



## Executive Summary

In Q1/2024, the average Dubai crude oil price was 81.3 USD/barrel, slightly decreased from 83.6 USD/barrel in the previous quarter. Crude price remained at a high level due to both the tighten crude oil supply, on the back of OPEC+'s production cut extension to the end of Q2/2024, and the escalation of geopolitical conflicts in the Middle East and the Russia-Ukraine tension, despite concerns on global economic growth, particularly in the USA and China. The expected Dubai crude oil price for 2024 is expected in the range of 70-90 USD/barrel, supported by tightened oil supply and the increased demand from global economic recovery. The crude oil demand is supported by the expectation of policy interest rate cuts in the USA and Europe in the second half of 2024 and China's demand which is anticipated to improve. Considering the balance of demand and supply, the global crude oil inventory tends to decline as the demand is forecasted to surpass supply. Key factors to monitor include the movement of global crude oil inventories after OPEC+ extended the production cut period, repurchase of crude oil into strategic reserves in the USA, geopolitical conflicts in the Middle East between Israel and Iran, which could impact oil supply, as well as the Russia-Ukraine war, and economic growth in the USA, China, and India.

During Q1/2024, PTTEP's E&P operation achieved significant progress. The G1/61 (Erawan) Project has reached its production level of 800 MMSCFD ahead of plan, since 20 March 2024, with a plan to install additional wellhead platforms and continue drilling campaigns to maintain the production level. This could mitigate the impact of high energy prices and enhance Thailand energy security. On the overseas project update, the partner of Yadana Project had decided to withdraw its investment, resulting in a change of PTTEP's participating interest from 37.0842% to 62.9630%, effective from 1 April 2024. Regarding the new business for energy transition, Varuna (Thailand) Co., Ltd., a subsidiary of AI and Robotics Ventures Company Limited (ARV), has developed a drone plantation that enhances efficiency, reduces planting time by up to 10 times compared to human workforce, and enables planting in inaccessible areas. Furthermore, Cariva (Thailand) Co., Ltd. has secured Series A funding to elevate the standard of preventive care and personalized medicine, where the Bangkok Dusit Medical Services Public Company Limited (BDMS) is the lead investor.

For the financial results of Q1/2024, profits from normal operation decreased when compared to Q4/2023 from a 2% decline in average selling price to 47.24 USD/BOE, as well as a slight drop in sales volume to 473,048 BOED, primarily due to the lower crude loads from projects in Algeria, offset with an increase in sales volume from G1/61 Project (Erawan) that ramped up the production to 800 MMSCFD since 20 March 2024. PTTEP has managed to maintain a competitive unit cost and report the unit cost of Q1/2024 at 28.96 USD/BOE. PTTEP's net profits increased compared to the previous quarter, due to significantly lower losses from non-operating items, as there was the impairment charge of Mozambique Area 1 Project in Q4/2023, while no such transaction was reported in Q1/2024. As at the end of Q1/2024, PTTEP's financial position included total assets of 27,168 MMUSD, total liabilities of 12,033 MMUSD, of which 3,685 MMUSD was interest-bearing debt and the total shareholders' equity of 15,135 MMUSD. Its debt-to-equity ratio was at 0.24 times, following the company's financial policy.

### Table of key financial results

(Unit: Million US Dollar)	Q4 2023	Q1 2024	Q1 2023	Inc. (Dec.) QoQ	Inc. (Dec.) YoY / YTD
Total Revenues	2,411	2,209	2,314	-202	-105
Revenue from sales *	2,202	2,093	2,193	-109	-100
EBITDA **	1,662	1,568	1,616	-94	-48
Profit for the period	514	524	569	+10	-45
Basic earnings per share (Unit: US Dollar)	0.13	0.13	0.14	-	-0.01
Profit (Loss) from normal operation	603	543	592	-60	-49
Profit (Loss) from non-operating items	(89)	(19)	(23)	+70	+4

\* Included deemed income for the tax payment by Oman government but excluded from the calculation of the average sales volume and selling price.

\*\* EBITDA excluded gain from disposal of participating interest in petroleum retention lease AC/RL7 (Cash-Maple), write-off assets of petroleum retention lease AC/RL12 (Oliver), and impairment loss on assets and goodwill in Mozambique Area 1 Project which were recognized during Q4/2023.



## Strategies and Business Management

### Strategies

PTTEP operates under the concept of “From We to World” and supports United Nations Sustainable Development Goals (UN SDGs) in order to become a “Sustainable Organization” that takes a conscious consideration of all stakeholders’ interests. PTTEP, therefore, focuses on delivering secure, affordable, and sustainable energy especially in an on-going global energy crisis and energy transition, through the three strategy pillars as follows:

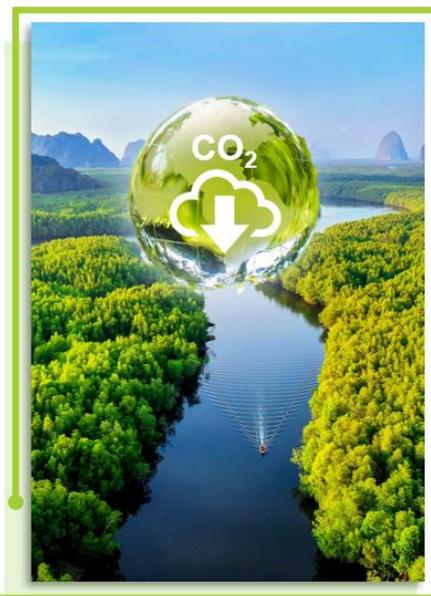


#### Drive Value

- Strengthen E&P businesses and ensure Thailand energy security, supporting domestic natural gas demand in particular
  - Maximize natural gas and crude oil production from existing projects
  - Expedite development of new projects
  - Accelerate monetization from recent petroleum discovery projects
- Enhance competitiveness of unit cost
- Expand gas-weighted portfolio and LNG, especially in upstream and midstream

#### Decarbonize

- Manage lower carbon E&P portfolio to reach Net Zero Greenhouse Gas Emissions target by 2050. This target covers both the direct emissions (Scope 1) and indirect emissions from energy usage (Scope 2) of the exploration and production businesses under PTTEP’s operational control. PTTEP has also set up its interim targets to reduce greenhouse gas emissions intensity at least 30% within 2030 and 50% within 2040 from 2020 base year.
- Execute greenhouse gas (GHG) emissions reduction plan by leveraging optimized relevant technology application.
- Maximize the use of renewables and explore clean future energy application in operational area.
- Accelerate the development of Carbon Capture and Storage (CCS) Projects
- Pursue carbon offsetting through initiatives such as forestation and blue carbon to absorb carbon dioxide in coastal and marine ecosystem under Ocean for Life strategy.



#### Diversify

- Scale up AI and Robotics Ventures (ARV) businesses
- Explore renewable energy opportunities
- Explore the businesses in relation to Carbon Capture, Utilization, and Storage (CCUS), hydrogen, and future energy

## Business Management and Company Activity

PTTEP aims to build sustainable growth encompassing Environmental, Social and Governance (ESG), which is in line with the company's key material issues on sustainability following the expectations of all stakeholders, and to support business directions. The implementation and progress can be summarized as follows:

### 1 Good Corporate Governance Principles

PTTEP is committed to conduct its business with transparency and efficiency, by adhering to the good corporate governance principles, maintaining robust risk management and internal control system as well as strictly conforming to applicable laws and regulations. The main progresses are as follows:

- Continuously implement GRC activities in accordance to GRC Strategies – Smart Assurance and Mindful GRC which aims to effectively integrate assurance processes, cultivate GRC for employees' awareness and adoption, as well as externally disseminate GRC practices to related parties.
- Upgrade GRC Operating Model Framework to be the basis for integrated governance, effective management, monitoring and reporting GRC performance of various projects of PTTEP functions both domestic and international assets and subsidiaries.
- Collaborate with Stakeholder Management and Social Responsibility team for Stakeholder Engagement Survey preparation to gather views and opinions resulting from GRC activities in order to further analyze and improve GRC operations.
- Study on the feasibility and the development of GRC One Digital System, which provide the integrated GRC data linkage among GRC units, PTTEP internal units and external sources to maximize the efficiency of data usage.
- Continually build up GRC culture through communication campaigns for employees in Thailand and overseas to emphasize GRC awareness and understanding and embrace GRC concepts in their work and daily life. i.e., GRC is in You roadshow in the headquarter, domestic and international assets.
- Build up e-Learning to promote good GRC practices internally, as well as the communication to external communities, such as the Explorer's Journal, Shareholder Site Visit, Facebook: PTTEP Shareholders Society. Moreover, we also share PTTEP's GRC practices to other Thai Listed Companies that are interested.

In view of Stakeholder Management, PTTEP has established a strategic framework in line with international standards, specifically the AA1000 Stakeholder Engagement Standard. The framework comprises 3 strategic areas: 1) **Trust**: aiming to build confidence and trust in both petroleum exploration and production (E&P) operations and Beyond E&P activities 2) **Synergy**: aiming to foster network collaboration and efficiently extend cooperation with stakeholders 3) **Commitment**: aiming to build commitment and enhance the participation of stakeholder groups to drive organizational goals. In addition, PTTEP has categorized stakeholder in alignment with the company's operations into 8 main groups, including (1) Government Agencies and Regulators, (2) Suppliers / Contractors, (3) Customers, (4) Employees and Directors, (5) Shareholders and Financial Institutions, (6) Business Partners and Joint Ventures, (7) Communities and Society and (8) Media. To ensure effective and systematic stakeholders management, PTTEP has developed a digitally integrated stakeholder management system. PTTEP believes that effective stakeholder management is integral to drive the company's operations towards our goals.

PTTEP has established and implemented its Human Rights Policy and Management System in line with the international best practices to prevent human rights violations from our business operations. The company also strictly conducts a human rights risk assessment on an annual basis, covering 100% of its operating assets and joint ventures. In 2024, PTTEP plans to review the risk register from its 2023 human rights risk assessment, with a particular focus on countries where significant human rights issues exist. This review aims to prevent and mitigate risks that could potentially lead to human rights violations arising from direct operations.

