



Investor Presentation

Macquarie ASEAN Conference

23 August 2022

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.

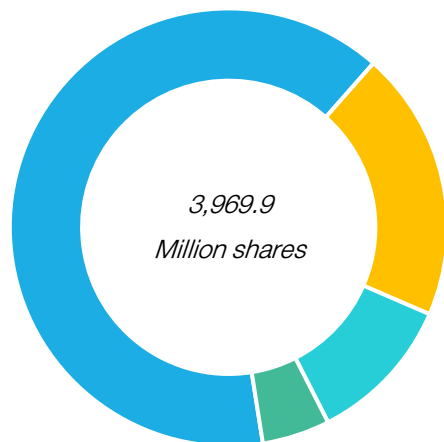


Company Introduction

PTTEP Overview | E&P Flagship of PTT Group



Shareholding Structure



PTT	64%
Local Institutions	20%
Foreign Institutions	11%
Retails	5%

As of latest book closing Aug 2021

Stock Quote
Market Capitalization
Sales Revenue
Cash Cost

PTTEP
> 17 Billion USD
> 90% SEA & ME
~ 15 USD/BOE

Operating Framework



2014-2021



2016-2021



2016-2021



Level "A"



Level "B"

Strategy

E&P Growth

- Create Value from Existing Assets
- Maintain Competitive Unit Cost
- Expand Gas portfolio
- Drive LNG business

Decarbonization

- E&P Net Zero 2050
- GHG Emission Reduction and Technology Development
- CCS Projects
- Renewable and Future energy at operation sites
- Emission Offsetting and Ocean for Life

Beyond E&P

- Technology
- Power Business
- Business Opportunities and Future Energy
- In-house Technology

PTTEP Overview | Diversified asset portfolio



Central Asia

Kazakhstan

- Dunga onshore oil field (acquired from Partex in 2019)

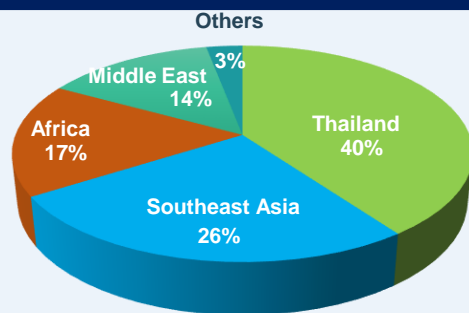
North America

Opportunities in an early phase:

- Deepwater exploration in Mexico

Book Value of Assets by region

Total assets USD 24.19 billion



As of Jun 2022

Africa

An area for growth, key projects include:

- Algeria's Bir Seba oil field with current flow rate of approximately 17 KBPD
- Algeria's Hassi Bir Rakaiz oil field with recent 1st oil production in Jun 22.
- Mozambique LNG project target 1st cargo in late 2025*

Middle East

Strategic Area in Oman and UAE

- 16% of total sales volume (6M2022)
- Oman: 4 onshore blocks including PDO (Block 6), largest producing oil asset, and Block 61, largest tight gas development
- UAE: 3 offshore and 1 onshore exploration blocks

Thailand

Home Base

- 62% of total sales volume (6M2022)
- Key producing assets include G1/61, G2/61, Bongkot, Arthit, Contract 4 and S1
- G1/61 (Erawan) transition completed
- G2/61 (Bongkot) transition in process (1st 200mmscfd commenced in Apr 2022)

Southeast Asia

Strategic Area

- 22% of total sales volume, mainly from Malaysia and Myanmar (6M2022)
- Multiple petroleum discoveries in Malaysia including Lang Lebah in SK410B
- New exploration block in Malaysia, Sabah SB412
- Other producing assets in Vietnam (oil) and Indonesia (gas)

Australia

Potential gas development

- Sizable undeveloped gas resources in Timor Sea

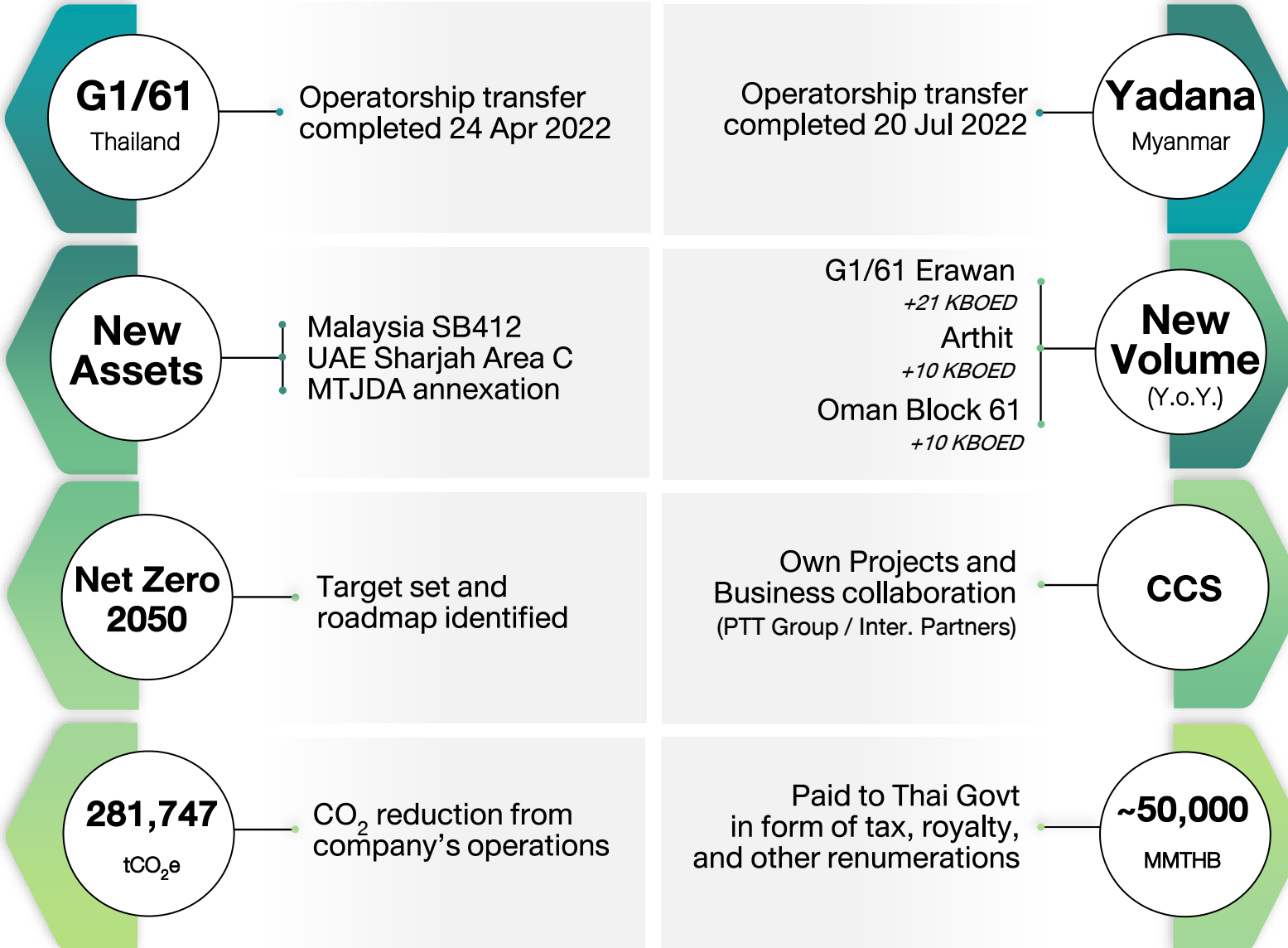
Note: As of June 2022

* Subject to local security situation



Business Update

2022 Half-year Highlights



Safeguard
National energy security

Drive growth
New Assets & Volume

Decarbonization
Net Zero 2050 and CCS

Continuous contribution
Social & Environmental

Strategy Refinement

E&P Growth



Create Value from Existing Assets

Maximize Production
Accelerate Development
Turn Discovery to Production

Competitive Unit Cost

Expand Gas portfolio

Drive LNG business

Decarbonization



E&P Net Zero

GHG Emission Reduction &
Technology Development

CCS Projects

Renewable and Future energy
at operating sites

Emission Offsetting and Ocean for Life

Beyond E&P



Technology

ARV, In-house Tech

Power Business

G2P, L2P, Renewables

Business Opportunities
and Future Energy

CCUS, H2

Key Activities







- G1/61 and Yadana Ops Transfer 
- HBR 1st Oil Phase 1 
- MZB 1st LNG Cargo (Late 2025)
- Develop SK410 LLB (FID 2023)
- Develop HBR Phase 2 (FID 2026)
- Development Sarawak clusters

- CCS at Arthit, Sinphuhom, Lang Lebah
- Energy Efficiency
- Zero Routine Flare
- Reforestation

- Scale up ARV
- Develop G2P (FID 2023)
- Solar S1 (COD early 2023)
- Seeking opportunity in Renewables, CCUS and H2

Projects Update

E&P

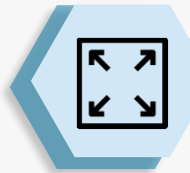
 Thailand	<ul style="list-style-type: none"> Maintain production G1/61 and speed up activities <div> <div>FY2022 200-250 MMSCFD</div> <div>FY2023 300-500 MMSCFD</div> <div>FY2024 500-800 MMSCFD</div> </div> <ul style="list-style-type: none"> Technical review Bidding round 2022 (G1/65, G2/65, G3/65)
 Malaysia	<ul style="list-style-type: none"> SK410B LLB FEED in progress, FID 2023 Participating in Bid Round 2022 Drilling campaigns SK314A, SK405B, SK438 in progress
 Myanmar	<ul style="list-style-type: none"> Yadana operatorship transfer completed 20 July 2022 Yetagun withdrawal completed 31 May 2022
 Mozambique	<ul style="list-style-type: none"> MZA1 pending site re-enter, 1st LNG cargo late 2025
 Algeria	<ul style="list-style-type: none"> HBR 1st Oil commenced Jun 2022, estimated sales volume 7 KBPD during Q3-Q4/22
 UAE	<ul style="list-style-type: none"> Offshore 2 exploration well was successfully drilled and discovered approximately 2.5-3.5 TCF of raw gas Explore farm-in opportunities, new bidding rounds

Beyond E&P

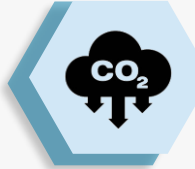
	<p>MOU with Krungthai Bank to pilot ASEAN's first National Corporate Identification (NCID) platform, digitizing the Corporate KYC process for bank account opening</p>	
	<p>Delivered the Green area management web application for the "OUR Khung BangKachao" project, for Chaipattana Foundation to implement Smart Farming</p>	
	<ul style="list-style-type: none"> MOU with Nam Thuan Energy Investment JSC for cooperation on the technology and use of smart drone solutions for renewable energy projects in Vietnam MOU with Thyssenkrupp to expand and develop engineering and industrial markets in Thailand, Germany and Southeast Asia 	
	<p>Launched "Arvic" application for personal health assistant platform that aggregates health data from various sources into one place, "Beaut" for wellness marketplace connecting customers and wellness service providers, and "Nextcercise" for personal exercise tracking</p>	
	<p>Successfully demoed subwater inspection by inhouse tech "XPLOER" to EGAT at Sirindhorn Dam (the world largest floating solar plant)</p>	

CCS – Key contributor to Net Zero

Assessment criteria



Capacity to store CO₂



Injectivity



Containment Effectiveness



Measurement, monitoring, and verification (MMV)

