



PTTEP

MEMBER OF

**Dow Jones
Sustainability Indices**

In Collaboration with RobecoSAM

Investor Presentation

HSBC Virtual Asia Credit Tour

3 December 2021

Cautionary Statement

Forward-looking Information

The information, statements, forecasts and projections contained herein reflect the Company's current views with respect to future events and financial performance. These views are based on assumptions subject to various risks. No assurance is given that these future events will occur, or that the Company's assumptions are correct. Actual results may differ materially from those projected.

Petroleum Reserves Information

In this presentation, the Company discloses petroleum reserves that are not included in the Securities Exchange and Commission of Thailand (SEC) Annual Registration Statement Form 56-1 under "Supplemental Information on Petroleum Exploration and Production Activities". The reserves data contained in this presentation reflects the Company's best estimates of its reserves. While the Company periodically obtains an independent audit of a portion of its proved reserves, no independent qualified reserves evaluator or auditor was involved in the preparation of reserves data disclosed in this presentation. Unless stated otherwise, reserves are stated at the Company's gross basis.

This presentation may contain the terms "proved reserves" and "probable reserves". Unless stated otherwise, the Company adopts similar description as defined by the Society of Petroleum Engineers.

Proved Reserves - Proved reserves are defined as those quantities of petroleum which, by analysis of geological and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under current economic conditions, operating methods, and government regulations.

Probable Reserves - Probable reserves are defined as those unproved reserves which analysis of geological and engineering data suggests are more likely than not to be recoverable.



PTTEP

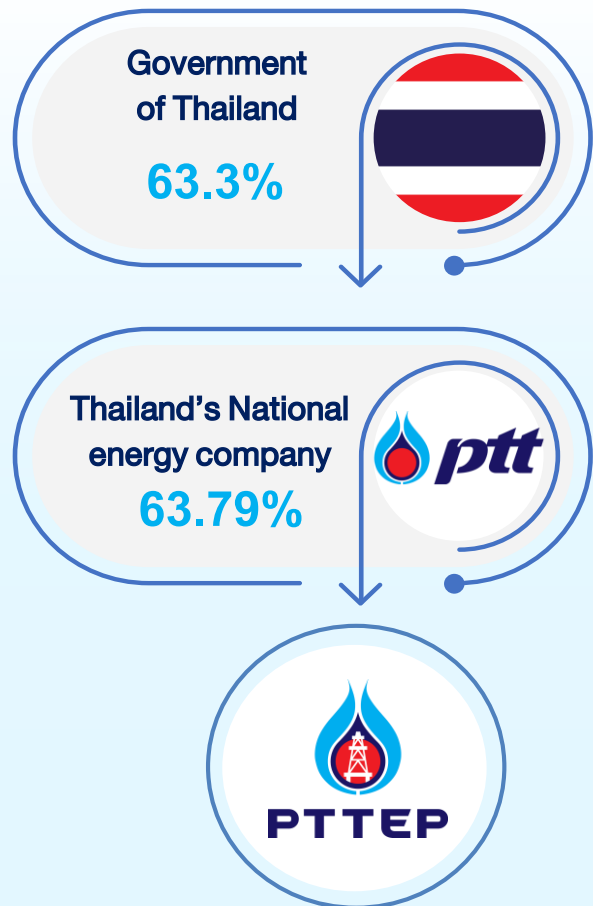
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Corporate Introduction

PTTEP - The Largest E&P company in Thailand



As of August 2021

E&P arm of PTT Group
Established 1985

Market Cap. > 14bn USD
SET Listed since 1993

Sales Revenue > 90%
SEA & Middle East

Cash Cost < 13\$/BOE
Cost Competitive

| | |
|--|---|
| STANDARD & POOR'S RATINGS SERVICES McGraw Hill Financial BBB+ / Stable Stand-alone at BBB | FitchRatings BBB+ / Stable Stand-alone at BBB |
| MOODY'S Baa1 / Stable Stand-alone at Baa2 | TRIS RATING AAA / Stable |



| | | |
|---|--|--|
|  Dow Jones Sustainability Indexes 2014-2021 |  FTSE4Good 2016-2021 |  THSI THAILAND SUSTAINABILITY INVESTMENT 2020 2016-2021 |
|---|--|--|



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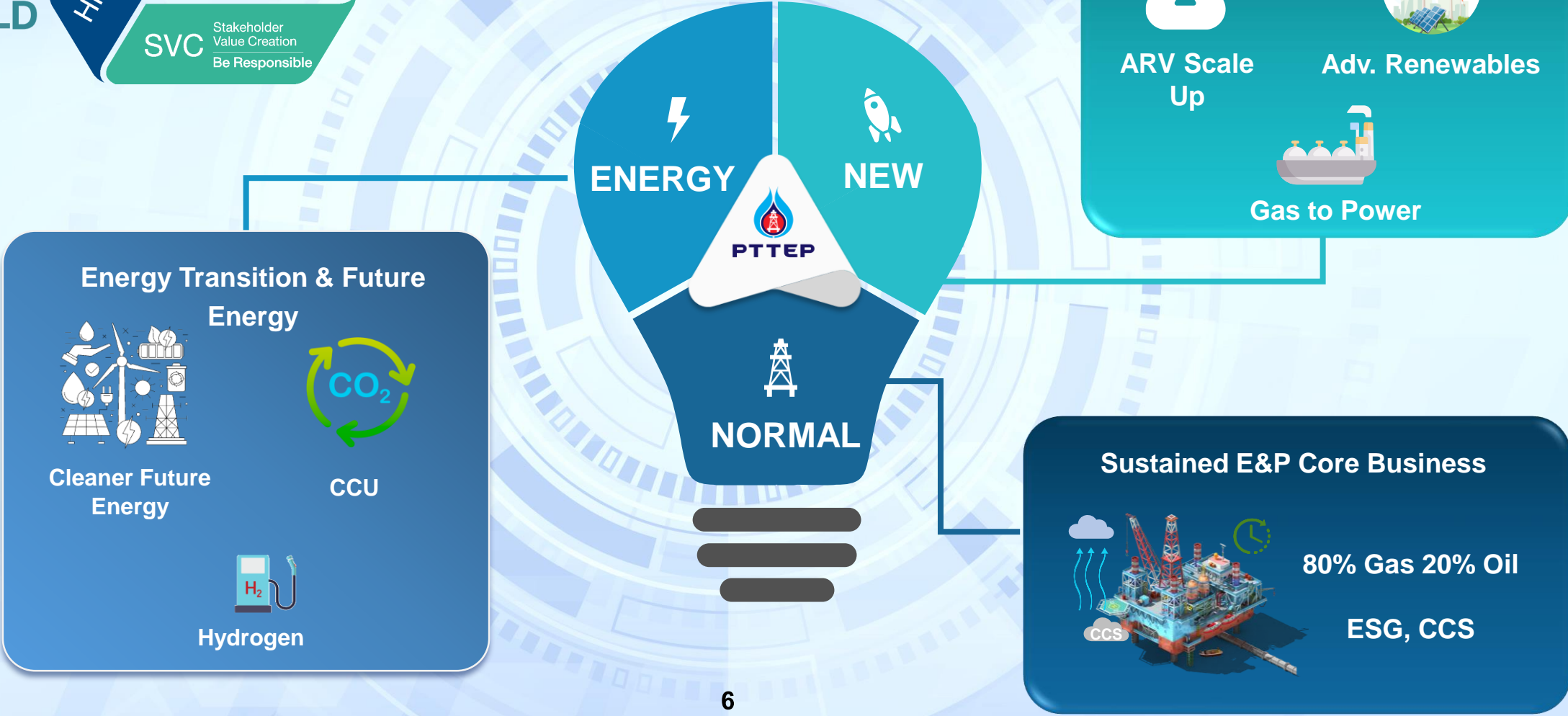
Strategy Update

ENERGY

Partner of Choice

FROM WE
TO WORLD

TO BECOME A SUSTAINABLE
ORGANIZATION



Sustain E&P Core Business



Grow business in Strategic Locations and focus on Gas



Reduce carbon emission through Carbon Capture Storage (CCS)



Oman and UAE

- Monetize Discovered **Resources**
- Accelerate **Exploration** Campaign
- Grow through **Strategic Partner**



Thailand, Malaysia, Myanmar

- TH – Ensure domestic gas supply and OCA opportunity
- MY – Synergy & Focus on LLB and Exploration
- MM – Secure Western corridor gas and unlock potentials

CCS Technology

- Membrane & Solvent Extraction
- Sequestration into depleted reservoir



Beyond E&P Business Directions

CCU, CCS, Power and Future Energy

Carbon Capture and Utilization

CCU

Carbon Nanotube



Prototype Unit at S1
[Trial Test]



CNT Powder

CO₂ to Methanol



RASC

Rapid Scale-Up Center
At Rayong

Power

GTP

Gas to Power

- 600 MW gas-fired power plant project



ADV
Renew

Wind

- Low Speed Wind Turbine

Solar

- Solar Nextgen
- Concentrated Solar Thermal

Carbon Capture and Storage

CCS



Cleaner Gas & Driver to Achieve GHG Intensity Reduction Target

17%

2021

25%

2030

GHG Reduction

Carbon Capture
and Storage (CCS)

Feasibility
Study on CCS

CCS Initiative in TH
and MY Assets



Production
Platform



CO2 Removal Facility
• Membrane Technology
• Solvent Extraction

CAPTURE

CO2 Pipeline &
Transportation

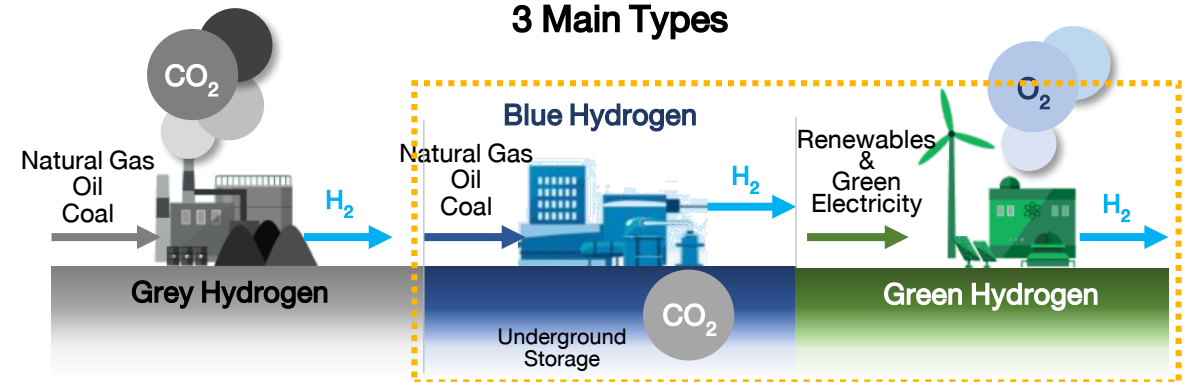


CO2 Sequestration into
Depleted Reservoir

STORAGE

Hydrogen

3 Main Types



- Energy Transition – Pathway to Future & Clean Energy
- Opportunity – Focus on production of Blue and Green Hydrogen



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Sustainability Development

Journey towards Sustainability



GHG Reduction

~17% Reduction of GHG Emission Intensity as of Sep 2021
(compared to 2012 base year)



Carbon Capture Utilization and Storage
Trap carbon dioxide in the process and inject it into suitable storage site

CCUS Study

CCU: Study potential CNTs to high value product and on-going engineering design of CNT prototype test unit



CCS: On-going pre-Project study in GoT and subsurface study for reservoir modeling in Lang Lebah



Circular Model for E&P

Zero Waste to Landfill

Review waste disposal method to manage existing industrial waste to landfill.

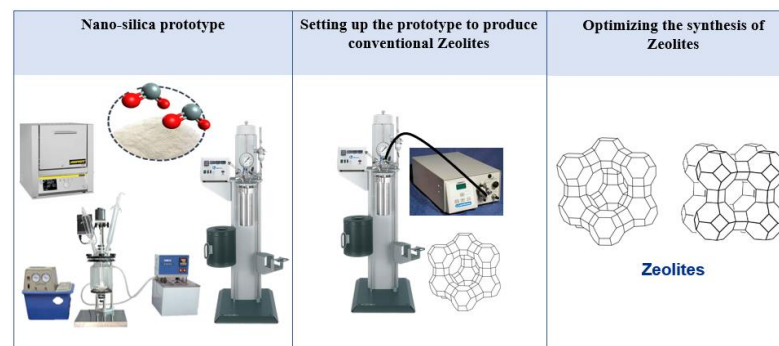
Topside Reuse Project

Completed the 1st topside relocation at ART in August 2021



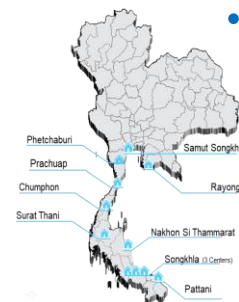
Upcycling High Volume Waste

Sand to Zeolite: Successfully synthesized nano-silica from sand waste



Ocean for Life

Community Income Baseline Survey



- To support in the measurement of success for Ocean for Life towards the target of \geq 50% Increase Community Income
- Completed community income baseline study of 11 communities in 9 provinces
- On process of result analysis

Baseline Study of Microplastics in the GoT

Completed 1st time microplastic baseline survey in offshore operations (4 rounds/year) at GBN, GBS and ART including Koh Tao, Koh Losin and Chumphon



Awards under Ocean for Life Strategy

- Until now, PTTEP CSR projects received 19 international Awards.
- The latest awards is **the Gulf Sustainability Awards 2021** for H.T.M.S. Underwater Learning Site Project, in the category of Best Community Development.