PTTEP has Safety, Security, Health and Environment Management System (SSHE MS) in place to minimize risks and impacts from its operations. In Q1/2024, PTTEP Lost Time Injury Frequency (LTIF) was 0.23 case per 1 million man-hours, while the Total Recordable

Incident Rate (TRIR) was 0.30 case per 1 million man-hours. The LTIF and TRIR were better than the average safety performance of the International Association of Oil & Gas Producers (IOGP). Furthermore, PTTEP continues the effort to raise safety awareness of all workforces through human factor clinic and lessons learnt from past incident.

## 2 Natural Resource Conservation, Environmental Restoration, and Community and Social Development

The highlighted implementation to create long-term value for stakeholders can be summarized as follows:

- **Circular Model for E&P:** PTTEP's work processes are designed to ensure optimum resource efficiency. It is encouraged that all unused materials are reused and recycled whilst appropriate, safe, and only when they are in an efficient condition with aim to achieve our targets of at least 50% of main structures being reused with safety awareness, and efficient conditions. In 2024, PTTEP plans to refurbish and install 2 wellhead platform (WHP) topsides at G2/61 Project, scheduled for completion in Q3/2024. Additionally, the company aims to achieve zero waste to landfill in domestic operations by 2025 and all operations by 2030. PTTEP has then adopted waste-to-energy incineration approach while utilizing biodegradable organic waste for composting or biogas production. Furthermore, PTTEP is dedicated to exploring waste management approaches involving recycling to support sustainable waste management practices.
- **Ocean for Life:** As most of PTTEP's operations are offshore, PTTEP gives the highest priority to conserve, restore, and monitor natural resources and marine ecosystems to support economic growth and the quality of life for nearshore communities to reflect the company's long-term targets of (1) achieving net positive impact of ocean biodiversity and ecosystem services (BES) value in all offshore operations and (2) increasing 50% of focused communities' income by 2030. The performance is divided into three workstreams as follows:
  - 1) Sustainable Ocean-Friendly Operations, focusing on safety assurance and minimizing environmental impacts in the areas where PTTEP has operations. In Q1/2024, PTTEP has undergone a study to explore suitable approaches to place artificial reefs (Rigs to Reefs), using petroleum platform jackets, to maximize benefits in conservation, restoration, and preservation of marine resources and biodiversity in both coastal and offshore areas, in collaboration with government and educational agencies.
  - 2) Sustainable Ocean Health and Blue Carbon Solutions, focusing on the conservation and restoration of marine resources and the absorption of carbon dioxide by blue carbon. In Q1/2024, PTTEP conducted a project to monitor the microplastic situation for the 2nd time, expanding the sample collection area to include G1/61 Project. The expansion built upon the initial implementation at the G2/61 and Arthit projects in the Gulf of Thailand (GoT). The objective is to compare microplastic levels against those from Chao Phraya River Estuary in Samut Prakarn Province, Chumphon Estuary in Chumphon Province, Koh Tao in Surat Thani Province and Koh Losin in Pattani Province. Presently, seawater samples are undergoing analysis to quantify microplastics and identify the types of plastics detected. The data from its petroleum production platforms is considered as the most remote microplastic data in Thailand, contributing to the understanding of marine debris situation in the GoT, which is a national and international challenge. The data supports integrated waste management efforts for both nearshore and offshore areas, facilitating the concrete conservation of marine resources.
  - 3) Sustainable Community around the Ocean through implementing corporate social responsibility projects with stakeholders around our operational areas covering 17 provinces around the GoT. In Q1/2024, through the company's continuous promotion of juvenile aquatic animal aquaculture, PTTEP was able to release over 1,437 million juvenile aquatic animals back to the nature. Additionally, 4 fish homes were installed in marine conservation areas, enabling 2.3 square kilometers of coastal conservation areas. Furthermore, in supporting its target of increasing the income of focused communities participating in the projects, PTTEP currently established a cumulative total of 11 sea products development groups. In addition, PTTEP organized 3 networking events to support marine resource conservation efforts.

### 3 Finance

PTTEP places great importance on effective financial management by focusing on financial discipline and maintaining a robust capital structure to ensure an appropriate return to shareholders. At the end of Q1/2024, the company's debt-to-equity ratio was at 0.24 time, which is in line with the company's financial policy. In addition, PTTEP consistently preserves company's credit rating which is evaluated by Credit rating agencies at BBB+ by S&P Global Ratings and Fitch Ratings, and at Baa1 by Moody's Investor Service. PTTEP is able to maintain its robust financial position to withstand the oil price and global economic fluctuation. Furthermore, the company retains its adequate liquidity to support company's operations as planned, as well as any expansion into new businesses for the Energy Transition according to the company's strategies.

### 4 Research and Development of Technology

PTTEP encourages the development of technology and innovation. As of Q1/2024, there are 60 projects under research and development and the progress of highlight projects are as follows;

- The development of technology for the removal of contaminants from condensate is currently in the process of development and testing. These advancements will aid in enhancing efficiency and reducing operational expenses for the additional removal of contaminants from condensate such as the separation of contaminants in water, technology to extend the lifespan of adsorbents.
- The technology to support pipeline decommissioning activities such as;
  - The intelligent sampling PIG for collecting pipeline surface sample is currently being used for the decommissioning of subsea pipelines in the Gulf of Thailand. The development team is continually developing the equipment for better efficiency and supporting additional pipe sizes so that they can be used at all PTTEP production sites.
  - The development of production wells plugging and abandonment methods through thermite reactions is currently in the preparation stage for pilot testing in PTTEP's production fields.
- The development of an autonomous wellhead operator robot for performing operating tasks in wellhead platforms and an unmanned aerial vehicle for production platform inspection and equipment delivery has been conducted prototype testing at Sirikit and offshore petroleum production sites, respectively. The testing will continue and is expected to complete in Q2/2024.
- The development of surface coating technology for carbon steel and stainless-steel with diamond-like material to extend the service life of equipment has successfully developed a prototype coating machine. There will be tests to evaluate the performance of this prototype, and trials will be conducted in 2024 on coating surfaces of equipment used in petroleum production processes.
- The development of technology to reduce Greenhouse gas emissions includes:
  - The low heating value flare tip to reduce greenhouse gas emissions is currently in the preparation stage for pilot testing at the G2/61 field in 2024
  - The Carbon-dioxide fixation by artificial reef development is currently in the stage of testing prototype artificial reefs to assess environmental impacts in collaboration with the Department of Fisheries. So far, the preliminary result of testing reveals that there is no environmental impact. The project is under the phase of developing a prototype machine for curing concrete artificial reefs with carbon dioxide and testing the said prototype unit.
  - The development of technology for capturing carbon dioxide from the exhaust stacks of internal combustion engines used in petroleum production processes has completed the feasibility study and is currently under consideration for further study in the Front-End Engineering Design (FEED) phase.

- The direct air capture (DAC) technology development: There are two technologies that are currently being developed which are a solid adsorbent DAC in prototype scale and electrochemical DAC in lab-scale.
- The development of Green Energy Technology Playground (GETP) project has completed engineering design of the system integration for hydrogen production from solar power. The construction and installation phase will be commenced in Q3/2024.
- The flare gas conversion to Carbon Nanotubes project is currently in the Front-End Engineering Design (FEED) phase for a pilot carbon nanotube production unit, which is expected to be completed by Q2/2024. The project is also considering collaborations with companies in the PTT Group as well as external companies across various industries, to explore opportunities for scaling up the production technology into a business and utilizing the produced carbon nanotubes for commercial implementation.

PTTEP's strong commitment and concrete performance have been recognized by both domestic and international institutions, which can be seen from the awards received in Q1/2024 such as;

- Received the ESG Initiative of the Year award from the Asian Oil and Gas Awards. The recognition underlines PTTEP's commitment to striking the balance among economic, social and environmental dimensions in line with its sustainability framework together with its implementation of various initiatives under Ocean for Life strategy. The Asian Oil and Gas Awards honors outstanding organizations in Asia's oil & gas industry, hosted by Asian Power Magazine.
- Received the "Spotlight on New Technology Awards" from Offshore Technology Conference (OTC) Asia 2024 during 27 Feb – 1 Mar 2024 from the AI and Robotics Solutions for offshore operations. This award is given to an organization in E&P industry having the outstanding, cutting-edge technology, capable of transforming the offshore E&P industry. Additionally, the technology requires to be proven, either through prototype testing or full implementation, provides significant impact to Asia Pacific region.
- Ranked in the Top 10% of the world in the Sustainability Yearbook 2024 by S&P Global in the Oil and Gas Upstream & Integrated Industry, among 117 participating companies in the same industry.
- Received the Green World Awards 2024 - Global Silver Winner for Corporate Social Responsibility in the Wildlife and Conservation category for the "PTTEP Reforestation Project". Additionally, PTTEP was selected as the Green World Ambassador at the forum by the Green Organization, an independent and respectable agency that has promoted global best social and environmental practices. The award ceremony was held in Brazil.

PTTEP takes great pride in receiving such recognitions, which motivate us to conduct our business with efficiency, transparency, accountability, and a conscientious approach towards all our stakeholders to become the "Energy Partner of Choice".



## Economic Overview in the first quarter of 2024

### *Crude Oil Price*

In the first quarter of 2024, the average Dubai crude price was 81.3 USD/barrel, decreasing from the previous quarter at 83.6 USD/barrel. In January 2024, Dubai crude price was averaged at 78.8 USD/barrel, increased from December 2023 at 77.3 USD/barrel, mainly from tight crude oil supply conditions in the USA, stemmed from unexpected extremely cold weather. Moreover, the new US crude oil supply was expected to drop due declining production activities and a decreased amount of drilling rigs. However, the market remains concerned about the economic growth of major countries such as the USA and China, and that the Federal Reserve (Fed) may cut policy interest rates less than market expectation, while China, as the world's second-largest economy, has confronted deflationary pressures, following the contraction of both consumer and producer price indices since December 2023.