Enablers



Technical
Infrastructure and Technology used for CCS



Business Model & Cost
Investment vs Return,
Possible reduction credits

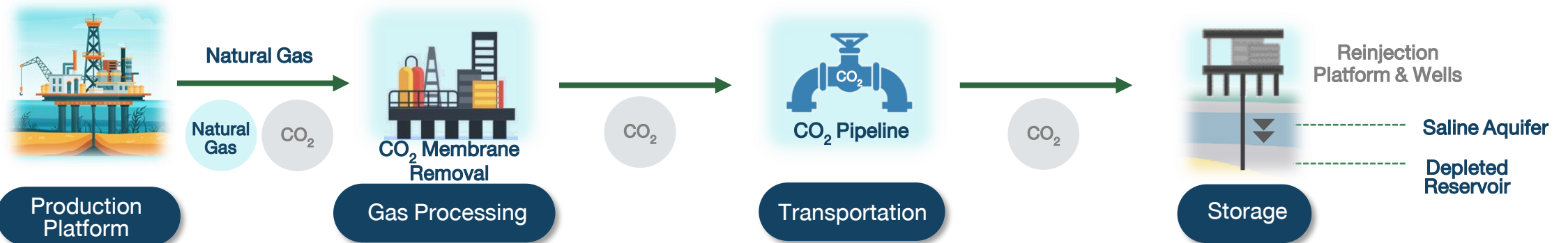


Environment & Public
Public awareness
Environmental impacts monitoring



Policy & Regulations
Govt. Policies, Subsidy, and
Legal framework around CCS

ART CCS for EP NET ZERO





Financial Results

Profit and Loss

Q2/2022 Key events

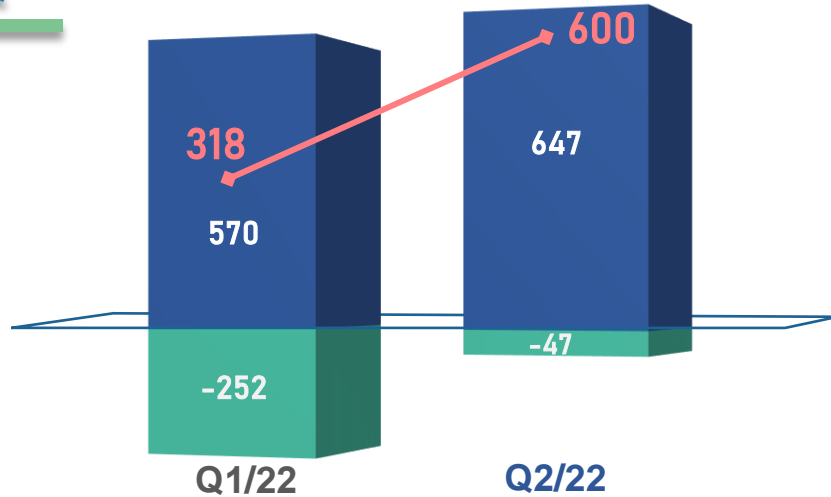
Start-up of G1/61 and G2/61 PSC
On 24 April 2022

Algeria Hassi Bir Rekaiz 1st oil
In June 2022

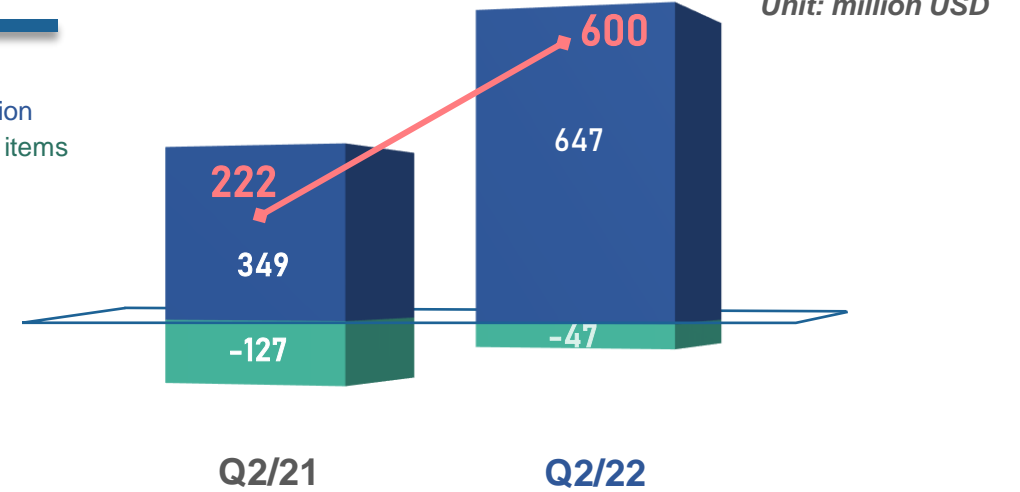
Withdrawal from Yetagun project
in Myanmar, effective 31 May 2022

PTTGL divestment

QoQ

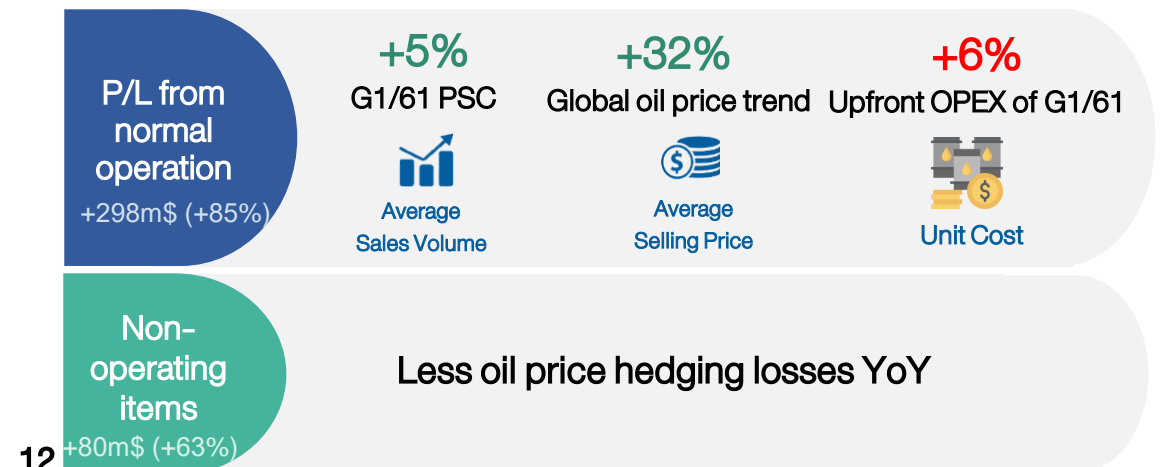
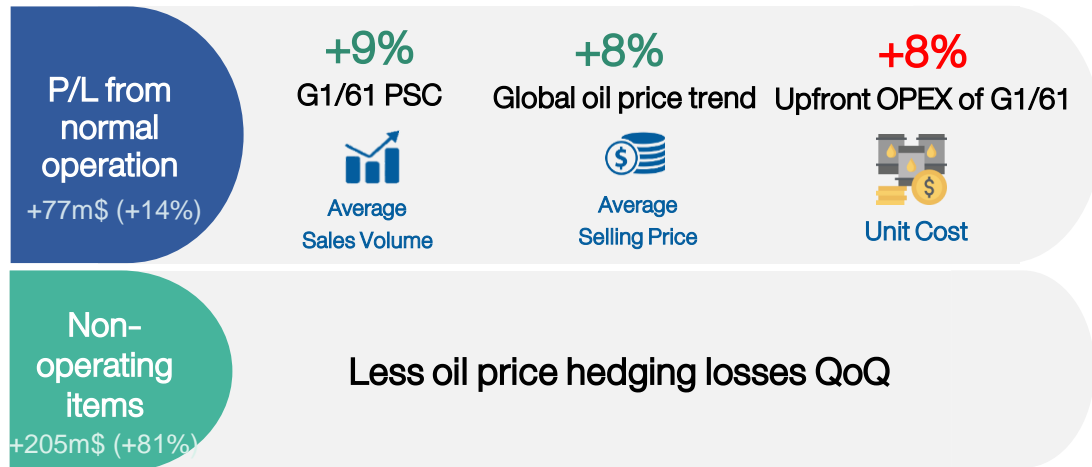


YoY

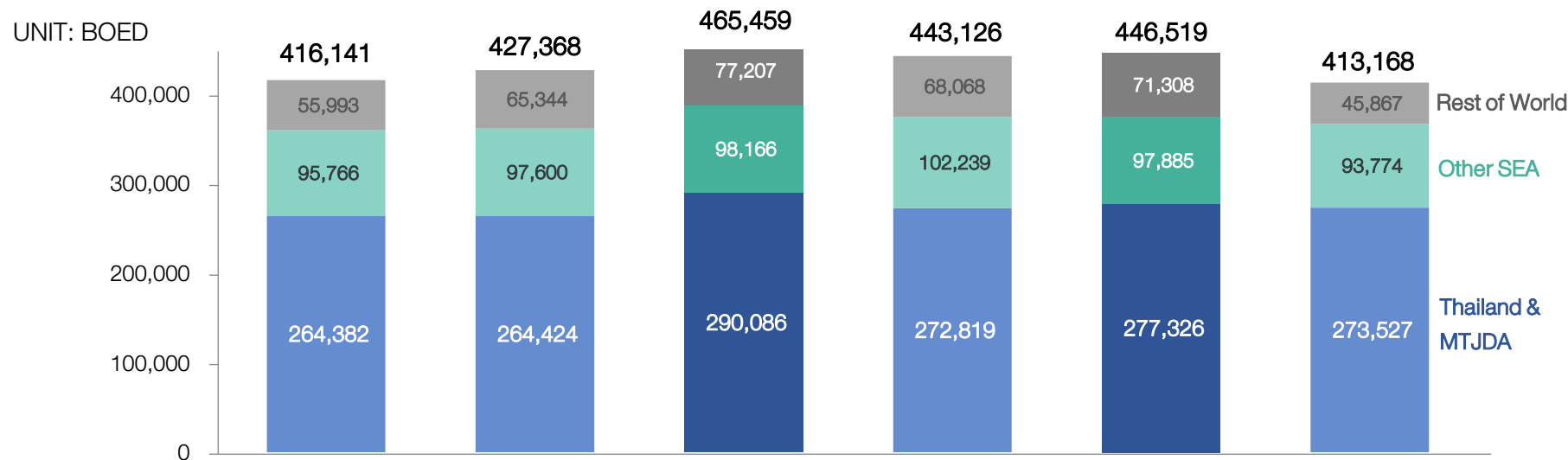


Unit: million USD

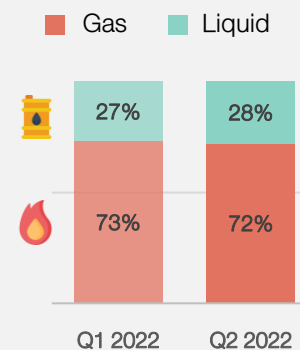
Net Profit
P/L from normal operation
P/L from non-operating items



Volume and Price



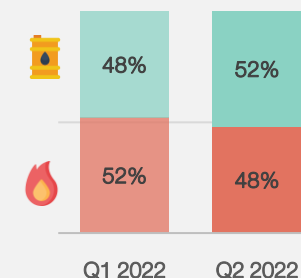
Volume Mix



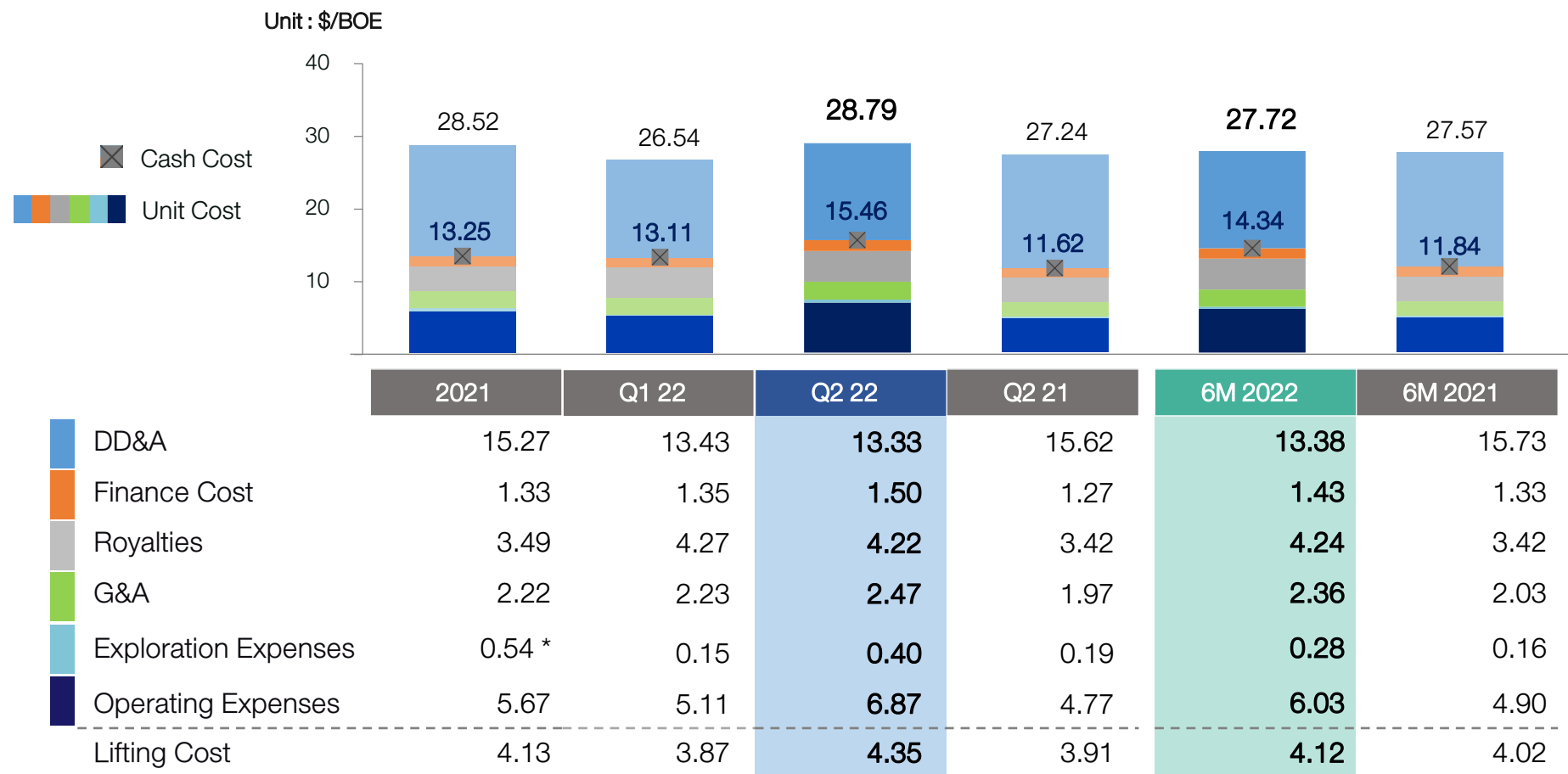
Product Price	2021	Q1 22	Q2 22	Q2 21	6M 2022	6M 2021
Gas (\$/MMBTU)	5.69	6.07	6.10	5.59	6.08	5.60
Liquid (\$/BBL)	66.70	91.19	105.47	63.98	98.72	60.52
Weighted Avg. (\$/BOE)	43.49	51.35	55.61	42.19	53.59	41.35
Avg. Dubai (\$/BBL)	69.39	96.21	108.22	67.02	102.17	63.62
Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil)	64.42	87.96	104.67	61.21	96.32	58.98