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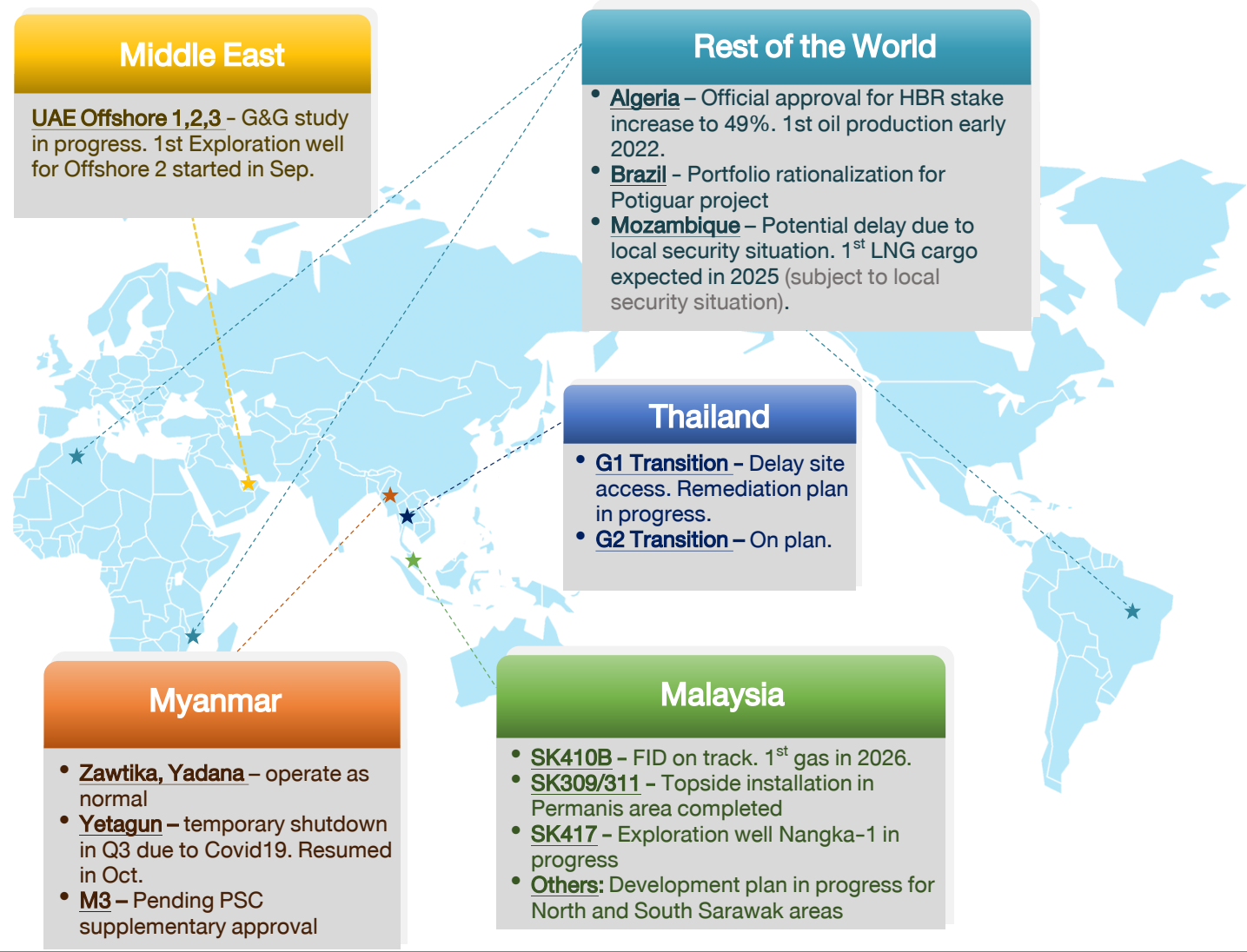
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Operations Update

Operations Update

E&P Business



Beyond E&P Business

Tech.

AI AND ROBOTICS VENTURES






Power

- **Gas to Power** – Delay due to local political situation and Covid19
 - ▶ FID expected late 2022 to early 2023
 - ▶ COD expected in late 2025 to early 2026
- **Renewables** – New subsidiaries established for investment in renewables

Others

- **LNG Shipper License** – granted to PTTGL in July



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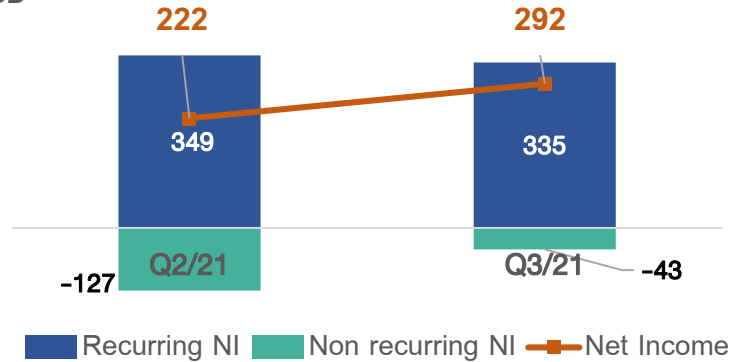
Financial Results

Results – Net Income

Strong performance YoY from volume growth, price increase and lower cost

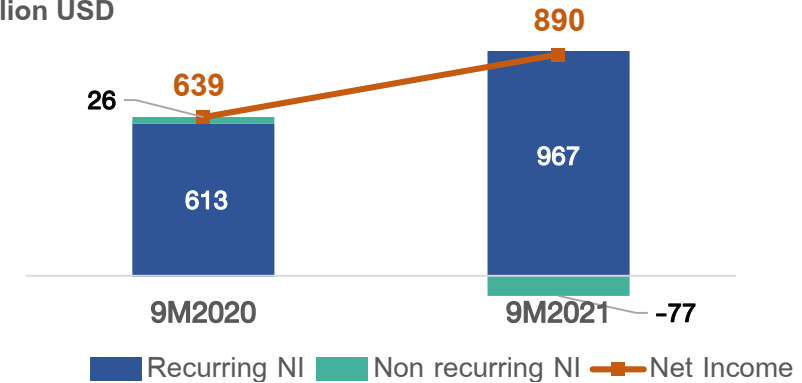
Q3/21 on Q2/21 (QoQ)

Unit: million USD

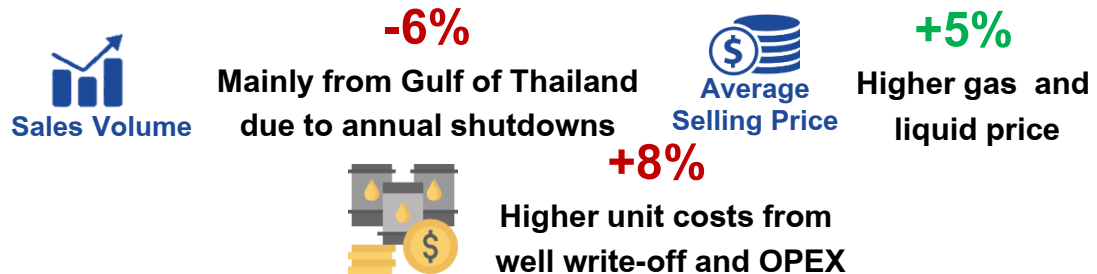


9M2021 on 9M2020 (YTD)

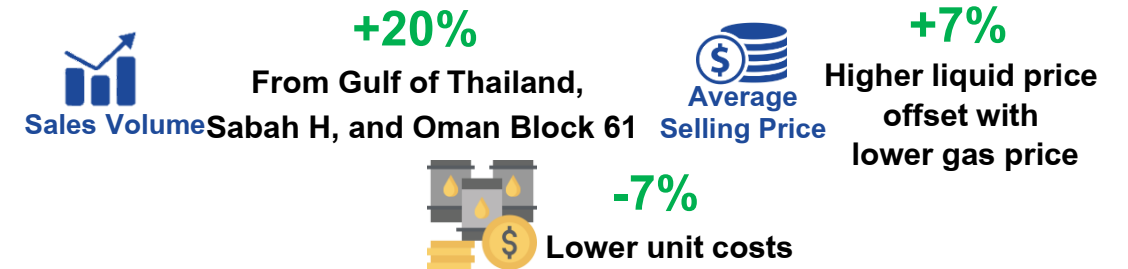
Unit: million USD



Recurring (-14 MMUSD or -4%)



Recurring (+354 MMUSD or +58%)



Non-recurring (+84 MMUSD or +66%)



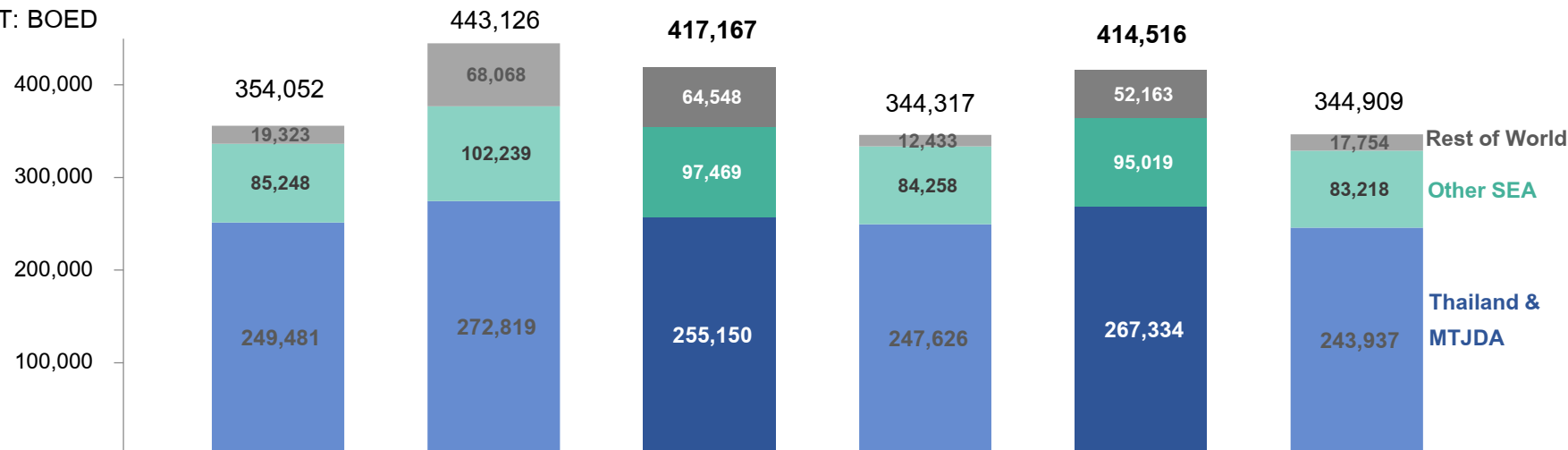
Non-recurring (-103 MMUSD or ->100%)



Results – Sales Volume & Average Selling Price

Softened volume QoQ from planned shutdown. ASP tracked higher energy prices.

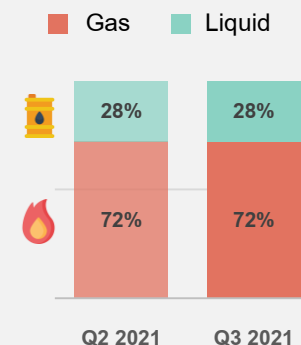
UNIT: BOED



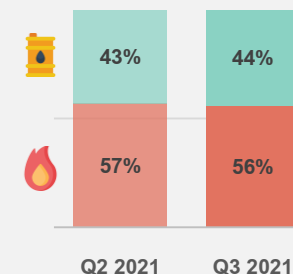
| Product Price | 2020 | Q2 21 | Q3 21 | Q3 20 | 9M 2021 | 9M 2020 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| Gas (\$/MMBTU) | 6.27 | 5.59 | 5.76 | 6.22 | 5.66 | 6.50 |
| Liquid (\$/BBL) | 41.55 | 63.98 | 69.16 | 41.82 | 63.40 | 41.14 |
| Weighted Avg. (\$/BOE) | 38.92 | 42.19 | 44.25 | 38.77 | 42.34 | 39.69 |
| Avg. Dubai (\$/BBL) | 42.27 | 67.02 | 71.68 | 42.88 | 66.35 | 41.45 |
| Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil) | 39.30 | 61.21 | 68.35 | 40.35 | 62.14 | 37.64 |

Note: Include sales volume from ADNOC Gas Processing (AGP)
Exclude Oman Block 61 deemed sales volume from tax payment by government