In February 2024, crude price rose to 80.9 USD/barrel due to escalated tensions in the Middle East, particularly the progress of a ceasefire agreement between Israel and Hamas, as well as the intensified conflict between Russia and Ukraine, causing concerns over Russia's crude oil supply. Another factor supporting crude prices is that the Central Bank of China has implemented the measures to stimulate the real estate sector by reducing long-term loan interest rates from 4.2% to 3.95%, marking the first interest rate cut since May 2023. The measure aims to ease pressure on the real estate market and stimulate China's economy.

In March 2024, Dubai crude price remained high, average at 84.2 USD/barrel, as geopolitical tensions in the Middle East continued. Crude oil prices were positively influenced by OPEC+'s agreement to extend the voluntary production cut period from the end of Q1/2024 to Q2/2024. Additionally, the conflict in the Middle East, including Houthi rebel attacks on cargo ships in the Red Sea, affected oil transportation between regions. The conflict between Russia and Ukraine remained tense. In March, Ukraine recently deployed drones to attack several Russian oil refineries, resulting in a decrease in Russia's refinery production capacity by approximately 10%, causing the market to become more concerned about crude oil supply.

### *Liquefied Natural Gas (LNG) Price*

For the LNG market in Q1/2024, the average Asian Spot LNG price decreased significantly to 9.30 USD/MMBTU, from 15.23 USD/MMBTU in the previous quarter, caused by lower LNG demand from milder winter condition and the consistently high LNG inventory level across Europe and Northeast Asia since Q4/2023. The global LNG supply continued to adequately match demand, bolstered by additional spot LNG demand from India and China, thereby driving up prices in March. In January, the average price stood at 9.94 USD/MMBTU, dropping to 8.76 USD/MMBTU in February, and experiencing a slight uptick to 9.20 USD/MMBTU in March 2024.

### *Thailand's Energy Demand*

As per the Energy Policy and Planning Office (EPPO) of the Ministry of Energy, domestic energy demand in January 2024 totaled around 2 MMBOED, marking a 0.8% decline compared to the corresponding period in 2023. This slight decline in consumption was primarily from significantly reduced utilization of lignite and coal in electricity generation and industrial sectors. However, the decrease was offset by higher consumption of natural gas and LNG for electricity generation, driven by increasing electricity demand.

### *Exchange Rates (Thai Baht against US Dollar)*

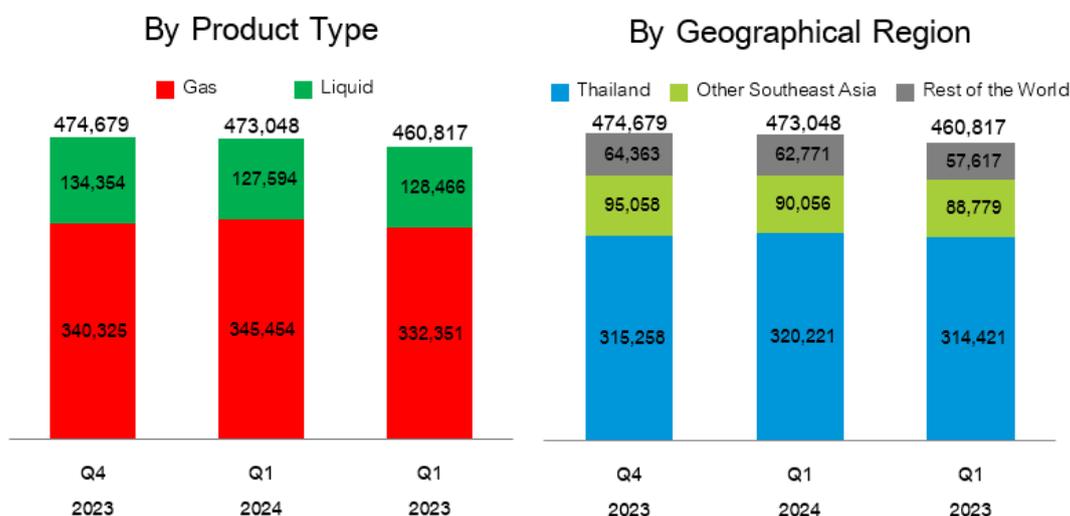
The THB against USD depreciated from 34.2233 at the end of 2023 to 36.4651 by end of Q1/2024, driven by the market expectation of the Monetary Policy Committee (MPC)'s interest rate cut, as a result of lower-than-expected economic indicators in Thailand, along with the recalibration of the US Fed, which signaled a delay and reduction in the frequency of interest rate cuts this year, on top by uncertainties in Thai politics and global economy growth, which is lower than expected, especially in China, which is a key trading partner of Thailand. Moreover, the impact of the prolonged Israel-Hamas conflict led to increased financial market risks. Investors then turned to invest in safe-haven assets such as the US Dollar, causing other currencies, including the Baht, to depreciate. However, Thailand's tourism sector, which seems to rebound compared to 2023, remains a positive factor to THB appreciation in this quarter.



## Financial Performance

### Average Sales Volume and Selling Price

Unit: Barrels of Oil Equivalent per Day



Average selling price and Dubai crude oil price (Unit : US Dollar)	Q4 2023	Q1 2024	Q1 2023	Inc. (Dec.) QoQ	Inc. (Dec.) YoY / YTD
Average selling price (/BOE)	48.41	47.24	50.01	-1.17	-2.77
Liquid price (/BOE)	81.95	79.36	78.14	-2.59	+1.22
Gas price (/MMBTU)	5.86	5.90	6.52	+0.04	-0.62
Average Dubai crude oil price (/BBL)	83.75	81.22	80.23	-2.53	+0.99

Remark: The average sales volume and selling price excluded deemed income for tax payment by Oman government.

#### For the First quarter of 2024 compared with the Fourth quarter of 2023

In Q1/2024, the average sales volume of PTTEP and its subsidiaries (the "Group") slightly decreased to 473,048 barrels of oil equivalent per day (BOED) when compared with 474,679 BOED in Q4/2023, primarily from G2/61 Project due to lower contractor entitlement and lower crude oil sales volume from Algeria (Hassi Bir Rekaiz Project and 433a & 416b Project), offset with G1/61 Project successfully ramped up the natural gas production to 800 MMSCFD in March 2024. Additionally, the average selling price decreased by 2% to 47.24 USD/BOE, primarily due to a decrease in global crude oil prices while gas prices insignificantly changed from the previous quarter.

#### For the First quarter of 2024 compared with the First quarter of 2023

When comparing the average sales volume of Q1/2024 to Q1/2023 of 460,817 BOED, the average sales volume increased by 3%, primarily from G1/61 Project ramped up the natural gas production to 800 MMSCFD in March 2024. However, the average selling price decreased by 6% to 47.24 USD/BOE, primarily due to lower gas prices from G1/61 Project and G2/61 Project, even though crude oil prices slightly rose according to global oil prices.

## Overall Operating Results

### *For the First quarter of 2024 compared with the Fourth quarter of 2023*

In Q1/2024, the Group had a net profit of 524 MMUSD. An increase of 10 MMUSD or 2% from a net profit of 514 MMUSD in Q4/2023, despite lower revenue from sales, primarily due to the impairment loss on assets in Mozambique Area 1 Project which was recognized in the previous quarter. The net profit of 524 MMUSD in Q1/2024 can be separated as following:

The profit from normal operation in Q1/2024 was 543 MMUSD. A decrease of 60 MMUSD, compared with a profit of 603 MMUSD in Q4/2023, was primarily from a decrease in revenue from sales of 109 MMUSD from lower average sales volume and average selling price. Meanwhile, exploration expenses increased by 34 MMUSD, primarily from exploration well write-offs and remaining commitment after expiration of the exploration period of Malaysia Project. However, administrative expenses decreased by 63 MMUSD mainly from consulting fees and IT services. Moreover, depreciation, depletion and amortization decreased by 31 MMUSD, primarily from reserves revision upward from G2/61 Project and G1/61 Project.

The loss from non-operating items in Q1/2024 was 19 MMUSD. A decrease of 70 MMUSD, compared with a loss of 89 MMUSD in Q4/2023, was primarily due to the impairment loss on assets in Mozambique Area 1 Project, amounting to 120 MMUSD, which was recognized in Q4/2023, while there was no such transaction in this quarter. However, loss from oil price hedging instrument changed by 29 MMUSD, this quarter recognized loss of 16 MMUSD due to an upward trend of forward oil price, while the previous quarter recognized gain of 13 MMUSD due to a downward trend of forward oil price.

### *For the First quarter of 2024 compared with the First quarter of 2023*

In Q1/2024, the Group had a net profit of 524 MMUSD. A decrease of 45 MMUSD or 8% from a net profit of 569 MMUSD in Q1/2023, was primarily from lower revenue from sales, together with higher depreciation, depletion and amortization. However, operating expenses decreased from non-cash accounting transactions at the end of concession of Bongkot Project in Q1/2023. The net profit of 524 MMUSD in Q1/2024 can be separated as following:

The profit from normal operation in Q1/2024 was 543 MMUSD. A decrease of 49 MMUSD, compared with a profit of 592 MMUSD in Q1/2023, was primarily from a decrease in revenue from sales of 100 MMUSD due to lower average selling price. Moreover, depreciation, depletion and amortization increased by 131 MMUSD, primarily from G1/61 Project and G2/61 Project, resulting from higher sales volume and additional completed assets, offset with higher reserves. Additionally, Arthit Project and Zawtika Project also contributed to this increase due to additional completed assets. However, income taxes decreased by 121 MMUSD mainly from projects in Thailand, Oman and Malaysia due to lower profits, as well as a decrease in operating expenses of 60 MMUSD from non-cash accounting transactions at the end of concession of Bongkot Project in Q1/2023.

The loss from non-operating items in Q1/2024 was 19 MMUSD. A decrease of 4 MMUSD, compared with a loss of 23 MMUSD in Q1/2023, was primarily from gain on foreign exchange forward contracts, net of loss on foreign exchange rate, reflecting higher change of 27 MMUSD when compared to Q1/2023. However, loss from oil price hedging instruments changed by 17 MMUSD, this quarter recognized loss of 16 MMUSD due to an upward trend of forward oil price, while Q1/2023 recognized gain of 1 MMUSD due to a downward trend of forward oil price.

