



Member of
**Dow Jones
Sustainability Indices**

Powered by the S&P Global CSA

Investor Presentation

Non-Deal Roadshow

with Thai Fund Managers by UOBKH

4 February 2022

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.

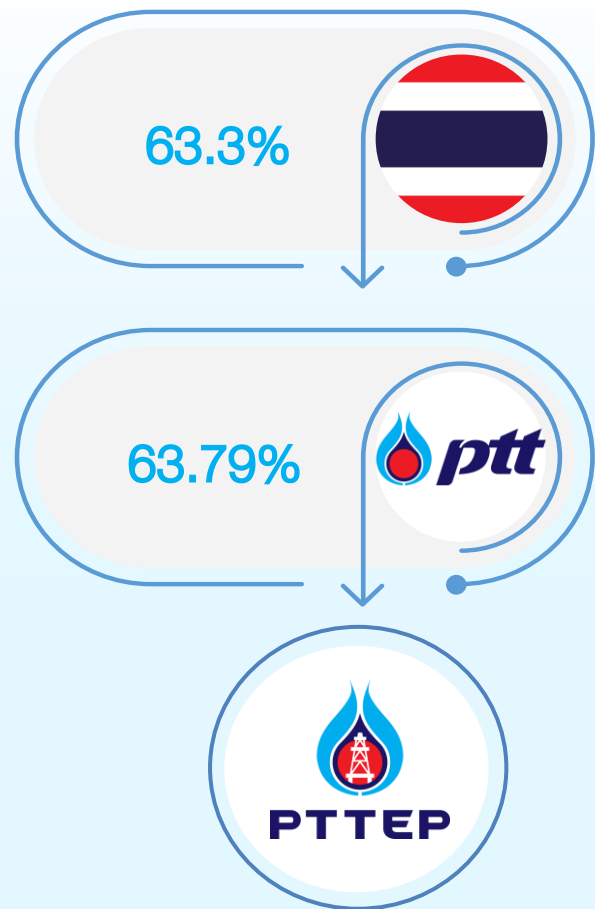
Proved Reserves - Proved reserves are defined as those quantities of petroleum which, by analysis of geological and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under current economic conditions, operating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



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 < 14\$/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





Business update

Social and Environmental contribution in 2021

Social support



Paid to Government in form of income tax, royalties, production bonus and other remuneration (TH only)



Student scholarships, school improvement, research and development funds, increase local community income and charity

Environmental support

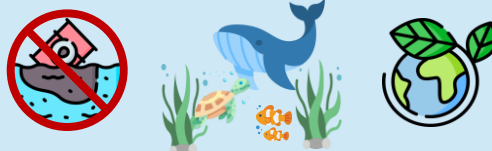


365,177 tco2e

CO2 emission reduction from company's operations
(24.1% of Target 25%)



Completed zero hazard waste to landfill



Ocean waste reduction, Net Positive impact
Of Biodiversity and Ecosystem Services

Covid-19 support

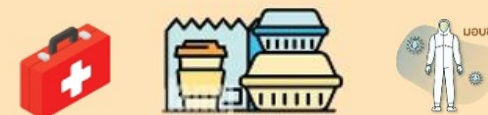
Local and International



Negative pressure beds and trolley, oxygen
hi-flows devices



Cold-chain temperature monitoring device for
vaccine storage and ARV's sterilizer robots



And many other necessary supplies and funds

Operating Results 2021

416 KBOED

+18% vs 2020, new
volume from B61, SBH

28.5 USD/BOE

-7% vs 2020, gradual
decrease towards target

4 new discoveries

From 3 MY Exploration projects
SK417, SK405B, SK438

Oman B61

Biggest M&A in company
history 2.3BN\$ (Mar 2021)

Sabah H

1st Gas (Feb 2021)

7.5 years
of P1 Reserves

Beyond E&P

Tech: ARV 4 Business lines
Power: FEV, FST

0.17 LTIF

Safety Records per IOGP
Standard

24.1%

GHG emission reduction
ahead of target 25%

6,000 M.THB

First fully Digital Bonds in
Thailand via e-Wallet

41 Awards

In Performance, SD, GRC,
IR, CSR, Management

Highly unpredictable Oil & Gas price volatility

COVID-19 variants and lockdowns

G1 (Erawan) Site Access Delay

Rising Climate changes concern & Energy Transition trend

International politics and unrest



Key Focus Areas 2022

A large offshore oil rig is illuminated at night, with its complex structure of pipes, platforms, and cranes glowing against a dark blue sky. The rig is situated in the middle of the ocean, with its reflection visible on the water's surface. The name 'ZAWTIKA-2PG' is visible on one of the lower platforms.

G1 & G2

Safe transition & accelerate ramp-up activities

Assets Monetization

LLB FEED for FID 2023 Sarawak Clusters

Exploration

21 exploration and appraisal wells in 4 countries

GHG & CCS

Emission intensity reduction and CCS rollout

Net Zero

Target declaration by Q2/2022

Diversification

ARV, G2P, CCU, Renewables, H2 study

Oil & Gas price volatility

COVID-19 new variants

GHG & Energy Transition

International politics and unrest

Operations Update



Thailand

G1/61

- Site access Jan 22 for Operatorship Transfer
- Starting ~425mmscfd, then drop to 250-300mmscfd
- 8 platforms and 100+ Dev. wells required for ramp-up
- 24 months timeframe to reach PSC 800mmscfd

G2/61

- Assets Transfer Agreement signed in Q4/21
- On track for 800+mmscfd (including BKT sales vol.)

Arthit

- GSA supplementary signed, to increase DCQ to 280mmscfd (60mmscfd additional)

Malaysia

- MY 2021 Bid Round pending result in Q1/22
- LLB: Begin FEED in 2022 and prepare for FID in 2023

Myanmar

- All three fields operates normally
- YDN : TOTAL withdrawing
- YTG : Declining production per field life
- M3 and G2P : Prep work for development on-going

Mozambique

- Construction resume expected in 2022
- First cargo in late 2025, subject to local security situation

