and associates was Baht 552 million, increased by Baht 235 million or 74.1% mainly from New Business and Infrastructure business's associates had higher performance, mainly from XPCL's higher performance according to seasonal higher water level. However, Avaada Energy Private Limited (AEPL) had lower performance as seasonal lower electricity production volume. Gas business's joint ventures also had lower performance mainly from Trans Thai - Malaysia (Malaysia) Sbd. Bhd. (TTM(M)).

In 3Q2023, there was loss on derivatives amounting to Baht 17,530 million, increased by Baht 19,170 million or more than 100.0% mainly from commodity derivatives of TOP, PTTT, and GC.

In 3Q2023, loss on foreign exchange was Baht 1,781 million, decreased by Baht 6,124 million or 77.5% mainly from lower unrealized loss on US currency loans as a result of less Thai Baht depreciation compared with previous quarter. (Thai Baht depreciation in 3Q2023 was Baht 0.97 per US\$, Thai Baht depreciation in 2Q2023 was Baht 1.49 per US\$).

Finance costs was Baht 11,969 million in 3Q2023 which was close to 2Q2023.

In 3Q2023, there were loss recognition of non-recurring items (PTT's portion after tax) approximately by Baht 40 million. While in 2Q2023, there were gain recognition of approximately Baht 20 million (see appendix).

The corporate income taxes in 3Q2023 was Baht 24,512 million, increased by Baht 10,401 million or 73.7% resulted primarily from higher performance of TOP and PTTEP's Projects in Oman and Malaysia.

As a result, PTT and its subsidiaries' net profit in this quarter amounting to Baht 31,297 million, increased by Baht 11,190 million or 55.7% from net profit of Baht 20,107 million in 2Q2023.

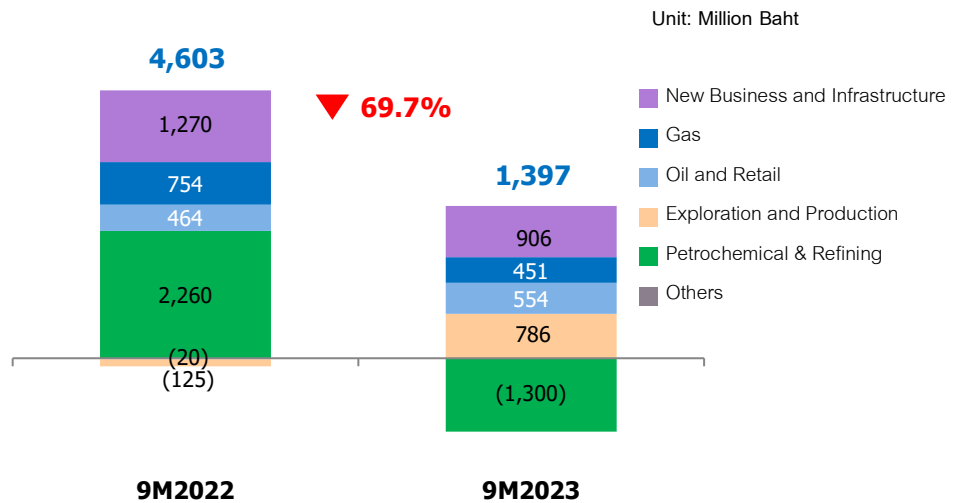
First nine-month of 2023 compared with First nine-month of 2022

In 9M2023, sales revenue of PTT and its subsidiaries' was reported at Baht 2,337,438 million, decreased from 9M2022 by Baht 232,591 million or 9.1%. This was driven mainly by a decrease in sales revenue of International Trading business from lower average selling price in line with global petroleum and petrochemical prices despite higher sales volume. Petrochemical and Refining business's revenue also decreased mainly from Refining business which had lower average selling price despite higher sales volume. In addition, Petrochemical business's revenue decreased both from lower average selling price and sales volume. Gas business's sales revenue also decreased mainly from S&M business which had lower average selling price following pool gas price, as well as lower selling price to industrial customers following referenced prices despite higher sales volume. Moreover, sales revenue of TM business decreased mainly from the revision of gas pipeline tariff since August 2022 and sales revenue of GSP business also decreased from lower average selling prices for all products in line with petrochemical referenced prices and lower sales volume. Others business's sales revenue decreased from disposal of coal business in 1Q2023.

