



# MANAGEMENT DISCUSSION & ANALYSIS

## 4Q2023 & YE2023



**PTT PUBLIC COMPANY LIMITED**

Management's Discussion and Analysis (MD&A) and operating result for the fourth quarter of 2023 and year ended December 31, 2023

Executive Summary

Unit: Million Baht	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
Sales Revenue	797,174	802,683	807,113	1.2%	0.6%	3,367,203	3,144,551	(6.6%)
EBITDA	75,319	142,292	87,970	16.8%	(38.2%)	491,288	426,895	(13.1%)
Net Profit	18,665	31,297	32,765	75.5%	4.7%	91,175	112,024	22.9%
Earnings per share (Baht/share)	0.65	1.09	1.15	76.9%	5.5%	3.20	3.92	22.5%
Average Dubai Price (US\$/barrel)	84.8	86.7	83.6	(1.4%)	(3.6%)	96.3	82.1	(14.7%)

In the fourth quarter of 2023 (4Q2023), PTT and its subsidiaries reported Earnings before Interest, Tax, Depreciation and Amortization (EBITDA) in an amount of Baht 87,970 million, increased by Baht 12,651 million or 16.8% from the fourth quarter of 2022 (4Q2022) at Baht 75,319 million. This was mainly from Petrochemical and Refining business. Refining business's performance increased mainly due to a decrease in stock loss. PTT Group's stock loss in 4Q2023 was approximately Baht 12,000 million, while in 4Q2022 there was a stock loss approximately Baht 18,000 million. In addition, sales volume increased, despite market GRM decreased from US\$ 7.9 per bbl in 4Q2022 to US\$ 6.2 per bbl in 4Q2023 mainly due to lower spread of diesel and jet over crude oil, despite lower crude premium. While Petrochemical business's performance decreased mainly from Performance Chemicals business following an economic slowdown. In addition, Olefins business's performance decreased from lower product to feed of PE. Gas business's performance increased mainly from Natural Gas for Vehicles (NGV) business which had lower loss owing to lower gas cost following pool gas price, as well as higher selling price and lower sales volume. And, Gas Separation Plant (GSP) business's performance improved from lower gas cost following a decrease in gulf gas price despite lower sales volume and average selling price. Additionally, New Business and Infrastructure business's performance increased from adjusted Ft which was better reflected the energy cost, and lower energy cost. Whereas Exploration and Production business's performance decreased mainly from lower average selling price and lower average sales volume. Others business's performance declined from disposal of coal business in the first quarter of 2023 (1Q2023). In 4Q2023, Net Income of PTT and its subsidiaries was Baht 32,765 million, increased by Baht 14,100 million or 75.5% from 4Q2022 at Baht 18,665 million following the higher EBITDA and higher gain on derivatives despite lower gain on foreign exchange rate. Moreover, there was loss recognition of non-recurring items (PTT's portion after tax) in 4Q2023 approximately Baht 400 million mainly from impairment loss on Mozambique Area 1 Project and assets write-off of AC/RL12 (Oliver) Project offset with a gain from divestment of AC/RL7 (Cash-Maple) Project of PTT Exploration and Production Public Company Limited (PTTEP). While, in 4Q2022, there was a loss recognition of approximately Baht 7,700 million mainly from impairment loss on Mozambique Area 1 Project, and the provision for the class action settlement from Montara incident of PTTEP.

In 4Q2023, PTT and its subsidiaries reported EBITDA in an amount of Baht 87,970 million, decreased by Baht 54,322 million or 38.2% from the third quarter of 2023 (3Q2023) at Baht 142,292 million. This was mainly from Petrochemical

*and Refining business.* Refining business's performance decreased due to higher stock loss. PTT Group's stock loss in 4Q2023 was approximately Baht 12,000 million, while there was a stock gain of approximately Baht 20,000 million in 3Q2023. In addition, market GRM fell from US\$ 11.3 per bbl in 3Q2023 to US\$ 6.2 per bbl in 4Q2023 due to lower spread of gasoline, diesel, and jet over crude oil, as well as higher crude premium. Petrochemical business's performance also decreased mainly from Olefins which had lower sales volume and product to feed of PE. In addition, **International Trading business** had lower performance mainly from lower margin per unit of international trading (out-out trading) and lower sales volume. **Oil and Retail business's** performance decreased mainly from lower gross margin of diesel and gasoline following global oil prices, together with higher net operating expenses, in spite of higher sales volume. **New Business and Infrastructure business's** performance also decreased mainly from Global Power Synergy Public Company Limited (GPSC) due to lower SPP's gross margin which was driven by lower Ft and sales volume of power and steam. Also, PTT Global Management Company Limited (PTTGM)'s performance decreased following the lower sales revenue as pharmaceutical business decreased following lower sales volume of Lenalidomide compared with previous quarter. Moreover, **Gas business's** performance decreased mainly from GSP business due to lower gross profit from a drop in sales volume together with an increase in gas cost following to the gulf gas price, while the average selling price of almost all products increased following the petrochemical referenced prices. Also, TM business's gross profit decreased from higher costs driven mainly from the maintenance expenses. In addition, NGV business incurred the higher losses due to the rise in gas cost following the pool gas price despite higher average selling price. **In 4Q2023, PTT and its subsidiaries' net income amounting to Baht 32,765 million increased by Baht 1,468 million or 4.7% from 3Q2023 at Baht 31,297 million.** This was mainly from higher gain on foreign exchange rate as well as higher gain on derivatives despite the decrease in EBITDA. In this regard, there was loss recognition of non-recurring items (PTT's portion after tax) in 4Q2023 approximately Baht 400 million mainly from impairment loss on Mozambique Area 1 Project and assets write-off of AC/RL12 (Oliver) Project offset with a gain from divestment of AC/RL7 (Cash-Maple) Project of PTTEP, while in 3Q2023, there was loss recognition of non-recurring items (PTT's portion after tax) approximately Baht 40 million mainly from PTTGM's impairment loss offset with the recognition of the production shortfall penalty of PTT.

*In 2023, PTT and its subsidiaries reported EBITDA in an amount of Baht 426,895 million, decreased by Baht 64,393 million or 13.1% from 2022 at Baht 491,288 million.* This was mainly from **Petrochemical and Refining business's** performance. Refining business had lower performance as Market GRM decreased from US\$ 10.7 per bbl in 2022 to US\$ 7.5 per bbl in 2023 due to lower spread of diesel, jet, and gasoline over crude oil in spite of a decrease in crude premium and an increase in sales volume. In addition, PTT Group's stock loss increased as there was stock loss approximately Baht 2,000 million in 2023 compared with stock gain approximately Baht 4,000 million in 2022. Moreover, Petrochemical business's performance decreased from Phenol and Olefins as lower product to feed. Performance chemicals business's performance decreased following the economic slowdown. In addition, **Exploration and Production business's** performance decreased due to lower average selling price and sales volume. **Others business's** performance also decreased from disposal of coal business in 1Q2023. Nevertheless, **New Business and Infrastructure business's** performance increased from GPSC with an increase in Ft, lower energy cost, and higher sales volume of power. Also, PTTGM's performance increased from pharmaceutical business following consistently delivering Lenalidomide starting in 2023 after market expansion into US since September 2022 and an increase in sales volume from market expansion in US and South Korea. **In 2023, Net Income of PTT and its subsidiaries was Baht 112,024 million, increased by Baht**

20,849 million or 22.9% from net profit amounting to Baht 91,175 million in 2022. This was driven mainly from lower loss on derivatives as well as higher gain on foreign exchange rate despite the decrease in EBITDA. In this regard, there was loss recognition of non-recurring items (PTT's portion after tax) in 2023 approximately Baht 500 million mainly from impairment loss on Mozambique Area 1 Project and assets write-off of AC/RL12 (Oliver) Project offset with a gain from divestment of AC/RL7 (Cash-Maple) Project of PTTEP. While, in 2022, the loss recognition was approximately Baht 10,300 million mainly from impairment loss on Mozambique Area 1 and assets held-for-sale from project in Brazil, as well as the provision for the class action settlement from Montara incident of PTTEP and PTT's contribution to oil fund during economic crisis offset with the recognition of the production shortfall penalty of PTT.

As of 31 December 2023, PTT and its subsidiaries had the total assets amounting to Baht 3,460,462 million, increased by Baht 44,830 million or 1.3% from 31 December 2022 which had total asset amounting to Baht 3,415,632 million. This was mainly from an increase in cash and cash equivalents and short-term investments as a result of 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 and G2/61 Projects and TOP's construction in progress of Clean Fuel Project (CFP). Whereas the total liabilities were reported at Baht 1,835,486 million, decreased by Baht 46,453 million or 2.5% from 31 December 2022 at Baht 1,881,939 million driven mainly from a decrease in interest-bearing debt following loan and bond repayment. Moreover, the total shareholders' equity was Baht 1,624,976 million increased by Baht 91,283 million or 6.0% from 31 December 2022 at Baht 1,533,693 million as a result of PTT and its subsidiaries' performance for the year 2023 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 Fourth Quarter of 2023

The world economy in 4Q2023 recovered from 3Q2023, following an acceleration in the Chinese economy, and the government's stimulus measures to revive the economy, coupled with a continued accommodative monetary policy. The Eurozone economy avoided a technical recession by not experiencing contraction as observed in the previous quarter. While, US economy expanded at a slower rate, following the continued monetary policy tightening by the Federal Reserve (the Fed). In the December 2023 meeting, the Fed maintained its interest rates at the highest level in 22 years, 5.25-5.50%, despite a downward trend in the inflation rate, putting pressure on private sector investments to decelerate. The International Monetary Fund (IMF) in January 2024 revised up its global growth forecast for 2023 to 3.1% from its October 2023 forecast of 3.0%.

According to S&P Global's report in January 2024, global oil demand in 4Q2023 averaged at 103.0 million barrels per day (MMBD), decrease from 3Q2023 at 103.4 MMBD amid slowing economic conditions, coupled with seasonally lower transportation activity, and warmer-than-average winter temperature. However, compared with 4Q2022 at 101.0 MMBD, the growth in oil demand corresponds with global economic expansion and recovery of non-OECD countries, particularly China.

Unit: \$/barrel	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
Average Dubai Crude Oil Price	84.8	86.7	83.6	(1.4%)	(3.6%)	96.3	82.1	(14.7%)
Gasoline Crack Spread	9.4	18.9	12.5	33.0%	(33.9%)	18.8	16.7	(11.2%)
Diesel Crack Spread	39.3	26.9	21.1	(46.3%)	(21.6%)	34.3	21.9	(36.2%)
FO Crack Spread (180 – 3.5%S)	(22.5)	(5.4)	(11.0)	51.1%	<(100.0%)	(14.1)	(10.3)	27.0%
GRM-Singapore Crack	6.3	9.5	5.5	(12.7%)	(42.1%)	10.7	6.8	(36.4%)

Dubai crude oil price in 4Q2023 averaged at US\$ 83.6 per barrel, decreased from 3Q2023 at US\$ 86.7 per barrel due to slow demand, while oil supply from both non-OPEC and OPEC+ producers increased. Compared with 4Q2022 at US\$ 84.8 per barrel, Dubai crude oil prices have declined as a result of subsiding supply concern related to geopolitical tension between Russia and Ukraine.

### Petroleum product prices at Singapore spot market

- Gasoline crack spread averaged at US\$ 12.5 per barrel in 4Q2023, down from US\$ 18.9 per barrel in 3Q2023 amid the end of the summer driving season in the US. Furthermore, rising gasoline inventory also put downward pressure on the crack spread. However, compared with 4Q2022 at US\$ 9.4 per barrel, the gasoline crack spread was higher amid improving demand from China's reopening.

- **Diesel crack spread** averaged at US\$ 21.1 per barrel in 4Q2023, decrease from 3Q2023 and 4Q2022 at US\$ 26.9 and US\$ 39.3 per barrel, respectively. This is mainly a result of new supply from the Middle East refinery. However, there was an increase in demand during winter season, albeit limited due to a warmer winter.
- **High-Sulfur Fuel Oil 3.5% crack spread (HSFO)** averaged at US\$ -11.0 per barrel in 4Q2023, decrease from US\$ -5.4 per barrel in 3Q2023 due to subsiding demand for electricity production from the Middle East. While there was more supply from Venezuela after the US temporarily eased sanctions. However, compared with 4Q2022 at US\$ -22.5 per barrel, the crack spread was higher due to lower HSFO inventory.

**Singapore Gross Refining margin (GRM)** in 4Q2023 averaged at US\$ 5.5 per barrel, a decrease from US\$ 9.5 and US\$ 6.3 per barrel in 3Q2023 and 4Q2022, respectively, following slow demand, while higher refinery throughput increased supply.

Unit: \$/Ton	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
HDPE: CFR SEA	1,033	1,032	1,023	(1.0%)	(0.9%)	1,202	1,044	(13.1%)
PP: CFR SEA – Film	995	969	968	(2.7%)	(0.1%)	1,205	1,007	(16.4%)
BZ: FOB Korea	825	899	888	7.6%	(1.2%)	1,029	897	(12.8%)
BZ -Naphtha	152	251	229	50.7%	(8.8%)	244	248	1.6%
PX: CFR Taiwan	979	1,073	1,014	3.6%	(5.5%)	1,103	1,038	(5.9%)
PX – Naphtha	306	425	355	16.0%	(16.5%)	319	388	21.6%
Naphtha (MOPJ)	673	648	659	(2.1%)	1.7%	785	649	(17.3%)
Propane (C3): ARAMCO CP	617	473	607	(1.6%)	28.3%	737	575	(22.0%)

In 4Q2023, Olefins and Aromatic petrochemical product prices decreased from 3Q2023 due to the high inventory level of end-user products as slowing end-user demand following a global economic slowdown, and an increase in new supply following the new production capacity that is gradually opening for operation; even though naphtha price has been increased compared with the previous quarter.