UAE

- Area C farm-in expecting Govt. approval Q1/22
- Exploration campaigns on-going

Algeria

- HBR Phase 1, expected First oil in 1st half of 2022

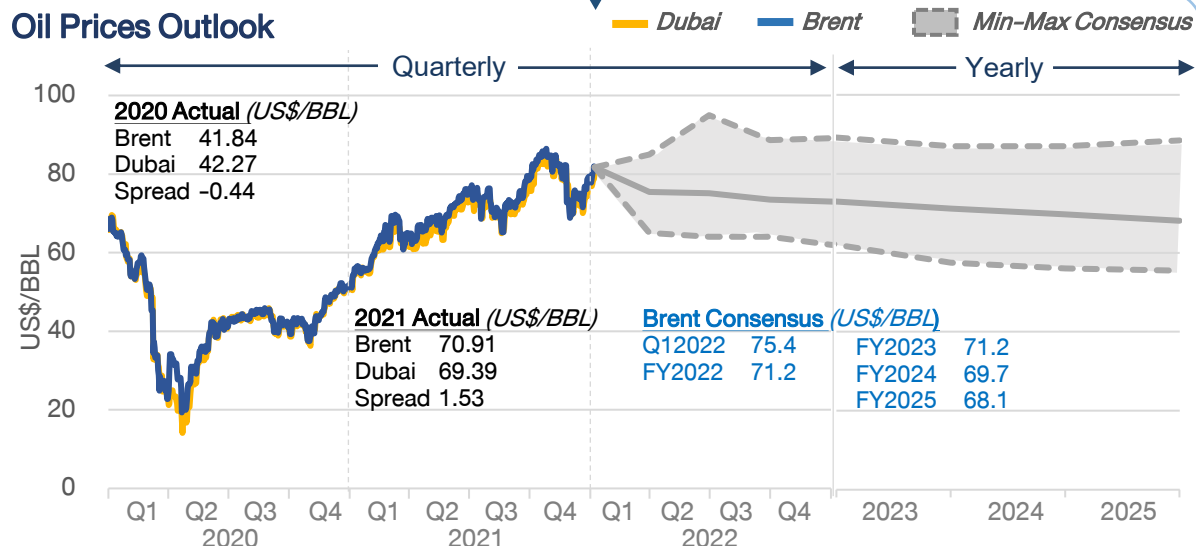


Industry Outlook & ESG Update

Market Update

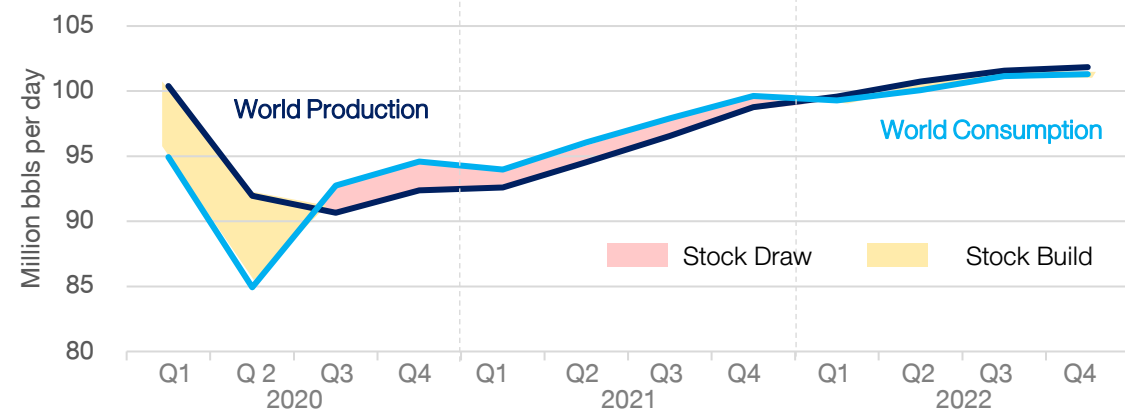
Crude Oil

Oil Prices Outlook



Source: Refinitiv, Monthly Poll on Oil Price as of Dec'21

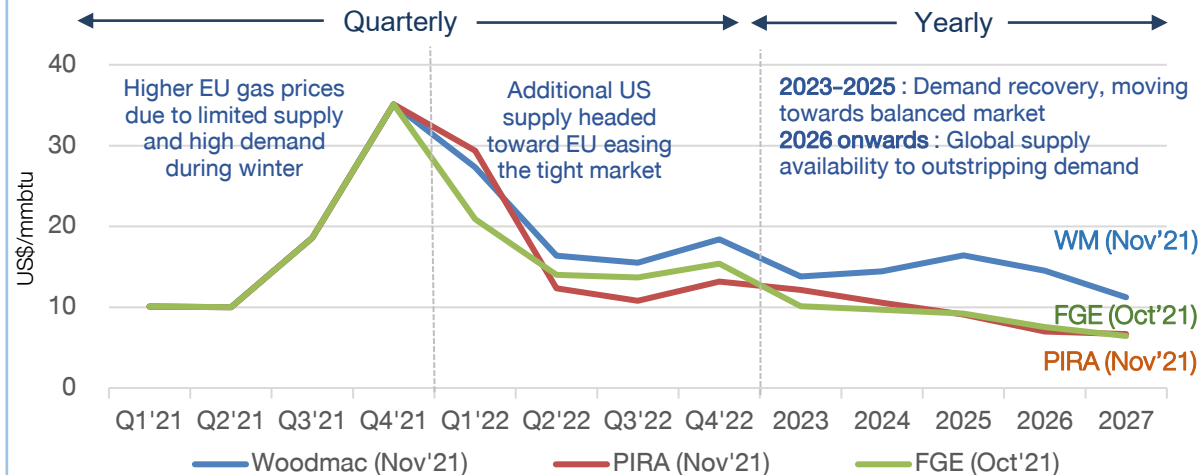
Global Oil Demand & Supply Outlook



Source: EIA, Short-Term Energy Outlook, Dec'21

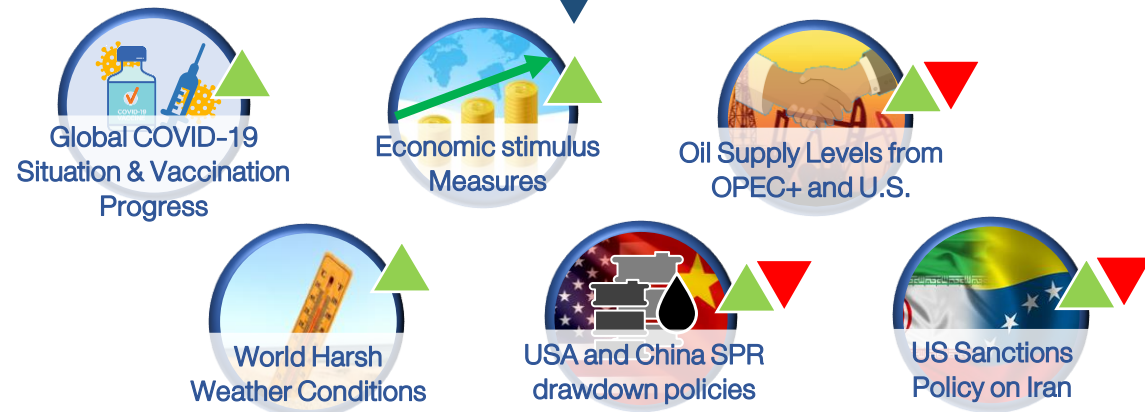
LNG

LNG Spot Price Outlook



Source: Information as of Jan'22

Major Risk factors



ESG Disclosure & Ratings



ESG Standards

Global Reporting Initiative Reporting Standards (GRI Standards)

Oil and Gas Sector Disclosures (OGSD)

ESG Ratings	<div><p>S&P Global Ratings ESG Rating</p></div> <div><div><div>100</div><div>80</div><div>60</div><div>40</div><div>20</div></div><div><div></div><div></div><div></div><div></div></div></div>
	<div><p>MSCI ESG Rating</p></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><div></div><div></div><div></div></div></div>
	<div><p>Moody's ESG Credit Impact</p></div> <div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div></div><div></div></div></div>
	<div><p>CDP Climate Change</p></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><div></div></div></div>
	<div><p>SUSTAINALYTICS a Morningstar company ESG Risk Rating</p></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><div></div><div></div></div></div>
	<p>Source: S&P Global, MSCI, Moody's, CDP, SUSTAINALYTICS' websites</p>



Financial results 2021 & Outlook

Key items impacting 2021 Net Income

Core Net Income

+89%



increased significantly
vs 2020



Sales volume +18%

- Oman Block 61 +35KBOED
- Sabah-H +19KBOED



Average Selling price +12%

- Liquid +61%
- Gas -9%



Bongkot Decommissioning
Liabilities reduction

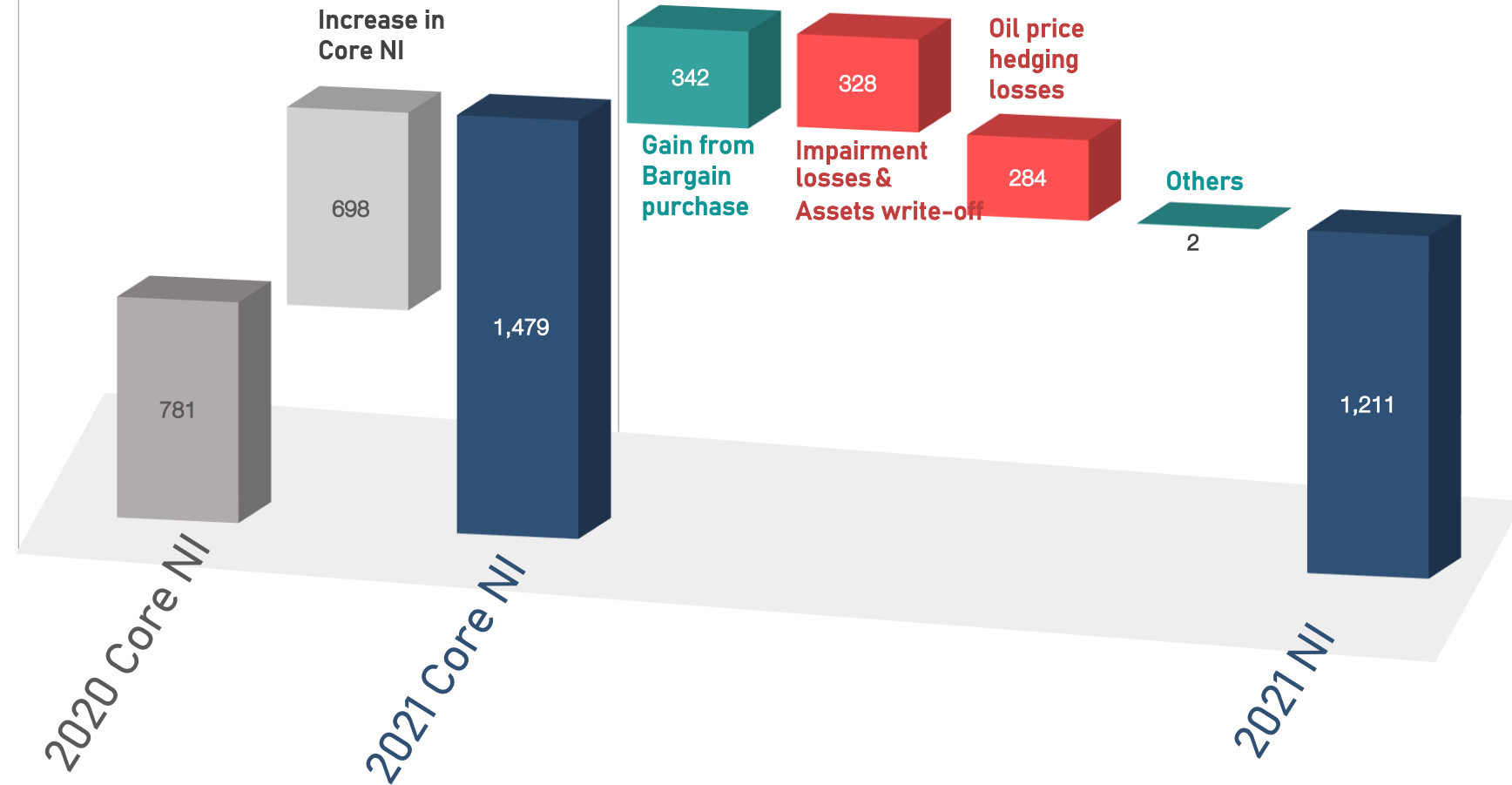


Malaysia Block K
redetermination

Recurring net income

Non-recurring income / loss

Unit : million USD

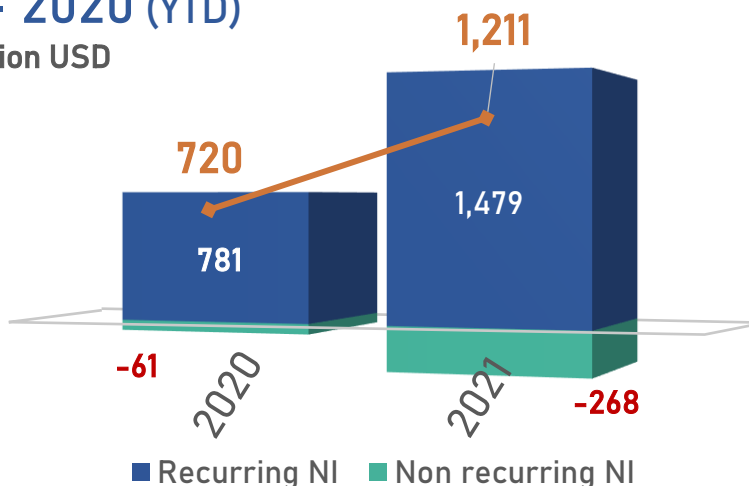


Results – Net Income

Soaring net income from sales volume growth, higher selling price, and effective cost management

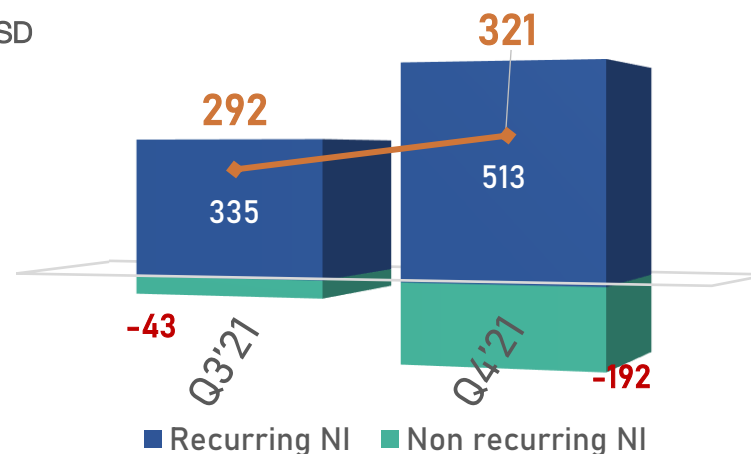
2021 - 2020 (YTD)

Unit: million USD



Q4/21 - Q3/21 (QoQ)

Unit: million USD



Recurring (+698 MMUSD or +89%)



+18%

From Oman Block 61, Sabah H, and Gulf of Thailand



+12%

Higher liquid price offset with lower gas price



-7%

Lower unit costs

Recurring (+178 MMUSD or +53%)



+1%

Higher Malaysia crude loads offset with gas loss from Zawtika shutdown



+6%

Higher gas and liquid price



+0.4%

Lower DD&A offset with higher OPEX & G&A

Non-recurring (-207 MMUSD or ->100%)



Higher oil price hedging and impairment losses offset with a gain from bargain purchase