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

Revenue Mix



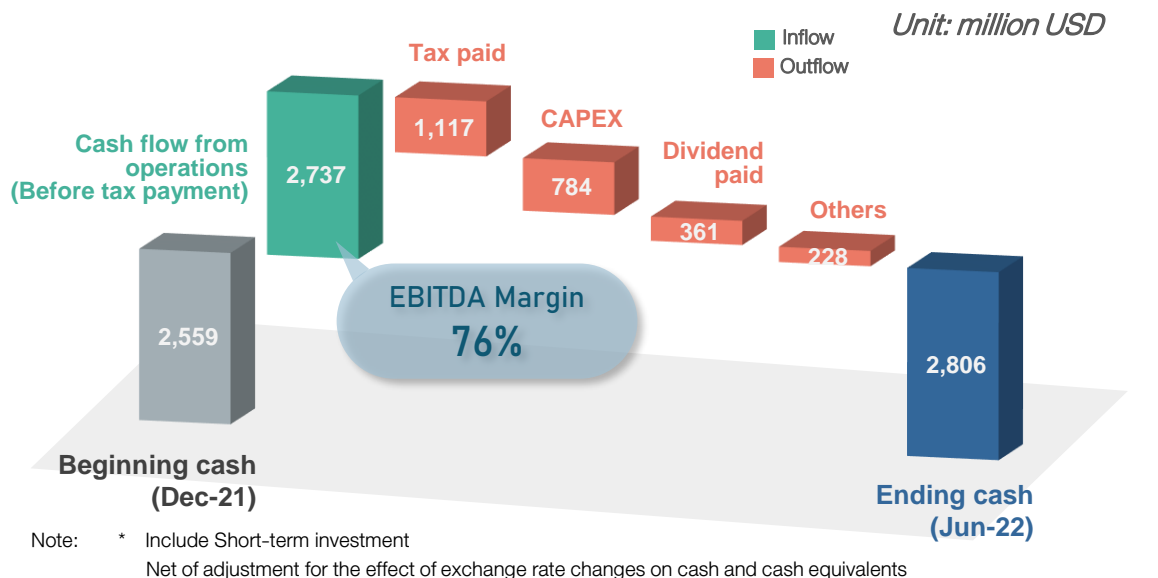
Unit Cost



Note: * Exclude Exploration assets write-off in Brazil for Q2 21, 6M 21, and 2021
 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

Cashflow, Financial Position, and Interim Dividends

Cashflow & Financial Position

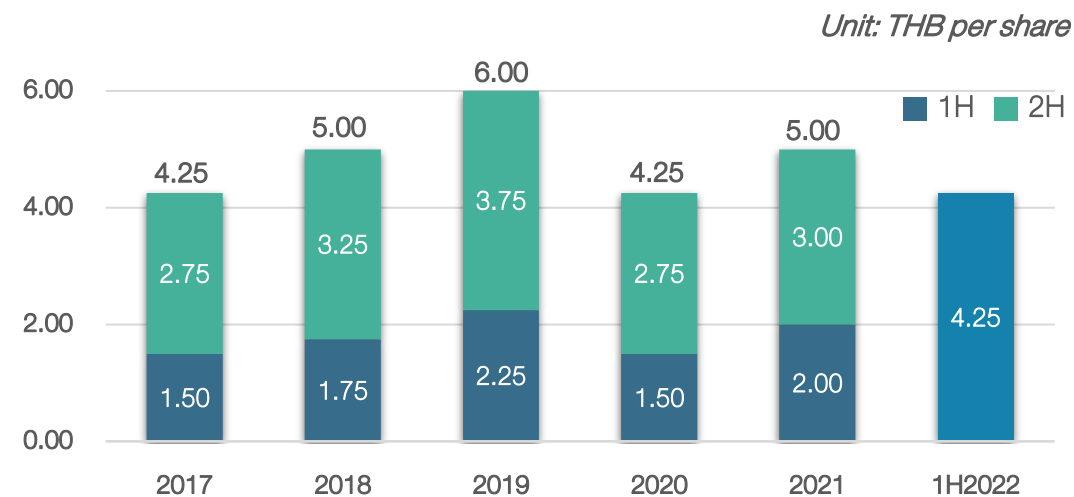


Interim Dividend

XD Date
15 Aug 22

Record Date
16 Aug 22

Payment Date
26 Aug 22







Payout Ratio

% of Net Profit	88	55	49	77	50	50
% of Profit from Normal Operation	63	51	53	71	41	38






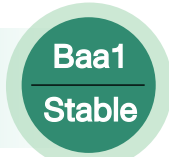


Guidance, Debt Profile and Ratings

Outlook

		Q3 2022	FY 2022
Sales Volume (KBOED)		~481	~465
Gas Price (US\$/MMBTU)		~6.4	~6.4
Unit Cost (US\$/BOE)		~29-30	
Profitability (EBITDA Margin)		70-75%	

* Based on average Dubai oil price in 2022 at 99 \$/BBL

Ratings

 	  <p>BBB stand-alone rating</p>
  <p>Baa2 stand-alone rating</p>	  <p>BBB stand-alone rating</p>

Debt Profile

	2021	Q2' 2022
Debt to Equity	0.33	0.33
Debt to EBITDA	0.80	0.69
Average Cost of Debt	3.38% p.a.	3.73% p.a.
Average Loan Life	12.7 Yrs	13.4 Yrs
Interest Rate (Fixed : Float)	83:17	83:17



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Supplementary information

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Results | Profit and Loss Statement

Unit: million USD

	Q2 22	Q1 22	%QoQ	Q2 21	%YoY	6M 22	6M 21	%YTD	FY2021
Total Revenues	2,469	2,083	19%	1,767	40%	4,543	3,546	28%	7,314
Sales ⁽¹⁾	2,383	2,030	17%	1,729	38%	4,413	3,120	41%	6,731
Sales Volume (BOED) ⁽²⁾	465,459	427,368	9%	443,126	5%	446,519	413,168	8%	416,141
Sales Price (US\$/BOE)	55.61	51.35	8%	42.19	32%	53.59	41.35	30%	43.49
Gain from a bargain purchase	-	-	-	-	-	-	350	(100%)	342
Others ⁽³⁾	86	53	62%	39	>100%	130	76	71%	241
Total Expenses	1,882	1,776	+6%	1,548	22%	3,649	2,953	24%	6,118
Major Expenses:									
Operating Expenses	291	197	48%	193	51%	488	367	33%	861
Exploration Expenses	17	6	>100%	7	>100%	23	156	(85%)	226
G&A	112	93	20%	83	35%	205	158	30%	355
DD&A	565	517	9%	629	(10%)	1,082	1,176	(8%)	2,202
Loss on Financial Instruments	-	245	(100%)	125	(100%)	237	223	6%	234
Impairment Loss on Assets	-	-	-	-	-	-	-	-	183
Income Tax Expenses	610	497	23%	321	90%	1,106	513	>100%	1,287
Share of profit (loss) from associates and JV	13	11	18%	2	>100%	24	5	>100%	15
Net Profit	600	318	89%	222	>100%	918	598	54%	1,211
Profit (Loss) from normal operation	647	570	14%	349	85%	1,217	631	93%	1,479
Profit (Loss) from non-operating items	(47)	(252)	81%	(127)	(63%)	(299)	(33)	>100%	(268)
Non-operating items breakdown:									
Oil Price Hedging	(38)	(240)	84%	(141)	73%	(278)	(248)	(12%)	(284)
Tax from Effect of FX	(11)	(2)	(>100%)	-	(100%)	(13)	(9)	(44%)	(10)
Effect from FX and others	2	(10)	>100%	14	(86%)	(8)	19	(>100%)	12
Impairment Loss on Assets	-	-	-	-	-	-	-	-	(183)
Exploration assets write-off	-	-	-	-	-	-	(145)	100%	(145)
Gain from a bargain purchase	-	-	-	-	-	-	350	(>100%)	342

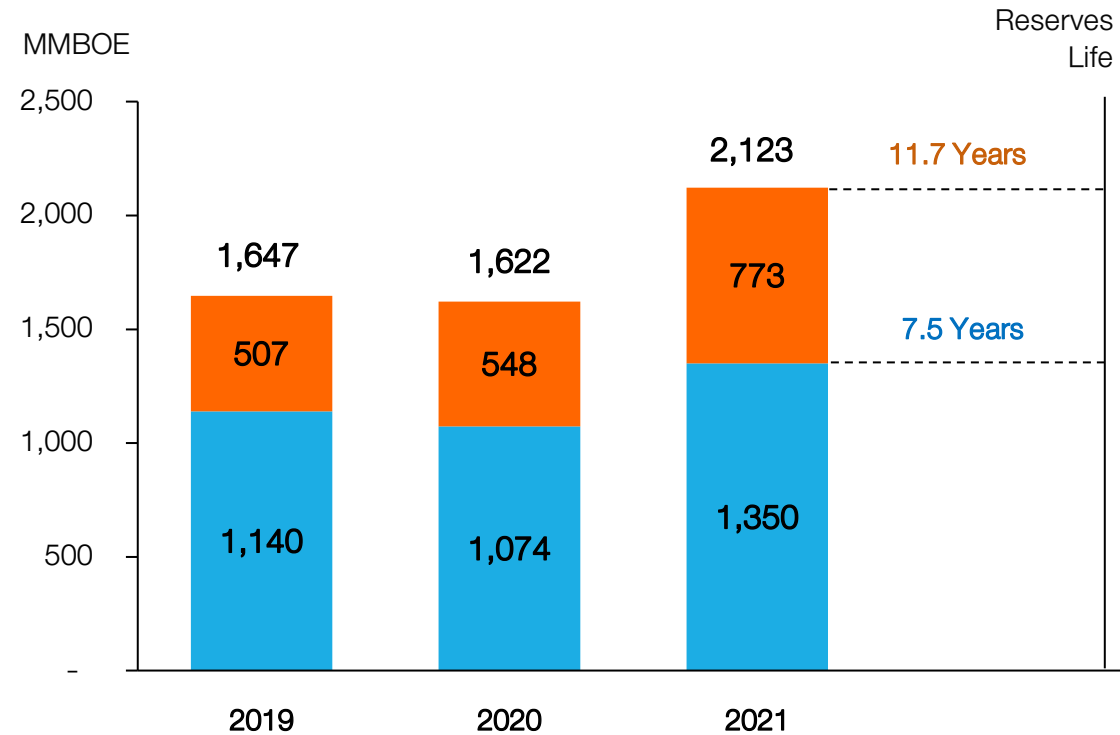
Note:

(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.