- **Olefins Product:** High-Density Polyethylene (HDPE) price decreased from 3Q2023, influenced by persistently low level of end-user demand, despite entering the year-end spending season. Although, for HDPE, there were supportive factors stemming from unplanned shutdown of petrochemical facilities in the Asian region. Whereas, Polypropylene (PP) price was closely aligned with 3Q2023, supported by a partial reduction of operating rate from the planned turnaround schedule of Propane Dehydrogenation (PDH) facilities in Asia. However, the incoming supply of PP from new petrochemical plants from China into Southeast Asia put downward pressure on the price.
- **Aromatics Product:** Benzene (BZ) price and spread between BZ and naphtha in 4Q2023 decreased from 3Q2023 due to the downstream demand for Styrene Monomer (SM) market remained persistently low after SM

producers decided to reduce the operating rate amid low-profit margin. In addition, slowing gasoline demand after the end of the driving season and new supplies in Asia also put pressure on BZ price. Paraxylene (PX) price and spread between PX and naphtha in 4Q2023 also decreased from 3Q2023, as the demand for downstream markets in both Purified Terephthalic Acid (PTA) and polyester remained limited although most producers reduced their operating rate from low-profit margins. Additionally, new supplies in China also put pressure on PX price.

Compared with the same quarter of the previous year, price of petrochemical products in the Olefins declined in line with a decrease in crude oil and naphtha prices, while price of Aromatics products increased, supported by rising demand for downstream markets amid economic recovery in China, as well as increased gasoline blending demand.

**The price of propane** in 4Q2023 increased from 3Q2023 due to increased demand for propane, particularly in the US and China, as some areas began to experience significantly lower temperature towards the end of the year, coupled with the influx of buyers in India ahead of the Diwali Celebration. Additionally, tension between Israel and Hamas in the beginning of the fourth quarter and congestion issue in the Panama Canal due to reduced water level also contributed to the increased transportation costs, leading to an upward adjustment in propane price. However, the market was still pressured by warm winter in several areas such as Japan and South Korea, attributed to El Niño, along with reduced production capacity or delays in opening new petrochemical plants due to low profit margin.

Compared with the same quarter of the previous year, the price of propane in 4Q2023 slightly decreased, as the global economy continued to be pressured by persistently high interest rate and slow recovery in the petrochemical sector.

**The Thai economy** in 4Q2023 continued to expand from 3Q2023, on account of a continued expansion in private consumption amid the recovery in household income and government policies to ease cost of living and stimulus spending. Additionally, the tourism sector showed a clear recovery trend amidst high season demand and government implementation of urgent tourism schemes, including temporary visa exemptions for Chinese, Kazakhstan, Taiwan, and Indian tourists, as well as an extension in the duration of stay for Russian tourists. Merchandise export rebounded as global trade improved. Private investment slightly improved after accelerating in previous period, in line with progress in Public-Private Partnership (PPP) projects and an increase in the number of projects registered for investment promotion. However, the delay of the 2024 Budget Act and limited fiscal space put pressure on government spending. The Fiscal Policy Office (FPO) in January 2024 revised down its Thai economic forecast for 2023 to 1.8% from its October 2023 forecast of 2.7%.

## Non-recurring Items in 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 was capped at 13.62 Baht/kg. and for general cars at 17.59 Baht/kg. Subsequently, on 16 June 2023, PTT 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 was capped at 18.59 Baht/kg. until 15 September 2023 and adjusted to 19.59 Baht/kg. until 31 December 2023. Subsequently, PTT's Board of Directors Meeting 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 until 30 June 2024 and 18.59 Baht/kg. for public cars until 31 December 2025. For general car, the price has been capped at 19.59 Baht/kg. until 15 May 2024. 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



	<p>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.</p>
<p>February 2023</p>	<ul style="list-style-type: none"> <li>● 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 (PTTML) to an affiliate of PT Astrindo Nusantara Infrastruktur Tbk (Astrindo) and completed the settlement with the total value of USD 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.</li> </ul>
<p>March 2023</p>	<ul style="list-style-type: none"> <li>● PTT &amp; 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.</li> </ul>
<p>April 2023</p>	<ul style="list-style-type: none"> <li>● PTT: On 17 April, the Annual General Meeting of shareholders approved the dividend payment from 2022 performance which will be paid at Baht 2.00 per share to the shareholders of totaling 28,562,996,250 shares in an approximated amount of Baht 57,126 million. The dividend payments are divided into the interim dividend payment from the first half of 2022 performance which PTT already paid to shareholders at Baht 1.30 per share on 12 October 2022. PTT also paid the dividend from the second half of 2022 performance at Baht 0.70 per share which was paid on 28 April 2023.</li> <li>● 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. The hotel has started commercial operations in December 2023.</li> </ul>
<p>May 2023</p>	<ul style="list-style-type: none"> <li>● PTT &amp; 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)</li> </ul>

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.

#### June 2023

- **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 planned 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 has been completed in 2023 and expected to start operation by 2024.
- 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. The sale has been completed in December 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. 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. Consequencely, 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 has been 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

	<p>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.</p>
<p>November 2023</p>	<ul style="list-style-type: none"> <li>● <b>GC:</b> On 21 November, GC's Board of Directors held on 20 November 2023, approved to sell the shares of GC Logistics Company Limited (GCL) to WHA Venture Holding Company Limited (WHAVH), a subsidiary of WHA Corporation Public Company Limited, in the proportion of 50% of the ordinary shares of GCL which is equivalent to THB 2,640 million for shareholding restructure in logistics business for GC's Polymer business. The transaction is considered as a collaborative partnership to enhances competitiveness for both GCL and GC's Polymer business. This includes improving efficiency, reducing operational expenses, and creating opportunities for growth in the logistics business and to become the Integrated Logistics Company with a comprehensive network.</li> <li>● <b>OR:</b> On 27 November, OR's Management Committee on 13 November 2023 and the Board of Directors of Care for Car Company Limited (CFC) on 27 November 2023 resolved to dissolve CFC, a wholly owned subsidiary of OR providing online automotive service. The resolution to dissolve CFC is in accordance with OR group's business improvement strategy.</li> </ul>
<p>December 2023</p>	<ul style="list-style-type: none"> <li>● <b>PTTEP:</b> On 12 December, PTTEP has completed the establishment of FutureTech SG Pte. Ltd. with registered capital of 50,000 USD, consisting of 50,000 ordinary shares at 1 USD each, to support future investments in the new business for Energy Transition. This company is wholly owned by the FutureTech Energy Ventures Company Limited, a subsidiary of PTTEP, so that FutureTech SG Pte. Ltd is also a subsidiary of PTTEP.</li> <li>● <b>PTTEP:</b> On 15 December, PTTEP Sarawak Oil Limited (PTTEP SKO), a subsidiary of PTTEP, has entered into a Farm-Out Agreement on 29 September 2023 to transfer 10% of its participating interest in Block SK405B PSC to Petronas Carigali Sdn. Bhd. (PCSB). The completion of transferring interest is anticipated within the first quarter of 2024.</li> <li>● <b>OR:</b> On 19 December, OR 's Board of Directors passed the resolution to establish a new subsidiary which is held 100% stake by Modulus Venture Company Limited (Modulus), a wholly-owned subsidiary of OR, with the initial registered capital not exceeding THB 281 million. The objectives of the subsidiary are to manage an operational workforce, increase the efficiency of operating expenses, and serve OR business expansion in the future.</li> <li>● <b>PTT:</b> On 21 December, PTT's Board of Directors approved the five-year (Year 2024 – 2028) investment plan of PTT and its wholly owned subsidiaries in an aggregate amount of Baht 89,203 million. PTT has invested in the core business to promote sustainable growth and to ensure national energy security which are accounted for 51% of PTT's total five-year investment plan. Additionally, PTT has prepared provisional capital expenditure for the next 5</li> </ul>



years amounting to Baht 106,932 million mainly for the investment expansion during energy transition period such as the investment in the Gas business which is the transition fuel with the focus on the expansion of pipeline network, the investment in LNG value chain both in Thailand and overseas, the expanding investment in the Downstream business in storage tanks, etc. Moreover, PTT also focus on clean energy business toward a low-carbon society e.g. investment in Life Science including Pharmaceutical, Nutrition, and Medical device & Diagnostics, the AI & Robotics business with the target to become a leader in AI & Robotics services in the future, as well as Logistic and Infrastructure business by focusing on connecting all transportation networks throughout the country.

- **PTT:** On 21 December, PTT's Board of Directors approved the renaming of PTT's subsidiary namely Alpha Com Company Limited (Alpha Com) to Expresso NB Company Limited (Expresso NB) (PTT's owned 100%) through Siam Management Holding Co., Ltd. (SMH), a subsidiary of PTT Global Management Co., Ltd. (PTTGM), PTT's subsidiary, with the total registered capital not exceeding Baht 2,388.5 million. The objective of the company's establishment remains the same which is to conduct venture business operation. The registration of the renaming is expected to be completed within April 2024.
- **PTT & GPSC:** On 21 December, PTT's Board of Directors approved the shareholder restructuring of GRP by approving PTTGM, PTT's subsidiary, to sell ordinary shares of GRP (50% owned subsidiary of PTTGM) to GRSC, a wholly-owned subsidiary of GPSC, totaling 10,007,500 shares (equivalent to 50%) at par value of Baht 100 per share with the total value of approximately Baht 1,275 million. The sale and purchase of GRP shares is expected to be completed by the second quarter of 2024. After completion of the share sale, GRP shall remain a subsidiary of PTT. The objective of the sale of GRP shares is to restructure the shareholding structure in renewable power business in accordance with PTT Group's strategic plan to support GPSC to become the flagship for PTT Group's electricity and utility businesses (PTT Group's Power Flagship) and a leader in the renewable energy or green energy sectors both domestic and overseas.
- **PTTEP:** On 22 December, FSG, a wholly-owned subsidiary of PTTEP, on 21 December 2023 has entered into a Share Purchase Agreement (SPA) to acquire 50% share capital in TotalEnergies Renewables Seagreen Holdco Ltd (TERSH) from TotalEnergies Renewables UK Ltd (TERUK), a subsidiary in TotalEnergies SE group company (TotalEnergies) for a total estimated consideration of approximately GBP 522 million (approximately USD 689 million equivalent). This acquisition is a major milestone for PTTEP in expanding investments into clean energy business. It reinforces the company's commitment towards Energy Transition.
- **PTTEP:** On 22 December, PTTEP has completed the sale transaction of its entire 2.5% participation interest in Block 17/06 Project in Angola to SOMOIL BLOCO 17/06 (SU), S.A. (renamed to ETU ENERGIAS – BLOCO 17/06 (SU), S.A.), a subsidiary of Sociedade Petrolifera



Angolana, S.A. (renamed to ETU ENERGIAS, S.A.). This divestment marks the withdrawal of PTTEP from Angola, aligned with PTTEP's strategy.

January 2024

- PTTEP: On 2 January, PTTEP has dissolved an inactive subsidiary, namely PTTEP South Mandar Limited, effective on 29 December 2023 in order to improve operational efficiency and minimize administrative costs. This has no impact to PTTEP's operations.
- PTTEP: On 5 January, PTTEP has dissolved an inactive wholly-owned subsidiary, namely PTTEP Canada International Finance Limited, effective on 31 December 2023, in order to improve operational efficiency and minimize administrative costs. This has no impact to PTTEP's operations.
- PTT: On 3 January, Board of Directors of Arun Plus (PTT's 100% indirectly owned subsidiary) on 13 November 2023, approved Arun Plus to establish A C Energy Solution Company Limited (A C Energy Solution) with the registered capital not exceeding of Baht 1,851 million in which Arun Plus holds 100% of the shares in order to operate the business of Cell-To-Pack Battery assembly. 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 support the expansion of the electric vehicle market in Thailand. The establishment of A C Energy Solution which is completed on 3 January 2024, aligns with PTT Group's investment strategy in Future Energy. The company is expected to start operation by 2025. Moreover, Arun Plus plans to enter into a joint venture with a partner who has experience and expertise in electric vehicle battery industries to enhance A C Energy Solution's competitive advantage and capabilities in the future.
- PTT: On 9 January, Innobic (Asia) Company Limited (INBA) (a wholly own subsidiary of PTT) sold 100% of the total issued shares of Alvogen Malta (Out-licensing) Holding Ltd. (AMOLH), a company that procure and distribute pharmaceutical products and licenses in Europe and other regions, which INBA holding through Alvogen Emerging Markets Holdings Limited (AEMH) (a subsidiary of INBA) to Floki Holding S.à r.l. (Floki), a pharmaceutical and health care company, with the total enterprise value of approximately USD 300 million. The transaction is expected to be completed within the first quarter 2024. In addition, this divestment transaction aligns with PTT Group's strategy to enhance business footprint in the Asia Pacific, aspiring to become a leading pharmaceutical company in Asia.
- IRPC: On 10 January, IRPC's Board of Directors on 19 December 2023 has agreed on a dissolution of a subsidiary, namely, iPolymer Company Limited (iPolymer). IRPC held iPolymer's shares by 55% and was joint venture with Guangzhou Saiju Performance Polymer Ltd. (GZSJ) who held the shares by 45%. The reason for the dissolution is in accordance with

IRPC's business strategy in order to govern subsidiaries efficiently. There's no impact to IRPC's operation. The registration of dissolution is expected to be completed by June 2024.

- **PTT:** On 12 January, PTT provided clarification to Stock Exchange of Thailand (SET) in relation to the cabinet's resolution which will affect PTT's operating performance consist of (1) adjustment of the natural gas price structure (2) contribution from shortfall of gas suppliers to reduce natural gas price. The adjustment of natural gas price will result in a higher operating cost of gas separation plant, excluding Liquefied Petroleum Gas (LPG) for domestic consumption. This measurement is a temporary enforcement until the gas price structure will be formally determined by the Energy Regulatory Commission (ERC). In addition, the estimated impact during January – April 2024 to the overall performance of PTT's gas business will be decreased by approximately Baht 6,500 million. PTT is exploring other mechanisms to reduce the impact to PTT's operating performance, such as gas separation plant optimization and procurement of LNG to meet the expected electricity price range according to the government policy. In addition, PTT will discuss with the Ministry of Energy regarding the overall impacts that will incur from the gas price restructuring in order to determine the appropriate solutions. Moreover, with regard to shortfall, PTT appealed order with the ERC and ERC decided to dismiss PTT's appeal and require PTT to comply with ERC's order immediately. Moreover, if PTT disagreed with ERC's decision, PTT had right to file lawsuit with the Administrative Court or to submit this matter to the Office of the Attorney General in accordance with the Rules of the Office of Prime minister on dispute resolution between government agencies and Litigation, 2561 B.E. within 90 days from the date of the receipt of ERC's decision. To comply with the ERC's orders, PTT's Board of Directors, at the special meeting No. 1/2567 on 12 January 2024 resolved that PTT would comply with ERC's decision on the appeal and PTT would consider the necessary and appropriate legal measure or exercise of right under the relevant law.
- **TOP:** On 16 January, TOP's CDU-3 with capacity of approximately 180,000 barrels per day experienced technical problem and was under maintenance for approximately 13 days starting from 16 January 2024. Currently, the maintenance activity on the CDU-3 has been completed and the CDU-3 has already resumed operation at its full capacity since 29 January 2024.
- **PTT & GPSC:** On 31 January, Nuovo Plus Co., Ltd. (Nuovo Plus) (a subsidiary which PTT holds 51% and GPSC holds 49%), signed a Business Transfer Agreement with 24M Technologies, Inc. (24M) and 24M Technologies (Thailand) Limited. The agreement entails: 1) The assets sales with total value of USD 51.08 million to 24M Technologies (Thailand) Limited. The asset sales include an energy storage production plant with 30 MWh per year capacity, R&D Center, machinery, and related assets. All of which are located at Map Ta Phut industrial estate, Rayong province; and 2) The purchase of 24M preferred stocks with total

value not exceeding USD 51.08 million. The transitions are expected to be completed by the second quarter of 2024.