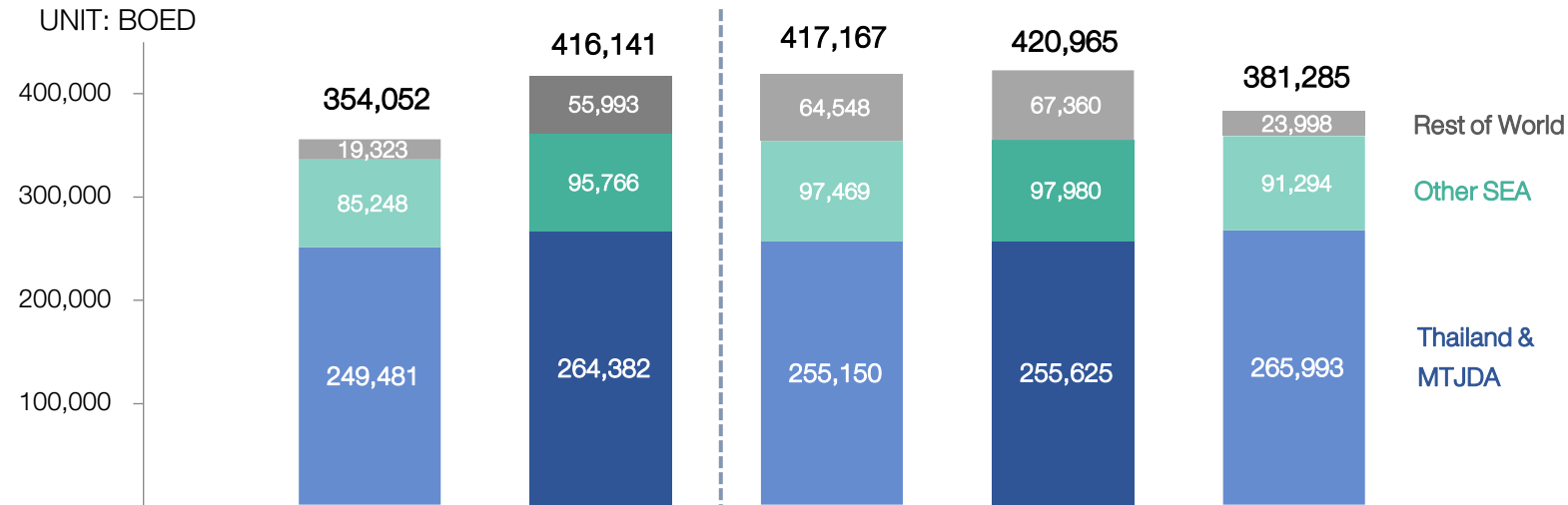
Non-recurring (-149 MMUSD or ->100%)



Impairment losses recognized on Mozambique and Myanmar Project

Results – Sales Volume & Average Selling Price

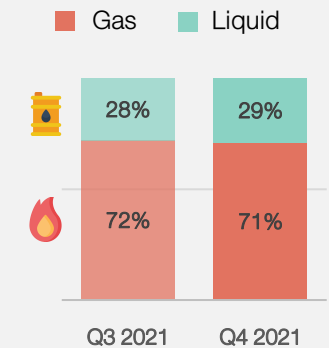
Solid volume growth from Oman Block 61 and Malaysia Sabah-H. Improved ASP thanks to global crude price.



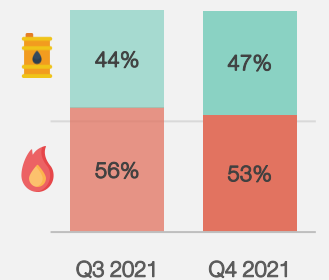
Product Price	2020	2021	Q3 21	Q4 21	Q4 20
Gas (\$/MMBTU)	6.27	5.69	5.76	5.81	5.63
Liquid (\$/BBL)	41.55	66.70	69.16	76.17	42.61
Weighted Avg. (\$/BOE)	38.92	43.49	44.25	46.87	36.85
Avg. Dubai (\$/BBL)	42.27	69.39	71.68	78.27	44.64
Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil)	39.30	64.42	68.35	71.38	44.07

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

Volume Mix

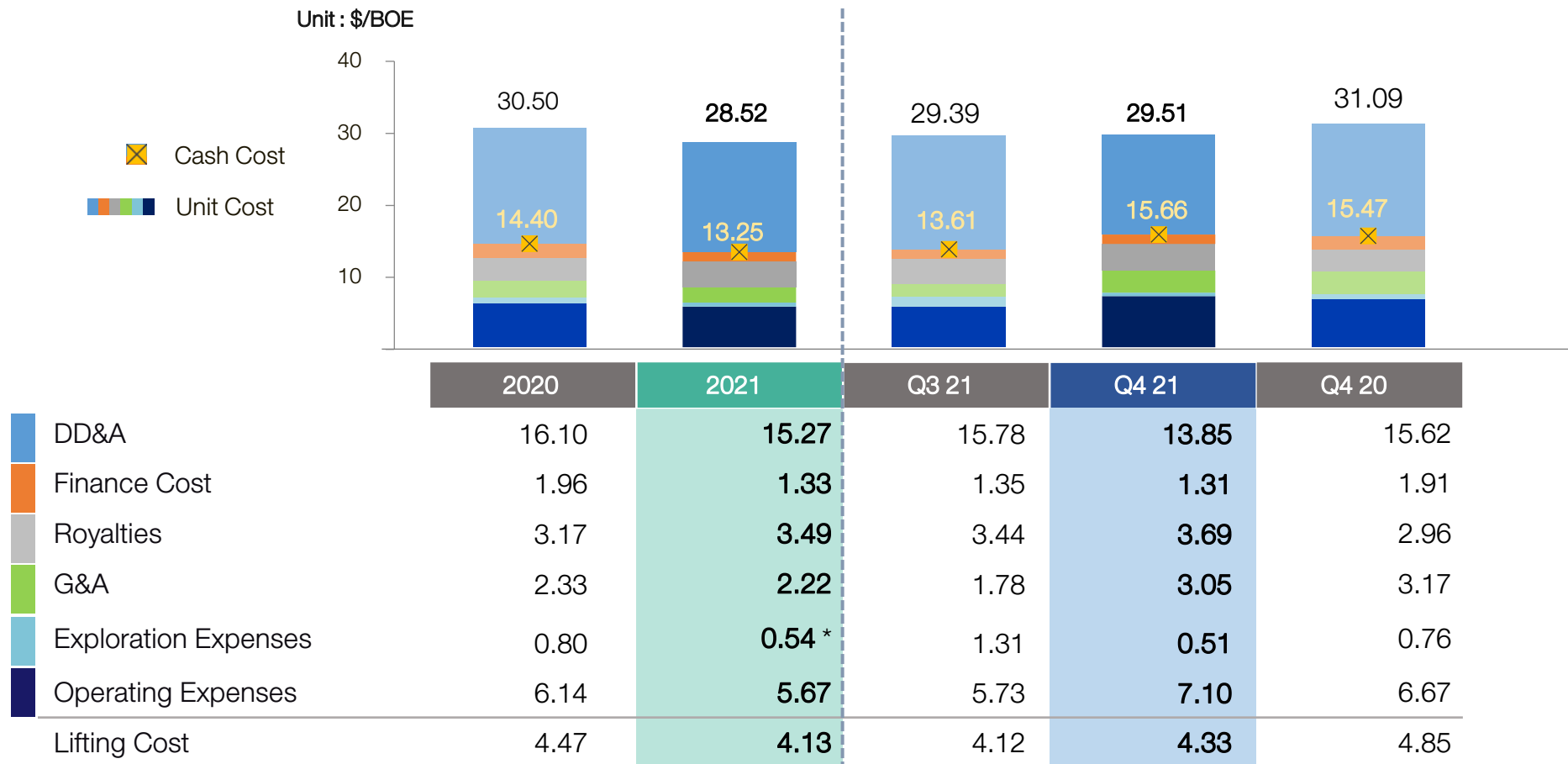


Revenue Mix



Results – Unit Cost

Competitive cost from new projects and effective cost management



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

All Unit Cost shown above exclude costs related to new business

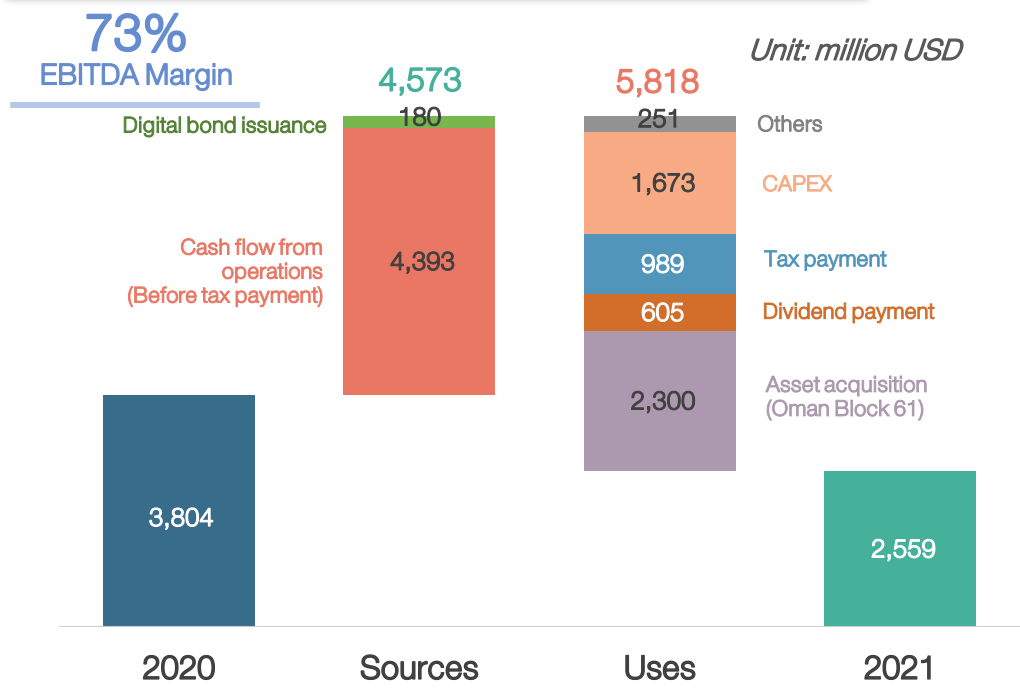
The formulas for calculating ratios are provided in the supplementary section for your reference