### Operating Results by Segments

Net Profit (loss)	Q4 2023	Q1 2024	Q1 2023	Inc. (Dec.) QoQ	Inc. (Dec.) YoY / YTD
(Unit: Million US Dollar)					
Exploration and Production	585	573	664	-12	-91
Thailand	436	394	413	-42	-19
Other Southeast Asia	145	97	163	-48	-66
Middle East	57	57	69	-	-12
Australia	23	-	1	-23	-1
America	-	(2)	(2)	-2	-
Africa	(78)	23	19	+101	+4
Others	2	4	1	+2	+3
Other businesses and Corporate	(71)	(49)	(95)	+22	+46
<b>Profit for the period</b>	<b>514</b>	<b>524</b>	<b>569</b>	<b>+10</b>	<b>-45</b>

#### For the First quarter of 2024 compared with the Fourth quarter of 2023

For Q1/2024, the Group reported a net profit of 524 MMUSD. An increase of 10 MMUSD from a net profit of 514 MMUSD in Q4/2023, was primarily from a lower net loss of 22 MMUSD from Other businesses and Corporate segment, while there was a decrease in a net profit of 12 MMUSD from Exploration and Production segment.

The Exploration and Production segment reported a net profit of 573 MMUSD in Q1/2024. A decrease of 12 MMUSD, compared with a net profit of 585 MMUSD in Q4/2023, was primarily from Other Southeast Asia which reported a net profit decrease of 48 MMUSD, majoring from higher exploration expenses from exploration well write-offs and remaining commitment after expiration of the exploration period of Malaysia Project. Thailand reported a net profit decrease of 42 MMUSD, primarily from operating expenses increased due to lower decommissioning costs than provision of Contract 4 Project in Q4/2023. Australia reported a net profit decrease of 23 MMUSD since there were gain from disposal of participating interest in petroleum retention lease AC/RL7 (Cash-Maple) and write-off assets of petroleum retention lease AC/RL12 (Oliver) recognized in Q4/2023. However, Africa reported a net profit increase of 101 MMUSD due to the impairment loss on assets in Mozambique Area 1 Project in Q4/2023 while no such transaction in this quarter, offset with a decrease in revenue from sales due to lower sales volume from Algeria Hassi Bir Rekaiz Project.

Other businesses and Corporate segment reported a net loss of 49 MMUSD in Q1/2024. A decrease of 22 MMUSD, compared with a net loss of 71 MMUSD in Q4/2023, was primarily from gain on foreign exchange forward contracts due to depreciation of THB against USD, while loss was recognized in Q4/2023 due to appreciation of THB against USD.

#### For the First quarter of 2024 compared with the First quarter of 2023

For Q1/2024, the Group reported a net profit of 524 MMUSD. A decrease of 45 MMUSD from a net profit of 569 MMUSD in Q1/2023, was primarily from a lower net profit of 91 MMUSD from Exploration and Production segment, while there was a lower net loss of 46 MMUSD from Other businesses and Corporate segment.

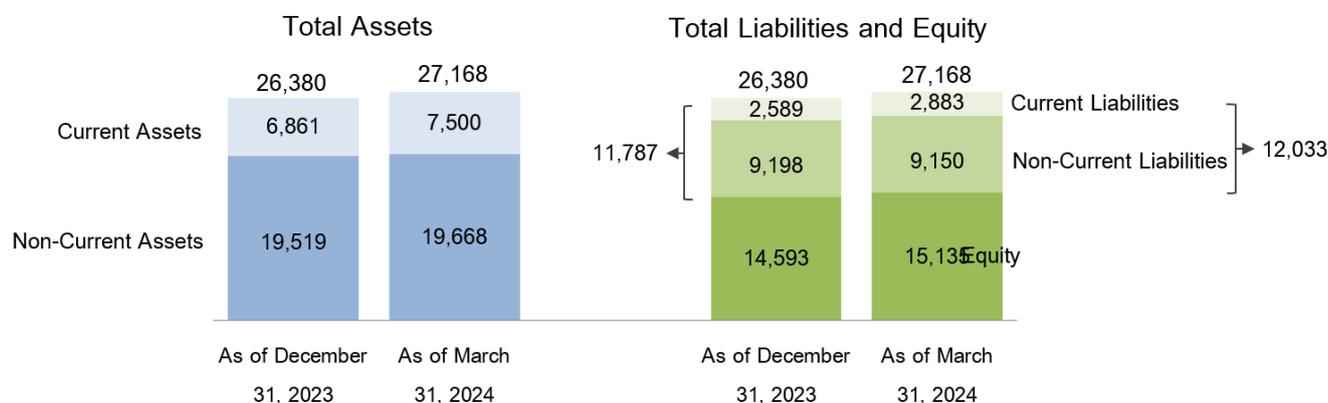
The Exploration and Production segment reported a net profit of 573 MMUSD in Q1/2024. A decrease of 91 MMUSD, compared with a net profit of 664 MMUSD in Q1/2023, was primarily from Other Southeast Asia with a decrease in net profit of 66 MMUSD due to higher exploration expenses from exploration well write-offs and remaining commitment after expiration of the exploration period of Malaysia Project. In addition, there was a decrease in revenue from sales due to lower average selling price, along with higher

depreciation, depletion and amortization due to additional completed assets from Zawtika Project. Moreover, Thailand reported a net profit decrease of 19 MMUSD.

Other businesses and Corporate segment reported a net loss of 49 MMUSD in Q1/2024. A decrease of 46 MMUSD, compared with a net loss of 95 MMUSD in Q1/2023, was primarily from gain on foreign exchange forward contracts due to depreciation of THB against USD, while loss was recognized in Q1/2023 due to the appreciation of THB against USD.

*Financial Position*

*Unit: Million US Dollar*



**Assets**

As at March 31, 2024, the Group had total assets of 27,168 MMUSD. An increase of 788 MMUSD from total assets as at December 31, 2023 of 26,380 MMUSD was primarily due to;

- (1) Current assets, which were primarily comprised of cash and cash equivalents, trade and other current receivables and inventories, increased by 639 MMUSD, primarily from higher cash and cash equivalents of 1,135 MMUSD, offset with trade and other current receivables decreased by 395 MMUSD and short-term investments decreased by 110 MMUSD.
- (2) Non-current assets, which were primarily comprised of exploration and production assets in joint venture projects being recognized as part of the property, plant and equipment, right-of-use assets, goodwill, exploration and evaluation assets, increased by 149 MMUSD, primarily from right-of-use assets, along with property, plant and equipment, net of depreciation, which increased by 54 MMUSD and 25 MMUSD respectively mainly from G1/61 Project and G2/61 Project. In addition, deferred tax assets increased by 51 MMUSD.

**Liabilities**

As at March 31, 2024, the Group had total liabilities of 12,033 MMUSD. An increase of 246 MMUSD from total liabilities as at December 31, 2023 of 11,787 MMUSD was primarily due to;

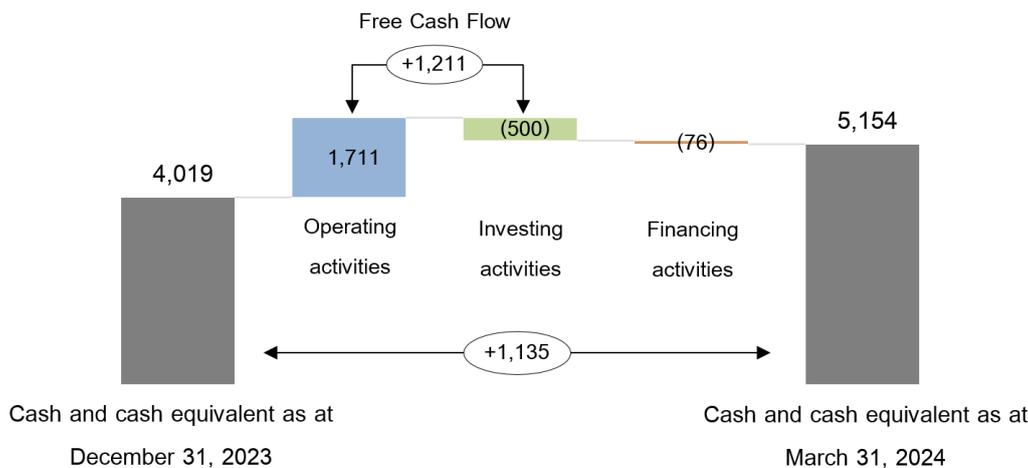
- (1) Current liabilities, which were primarily comprised of trade and other current payables and corporate income tax payable, increased by 294 MMUSD, primarily from higher corporate income tax payable of 288 MMUSD, arising from the profit from operations.
- (2) Non-current liabilities, which were primarily comprised of debentures, lease liabilities, deferred tax liabilities and provision for decommissioning costs, decreased by 48 MMUSD, primarily due to an impact of Thai Baht depreciation against US Dollars on Thai Baht debentures.

**Equity**

As at March 31, 2024, the Group had equity of 15,135 MMUSD. An increase of 542 MMUSD from equity as at December 31, 2023 of 14,593 MMUSD, was primarily due to the net profit for Q1/2024. The equity included non-controlling interests of 6 MMUSD from the group of AI and Robotics Ventures Company Limited.

**Cash Flows**

*Unit: Million US Dollar*



As at March 31, 2024, the Group had cash and cash equivalents of 5,154 MMUSD. An increase of 1,135 MMUSD when compared with cash and cash equivalents as at December 31, 2023 of 4,019 MMUSD.

**Net cash flows provided by operating activities** of 1,711 MMUSD, primarily came from net cash received from operating activities as a result of the positive net cash flow from revenue from sales, offset with cash paid for expenses and income taxes.

**Net cash flows used in investing activities** of 500 MMUSD, primarily came from additional capital expenditures in exploration and production assets, mainly from G1/61 Project, G2/61 project, S1 Project and Zawtika Project, offset with cash received from short-term investments.

**Net cash flows used in financing activities** of 76 MMUSD, primarily came from payments for lease liabilities and interests during Q1/2024.