February 2024

- OR: On 13 February, OR 's Board of Directors passed the resolution to establish a new subsidiary which is held 100% stake by Modulus, a wholly-owned subsidiary of OR, with the initial registered capital of THB100,000 for business operations and investments in related to the Health and Wellness business.

## Financial Results of PTT Group by Business

Financial performance of 4Q2023 compared with 4Q2022 and 3Q2023 as well as 2023 compared with 2022 are summarized as follows:

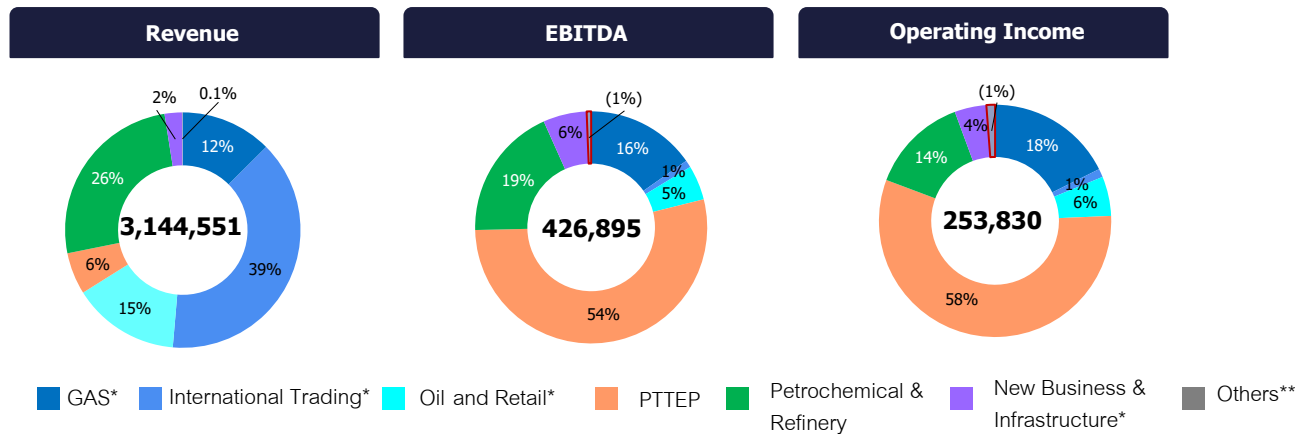
Unit : Million Baht	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
<b>Sales revenue</b>	<b>797,174</b>	<b>802,683</b>	<b>807,113</b>	<b>1.2%</b>	<b>0.6%</b>	<b>3,367,203</b>	<b>3,144,551</b>	<b>(6.6%)</b>
: Exploration & Production	91,610	78,206	79,516	(13.2%)	1.7%	331,350	300,694	(9.3%)
: Gas	165,812	162,971	150,864	(9.0%)	(7.4%)	708,852	655,759	(7.5%)
: Oil & Retail	206,655	191,952	193,060	(6.6%)	0.6%	791,745	770,897	(2.6%)
: International trading	441,837	533,216	545,453	23.5%	2.3%	2,172,566	2,032,063	(6.5%)
: Petrochemical & Refining	300,459	348,695	345,343	14.9%	(1.0%)	1,473,678	1,343,550	(8.8%)
: New Business & Infrastructure	42,975	30,144	26,843	(37.5%)	(11.0%)	148,424	124,131	(16.4%)
: Others	9,164	1,051	1,065	(88.4%)	1.3%	37,662	6,107	(83.8%)
<b>EBITDA</b>	<b>75,319</b>	<b>142,292</b>	<b>87,970</b>	<b>16.8%</b>	<b>(38.2%)</b>	<b>491,288</b>	<b>426,895</b>	<b>(13.1%)</b>
: Exploration & Production	69,237	59,095	60,564	(12.5%)	2.5%	253,973	231,301	(8.9%)
: Gas	11,869	18,873	17,500	47.4%	(7.3%)	61,207	66,024	7.9%
: Oil & Retail	1,337	7,565	2,570	92.2%	(66.0%)	20,962	21,403	2.1%
: International trading								
- Excluding effect of FX and derivatives	(9,465)	8,765	(9,572)	(1.1%)	<(100.0%)	13,897	4,325	(68.9%)
- Including effect of FX and derivatives	(366)	2,351	(420)	(14.8%)	<(100.0%)	8,735	9,544	9.3%
: Petrochemical & Refining	(2,823)	43,394	9,741	>100.0%	(77.6%)	109,719	80,640	(26.5%)
: New Business & Infrastructure	2,447	7,862	5,472	>100.0%	(30.4%)	16,392	26,251	60.1%
: Others	2,803	(763)	(1,389)	<(100.0%)	(82.0%)	15,084	(3,242)	<(100.0%)
<b>Depreciation and amortization expenses</b>	<b>44,809</b>	<b>44,655</b>	<b>46,112</b>	<b>2.9%</b>	<b>3.3%</b>	<b>167,330</b>	<b>173,065</b>	<b>3.4%</b>
<b>Operating income (loss)</b>	<b>30,510</b>	<b>97,637</b>	<b>41,858</b>	<b>37.2%</b>	<b>(57.1%)</b>	<b>323,958</b>	<b>253,830</b>	<b>(21.6%)</b>
: Exploration & Production	45,630	37,018	37,324	(18.2%)	0.8%	171,031	146,572	(14.3%)
: Gas	7,178	13,359	12,146	69.2%	(9.1%)	42,905	45,880	6.9%
: Oil & Retail	(321)	5,962	931	>100.0%	(84.4%)	14,614	14,882	1.8%
: International trading								
- Excluding effect of FX and derivatives	(9,753)	8,415	(9,927)	(1.8%)	<(100.0%)	12,943	3,043	(76.5%)
- Including effect of FX and derivatives	(654)	2,001	(775)	(18.5%)	<(100.0%)	7,781	8,262	6.2%
: Petrochemical & Refining	(13,951)	32,032	(1,848)	86.8%	<(100.0%)	66,181	35,463	(46.4%)
: New Business & Infrastructure	(868)	4,233	1,658	>100.0%	(60.8%)	3,440	11,515	>100.0%
: Others	2,681	(883)	(1,510)	<(100.0%)	(71.0%)	12,790	(3,718)	<(100.0%)
<b>Share of net income from investments in joint ventures and associates</b>	<b>1,246</b>	<b>552</b>	<b>1,616</b>	<b>29.7%</b>	<b>&gt;100.0%</b>	<b>5,849</b>	<b>3,013</b>	<b>(48.5%)</b>
<b>Loss on impairment of assets</b>	<b>8,475</b>	<b>130</b>	<b>4,673</b>	<b>(44.9%)</b>	<b>&gt;100.0%</b>	<b>12,609</b>	<b>4,942</b>	<b>(60.8%)</b>
<b>Gain (loss) on derivatives</b>	<b>(4,502)</b>	<b>(17,530)</b>	<b>4,564</b>	<b>&gt;100.0%</b>	<b>&gt;100.0%</b>	<b>(74,914)</b>	<b>(13,194)</b>	<b>82.4%</b>
<b>Gain (loss) on foreign exchange</b>	<b>32,711</b>	<b>(1,781)</b>	<b>21,859</b>	<b>(33.2%)</b>	<b>&gt;100.0%</b>	<b>5,552</b>	<b>22,285</b>	<b>&gt;100.0%</b>
<b>EBIT</b>	<b>50,363</b>	<b>82,803</b>	<b>75,896</b>	<b>50.7%</b>	<b>(8.3%)</b>	<b>249,653</b>	<b>281,977</b>	<b>12.9%</b>
<b>Finance costs</b>	<b>10,355</b>	<b>11,969</b>	<b>11,134</b>	<b>7.5%</b>	<b>(7.0%)</b>	<b>37,091</b>	<b>45,383</b>	<b>22.4%</b>
<b>Income taxes</b>	<b>17,355</b>	<b>24,512</b>	<b>19,324</b>	<b>11.3%</b>	<b>(21.2%)</b>	<b>90,462</b>	<b>81,313</b>	<b>(10.1%)</b>
<b>Net income</b>	<b>18,665</b>	<b>31,297</b>	<b>32,765</b>	<b>75.5%</b>	<b>4.7%</b>	<b>91,175</b>	<b>112,024</b>	<b>22.9%</b>
<b>Earnings per share (Baht/share)</b>	<b>0.65</b>	<b>1.09</b>	<b>1.15</b>	<b>76.9%</b>	<b>5.5%</b>	<b>3.20</b>	<b>3.92</b>	<b>22.5%</b>

*Note: Others Business includes coal business that was divested in 1Q2023. There are adjustments in EBITDA and Depreciation and Amortization of 3Q2023 from the previous period.*

## Segmentation Performance of PTT Group

The details of revenue, EBITDA and operating income by segmentation of 2023 are as follows:

Unit: Million Baht



\* 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

	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
Average selling price (US\$/BOE <sup>1</sup> )	52.8	48.6	48.4	(8.3%)	(0.4%)	53.4	48.2	(9.7%)
Average sales volume (BOED <sup>2</sup> )	500,456	467,452	474,679	(5.2%)	1.5%	468,130	462,007	(1.3%)

Note: <sup>1</sup>BOE: Barrels of Oil Equivalent

<sup>2</sup>BOED: Barrels of Oil Equivalent per Day

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

In 4Q2023, sales revenue of PTTEP was Baht 79,516 million, decreased by Baht 12,094 million or 13.2% from 4Q2022 as the overall average selling price decreased by 8.3% from US\$ 52.8 per BOE in 4Q2022 to US\$ 48.4 per BOE in 4Q2023, and the overall average sales volume decreased by 5.2% from 500,456 BOED in 4Q2022 to 474,679 BOED in 4Q2023, primarily from Oman Block 61 Project due to lower contractor entitlement and shutdown in 4Q2023.

EBITDA in 4Q2023 was Baht 60,564 million, decreased by Baht 8,673 million or 12.5% from 4Q2022 and the operating income in 4Q2023 was Baht 37,324 million, decreased by Baht 8,306 million or 18.2% from 4Q2022 mainly due to a decrease in sales revenue as aforementioned. However, royalty expense decreased primarily from higher portion of sales revenue from projects under production sharing contracts in Thailand. In addition, operating expenses decreased primarily from lower decommissioning costs provision of Contract 4 Project.



Despite the decrease in operating income, the overall performance of Exploration and Production business increased primarily as there was loss recognition of non-recurring items after tax approximately Baht 3,500 million in 4Q2023. Meanwhile, there were loss recognition approximately Baht 9,400 million in 4Q2022 (see appendix). Moreover, income taxes decreased mainly from projects in Thailand due to lower profits, as well as lower loss on foreign exchange rate due to less appreciation of THB against USD in 4Q2023 compared with 4Q2022.

#### Fourth quarter of 2023 compared with Third quarter of 2023

In 4Q2023, sales revenue of PTTEP was Baht 79,516 million, increased by Baht 1,310 million or 1.7% from 3Q2023 as the overall average sales volume increased by 1.5% from 467,452 BOED in 3Q2023 to 474,679 BOED in 4Q2023, primarily from fewer shutdown of G2/61 Project when compared with 3Q2023, offset with Malaysia Project due to maintenance shutdown at Block H and lower crude sales from Block K. However, the overall average selling price decreased by 0.4% from US\$ 48.6 per BOE in 3Q2023 to US\$ 48.4 per BOE in 4Q2023.

EBITDA in 4Q2023 was Baht 60,564 million, increased by Baht 1,469 million or 2.5% from 3Q2023 and the operating income in 4Q2023 was Baht 37,324 million, increased by Baht 306 million or 0.8% from 3Q2023 mainly due to an increase in sales revenue as aforementioned. Moreover, operating expenses decreased primarily from lower decommissioning costs provision of Contract 4 Project, together with lower sales volume from Malaysia Project.

The overall performance of Exploration and Production business increased, as there was loss recognition of non-recurring items after tax approximately Baht 3,500 million in 4Q2023 (see appendix) while, there was no such transaction in 3Q2023. In addition, income taxes decreased mainly from projects in Oman and Malaysia.

#### 2023 compared with 2022

In 2023, sales revenue of PTTEP was Baht 300,694 million, decreased by Baht 30,656 million or 9.3% from 2022 as the overall average selling price decreased by 9.7% from US\$ 53.4 per BOE in 2022 to US\$ 48.2 per BOE in 2023. In addition, the overall average sales volume decreased by 1.3% from 468,130 BOED in 2022 to 462,007 BOED in 2023, primarily from Oman Block 61 Project due to lower contractor entitlement and maintenance shutdown in 2023, along with the end of concession of Bongkot Project in March 2023. However, it was offset with G1/61 and G2/61 Projects due to full year recognition of sales volume, also G1/61 Project has successfully ramped up the natural gas production as plan since the end of June 2023.

EBITDA in 2023 was Baht 231,301 million, decreased by Baht 22,672 million or 8.9% from 2022 and the operating income in 2023 was Baht 146,572 million, decreased by Baht 24,459 million or 14.3% from 2022 mainly due to a decrease in sales revenue as aforementioned. In addition, operating expenses increased primarily from higher sales

volume from G1/61 and G2/61 Projects. However, royalty expense decreased primarily from higher portion of sales revenue from projects under production 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 as there was loss recognition of non-recurring items after tax approximately Baht 4,300 million in 2023. Meanwhile, there were loss recognition approximately Baht 13,000 million in 2022 (see appendix). Moreover, Income taxes decreased mainly from projects in Thailand and Oman due to lower profits. Also, there was lower loss from oil price hedging instruments due to less upward trend of oil price compared with 2022, along with lower loss on foreign exchange rate.