Volume Mix

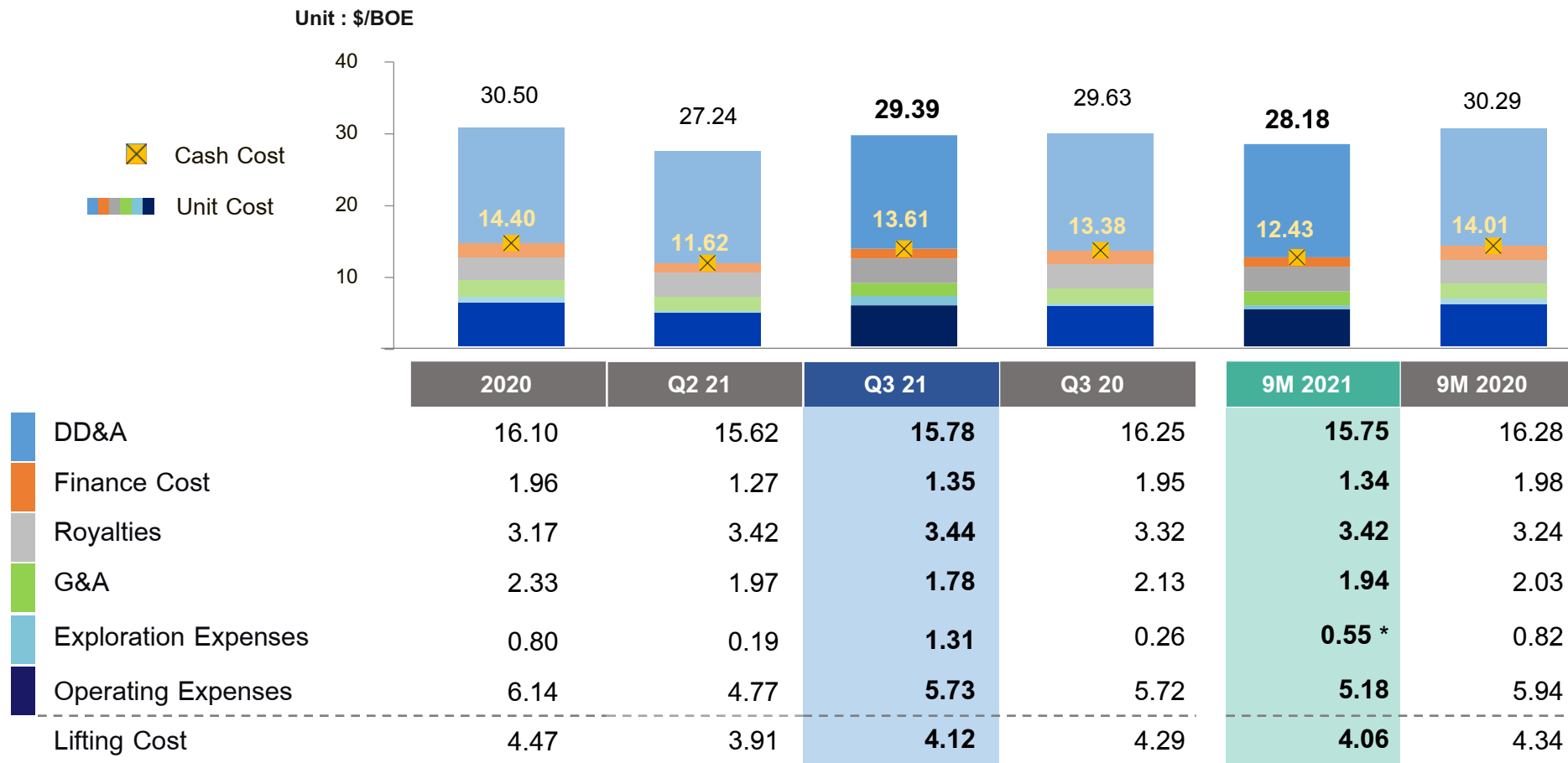


Revenue Mix



Results – Unit Cost

Rise in exploration well write-offs and OPEX from planned shutdowns



Note: * Exclude Exploration assets write-off in Brazil for Q1 21

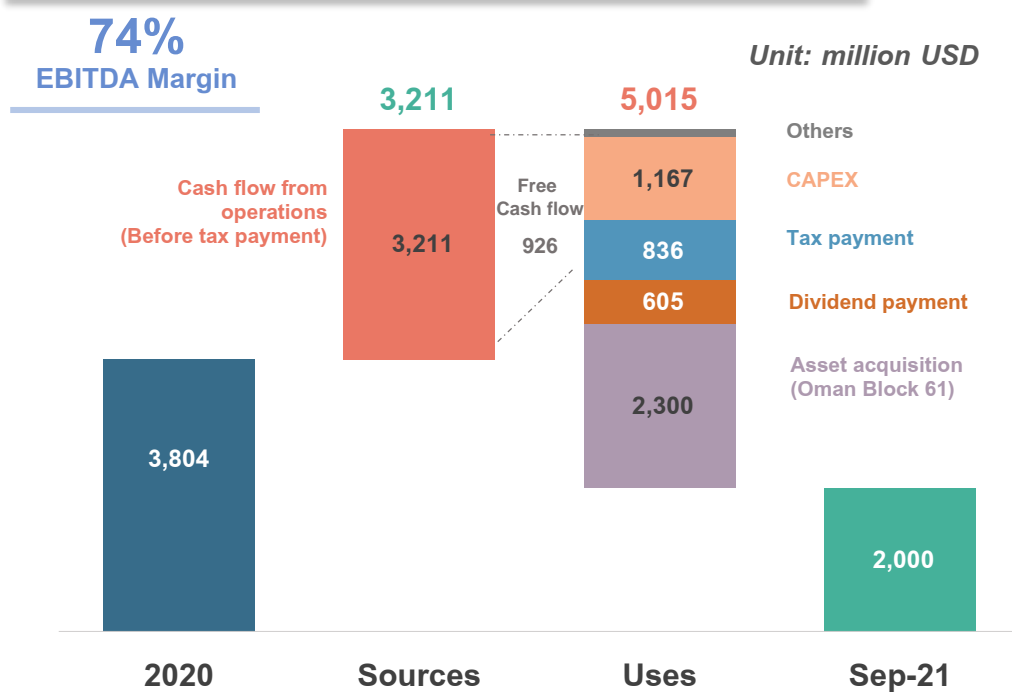
All Unit Cost shown above exclude costs related to new business

The formulas for calculating ratios are provided in the supplementary section for your reference

Results – Cashflows and Financial Position

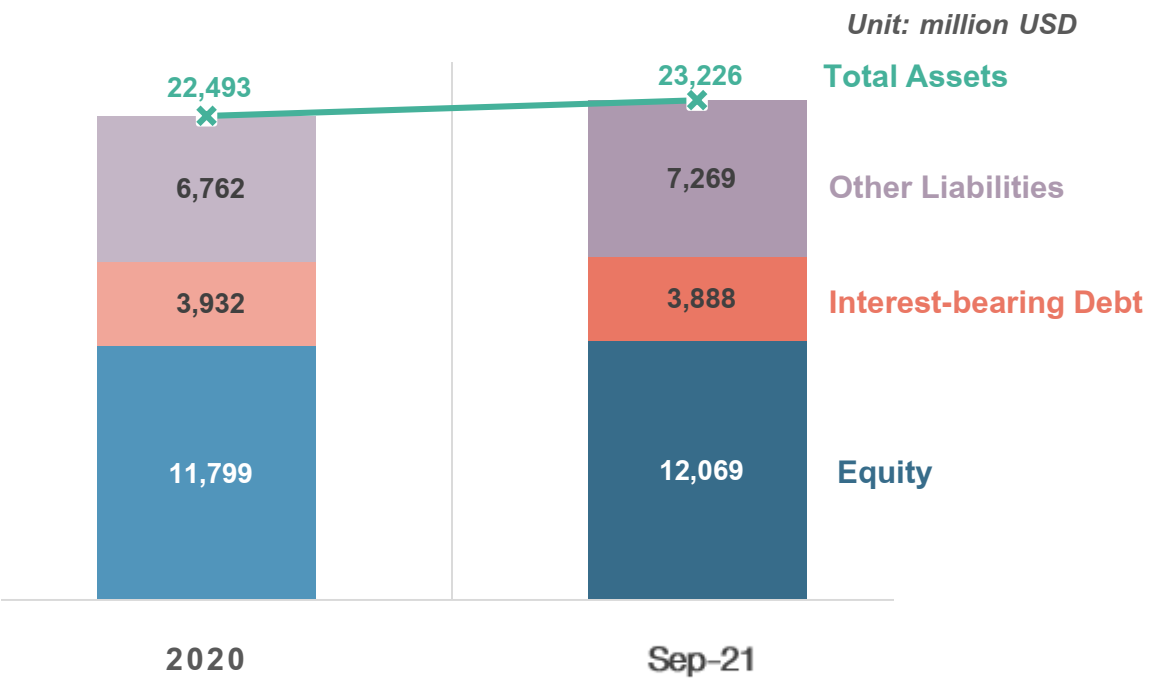
Solid position despite M&A payments

9M 2021 : Source and Use of Funds*



Note: * Include Short-term investment
Net of adjustment for the effect of exchange rate changes on cash and cash equivalents

Financial Position



| Debt Profile | | | | | |
|-----------------------------------|-------|-------|------------------------------------|-------|-------|
| D/E ratio | 0.33x | 0.32x | Weighted Average Loan Life (Years) | 14.08 | 13.34 |
| Weighted Average Cost of Debt (%) | 3.44 | 3.43 | Fixed : Floating | 82:18 | 82:18 |

Note: Debt profile excludes Hybrid bonds

2021 Guidance

Average Sales Volume*

KBOED



Average Gas Price**

USD/MMBTU



Unit Cost

USD/BOE



EBITDA Margin

% of Sales Revenue



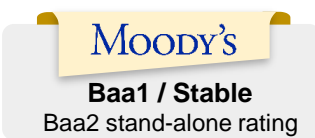
Note:

* Include sales volume from
ADNOC Gas Processing (AGP)

** Based on average Dubai oil
price in 2021 at 67.2 \$/BBL

Credit Ratings - Stable

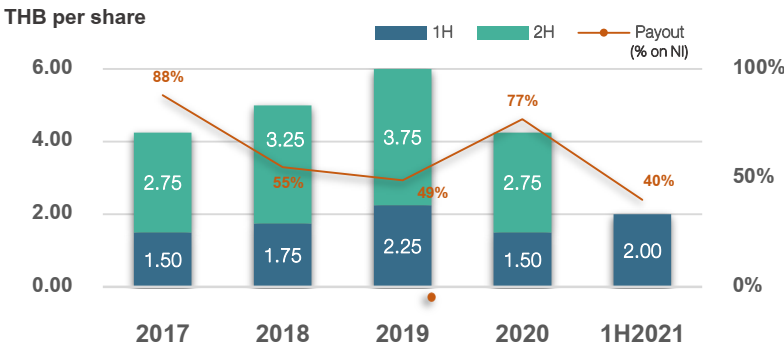
International



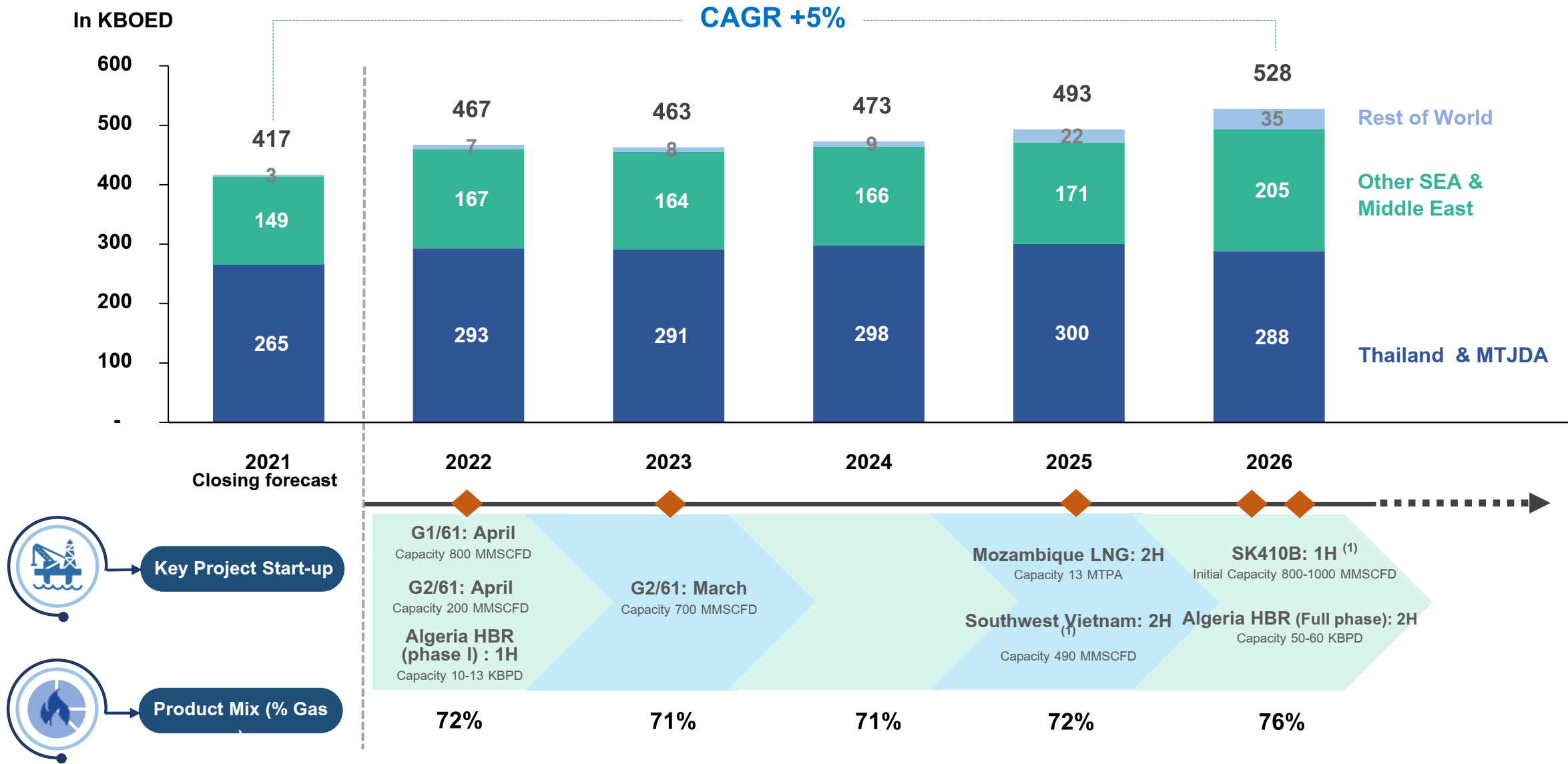
National



Dividend Payment History



Five –Year Plan : Sales Volume



Note: ⁽¹⁾ Subject to regulatory approval and FID timing

Five –Year Plan : Investment

BUDGET

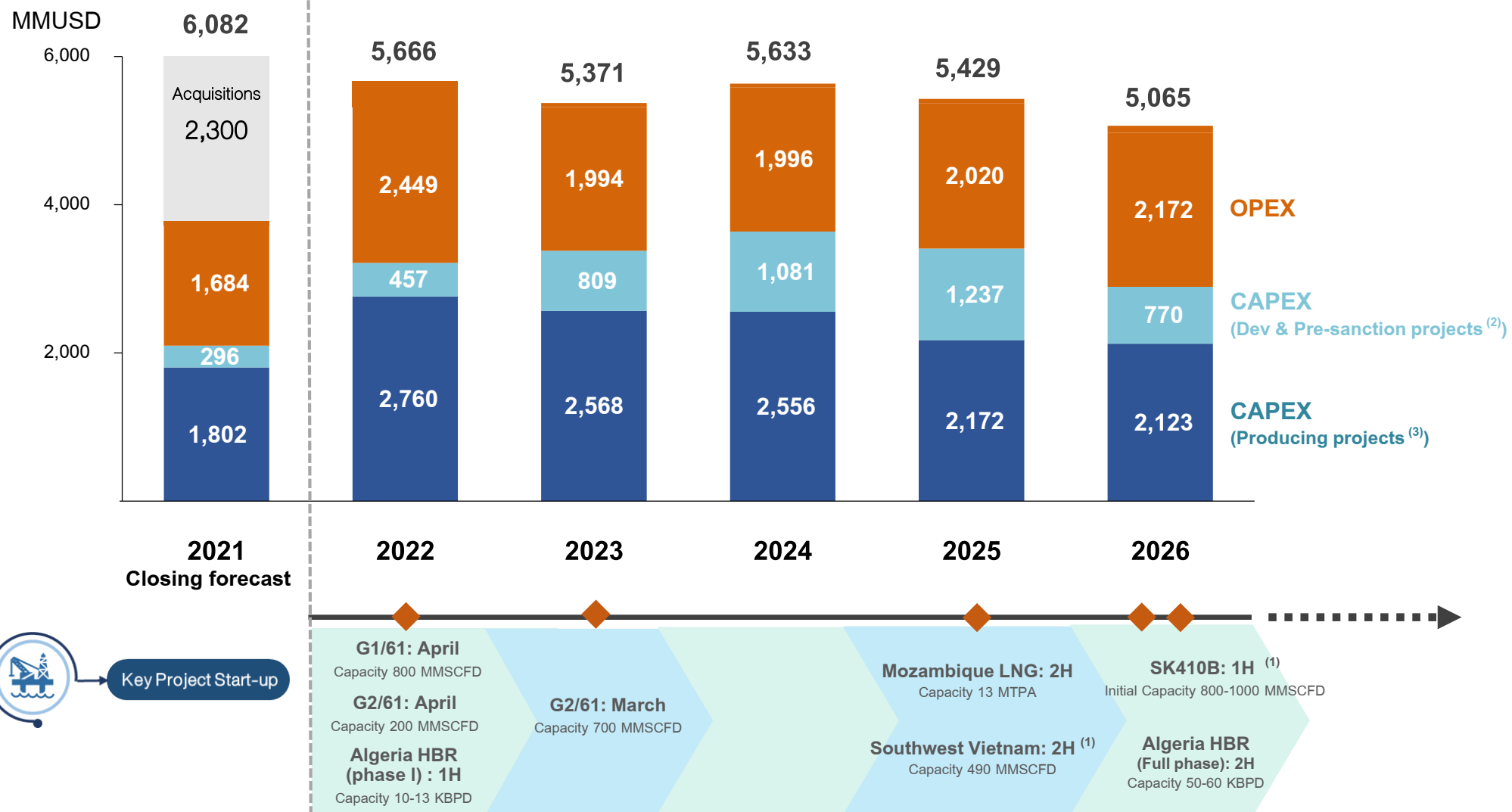
27.2 bnUS\$

CAPEX

16.5 bnUS\$

OPEX

10.7 bnUS\$



Note: ⁽¹⁾ Subject to regulatory approval and FID timing

⁽²⁾ Development & Pre-sanction projects include Mozambique LNG , Algeria HBR, SK410B and Southwest Vietnam