## Key Financial Ratios

	Q4 2023	Q1 2024	Q1 2023
<b>Profitability Ratio (%)</b>			
EBITDA margin *	74.48	73.85	72.54
Return on equity	15.71	14.80	16.99
Net profit margin	24.38	24.06	22.28
<b>Leverage Ratio (Times)</b>			
Debt to equity	0.25	0.24	0.27
Debt to EBITDA *	0.58	0.59	0.56

\* EBITDA excluded gain from disposal of participating interest in petroleum retention lease AC/RL7 (Cash-Maple), write-off assets of petroleum retention lease AC/RL12 (Oliver), and impairment loss on assets and goodwill in Mozambique Area 1 Project which were recognized during Q4/2023.

Remark:

EBITDA margin	=	Profit before deduction of interest, tax and depreciation to revenue from sales (included deemed income for tax payment by Oman government), and revenue from pipeline transportation
Return on equity	=	Net profit for the past 12 months to average equity
Net profit margin	=	Net profit to total revenue (for the past 12 months)
Debt to equity	=	Interest Bearing Debt to equity
Debt to EBITDA	=	Average Interest-Bearing Debt to profit before deduction of interest, tax and depreciation for the past 12 months



## Operational Highlights

### Drive Value

As of Q1/2024, PTTEP Group has the E&P operations across over 50 domestic and international projects, spanning 12 countries. The key projects' highlights are as follows:

#### Projects in Southeast Asia

PTTEP Group's primary operational base is in Thailand, with projects located across Southeast Asia including the Republic of the Union of Myanmar (Myanmar), Malaysia, the Socialist Republic of Vietnam (Vietnam), and the Republic of Indonesia (Indonesia). During Q1/2024, the average sales volume from Thai projects was 320,221 BOED, representing 68% of the total sales volume. Meanwhile, the average sales volume from other countries in the region amounted to 90,056 BOED, making up 19% of the total sales volume.



Projects	Participation Interest	Operator	Progress
<b>Projects in Thailand</b>			
<i>Production Phase</i>			
1. S1	100%	PTTEP	The project is producing crude oil, natural gas and liquefied petroleum gas (LPG). Currently, the project is in the process of accelerating drilling development wells to maintain its production level. The environmental impact assessments are also undertaken in both existing and new production areas. In Q1/2024, the project's average production volume of crude oil was 25,349 BPD.

Projects	Participation Interest	Operator	Progress
2. Arthit	80%	PTTEP	The project is producing natural gas and condensate. In Q1/2024, the project was able to continuously produce gas with an average production level of 331 MMSCFD.
3. Contract 4	60%	Chevron	The project is producing natural gas and condensate. In Q1/2024, the project's average condensate and natural gas production was at 14,423 BPD and 419 MMSCFD respectively. The project continued additional development wells drilling, with the aim to maintain production plateau.
4. B8/32 & 9A	25%	Chevron	The project is producing natural gas and crude oil, located offshore in the Gulf of Thailand. In Q1/2024, the average crude oil and natural gas production was at 14,323 BPD and 58 MMSCFD respectively.
5. G12/48	66.67%	PTTEP	The project is producing natural gas and condensate, located offshore in the Gulf of Thailand. On 1 September 2023, the company entered into a Sale and Purchase Agreement (SPA) to acquire additional participation interest of 33.3333% from TotalEnergies EP Thailand, resulting in the PTTEP's interest increasing to 100% after the completion of SPA, which is anticipated to complete within 2024. In Q1/2024, the average natural gas production was at 8 MMSCFD.
6. G1/61 (Erawan)	60%	PTTEP	The project is producing natural gas, condensate, and crude oil. In Q1/2024, the project has increased its daily gas production level from 400 to 800 MMSCFD since 20 March 2024, with continued investment for additional wellhead platforms and production well drillings.
7. G2/61 (Bongkot)	100%	PTTEP	The project is producing natural gas and condensate. In Q1/2024, the project maintains gas sale volume at more than 800 MMSCFD and also continued the construction and installation of production platforms and development well drilling.
8. Malaysia-Thailand Joint Development Area (MTJDA)	50%	CPOC	The project is producing natural gas and condensate. In Q1/2024, the average natural gas and condensate production was at 301 MMSCFD and 12,977 BPD respectively. The project continuously drilled production wells to maintain production levels, and currently in the process of planning for exploration and development wells drilling in preparation for the development of next phase.
<b>Exploration Phase</b>			
9. G1/65	100%	PTTEP	The project is located in the northern Gulf of Thailand. On 1 June 2023, PTTEP Group signed the PSC, with a 6-year exploration period and a 20-year production period. Currently, the project's annual work program and budget was approved by the Department of Mineral Fuels and will drill the first exploration well in 2025.
10. G3/65	100%	PTTEP	The project is located in the southern Gulf of Thailand. On 1 June 2023, PTTEP Group signed the PSC, with a 6-year exploration period and a 20-year production period. Currently, the project's annual work program and budget was approved by the Department of Mineral Fuels and will drill the first exploration well in 2024.

Projects	Participation Interest	Operator	Progress
<b>Projects in Myanmar</b>			
<i>Production Phase</i>			
11. Zawtika	80%	PTTEP	The project is natural gas field located in the Gulf of Moattama. In Q1/2024, the average natural gas production was at 314 MMSCFD. The development plan is currently well on track, which are the acceleration of Phase 1D development wells drilling and commencement of Phase 1E wellhead platforms construction as per Field Development Plan to maintain the production level.
12. Yadana	37.1%	PTTEP	The project is producing natural gas. The partner had decided to withdraw its investment in the project resulting in the change of PTTEP's participating interest from 37.0842% to 62.9630%, effective from 1 April 2024. In Q1/2024, the project's average natural gas production was at 482 MMSCFD.
<i>Exploration Phase</i>			
13. Myanmar M3	100%	PTTEP	The project is located offshore in the Gulf of Moattama and is currently pending for the development.
<b>Projects in Malaysia</b>			
<i>Production Phase</i>			
14. Malaysia Block K	7.2 - 56%	PTTEP	The project is oil and gas producing field located in the deep water, offshore Sabah, consisting of Kikeh, Siakap North-Petai (SNP), and Gumusut-Kakap (GK) fields. In Q1/2024, the project's average crude oil and natural gas production was at approximately 28,300 BPD and 23 MMSCFD respectively.
15. Malaysia SK309 and SK311	42 – 59.5%	PTTEP	The projects are oil, condensate, and gas producing fields located in the shallow water, offshore Sarawak. In Q1/2024, the project's average production volume of crude oil and condensate was at approximately 15,000 BPD and natural gas at approximately 180 MMSCFD.
16. Malaysia Block H	42 – 56%	PTTEP	The project is natural gas producing field located in the deep-water, offshore Sabah. In Q1/2024, the average natural gas production volume was at 270 MMSCFD. The additional two exploration wells are planned to be drilled as per minimum work commitment in 2025.
<i>Exploration Phase</i>			
17. Malaysia SK410B	42.5%	PTTEP	The project is located offshore Sarawak. In 2023, the Front-End Engineering Design (FEED) at Lang Lebah field was completed and currently under tendering process of construction contract. The 1 <sup>st</sup> gas production is expected in 2028.
18. Malaysia SK417	80%	PTTEP	The project is located in shallow water, offshore Sarawak. After the successful exploration wells of Dokong-1 and Nangka-1 were completed, it is currently preparing for one appraisal and one exploration wells according to the minimum work commitment, which is expected to be drilled in 2024 and 2025 respectively.

Projects	Participation Interest	Operator	Progress
19. Malaysia SK405B	59.5%	PTTEP	The project is located in shallow water, offshore Sarawak, where has the field's petroleum potential has been discovered, and a development plan will further be established, which is expected to be completed within 2025.
20. Malaysia SK438	80%	PTTEP	The project is located in shallow water, offshore Sarawak. The project discovered massive, sweet gas sandstone reservoirs with thickness up to 200 meters, considered as another sizable field which PTTEP has discovered in Malaysia, following the earlier achievement at the Lang Lebah field. However, there will be another exploration well according to the minimum work commitment, which is expected to be drilled in 2025.
21. Malaysia SK314A	59.5%	PTTEP	The project is located in shallow water, offshore Sarawak. In Q1/2024, the project is in progress of remaining petroleum potential evaluation for further exploration campaign. However, there will be the remaining 2 exploration wells according to the minimum work commitment, which is expected to be drilled in 2025.
22. Malaysia PM407	55%	PTTEP	The project is located in shallow water, offshore Peninsular. The project completed the remaining potential evaluation and no discovered prospect that can be commercially developed. Currently, it is in the process of block relinquishment to the Government and fulfillment of minimum financial commitment.
23. Malaysia SB412	60%	PTTEP	The project is located in shallow-deep water, offshore Sabah. In Q1/2024, the entire project's area was undergoing the new 3D seismic reprocessing activity to fulfil minimum work commitment. In addition, the project plans to conduct the additional prospect evaluation from new seismic data sets, to enter Phase 2 exploration phase in 2024.
24. Malaysia SK325	32.5%	PCSB	The project is located in shallow water, offshore Sarawak. In Q1/2024, the project is in the preparation process for the geophysical study, 3D seismic data acquisition and evaluate petroleum potential to further drill the committed exploration wells in 2024-2026 campaigns.

### Projects in Vietnam

#### Production Phase

25. Vietnam 9-2	25%	HV JOC	The project is producing crude oil and natural gas, located offshore southeast of Vietnam. In Q1/2024, the average crude oil and natural gas production was at 2,198 BPD and 9 MMSCFD respectively. The project was under negotiation for petroleum contract extension for another 5 years, which is expected to conclude in 2024.
26. Vietnam 16-1	28.5%	HL JOC	The project is producing crude oil and natural gas, located offshore southeast of Vietnam. In Q1/2024, the average crude oil and natural gas production was at 8,370 BPD and 3 MMSCFD respectively. The project was under negotiation for petroleum contract extension for another 5 years, which is expected to conclude in 2024.