PTTEP Overview | Reserves



■ Proved (P1) ■ Probable (P2)

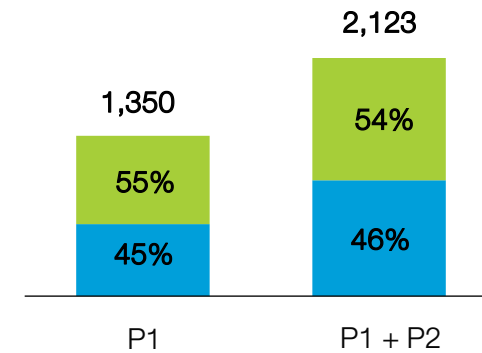
5-Year Average Proved Reserves Replacement Ratio (RRR)

2019	2020	2021
1.5X	1.5X	1.9X

- Based on total production of natural gas, condensate, and crude oil (including LPG) of 495 KBOED for the year ended December 31, 2021
- Figures include reserves from equity method

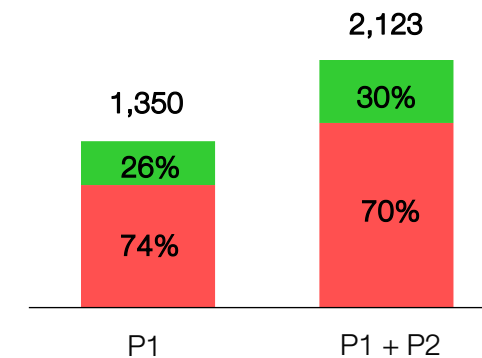
2021 by Geography

■ Domestic ■ International

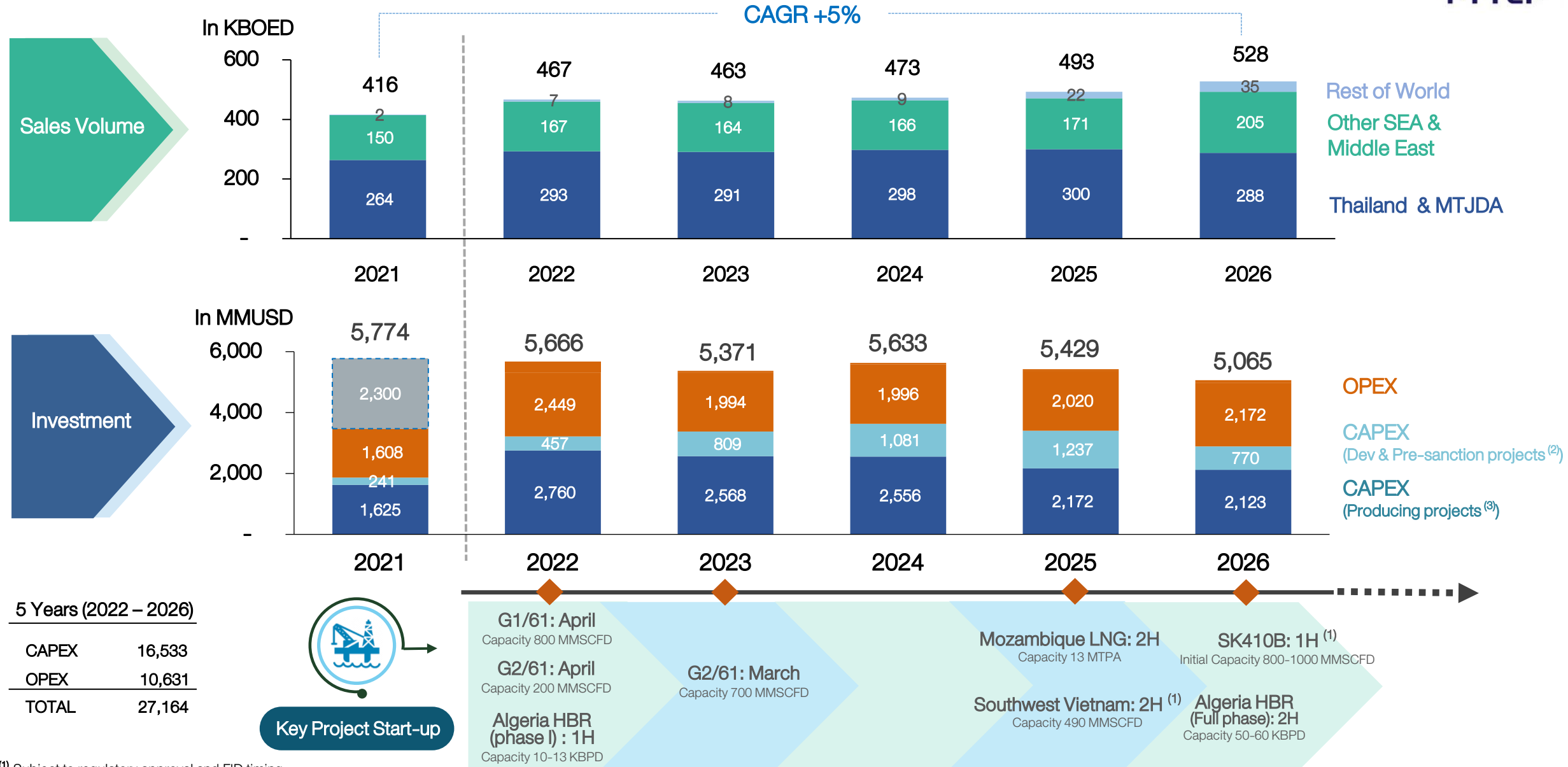


2021 by Product Type

■ Gas ■ Liquid



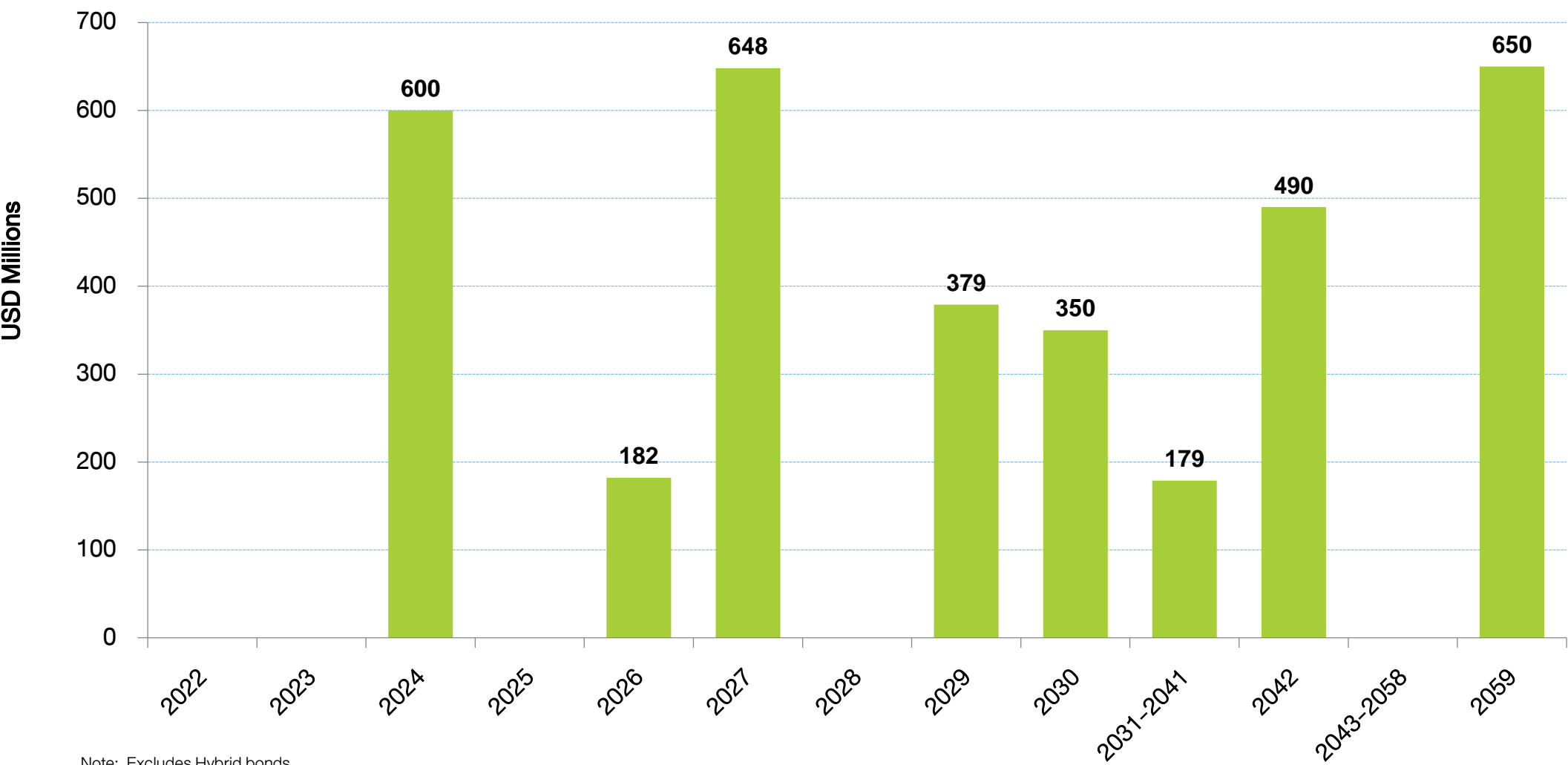
Finance | 5-year Sales Volume & Investment Budget (announced December 2021)



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



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

Our Net Zero Ambition

2020

Base Year

2030

30%

GHG Intensity*
Reduction

2040

50%

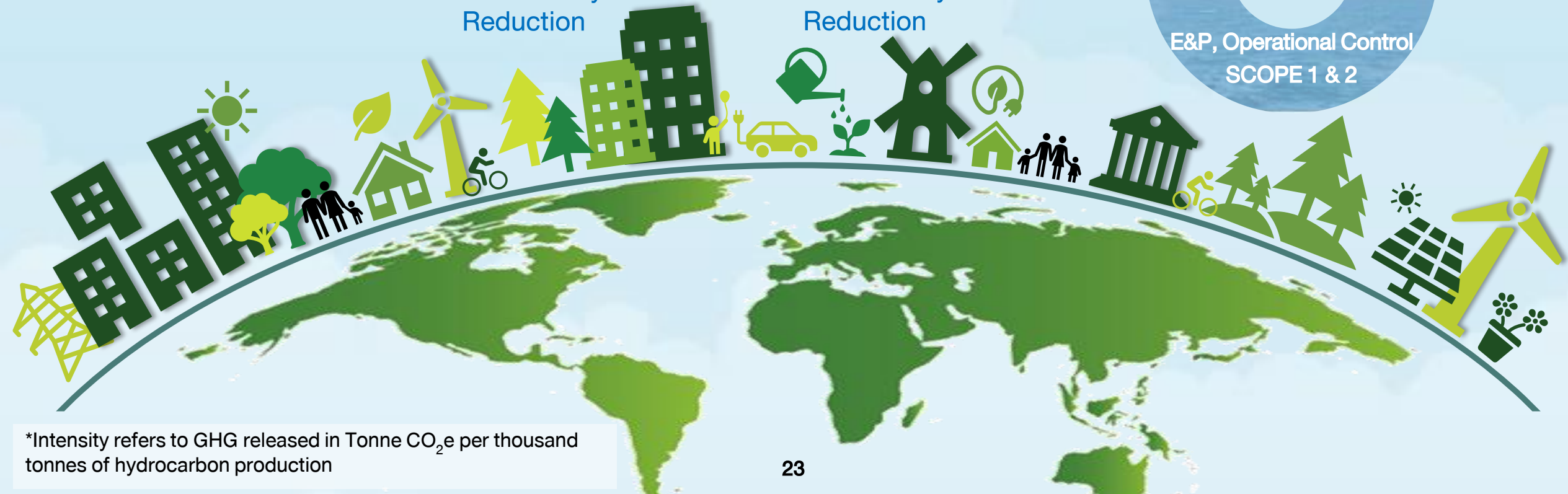
GHG Intensity
Reduction

2050

NET ZERO

Greenhouse Gas Emissions

E&P, Operational Control
SCOPE 1 & 2



*Intensity refers to GHG released in Tonne CO₂e per thousand tonnes of hydrocarbon production

SD & ESG | Disclosure and Ratings



ESG Standards

GRI

Global Reporting Initiative Reporting Standards (GRI Standards)

Oil and Gas Sector Disclosures (OGSD)

