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Dow Jones
Sustainability Indices
In Collaboration with RobecoSAM

Q2 2021 Results

Analysts Meeting

30 July 2021

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.




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Q2/2021 Highlights

Khun Phongstorn Thavisin


Chief Executive Officer



Net Income
222 MMUSD



Unit Cost
27.24 \$/BOE



Sales Volume
443 KBOED



Sales Volume
412 KBOED

CHANGING ENERGY LANDSCAPE

- Energy Transition is reshaping the industry -



Climate change is Top Agenda



Stakeholders demanding lower carbon footprint



Shifting to low carbon energy



Fossil Fuel demand will peak

Global

- **GHG Reduction** to sustain E&P business
- **Gas** is a transition fuel
- **Electrification** is the future

- **New Policy & Incentives** for green investment
- **Easy Access & Cheap Funding** from Investor

- **Renewables growing at 10% CAGR** from 2010-2040
- **H₂ Society** becomes aspiration for many countries

- **Peak Oil: 2028-2040+** by speed of growth in EVs
- **Peak Gas: 2037-2040+** by growth in renewables

Thailand
















- **2030 GHG reduction** target 20%
- **Net-zero emission year** being defined
- **Climate Change Act** being prepared

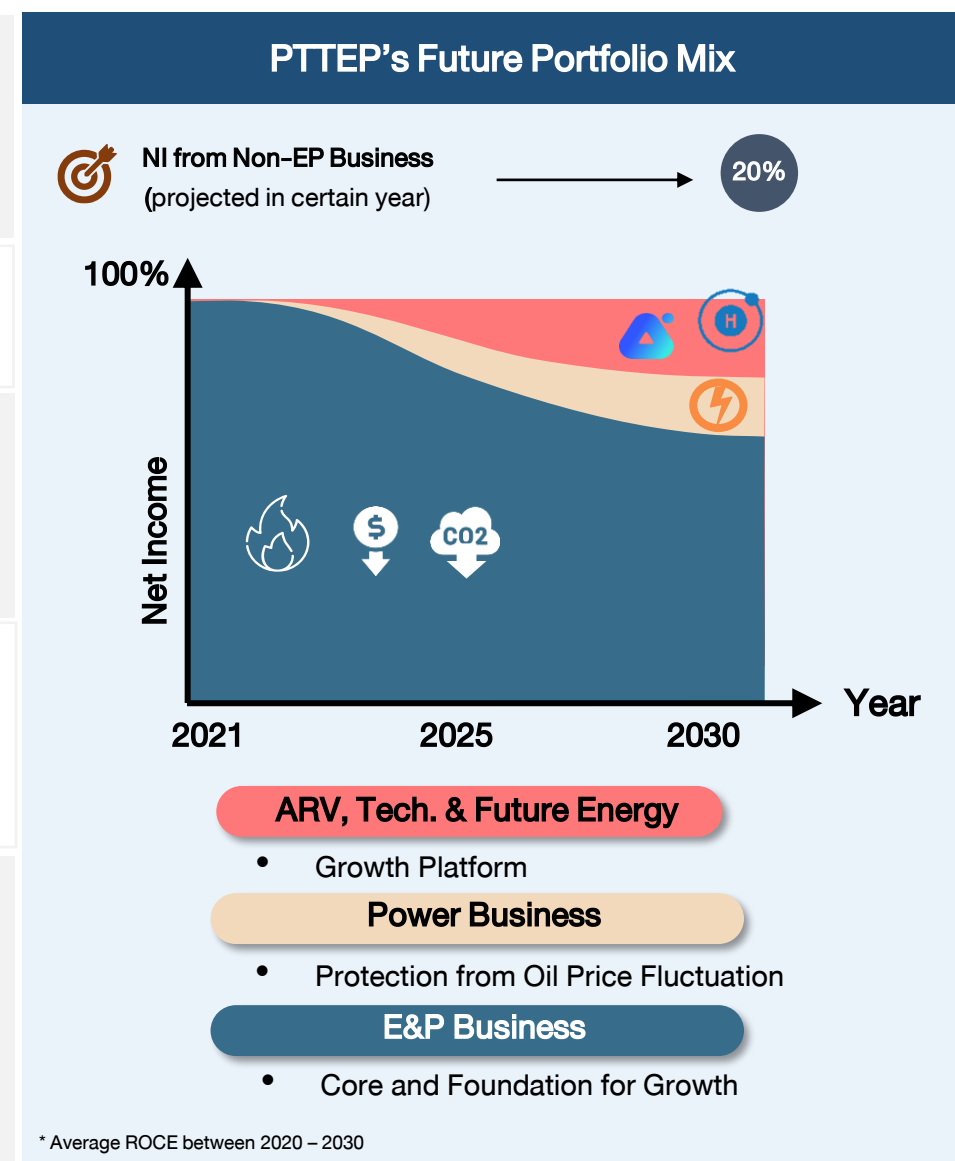
- Govt. plans to
 - Change **fuel mix**
 - Support **goods from low-carbon** processes
 - Encourage **Carbon Capture and Storage**