Projects	Participation Interest	Operator	Progress
<i>Exploration Phase</i>			
27. Vietnam B & 48/95 and the Vietnam 52/97	8.5% 7%	Vietnam Oil and Gas Group	The projects are located offshore Vietnam. The commercial agreements were signed on 28 March 2024, and currently in progress for Final Investment Decision (FID) approval, with targeted first production by the end of 2026. The production will gradually ramp up to 490 MMSCFD, combining the production from Vietnam B & 48/95 & Vietnam 52/97 Project.

### Projects in the Middle East and Africa



Projects	Participation Interest	Operator	Progress
<i>Projects in Sultanate of Oman (Oman)</i>			
<i>Production Phase and Midstream</i>			
28. Oman Block 6 (PDO) and Oman Block 53	2%/1%	Petroleum Development Oman / Occidental	Oman Block 6 is the largest potential onshore oil producing asset in Oman, and Oman Block 53 is a sizable producing onshore oil field located in the southern part of Oman. Both projects continue to produce as per OPEC+ output agreement. In Q1/2024, the average crude oil production was at 718,814 BPD.
29. Oman Block 61	20%	BP	The project is producing natural gas and condensate. Currently, the project produces at full capacity, the natural gas and condensate production at 1,500 MMSCFD and 55,000 BPD respectively.

Projects	Participation Interest	Operator	Progress
30. Oman LNG	2%	OLNG	Oman LNG is a liquefied natural gas (LNG) processing plant located near Sur, Oman. In 2023, PTTEP Group entered into a Shareholder Agreement to extend contract period for 10 years until December 2034.
<i>Exploration Phase</i>			
31. Oman Onshore block 12	20%	TotalEnergies	The project is located in central Oman. Currently, the project is in the geological and geophysical studies process and has a plan to drill 2 exploration wells in 2024.
<b>Project in United Arab Emirates (UAE)</b>			
<i>Exploration Phase</i>			
32. Abu Dhabi Offshore 1	30%	Eni	The project is located in the northwest offshore of Abu Dhabi. Currently, the project is in process of geological and geophysical study for petroleum potential assessment.
33. Abu Dhabi Offshore 2	30%	Eni	The project is located in the northwest offshore of Abu Dhabi. In 2022, the project has successfully made significant gas discovery, in a deeper zone, of the exploration well XF-002. Currently, it is in progress of petroleum potential evaluation for further establishment of the development plan.
34. Abu Dhabi Offshore 3	30%	Eni	The project is located in the northwest offshore of Abu Dhabi. Currently, it is in progress of geological study and further evaluation of petroleum potential for the preparation of appraisal and exploration wells drilling which is planned in 2024-2025.
35. Sharjah Onshore Area A	25%	Eni	The project is located onshore in the central part of Sharjah. Currently, the project is in progress of petroleum potential assessment and geological and geophysical study reports preparation.
36. Sharjah Onshore Area C	25%	Eni	The project is located onshore in the central part of Sharjah. Currently, the project is in progress of petroleum potential evaluation.
<b>Projects in People's Democratic Republic of Algeria (Algeria)</b>			
<i>Production Phase</i>			
37. Algeria 433a & 416b	35%	GBRS	The project is producing crude oil, located onshore in the eastern part of Algeria. In Q1/2024, the average crude oil production was approximately 15,700 BPD.
38. Algeria Hassi Bir Rekaiz	49%	GHBR	The project is located onshore in the eastern part of Algeria. In Q1/2024, the project maintained crude oil production after crude oil production ramp up to 17,000 barrels per day since August 2023. Moreover, it is currently conducting the study and plan for the 2 <sup>nd</sup> phase development to increase production to 30,000 and 60,000 barrels per day by the end of 2027 and 2030 respectively.

Projects	Participation Interest	Operator	Progress
<b>Project in Republic of Mozambique (Mozambique)</b>			
<i>Development Phase</i>			
39. Mozambique Area 1	8.5%	TotalEnergies	The project is a large LNG project located in offshore Mozambique. From April 2021, all construction activities were suspended due to Force Majeure declaration, resulting from unrest situations near the project site. However, the situation has continuously improved, and it is likely to return to the project's area for the construction resumption in around mid of 2024.

### Projects in Australia

<b>Projects in Commonwealth of Australia (Australia)</b>			
<i>Exploration Phase</i>			
40. PTTEP Australasia	100%	PTTEP	In 2023, PTTEP Group relinquished Tenacious Field (AC/RL4), transferred its entire interests in Katandra Field (AC/RL10), and divested its total interests in Cash Maple (AC/RL7). Currently, there is the Oliver Field (AC/RL12), which is currently under consideration for further project management option.

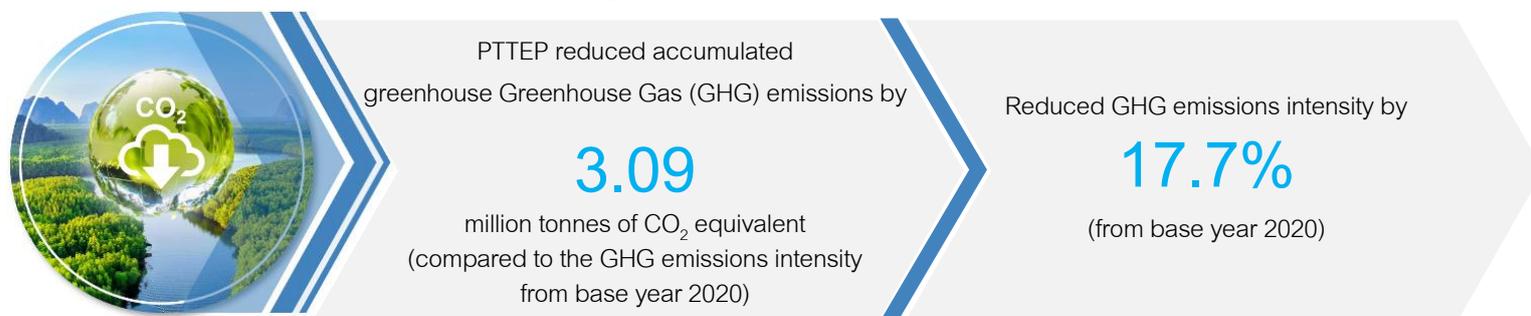
### Projects in the Americas



Projects	Participation Interest	Operator	Progress
<b>Project in United Mexican States (Mexico)</b>			
<i>Exploration Phase</i>			
41. Mexico block 12 (2.4)	20%	Petronas	The project is located in the Mexican Ridges, western Gulf of Mexico. The exploration well drilling was completed according to work commitment under the concession, with no petroleum potential confirmed. Currently, it is in the process of block relinquishment to the Mexico Government.
42. Mexico block 29 (2.4)	16.67%	Repsol	The project is located in the Campeche basin, southern Gulf of Mexico. Currently, the project is currently undergoing a pre-development study of Polok field and evaluation of petroleum potential.

### Decarbonize

For our decarbonization efforts, we have made progress as of Q1/2024 as follows:



The company achieved GHG emission **reduction** by optimizing its exploration and production portfolio and implementing appropriate well management practices. Additionally, PTTEP has undertaken various GHG reduction initiatives, which the progresses in Q1/2024 are as follows:

<b>Carbon Capture and Storage (CCS)</b>	The Front-End Engineering Design (FEED) for the CCS project at Arthit was completed. The Final Investment Decision (FID) of Arthit's CCS is expected in 2024 with the 1 <sup>st</sup> injection in 2027. Total CCS capacity is expected to be approximately 0.7 – 1 million tonnes of CO <sub>2</sub> equivalent (or MTCO <sub>2</sub> ) annually.
<b>GHG Inventory Reporting according to ISO 14064-1 and OGMP 2.0</b>	PTTEP reports its GHG emissions in accordance with the Global Reporting Initiative (GRI) standard, and the report is verified by a third-party verifier on an annual basis. In Q1/2024, the company is progressing towards the accuracy and completeness enhancement of the GHG inventory assurance and in alignment with the international standard for quantifying and reporting GHG emissions at the organization level (ISO 14064-1) and Oil and Gas Methane Partnership 2.0 (OGMP 2.0). This endeavor not only enhances the transparency of the company's reporting on GHG emissions but also positions it to comply with the upcoming climate regulations.
<b>GHG Reduction Initiatives</b>	PTTEP is dedicated to reduce GHG emissions from its business operations. In 2024, PTTEP has initiated the implementation of additional 19 reduction initiatives. These initiatives can be categorized into 4 areas: Production Efficiency Improvement, Energy Efficiency Improvement, Flare Gas Recovery and Utilization, and Renewable Energy Application. For instance, initiative to install additional flare gas equipment at G2/61 project and Turbo Compressors Fuel Gas Optimization initiative at Yadana project.

On the GHG offsetting initiatives to absorb GHG from the atmosphere. The progresses as of Q1/2024 are as follows:

<p><i>Mangrove Forestation</i></p>	<p>PTTEP has successfully completed the validation process for 4,007.15 rai of mangrove forestation, conducted by Validation and Verification Body (VVB). The project registration process is now ongoing under the Thailand Voluntary Emission Reduction Program (T-VER) with the Thailand Greenhouse Gas Management Organization (Public Organization) or TGO. In addition, PTTEP has been granted an additional 1,000 rai of land by the Department of Marine and Coastal Resources (DMCR) for mangrove forestation in 2024. Moreover, PTTEP has consistently maintained and preserved the previously initiated mangrove forestation from 2021, covering 1,000 rai of land.</p>
<p><i>Land Forestation</i></p>	<p>Recently, the areas of forestation project covering 5,530 rai of land under the Department of National Parks, Wildlife, and Plant Conservation (DNP), and 20,000 rai of land in collaboration with the Mae Fah Luang Foundation under Royal Patronage (MFLF) were already completed the validation process. It is currently under T-VER project registration with TGO. Moreover, PTTEP is preparing for the forestation for 4,050 rai of land under Royal Forest Department (RDF) in 2024, as permitted in 2023. In addition, the company is assessing additional forestation areas for carbon credits from both DNP and RDF while being in a process of contracting community forest conservation and restoration with MFLF.</p>
<p><i>Study on Carbon Sequestration for Peatland Conservation and Blue Carbon</i></p>	<p>PTTEP, in collaboration with Pid Thong Lang Phra of the Royal Initiative Discovery Foundation, is preparing to execute a pilot project of peatland conservation and restoration in Bacho District, Narathiwat Province covering 5,500 rai of land. Presently, PTTEP is under discussion with the Cooperative Promotion Department (CPD), Ministry of Agriculture and Cooperatives to obtain the permission for land use and carbon credit allocation. Additionally, the company is under preparation for a study on carbon sequestration by blue carbon ecosystems, including seagrass plantation using isolating techniques with the Department of Marine and Coastal Resources (DMCR) on a 10-rai study area in Chumphon Province. Furthermore, the company plans to conduct a study on carbon absorption through seashell and seaweed cultivation at the Sea Creatures Bank Learning Center on Si Chang Island in collaboration with Chulalongkorn University.</p>