### Gas Business Group

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

Unit: Ton	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
LPG	834,351	813,281	785,708	(5.8%)	(3.4%)	3,301,907	3,288,262	(0.4%)
Ethane	451,074	468,820	466,685	3.5%	(0.5%)	1,752,287	1,786,823	2.0%
Propane	183,537	373,578	199,236	8.6%	(46.7%)	1,139,217	1,028,237	(9.7%)
NGL	123,585	128,205	134,385	8.7%	4.8%	504,133	500,264	(0.8%)
Pentane	11,188	15,545	7,892	(29.5%)	(49.2%)	48,803	50,965	4.4%
<b>Total</b>	<b>1,603,735</b>	<b>1,799,429</b>	<b>1,593,906</b>	<b>(0.6%)</b>	<b>(11.4%)</b>	<b>6,746,347</b>	<b>6,654,551</b>	<b>(1.4%)</b>
Utilization rate (%)	73.1%	77.5%	81.8%	8.7%	4.3%	75.6%	75.8%	0.2%

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

Unit: US\$ per Ton	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
LPG <sup>1/</sup>	612	469	613	0.2%	30.7%	736	572	(22.3%)
LDPE <sup>2/</sup>	1,110	993	1,006	(9.4%)	1.3%	1,427	1,041	(27.0%)
LLDPE <sup>2/</sup>	999	990	975	(2.4%)	(1.5%)	1,207	1,014	(16.0%)
HDPE <sup>2/</sup>	1,033	1,032	1,023	(1.0%)	(0.9%)	1,202	1,044	(13.1%)
Propane <sup>1/</sup>	617	473	607	(1.6%)	28.3%	737	575	(22.0%)

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

<sup>2/</sup> Southeast Asia - Spot Price

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

In 4Q2023, Gas business reported sales revenue of Baht 150,864 million, decreased by Baht 14,948 million or 9.0% from 4Q2022. This was primarily from the reduction in sales revenue stemmed from S&M business where the average selling price declined in line with pool gas price. However, average gas sales volume (calculated at heating value of 1,000 BTU per cubic feet) increased by 348 MMSCFD or 8.9% from 3,905 MMSCFD in 4Q2022 to 4,253 MMSCFD in 4Q2023. This was mainly driven by power plant customers as the overall electricity demand increased from both household and business sectors following the recovery of economic activities and tourism together with the adjustment of fuel usage plans to use more natural gas following the decreasing trend of LNG prices.

GSP business's sale revenue decreased, stemming from a decline in overall sales volume of the GSP (including NGL derived from Dew Point Control units) from 1,603,735 tons in 4Q2022 to 1,593,906 tons in 4Q2023 or 0.6%. The decline was mainly attributed to adjustments in LPG as demand from petrochemical customers decreased due to planned maintenance shutdown of GC's Olefins 1 plant, coupled with a decrease in selling price across almost all products in line with the petrochemical referenced prices.

In addition, TM business's sales revenue increased following higher pipeline reserve volume from new IPP power plants that gradually start its commercial operations.

In 4Q2023, EBITDA of gas business was reported at Baht 17,500 million, increased by Baht 5,631 million or 47.4%. In addition, the operating income was reported at Baht 12,146 million, increased by Baht 4,968 million or 69.2%. This was mainly from the lower loss of NGV business's performance, driven by lower costs of natural gas following the pool gas price together with the gradually increase in selling price across all customer groups after the energy price crisis began to subside and a decrease in overall sales volume. Moreover, PTT LNG had higher reserve volume of its LNG receiving terminal after Nongfab Project of PTT LNG (LNG Terminal 2) started commercial operation. In addition, GSP business reported an increase in gross profit as a result of lower feed costs following lower gulf gas price, even though both sales volume and average selling price decreased across almost all products in line with the petrochemical referenced prices.

However, S&M business experienced a decrease in operating performance due to lower profit margin following pool gas price. Moreover, in 4Q2023, the recognition of gas production shortfall penalty (after tax) decreased by approximately Baht 100 million compared with 4Q2022, although sales volume increased as mentioned above.

## Fourth quarter of 2023 compared with Third quarter of 2023

In 4Q2023, Gas business reported sales revenue of Baht 150,864 million, decreased by Baht 12,107 million or 7.4%. This resulted mainly from a decrease in sales revenue of S&M business following the average sales volume (calculated at heating value of 1,000 BTU per cubic feet) which decreased by 343 MMSCFD from 4,596 MMSCFD

in 3Q2023 to 4,253 MMSCFD in 4Q2023 or 7.5% mainly from a lower demand for electricity during the winter season from power plant customers. Despite an increase in the average selling price following the pool gas price, including the selling price to the industrial customer, which increased following higher referenced price.

Sales revenue of GSP business decreased due to a lower sales volume (including NGL derived from Dew Point Control units), which dropped from 1,799,429 tons in 3Q2023 to 1,593,906 tons in 4Q2023 or 11.4% mainly from a reduction in demand for Propane and LPG from petrochemical customers as GC's plant and PDH plant of HMC Polymers Co., Ltd. (HMC) had planned maintenance shutdown. Additionally, Propane and LPG prices in the market increased, causing customers switched to use other feedstocks for greater optimization. While, the average selling price increased for all products in line with the petrochemical referenced prices.

In addition, TM business's sales revenue increased following higher pipeline reserve volume from new IPP power plants that gradually start its commercial operations.

In 4Q2023, EBITDA of Gas business was reported at Baht 17,500 million, decreased by Baht 1,373 million or 7.3% and operating profit amounts to Baht 12,146 million, decreased by Baht 1,213 million or 9.1% mainly from lower gross profit of GSP business due to a decrease in sales volume together with an increase in gas costs based on the gulf gas price, while the average selling price of almost all products increased following the petrochemical referenced prices. Furthermore, TM business experienced lower gross profit from higher costs mainly from the maintenance expenses.

The NGV business incurred the higher loss due to the rising of natural gas cost in accordance with the higher pool gas price. Even though, the selling price increased and the sales volume dropped.

The performance of S&M business slightly increased in 4Q2023 from the recognition of the gas production shortfall penalty (after tax) which increased by approximately Baht 50 million compared with 3Q2023, although gross profit decreased following lower sales volume and higher cost following pool gas price.

## 2023 compared with 2022

In 2023, Gas business reported sales revenue of Baht 655,759 million, decreased by Baht 53,093 million or 7.5%. This resulted mainly from a decrease in sales revenue of S&M business due to lower average selling price following pool gas price, together with lower selling price of industrial customers following the referenced prices despite the higher average sales volume (calculated at heating value of 1,000 BTU per cubic feet) which increased by 258 MMSCFD from 4,190 MMSCFD in 2022 to 4,448 MMSCFD in 2023 or 6.2% mainly due to IPP power plant customers and EGAT adjusted their fuel usage plans to increase the use of natural gas following the trend of significant decrease in LNG prices. This includes an increased demand for electricity due to the warmer weather in 2023 and the recovery of economic activities.

Sales revenue of TM business decreased mainly from the adjustment of the gas pipeline tariff which ERC has approved the rate of Demand Charge (Td) in the 5-year period (2022-2026) of PTT's natural gas price structure. The revised gas pipeline tariff was effective from August 2022 onwards.

In addition, sales revenue of GSP business decreased due to lower average selling price in overall products following the petrochemical referenced prices. Furthermore, sales volume (including NGL derived from Dew Point Control units) decreased from 6,746,347 tons in 2022 to 6,654,551 tons in 2023 or 1.4% mainly from Propane due to lower demand of petrochemical customers driven by higher maintenance shutdown period than previous year and the declining trend in plastic pellet prices.

In 2023, EBITDA of Gas business was reported at Baht 66,024 million, increased by Baht 4,817 million or 7.9%. The operating income was reported at Baht 45,880 million, increased by Baht 2,975 million or 6.9%. This was mainly from S&M business, due to improved operational performance from industrial customers, where the natural gas cost was adjusted downward following the pool gas price in the greater extent than the average selling price, despite higher sales volume. However, gas production shortfall penalty (after tax) in 2023 decreased by approximately Baht 2,400 million compared with 2022 resulted mainly from Erawan gas field producer that fail to meet its contracted gas quantity. Additionally, NGV business had lower loss due to the decreased natural gas cost according to the pool gas price, coupled with an increase in selling price and lower sales volume. Moreover, PTTLNG had higher reserve volume of its LNG receiving terminal after LNG Terminal 2 started commercial operation.

While the GSP business experienced a decrease in gross profit due to lower selling price for all products in line with the petrochemical referenced prices, along with a decrease in sales volume in response to petrochemical customers demand from higher maintenance period. Additionally, the TM business's operational performance decreased due to the adjustment of the gas pipeline tariff as mentioned above.



## 2. Downstream Petroleum Business Group

### Oil and Retail Business Group

	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
Average Sales Volume* (Unit: Million Liter)	6,979	6,756	6,979	-	3.3%	26,846	27,642	3.0%
Average selling prices (Unit: US\$ per barrel)								
Gasoline	94.2	105.6	96.1	2.0%	(9.0%)	115.2	98.8	(14.2%)
Jet	118.3	112.8	107.2	(9.4%)	(5.0%)	126.6	104.6	(17.4%)
Diesel	124.2	113.6	104.7	(15.7%)	(7.8%)	130.6	104.0	(20.4%)

\*The average sales volume of domestic oil segment only

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

In 4Q2023, sales revenue of Oil and Retail business group was Baht 193,060 million, decreased by Baht 13,595 million or 6.6% from 4Q2022 mainly from the decline in most product selling prices following global oil price. While overall sales volume was at the same level with 4Q2022, which was 6,979 million liters or equivalent to 477,147 barrels per day, mainly from an increase in sales volume of diesel and jet due to the economic recovery. Whereas sales volume of fuel oil decreased due to marine sector and lower demand from power sector. Furthermore, sales volume of gasoline also decreased owing to the delay in retail price adjustments at the PTT stations during 4Q2022. While Non-Oil business group's revenue increased from the recovery of economic activities and the expansion of food and beverage stores.

EBITDA in 4Q2023 was Baht 2,570 million, increased from 4Q2022 by Baht 1,233 million or 92.2%. The operating profit in 4Q2023 was Baht 931 million, increased by Baht 1,252 million or more than 100.0% from 4Q2022 mainly from Oil business due to higher gross margin, from diesel and gasoline, owing to diesel and gasoline import in 4Q2022 which resulted in higher cost. Moreover, jet's gross margin increased from jet's selling price structure which was referred to last month's oil price. EBITDA of Non-Oil business group increased from higher food and beverage business's gross margin.

As a result, the overall performance of Oil and Retail business group increased as compared with 4Q2022 following higher EBITDA.

### Fourth quarter of 2023 compared with Third quarter of 2023

In 4Q2023, sales revenue of Oil and Retail business group was Baht 193,060 million, increased by Baht 1,108 million or 0.6% from 3Q2023 due to higher overall sales volume, while selling price was lower following global oil price. Overall sales volume increased by 223 million liters or 3.3% from 6,756 million liters or equivalent to 461,900 barrels per day in 3Q2023 to 6,979 million liters or equivalent to 477,147 barrels per day in 4Q2023, mainly due to an increase in sales volume of diesel. Non-Oil business group's revenue increased largely from higher sales revenue of food and beverage

business following higher sales volume and higher average sales revenue per store per day of convenient stores due to seasonal factor.

EBITDA in 4Q2023 was Baht 2,570 million, decreased by Baht 4,995 million or 66.0% from 3Q2023. The operating profit in 4Q2023 was Baht 931 million, decreased by Baht 5,031 million or 84.4% from 3Q2023 mainly from Oil business due to a decrease in gross margin, from diesel and gasoline following global oil price. However, EBITDA of Non-Oil business increased following higher gross margin which was in line with higher sales revenue of food and beverage business. Nevertheless, there was higher net operating expenses mainly from outsourced and promotional expenses.

The overall performance of Oil and Retail business group decreased as compared with 3Q2023 following the lower EBITDA.

### 2023 compared with 2022

In 2023, sales revenue of Oil and Retail business group was Baht 770,897 million, decreased by Baht 20,848 million or 2.6% from 2022 due to lower selling price following global oil price. While overall sales volume increased by 796 million liters or 3.0% from 26,846 million liters or equivalent to 462,629 barrels per day in 2022 to 27,642 million liters or equivalent to 476,347 barrels per day in 2023 mainly due to an increase in sales volume of jet fuel as a result of economic recovery and market expansion. However, Non-Oil business group's revenue increased from the recovery of economic activities and store expansion of food and beverage business.

EBITDA in 2023 was Baht 21,403 million, increased by Baht 441 million or 2.1% from 2022. The operating profit in 2023 was Baht 14,882 million, increased by Baht 268 million or 1.8% from 2022 mainly from Oil business due to an increase in gross margin from gasoline and jet while lower gross margin from diesel. Non-Oil business group's EBITDA increased in line with the rise in gross margin from an increase in sales revenue of food and beverage business. However, there was higher net operating expenses mainly from outsourced and utility expenses.

As a result, the overall performance of Oil and Retail business group increased as compared with 2022 following the higher EBITDA.

## International Trading Business Group

Unit: Million Liter	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
Average sales volume	22,257	52,828	43,253	94.3%	(18.1%)	127,082	188,416	48.3%

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

In 4Q2023, the sales revenue of International Trading business was Baht 545,453 million, increased by Baht 103,616 million or 23.5% compared with 4Q2022. This was due to the rise in sales volume, which increased by 20,996 million liters or 94.3% from 22,257 million liters or equivalent to 1,521,687 barrels per day in 4Q2022 to 43,253 million liters or equivalent to 2,957,161 barrels per day in 4Q2023. The increase in sales volume was mainly from importing crude and LNG, aligning with an increase in domestic demand and a decrease in LNG price. Moreover, crude and refined products from out-out trading has grown due to continuous efforts to explore opportunities for expanding trade transactions. Even though the selling price of products have adjusted downwards in line with the prices of petroleum and petrochemical in the global market.