⁽³⁾ Including exploration and appraisal in all projects and head office CAPEX, and new businesses

2022 Exploration Plan & Budget

Budget

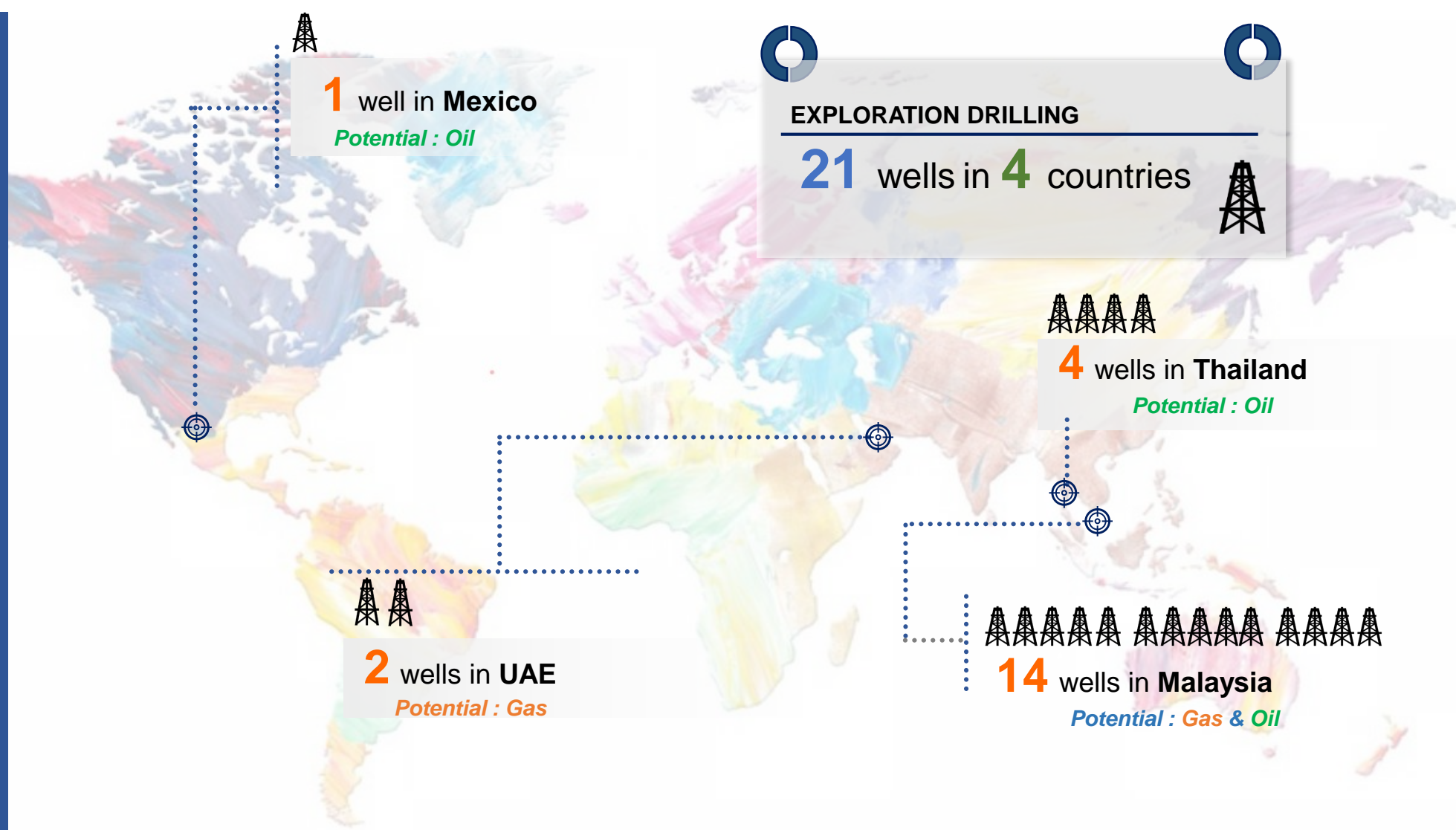
288 mmUS\$

CAPEX (Drilling)

262 mmUS\$

OPEX (G&G seismic)

26 mmUS\$





Thank you and Q&A

You can reach the Investor Relations team for more information and inquiry through the following channels

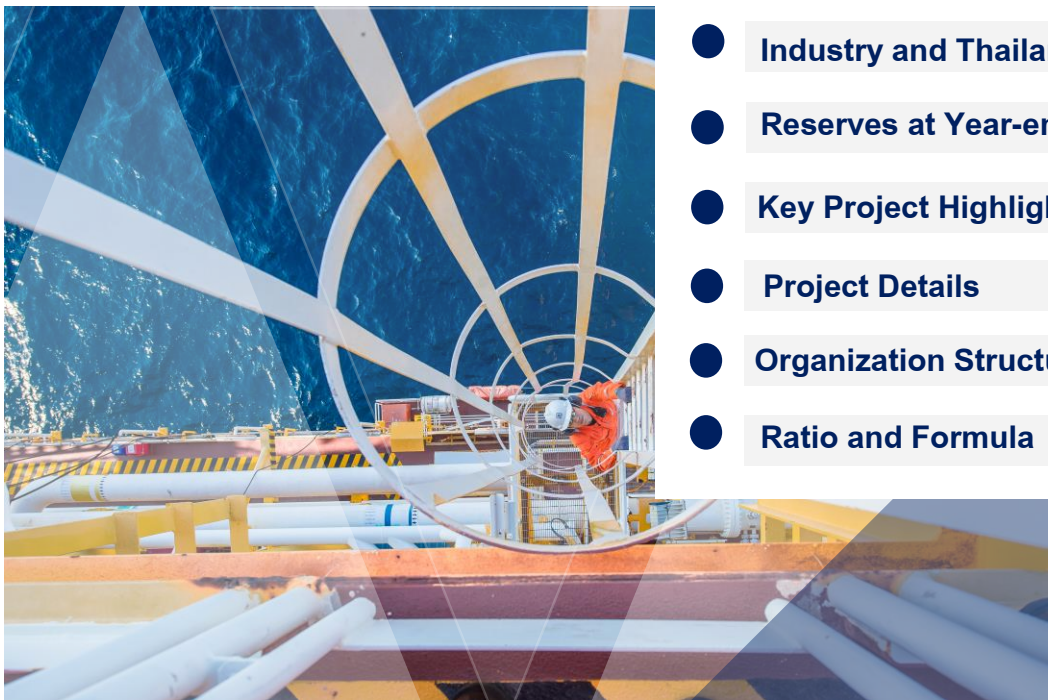


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<http://www.pttep.com>





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Supplementary information

| | |
|--|-------|
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| ● Project Details | 37-41 |
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| ● Ratio and Formula | 43 |

Results – Net Income

Unit: million USD

| Statements of Income | Q3 21 | Q2 21 | %QoQ | Q3 20 | %YoY | 9M21 | 9M20 | %YTD |
|--|--------------|--------------|-----------------|--------------|------------|--------------|--------------|--------------|
| Total Revenues | 1,784 | 1,768 | 1% | 1,305 | 37% | 5,331 | 4,082 | 31% |
| Sales ⁽¹⁾ | 1,744 | 1,729 | 1% | 1,228 | 42% | 4,864 | 3,751 | 30% |
| Sales Volume (BOED) ⁽²⁾ | 417,167 | 443,126 | (6%) | 344,317 | 21% | 414,516 | 344,909 | 20% |
| Sales Price (US\$/BOE) | 44.25 | 42.19 | 5% | 38.77 | 14% | 42.34 | 39.69 | 7% |
| Gain from a bargain purchase | - | - | - | - | - | 350 | - | 100% |
| Others ⁽³⁾ | 40 | 39 | 3% | 77 | (48%) | 117 | 331 | (65%) |
| Total Expenses | 1,499 | 1,548 | (3%) | 1,080 | 39% | 4,453 | 3,459 | 29% |
| Major Expenses: | | | | | | | | |
| Operating Expenses | 220 | 193 | 14% | 181 | 22% | 586 | 561 | 4% |
| Exploration Expenses | 50 | 7 | >100% | 8 | >100% | 207 | 78 | >100% |
| G&A | 72 | 83 | (13%) | 69 | 4% | 229 | 197 | 16% |
| DD&A | 606 | 629 | (4%) | 515 | 18% | 1,782 | 1,538 | 16% |
| Loss on Financial Instruments | 5 | 125 | (96%) | - | >100% | 228 | - | 100% |
| Impairment Loss on Assets | - | - | - | 47 | (>100%) | - | 47 | (100%) |
| Income Tax Expenses | 326 | 321 | 2% | 140 | >100% | 839 | 524 | 60% |
| Share of profit (loss) from associates and JV | 7 | 2 | >100% | 5 | 40% | 12 | 16 | (25%) |
| Net income | 292 | 222 | 32% | 230 | 27% | 890 | 639 | 39% |
| Recurring Net Income | 335 | 349 | (4%) | 195 | 72% | 967 | 613 | 58% |
| Non-recurring Net Income | (43) | (127) | 66% | 35 | (>100%) | (77) | 26 | (>100%) |
| Non-recurring Net income breakdown: | | | | | | | | |
| Oil Price Hedging | (41) | (141) | 32% | 10 | (>100%) | (289) | 150 | (>100%) |
| Tax from Effect of FX | (2) | - | (100%) | (2) | - | (11) | (105) | 90% |
| Effect from FX and others | 1 | 14 | (93%) | 27 | (96%) | 18 | 28 | (36%) |
| Impairment Loss on Assets | - | - | - | - | - | - | (47) | 100% |
| Exploration assets write-off | - | - | - | - | - | (145) | - | (100%) |
| Gain from a bargain purchase | - | - | - | - | - | 350 | - | 100% |

Note:

(1) Include Oman Block 61 deemed sales revenues from tax payment by government

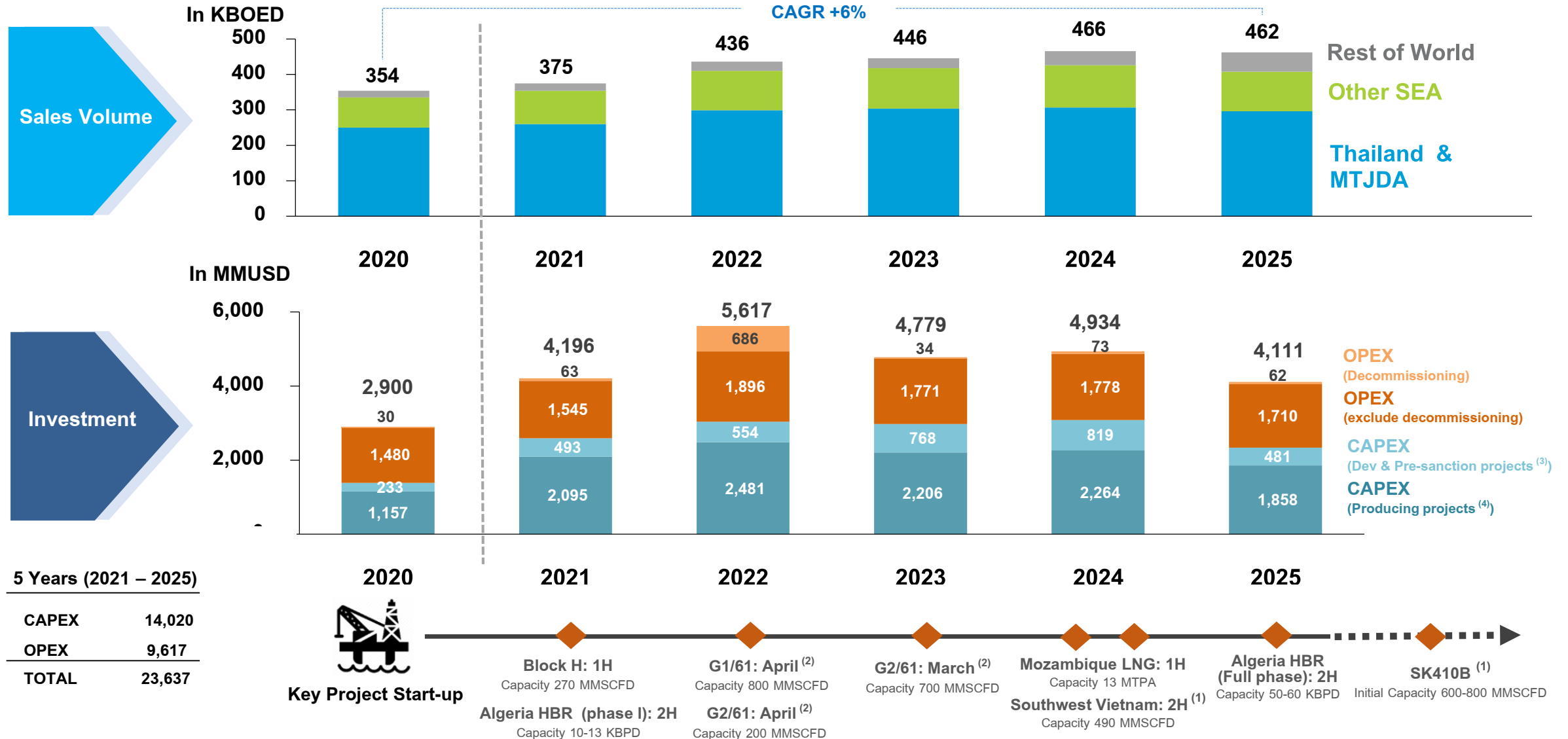
(2) Exclude Oman Block 61 deemed sales volume from tax payment by government