Results – Cashflows and Financial Position

Robust operating cashflow and financial position despite M&A payments

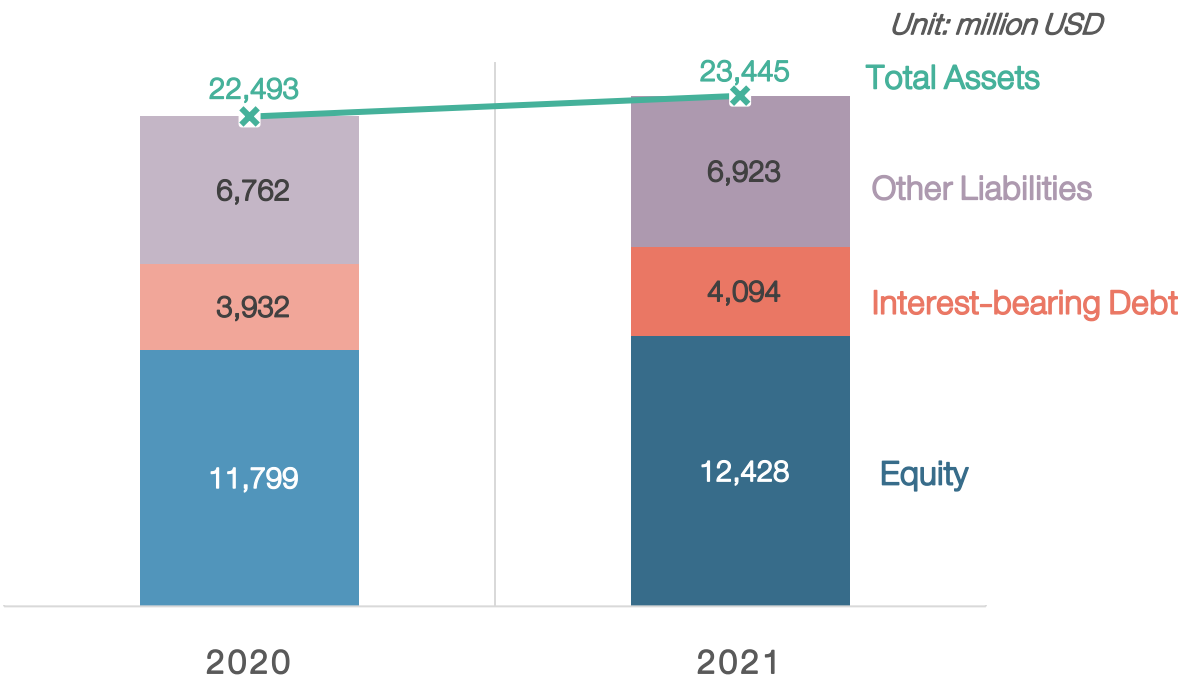


2021: Source and Use of Funds*



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

Financial Position

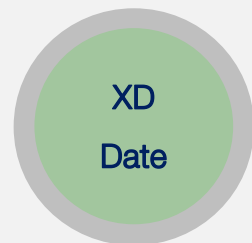


Debt Profile					
D/E ratio	0.33x	0.33x	Weighted Average Loan Life (Years)	14.08	12.67
Weighted Average Cost of Debt (%)	3.44	3.38	Fixed : Floating	82:18	83:17

Note: Debt profile excludes Hybrid bonds

Shareholders' Return – Dividend

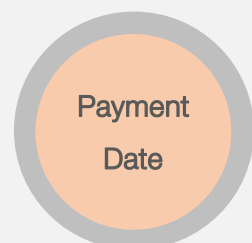
Schedule for 2H2021 Dividend Payment



10 February 2022

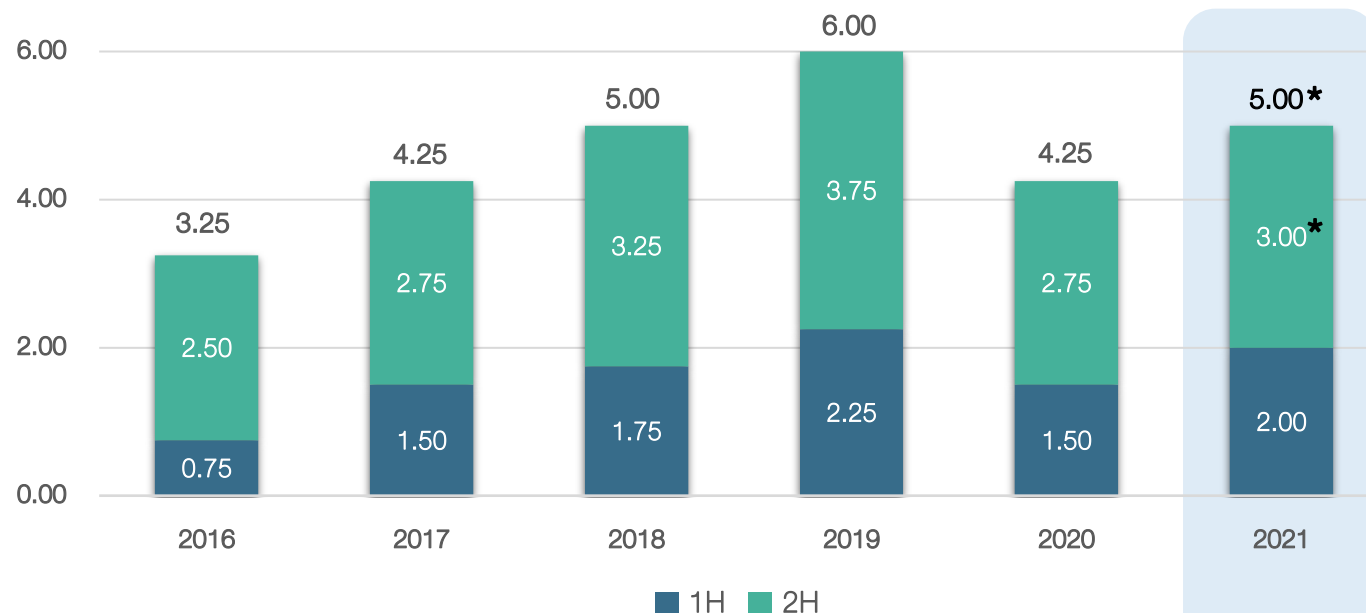


11 February 2022



18 April 2022

THB per share



Payout Ratio
(% of net income)

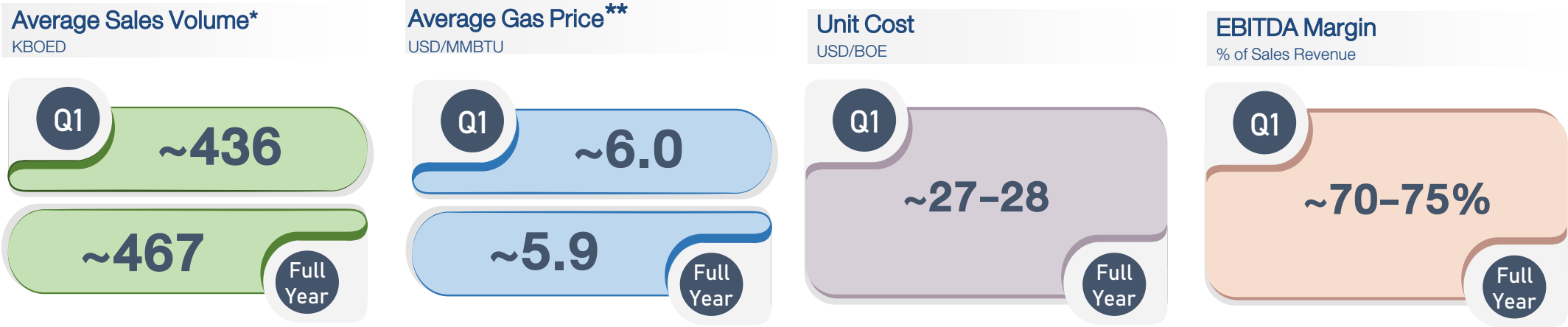
98 88 55 49 77 50

Payout Ratio
(% of recurring
net income)

79 63 51 53 71 41

* Subject to approval from 2022 Annual General Shareholders' Meeting. Implied ~4% dividend yield for FY2021.

2022 Guidance



Note:
* Include sales volume from ADNOC Gas Processing (AGP)
** Based on average Dubai oil price in 2022 at 67 \$/BBL

Credit Ratings





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Thank you and Q&A

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the following channels



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<http://www.pttep.com>

Supplementary information

● Financial Results Q4/2021 & FY2021	23-25
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● Project Details	36-40
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Results – Net Income

Unit: million USD

Statements of Income	2021	2020	%YTD	Q4 21	Q3 21	%QoQ	Q4 20	%YoY
Total Revenues	7,314	5,357	37%	1,989	1,784	11%	1,348	48%
Sales ⁽¹⁾	6,731	5,043	33%	1,867	1,744	7%	1,292	45%
Sales Volume (BOED) ⁽²⁾	416,141	354,052	18%	420,965	417,167	1%	381,285	10%
Sales Price (US\$/BOE)	43.49	38.92	12%	46.87	44.25	6%	36.85	27%
Gain from a bargain purchase	342	-	>100%	-	-	-	-	-
Others ⁽³⁾	241	314	(23%)	122	40	>100%	56	>100%
Total Expenses	6,118	4,679	31%	1,671	1,499	11%	1,292	29%
Major Expenses:								
Operating Expenses	861	795	8%	275	220	25%	234	18%
Exploration Expenses	226	104	>100%	20	50	(60%)	27	(26%)
G&A	355	314	13%	125	72	74%	117	7%
DD&A	2,202	2,086	6%	420	606	(31%)	548	(23%)
Loss on Financial Instruments	234	-	100%	7	5	40%	72	(90%)
Impairment Loss on Assets	183	91	>100%	183	-	100%	44	>100%
Income Tax Expenses	1,287	603	>100%	448	326	37%	79	>100%
Share of profit (loss) from associates and JV	15	42	(64%)	3	7	(57%)	25	(88%)
Net income	1,211	720	68%	321	292	10%	81	>100%
Recurring Net Income	1,479	781	89%	513	335	53%	168	>100%
Non-recurring Net Income	(268)	(61)	(>100%)	(192)	(43)	(>100%)	(87)	(>100%)
Non-recurring Net income breakdown:								
Oil Price Hedging	(284)	112	(>100%)	5	(41)	>100%	(38)	>100%
Tax from Effect of FX	(10)	(95)	+89%	1	(2)	>100%	10	(90%)
Effect from FX and others	12	13	(8%)	(15)	-	(100%)	(15)	-
Impairment Loss on Assets	(183)	(91)	(>100%)	(183)	-	(100%)	(44)	(>100%)
Exploration assets write-off	(145)	-	(100%)	-	-	-	-	-
Gain from a bargain purchase	342	-	100%	-	-	-	-	-

Note:

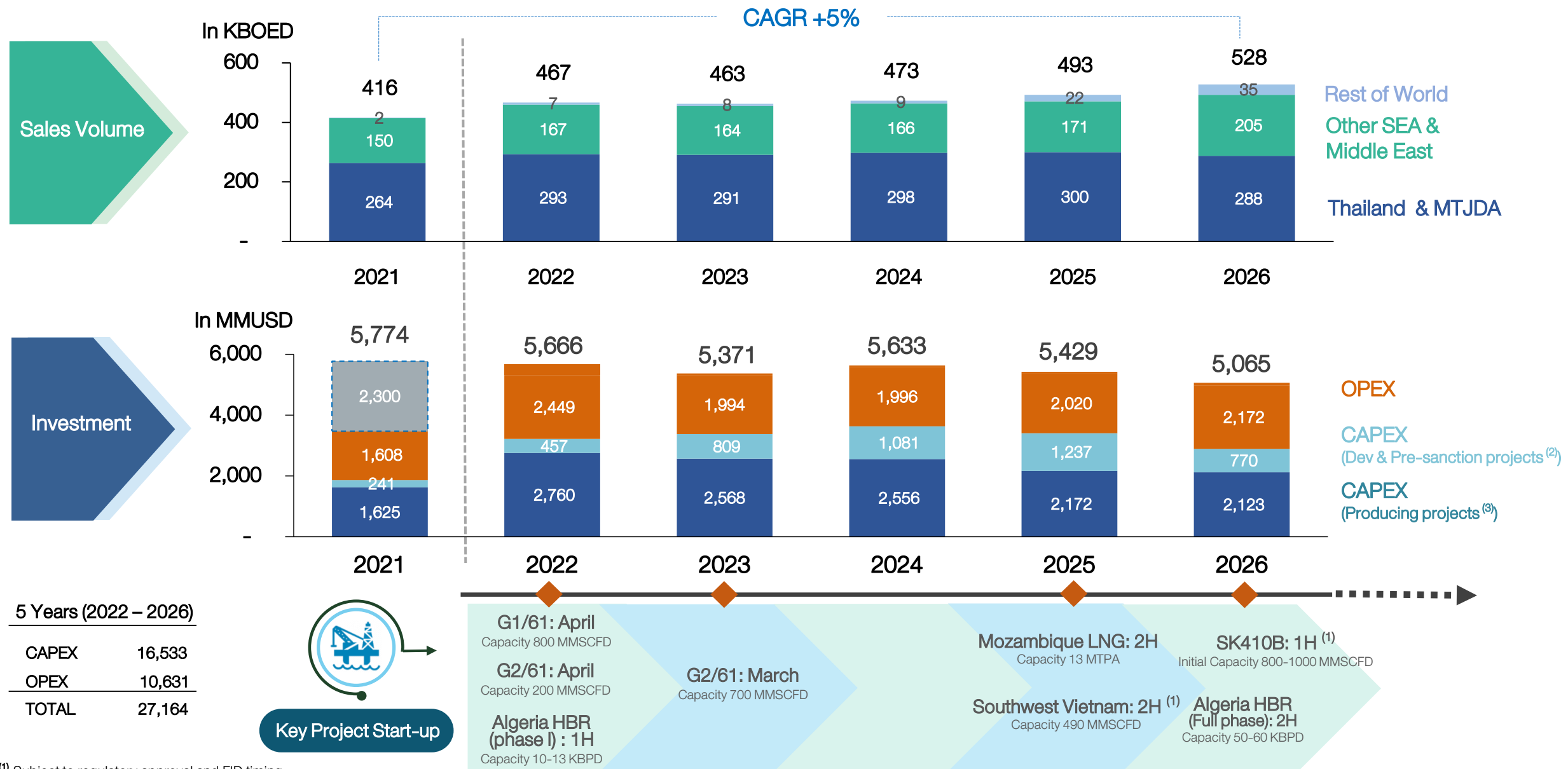
(1) Include Oman Block 61 deemed sales revenues from tax payment by government

(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, and Malaysia Block K redetermination of participating interest in Q4'21

Five –Year Plan : Sales Volume

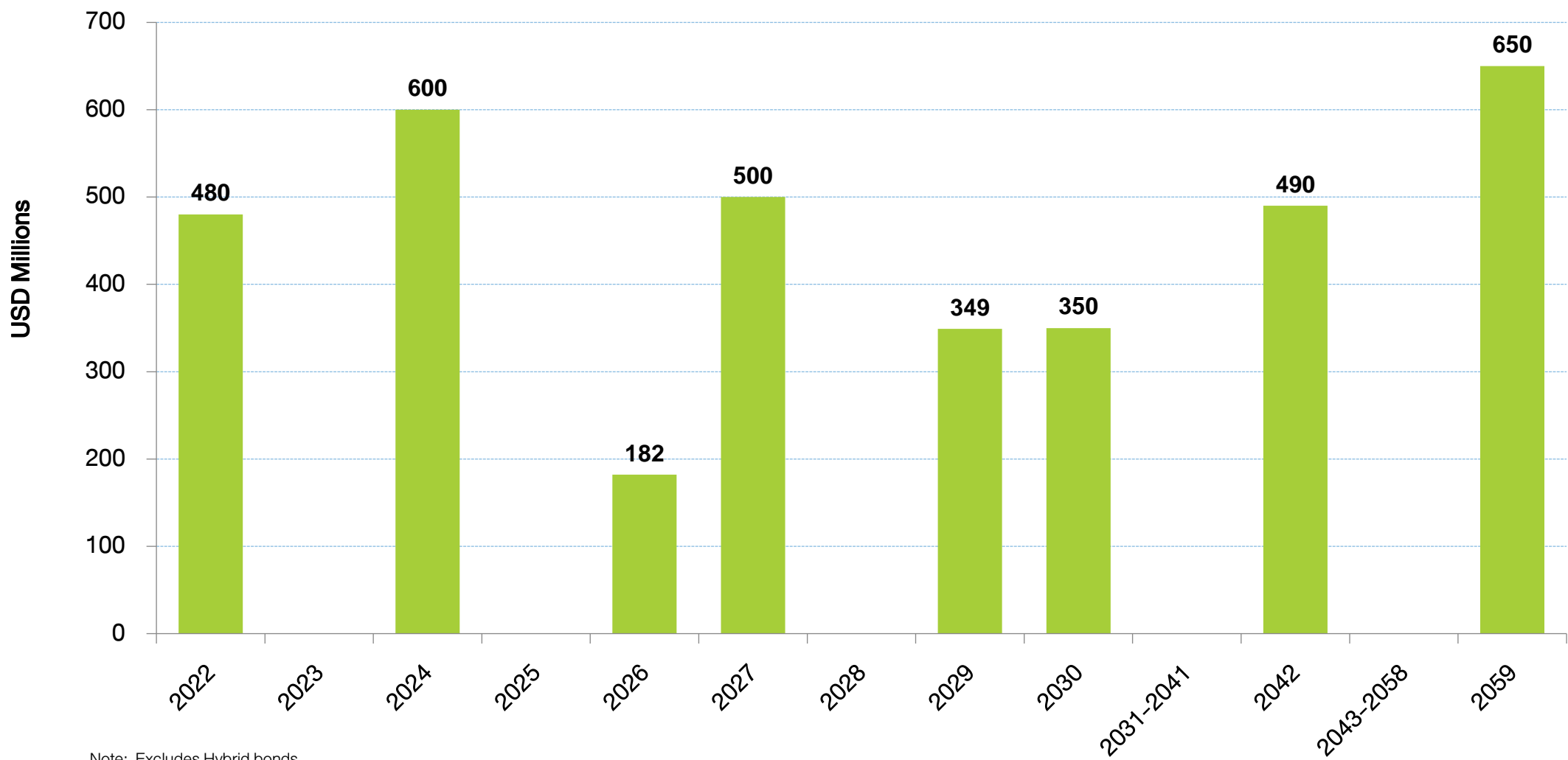
Investing for a Sustainable Growth Towards Energy Transition



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

Debt Maturity Profile

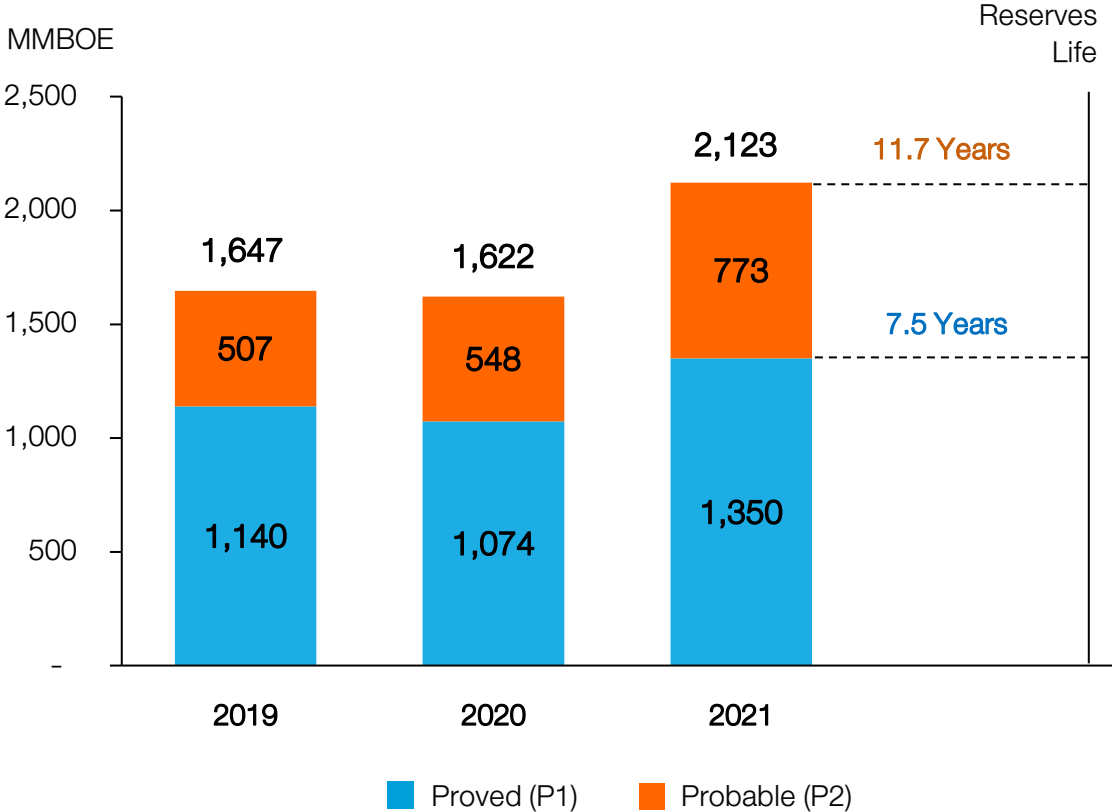
As of December 2021



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

Reserves at the Year-end 2021

Sustained reserve life at over 5 years target



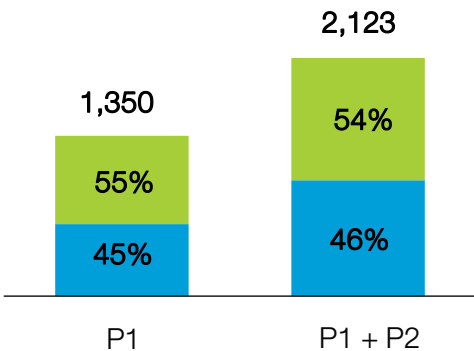
5-Year Average Proved Reserves Replacement Ratio (RRR)