- **Renewables growing at 2-3% CAGR** (2019-2050)
- **H₂ Symposium & H₂ Thailand Working Group** established among private sectors

- **Peak Oil: 2034** by clean energy & policy
- **Peak Gas: 2040+** by technology development

PTTEP's Position towards Energy Transition

| Strategy | Last man standing | Cautious diversified | Low-carbon adopter | Energy transition frontrunner |
|-------------------------|---|---|--|---|
| Emission Targets | Minimal adhere to regulations | Commitment but not Net Zero | Net zero target | Aggressive 2°C goal |
| Core Oil & Gas Business | Focused + Offset activities | Maintain + Offset activities | Reduced + Offset activities | Divested |
| New Business | Minimal | Minor | Increased | Focused |
| Company Mapping |    |        |     |  |



PTTEP's Directions and Long-Term Targets

Execute & Expand

Sustainable E&P Business

- **Production CAGR** 5% in 2030, maintain @700 KBOED after 2030
- **R/P** > 5 years
- **Unit Cost** ≤ 25 \$/BOE

Strategy:

- **Domestic gas sales** to ensure gas supply continuity
- **Cost competitiveness** of oil projects in Thailand & Malaysia
- **Resources monetization** of exploration and development assets
- **"Go for Gas"** growth in TMM & ME
- **New LNG investment shift** to medium-long term

- **GHG emission intensity** reduced by 25% in 2030
- **PTTEP's visibility** as "Guardian of the Ocean"

Strategy:

- ❑ **GHG reduction initiatives** e.g. CCS in Thailand & Malaysia
- ❑ **Ocean for life initiatives** e.g. Ocean data platform, Rig to reef, CSR around ocean

Diversification to non-E&P

- **Net Income contribution** 20% by 2030

Strategy:

- ❑ **ARV** superior growth
- ❑ **Power Business** in Vietnam / Myanmar
- ❑ **In-house Tech Commercialization**, CCU, Hydrogen

Resources Preparedness

- **Resilient organization** for both E&P and non-E&P

Strategy:

- ❑ **Efficient human resources and funding plan**
- ❑ **Spin-off** non-E&P businesses



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Strategy Update

Khun Natruedee Khositaphai
EVP, Strategy & Business Development

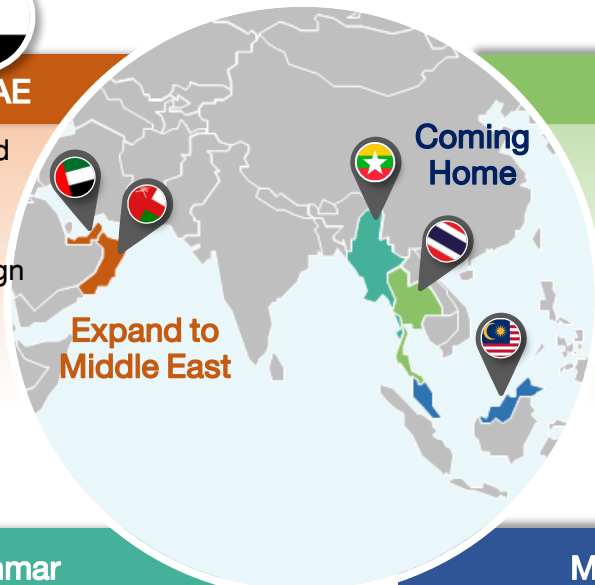
E&P Business

Growth in Core Area & Strategic Partnership



Oman and UAE

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



Thailand

- Ensure **domestic gas supply** continuity
- Accelerate resources recovery from onshore assets
- Find **new growth opportunity** from OCA and bid round