EBITDA in 9M2023 was Baht 342,658 million, decreased by Baht 73,311 million or 17.6%. This was mainly from Petrochemical and Refining business's performance. Refining business had lower performance as market GRM decreased from US\$ 11.4 per bbl in 9M2022 to US\$ 7.9 per bbl in 9M2023 due to lower spread of diesel, jet, and gasoline over crude oil in spite of a decrease in crude premium. Moreover, PTT Group's stock gain decreased, as there was stock gain approximately Baht 10,000 million in 9M2023 compared with approximately Baht 22,000 million in 9M2022 despite an increase in sales volume. Petrochemical business's performance decreased from Olefins' lower product to feed and sales volume. While Aromatics' performance increased from higher spread of PX to feed in spite of lower sales volume. Others business's performance also decreased from disposal of coal business in 1Q2023. In addition, Exploration and Production business's performance decreased due to lower average selling price, notwithstanding a slight increase in average sales volume.

The depreciation and amortization expenses of 9M2023 were Baht 130,686 million, increased by Baht 8,165 million or 6.7% mainly from PTTEP's G1/61 Project.

Share of profit from investments in joint ventures and associates



In 9M2023, the share of profit from investments in joint ventures and associates was Baht 1,397 million, decreased by Baht 3,206 million or 69.7%. This was primarily from lower performance of joint venture in Petrochemical and Refining business mainly from HMC Polymers Co., Ltd. (HMC) and AGC Vinythai Public Co., Ltd. (AVT) due to lower product to feed.

In 9M2023, there was loss on derivatives amounting to Baht 17,758 million, decreased by Baht 52,654 million or 74.8% mainly from commodity derivatives of GC, TOP, PTTT, IRPC and PTTEP.

In 9M2023, gain on foreign exchange was Baht 426 million, increased by Baht 27,585 million or more than 100.0% while there was loss on foreign exchange in 9M2022 as a result of Thai Baht depreciation. (Thai Baht depreciation in 9M2023 was Baht 1.99 per US\$, Thai Baht depreciation in 9M2022 was Baht 4.48 per US\$).

In 9M2023, there were loss from non-recurring items (PTT's portion after tax) approximately Baht 100 million, while in 9M2022, there were loss approximately Baht 2,600 million (see appendix).