(3) Consisted of Revenue from Pipeline, Gain from FX, Forward Contract, and Gain from Oil price Hedging

Five –Year Plan : Sales Volume

Maximize value of existing assets, accelerate G1/G2 transitions & maintain key milestones for key projects

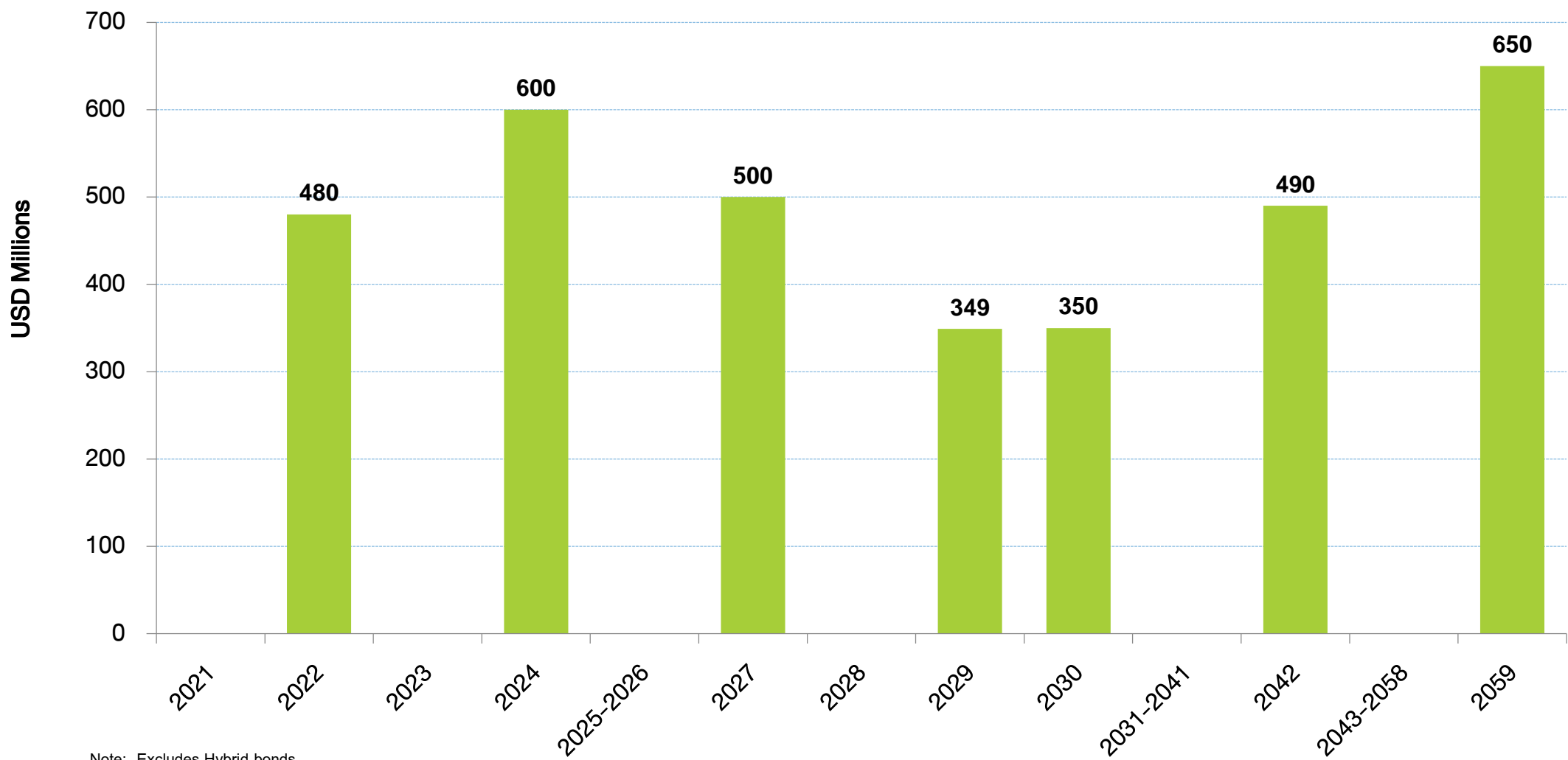
Figures have not yet reflected Oman block 61



Note: ⁽¹⁾ Subject to regulatory approval and FID timing ⁽²⁾ According to Production Sharing Contracts signed on 25 February 2019 ⁽³⁾ Development & Pre-sanction projects include Mozambique LNG , Algeria HBR, SK410B, and Southwest Vietnam ⁽⁴⁾ Includes exploration and appraisal in all projects and head office CAPEX

Debt Maturity Profile

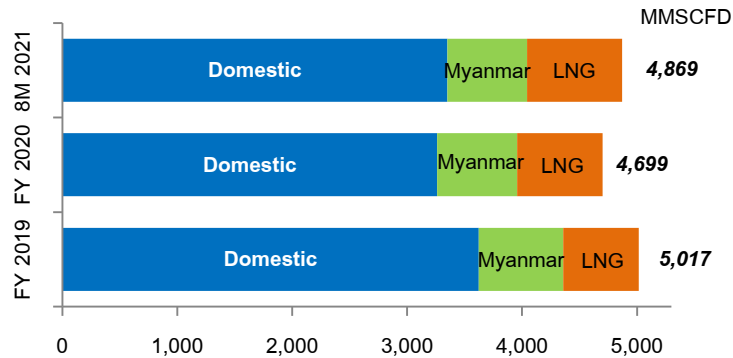
As of September 2021



Note: Excludes Hybrid bonds
Unit: USD Millions or equivalent after cross currency swap

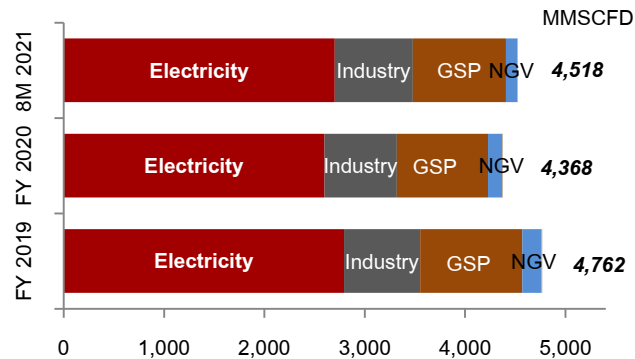
Thailand Energy Overview

Natural Gas Supply

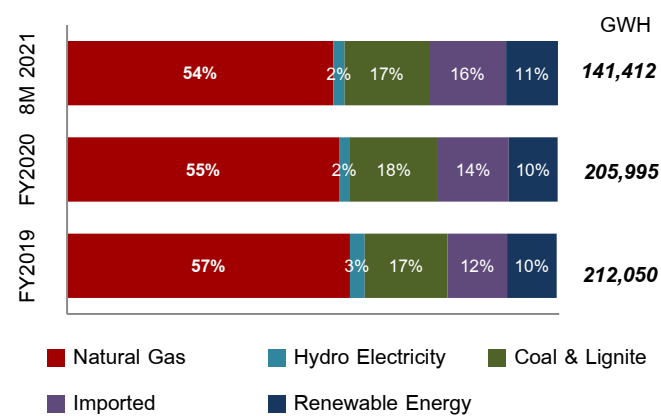


- Recovering energy demand, which rebounded to nearly the same level pre COVID-19
- As of August 2021, compared with the same period of last year: Higher domestic supply, and LNG imports with a slight decline from Myanmar piped gas due to natural field potential

Natural Gas Consumption



Electricity Generation



Source: Energy Policy and Planning Office (EPPO)

Exchange Rate Movement (USD/THB)

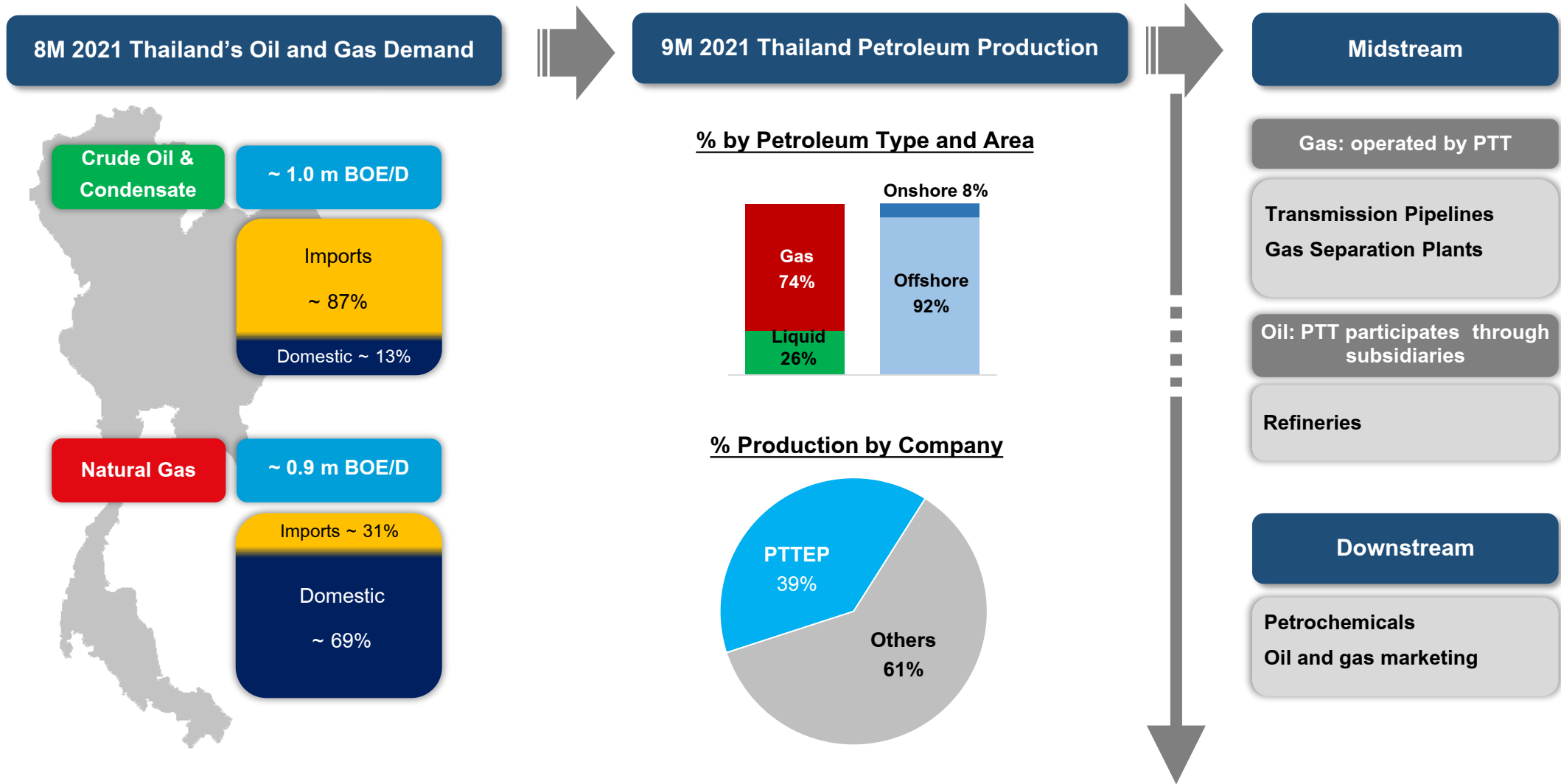


Consensus on the exchange rate mostly depends on

- Thailand's general economic recovery in particular from the tourism sector
- Covid-19 infection containment in Thailand after easing of tourism restrictions and general lockdown measures
- Central bank monetary policy – tapering timeline and interest rate adjustment schedule of Bank of Thailand and the Federal Reserve

Source: Bank of Thailand, Bloomberg

Forecast based on Bloomberg Consensus as of 4 October 2021

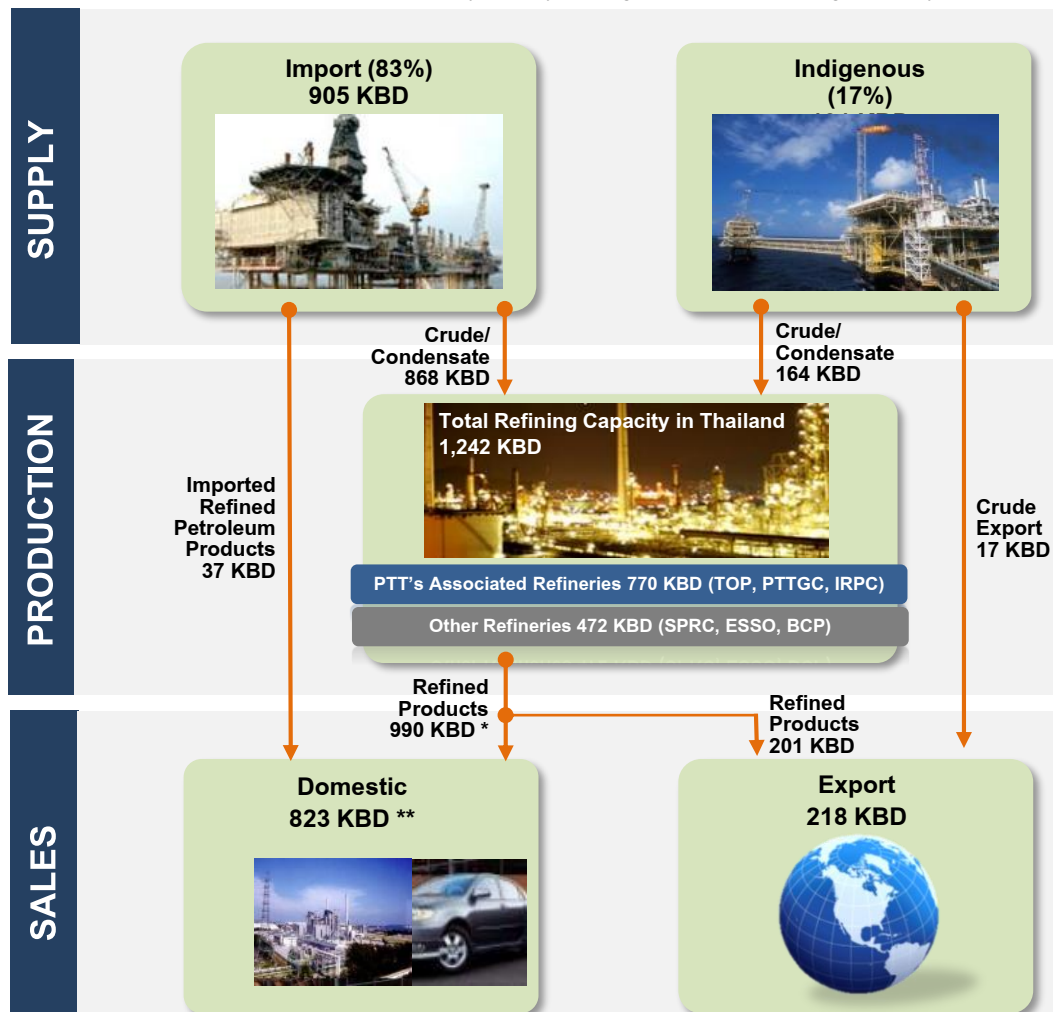


Source: Energy Policy and Planning Office (EPPO) and Department of Mineral Fuels (DMF)