Myanmar

- Pursue growth in **Western Corridor**
- Unlock full potential of existing assets
- Closely monitor **political situation**

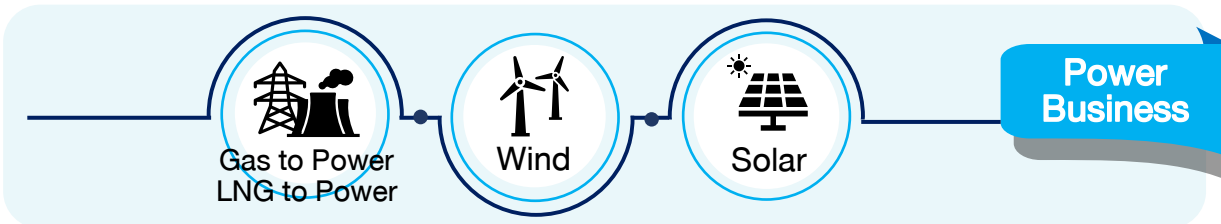
Malaysia

- Fully Explore and synergize with existing facilities
- Focus on **Lang Lebah (LLB)** Development
- Resources monetization from exploration blocks

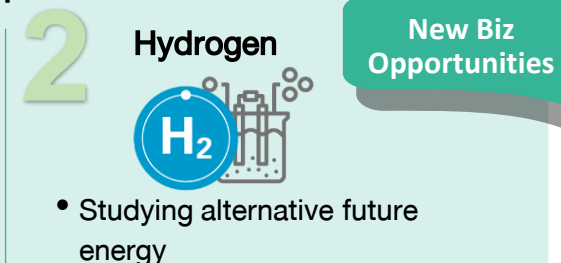
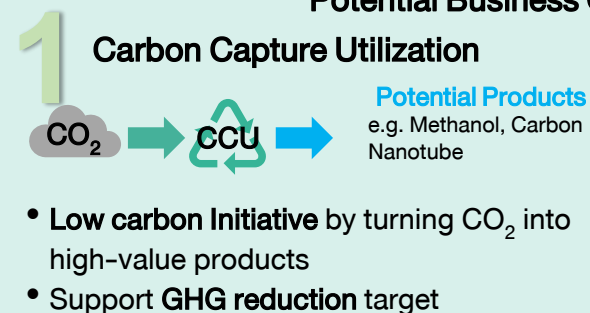