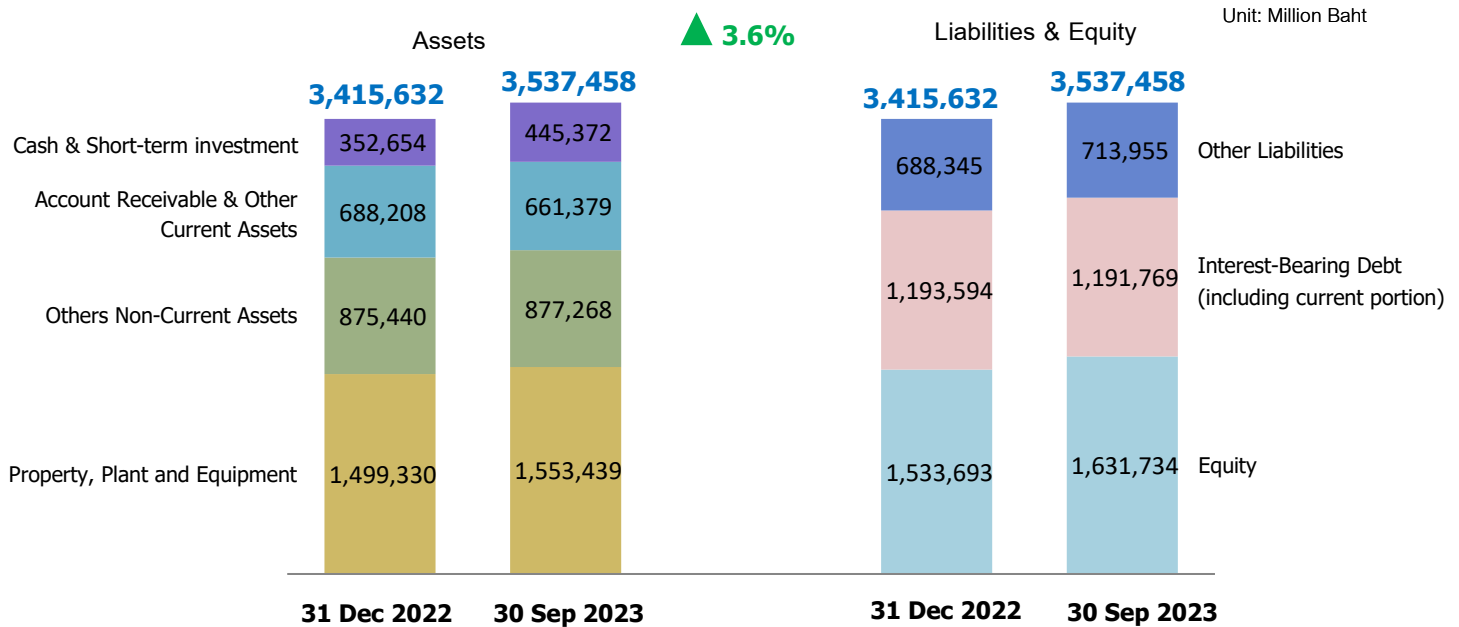
Finance costs was Baht 34,249 million in 9M2023, increased by Baht 7,513 million from 9M2022 or 28.1% mainly from PTTEP, GC, PTT, GPSC and PTTGM due to loans and bonds issuance as well as higher market interest rates.

The corporate income taxes in 9M2023 was Baht 61,989 million, decreased by Baht 11,118 million or 15.2% mainly from PTTEP's Projects in Thailand, Oman, and Malaysia in accordance to lower performance and TOP's income taxes from disposal and fair value measurement of investment in GPSC in 2Q2022.

This was resulted in PTT Group's net profit in 9M2023 amounting to Baht 79,259 million, increased by Baht 6,749 million or 9.3% from net profit amounting to Baht 72,510 million in 9M2022.

The Analysis of PTT Group Consolidated Financial Position

As of 30 September 2023 compared with 31 December 2022



Assets

As of 30 September 2023, total assets of PTT Group was Baht 3,537,458 million, increased by Baht 121,826 million or 3.6% compared with 31 December 2022 from the followings;

- : Cash and cash equivalents and short-term investments increased by Baht 92,718 million primarily from PTT Group's operating activities.
- : Trade account receivables and other current assets decreased by Baht 26,829 million or 3.9% mainly from the followings;
 - Other account receivables decreased by Baht 73,165 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 22,092 million from the disposal of coal business of PTTGM.
 - Current derivative assets decreased by Baht 8,950 million mainly from commodity derivative assets of PTTT.
 - Trade accounts receivable increased by Baht 48,165 million from an increase in sales volume mainly from PTTT, PTT International Trading London Limited (PTTT LDN), PTT, and GC.
 - Inventories increased by Baht 26,953 million due to an increase in inventory levels and higher selling prices, mainly from PTT, PTTT, and OR.
- : Other non-current assets increased by Baht 1,828 million or 0.2% mainly from;
 - Goodwill increased by Baht 4,577 million from currency translation differences of GC.

- Exploration and evaluation assets increased by Baht 3,017 million from currency translation differences of PTTEP.
- Deferred tax assets decreased by Baht 5,622 million primarily due to the end of concession of Bongkot project of PTTEP.

: Property, Plant, and Equipment (PPE) increased by Baht 54,109 million or 3.6% mainly from PTTEP's exploration and evaluation assets of G1/61 and G2/61 Projects and TOP's construction in progress of Clean Fuel Project (CFP), including PTT LNG's Nong Fab LNG Receiving Terminal project.