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

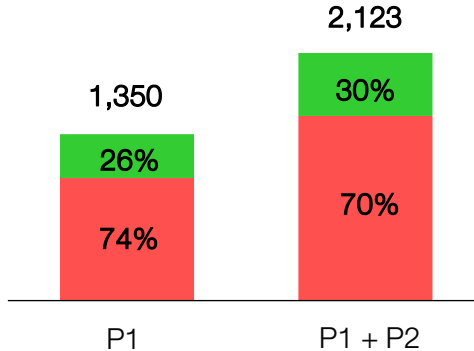
2021 by Geography

■ Domestic ■ International



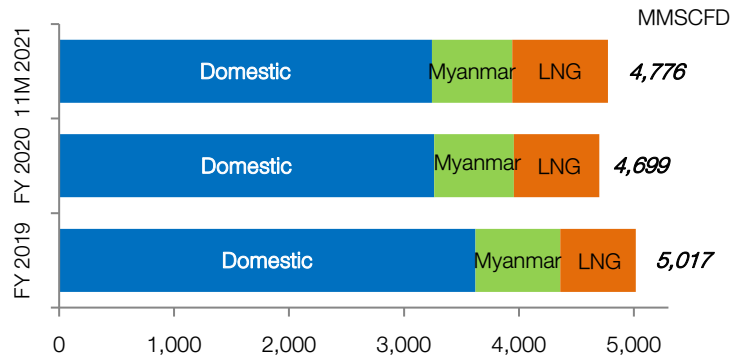
2021 by Product Type

■ Gas ■ Liquid



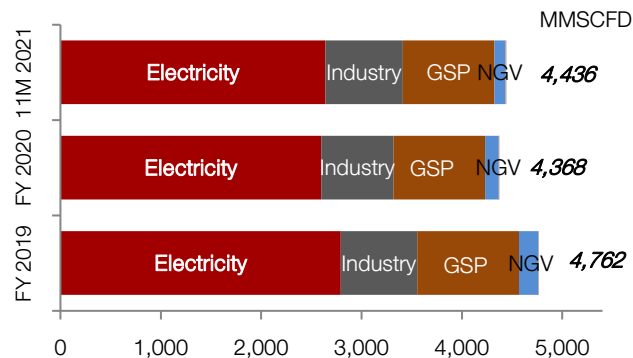
Thailand Energy Overview

Natural Gas Supply

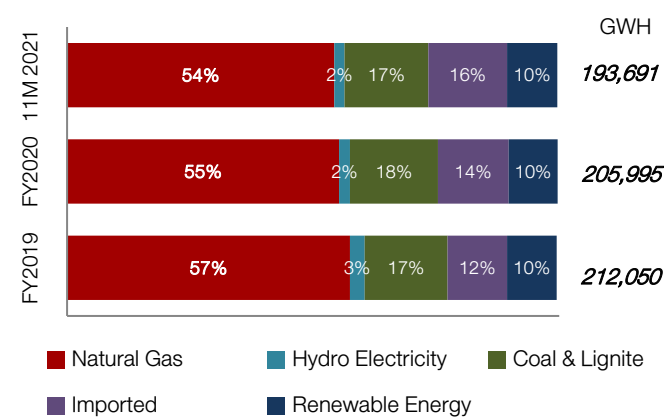


- Slight recovery in energy demand, COVID-19 pandemic still put pressure
- As of November 2021, compared with the same period of last year: Consistent domestic supply and slight increase in LNG imports.

Natural Gas Consumption

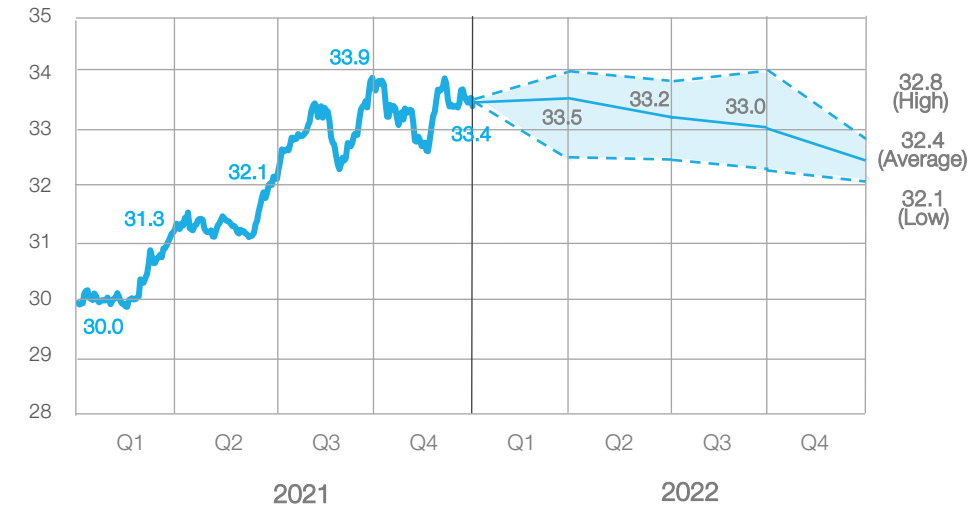


Electricity Generation



Source: Energy Policy and Planning Office (EPPO)

Exchange Rate Movement (USD/THB)

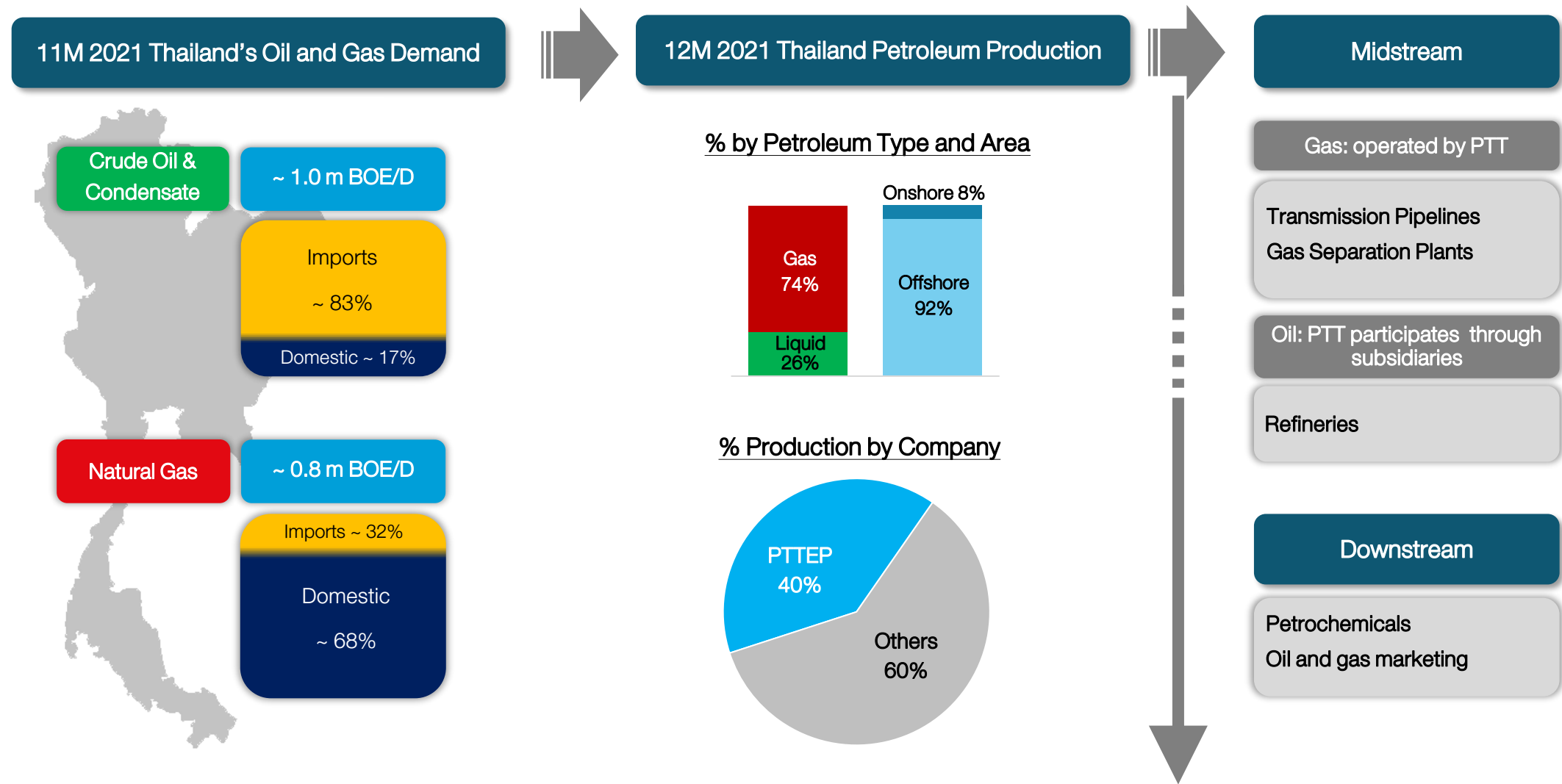


Consensus on the exchange rate mostly depends on

- Efficacy of Covid-19 containment in particular for emerging variants within Thailand and globally
- Thailand economic recovery from country reopening and tourism flows
- Central bank monetary policy – interest rate adjustment schedule of Bank of Thailand the currently hawkish Federal Reserve