Thailand's Oil and Gas Balance

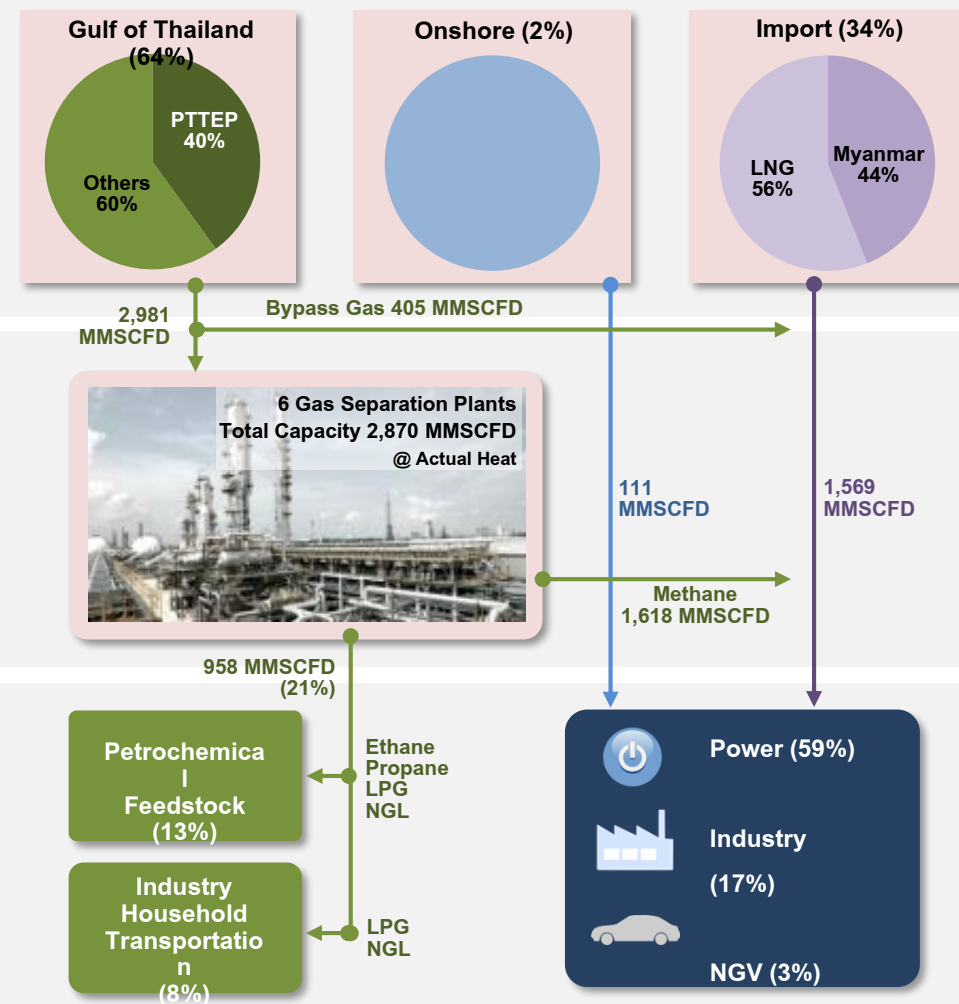
Oil Balance***

Maintains stability supply through adequate refining capacity



Natural Gas Balance****

Main driver of the Thailand economy



Source: PTT

Note: * Refined product from refineries = 899 KBD, including domestic supply of LPG from GSPs and Petrochemical Plants = 91 KBD

** Not included Inventory

*** Information as of 8M21

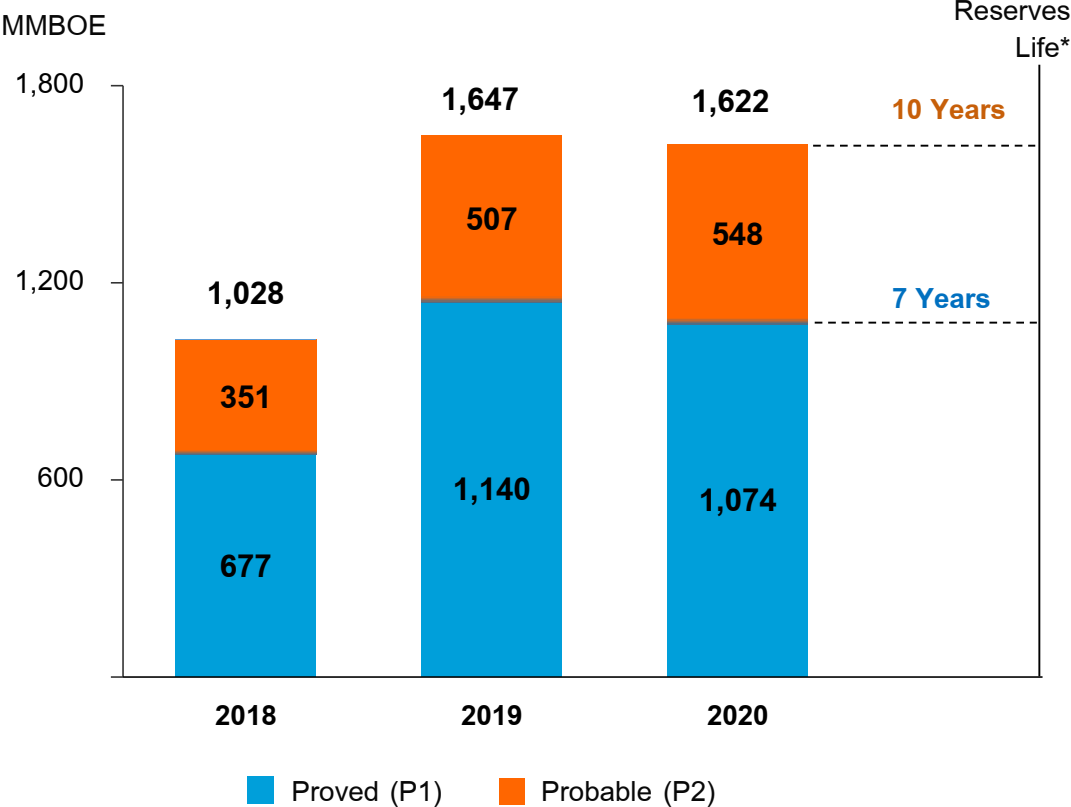
**** Information as of 6M21

MMSCFD @ Heating Value 1,000 Btu/ft³

Reserves at the Year-end 2020

Sustained reserve life at over 5 years target

Figures does not include Oman Block 61

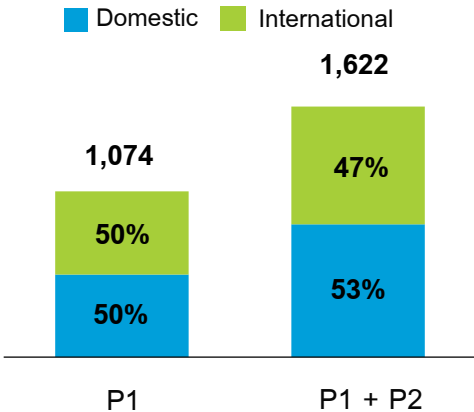


5-Year Average Proved Reserves Replacement Ratio (RRR)

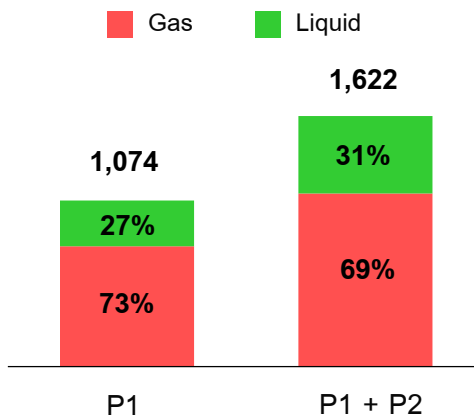
| 2018 | 2019 | 2020 |
|------|------|------|
| 0.7x | 1.5X | 1.5X |

- Based on total production of natural gas, condensate, and crude oil (including LPG) of 422 KBOED for the year ended December 31, 2020
- Figures include reserves from equity method

2020 by Geography



2020 by Product Type



Diversified international portfolio

Central Asia

First presence in Kazakhstan:

- Production: Dunga onshore oil field from the acquisition of Partex in 2019

Oil sands

North & South America

Opportunities in an early phase:

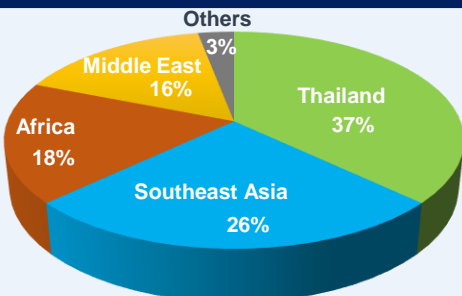
- Deepwater exploration in Brazil and Mexico with prominent and prudent operators

Oil

Oil

Book Value of Assets by region

Total assets USD 23.23 billion



As of Sep 2021 (including Oman Block 61)

Africa

An area for growth, key projects include:

- Production: Algeria's Bir Seba oil field with current flow rate of approximately 16 KBPD
- Development : Algeria's Hassi Bir Rakaiz with target 1st phase production in Q4 2021 and Mozambique Area 1 project with first cargo LNG target in 2024*.

Middle East

Strong presence in UAE and Oman:

- 3 offshore exploration blocks in UAE, partnered with experienced operator
- 4 onshore blocks in Oman including PDO (Block 6), largest producing oil asset, and Block 61, largest tight gas development
- Stake in OLNG

Thailand

PTTEP's primary operational base

- 64% of total sales volume (9M2021)
- Key producing assets include Bongkot, Arthit, Contract 4 and S1
- Transition of operations for G1/61 (Erawan) and G2/61 (Bongkot) are in process to ensure production continuity under new PSCs

Southeast Asia

Second heartland to PTTEP

- 23% of total sales volume, mainly from Malaysia and Myanmar (9M2021)
- Recent multiple petroleum discoveries in Malaysia formed fundamental for cluster development potential
- Other producing assets in Vietnam (oil) and Indonesia (gas)

Australia

Potential gas development

- Sizable undeveloped gas resources in Timor Sea

Note: * Possible delay due to local security situation

Information as of 30 September 2021

Thailand, Myanmar and Malaysia

“Coming Home” strategy to maintain strong foundation and utilize expertise

Myanmar

- 3 producing gas fields supplying gas to both Thailand and Myanmar: Yadana, Yetagun and Zawtika
- Operate Zawtika project, start up in March 2014 with current gas supply of 336 MMSCFD for 9M2021

Project Status

| | |
|------------|-----------------------|
| Production | • Zawtika (80% WI) |
| | • Yadana (25.5% WI) |
| | • Yetagun* (19.3% WI) |
| Appraisal | • M3 (80% WI) |

Thailand

Production / Ramp-up Projects

Bongkot (66.6667% WI)

Average natural gas and condensate sales volume of 887 MMSCFD and 23 KBPD in 9M2021

S1 (100% WI)

The largest onshore crude oil production field in Thailand with 9M2021 average crude oil sales volume of 27 KBPD

Arthit (80% WI)

Average sales volume in 9M2021 was 240 MMSCFD of natural gas and 12 KBPD of condensates

Contract 4 (60% WI)

Average sales rate of 401 MMSCFD for natural gas and 16 KBPD for condensate in 9M2021



- Production phase
- Exploration phase

Malaysia

Production

Block K Project :

Kikeh(56% WI) , Siakap North-Petai (SNP) (22.4% WI) and Gumusut-Kakap (GK) (6.4% WI)

- Average production volume in 9M2021 was 24* KBPD of crude oil and 25* MMSCFD of natural gas

SK309 and SK311 Project : (59.5% WI)

For East Patricia field (42% WI)

- Average production volume in 9M2021 was 164* MMSCFD of natural gas and 15* KBPD of condensates and crude

Block H Project :

Rotan field (56% WI) Remaining Area (42% WI)

- First gas delivered in early February 2021 with average production volume in 9M2021 at 179 MMSCFD of natural gas
- Full capacity at 270 MMSCFD

For Block K, gross production is net off utilization

Exploration

Sarawak SK410B Project (42.5% WI)

- Multi TCF gas discovery in Lang Lebah Field
- Expected to reach Final Investment Decision (FID) in 2023

Sarawak SK417 and Sarawak SK405B projects

- New Petroleum discoveries with additional well drilling to assess upside potential

Note: WI – working interest

Other Southeast Asia countries

Expanding foothold in the region



- Production projects
- Pre sanction projects

Vietnam



Vietnam 16-1 (28.5% WI)

- Average sales volume of crude oil was 12 KBPD in 9M2021
- The project is preparing the drilling of additional development wells in order to maintain the production level in 2021



Southwest Vietnam

- Vietnam B & 48/95 (8.5% WI)
- Vietnam 52/97 (7% WI)
- Field Development Plan was approved by Government
- The project is currently in the negotiation process on commercial terms to put forward FID, with production capacity approximately 490 MMSCFD

Indonesia

Natuna Sea A (11.5% WI)

- Average sales volume of natural gas was 201 MMSCFD in 9M2021
- The project has completed drilling 1 well in October 2021 and another well is in progress.