Non-E&P Business

Diversifying into Tech, Power and New Business



Potential Business Opportunities





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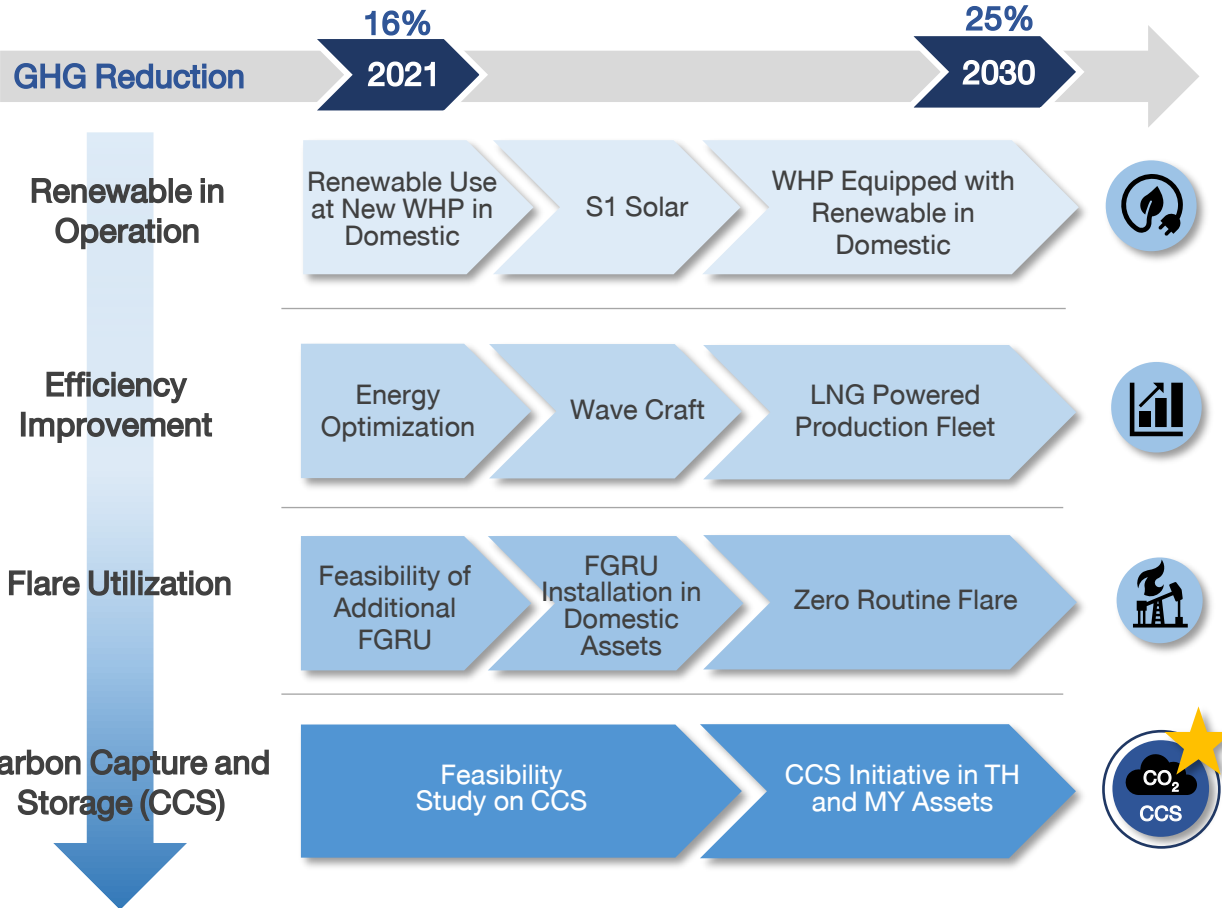
Sustainability Development