Source: Bank of Thailand, Bloomberg

Forecast based on Bloomberg Consensus as of 4 January 2022

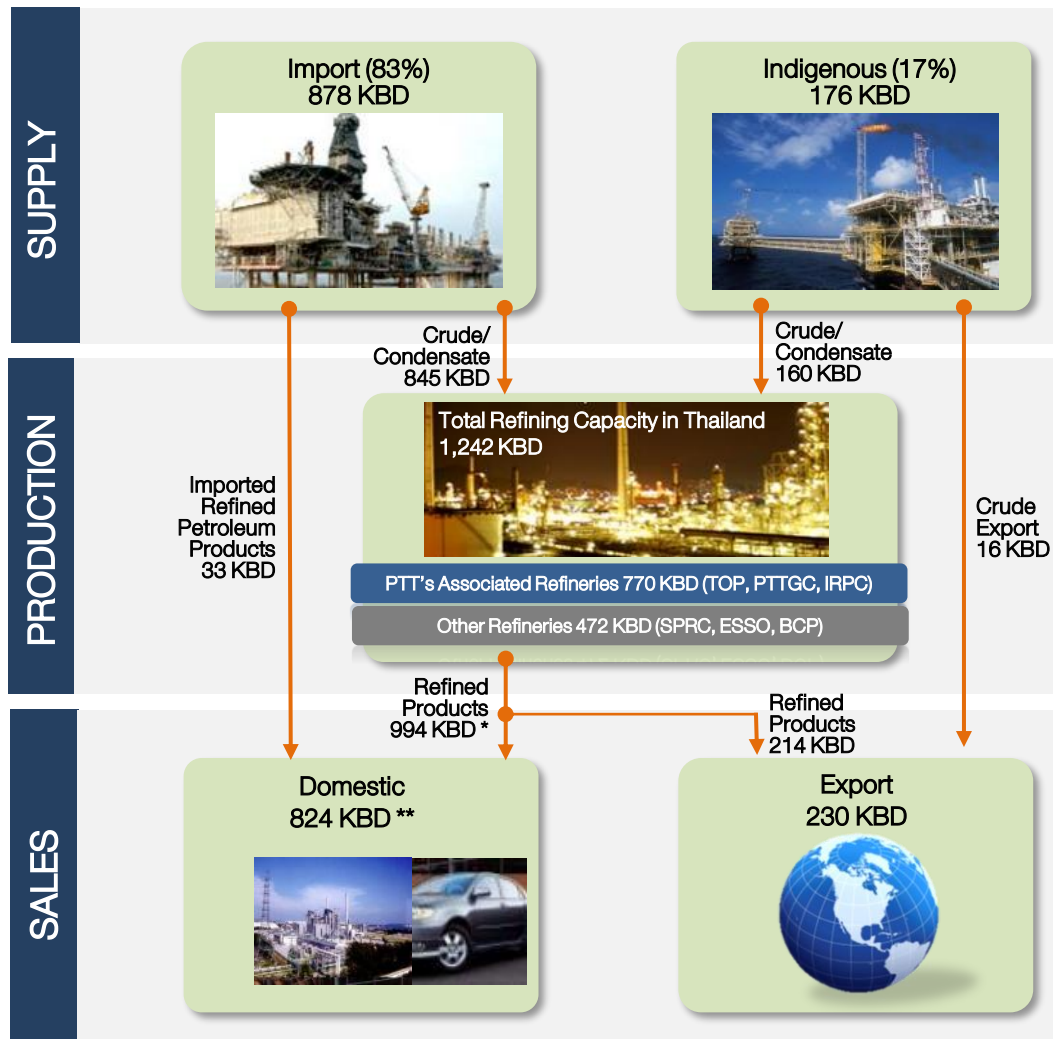


Source: Energy Policy and Planning Office (EPPO) and Department of Mineral Fuels (DMF)

Thailand's Oil and Gas Balance

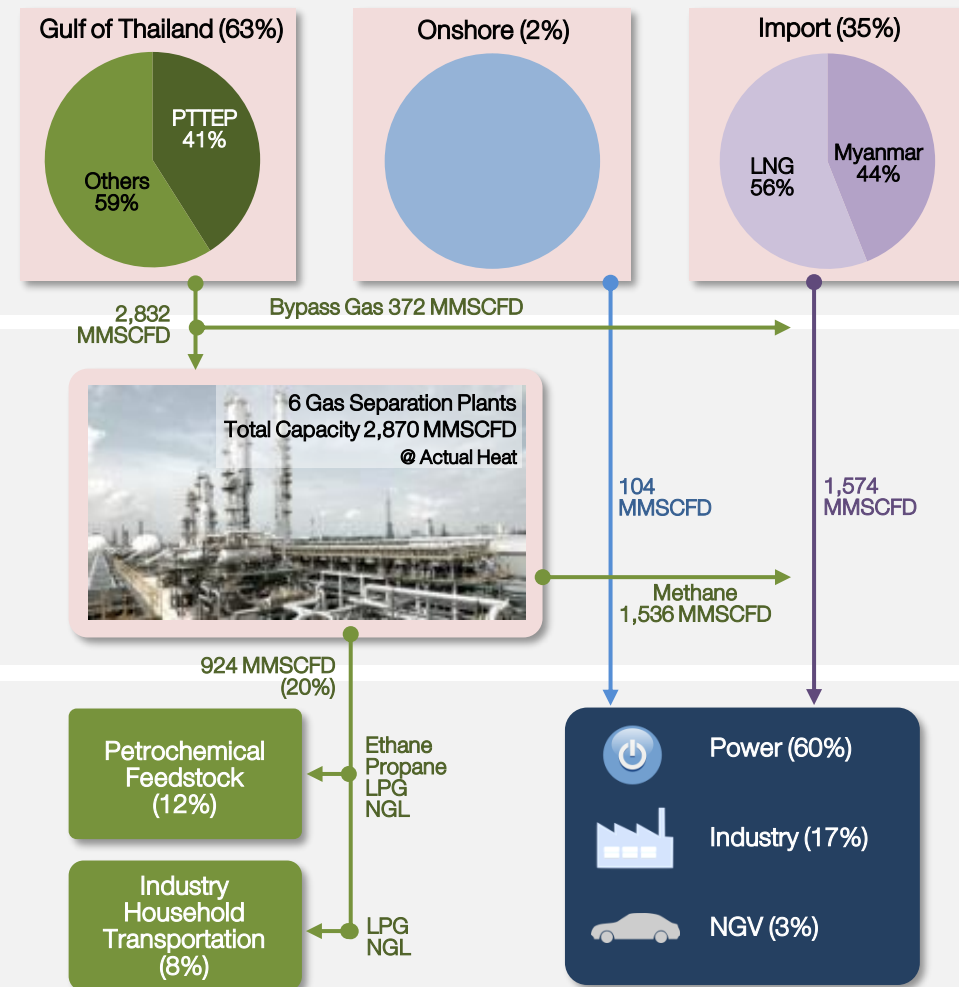
Oil Balance***

Maintains stability supply through adequate refining capacity



Natural Gas Balance****

Main driver of the Thailand economy



Source: PTT

Note: * Refined product from refineries = 903 KBD, including domestic supply of LPG from GSPs and Petrochemical Plants = 91 KBD

** Not included Inventory

*** Information as of 11M21

**** Information as of 9M21

MMSCFD @ Heating Value 1,000 Btu/ft³

ESG Targets & Progress FY2021

GHG Management



25% reduction target
of GHG intensity by 2030
(2012 base year)

◆ PROGRESS ◆

Reduction of GHG Emission Intensity

24.1% Reduction (2.35 million tonne CO₂ equivalent)

Flare Gas Recovery
Recover excess gas to
production process

Fugitive & Vent
Leak monitoring
and preventing

Energy Efficiency
Operation efficiency
and energy saving

Smart Logistics
Logistics operation
efficiency improvement

Carbon Capture Storage
Trap from flare and inject it
into suitable storage site

CCUS Study

CCU : Study CNT and completed
prototype test unit at S1.



Carbon Nanotube

CCS :

- **GOT [ART]** - Pre-Project study phase
- **LLB** - Completed subsurface study for reservoir modeling

Circular Model



Zero waste to landfill by 2030
≥50% of main structures reuse by 2030

◆ PROGRESS ◆

Waste to Landfill



Topside Reuse Project

Completed the 1st topside relocation at Arthit.



Upcycling High Volume Waste

Pilot Recycle Drill Cuttings Road: Completed
experimental road at Rapid
Scaled-Up Center (RASC) in
Rayong.



Sand to Zeolite: Successfully synthesized prototype zeolite
from nano-silica.

Ocean for Life



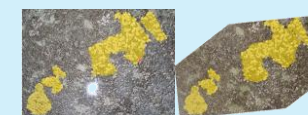
Net Positive Impact
of Biodiversity & Ecosystem Services in
Offshore Operations vs baseline by 2030

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

◆ PROGRESS ◆

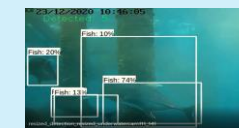
Ocean Health & Biodiversity Monitoring

Completed microplastic
baseline survey in offshore
operations including Koh Tao,
Koh Losin and Chumphon



Completed baseline of coral
bleaching at Koh Mannai, Rayong
by multi-spectral drone

Completed aquatic animal motion
detection software applied in ART
offshore operation



Net Positive Impact of BES

Progress on Ocean BES value at **29.5%**
in domestic offshore operations to achieved Net
Positive Impact.

Local Community Income

20.5% Increase in Community Income for
local community that participated
in our program.

Diversified international portfolio

Central Asia

First presence in Kazakhstan:

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

Oil sands

North & South America

Opportunities in an early phase:

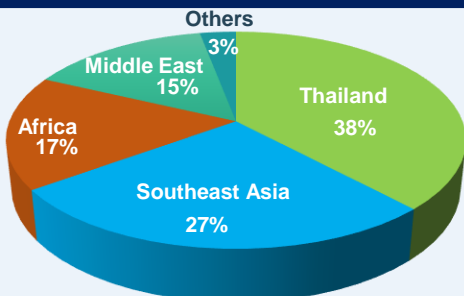
- Deepwater exploration in Brazil and Mexico

Oil

Oil

Book Value of Assets by region

Total assets USD 23.45 billion



As of Dec 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 early 2022 and Mozambique Area 1 project with first cargo LNG target in late 2025*

Middle East

Strong presence in Oman and UAE:

- 13% of total sales volume
- 4 onshore blocks in Oman including PDO (Block 6), largest producing oil asset, and Block 61, largest tight gas development
- 3 offshore exploration blocks in UAE, partnered with experienced operator

Thailand

PTTEP's primary operational base

- 63% of total sales volume (Y2021)
- 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 (Y2021)
- 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: As of December 2021

* Subject to local security situation

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 319 MMSCFD for 12M2021

Project Status

Production	• Zawtika (80% WI)
	• Yadana (25.5% WI)
	• Yetagun* (19.3% WI)
FDP	• M3 (100% WI)

Thailand

Production / Ramp-up Projects

Bongkot (66.6667% WI)

Average natural gas and condensate sales volume of 867 MMSCFD and 23 KBPD in 12M2021

S1 (100% WI)

The largest onshore crude oil production field in Thailand with 12M2021 average crude oil sales volume of 26 KBPD

Arthit (80% WI)

Average sales volume in 12M2021 was 239 MMSCFD of natural gas and 12 KBPD of condensates

Contract 4 (60% WI)

Average sales rate of 403 MMSCFD for natural gas and 16 KBPD for condensate in 12M2021



● 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 12M2021 was 24* KBPD of crude oil and 26* MMSCFD of natural gas

SK309 and SK311 Project : (59.5% WI)

For East Patricia field (42% WI)

- Average production volume in 12M2021 was 165* 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 12M2021 at 203 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



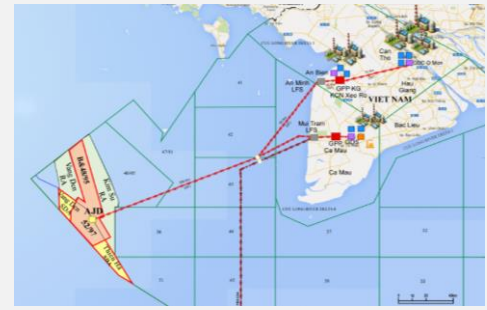
● Production projects
● Pre sanction projects