UAE

Abu Dhabi Offshore 1,2 and 3

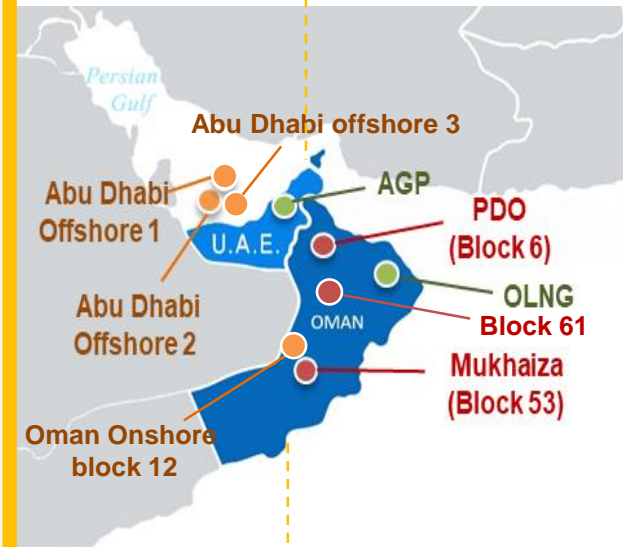
- High potential prospective resources with significant sizeable discoveries
- Located North-west of Abu Dhabi Emirates, United Arab Emirates
- Granted the award for exploration in January 2019 - 2020
- Operated by Eni Abu Dhabi B.V. (70% interest)

ADNOC Gas Processing (AGP)

- One of the largest gas processing complexes in the world (total capacity of 8 BCFD)
 - JV: 3 plants with capacity of 1.2 BCFD
 - ADNOC: 2 plants with capacity of 6.9 BCFD
- Essential to Abu Dhabi and UAE's economy
- Sizeable volumes of Propane, Butane and Naphtha offtake
- Operated by ADNOC (68% interest)



Note: ADNOC : Abu Dhabi National Oil Company



*Block awarded in 2019
**Block awarded in 2020

- Production phase
- Exploration phase
- Midstream

Oman

PDO (Block 6)

- Largest asset covering around 1/3 of the country
- Long-life asset, produced only 15% of reserves in-place
- Average oil production volume of 621 KBPD for 9M2021
- Operated by Petroleum Development of Oman (Joint Operating Company)

Oman Onshore Block 12

- Located onshore central part of the Sultanate of Oman
- Signed agreement with Oman's Ministry of Oil and Gas (MOG) for exploration and production rights in February 2020
- Operated by Total E&P Oman Block 12 B.V. (80% interest)

Mukhaiza (Block 53)

- Largest single onshore producing field in Oman
- Average oil production volume of 97 KBPD for 9M2021
- Operated by Occidental Petroleum (47% interest)

Oman Block 61

- Largest tight gas development in Middle East
- Gas and condensate production capacity of 1,500 MMSCFD and 69,000 BPD respectively
- Operated by BP Exploration (Epsilon) Limited (40% interest)

Oman LNG

- The only LNG facility in Oman
- Processing capacity 10.4 MTPA
- Contracted LNG sales to international buyers: Japan and South Korea
- Government of Oman 51% (Operator)

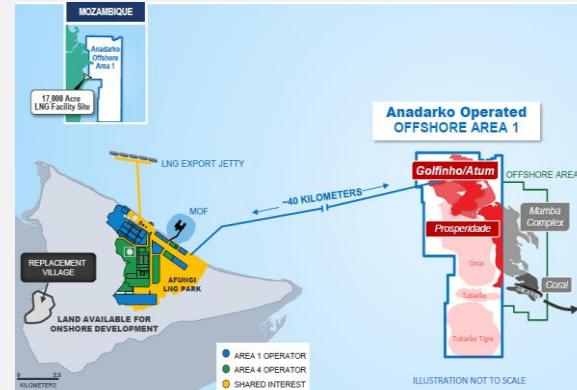
Mozambique Area 1

On the path of unlocking value from world class LNG asset



Mozambique

Substantial recoverable resources of approximately **75 tcf**
with scalable offshore development expending up to **50 MTPA**



Location and Cost Advantage

- **Close proximity to shore**
- **High quality reservoirs**
capable of flow up to 200 mmcf/d per well
- **Access to Asian and European markets**



Achievements

- ✓ Legal & Contractual Framework
- ✓ Plan of Development Approved
- ✓ Onshore & Offshore Contractors Awarded
- ✓ First Mover for the Marine Facility
- ✓ LNG SPAs ~11.1 MTPA



FID

FID in June 2019 with initial 2 trains of
13.1 MTPA capacity



Next milestones

- ✓ Project Finance (2/3 Project Financed)
- ⌚ Drilling & Completion
- ⌚ Onshore Construction and Offshore Installation
- ⌚ Operation Readiness
- ⌚ LNG Shipping



1st Cargo expected 2025 *

Note: * Subject to local security situation

America: Mexico and Brazil

Entry into high potential petroleum province at exploration stage

Mexico

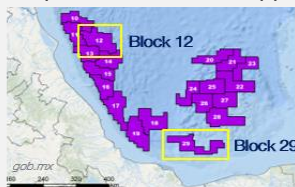
Deep-water with high petroleum potentials and attractive fiscal regime

Mexico block 12 (2.4)

- Non-operating partner with 20% participating interest
- Located in the Mexican Ridges, western Gulf of Mexico
- Currently evaluating petroleum potential and preparing for an exploration well drilling in 2021

Mexico block 29 (2.4)

- Non-operating partner with 16.67% participating interest
- Located in the Campeche, southern Gulf of Mexico
- Made two successful deep-water oil discoveries with good quality reservoirs in May 2020
- The appraisal plan and exploration plan were approved by the Mexican regulators (CNH) on 25 March 2021.
- Preparing for exploration well and appraisal drilling.



Brazil

Deep Water

Barreirinhas AP1

- Farm-in 25% from BG Group in 2014
- Operated by Shell Brasil (65% interest)
- Four offshore exploration blocks: BAR-M-215, BAR-M-217, BAR-M-252 and BAR-M-254
- Currently waiting for exploration wells drilling permit from the government

BM-ES-23

- Acquired 20% interest from Shell in Q3 2014
- Partnered with Petrobras (65%, operator) and INPEX (15%)
- Currently evaluating the petroleum potential for further development



● Exploration phase

Project information 1/5



| | Project | Status* | Phase | PTTEP's Share | Partners <i>(as of September 2021)</i> | 9M2021 Average Sales Volume ** | | Q3 2021 Key Activities | |
|------------------|---|---------|------------|---------------|--|---------------------------------|---------------|-------------------------------------|---|
| | | | | | | Gas (MMSCFD) | Liquid (KBPD) | | |
| Thailand and JDA | | | | | | | | | |
| 1 | Arthit | OP | Production | 80% | Chevron MOECO | 16% 4% | 240 | 12 | <ul style="list-style-type: none">• Ensure gas deliverability level at DCQ***• Drill development wells |
| 2 | B6/27 | OP | Production | 100% | | | - | - | <ul style="list-style-type: none">• Prepare for decommissioning activities• Decommissioning Environmental Assessment (DEA) report has been approved by DMF on 8 July 2021. |
| 3 | B8/32 & 9A | JV | Production | 25.001% | Chevron MOECO KrisEnergy Palang Sophon | 51.66% 16.71% 4.63% 2% | 48 | 14 | <ul style="list-style-type: none">• Ensure deliverability of production volumes as nominated from the buyer |
| 4 | Bongkot | OP | Production | 66.6667% | TOTAL | 33.3333% | 887 | 23 | <ul style="list-style-type: none">• Drill development wells• Maintain production level as planned• Carry out wells plug and abandonment, and prepare for non-transferred wellhead platforms decommissioning |
| 5 | Contract 3 <i>(Formerly Unocal III)</i> | JV | Production | 5% | Chevron MOECO | 71.25% 23.75% | 463 | 25 | <ul style="list-style-type: none">• Decommissioning activities |
| 6 | Contract 4 <i>(Formerly Pailin)</i> | JV | Production | 60% | Chevron MOECO | 35% 5% | 401 | 16 | <ul style="list-style-type: none">• Ensure gas deliverability level at DCQ***• Drill development wells• Topside reuse |
| 7 | E5 | JV | Production | 20% | ExxonMobil | 80% | 8 | - | <ul style="list-style-type: none">• Ensure gas deliverability level at DCQ*** |
| 8 | G4/43 | JV | Production | 21.375% | Chevron MOECO Palang Sophon | 51% 21.25% 6.375% | 1 | 3 | <ul style="list-style-type: none">• Deliver production volumes as nominated from the buyer and oil production as planned |
| 9 | G4/48 | JV | Production | 5% | Chevron MOECO | 71.25% 23.75% | 2 | 0.1 | <ul style="list-style-type: none">• Decommissioning activities |
| 10 | L53/43 & L54/43 | OP | Production | 100% | - | | - | 0.7 | <ul style="list-style-type: none">• Maintain production plateau• Explore for additional field potential i.e. new drilling well and EOR/IOR• Prepare for decommissioning activities |
| 11 | PTTEP1 | OP | Production | 100% | - | | - | 0.2 | <ul style="list-style-type: none">• Maintain production plateau• Explore for additional field potential i.e. new drilling well and EOR/IOR• Prepare for decommissioning activities |
| 12 | S1 | OP | Production | 100% | - | | 8 | Crude: 27 KBPD LPG: 188 MTon/Day | <ul style="list-style-type: none">• Maximize crude production by fully implemented the business plan and work activities as planned• 10 years strategy roadmap is being submitted to the management committee to ensure all focused strategic areas will be set up in the long term until end of concession in year 2031 |
| 13 | Sinphuhorm | OP | Production | 55% | Apico**** ExxonMobil | 35% 10% | 90 | 0.3 | <ul style="list-style-type: none">• Ensure gas deliverability• Drill development well as planned• Sinphuhorm new GSA was approved by Government |

* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship / JV = PTTEP as Joint Venture Partner

** Sales volume stated at 100% basis.

*** DCQ = Daily Contractual Quantity

**** PTTEP holds indirectly and directly 80.48% participating interest in Sinphuhorm Project.

APICO also holds 100% participating interest in Block L15/43 and Block L27/43.

Project information 2/5



| | Project | Status* | Phase | PTTEP's Share | Partners <i>(as of September 2021)</i> | 9M 2021 Average Sales Volume ** | | Q3 2021 Key Activities |
|------------------|---------------------------------|--|----------------------------|--------------------------------|---|---|--|--|
| | | | | | | Gas (MMSCFD) | Liquid (KBPD) | |
| Thailand and JDA | | | | | | | | |
| 14 | L22/43 | OP | Production | 100% | - | - | - | <ul style="list-style-type: none">Study to explore additional field potentialPrepare for decommissioning activities |
| 15 | MTJDA | JOC | Production | 50% | Petronas-Carigali 50% | 248 | 8 | <ul style="list-style-type: none">Ensure gas deliverability level at DCQ*** |
| 16 | G9/43 | OP | Exploration | 100% | - | - | - | <ul style="list-style-type: none">Activity suspended |
| 17 | G1/61 (Erawan) | OP | Exploration | 60% | MP G2 (Thailand) Limited 40% | - | - | <ul style="list-style-type: none">Awarded as an operator for Erawan field (Contract 1, 2 and 3) under PSC (after concession-end in 2022)Preparing all transitional works including construction of facilities, staff recruitment, Gas Sales Agreement, and related procurement activities, aiming for successful transition and gas production as per commitment. |
| 18 | G2/61 (Bongkot) | OP | Exploration | 100% | - | - | - | <ul style="list-style-type: none">Awarded as a sole operator under PSC (after concession-end in 2022/2023)Drill appraisal wellsInstallation new wellhead platforms and drill production wellsFinalise Gas Sales Agreement and Prepare for seamless operation handover |
| Others SEA | | | | | | | | |
| 1 | Malaysia | OP (except Gumusut-Kakap (GK) in Block K) | Production/ Exploration | 6.4-80% (varied by permits) | Varied by permits | SK309 and SK311** 164 Block K** 25 Block H** 179 | SK309 and SK311** 15 Block K** 24 | <ul style="list-style-type: none">SK309 and SK311: Pemanis Gas Development Topside Installation and South Acis Satellite infill oil development drillingBlock K: SNP Development DrillingBlock H: Maximize production at plateau 270MMSCFD after first gas in February 2021 |
| 2 | Yadana | JV | Production | 25.5% | TOTAL 31.24% Chevron 28.26% MOGE 15% | 773 | - | <ul style="list-style-type: none">Drill 2nd production wellNew DCQ*** proposal and negotiation with PTT |
| 3 | Yetagun | JV | Production | 19.3178% | Petronas-Carigali 40.91018% MOGE 20.4541% Nippon Oil 19.3178% | 10 | 0.7 | <ul style="list-style-type: none">Suspended the production due to Covid-19 situation and will resume its production in October |
| 4 | Zawtika (M9 & a part of M11) | OP | Production | 80% | Myanma Oil and Gas Enterprise (MOGE) 20% | 336 | - | <ul style="list-style-type: none">Some activities are delayed and process under difficulty due to the COVID-19 and political situation in Myanmar. |
| 5 | Myanmar M3 | OP | Exploration | 80% | MOECO 20% | - | - | <ul style="list-style-type: none">Waiting for approval of PSC SupplementaryFEED & OE and survey activitiesGas Sales Agreement negotiation |
| 6 | Myanmar M11 | OP | Exploration | 100% | - | - | - | <ul style="list-style-type: none">Received final termination agreement from MOGECompleted leftover material transferring to MOGE |
| 7 | Myanmar MD-7 | OP | Exploration | 50% | TOTAL 50% | - | - | <ul style="list-style-type: none">Termination process in progressCompleted leftover material transferring to MOGE |
| 8 | Myanmar MOGE 3 | OP | Exploration | 77.5% | Palang Sophon 10% MOECO 10% WinPreciousResources 2.5% | - | - | <ul style="list-style-type: none">Received final termination agreement from MOGECompleted leftover material transferring to MOGE |

* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship/ JV = PTTEP as Joint Venture Partner