ESG Ratings	<div><div><div>👍</div><div><div>S&P Global Ratings</div><div>ESG Rating</div></div></div><div><div>100</div><div>80</div><div>60</div><div>40</div><div>20</div></div><div><div><div>PTTEP</div><div>Woodside</div><div>TotalEnergies</div><div>Hess</div><div>Shell</div><div>REPSOL</div><div>bp</div><div>equinor</div><div>eni</div><div>Chevron</div><div>ExxonMobil</div><div>Santos</div><div>PetroChina</div></div></div></div>
	<div><div><div>MSCI</div><div>ESG Rating</div></div><div><div>AAA</div><div>AA</div><div>A</div><div>BBB</div><div>BB</div><div>B</div><div>CCC</div></div><div><div><div>equinor</div><div>Woodside</div><div>Hess</div><div>REPSOL</div><div>Santos</div><div>PTTEP</div><div>bp</div><div>eni</div><div>TotalEnergies</div><div>ExxonMobil</div><div>Chevron</div><div>PetroChina</div></div></div></div>
	<div><div><div>Moody's</div><div>ESG Credit Impact</div></div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div><div>PTTEP</div><div>eni</div><div>Woodside</div><div>Hess</div><div>equinor</div><div>Shell</div><div>bp</div><div>Chevron</div><div>ExxonMobil</div><div>REPSOL</div><div>TotalEnergies</div></div></div></div>
	<div><div><div>CDP</div><div>DISCLOSURE INSIGHT ACTION</div><div>Climate Change</div></div><div><div>A</div><div>A-</div><div>B</div><div>B-</div><div>C</div><div>C-</div><div>D</div><div>D-</div><div>No Response</div></div><div><div><div>equinor</div><div>REPSOL</div><div>bp</div><div>eni</div><div>TotalEnergies</div><div>Hess</div><div>PTTEP</div><div>Shell</div><div>Woodside</div><div>Chevron</div><div>ExxonMobil</div><div>Santos</div><div>PetroChina</div></div></div></div>
	<div><div><div>SUSTAINALYTICS</div><div>a Morningstar company</div><div>ESG Risk Rating</div></div><div><div>0-10</div><div>10-20</div><div>20-30</div><div>30-40</div><div>40+</div></div><div><div><div>Woodside</div><div>REPSOL</div><div>PTTEP</div><div>eni</div><div>TotalEnergies</div><div>Hess</div><div>equinor</div><div>Shell</div><div>bp</div><div>ExxonMobil</div><div>Santos</div><div>Chevron</div><div>PetroChina</div></div></div></div>
	<div><div>Source: S&P Global, MSCI, Moody's, CDP, SUSTAINALYTICS' websites</div></div>

SD & ESG Update

Decarbonization

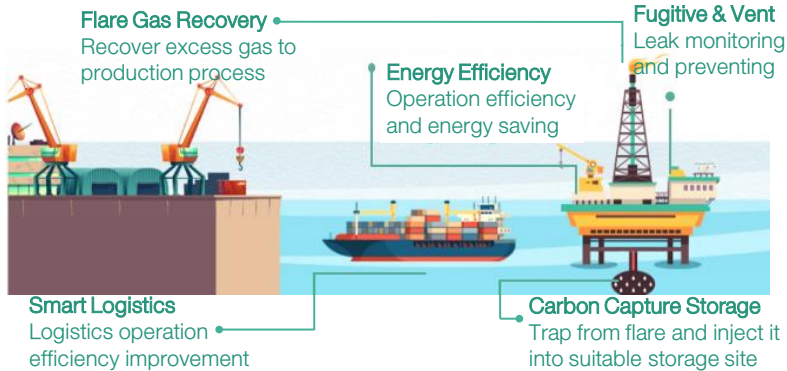
GHG Intensity Reduction Target
25% By 2030 (2012 base year)

Net Zero By 2050

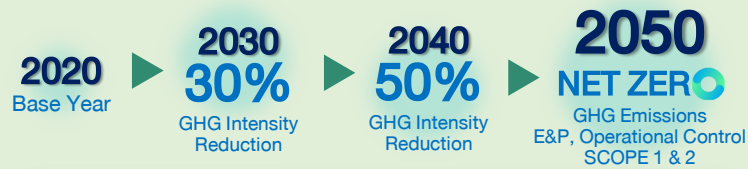
◆ PROGRESS ◆

Reduction of GHG Emission Intensity

As of Q2/2022, **25.2% Reduction** (2012 base year)
(0.28 MMTCO₂e Reduction since Jan 2022)



EP Net Zero



Exploring for Lower Carbon E&P Portfolio

EP Production and Planet in Balance

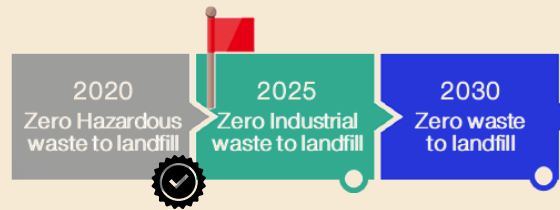
Circular Model

Zero Waste to Landfill by 2030

≥50% of Main Structure Reuse by 2030

◆ PROGRESS ◆

Waste to Landfill



Upcycling High Volume Waste

Sand to Zeolite: Completed prototype study result to turn sand waste from petroleum production at Zawtika project to nano silica and zeolite with good moisture absorption rate



Oil sludge conversion to Graphene: Completed lab scale unit fabrication



Ocean for Life

Net Positive Impact

of Biodiversity & Ecosystem Services in Offshore Operations vs baseline by 2030

≥50% Increase in Local community income vs baseline by 2030

◆ PROGRESS ◆

Ocean Health & Biodiversity Monitoring



MOU signed with Hydro-Informatics Institute (HII) on Ocean Data Platform

Blue Carbon Initiatives on mangrove, seagrass, seaweed, seashell and coral to potentially support GHG offsetting and increasing biodiversity



Ramp Up CSR around Ocean Flagship Projects



• 2 Aquatic Animal Hatchery Learning Centers Established (Phetchaburi and Prachuap Khiri Khan)

• More than 10 km² Conservation Area & Fish Home

• Seafood Product Value Enhancement to improve community income

SD Update – Ocean for Life



TARGET:

Net Positive Impact

of Biodiversity & Ecosystem Services
in Offshore Operations
(Compare to 2019 base year)
by 2030

≥50%

Increase Community Income for Local
Community that Participated in our
Program
(Compare to Before Project Implementation)
by 2030

Guardian of the Ocean



**CLEAN & FRIENDLY
OPERATION**

**OCEAN HEALTH &
BIODIVERSITY
MONITORING**

**RAMP UP CSR
AROUND OCEAN**

PROGRESS



MOU signed with Hydro-
Informatics Institute (HII) to
Develop the Ocean Data Platform and
Ensure Sustainable Marine Resources



Ocean Health & Biodiversity Monitoring

Blue Carbon Initiatives on mangrove, seagrass, seaweed, seashell and coral to potentially support GHG offsetting and increasing biodiversity



Ramp Up CSR around Ocean Flagship Projects



**Ocean Waste
Management**

68,488 kg.
Waste Collected
(Accumulated 99,570 Kg.)



**Mangrove
Forestation**

1,000 Rais with
2,750 tCO₂
Absorption



**Aquatic Animal
Hatchery
Learning Center**

2 New Centers
Established
(Accumulated 8 Centers)



**Sea Turtle
Conservation**

Renovated Buildings
and Provided Medical
Equipment in
3 Provinces



**Coastal
Conservation
Area & Fish Home**

17 Locations in
9 provinces
(Accumulated 10.3 Km²)



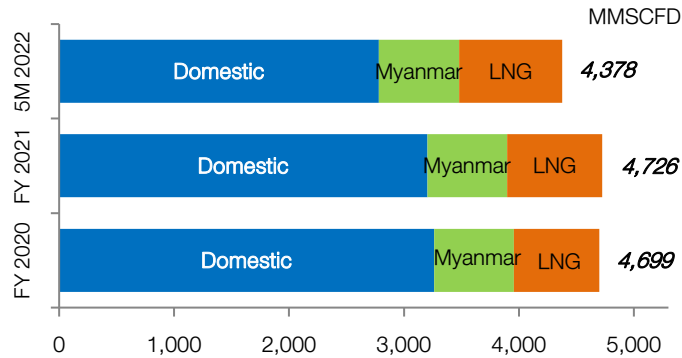
**Seafood Product
Value Enhancement**

48% of Community
Income Increased
from 2 Provinces

Information as of July 2022

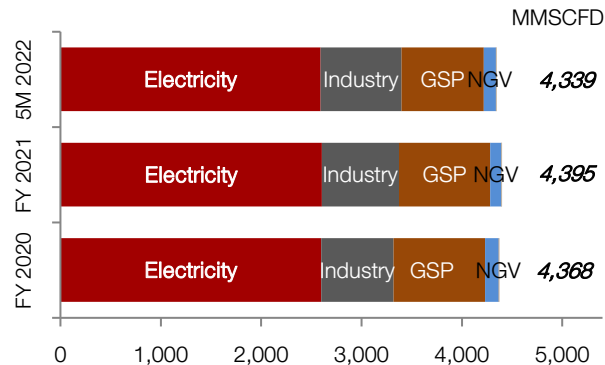
Thailand Energy Overview

Natural Gas Supply

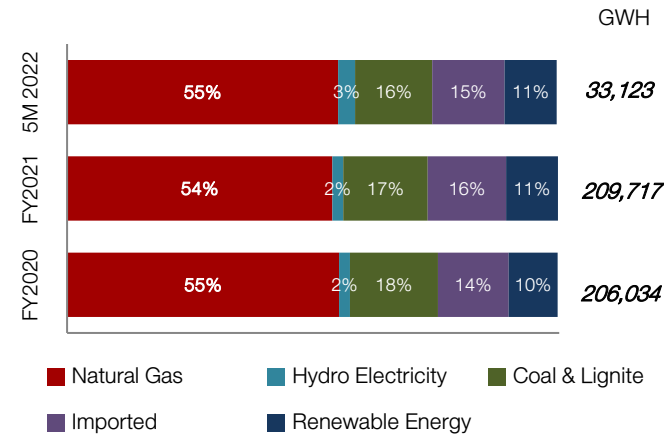


- Increase in energy demand & become closer to demand before COVID-19 pandemic, along with high level of energy prices
- As of May 2022, compared with the same period of last year: significantly declined in domestic supply, while gas from Myanmar and LNG imports remained constant.

Natural Gas Consumption

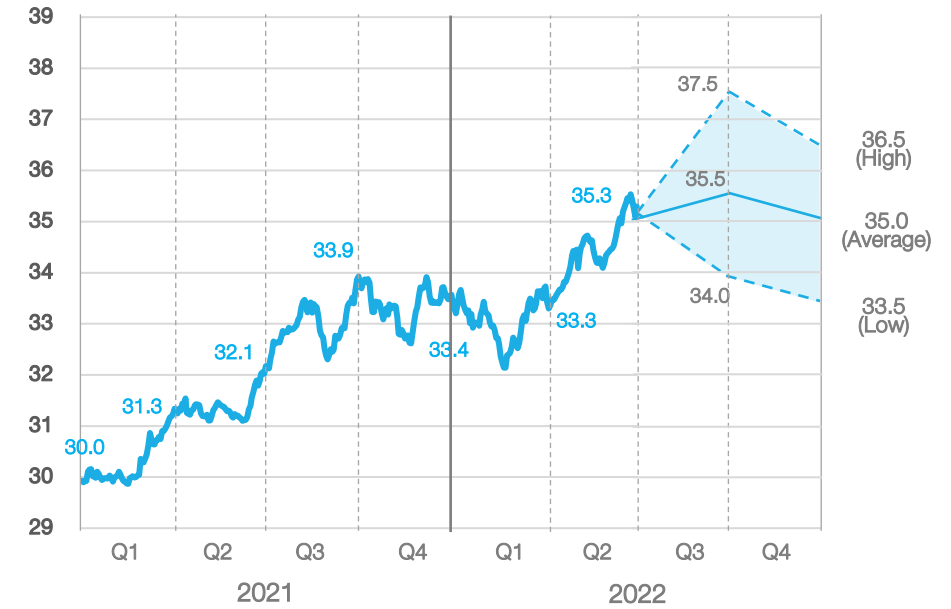


Electricity Generation



Source: Energy Policy and Planning Office (EPPO)

Exchange Rate Movement (USD/THB)