Vietnam



Vietnam 16-1 (28.5% WI)

- Average sales volume of crude oil was 13 KBPD in 12M2021
- 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 203 MMSCFD in 12M2021
- The project has completed drilling 2 wells in 2021



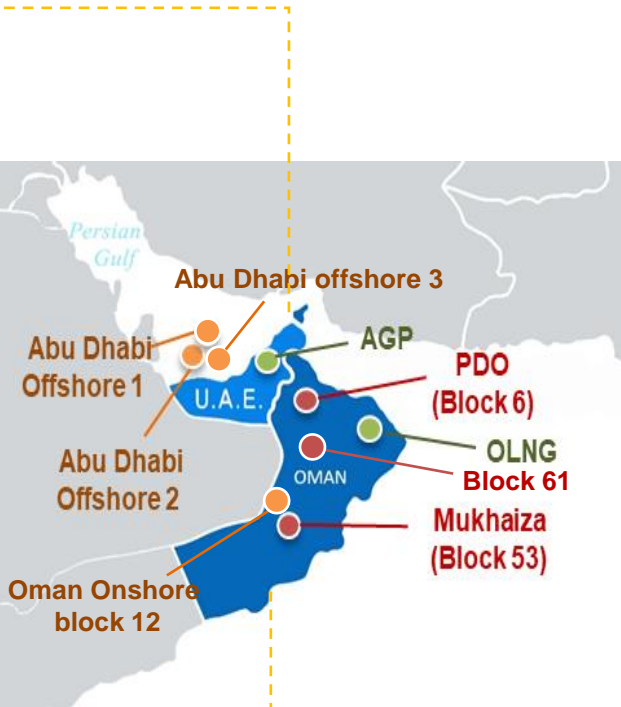
UAE

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)



*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 626 KBPD for 12M2021
- 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 96 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)

Note: ADNOC : Abu Dhabi National Oil Company



Algeria

Bir Sebah

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

Hassi Bir Rekaiz

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

Mozambique

Rovuma Offshore Area One

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

Mexico

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 conduct exploring campaign

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
- Preparing for exploration well and appraisal drilling.

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



Project information 1/5



	Project	Status*	Phase	PTTEP's Share	Partners <i>(as of December 2021)</i>	12M2021 Average Sales Volume **		2021 Key Activities
						Gas (MMSCFD)	Liquid (KBPD)	
Thailand and JDA								
1	Arthit	OP	Production	80%	Chevron MOECO16%4%	239	12	<ul style="list-style-type: none">Higher gas deliverability levelDrill development and Infill wells
2	B6/27	OP	Production	100%		-	-	<ul style="list-style-type: none">Prepare for decommissioning activitiesBest Practical Environment Option (BPEO) report has been approved by DMF on 18 November 2021.
3	B8/32 & 9A	JV	Production	25.001%	Chevron MOECO51.66%16.71%KrisEnergy4.63%Palang Sophon2%	48	14	<ul style="list-style-type: none">Ensure gas deliverability level at DCQDrill development wellsPreparation for topside reuse in 2022 and 2023
4	Bongkot	OP	Production	66.6667%	TOTAL33.3333%	867	23	<ul style="list-style-type: none">Infills drilling for both BKT JV and BKT Sole RiskMaintain production level as plannedCarry out wells plug and abandonment, Pipeline cleaning and Hg decontaminationWellhead platform & sealine and FSO1 PLEM Decommissioning (Non-transferred asset)
5	Contract 3 (Formerly Unocal III)	JV	Production	5%	Chevron MOECO71.25%23.75%	413	23	<ul style="list-style-type: none">Decommissioning activities
6	Contract 4 (Formerly Pailin)	JV	Production	60%	Chevron MOECO35%5%	403	16	<ul style="list-style-type: none">Ensure gas deliverability level at DCQ***Drill development wellsTopside reuse
7	E5	JV	Production	20%	ExxonMobil80%	8	-	<ul style="list-style-type: none">Ensure gas deliverability level at DCQ***
8	G4/43	JV	Production	21.375%	Chevron MOECO51%21.25%Palang Sophon6.375%	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 MOECO71.25%23.75%	1	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 plateauFully explore the new resource for additional field potential i.e. new drilling well and enhance oil recovery activities.
11	PTTEP1	OP	Production	100%	-	-	0.2	<ul style="list-style-type: none">Maintain production plateauFully explore the new resource for additional field potential i.e. new drilling well and enhance oil recovery activities.
12	S1	OP	Production	100%	-	8	Crude: 26 KBPD LPG: 186 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 and execution plan was approved by the management committee to ensure all focused strategic areas implemented all workplans and activities until end of concession in year 2031.
13	Sinphuhorm	OP	Production	55%	Apico****35%ExxonMobil10%	90	0.3	<ul style="list-style-type: none">Ensure gas deliverabilityDrill development well as plannedNew GSA has been effective since 1 Oct 2021.

* 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 (as of December 2021)	12M 2021 Average Sales Volume **		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 the resume production or exist strategy in future
15	MTJDA	JOC	Production	50%	Petronas-Carigali 50%	250	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 several Agreements (including Site Assess Agreement) signing with the Existing Concessionaires, 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	7.2-80% (varied by permits)	Varied by permits	SK309 and SK311** 165 Block K** 26 Block H** 203	SK309 and SK311** 16 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: Continue production at plateau 270MMSCFD
2	Yadana	JV	Production	25.5%	TOTAL 31.24% Chevron 28.26% MOGE 15%	769	-	<ul style="list-style-type: none">Completed drilling 2 production wellsNew DCQ*** proposal and negotiation with PTT
3	Yetagun	JV	Production	19.3178%	Petronas-Carigali 40.91018% MOGE 20.4541% Nippon Oil 19.3178%	17	0.6	<ul style="list-style-type: none">Resumed its production in October 2021
4	Zawtika (M9 & a part of M11)	OP	Production	80%	Myanma Oil and Gas Enterprise (MOGE) 20%	319	-	<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	100%		-	-	<ul style="list-style-type: none">Waiting for approval of PSC SupplementaryFEED & OE and survey activitiesGas Sales Agreement negotiation
6	Myanmar MD-7	OP	Exploration	50%	TOTAL 50%	-	-	<ul style="list-style-type: none">Termination process in progress

* 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

**** PTTEP submitted a request to terminate and relinquish 100% of the exploration blocks of Myanmar M11 and 77.5% of the exploration blocks of Myanmar MOGE3.

The official approval from the Government of the Republic of the Union of Myanmar was already obtained for these projects in November 2021.

Project information 3/5



	Project	Status*	Phase	PTTEP's Share	Partners <i>(as of December 2021)</i>		12M 2021 Average Sales Volume **		2021 Key Activities
							Gas (MMSCFD)	Liquid (KBPd)	
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%	6	13	<ul style="list-style-type: none">• Maintain production level• Completed drilling campaign of 4 development wells
11	Vietnam B & 48/95	JV	Exploration	8.5%	PetroVietnam MOECO	65.88% 25.62%	-	-	<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
12	Vietnam 52/97	JV	Exploration	7%	PetroVietnam MOECO	73.4% 19.6%	-	-	<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
13	Natuna Sea A	JV	Production	11.5%	Premier Oil KUFPEC Petronas Pertamina	28.67% 33.33% 15% 11.5%	203	2	<ul style="list-style-type: none">• Completed drilling 2 wells in Q4/2021.
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">• Continued drilling the first exploration well
3	Abu Dhabi Offshore 3	JV	Exploration	30%	Eni Abu Dhabi	70%	-	-	<ul style="list-style-type: none">• G&G study is on-going
5	PDO Block 6 (Oman)	JOC	Production	2%	Government of Oman Shell Total	60% 34% 4%	-	626**	<ul style="list-style-type: none">• Normal operations with daily production around 600 KBD
6	Mukhaizna (Oman)	JV	Production	1%	Occidental OOCEP Indian Oil Mubadala	47% 20% 17% 15%	-	96**	<ul style="list-style-type: none">• Normal operations with daily production around 95 KBD
7	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• 3D seismic acquisition (new 3D) is in process for tendering
8	Oman Block 61	JV	Production	20%	BP Makarim Gas Development LLC PC Oman Ventures Limited (PETRONAS)	40% 30% 10%	1,069	47	<ul style="list-style-type: none">• Full production capacity of natural gas and condensate in according to the Sales and Purchase Agreement

* 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 December 2021)</i>		12M 2021 Average Sales Volume **		2021 Key Activities
							Gas (MMSCFD)	Liquid (KBPD)	
Other International									
1	PTTEP Australasia (PTTEP AA)	OP	Exploration	90%-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 studiesSurrender AC/L3 in November 2021
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, subject to local security situation1st Debt drawdown in project FinanceForce 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 in Cabo Delgado province
3	Algeria 433a & 416b (Bir Seba)	JOC	Production	35%	PetroVietnam Sonatrach	40% 25%	-	16**	<ul style="list-style-type: none">Drilling of 4 development wells completed in 2021Existing 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 2022
5	Mariana Oil Sands (Canada)	OP	Exploration	100%	-		-	-	-
6	Brazil 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">Completed the drilling operation of 1 exploration well
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 2 wells in Q3/2021Field pre-development study is in progress.

* 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 <i>(as of September 2021)</i>	12M 2021 Average Sales Volume **		2021 Key Activities
						Gas (MMSCFD)	Liquid (KBPD)	
Other International****								
10	Block 17/06 (Angola)	JV	Pre-development	2.5%	Total Sonangol SSI Acrep Falcon Oil 30% 30% 27.5% 5% 5%	-	-	<ul style="list-style-type: none">Completed Finalize Negotiation Head of Term Agreements for Begonia Oil Field Development ProjectCompleted Reservoir Model for Gardenia & Forsythia Gas Fields Development Project
11	Dunga (Kazakhstan)	JV	Production	20%	Total OOCEP 60% 20%	2	13	<ul style="list-style-type: none">Continue to curb production per OPEC+ agreement to support priceProcurement process Compression package and Gathering LinesEngineering of Separation Upgrade, Flare packageInspection of Sea water pipeline
Midstream Project								
1	Oman LNG	Shareholder	On line	2%	Government of Oman Shell Total Korea LNG Mitsubishi Mitsui Itochu 51% 30% 5.54% 5% 2.77% 2.77% 0.92%	-	-	<ul style="list-style-type: none">Normal operations
2	ADNOC Gas Processing (AGP)	JV	On line	2%	ADNOC Shell Total 68% 15% 15%	-	-	<ul style="list-style-type: none">Perform midstream operation activitiesMaintain production and plant integrity with maintenance work as planned

* 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.

**** Divestment of the Potiguar Project was announced on 30 July 2021 and the transaction was completed and in effect on 29 October 2021.



Ratio & 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