Liabilities

As of 30 September 2023, PTT Group had total liabilities of Baht 1,905,724 million, increased by Baht 23,785 million or 1.3% from 31 December 2022, mainly from the followings;

: Other liabilities increased by Baht 25,610 million or 3.7% mainly from an increase in trade accounts payables due to higher sales volume from PTT, PTTT and PTTT LDN and an increase in long-term provision for decommissioning costs mainly from G2/61 Project of PTTEP inspite of a decrease in income tax payable mainly from PTTEP and a decrease of commodity derivative liabilities of PTTT.

: Interest-bearing debt decreased by Baht 1,825 million or 0.2% due to a decrease in lease liabilities by Baht 1,996 million from the repayment and a decrease in short-term loans by Baht 297 million mainly from the repayment of TOP. However, long-term loans increased by Baht 468 million mainly from currency translation differences and loss on exchange rate despite the decrease from the repayment mainly from TOP, OR, and PTT.

Equity

As of 30 September 2023, PTT Group had total shareholders' equity of Baht 1,631,734 million increased by Baht 98,041 million or 6.4% from 31 December 2022 as a result of the 9M2023 net income of Baht 79,259 million offset with dividend payment from the operating results of the second half of 2022 amounting to Baht 0.70 per share and interim dividend from the operating results of the first half of 2023 amounting to Baht 0.80 per share which the total amount of dividend is approximately Baht 42,844 million. Non-controlling interests increased by Baht 28,868 million mainly from net income of subsidiaries.

Liquidity

For the 9-month ended 30 September 2023, PTT Group had net increase in cash and cash equivalents amounting to Baht 61,861 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 401,915 million. Details of cash flow by activities are as follows:

	Unit: Million Baht
	Consolidated Financial statement
Net cash provided by operating activities	295,692
Net cash used in investing activities	(139,727)
Net cash used in financing activities	(103,050)
Effects of exchange rates on cash and cash equivalents	5,632
Exchange differences on translation	3,314
Net increase in cash and cash equivalents during the period	<u>61,861</u>
Cash and cash equivalents at the beginning of the period	<u>340,054</u>
Cash and cash equivalents at the end of the period	<u>401,915</u>

Net cash provided by operating activities of Baht 295,692 million was derived from Baht 171,832 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 130,686 million of depreciation and amortization expenses, Baht 34,249 million of finance costs, and Baht 13,305 million of loss on exchange rate. The decrease in cash flow from operating activities mainly resulted from Baht 8,497 million of interest income, Baht 8,460 million of unrealized gain on fair value of commodity contracts, and the change in net operating assets resulted in the increase in cash flow of Baht 36,576 million while there were income taxes paid of Baht 71,313 million.

Net cash used in investing activities was Baht 139,727 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 125,667 million mainly from investment in exploration and production assets in G1/61 Project, G2/61 Project, Zawtika Project, and S1 project of PTTEP, and investment in Bang Pakong–South Bangkok power plant transmission pipeline project, 7th Gas Separation Plant, the 5th transmission pipeline project, and GSP Logistics Management of PTT, GC's Olefins 2 Modification project, CFP project of TOP, and IRPC's Ultra Clean Fuel Project (UCF).

: The cash outflow from short-term investment in financial assets amounting to Baht 24,508 million mainly from investing in fixed deposit of PTT, PTTEP, and TOP.

: Interests and dividends received amounting to Baht 12,421 million mainly from PTTEP, GC, PTT, and PTT Treasury Center Co., Ltd. (PTT TCC).

Net cash used in financing activities was Baht 103,050 million mainly from the followings;

: Dividend payment amounting to Baht 38,985 million mainly from PTT and PTTEP.

: Finance costs paid amounting to Baht 36,540 million mainly from PTT, GC, TOP, and GPSC.

: The net cash outflow of short-term and long-term loans amounting to Baht 32,677 million mainly from TOP, OR, and PTTEP.