EBITDA, adjusted by the impact from foreign exchange rate and derivatives in 4Q2023 incurred a loss of Baht 420 million, loss increased by Baht 54 million or 14.8%. The operating loss adjusted by the impact from foreign exchange rate and derivatives in 4Q2023 was Baht 775 million, loss increased by Baht 121 million or 18.5% due to lower margin per unit of international crude trading resulting from the declining global oil prices. Moreover, the spread between the buying and selling price of crude and condensate for domestic market also decreased in accordance with the oil-priced linked formula despite the increase in sales volume.

### Fourth quarter of 2023 compared with Third quarter of 2023

Sales revenue of International Trading business in 4Q2023 was Baht 545,453 million, increased by Baht 12,237 million or 2.3% from 3Q2023 due to an increase in product selling prices despite a decrease in sales volume of 9,575 million liters or 18.1% from 52,828 million liters or equivalent to 3,611,794 barrels per day in 3Q2023 to 43,253 million liters or equivalent to 2,957,161 barrels per day in 4Q2023. This was mainly from lower customer demand during the winter season which led to a lower import LNG volume for both electricity generation and also lower volume of crude oil from out-out trading. Moreover, the LPG import volume decreased due to customer's scheduled maintenance shutdowns.

EBITDA, adjusted by the impact from foreign exchange rate and derivatives, in 4Q2023 incurred a loss of Baht 420 million, loss increased by Baht 2,771 million, or more than 100.0%. The operating loss, adjusted by the impact from foreign exchange rate and derivatives, in 4Q2023 was Baht 775 million, loss increased by Baht 2,776 million, or more than 100.0%. This was primarily from lower margin per unit of international trading together with loss on mark to market of

inventory in 4Q2023, while there was gain from mark to market of inventory in 3Q2023, along with the decline in sales volume as aforementioned.

## 2023 compared with 2022

Sales revenue of International Trading business in 2023 was Baht 2,032,063 million, decreased by Baht 140,503 million or 6.5% compared with 2022. This decline is attributed to a lower product selling price following the fall in global petroleum and petrochemical prices. Although, sales volume increased by 61,334 million liters or 48.3% from 127,082 million liters or equivalent to 2,189,968 barrels per day in 2022 to 188,416 million liters or equivalent to 3,246,919 barrels per day in 2023. This was mainly from higher import volume of crude oil and LNG, in line with the increase in domestic demand and the significant decrease in LNG price. Moreover, the international trade of crude and refined products from out-out trading activities has increased along with the economic recovery in various regions worldwide. This trend is also driven by the pursuit of opportunities for continuous expansion of trade activities.

EBITDA, adjusted by the impact from foreign exchange rate and derivatives, in 2023 was Baht 9,544 million, increased by Baht 809 million or 9.3%. The operating income, adjusted by the impact from foreign exchange rate and derivatives in 2023 was Baht 8,262 million, increased by Baht 481 million or 6.2%. This was mainly from a rise in sales volume, coupled with higher margin per unit from international trade as a result from engaging in cross-regional trade during opportune periods together with the effective management of trading freight costs and effective risk management. Even though the margin per unit of domestic trading of crude and condensate decreased according to the oil-priced linked formula.

## Petrochemical and Refinery Business Group

Unit: US\$ per barrel	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
Market GRM	7.9	11.3	6.2	(21.5%)	(45.1%)	10.7	7.5	(29.9%)
Inventory gain (loss) excl. NRV	(8.7)	6.5	(3.8)	56.3%	<(100.0%)	0.0	(0.6)	<(100.0%)
Hedging gain (loss)	(0.8)	(2.5)	0.2	>100.0%	>100.0%	(5.8)	(0.4)	93.1%
Accounting GRM	(1.6)	15.3	2.6	>100.0%	(83.0%)	4.9	6.5	32.7%
Refinery Utilization rate* (%)	76.1%	101.0%	102.6%	26.5%	1.6%	94.1%	102.4%	8.3%

\*From 3 Refineries: TOP, GC and IRPC

Unit: US\$ per Ton	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
<b>Olefins</b>								
Naphtha (MOPJ)	673	648	659	(2.1%)	1.7%	785	649	(17.3%)
HDPE	1,033	1,032	1,023	(1.0%)	(0.9%)	1,202	1,044	(13.1%)
LDPE	1,110	993	1,006	(9.4%)	1.3%	1,427	1,041	(27.0%)
LLDPE	999	990	975	(2.4%)	(1.5%)	1,207	1,014	(16.0%)
PP	995	969	968	(2.7%)	(0.1%)	1,205	1,007	(16.4%)
<b>Aromatics</b>								
Condensate	732	716	687	(6.1%)	(4.1%)	830	679	(18.2%)
PX (TW)	979	1,073	1,014	3.6%	(5.5%)	1,103	1,038	(5.9%)
PX (TW) – Condensate	247	357	327	32.4%	(8.4%)	273	359	31.5%
BZ	825	899	888	7.6%	(1.2%)	1,029	897	(12.8%)
BZ – Condensate	93	183	201	>100.0%	9.8%	199	218	9.5%

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

In 4Q2023, sales revenue of Petrochemical and Refining business was Baht 345,343 million, increased by Baht 44,884 million or 14.9% primarily due to Refinery business as sales volume increased from an increase in PTT Group refineries' utilization rates from 76.1% in 4Q2022 to 102.6% in 4Q2023 because there was planned refinery turnaround of GC, IRPC, and TOP in 4Q2022 in spite of a decrease in average selling price following a decrease in global petroleum product prices.

Moreover, sales revenue of Petrochemical business also increased from Aromatics business as a consequence of the higher average selling price of BZ and PX despite the decrease in sales volume. While sales revenue of Olefins business decreased due to the lower average selling price of PE despite the increase in sales volume as a start of the commercial operation of Olefins 2 Modification Project in July 2023.

EBITDA of Petrochemical and Refining business in 4Q2023 was Baht 9,741 million, increased by Baht 12,564 million or more than 100.0% from loss of Baht 2,823 million in 4Q2022. There was operating loss of Baht 1,848 million in 4Q2023, loss decreased by Baht 12,103 million or 86.8% when compared with operating loss of Baht 13,951 million in 4Q2022, details are as follows:

- **Refinery performance** increased due to the lower stock loss (there was stock loss of US\$ 3.8 per bbl in 4Q2023 versus stock loss of US\$ 8.7 per bbl in 4Q2022) and sales volume increased as aforementioned. However, market GRM decreased from US\$ 7.9 per bbl in 4Q2022 to US\$ 6.2 per bbl in 4Q2023 mainly from a decrease in product spreads of diesel and jet over crude oil despite the decrease in crude premium.

- **Petrochemical performance** decreased mainly from Performance Chemicals business following the economic slowdown. Olefins business's performance decreased due to PE's product spreads decreased while sales volume increased as aforementioned. While Aromatics business increased from the spreads of BZ and PX increased while sales volume decreased as aforementioned.

The overall performance of Petrochemical and Refining business in 4Q2023 increased when compared with 4Q2022 due to a decrease in operating loss as aforementioned, as well as more gain from oil price hedging in 4Q2023 compared with 4Q2022. Although gain on foreign exchange rate decreased following the less Thai Baht appreciation in 4Q2023 compared with 4Q2022. Meanwhile, gain on non-recurring items after tax were recognized approximately Baht 4,200 million in 4Q2023, while in 4Q2022 there were gain recognition approximately Baht 1,200 million (see appendix).

#### Fourth quarter of 2023 compared with Third quarter of 2023

In 4Q2023, sales revenue of Petrochemical and Refining business was Baht 345,343 million, decreased by Baht 3,352 million or 1.0% primarily due to Refinery business from a decrease in average selling price following a decrease in global petroleum product prices. However, sales volume increased primarily from an increase in PTT Group refineries' utilization rates from 101.0% in 3Q2023 to 102.6% in 4Q2023.

While sales revenue of Petrochemical business was closed to the previous quarter. Sales revenue of Aromatics business increased as the sales volume increased from days of GC Aromatic 2 plant planned turnaround in 3Q2023 while there is no planned turnaround in 4Q2023 though the average selling price decreased. Sales revenue of Olefins business decreased due to a decrease in sales volume as a result of planned maintenance shutdown of GC's Olefins and Polymer plants in 4Q2023 as well as the lower average selling price of PE.

EBITDA of Petrochemical and Refining business in 4Q2023 was Baht 9,741 million, decreased by Baht 33,653 million or 77.6% from Baht 43,394 million in 3Q2023. There was operating loss of Baht 1,848 million in 4Q2023, loss increased by Baht 33,880 million or more than 100.0% when compared with operating income of Baht 32,032 million in 3Q2023, details are as follows:

- **Refinery performance** decreased due to stock loss increased (there was stock loss of US\$ 3.8 per bbl in 4Q2023 versus stock gain of US\$ 6.5 per bbl in 3Q2023). Market GRM decreased from US\$ 11.3 per bbl in 3Q2023 to US\$ 6.2 per bbl in 4Q2023 mainly from a decrease in product spreads of gasoline, diesel, and jet over crude oil as well as crude premium increased despite an increased in sales volume as aforementioned.
- **Petrochemical performance** also decreased from Olefins business due to a decrease in sales volume as aforementioned as well as a decrease in PE spreads. On the other hand, Aromatics business performance

increased primarily due to an increase in BZ and by product (LPG and Naphtha) spread and an increase in sales volume as aforementioned.

The overall performance of Petrochemical and Refining business in 4Q2023 decreased compared with 3Q2023 due to an increase in operating loss as aforementioned. Although there was an increase in gain on foreign exchange rate following the Thai Baht appreciation in 4Q2023 while Thai Baht was depreciated in 3Q2023. Moreover, there was higher gain from oil price hedging in 4Q2023 as compared with 3Q2023. Meanwhile, gain on non-recurring items after tax were recognized approximately Baht 4,200 million in 4Q2023 (see appendix), while in 3Q2023 there was no such item.

## 2023 compared with 2022

In 2023, sales revenue of Petrochemical and Refining business was Baht 1,343,550 million, decreased by Baht 130,128 million or 8.8% primarily due to Petrochemical business, both from Olefins and Aromatics businesses, decreased due to the lower average selling price. In addition, sales volume decreased due to planned turnaround of GC's Aromatics plant 2 in 2023 as aforementioned. While there is the increase in sales volume as a start of the commercial operation of Olefins 2 Modification Project in July 2023.

Sales revenue of Refinery business also decrease due to the 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 94.1% in 2022 to 102.4% in 2023 because of planned refinery turnaround of GC, IRPC, and TOP in 2022.

EBITDA of Petrochemical and Refining business in 2023 was Baht 80,640 million, decreased by Baht 29,079 million or 26.5% from Baht 109,719 million in 2022. There was operating income of Baht 35,463 million in 2023 decreased by Baht 30,718 million or 46.4 % when compared with Baht 66,181 million in 2022, details are as follows:

- **Refinery performance** decreased as Market GRM decreased from US\$ 10.7 per bbl in 2022 to US\$ 7.5 per bbl in 2023 mainly from a decrease in product spreads of diesel, jet, and gasoline over crude oil, while crude premium decreased. Moreover, stock loss increased (there was stock loss of US\$ 0.6 per bbl in 2023 versus stock gain of US\$ 0.01 per bbl in 2022). Conversely, there was an increase in sales volume as aforementioned.
- **Petrochemical performance** also decreased mainly from Phenol business and Olefins business due to a decrease in product spreads while Aromatics business performance increased from PX and BZ spread despite a decrease in sales volume as aforementioned.



However, the overall performance of Petrochemical and Refining business in 2023 increased when compared with 2022 due to the significant decrease in loss from oil price hedging in 2023 compared with 2022 and an increase in gain on foreign exchange rate following the Thai Baht appreciation in 2023 while depreciated in 2022. Meanwhile, gain on non-recurring items after tax were recognized approximately Baht 4,200 million in 2023, while in 2022 there were loss recognition approximately Baht 3,200 million (see appendix).

### 3. New Business and Infrastructure Business Group

	4Q2022	3Q2023	4Q2023	% Inc. (Dec.)		2022	2023	% Inc. (Dec.)
				YoY	QoQ			
Power sales volume (GWh)	5,689	3,771	3,383	(40.5%)	(10.3%)	21,665	14,950	(31.0%)
Steam sales volume (Thousand tons)	3,222	3,516	3,198	(0.7%)	(9.0%)	14,510	13,161	(9.3%)

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

In 4Q2023, sales revenue of New Business and Infrastructure business was Baht 26,843 million, decreased by Baht 16,132 million or 37.5%. This was owing primarily to GPSC's Independent Power Producer (IPP) power plants whose Energy Payment (EP) revenue of Sriracha Power Plant and GIPP Power Plant decreased due to lower dispatch volume and reserve shutdown of GHECO-One power plant instructed by Electricity Generating Authority of Thailand (EGAT) between March to December 2023, together with a decrease in revenue of Small Power Producer (SPP) due to lower electricity and steam average selling prices following a decline in natural gas prices. Meanwhile, electricity sales volume to EGAT and steam sales volume to industrial customers also decreased.

EBITDA in 4Q2023 was Baht 5,472 million, increased by Baht 3,025 million or over 100.0%. The operating profit in 4Q2023 was Baht 1,658 million, increased by Baht 2,526 million or over 100.0% 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. Moreover, energy cost also decreased.

The overall performance of New Business and Infrastructure business in 4Q2023 increased when compared with 4Q2022 mainly from GPSC following the higher performance in line with increase in EBITDA.

#### Fourth quarter of 2023 compared with Third quarter of 2023

In 4Q2023, sales revenue of New Business and Infrastructure business was Baht 26,843 million, decreased by Baht 3,301 million or 11.0% mainly from GPSC whose revenue from SPP power plants decreased due to lower electricity and steam sales volume and average selling prices from Rayong entral Utility Plant (CUP) and GLOW SPP power plants.

Furthermore, sales revenue from PTTGM's pharmaceutical business decreased following lower sales volume of Lenalidomide compared with previous quarter.

EBITDA in 4Q2023 was Baht 5,472 million, decreased by Baht 2,390 million or 30.4%. The operating profit in 4Q2023 was Baht 1,658 million, decreased by Baht 2,575 million or 60.8% from 3Q2023 primarily from lower gross profit of GPSC's SPP power plants from lower profit margin on electricity sales to industrial customers following lower Ft from the previous quarter, together with decrease in electricity and steam sales volume due to maintenance shutdowns in 4Q2023 by some of the industrial customers. Gross profit margin of PTTGM also decreased from lower revenue as aforementioned.

The overall performance of New Business and Infrastructure business in 4Q2023 decreased when compared with 3Q2023 following the lower EBITDA of GPSC as aforementioned.