Diversify



AI and Robotics Ventures Company Limited (ARV)



AI and Robotics Ventures Company Limited (ARV) is a Venture Builder with two key groups of operations:

- 1) **ARV-Core Business** is the headquarter engaging in research and development, and provision of solutions using AI and Robotics technologies, as well as ventures ideation, incubation, development, and commercialization.
- 2) **Startups** which ARV has spun-off into separate legal entities focused on further commercialization and development of their respective deep-tech domains. Key business highlights in Q1/2024 are as follows:

AI & Robotics Ventures (ARV) - Core Business

ARV continues to develop AI and Robotics Solutions for Offshore Digitalization, integrating AI, digital platforms and autonomous robots capable of collaborative operation on the ground, in the air, and underwater. In February 2024, ARV was honored with the "Spotlight on New Technology Award" at OTC Asia 2024 in Kuala Lumpur, Malaysia.



ARV, in collaboration with the Department of Highways, deployed "HORRUS" automated unmanned aerial vehicle technology to assist in traffic management during the New Year festival on routes leading to the Northeastern and Northern regions. Utilizing 5G technology and AI, HORRUS analyzed real-time data to detect bottlenecks or congested areas, displayed clear traffic images, classified vehicles, and measured their speeds. The solution was commended by the Department of Highways to aid authorities in swiftly and efficiently managing traffic conditions. The project, now in its second year, aims to integrate technology for the further development of traffic infrastructure.

ARV's Start-ups



ROVULA

*Specializes in intelligent underwater inspection, maintenance, and repair*



In February 2024, ROVULA was honored with two prestigious awards at the International Finance Award 2023 in collaboration with S2 Robotics Co., Ltd. (S2 Robotics), a joint venture between ROVULA and Kongsberg Ferrotech (Norway). These awards include the 'Most Innovative AI Turnkey Solution Provider – Subsea Inspection, Repair, Maintenance (IRM) award' and the 'Best New Subsea IRM Platform – NAUTILUS' award. The International Finance Award is globally recognized across various industries, highlighting ROVULA's objective and potential in innovating technology for comprehensive AI subsea IRM solutions.

## SKYLLER

### SKYLLER

*Specializes in the inspection of critical infrastructures through robotics and artificial intelligence*

SKYLLER carried out several critical infrastructure inspection projects utilizing Unmanned Aerial Vehicle (UAV) technology. These projects involved examining abnormalities in electricity transmission poles within onshore oil production areas, totaling 3,026 units, as well as inspecting Flare & Equipment on offshore petroleum production platforms in the Gulf of Thailand. This approach facilitated the rapid detection of abnormalities and enabled preliminary damage assessment.

SKYLLER is committed to enhancing the performance and overall service of the Skyller Platform, an intelligent analysis and processing platform designed for infrastructure inspection in the oil and gas industry. The platform is equipped with artificial intelligence (AI) technology to detect abnormalities such as cracks and corrosion in the flare system, aiding in maintenance planning. Currently in development, additional AI features are being integrated to provide tailored repair recommendations based on the type of damage. The new AI feature is anticipated to be released by the second quarter of 2024.

## VARUNA

### VARUNA

*Focusing on Nature-based Carbon Technology*

VARUNA continues its commitment to advancing Forest Carbon Projects Development through innovative technology. This includes Drone Plantation, which enhances efficiency, reduces planting time by up to 10 times compared to human workforce, and enables planting in inaccessible areas. Additionally, the Smart Forest Platform provides comprehensive forest management, from selecting planting areas to monitoring tree growth, detecting forest fires, and identifying encroachments. This can assist project developers in tracking green area analysis and making development decisions. VARUNA plans to implement these technologies for developing carbon projects in forest areas starting mid-2024.



VARUNA has provided advisory services on carbon credits and carbon footprint to a leading energy company in Thailand. The services cover conducting surveys and gathering data on forest areas, monitoring spatial changes, conducting feasibility studies for carbon projects, estimating carbon credit volumes, and providing guidance on project implementation strategies.

## CARIVA

### CARIVA

*Dedicated to personalized digital health solutions and Medical AI*

CARIVA has successfully secured Series A funding with Bangkok Dusit Medical Services Public Company Limited (BDMS) as the lead investor, aiming to elevate the standard of preventive care and personalized medicine. CARIVA intends to utilize the investment, alongside medical expertise from BDMS, to advance AI innovations in healthcare.



This includes the Lab Interpretation Solution, which identifies high-risk diseases through analysis and interpretation of laboratory health examinations, Automatic Speech Recognition for real-time medical order recording assistance, and Symptom Checkers, an AI tool for symptom assessment and disease possibilities analysis.

CARIVA, in partnership with the Department of Health, expanded the utilization of 'Hosline' (formerly known as 'Mor Online'), a medical service system on the Line OA platform, to 13 public hospitals nationwide after its effective deployment in 4 hospitals under the Department of Health in Q4/2023. Hosline seamlessly integrates with hospital data, allowing patients to schedule appointments and receive online diagnoses from physicians through video calls. This service aims to provide the public with quicker and more convenient access to healthcare while also helping to alleviate congestion at public hospitals.



CARIVA has achieved ISO 13485 certification for PreceptorAI, a medical AI Chatbot that assists users in searching, summarizing, and answering medical questions. It incorporates information from clinical practice guidelines applicable in each country where it is available.

This AI chatbot is designed to enhance treatment quality and alleviate workload burdens for medical professionals. This achievement guarantees that PreceptorAI meets stringent quality management system standards for medical services, while also highlighting CARIVA's commitment to consistently developing technology and solutions that support healthcare professionals and adhere to international standards. Preceptor AI was launched as a subscription-based service, initiating revenue generation for CARIVA in Q1/2024, with a total user base exceeding 9,000 accounts.



**BEDROCK**

*Empowering transformation and success with location intelligence*

BEDROCK, in collaboration with Lam Phaya Subdistrict Municipality, Nakhon Pathom Province, introduced Lam Phaya Smart Village, transforming city management using BEDROCK's location intelligent platform. This initiative aims to efficiently manage the city, optimize budget utilization, reduce administrative burdens, and uplift residents' quality of life.



Lam Phaya Subdistrict Municipality has implemented 5 intelligent technologies from BEDROCK: 1) **City Digital Data Platform**, consolidating infrastructure data for efficient municipal planning and development. 2) **Citizen One-Stop Service**, enabling citizens to report incidents, make payments, and book appointments through a single platform. 3) **Smart Building Permit Platform**, utilizing AI technology to verify data and document accuracy, expediting building permit approval processes. 4) **Smart Asset Management Platform**, managing properties using AI for detection, classification, and maintenance cycles. 5) **Electronic Document Management System**, streamlining human resource management tasks, including organizational chart management, employee data, welfare allocation and income account management. This project exemplifies BEDROCK's capability to genuinely foster local municipality development.

BEDROCK has implemented Smart City management technologies in over 100 municipalities nationwide to support and enhance the efficiency of local government operations. These technologies are aimed at fostering sustainable and livable smart cities.

Other Updates on Beyond E&P Businesses

Green Hydrogen Project



In Q4/2023, PTTEP's subsidiary, FutureTech Energy Ventures Co., Ltd. (FTEV) and its partners, consisting of POSCO Holdings, Samsung Engineering Co., Ltd., Korea East-West Power Co., Ltd., Korea Southern Power Co., Ltd., and ENGIE's subsidiary MESCAT Middle East DMCC, have been awarded the Green Hydrogen Concession Block in 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 awarded block is located in Duqm, the eastern part of Oman, covering area approximately 340 square kilometers. . FutureTech Energy Ventures Co., Ltd. and its partners have incorporated a joint operating company called "Hydrogen Duqm LLC" in Oman. The company is working on the wind and solar resources assessment and conducting the feasibility studies in order to finalize the total capital expenditure required 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, generated from 5 gigawatts (GW) of installed renewable energy from solar and wind. Majority of green hydrogen production output will be converted into green ammonia with the capacity of 1.2 million tons per year for exporting to South Korea.

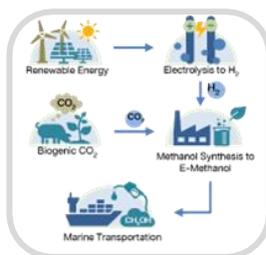


Offshore Wind Farm



On 21 December 2023, PTTEP 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). Presently, TERSH invests in a 51% stake in the Seagreen Offshore Wind Farm (the Project), situated 27 kilometers off the coast of Scotland, United Kingdom, in the North Sea. The Project has 114 turbines with a total generating capacity of approximately 1.1 GW, the largest offshore wind farm in Scotland. The Project started its full operation in October 2023. SSE Renewables Services (UK) Ltd., an experienced renewable energy company from Scotland, is the operator and holds the remaining 49% stake in the Project. This acquisition is a major milestone for PTTEP in expanding investments into clean energy business. It reinforces the company's commitment towards Energy Transition and builds upon the company's experiences in offshore project management and network of partnerships. This first step is underlined by the investment in an operational asset with stable cashflow, in partnership with global experienced players and in the country with supportive policies to propel continuous development of the offshore wind market. Concurrently, PTTEP also signed the Memorandum of Understanding with TotalEnergies for further collaboration between the two companies in offshore wind investments, as well as to exchange knowledges and experiences in support of their future operations. **Currently, the company is in the process of fulfilling the customary conditions precedent as prescribed in the SPA, including applicable governmental and regulatory approvals.** It is anticipated that the transaction will be completed in Q2/2024. Upon the completion, PTTEP group will indirectly hold 25.5% investment in the Project via TERSH.