Financial ratios and earnings per share of PTT Group

Financial Ratio	Unit	9M2022	9M2023
<u>Profitability Ratios</u>			
Gross profit margin	%	15.19	12.87
Net profit margin	%	3.87	4.70
<u>Solvency Ratios</u>			
Interest coverage	Times	15.56	10.00
<u>Earnings per share</u>			
Earnings per share	Baht/share	2.55	2.77

Financial Ratio	Unit	31 Dec 2022	30 Sep 2023
<u>Liquidity Ratios</u>			
Current ratio	Times	1.76	1.77
Quick ratio	Times	0.96	1.14
<u>Solvency Ratios</u>			
Debt to equity	Times	0.78	0.73

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 Fourth Quarter of 2023

The world economy in 4Q2023 is expected to slowdown from 3Q2023, partly attributed to the continued tightening of monetary conditions in major economies, especially the US and Euro Area, as a result of the cumulative effects of interest rate hikes amid persistent concerns about higher-than-target-threshold inflation, although there were signs of a slowdown. Meanwhile, the Chinese economy is expected to recover after the government accelerated the implementation of economic stimulus and economic recovery measures amid the problems in real estate sector that are expected to remain unresolved and a decrease in exports in line with the global economic slowdown. Moreover, the global economy continued facing downside risks from geopolitical issues, including escalating tensions in the Middle East and prolonged conflict between Russia and Ukraine, as well as worsening food supply crisis from climate change and the return of El Niño.

According to the S&P Global's report in November 2023, global oil demand in 4Q2023 is expected to decrease 0.2 MMBD from 3Q2023, resulting in a forecasted demand of 103.3 MMBD. This decline is attributed to a global economic slowdown. Nevertheless, gradual return of demand in China after the lifting of the Zero-COVID policy and reopening of the country including China's economic stimulus measures are likely to support oil market. Moreover, Saudi Arabia, the OPEC+ group leader, announced an additional voluntary oil production cut by 1 MMBD from July to December 2023. The previous plan was to reduce production by 3.66 MMBD. In addition, Russia also announced to voluntarily reduce export volume by 0.3 MMBD in September to December 2023. However, concerns over the economic recession still pressured oil prices. In 4Q2023, Dubai crude oil price is expected to average at US\$85 – 90 per barrel, and Singapore GRM is expected to average at US\$4.5 – 5.5 per barrel.

The price of petrochemical products in 4Q2023 for the Olefin segment is trending upward, driven by an expected increase in end-user product demand, particularly from China, and rising raw material costs. Whereas, Aromatic prices are anticipated to rise for BZ, whereas PX prices are expected to experience a modest decrease from the elevated levels seen in late 3Q2023. However, there is still a concern over the global economic slowdown and the upcoming of new supplies.

- **Olefin prices** in 4Q2023 are expected to move within the range of US\$1,040 - 1,060 per ton for HDPE and US\$970 - 990 per ton for PP, showing a slight increase from the previous quarter. This increase is supported by higher end-user demand as a result of economic stimulus measures in China, the year-end holiday season through to the Chinese New Year, and lower supply from production facilities either reducing production capacity or extending maintenance shutdowns to maintain competitive profit margins in the industry. However, the higher supply is influenced by an increased in production capacity from Propane Dehydrogenation (PDH) and excess supply from North Asian entering the Southeast Asian market, along with concerns about geopolitical tensions that may impact price fluctuations.

- **Aromatics** prices in 4Q2023 are expected to be slightly higher for BZ, with average price moving around US\$900 - 920 per ton, from higher demand during the year-end and reduction of operating rate due to low profitability, while PX price is expected to be around US\$1,010 - 1,030 per ton. However, the concerns over the global economic slowdown and the intensified conflict in the Middle East, combined with increasing supply due to the restart of petrochemical plants and the upcoming of new capacities in China, will put pressure on the aromatics market.

The price of propane (C3) in 4Q2023 is expected to show an upward trend, with propane price expected to fluctuate within the range of US\$590-610 per ton, due to higher demand from India following the Diwali festival that leads to more travel and propane use, and the implementation of government measures to reduce domestic household LPG price starting from 30 August 2023, coupled with decreased supply as a result of maintenance shutdowns in refineries in the Middle East and India. However, entering the winter season, which typically drives up demand for propane, is expected to have a limited impact due to pressure from the El Niño effect, leading to milder than usual of late-year weather conditions. Furthermore, the demand for propane from Propane Dehydrogenation (PDH) plants is anticipated to decrease due to adjustments in production capacity or delays in opening new facilities, driven by relatively low margins in the petrochemical industry.