### 2023 compared with 2022

In 2023, sales revenue of New Business and Infrastructure business was Baht 124,131 million, decreased by Baht 24,293 million or 16.4% mainly from the decreased in revenue of GPSC due to lower EP revenue of IPP power plants following lower dispatch volume to EGAT and from reserve shutdown of GHECO-One power plant as aforementioned. Furthermore, revenue of SPP power plants also decreased due to lower electricity and steam average selling prices as well as steam sales volume to industrial customers also decreased. Meanwhile, revenue of PTTGM's pharmaceutical business increased from consistently delivering "Lenalidomide" in 2023 after market expansion into US since September 2022 and an increase in sales volume from market expansion in US and South Korea.

EBITDA in 2023 was Baht 26,251 million, increased by Baht 9,859 million or 60.1%. The operating profit in 2023, was Baht 11,515 million, increased by Baht 8,075 million or over 100.0% primarily from higher gross profit of GPSC's SPP power plants as Ft better reflected energy prices together with lower energy cost and higher electricity sales volume. 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 2023 increased when compared with 2022 mainly from strengthen performances of GPSC and PTTGM as aforementioned.

## Overall Performance of PTT and its Subsidiaries

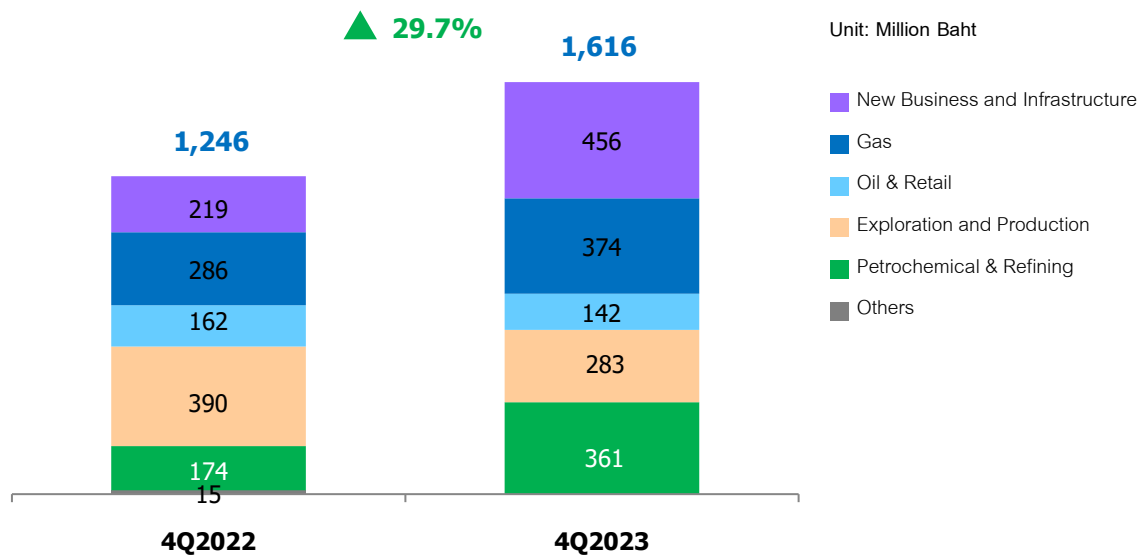
### Fourth quarter of 2023 compared with Fourth quarter of 2022

In 4Q2023, sales revenue of PTT and its subsidiaries was reported at Baht 807,113 million increased from 4Q2022 by Baht 9,939 million or 1.2%. This was mainly from an increase in sales revenue of International Trading business and Petrochemical and Refining business following an increase in sales volume despite a decrease in petroleum prices and Olefins petrochemical prices following global market prices. However, New Business and Infrastructure business's sales revenue decreased from IPP and SPP power plants which was in line with a decrease in selling prices of power and steam together with lower sales volume. Gas business's sales revenue declined mainly from S&M business in line with lower average selling price following pool gas price, despite higher average sales volume, mainly from power plant customers. Additionally, sales revenue of GSP business declined from both lower sales volume and selling price. Oil and Retail business's sales revenue declined from the drop in selling price following global oil price, despite the remained overall sales volume compared with 4Q2022. 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 4Q2023 was Baht 87,970 million, increased by Baht 12,651 million or 16.8%. This was mainly from Petrochemical and Refining business. Refining business's performance increased mainly due to a decrease in stock loss. PTT Group's stock loss in 4Q2023 was approximately Baht 12,000 million, while in 4Q2022 there was a stock loss approximately Baht 18,000 million. In addition, sales volume increased, despite market GRM decreased from US\$ 7.9 per bbl in 4Q2022 to US\$ 6.2 per bbl in 4Q2023 due to lower spread of diesel and jet over crude oil, despite lower crude premium. Petrochemical business's performance decreased mainly from performance Chemicals business following an economic slowdown. In addition, Olefins business's performance decreased from lower product to feed of PE. Gas business's performance increased mainly from NGV business which had lower loss owing to lower gas cost following pool gas price, as well as higher selling price and lower sales volume. And, GSP business's performance improved from lower gas cost following a decrease in gulf gas price, despite lower sales volume and average selling price. Additionally, New Business and Infrastructure business's performance increased from adjusted Ft which was better reflected the energy cost, and lower energy cost. Whereas Exploration and Production business's performance decreased mainly from lower average selling price and sales volume. Others business's performance declined from disposal of coal business in 1Q2023.

The depreciation and amortization expenses of 4Q2023 were Baht 46,112 million, increased by Baht 1,303 million or 2.9% mainly from GLOW SPP2 Replacement of GPSC and LNG Terminal 2 Project of PTTLNG.

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



In 4Q2023, the share of profit from investments in joint ventures and associates was Baht 1,616 million, increased by Baht 370 million or 29.7% from 4Q2022. This was from higher performance of joint ventures and associates in New Business and Infrastructure business, mainly from Xayaburi Power Company Limited (XPCL) according to higher water level in October 2023, and lower loss on foreign exchange rate compared with 4Q2022. In addition, Nava Nakorn Electricity Generating Co., Ltd. (NNEG) had better performance on account of lower natural gas cost. In addition, performance of joint ventures and associates in Petrochemical and Refining business increased due to GC Logistics Solutions Company Limited (GCL)'s income from insurance claims related to the warehouse incident.

In 4Q2023, gain on derivatives was Baht 4,564 million, increased by Baht 9,066 million or more than 100.0% mainly from commodity derivatives of TOP, PTT International Trading London Ltd (PTTT LDN), PTT, and IRPC, and financial derivatives of GC and PTTEP.

In 4Q2023, gain on foreign exchange rate was Baht 21,859 million, decreased by Baht 10,852 million or 33.2% mostly from a decrease in unrealized gain on US currency loans as a result of less Thai Baht appreciation in 4Q2023 than 4Q2022. (Thai Baht appreciation in 4Q2023 was Baht 2.33 per US\$, while Thai Baht appreciation in 4Q2022 was Baht 3.34 per US\$).

Finance costs was Baht 11,134 million in 4Q2023, increased by Baht 779 million or 7.5% mainly due to GC and PTTEP.

In 4Q2023, there were loss recognition of non-recurring items (PTT's portion after tax) approximately Baht 400 million, while in 4Q2022, there were loss recognition approximately Baht 7,700 million (see appendix).

The corporate income taxes in 4Q2023 were Baht 19,324 million, increased by Baht 1,969 million or 11.3% mainly from higher performance of GC.

As a result, PTT and its subsidiaries' net profit in this quarter amounting to Baht 32,765 million, increased by Baht 14,100 million or 75.5% from net profit of Baht 18,665 million in 4Q2022.

#### Fourth quarter of 2023 compared with Third quarter of 2023

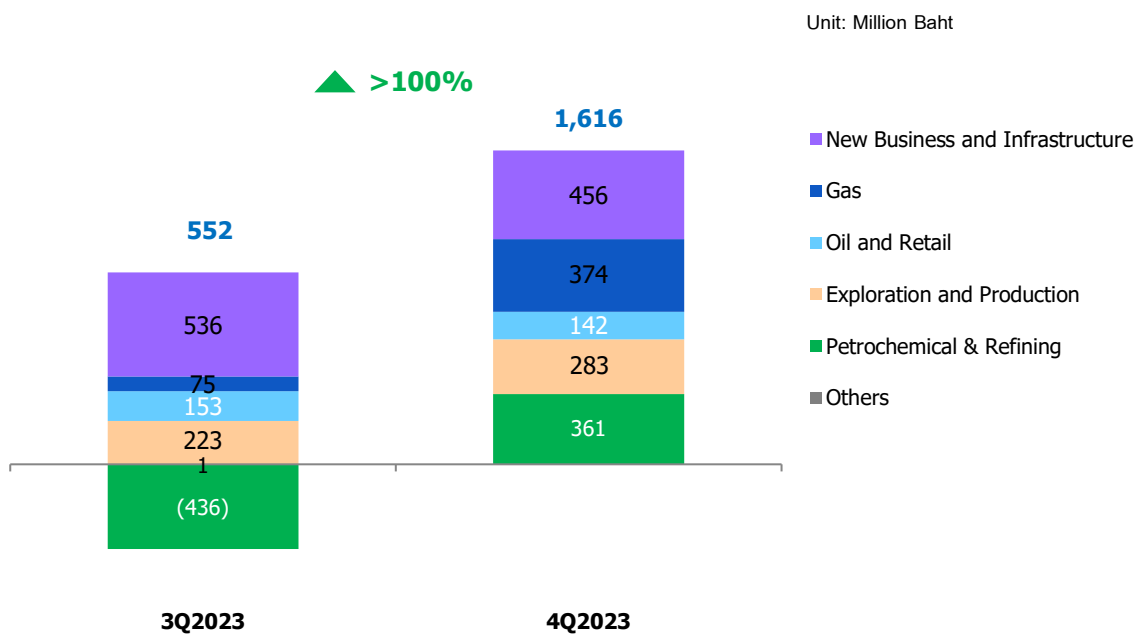
In 4Q2023, sales revenue of PTT and its subsidiaries was reported at Baht 807,113 million, increased from 3Q2023 by Baht 4,430 million or 0.6%. This was mainly from higher sales revenue of International Trading business following the product selling prices, despite lower sales volume. Exploration and Production business and Oil and Retail business's sales revenue increased from higher sales volume, despite lower average selling price. However, sales revenue of Gas business declined mainly from S&M business due to lower sales volume of the power plant customers following the lower power consumption during winter in spite of higher average selling price. In addition, GSP business's sales revenue decreased mainly from lower demand of petrochemical-sector customers, despite higher average selling price in almost all products which in line with petrochemical referenced prices in the market. Petrochemical and Refining business's sales revenue also decreased mainly from Refining business, which had lower average selling price in line with lower global petroleum product prices, in spite of higher sales volume driven primarily from an increase in PTT Group refineries' utilization rates. New business and Infrastructure business's sales revenue decreased mainly from SPP power plants of GPSC, due to the declined in sales volume and average selling price of power and steam. Additionally, sales revenue from PTTGM's pharmaceutical business decreased following lower sales volume of Lenalidomide compared with previous quarter.

EBITDA in 4Q2023 was Baht 87,970 million, decreased by Baht 54,322 million or 38.2%. This was mainly from Petrochemical and Refining business. Refining business's performance decreased due to higher stock loss. PTT Group's stock loss in 4Q2023 was approximately Baht 12,000 million, while there was a stock gain of approximately Baht 20,000 million in 3Q2023. In addition, market GRM fell from US\$ 11.3 per bbl in 3Q2023 to US\$ 6.2 per bbl in 4Q2023 due to lower spread of gasoline, diesel, and jet over crude oil, as well as higher crude premium. Petrochemical business's performance also decreased mainly from Olefins which had lower sales volume and product to feed of PE. In addition, International Trading business had lower performance mainly from lower margin per unit of international trading (out-out trading) and lower sales volume. Oil and Retail business's performance decreased mainly from lower gross margin of diesel and gasoline following global oil prices, together with higher net operating expenses, in spite of higher sales volume. New Business and Infrastructure business's performance also decreased mainly from GPSC due to lower SPP's gross margin which was driven by lower Ft and sales volume of power and steam. Also, PTTGM's performance decreased following the lower sales revenue mentioned above. Moreover, Gas business's performance decreased mainly from GSP

business due to lower gross profit from a drop in sales volume together with an increase in gas cost following to the gulf gas price, while the average selling price of almost all products increased following the petrochemical referenced prices. Also, TM business's gross profit decreased from higher costs driven mainly from the maintenance expenses. In addition, NGV business incurred the higher losses due to the rise in gas cost following to the pool gas price, despite higher average selling price.

The depreciation and amortization expenses in 4Q2023 were Baht 46,112 million, increased by Baht 1,457 million or 3.3% mainly from G1/61 and B8/32 Projects of PTTEP.

Share of profit from investments in joint ventures and associates



In 4Q2023, the share of profit from investments in joint ventures and associates was Baht 1,616 million, increased by Baht 1,064 million or more than 100.0% mainly from Petrochemical and Refining business's associates which had higher performance, mainly from TTT due to complete fair value assessment of investment, and from GCL on account of revenue from insurance claim of warehouse disruption in this quarter.

In 4Q2023, there was gain on derivatives amounting to Baht 4,564 million, gain increased by Baht 22,094 million or more than 100.0% mainly from commodity derivatives of PTTT, TOP, and PTTT LDN.

In 4Q2023, there was gain on foreign exchange was Baht 21,859 million, gain increased by Baht 23,640 million or more than 100.0% mainly from higher unrealized gain on US currency loans as a result of Thai Baht appreciation in this quarter. (Thai Baht appreciation in 4Q2023 was Baht 2.33 per US\$, Thai Baht depreciation in 3Q2023 was Baht 0.97 per US\$).

Finance costs was Baht 11,134 million in 4Q2023 which was close to 3Q2023.

In 4Q2023, there were loss recognition of non-recurring items (PTT's portion after tax) of approximately Baht 400 million, while in 3Q2023, there were loss recognition approximately Baht 40 million (see appendix).

The corporate income taxes in 4Q2023 were Baht 19,324 million, decreased by Baht 5,188 million or 21.2% resulted primarily from PTTEP's Projects in Oman and Malaysia together with lower performance of OR and IRPC.

As a result, PTT and its subsidiaries' net profit in this quarter amounting to Baht 32,765 million, increased by Baht 1,468 million or 4.7% from net profit of Baht 31,297 million in 3Q2023.