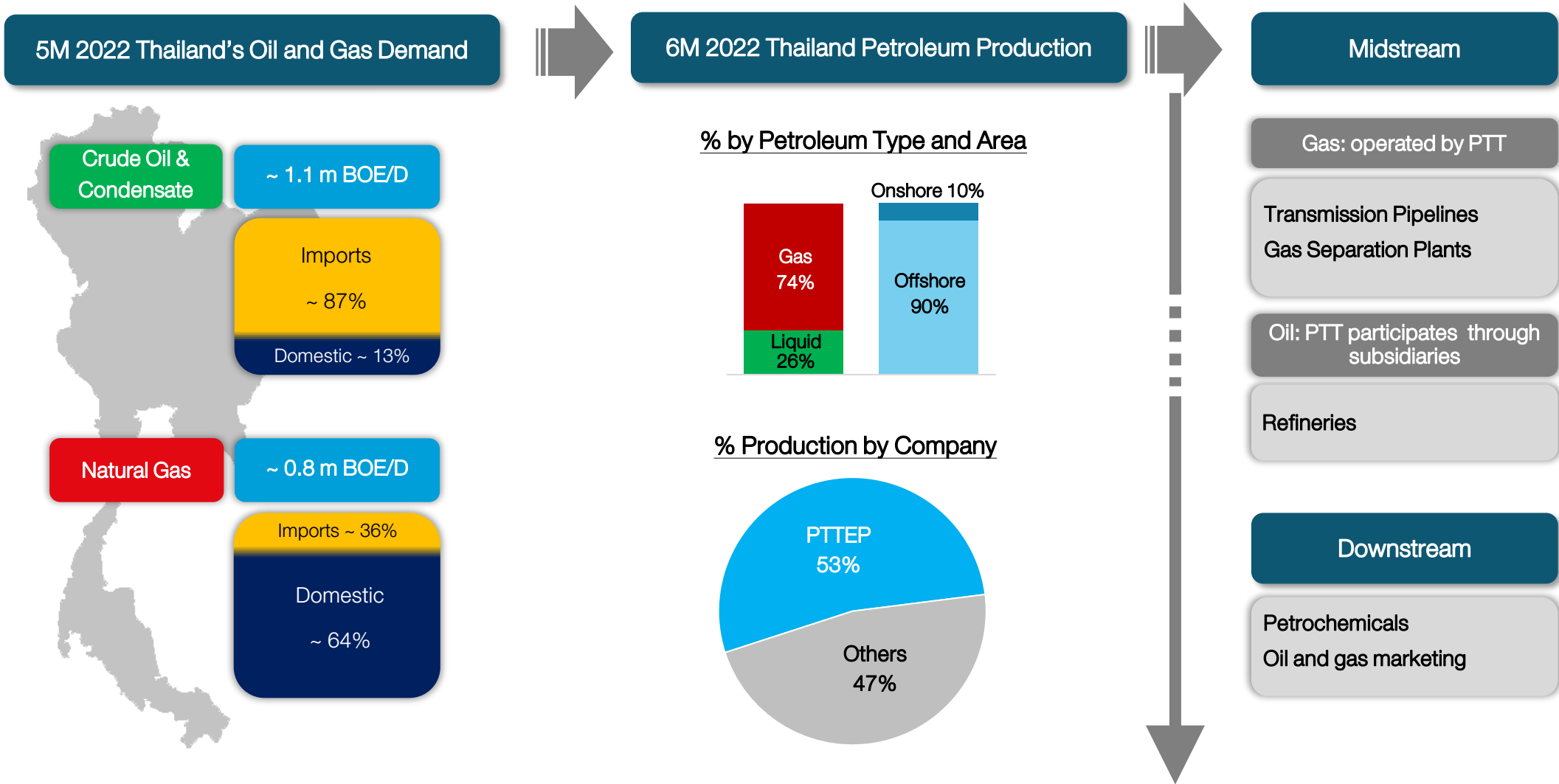
Consensus on the exchange rate mostly depends on

- General investor risk-off sentiment from persistent inflation and supply chain disruptions
- Bank of Thailand and Federal Reserve monetary policy tightening schedule
- Thailand tourism recovery as lockdown measures ease and countries reopen

Source: Bank of Thailand, Bloomberg

Forecast based on Bloomberg Consensus as of 14 July 2022

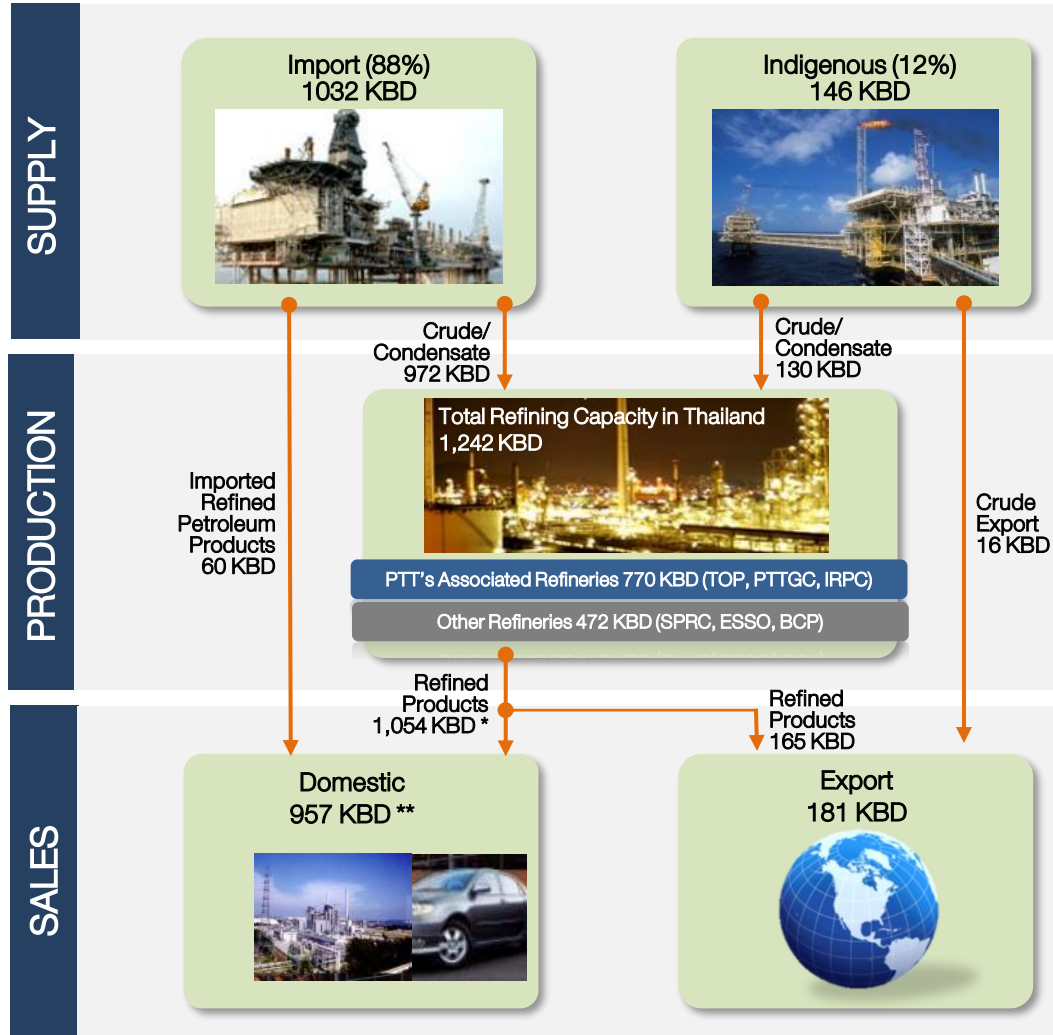
Thailand | Energy Value Chain



Thailand | Oil and Gas Balance

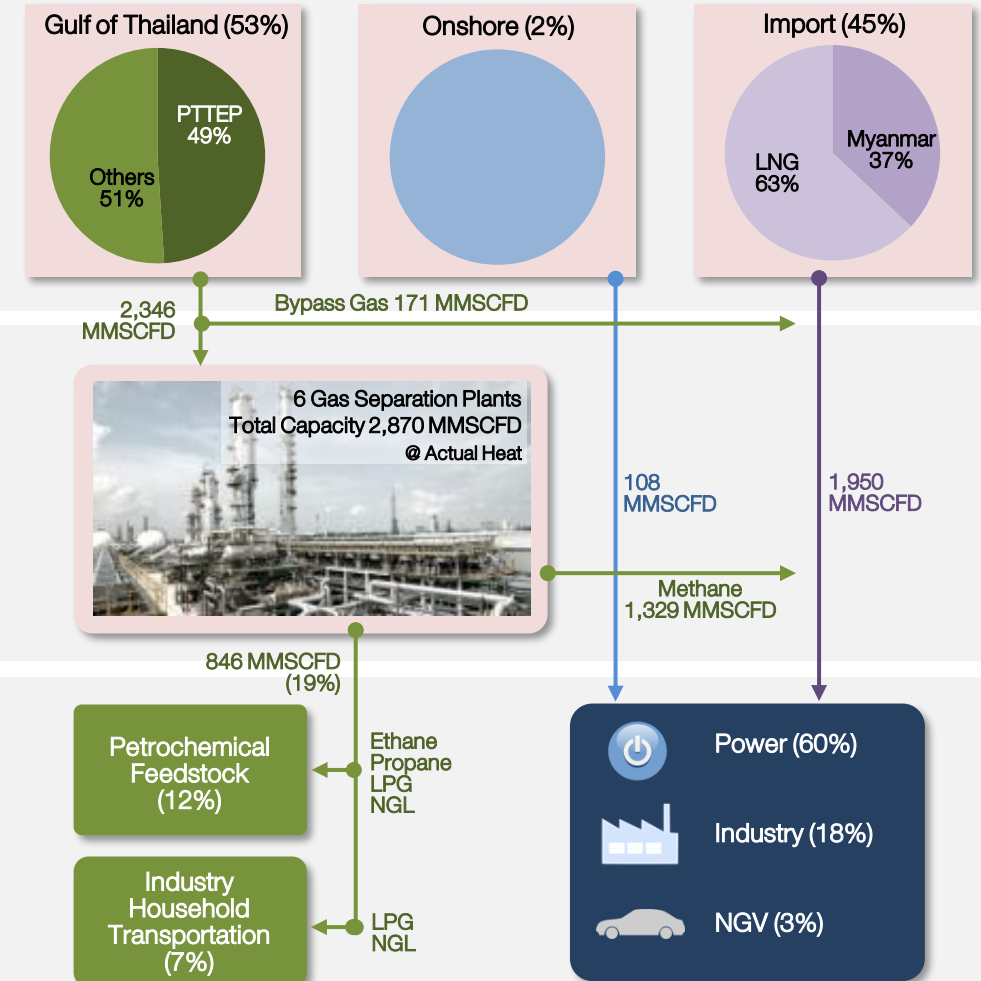
Oil Balance***

Maintains stability supply through adequate refining capacity



Natural Gas Balance****

Main driver of the Thailand economy



Source: PTT

Note: * Refined product from refineries = 971 KBD, including domestic supply of LPG from GSPs and Petrochemical Plants = 83 KBD

** Not included Inventory

*** Information as of 3M 2022

**** Information as of 3M 2022

MMSCFD @ Heating Value 1,000 Btu/ft³

Projects | Thailand, Myanmar and Malaysia

Myanmar

Production

Zawtika (80% WI)

Operate Zawtika project, start up in March 2014 with current gas supply of 322 MMSCFD for 6M2022

Yadana (37.1% WI)

Become an operator of Yadana project on July 20, 2022

Exploration

M3 (100% WI)

Awaiting development

Thailand

Production / Ramp-up Projects

Bongkot (66.6667% WI)

Average natural gas and condensate sales volume of 751 MMSCFD and 20 KBPD in 6M2022

S1 (100% WI)

The largest onshore crude oil production field in Thailand with 6M2022 average crude oil sales volume of 25 KBPD

Arthit (80% WI)

Average sales volume in 6M2022 was 287 MMSCFD of natural gas and 16 KBPD of condensates

Contract 4 (60% WI)

Average sales volume in 6M2022 was 393 MMSCFD of natural gas and 15 KBPD of condensate

G1/61 (60% WI)

- Operatorship transfer completed. First year production rate of 200-250MMSCFD.
- Sole investment 100%

G2/61 (100% WI)

- GBN transition completed. Production rate at 200 MMSCFD



● Production phase
● Exploration phase

Malaysia

Production

Block K Project :

Kikeh (56% WI) , Siakap North-Petai (SNP) (22.4% WI) and Gumusut-Kakap (GK) (7.2% WI)

- Average production volume in 6M2022 was 25 KBPD of crude oil and 28 MMSCFD of natural gas

SK309 and SK311 Project : (59.5% WI)

For East Patricia field (42% WI)

- Average production volume in 6M2022 was 198 MMSCFD of natural gas and 18 KBPD of condensates and crude

Block H Project :

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

- First gas early February 2021 with average production volume in 6M2022 at 256 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

Sabah SB412

- New block awarded from 2021 Malaysia Bid Round
- The project is under preparation for Exploration activities.

Note: WI – working interest

Projects | Vietnam and Indonesia



- Production projects
- Pre sanction projects

Vietnam



Vietnam 16-1 (28.5% WI)

- Average sales volume of crude oil was 13 KBPD in 6M2022
- In 2022, the project has plan to drill 2 development wells in Q3 - Q4/2022.