Khun Natruedee Khositaphai
EVP, Strategy & Business Development

SD Roadmap – GHG and Ocean for Life

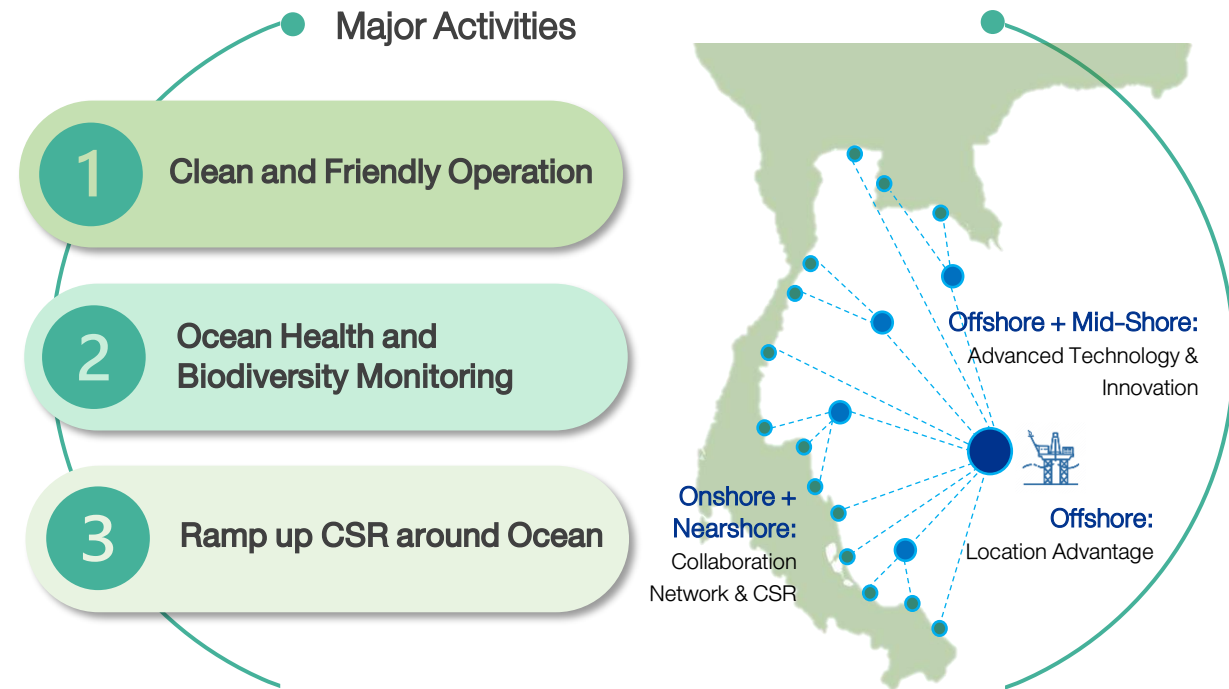
GHG Reduction Roadmap for 2030 Target

25% GHG Intensity Reduction (base year 2012)



Ocean for Life

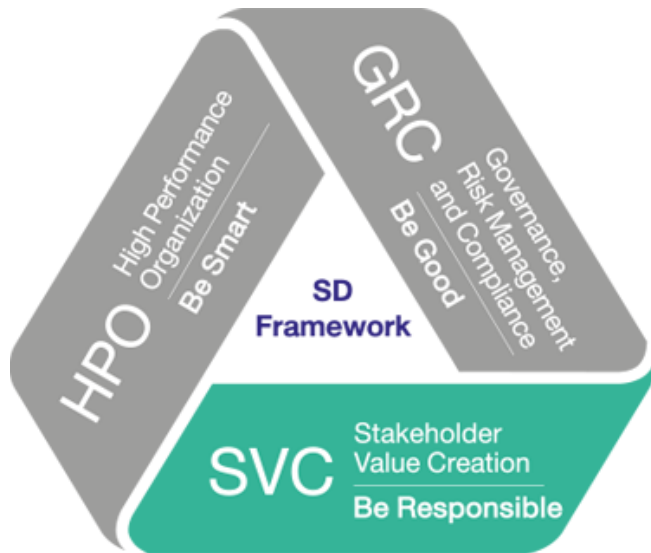
Guardian of the Ocean (via Ocean Data Platform)



SD Progress & Highlights

“Energy Partner of Choice”

through Competitive Performance and Innovation for Long-term Value Creation



2030 Targets

GHG Reduction



25%
Reduction of
GHG emissions intensity
(2012 base year)

Circular Model for E&P



≥50%
of main structures reuse

Zero waste to landfill



Ocean for Life



Net Positive Impact
of Biodiversity & Ecosystem Services
in Offshore Operations
(2019 base year)

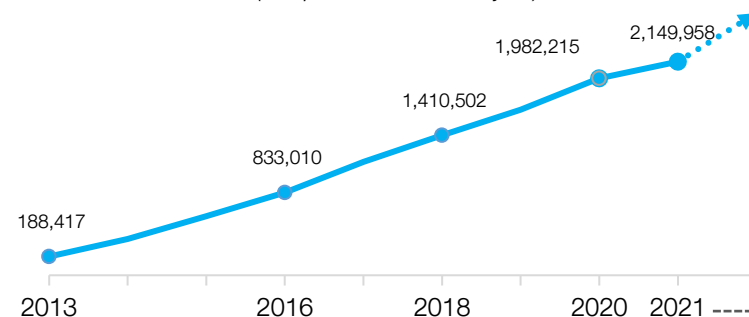
≥50%
Increase in Community Income for
local community that participated
in our program
(before project implementation)

Q2/2021 Key Performance

Accumulative GHG Emissions Reduction

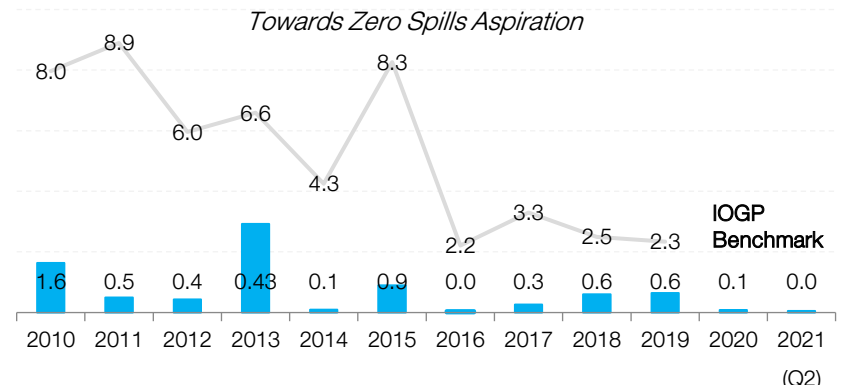
(Unit: Absolute (tonne CO₂ equivalent))