*Green e-methanol Project*



In Q2/2022, PTTEP and another 5 multinational companies have signed a MOU on a ‘Green Methanol Value Chain Collaboration’ to explore the feasibility of establishing a green e-methanol pilot plant in Singapore. Green e-methanol is being considered as one of the candidates for alternate fuel to reduce greenhouse gas emissions in various industries, including the maritime industry, of which regulatory frameworks and standards have been developed, such as the EU Emission Trading System (EU ETS), Fuel EU Maritime, and the International Maritime Organization (IMO) decarbonization target. Moreover, the marine industry has ordered a significant number of methanol powered vessels. Currently, PTTEP is executing commercial feasibility study prior to proceed for FEED engineering.

*Carbon Capture and Storage (CCS) Project*

In Q1/2024, PTTEP in collaboration with the Thai Department of Mineral Fuels (DMF), the Japan Organization for Metals and Energy Security (JOGMEC), and INPEX Corporation is advancing a joint study on carbon storage potential in the Northern Gulf of Thailand, which will lay the technical foundation for future Carbon Capture and Storage (CCS) hub project development in the Eastern Economic Corridor. In **March, the official exploration work plan and budget for the year 2024 were summarized within the framework of cooperation.** This will pave the way for future technical activities in support of domestic CCS development

In June 2022, PTTEP, together with PTT Group Flagships has concluded a study on technical feasibility and business model for Eastern Thailand Carbon Capture and Storage (CCS) Hub model, and issued a comprehensive white paper on supporting policies including the socio-economic benefits to government agency. Furthermore, PTTEP has conducted the study to identify the regulation gaps and aim to ensure a approach the implementation of CCS development in Thailand.



*Solar Power Project  
(Lan Sang Arun)*



The Solar Power Project “Lan Sang Arun” is located in Lan Krabue District, Kamphaeng Phet Province, covering an area of approximately 110 rais and has a capacity of approximately 9.98 megawatts. The objective of this project is to help reduce carbon dioxide emissions by generating electricity from renewable energy for use in the S1 Project. **The project has supplied the electricity to S1 Project since 29 June 2023 and achieving the identified target.**



## Business Outlook

### *Oil Price Outlook*

The International Energy Agency (IEA) has revised down 2024 global crude oil supply forecast, anticipating only a slight supply increase of 0.8 MMBPD to a level of 102.9 MMBPD, indicating tighter oil supply situation during this year.

On the demand side, the IEA has revised up its forecast for global crude oil demand growth in 2024, projecting an increase of 1.3 MMBPD to reach a level of 103.2 MMBPD. This rise is attributed to the anticipated upward demand in developed countries, including members of the Organization for Economic Co-operation and Development such as the USA and the European Union. The policy interest rates are anticipated to sustain high for the first half of the year, with a potential reduction in the latter half. The overall global economy is expected to recover, driving up the oil demand accordingly. At the same time, China's economy improves gradually, as shown by the country's industrial production growth rate that reached 7.0% in February 2024, surpassing expectations of 5.3%, which has led to the forecast of higher oil consumption in China this year. On the supply-demand balance, the global crude oil inventories are forecasted to drop due to demand surpassing supply, consequently resulting in overall tight supply conditions in 2024.

Key factors to monitor during this period include: 1) crude oil reserves movements following OPEC+'s extension of the production cut until the end of Q2/2024, alongside market expectations of a potential continuation of this policy until year-end 2024; 2) the geopolitical tensions in the Middle East, particularly between Israel and Iran, which could impact crude oil transportation via the Strait of Hormuz, and regional supplies; 3) the ongoing and escalating Russia-Ukraine conflict; 4) economic growth trajectories in the USA, China, and India and 5) crude oil repurchase for strategic reserves in the USA.

In summary, PTTEP anticipates that crude oil supply will remain tight in 2024, influenced by factors such as economic growth and OPEC+ production control. Consequently, the Dubai crude oil price is expected to fluctuate within the range of 70 to 90 USD/barrel.

### *LNG Market Outlook*

While the current global LNG market remains oversupplied, due to high natural gas inventories and sustained supply to match ongoing demand, it is expected that LNG demand will rise in the second quarter through the fourth quarter of 2024, driven by higher energy consumption during summer in Asian countries throughout the second and third quarter, coupled with European nations starting to stockpile LNG for winter in the fourth quarter. For the year 2024, total LNG demand is forecasted to reach 439 MTPA, reflecting a 5% increase from 2023 (Source: FGE as of March 2024).

On the supply front, the total production capacity of both existing and new LNG projects is projected to increase to 422 MTPA in 2024, from 15 MTPA in 2023, representing roughly 4% growth (Source: FGE as of March 2024). This growth is predominantly driven by new projects under construction in the USA and Indonesia. Key factors impacting the LNG market include weather conditions in Europe, which may give rise to LNG demand, China's economic recovery, central bank interest rate cuts which aimed at managing inflation and stimulating economic growth, and bolstering overall energy demand, as well as the ongoing conflicts in the Middle East. Therefore, PTTEP forecasts the average Asian Spot LNG price for 2024 to range between 9 to 13 USD/MMBTU (Source: S&P Global Platts as of February 2024 and FGE as of March 2024).

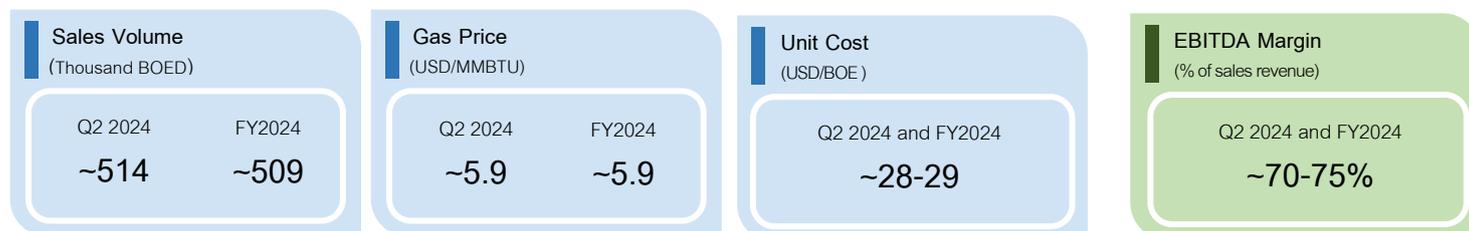
### *Thai Economy and Foreign Exchange Outlook*

The Bank of Thailand anticipates a more subdued growth for Thai economy, ranging between 2.5% to 3% in 2024, on the back of shrinking export activities amidst suppressed global demand and slower-than-expected growth of China's economy. Additionally, Thailand's economy is affected by a significant decline in public investment, stemming from delays in government budget approval. Meanwhile, domestic consumption and tourism sector continue to grow and remains a major driver of Thailand's economy. Regarding monetary policy, the Bank of Thailand observes that the current interest rates are in line with overall economic expansion and contribute to long-term macro-financial stability. However, there is market anticipation that the Bank of Thailand may lower the policy interest rate in response to economic trends and low inflation levels.

In 2024, the Thai Baht (THB) against the US Dollar (USD) is expected to remain volatile and may depreciate in the near term. This is attributed to market expectations of a potential reduction in the policy interest rate by the Bank of Thailand, particularly during the second quarter of 2024, when foreign investors repatriate dividends, consequently, increase selling pressure on the THB. However, it is anticipated that the THB will begin to appreciate against the USD in the latter half of 2024, driven by the US Fed's interest rate reduction policy, ongoing improvement in the tourism sector and the approval of the annual government budget, all of which will foster to Thailand's economic expansion.

### PTTEP's performance outlook for the second quarter of 2024 and the year 2024

Sales volumes, gas price and unit cost are the primary factors that impact PTTEP's performance. The company has continuously monitored and adjusted the assumptions to reflect the current situation and to align with the evolving operational plans and industry dynamics. The summarized performance outlook for the second quarter 2024 and the year 2024 is as follows:



Note: 1. The sales volume includes the sales volume from ADNOC Gas Processing (AGP)

2. The assumption is based on average Dubai price for FY2024 of 80-85 USD/Barrel.

3. Including increased sales volume from G1/61 sole investment

4. EBITDA margin: A percentage of Earnings before interest, taxes, depreciation, and amortization to the Sales Revenues and Revenue from pipeline transportation

#### Sales Volume:

The average sales volume for the second quarter and full year 2024 are expected to be approximately 514,000 and 509,000 barrels of oil equivalent per day, respectively. This marks an increase compared to the previous year, primarily due to the increase in sales volume from Thailand, from the achievement in the production ramp-up of G1/61 (Erawan) Project to 800 MMSCFD since 20 March 2024, which is ahead of schedule. Additionally, B8/32 Project in 2023 has resumed normal operation after its unplanned shutdown in 2023 caused by a buyer's vessel incident.

#### Selling Price:

- PTTEP's gas price formulas are partially linked to oil prices, with reference to average historical prices spanning from the past 6 to 24 months. The estimated average gas price for the second quarter, as well as for full year 2024 is approximately 5.9 USD/MMBTU, slightly lower than the previous year.
- PTTEP's liquid prices will fluctuate in accordance with global crude prices.
- The company has entered into oil price hedging contracts, with an outstanding volume of 3.3 million barrels as at the end of the first quarter of 2024. PTTEP consistently monitors the movement of crude oil price market and retains the flexibility to adjust its hedging plan accordingly.

#### Unit Cost:

For the second quarter and full year 2024, PTTEP expects the unit cost to be slightly higher compared to the reported unit cost in 2023. This increase is primarily attributed to higher depreciation and higher operating expense per unit resulted from the production ramp-up of G1/61 (Erawan) Project. Additionally, there is a rise in oil field service costs due to increased demand for drilling rigs, with limited supply. However, PTTEP still maintains the unit cost in the range of 28 – 29 USD/BOE.