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 187 MMSCFD in 6M2022



UAE

Abu Dhabi Offshore 1,2 and 3

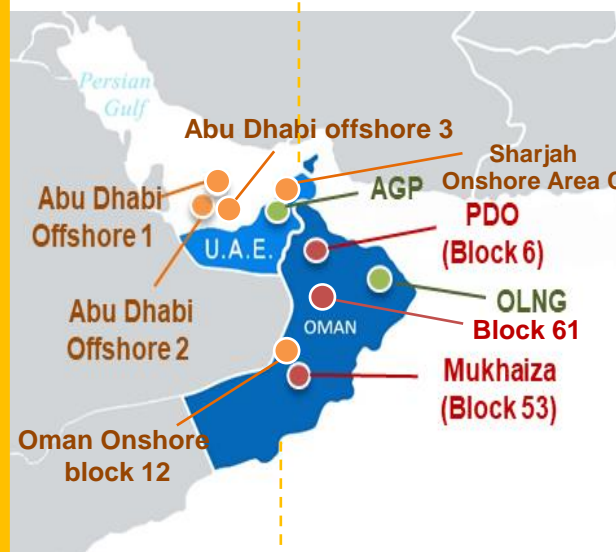
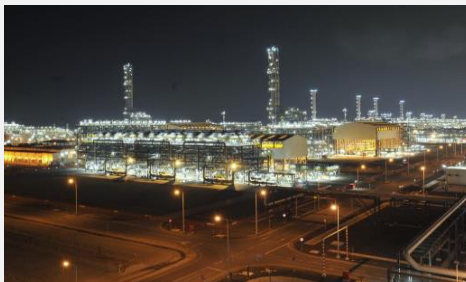
- High potential prospective resources with significant sizeable discoveries
- Located North-west of Abu Dhabi Emirates, United Arab Emirates
- Granted the award for exploration in January 2019 - 2020
- Operated by Eni Abu Dhabi B.V. (70% interest)

Sharjah Onshore Area C

- High gas & condensate potential with the possibility of integrating with surrounding fields
- Located in the central part of Sharjah Emirate, United Arab Emirates
- Operated by Eni Abu Dhabi B.V. (50% 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)



*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 660 KBPD for 6M2022
- 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)

Mukhaizna (Block 53)

- Largest single onshore producing field in Oman
- Average oil production volume of 94 KBPD for 6M2022
- 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 65,000 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)

Projects | Rest of the World

Algeria

Bir Sebah

- Block 433a & 416b
- PVEP 40% (operator), PTTEP 35%

Hassi Bir Rekaiz

- Blocks 443a, 424a, 414ext & 415ext for Crude Oil.
- Sonatrach 51% (operator), PTTEP 49%

Mozambique

Mozambique Area 1

- High quality reservoirs capable up to 200mmscfd per well
- LNG capacity 13.1 MTPA (2 trains)
- TotalEnergies 26.5% (operator), PTTEP 8.5%
- Construction phase

Brazil

Barreirinhas AP1

- 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

Mexico

Mexico block 12 (2.4)

- Non-operating partner with 20% participating interest
- Located in the Mexican Ridges, western Gulf of Mexico
- Currently evaluating the petroleum potential for further way forward

Mexico block 29 (2.4)

- Non-operating partner with 16.67% participating interest
- Located in the Campeche, southern Gulf of Mexico
- 2 successful deep-water oil discoveries in May 2020
- Currently undergoing a pre-development study

Projects Details | Thailand



	Project Name	Status	Phase	Participating Interest* (%)		Sales Vol Gas (MMSCFD)	Sales Vol Liquid (KBPD)	Latest Status
1	Arthit	Operator	Production	PTTEP Chevron MOECO	80% 20% 4%	289	16	<ul style="list-style-type: none"> • Increase Sales Gas DCQ from 220 to 280 MMSCFD in Feb'22 • Select as a pilot project for CCS and completed CCS conceptual study in Q2 2022
2	B6/27	Operator	Production	PTTEP	100%	-	-	<ul style="list-style-type: none"> • Decommissioning activities in progress
3	B8/32 and 9A	JV	Production	PTTEP Chevron MOECO KrisEnergy Palang Sophon	25.01% 51.66% 16.71% 4.63% 2%	47	10	<ul style="list-style-type: none"> • Ensure gas deliverability level at DCQ • Drill development wells
4	Bongkot	Operator	Production	PTTEP TotalEnergies	66.67% 33.33%	751	20	<ul style="list-style-type: none"> • Block 15 ended the concession on 23 Apr 2022 and operates under G2/61 project. Block 16 and Block 17 has maintained production until end of concession on 7 March 2023. • Infills drilling for BKT Sole investment • Maintain production level as planned • Carry out wells plug and abandonment
5	Contract 4 (Pailin)	JV	Production	PTTEP Chevron MOECO	60% 35% 5%	398	16	<ul style="list-style-type: none"> • Ensure gas deliverability level at DCQ • Drill development wells
6	E5	JV	Production	PTTEP EXXON MOBIL	20% 80%	7	-	<ul style="list-style-type: none"> • Ensure gas deliverability level at DCQ

Note: * PTTEP denotes respective PTTEP subsidiaries participating in the project
 ** Sales volume represent **average volume for 100% of the project during 6M2022**
 *** Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship/ JV = PTTEP Joint Venture Partner
 **** DCQ = Daily Contractual Quantity

Projects Details | Thailand



	Project Name	Status	Phase	Participating Interest* (%)		Sales Vol Gas (MMSCFD)	Sales Vol Liquid (KBPD)	Latest Status
7	G4/43	JV	Production	PTTEP Chevron MOECO Palang Sophon	21.375% 51% 21.25% 6.375%	1	2	<ul style="list-style-type: none"> Deliver production volumes as nominated from the buyer and oil production as planned
8	G4/48	JV	Production	PTTEP Chevron MOECO	5% 71.25% 23.75%	1	-	<ul style="list-style-type: none"> Decommissioning activities in progress
9	L53/43 & L54/43	OP	Production	PTTEP	100%	-	0.5	<ul style="list-style-type: none"> Completed 6-well drilling in Apr'22 and commence 1st oil production in Jun'22 Plan for production facilities debottlenecking and relocation projects to handle additional gross production from new wells.
10	PTTEP1	OP	Production	PTTEP	100%	-	0.2	<ul style="list-style-type: none"> Maintain production plateau Relocate facilities from PTTEP1 to L54/43 to be minimized CAPEX cost
11	S1	OP	Production	PTTEP	100%	8	Crude: 25 KBPD LPG: 175 MTon/Day	<ul style="list-style-type: none"> Production optimization and long-term development are on-going for business plan and work activities identification.
12	Sinphuhorm	OP	Production	PTTEP Apico EXXON MOBIL	55% 35% 10%	96	0.3	<ul style="list-style-type: none"> Ensure gas deliverability at CDC high nomination On-going the drilling campaign for 2 development wells in Q2 - Q4 2022
13	L22/43	OP	Production	PTTEP	100%	-	-	<ul style="list-style-type: none"> On-going execution plan of total 5 drilling wells scheduled in Q4 2022. Plan to prepare for the resume production or exit strategy in future after drilling results confirmed.

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Projects Details | Thailand



	Project Name	Status	Phase	Participating Interest* (%)		Sales Vol Gas (MMSCFD)	Sales Vol Liquid (KBPD)	Latest Status
14	MTJDA	JOC	Production	PTTEP Petronas Carigali	50% 50%	258	8	<ul style="list-style-type: none"> Facility Readiness for Additional Gas to Thailand for 30-50 MMSCFD
15	G9/43	OP	Exploration	PTTEP	100%	-	-	<ul style="list-style-type: none"> Activity suspended
16	G1/61 (Erawan)	OP	Production	PTTEP Mubadala	60% 40%	88	2	<ul style="list-style-type: none"> Successful transition to become operator on 24 April 2022 Production ramp-up in progress with installing 2 WHPs of Phase 1A Development and another 6 WHPs to be installed within 2022.
17	G2/61 (Bongkot)	OP	Production	PTTEP	100%	80	3	<ul style="list-style-type: none"> Normal operations

Note: * PTTEP denotes respective PTTEP subsidiaries participating in the project

** Sales volume represent **average volume for 100% of the project during 6M2022**

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Projects Details | Myanmar, Malaysia, Other SEA



	Project Name	Status	Phase	Participating Interest* (%)		Sales Vol Gas (MMSCFD)	Sales Vol Liquid (KBPD)	Latest Status
1	Block K (Malaysia) - Kikeh - Siakap-North Petai field (SNP) - Gumusut-Kakap field (GK)	OP (Kikeh & SNP) JV (GK)	Production	PTTEP	Kikeh 56% SNP 22.4% GK 7.17%	28 **	25 **	<ul style="list-style-type: none"> The inspection and maintenance were completed as planned and the Project continued drilling well in GK as part of field development phase 3
2	Sarawak SK309 and SK311 (Malaysia)	OP	Production	PTTEP	42 – 59.5%	198 **	18 **	<ul style="list-style-type: none"> 2 new infill wells have completed drilling, with expected production in Jul'22
3	Block H (Malaysia)	OP	Production	PTTEP	42 – 56%	256 **	-	<ul style="list-style-type: none"> Capable of producing up to 270 MMSCFD.
4	Malaysia – Other projects	OP	Exploration	PTTEP	42.5 - 80% (varied by permits)	-	-	<ul style="list-style-type: none"> <u>SK410B</u> : Plan to drill 1 wildcat well in Jul'22 and expected FID in 2023 for LLB <u>SK417</u> : Planning and preparing for the drilling of appraisal well (NANGKA-2) in 2022 exploration campaign <u>SK405B, SK438, SK314A</u> : Well planning in progress <u>SB412</u> : Preparing for exploration activities and focusing on seismic activity
5	Yadana (Myanmar)	JV	Production	PTTEP TotalEnergies Chevron MOGE	25.5% 31.24% 28.26% 15%	734	-	<ul style="list-style-type: none"> Became a new operator on 20 July 2022 Activities for transition performed in a safe and orderly manner for smooth and continuity of operation
6	Zawtika : M9 & a part of M11 (Myanmar)	OP	Production	PTTEP Myanma Oil and Gas Enterprise (MOGE)	80% 20%	322	-	<ul style="list-style-type: none"> Maintain operations. Some activities are delayed due to COVID-19 and political situation.
7	M3 (Myanmar)	OP	Exploration	PTTEP	100%	-	-	<ul style="list-style-type: none"> Waiting for approval of PSC Supplementary Closely monitor the situations to assess risks, as well as to prepare for an appropriate action plan
8	MD-7 (Myanmar)	OP	Exploration	PTTEP TotalEnergies	50% 50%	-	-	<ul style="list-style-type: none"> Termination process in progress

Note: * PTTEP denotes respective PTTEP subsidiaries participating in the project

** Sales volume represent **average volume for 100% of the project during 6M2022** except Malaysia (Production volume 100%)/ For Block K, gross production is net off unitization

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

Projects Details | Myanmar, Malaysia, Other SEA



	Project Name	Status	Phase	Participating Interest* (%)		Sales Vol Gas (MMSCFD)	Sales Vol Liquid (KBPD)	Latest Status
9	9-2 (Vietnam)	JOC	Production	PTTEP	25%	12	3	<ul style="list-style-type: none"> Maintain production level Procurement for drilling campaign of 1 development well
				Vietnam Oil and Gas Group	50%			
				Pharos Energy	25%			
10	16-1 (Vietnam)	JOC	Production	PTTEP	28.5%	4	13	<ul style="list-style-type: none"> Maintain production level Procurement for drilling campaign of 2 development wells
				Vietnam Oil and Gas Group	41%			
				Pharos Energy	28.5%			
				OPECO	2%			
11	B & 48/95 (Vietnam)	JV	Exploration	PTTEP	8.5%	-	-	<ul style="list-style-type: none"> Monitoring Power Plants progress Negotiation process on commercial terms in order to push forward the Final Investment Decision (FID) The first production target at the end of 2025
				Vietnam Oil and Gas Group	65.88%			
				MOECO	25.62%			
12	52/97 (Vietnam)	JV	Exploration	PTTEP	7%	-	-	<ul style="list-style-type: none"> Monitoring Power Plants progress Negotiation process on commercial terms in order to push forward the Final Investment Decision (FID) The first production target at the end of 2025
				Vietnam Oil and Gas Group	73.4%			
				MOECO	19.6%			
13	Natuna Sea A (Indonesia)	JV	Production	PTTEP	11.5%	187	1	<ul style="list-style-type: none"> Maintain production level
				Premier Oil	28.67%			
				KUFPEC	33.33%			
				Petronas	15%			
				Pertamina	11.5%			

Note: * PTTEP denotes respective PTTEP subsidiaries participating in the project

** Sales volume represent **average volume for 100% of the project during 6M2022**

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Projects Details | Middle East