16% Reduction of GHG Emission Intensity as of June 2021
(compared to 2012 base year)



Oil and Chemical Spill Rate

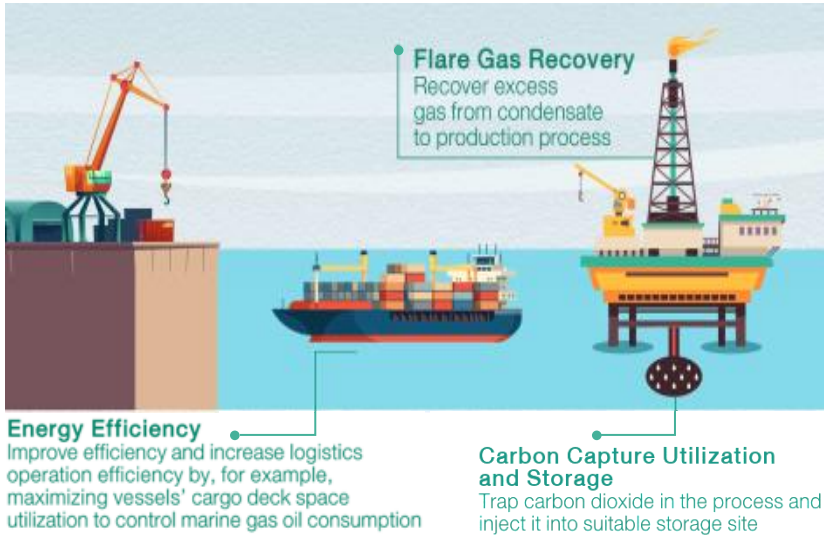
(Unit: Tonne per million tonne of petroleum production)



SD Progress & Highlights (Cont.)



GHG Reduction



Flare Gas Recovery

Completed GBN Flare Gas Recovery Unit feasibility study

CCUS Study

CCU: Carbon nanotube from flare gas: 100,000 scfd facility is under engineering design for pilot project

CCS: Completed feasibility study and on-going pre-FEED in GoT



Circular Model for E&P

Zero Waste to Landfill

Achieved zero hazardous waste to landfill and step up to zero industrial waste to landfill by 2025

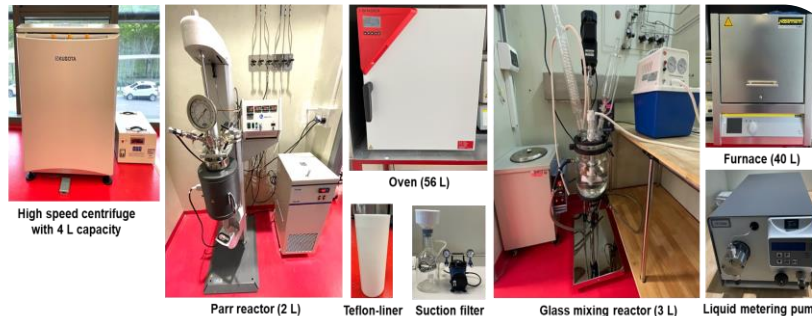
Topside Reuse Project

On-going 1st Topside re-location at Arthit operation (started in July 2021)



Upcycling High Volume Waste

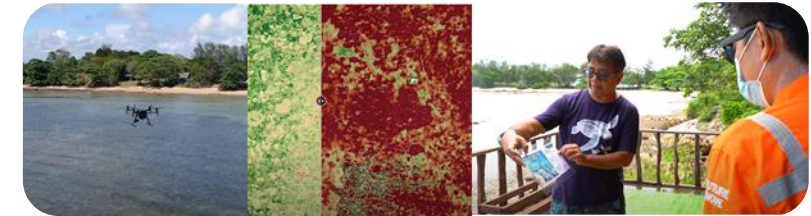
Sand to Zeolite: Completed prototype equipment setup in May 2021 and now preparing for production