## 2023 compared with 2022

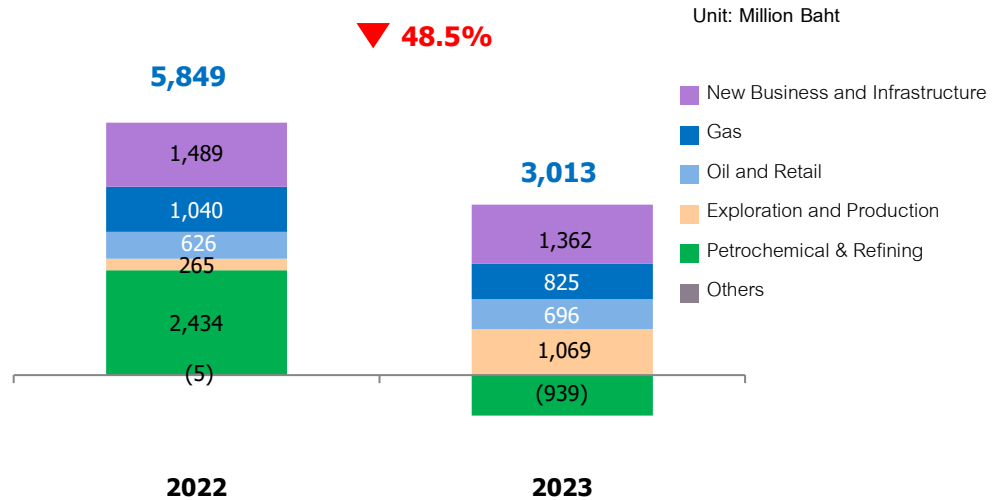
In 2023, sales revenue of PTT and its subsidiaries were reported at Baht 3,144,551 million, decreased from 2022 by Baht 222,652 million or 6.6%. This was driven mainly by a decrease in sales revenue of International Trading business and Petrochemical and Refining business from lower average selling price in line with global petroleum and petrochemical prices despite higher 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. Sales revenue of TM business decreased mainly from the adjustment of the pipeline tariff rates, as approved by the ERC since August 2022. Moreover, sales revenue of GSP business also decreased from lower average selling price 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. Moreover, Exploration and Production business's sales revenue decreased due to both lower average selling price and average sales volume.

In 2023, EBITDA was Baht 426,895 million, decreased by Baht 64,393 million or 13.1%. This was mainly from Petrochemical and Refining business's performance. Refining business had lower performance as Market GRM decreased from US\$ 10.7 per bbl in 2022 to US\$ 7.5 per bbl in 2023 due to lower spread of diesel, jet, and gasoline over crude oil in spite of a decrease in crude premium and an increase in sales volume. Moreover, PTT Group's stock loss increased as there was stock loss approximately Baht 2,000 million in 2023 compared with stock gain approximately Baht 4,000 million in 2022. Moreover, Petrochemical business's performance decreased from Phenol and Olefins' lower product to feed. Performance Chemicals business decreased following the economic slowdown. In addition, Exploration and Production business's performance decreased due to lower average selling price and sales volume. Others business's performance also decreased from disposal of coal business in 1Q2023. Nevertheless, New Business and Infrastructure business's performance increased from GPSC with an increase in Ft, lower energy cost, and higher sales volume of power. Also, PTTGM's pharmaceutical business's performance increased following consistently delivering "Lenalidomide" in 2023 after market expansion into US since September 2022 and an increase in sales volume from market expansion in US and South Korea.



The depreciation and amortization expenses of 2023 were Baht 173,065 million, increased by Baht 5,735 million or 3.4% mainly from PTTEP's G1/61 and G2/61 Projects, LNG Terminal 2 Project of PTT LNG, and Refining plants and Aromatics plants of GC.

Share of profit from investments in joint ventures and associates



In 2023, the share of profit from investments in joint ventures and associates was Baht 3,013 million, decreased by Baht 2,836 million or 48.5%. This was primarily from lower performance of joint ventures and associates in Petrochemical and Refining business mainly from NatureWorks LLC, HMC, and AGC Vinythai Public Co., Ltd. (AVT) due to lower product to feed.

In 2023, there was loss on derivatives amounting to Baht 13,194 million, decreased by Baht 61,720 million or 82.4% mainly from commodity derivatives of GC, TOP, and IRPC.

In 2023, gain on foreign exchange was Baht 22,285 million, increased by Baht 16,733 million or more than 100.0% from 2022 mainly from higher unrealized gain on US currency loans as a result of Thai Baht appreciation in this year. (Thai Baht appreciation in 2023 was Baht 0.34 per US\$, Thai Baht depreciation in 2022 was Baht 1.14 per US\$).

In 2023, finance costs were Baht 45,383 million, increased by Baht 8,292 million from 2022 or 22.4% mainly from GC, PTTEP, PTT, and GPSC due to an increase in loans and bonds issuance as well as higher market interest rates.

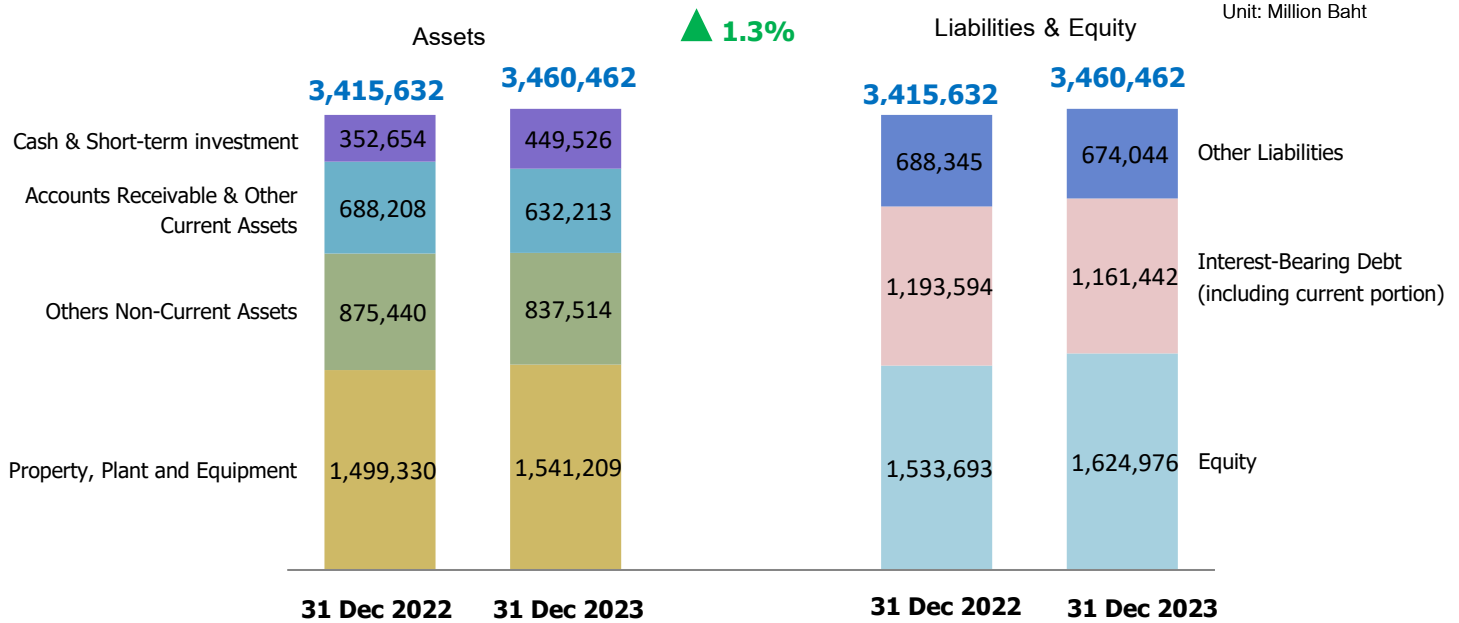
In 2023, there were loss recognition of non-recurring items (PTT's portion after tax) approximately Baht 500 million, while in 2022, there were loss recognition approximately Baht 10,300 million (see appendix).

In 2023, the corporate income taxes in 2023 was Baht 81,313 million, decreased by Baht 9,149 million or 10.1% mainly from PTTEP's Projects in Thailand and Oman in accordance with lower profit.

This was resulted in PTT Group's net profit in 2023 amounting to Baht 112,024 million, increased by Baht 20,849 million or 22.9% from net profit amounting to Baht 91,175 million in 2022.

## The Analysis of PTT Group Consolidated Financial Position

As of 31 December 2023 compared with 31 December 2022



### Assets

As of 31 December 2023, total assets of PTT Group were Baht 3,460,462 million, increased by Baht 44,830 million or 1.3% compared with 31 December 2022 from the followings;

: Cash and cash equivalents and short-term investments increased by Baht 96,872 million primarily from PTT Group's operating activities.

: Trade account receivables and other current assets decreased by Baht 55,995 million or 8.1% mainly from the followings;

- Other accounts receivable decreased by Baht 64,841 million mainly due to a decrease in refund receivable from the Oil Fuel Fund.
- Assets held for sale decreased by Baht 15,543 million from the disposal of coal business of PTTGM offset with assets held for sale for the divestment of Alvogen Malta (Out-licensing) Holding Ltd. (AMOLH) and the business transfer agreement of Nuovo Plus Co., Ltd. (NuovoPlus).
- Inventories decreased by Baht 11,349 million due to a decrease in inventory levels and lower selling prices, mainly from GC, IRPC, and TOP.
- Current derivative assets decreased by Baht 5,975 million mainly from commodity derivative assets of PTTT.
- Trade accounts receivable increased by Baht 40,759 million from an increase in sales volume mainly from PTTT, PTTT LDN, PTT, TOP, and GC.

: Other non-current assets decreased by Baht 37,926 million or 4.3% mainly from;

- Exploration and evaluation assets decreased by Baht 11,830 million from divestment of AC/RL7 (Cash-Maple) Project and write-off assets of AC/RL12 (Oliver) project of PTTEP.
- Deferred tax assets decreased by Baht 8,282 million primarily due to the end of concession of Bongkot Project of PTTEP.
- Right-of-use assets decreased by Baht 7,954 million mainly from depreciation of PTTEP, PTT, and TOP.

: Property, Plant, and Equipment (PPE) increased by Baht 41,879 million or 2.8% 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).

### Liabilities

As of 31 December 2023, PTT Group had total liabilities of Baht 1,835,486 million, decreased by Baht 46,453 million or 2.5% from 31 December 2022, mainly from the followings;

: Interest-bearing debt decreased by Baht 32,152 million or 2.7% due to a decrease in long-term loans by Baht 37,478 million from the loans repayment and debentures redemption mainly from TOP, OR, and GC as well as a decrease in lease liabilities by Baht 6,144 million from the lease repayment. However, short-term loans increased by Baht 11,470 million mainly from GC, PTT Treasury Center Company Limited (PTT TCC), PTTT, and PTT.

: Other liabilities decreased by Baht 14,301 million or 2.1% mainly from a decrease of commodity derivative liabilities of PTTT and a decrease in short-term provision for decommissioning costs due to the end of concession of Bongkot project of PTTEP as well as a decrease in other accounts payable due to a decrease in accrued interest of PTT.

### Equity

As of 31 December 2023, PTT Group had total shareholders' equity of Baht 1,624,976 million increased by Baht 91,283 million or 6.0% from 31 December 2022 as a result of the 2023 net income of Baht 112,024 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 22,676 million from net income of subsidiaries.

## Liquidity

For the year-ended 31 December 2023, PTT Group had net increase in cash and cash equivalents amounting to Baht 77,080 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 417,134 million. Details of cash flow by activities are as follows:

	Unit: Million Baht
	Consolidated Financial statement
Net cash provided by operating activities	382,045
Net cash used in investing activities	(161,245)
Net cash used in financing activities	(142,159)
Effects of exchange rates on cash and cash equivalents	(3,279)
Exchange differences on translation	2,019
Cash and cash equivalents classified as held for sale	(301)
Net increase in cash and cash equivalents during the period	77,080
Cash and cash equivalents at the beginning of the period	340,054
Cash and cash equivalents at the end of the period	417,134

Net cash provided by operating activities of Baht 382,045 million was derived from Baht 236,593 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 173,065 million of depreciation and amortization expenses, Baht 45,383 million of finance costs. The decrease in cash flow from operating activities mainly resulted from Baht 12,219 million of interest income, Baht 7,015 million of unrealized gain on fair value of commodity contracts, Baht 5,479 million of gain on derivatives, Baht 4,614 million of gain on disposal of assets, and Baht 3,013 million of share of profit from investments in joint ventures and associates and the change in net operating assets resulted in the increase in cash flow of Baht 46,247 million while there were income taxes paid of Baht 83,201 million.

Net cash used in investing activities was Baht 161,245 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 165,645 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 7th Gas Separation Plant, Bang Pakong–South Bangkok power plant transmission pipeline project, the 5th transmission pipeline project, Regenerative Thermal Oxidation (RTO) Project, and GSP Logistics Management of PTT, GC's Oleflex improvement and 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 14,555 million mainly from investing in fixed deposit of PTTEP, TOP, and GC.

: Interests and dividends received amounting to Baht 19,304 million mainly from PTTEP, GC, PTT, and PTT TCC.

Net cash used in financing activities was Baht 142,159 million mainly from the followings;

: Dividend payment amounting to Baht 62,368 million mainly from PTT and PTTEP.

: Finance costs paid amounting to Baht 48,494 million mainly from PTT, GC, TOP, GPSC and PTTEP.

: The net cash outflow of short-term and long-term loans amounting to Baht 36,631 million mainly from TOP, OR, and PTTEP.