** Sales volume stated at 100% basis/ For Malaysia project, gross production is net off unitization

*** DCQ = Daily Contractual Quantity

Project information 3/5



| | Project | Status* | Phase | PTTEP's Share | Partners <i>(as of September 2021)</i> | | 9M 2021 Average Sales Volume ** | | Q3 2021 Key Activities |
|-------------|-----------------------|---------|-------------|---------------|--|----------------------------------|---------------------------------|--------------|---|
| | | | | | | | Gas (MMSCFD) | Liquid (KBD) | |
| Others SEA | | | | | | | | | |
| 9 | Vietnam 9-2 | JOC | Production | 25% | PetroVietnam Pharos Energy | 50% 25% | 14 | 4 | <ul style="list-style-type: none">• Maintain production level |
| 10 | Vietnam 16-1 | JOC | Production | 28.5% | PetroVietnam Pharos Energy OPECO | 41% 28.5% 2% | 7 | 12 | <ul style="list-style-type: none">• Maintain production level• Drilling operation for 3 wells• Under procurement process for Equipment and Services |
| 11 | Vietnam B & 48/95 | JV | Exploration | 8.5% | PetroVietnam MOECO | 65.88% 25.62% | - | - | <ul style="list-style-type: none">• Negotiation process on commercial terms in order to push forward the Final Investment Decision (FID)• The first production target at the end of 2024 |
| 12 | Vietnam 52/97 | JV | Exploration | 7% | PetroVietnam MOECO | 73.4% 19.6% | - | - | <ul style="list-style-type: none">• Negotiation process on commercial terms in order to push forward the Final Investment Decision (FID)• The first production target at the end of 2024 |
| 13 | Natuna Sea A | JV | Production | 11.5% | Premier Oil KUFPEC Petronas Pertamina | 28.67% 33.33% 15% 11.5% | 201 | 2 | <ul style="list-style-type: none">• Completed drilling 1 well in Q3/2021 with another well drilling in process |
| Middle East | | | | | | | | | |
| 1 | Abu Dhabi Offshore 1 | JV | Exploration | 30% | Eni Abu Dhabi | 70% | - | - | <ul style="list-style-type: none">• Being evaluated for petroleum potential to support future exploration, including G&G report |
| 2 | Abu Dhabi Offshore 2 | JV | Exploration | 30% | Eni Abu Dhabi | 70% | - | - | <ul style="list-style-type: none">• Commencement of 1 exploration well drilling |
| 3 | Abu Dhabi Offshore 3 | JV | Exploration | 30% | Eni Abu Dhabi | 70% | - | - | <ul style="list-style-type: none">• G&G study is on-going |
| 4 | PDO (Block 6) | JOC | Production | 2% | Government of Oman Shell Total | 60% 34% 4% | - | 642** | <ul style="list-style-type: none">• Normal operations with daily production around 600 KBD |
| 5 | Mukhaizna | JV | Production | 1% | Occidental OOCEP Indian Oil Mubadala | 47% 20% 17% 15% | - | 99** | <ul style="list-style-type: none">• Normal operations with daily production around 95 KBD |
| 6 | Oman Onshore Block 12 | JV | Exploration | 20% | Total E&P Oman Block 12 B.V. | 80% | - | - | <ul style="list-style-type: none">• 3D seismic reprocessing (original 3D) in progress• Preparation of 3D seismic acquisition (new 3D) |
| 7 | Oman Block 61 | JV | Production | 20% | BP Makarim Gas Development LLC PC Oman Ventures Limited (PETRONAS) | 40% 30% 10% | 929 | 41 | <ul style="list-style-type: none">• Completed production ramp up as planned |

* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship / / JV = PTTEP as Joint Venture Partner

** Sales volume stated at 100% basis / For PDO (Block 6) and Mukhaizna projects, gross production is net off unitization

| | Project | Status* | Phase | PTTEP's Share | Partners <i>(as of September 2021)</i> | | 9M 2021 Average Sales Volume ** | | Q3 2021 Key Activities |
|---------------------|--------------------------------|---------|-------------|---------------|---|-----------------------------------|---------------------------------|---------------|--|
| | | | | | | | Gas (MMSCFD) | Liquid (KBPD) | |
| Other International | | | | | | | | | |
| 1 | PTTEP Australasia (PTTEP AA) | OP | Exploration | 100% | - | | - | - | <ul style="list-style-type: none">AC/RL7 (Cash Maple) and Oliver (AC/RL12) Field : under way to define proper direction in order to increase development opportunitiesTenacious and Oliver : On-going for well abandonment campaignOther exploration projects: G&G studies |
| 2 | Mozambique Area 1 | JV | Development | 8.5% | Total, Mitsui, ENH, OVL OVRL & Oil India , Bharat | 26.5%,20% 15%, 10% 10%, 10% | - | - | <ul style="list-style-type: none">First Cargo is expected by 2025 (Under further assessment)1st Debt drawdown in project FinanceThe Force Majeure has been declared by the operator for safety reason due to the security incident in PalmaProject management under FM and study of impactsPlan to resume the project after safety security |
| 3 | Algeria 433a & 416b (Bir Seba) | JOC | Production | 35% | PetroVietnam Sonatrach | 40% 25% | - | 16 | <ul style="list-style-type: none">Drill development wellsExisting wells interventionProduction respect OPEC+ policy |
| 4 | Algeria Hassi Bir Rekaiz | OP | Development | 49% | Sonatrach | 51% | - | - | <ul style="list-style-type: none">Drilling development wellsExpected first oil production for the initial phase of around 10,000-13,000 barrels per day (BPD) in 2021 |
| 5 | Mariana Oil Sands | OP | Exploration | 100% | - | | - | - | - |
| 6 | Barreirinhas AP1 | JV | Exploration | 25% | Shell Brasil Mitsui E&P Brasil | 65% 10% | - | - | <ul style="list-style-type: none">Waiting for exploration wells drilling permit from the government |
| 7 | Brazil BM-ES-23 | JV | Exploration | 20% | Petrobras INPEX | 65% 15% | - | - | <ul style="list-style-type: none">Evaluating the petroleum potential for development concept |
| 8 | Mexico block 12 (2.4) | JV | Exploration | 20% | PC Carigali Mexico Ophir Mexico | 60% 20% | - | - | <ul style="list-style-type: none">Drilling exploration wells |
| 9 | Mexico block 29 (2.4) | JV | Exploration | 16.67% | Repsol Mexico PC Carigali Mexico Wintershal DEA | 30% 28.33% 25% | - | - | <ul style="list-style-type: none">Completed drilling of 2 exploration wells in 2020 with successful resultCompleted drilling 2 wells in Q3 2021 |

* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship/ JV = PTTEP as Joint Venture Partner

** Sales volume stated at 100% basis except for Algeria 433a & 416b (production volume)

| | Project | Status* | Phase | PTTEP's Share | Partners (as of September 2021) | 9M 2021 Average Sales Volume ** | | Q3 2021 Key Activities |
|---------------------|----------------------------|-------------|-----------------|---------------|--|---------------------------------|---------------|--|
| | | | | | | Gas (MMSCFD) | Liquid (KBPD) | |
| Other International | | | | | | | | |
| 10 | Block 17/06 | JV | Pre-development | 2.5% | Total Sonangol 30% SSI 30% Acrep 27.5% Falcon Oil 5% 5% | - | - | • Completed Begonia FEED study (in-house) |
| 11 | Potiguar | OP | Production | 50% | Petro reconcavo 50% | - | 0.2 | • Divestment was announced on 30 July 2021, expect completion by October 2021. |
| 12 | Dunga | JV | Production | 20% | Total OOCEP 60% 20% | 2 | 12 | • Continue to curb production per OPEC+ agreement to support price • Procurement process Compression, Separation upgrade and Flare package • Engineering of Sea water pipeline |
| Midstream Project | | | | | | | | |
| 1 | Oman LNG | Shareholder | On line | 2% | Government of Oman 51% Shell 30% Total 5.54% Korea LNG 5% Mitsubishi 2.77% Mitsui 2.77% Itochu 0.92% | - | - | • Normal operations |
| 2 | ADNOC Gas Processing (AGP) | JV | On line | 2% | ADNOC 68% Shell 15% Total 15% | - | -**Q3 | • Perform midstream operation activities • Maintain production and plant integrity with maintenance work as planned • Completion of plant debottlenecking |

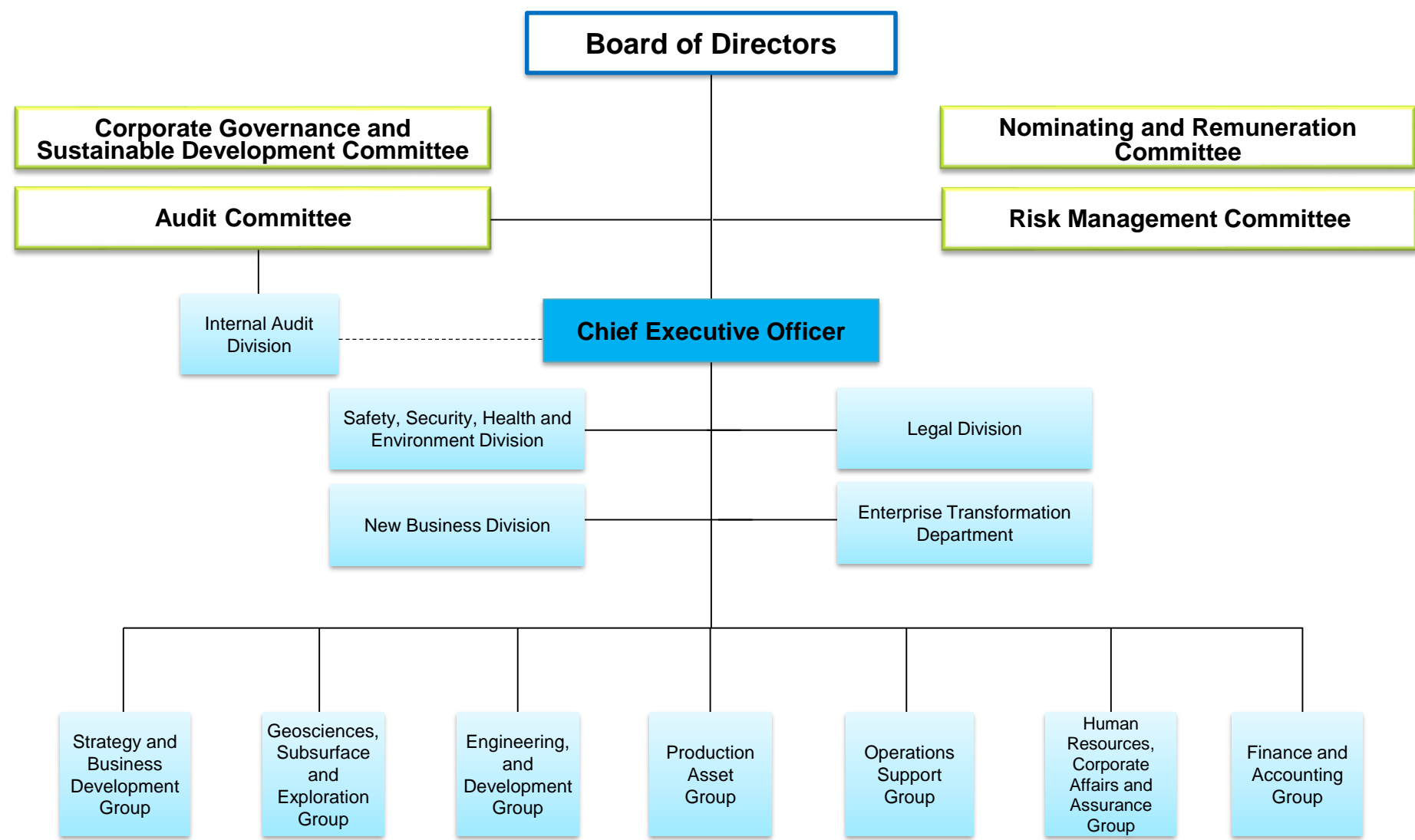
* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship/ / JV = PTTEP as Joint Venture Partner

** Sales volume stated at 100% basis

*** Products are propane, butane and naphtha.

Organization structure (as of 1 October 2021)

Ensuring performance excellence, transparency, and good corporate governance



| Ratio | Formula |
|--------------------------------|---|
| Lifting Cost (\$/BOE) | $(\text{Operating Exp.} - \text{Transportation Cost} - \text{Stock Variation} - \text{Other expenses not related to lifting}) / \text{Production Volume}$ |
| Cash Cost (\$/BOE) | $(\text{Operating Exp.} + \text{Exploration Exp.} + \text{G\&A} + \text{Royalties} + \text{Finance Cost}) / \text{Sales Volume}$ |
| Unit Cost (\$/BOE) | $(\text{Operating Exp.} + \text{Exploration Exp.} + \text{G\&A} + \text{Royalties} + \text{Finance Cost} + \text{DD\&A}) / \text{Sales Volume}$ |
| Reserves Replacement Ratio | $5\text{-Yr Additional Proved Reserves} / 5\text{-Yr Production Volume}$ |
| Reserves Life Index (Year) | $\text{Proved Reserves} / \text{Production Volume}$ |
| Success Ratio | $\text{Number of wells with petroleum discovery} / \text{Total number of exploration and appraisal wells}$ |
| Sales Revenue | $\text{Sales} + \text{Revenue from pipeline transportation}$ |
| EBITDA | $(\text{Sales} + \text{Revenue from pipeline transportation}) - (\text{Operating expenses} + \text{Exploration expenses} + \text{Administrative expenses} + \text{Petroleum royalties and remuneration} + \text{Management's remuneration})$ |
| EBITDA Margin | $\text{EBITDA} / \text{Sales Revenue}$ |
| Return on Equity | $\text{Trailing-12-month net income} / \text{Average shareholders' equity between the beginning and the end of the 12-month period}$ |
| Return on Capital Employed | $(\text{Trailing-12-month net income} + \text{Trailing-12-month Interest Expenses \& Amortization of Bond Issuing Cost}) / (\text{Average shareholders' equity and average total debt between the beginning and the end of the 12-month period})$ |
| Simple Effective Tax Rate | $\text{Income tax expenses} / \text{Income before income taxes}$ |
| Total debt | $\text{Short-term loans from financial institution} + \text{Current portion of long-term debts} + \text{Bonds} + \text{Long-term loans from financial institution}$ |
| Net debt | $\text{Total debt} - \text{Liquidity}$ |
| Debt to Equity | $\text{Total debt} / \text{Shareholders' equity}$ |
| Net Debt to Equity | $\text{Net debt} / \text{Shareholders' equity}$ |
| Total Debt to Capital | $\text{Total debt} / (\text{Total debt} + \text{Shareholders' equity})$ |
| Total Debt to EBITDA | $\text{Total debt} / \text{Trailing-12-month EBITDA}$ |
| Net Debt to EBITDA | $\text{Net debt} / \text{Trailing-12-month EBITDA}$ |
| EBITDA Interest Coverage Ratio | $\text{Trailing-12-month EBITDA} / \text{Trailing-12-month Interest Expenses \& Amortization of Bond Issuing Cost}$ |