	Project Name	Status	Phase	Participating Interest* (%)		Sales Vol Gas (MMSCFD)	Sales Vol Liquid (KBPD)	Latest Status
1	Abu Dhabi Offshore 1 (UAE)	JV	Exploration	PTTEP	30%	-	-	• G&G study is on-going.
				Eni Abu Dhabi	70%			
2	Abu Dhabi Offshore 2 (UAE)	JV	Exploration	PTTEP	30%	-	-	• Completed the first exploration well drilling and wait for the result
				Eni Abu Dhabi	70%			
3	Abu Dhabi Offshore 3 (UAE)	JV	Exploration	PTTEP	30%	-	-	• G&G study is on-going.
				Eni Abu Dhabi	70%			
4	Sharjah Onshore Area C (UAE)	JV	Exploration	PTTEP	25%	-	-	• Completed the acquisition of 25% interest on 1 March 2022
				Eni Abu Dhabi	50%			• Seismic activity is on-going.
				SNOC	25%			
5	PDO Block 6 (Oman)	JOC	Production	PTTEP	2%	-	659 **	• Normal operations
				Government of Oman	60%			
				Shell	34%			
				TotalEnergies	4%			
6	Mukhaizna (Oman)	JV	Production	PTTEP	1%	-	94 **	• Normal operations
				Occidental	47%			
				OOCEP	20%			
				Indian Oil	17%			
				Mubadala	15%			

Note: * PTTEP denotes respective PTTEP subsidiaries participating in the project
 ** Sales volume represent **average volume for 100% of the project during 6M2022** except for PDO Block 6 and Mukhaizna (Production volume 100%)
 *** Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship/ JV = PTTEP Joint Venture Partner

Projects Details | Middle East



	Project Name	Status	Phase	Participating Interest* (%)		Sales Vol Gas (MMSCFD)	Sales Vol Liquid (KBPD)	Latest Status
7	Oman Onshore Block 12	JV	Exploration	PTTEP	20%	-	-	<ul style="list-style-type: none"> 3D seismic reprocessing (original 3D) in progress 3D seismic acquisition (new 3D) is in process for tendering
				Total E&P Oman Block 12 B.V.	80%			
8	Oman Block 61	JV	Production	PTTEP	20%	1,504	61	<ul style="list-style-type: none"> Normal operations
				BP	40%			
				Makarim Gas Development LLC	30%			
				PC Oman Ventures Limited (PETRONAS)	10%			

Note: * PTTEP denotes respective PTTEP subsidiaries participating in the project

** Sales volume represent **average volume for 100% of the project during 6M2022**

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

Projects Details | Rest of the World



	Project Name	Status	Phase	Participating Interest* (%)		Sales Vol Gas (MMSCFD)	Sales Vol Liquid (KBPD)	Latest Status
1	PTTEP Australasia (PTTEP AA)	OP	Exploration	PTTEP	90%-100%	-	-	<ul style="list-style-type: none"> Cash Maple (AC/RL7) and Oliver (AC/RL12) : Defining proper direction in order to increase development opportunities Tenacious and Oliver : Well abandonment in progress Other exploration projects: G&G studies
2	Mozambique Area 1	JV	Development	PTTEP TotalEnergies, Mitsui, ENH, OVL OVL & Oil India , Bharat	8.5% 26.5%,20% 15%, 10% 10%, 10%	-	-	<ul style="list-style-type: none"> First Cargo is expected by 2025, subject to local security situation 1st Debt drawdown in project Finance Force Majeure was declared by the operator for safety reason due to the security incident in Palma. Plan to resume construction activities after security and safety restored
3	Algeria 433a & 416b (Bir Seba)	JOC	Production	PTTEP PetroVietnam Sonatrach	35% 40% 25%	-	17 **	<ul style="list-style-type: none"> Drilling of 8 infilled wells are on-going. Target to tie-in and produce new wells starting from Q4 2022 Existing wells intervention
4	Algeria Hassi Bir Rekaiz	OP	Production	PTTEP Sonatrach	49% 51%	-	-	<ul style="list-style-type: none"> 1st oil production June 1, 2022 for the initial phase target 10,000-13,000 BPD Sales starting Q3 2022 Continue remaining drilling and construction work to be completed Phase 1 in Q2 2023
5	Mariana Oil Sands (Canada)	OP	Exploration	PTTEP	100%	-	-	<ul style="list-style-type: none"> Reclamation activities in progress to return the area to Canadian government
6	Brazil Barreirinhas AP1	JV	Exploration	PTTEP Shell Brasil Mitsui E&P Brasil	25% 65% 10%	-	-	<ul style="list-style-type: none"> Pending exploration wells drilling permit from the government

Note: * PTTEP denotes respective PTTEP subsidiaries participating in the project

** Sales volume represent **average volume for 100% of the project during 6M2022** except for Algeria 433a & 416b (production volume)

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

Projects Details | Rest of the World



	Project Name	Status	Phase	Participating Interest* (%)		Sales Vol Gas (MMSCFD)	Sales Vol Liquid (KBPD)	Latest Status
7	Brazil BM-ES-23	JV	Exploration	PTTEP	20%	-	-	• Evaluating the petroleum potential for development concept
				Petrobras	65%			
				INPEX	15%			
8	Mexico block 12 (2.4)	JV	Exploration	PTTEP	20%	-	-	• Evaluating the remaining petroleum potential for future block way forward
				PC Carigali Mexico	60%			
				Ophir Mexico	20%			
9	Mexico block 29 (2.4)	JV	Exploration	PTTEP	16.67%	-	-	• Pre-development study in progress
				Repsol Mexico	30%			
				PC Carigali Mexico	28.33%			
				Wintershal DEA	25%			
10	Block 17/06 (Angola)	JV	Pre-development	PTTEP	2.5%	-	-	• FID plan in Q3 2022 for Begonia Oil Field
				TotalEnergies	30%			
				Sonangol	30%			
				SSI	27.5%			
				Acrep	5%			
				Falcon Oil	5%			
11	Dunga (Kazakhstan)	JV	Production	PTTEP	20%	2	12	• Procurement process and design engineering compression package and Gathering Lines
				TotalEnergies	60%			• Continue Engineering of Utilities upgrade packages
				OOCEP	20%			• Fabrication of Flare packages

Note: * PTTEP denotes respective PTTEP subsidiaries participating in the project

** Sales volume represent **average volume for 100% of the project during 6M2022**

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

Projects Details | Mid-stream



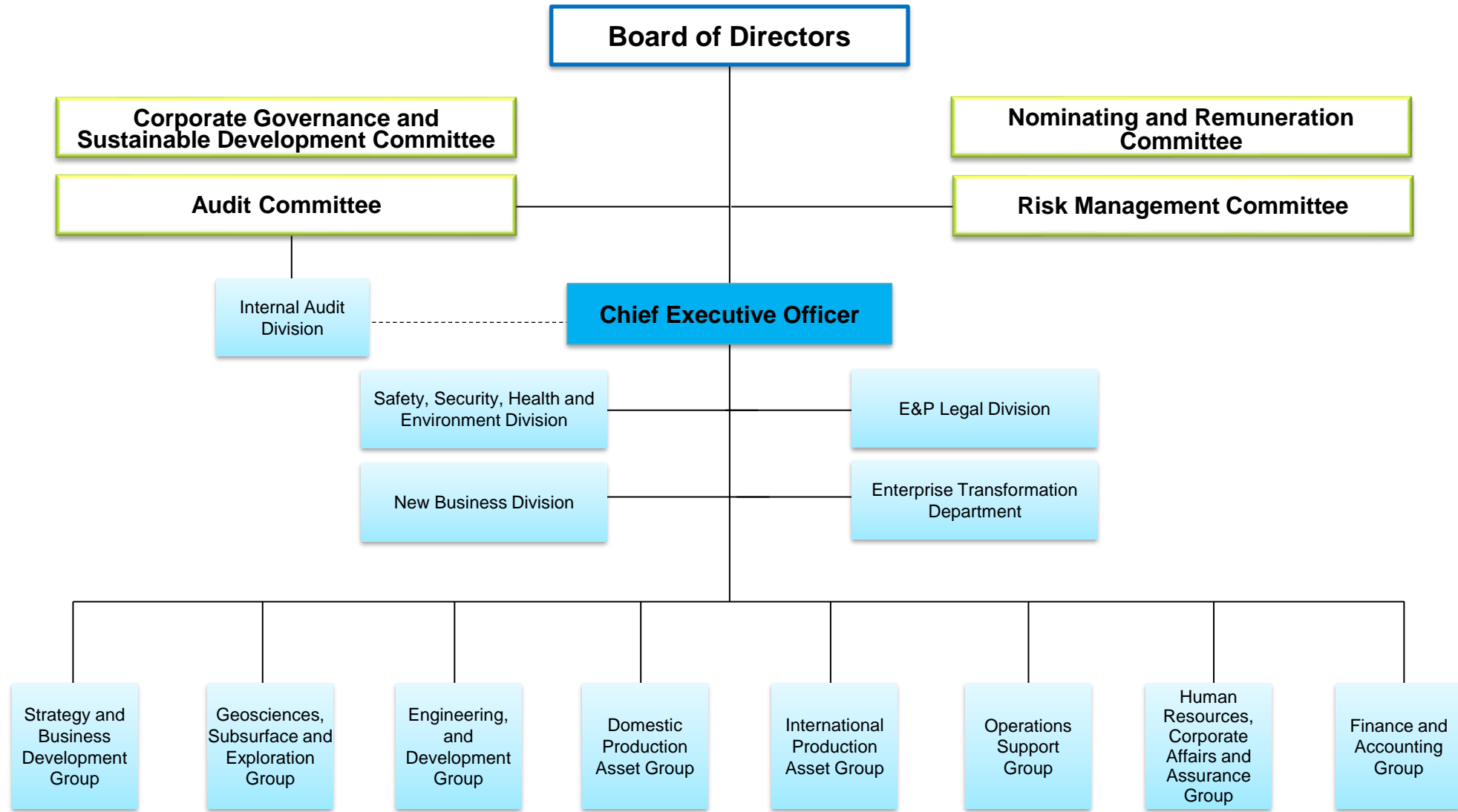
	Project Name	Status	Phase	Participating Interest* (%)		Sales Vol Gas (MMSCFD)	Sales Vol Liquid (KBPD)	Latest Status
1	Oman LNG [OMAN]	Shareholder	Production	PTTEP	2%	-	-	<ul style="list-style-type: none"> Normal Operations
				Government of Oman	51%			
				Shell	30%			
				TotalEnergies	5.54%			
				Korea LNG	5%			
				Mitsubishi	2.77%			
				Mitsui	2.77%			
				Itochu	0.92%			
2	ADNOC Gas Processing [UAE]	JV	Production	PTTEP	2%	-	-	<ul style="list-style-type: none"> Normal Operations
				ADNOC	68%			
				Shell	15%			
				TotalEnergies	15%			

Note: * PTTEP denotes respective PTTEP subsidiaries participating in the project

** Sales volume represent **average volume for 100% of the project during 6M2022**

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

Organization Chart



Ratio and Formula



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

Net debt	Total debt – Liquidity
Debt to Equity	Total debt / Shareholders' equity
Net Debt to Equity	Net debt / Shareholders' equity
Total Debt to Capital	Total debt / (Total debt + Shareholders' equity)
Total Debt to EBITDA	Total debt / Trailing-12-month EBITDA
Net Debt to EBITDA	Net debt / Trailing-12-month EBITDA
EBITDA Interest Coverage Ratio	Trailing-12-month EBITDA / Trailing-12-month Interest Expenses & Amortization of Bond Issuing Cost

Crude oil	To convert					
	Tonnes (metric)	Kilolitres	Barrels	US gallons	Tonnes/year	
From	Multiply by					
Tonnes (metric)	1	1.165	7.33	307.86	-	
Kilolitres	0.8581	1	6.2898	264.17	-	
Barrels	0.1364	0.159	1	42	-	
US gallons	0.00325	0.0038	0.0238	1	-	
Barrels/day	-	-	-	-	49.8	
Natural gas and LNG	To convert					
	Billion cubic Metres NG	Billion cubic feet NG	Million tonnes oil equivalent	Million tonnes LNG	Trillion BTU	MBOE
From	Multiply by					
1 billion cubic metres NG	1.000	35.315	0.860	0.735	34.121	5.883
1 billion cubic feet NG	0.028	1.000	0.024	0.021	0.966	0.167
1 petajoule NG	0.028	0.981	0.024	0.021	0.952	0.164
1 million tonnes oil equivalent	1.163	41.071	1.000	0.855	39.683	6.842
1 million tonnes oil LNG	1.360	48.028	1.169	1.000	46.405	8.001
1 trillion British thermal units	0.029	1.035	0.025	0.022	1.000	0.172
1 million barrels oil equivalent	0.170	6.003	0.146	0.125	58.000	1.000