Financial ratios and earnings per share of PTT Group

Financial Ratio	Unit	2022	2023
<u>Liquidity Ratios</u>			
Current ratio	Times	1.76	1.84
Quick ratio	Times	0.96	1.20
Accounts receivable turnover	Times	16.01	12.97
Average Collection period	Days	22.79	28.14
Inventory turnover	Times	14.79	12.77
Average inventory period	Days	24.69	28.58
Accounts payable turnover	Times	13.08	11.68
Average Payment period	Days	27.90	31.25
Cash Cycle	Days	19.58	25.47
<u>Profitability Ratios</u>			
Gross profit margin	%	13.68	12.00
Net profit margin	%	3.63	4.94
Return on equity	%	8.85	10.31
<u>Activity Ratios</u>			
Return on asset	%	3.76	4.52
Return on fixed assets	%	8.32	10.21
Total asset turnover	Times	1.04	0.91
<u>Solvency Ratios</u>			
Debt to equity	Times	0.78	0.71
Interest coverage	Times	13.25	9.41
<u>Earnings per share</u>			
Earnings per share	Baht/share	3.20	3.92

Note:

Current ratio	=	Current assets divided by Current liabilities
Quick ratio	=	(Cash and cash equivalent + Current investments + Accounts receivable) divided by Current Liabilities
Accounts receivable turnover	=	Sales and service income divided by Average accounts receivable
Average Collection period	=	365 divided by Accounts receivable turnover
Inventory turnover	=	Cost of sales and services divide by Average inventory
Average inventory period	=	365 divided by Inventory turnover
Accounts payable turnover	=	Cost of sales and services divided by Average accounts payable
Average Payment period	=	365 divided by Accounts payable turnover
Cash Cycle	=	Average Collection period + Average inventory period - Average Payment period
Gross profit margin	=	Gross profit divided by Sales and service income
Net profit margin	=	Net profit divided by Sales and service income
Return on equity	=	Net profit divided by Average shareholders' equity
Return on asset	=	Net profit divided by Average total assets
Return on fixed assets	=	Net profit divided by Average total fixed assets
Total asset turnover	=	Sales and service income divided by Average total assets
Debt to equity	=	Interest bearing debt divided by Total shareholder's equity
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



## Economic Outlook in 2024

The world economy in 2024 is expected to grow at a rate similar to 2023, amid the steep challenges, partly due to the lagged impact of monetary policy tightening in major economies, including the US and Euro Area, which are expected to maintain their high-interest rates for a longer period in order to cool down the high inflation to return to the target range, despite a trend towards slowing it down. However, there is an anticipated that the central banks will begin to ease monetary policies in 2H2024, amid signals from fiscal policies trending downwards due to limited fiscal space. Besides, Chinese economy is expected to expand at a slower rate, following the crisis in the real estate sector, which is expected to remain unresolved, dampening confidence and private sector investments. Moreover, the global economy continued to face downside risks from geopolitical issues, including the prolonged and escalating conflict between Russia and Ukraine, as well as Israel and Hamas, US-China economic decoupling, and the food shortage crisis due to climate change and the intensification of El Niño may affect the global supply chain, causing an increase in commodity prices. The IMF in January 2024 expected the global economy to grow at 3.1% in 2024.

According to the S&P Global's report in January 2024, global oil demand in 2024 is expected to increase by 1.5 MMBD, reaching to 103.8 MMBD. The growth in demand aligns with the continuing global economic expansion, albeit at a lower magnitude compared with 2023 due to fading momentum from the Covid-19 recovery in China. Adding to the headwinds are the increasing adoption of electric vehicles (EV) and tighter energy efficiency standards. Moreover, non-OPEC supply tends to continuous increasing. In 2024, Dubai crude oil price is expected to average at US\$ 74 - 84 per barrel, and Singapore GRM is expected to average at US\$ 5.5 – 6.5 per barrel.

The petrochemical product prices in 2024 are expected to exhibit a stable trend, aligned with 2023 levels, due to projected decreases in crude oil and naphtha prices. In addition, new supply and excess supply from North Asia entering the market could put prices downward. However, an anticipated rise in end-user product demand, particularly from China, towards the end of the year is expected to support prices for this year.

- **Olefins prices** in 2024 are expected to remain relatively stable compared with 2023, with average HDPE and PP are expected to average around US\$ 990 – US\$ 1,090 per ton and US\$ 975 – US\$ 1,075 per ton, respectively, aligning with the projected decreases in crude oil and naphtha prices. The production capacity of new factories in China, Taiwan, and India entering the market may exert pressure. However, potential environmental regulations in China that could limit the production quantity of PP products, combined with the improving end-user demand from China, and a global economy showing signs of recovery from central banks starting to ease monetary policies in the latter half of the year, are expected to be factors supporting Olefins prices in 2024.

- **Aromatic prices** in 2024 are expected to be relatively stable compared with 2023, with average prices of BZ and PX are expected to average around US\$ 840 – US\$ 940 per ton and US\$ 965 – US\$ 1,065 per ton, respectively, aligning with the projected decreases in crude oil and naphtha prices. In addition, new upcoming supply in the region will put pressure on prices. Meanwhile, downstream market demand, which is expected to recover during the second half of the year following global economic growth, while BZ demand for gasoline blending will help support aromatic prices in 2024.

**The price of propane** in 2024, compared with 2023, is trending downwards, with propane price is expected to average within the range of US\$ 510 - US\$ 610 per ton, due to lower demand from the warmer-than-normal winter in many areas during the first quarter due to the impact of El Niño. Moreover, the propane demand from PDH plants is anticipated to recover slowly due to production capacity reduction or delay resulting from relatively low profit margin. Nevertheless, the market still has supportive factors from the maintenance shutdown of gas separation plants in the Middle East during the first quarter, along with supply from India, which may adjust upward again due to government measures to support cooking gas price before the upcoming election in the second quarter.

**The Thai economy** in 2024 is expected to keep expanding from 2023, as private consumption would continue to expand following the recovery in household income and the government stimulus packages including, e-tax refund scheme, and Baht 10,000 digital wallet handout scheme which is currently under consideration. Likewise, the tourism sector would continue to recover with an increase in foreign tourist arrivals from nearly all nationalities. Nevertheless, the return of Chinese tourists may be delayed due to sluggish economic conditions and the Chinese government's push for domestic travel, despite the agreement between China and Thailand for a permanent visa exemptions policy starting on 1 March 2024. Merchandise exports would bounce back to growth following an upturn in the global economic cycle and low base effect. Private investment is expected to improve in line with progress in public-private partnership (PPP) projects, an increase in the number of projects registered for investment promotion, and recent government investment incentives for automotive and electric vehicle industries. While any delay of the 2024 Budget Act may put pressure on government investment and the approval of new projects in the near future. 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, geopolitical tensions, and the elevated and uncertain drought conditions stemming from El Niño. The Fiscal Policy Office (FPO) in January 2024 projected its Thai economic forecast for 2024 to be 2.8%.

## 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 December 2023 was at 98.0% (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 December 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 2028.

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)	
GSP #5				TD 50% (19 – 23 Oct. : 4 Days)
GSP #6				TD 50% (29 – 31 Dec. : 3 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 (20 - 31 Jul. : 12 Days)	
GSP #5	TD 50% (1 - 31 Mar. : 31 Days)	TD 50% (1 - 15 Apr. : 15 Days)		
GSP #6		TD 50% (10 - 30 Jun. : 21 Days)	TD 50% (1 - 15 Jul. : 15 Days)	

\*TD: Turndown

\*\*SD: Shutdown

Summary of PTT Sustainability Performances in 2023

PTT has committed to managing sustainability to enhance national competitiveness, leverage society's and people's quality of life, develop and implement innovation and technology for all areas, and drive people, society, community and environment toward the future transition under PTT's aspiration "Powering Life with Future Energy and Beyond" with its mission to balance all stakeholders.

PTT has incorporated climate change risks and opportunities as essential components in shaping the direction of its strategy, as well as its long-term goals for 2030, which are business growth, new growth, and clean growth. PTT is prepared to transform its business into future energy and beyond business towards a low carbon society. In 2023, there has been progress in expanding investment into future energy and beyond, including Decarbonization Initiatives. In 2023, there will be progress in expanding investment into future energy businesses and new businesses that go beyond energy, including the project Decarbonization Initiatives according to the "3P Operational Guidelines" to aim for goals and plans towards carbon neutrality by 2040 and net zero greenhouse gas emissions (Net Zero Emissions) by 2050 as follows:

Performance Guidelines	Key projects and initiatives
Pursuit of Lower Emissions  (Accelerate production processes adjustment) in line with <u>Clean Growth</u> to reduce GHG in the process as much as possible	<ul style="list-style-type: none"> <li>● Carbon dioxide capture and storage project (CCS):               <ol style="list-style-type: none"> <li>1) Offshore project to capture carbon dioxide at the production site, with the Pilot Project at the Arthit gas field and the Lang Lebah project. The Front-End Engineered Design (FEED) of the Arthit CCS project was completed, and it is scheduled to be executed within 2027.</li> <li>2) Near-shore, a project to capture and store carbon dioxide gas in collaboration with companies in the PTT group. There is a study to estimate the cost of capture in each production process (CO2 Capture Cost Estimation &amp; Prioritization). Feasibility study in gathering and transportation (Feasibility Study for Gathering and Transportation) and business model (CCS Business Model).</li> </ol> </li> <li>● Carbon dioxide capture and utilization project (CCU):                Rayong Natural Gas Separation Plant, PTT Innovation Institute and OR jointly study the feasibility of business development and marketing of sodium bicarbonate products, which is produced from carbon dioxide gas. It is in the process of reviewing the scope of work and conducting bidding for technology and engineering work. In addition, PTT is also studying the feasibility of other additional products, including methanol.             </li> </ul>

Performance Guidelines	Key projects and initiatives
	<ul style="list-style-type: none"> <li>● Renewable energy projects on site: Solar panels are installed to substitute the use of electricity from transmission lines in many areas. Total maximum power generation capacity is approximately 62.14 kilowatts. It is expected that all PTT projects will be able to reduce PTT's indirect greenhouse gas emissions (Scope 2) by approximately 1,878 tons of carbon dioxide equivalent per year.</li> <li>● Implementation of energy saving and conservation projects: Construction of Natural Gas Separation Plant Unit 7 to replace Natural Gas Separation Plant Unit 1 and plans to begin commercial operations (Commercial Operation Date: COD) in 2024, which will reduce greenhouse gas emissions by 112,000 million tons of carbon dioxide equivalent per year compared with the natural gas separation plant.</li> <li>● Offsetting greenhouse gas emissions with carbon credits: PTT compensates for greenhouse gas emissions from organizing activities or Carbon Neutral Events, such as the "Ignite Life Force Event, Turning the Forest from 1 Seedling to the 2nd Million" and a reception to thank stakeholders on PTT's 45th anniversary. The amount is 90 tons of carbon dioxide equivalent. It has been certified by the Greenhouse Gas Management Organization (Public Organization).</li> </ul>
<p>Portfolio Transformation (Accelerate the transition to green business) Create growth from the future energy business 'New Growth' by increasing the <u>green portfolio</u> and managing the Hydrocarbon portfolio.</p>	<ul style="list-style-type: none"> <li>● Re-focus investment direction: End all investments in the coal business and increase the Renewable Energy target from 12 GW to 15 GW by 2030. In addition, there is investment in the complete Electric Vehicle Ecosystem through the operations of the company at PTT holds 100% of the shares, including new businesses that go beyond energy. Read more details in the New Growth goals part.</li> <li>● Apply Internal Carbon Price: Use internal carbon price in PTT's investment consideration as the tool to increase the chances in making decisions on projects contributing to reduce GHG emissions.</li> </ul>
<p>Partnership with Nature and Society</p>	<ul style="list-style-type: none"> <li>● Cooperation with the government to increase green areas to increase greenhouse gas absorption through natural ways:</li> </ul>



Performance Guidelines	Key projects and initiatives
<p>(Accelerate planting of an additional 1 million Rai of forest)</p> <p>Increase the amount of carbon dioxide absorbed and stored in natural ways through planting and maintaining forests and increasing green areas.</p>	<p>PTT Group has signed a memorandum of understanding regarding cooperation in the 2 million rai reforestation project with the Royal Forest Department, the Department of National Parks, Wildlife and Plant Conservation, and the Department of Marine and Coastal Natural Resources. It is considered a collaboration of government and private sector partners in both theory and practice.</p> <ul style="list-style-type: none"> <li>● PTT organized the event “Ignite the Power of Life, Turn the Forest from 1 Seedling to the 2nd Million” as the first step in starting the process of planting an additional 1 million rai of forests on August 12, 2023 at the PTT reforestation plot in the national reserved forest, Wang Plerng Forest, Muang Khom Forest, and Lam Narai Forest, Maha Phot Subdistrict, Sa Bot District, Lopburi Province. A total of 4,500 trees were planted at the event.</li> <li>● In 2023, PTT received area support and planted more than 86,173 rai of forests in 25 provinces, more than the target of 75,000 rai.</li> </ul>

By fully and continuously driving the organization towards sustainability, in 2023, PTT remained a member of the Dow Jones Sustainability Indices (DJSI) for the 12<sup>th</sup> consecutive year in the World Index and Emerging Market Index, as well as being selected on the Thailand Sustainability Investment (THSI) list, receiving the Sustainability Awards of Honor for the 3<sup>rd</sup> consecutive year on the Stock Exchange of Thailand, This reflects Thailand's largest listed companies with sustainable business performances.





## 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 4Q2023 compared with 4Q2022 and 3Q2023, together with 2023 compared with 2022 are summarized as follows:

Unit: Million Baht

Business	Item	4Q2022	3Q2023	4Q2023	2022	2023
Exploration and Production business	Impairment loss on Mozambique Area One Project	~ (4,300)		~ (2,800)	~ (4,300)	~ (2,800)
	Impairment loss on assets held for sales from PTTEP BL				~ (2,300)	
	The provision for the Class Action settlement from Montara incident	~ (3,000)			~ (3,000)	
	Write-off Project AC/RL12 Australia (Oliver)			~ (1,200)		~ (1,200)
	Disposal of asset					~ (500)
	Loss after reclassifying net assets of Block 17/06 Project (Angola)	~ (350)			~ (350)	
	Income from adjustment of contingent liabilities of Oman Block 61 project	~ 1,600			~ 1,600	
	Gain on divestment of AC/RL7 (Cash-Maple)			~ 1,700		~ 1,700
Gas business	Gas production shortfall penalty	~200	~50	~100	~2,700	~300
	Contribution to oil fund during energy crisis	(2,000)			(3,000)	
Petrochemical and Refining business	TOP's tax on divestment of GPSC				~(2,100)	
	Gain on change in status of investment of GC	~410		~1,400		~1,400
	Gain on disposal of subsidiary of GC			~600		~600
	Gain on bargain purchase of investment in AVT	~450				
New Business and Infrastructure	Impairment of asset under PTTGM		~ (80)	~ (100)		~ (180)
	Gain on Ichinoseki Solar Power 1 GK divestment of GPSC				~350	
Coal business	PTTGM's loss on impairment on coal mine project in Madagascar				~(400)	