The Thai economy in 4Q2023 is expected to accelerate from 3Q2023, primarily driven by a continued expansion in private consumption, coupled with a strong recovery trend in tourism sector due to high season demand and the government's introduction of a "visa-free" policy, which will exempt tourist visa for Chinese and Kazakhstani starting from 25 September 2023 to 29 February 2024 and for Indian and Taiwanese from 10 November 2023 to 10 May 2024, to further stimulate urgent tourism growth. Private investment would gradually improve in line with the rise in business confidence amid clearer economic policies. Meanwhile, merchandise exports remain fragile due to the vulnerability of the global economy. Furthermore, the Thai economy in 4Q2023 will be bolstered by new government's stimulus packages, including lower diesel price and electricity bill. However, Thai economy expansion would remain highly uncertain and could face downside risks, including the possibility of a global economic slowdown beyond expectations due to the lagging effects of major central banks' monetary policy actions as well as slower growth in China, the prolonged conflict in the middle east and between Russia-Ukraine, and the elevated and uncertain drought conditions stemming from El Niño.

Major Project Plan

Gas Business Group: The progress of major projects

Pipelines Transmission Projects

Total Project Progress of the 5th Transmission Pipeline (Rayong - Sai Noi – North/South Bangkok power plants) as of September 2023 was at 97.79% (Including 3 phases construction).

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.

Gas Separation Plant Unit 8 (GSP#8)

Project Progress as of September 2023: PTT has completed the Front End Engineering Design and has been in the process of negotiating contract terms with customers. Then, the process of contractor bidding will be the next step.

LNG Project:

LNG Receiving Terminal Project (LNG Receiving Terminal 3) is a 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. The Project 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 in 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 – 4 Oct : 4 days) Major SD (1 – 25 Nov : 25 days)
GSP #3		SD (11 Apr – 8 May : 28 days)	Major SD (1 – 18 Sep : 18 days)	
ESP		TD (11 Apr – 8 May : 28 days)	TD 50% (1 – 30 Sep : 30 days)	TD 50% (1 – 4 Oct : 4 days) TD 50% (1 Nov – 4 Dec : 34 days)

Summary Planned Shutdown for Gas Separation Plants in 2024

Plant	1Q2024	2Q2024	3Q2024	4Q2024
GSP #1			SD (11 Days)	
GSP #5	TD 50% (31 Days)	TD 50% (14 Days)		
GSP #6		TD 50% (30 Days)	TD 50% (5 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, a holding company, owns shares in many companies which operate in various businesses such as Natural Gas Business, New Business and Infrastructure Business, Other Business (that included performance of Coal Business that was divested in 1Q2023).*

Appendix

The key of non-recurring items (PTT's portion after tax) in 3Q2023 compared with 3Q2022 and 2Q2023, together with 9M2023 compared with 9M2022 are summarized as follows:

Unit: Million Baht

Business	Item	3Q2022	2Q2023	3Q2023	9M2022	9M2023
Exploration and Production business	Impairment loss on assets held-for-sale from PTTEP BL of PTTEP	~ (2,300)			~ (2,300)	
	Write off asset from the end of concession of Bongkot Project					~ (500)
Gas business	Benefit from discount from production shortfall	~900	~20	~50	~2,500	~100
	PTT's contribution to oil fund during economic crisis	~ (1,000)			~ (1,000)	
Petrochemical and Refinery Business	TOP's tax on divestment of GPSC				~ (2,100)	
New Business and Infrastructure	Impairment of asset under PTTGM			~ (80)		~ (80)
	Gain on Ichinoseki Solar Power 1 GK divestment of GPSC				~350	
Others Business	Impairment of coal mining project in Madagascar of PTTGM				~(400)	