Ocean for Life

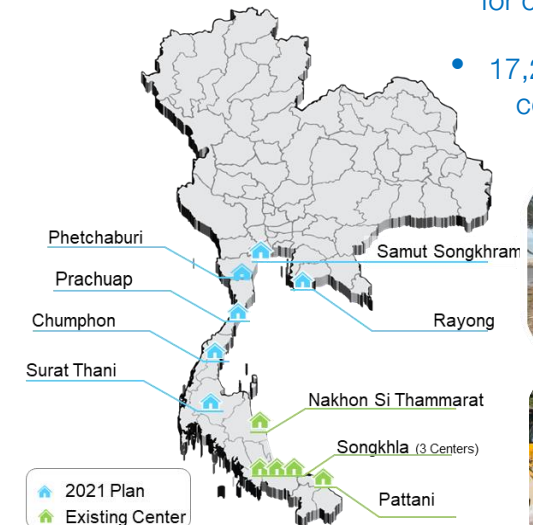
Marine Spatial Planning

On-going multi-spectrum drone survey (first time in SEA) for aerial mapping of coral reef monitoring with KU at Koh Mannai and Pala Beach, Rayong



Ramp Up CSR around Ocean

- 6 Aquatic Animal Hatchery Learning Centers are planned for construction by 2021



- 17,248.50 Kg of wastes collected @ Songkhla for proper disposal





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Industry Outlook

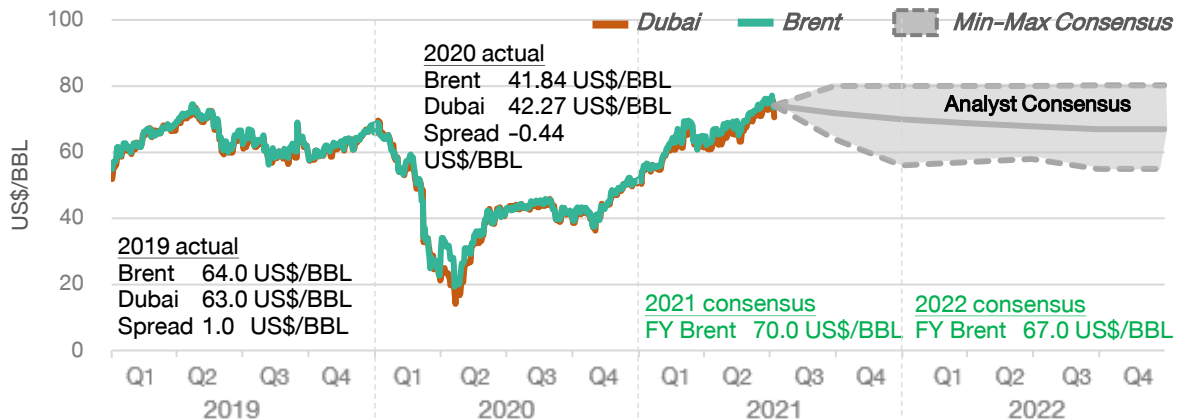
Khun Natruedee Khositaphai

EVP, Strategy & Business Development

Oil and LNG Market Update

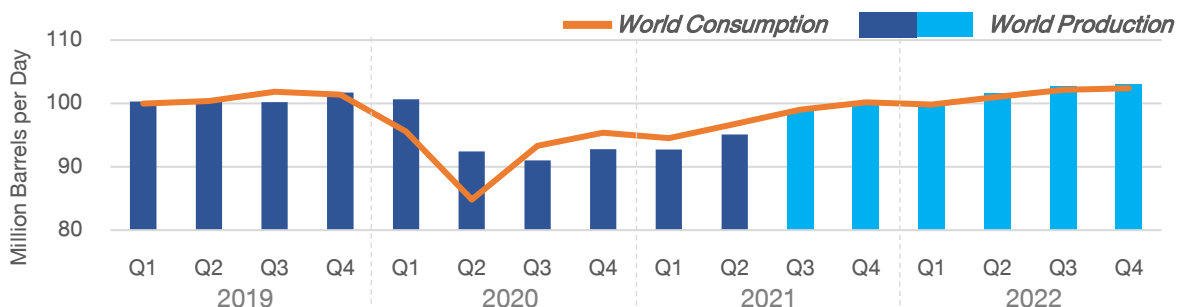
Global Oil Market

Prices Outlook



Source: Refinitiv (Reuters), Monthly Poll on Oil Price as of Jun'21

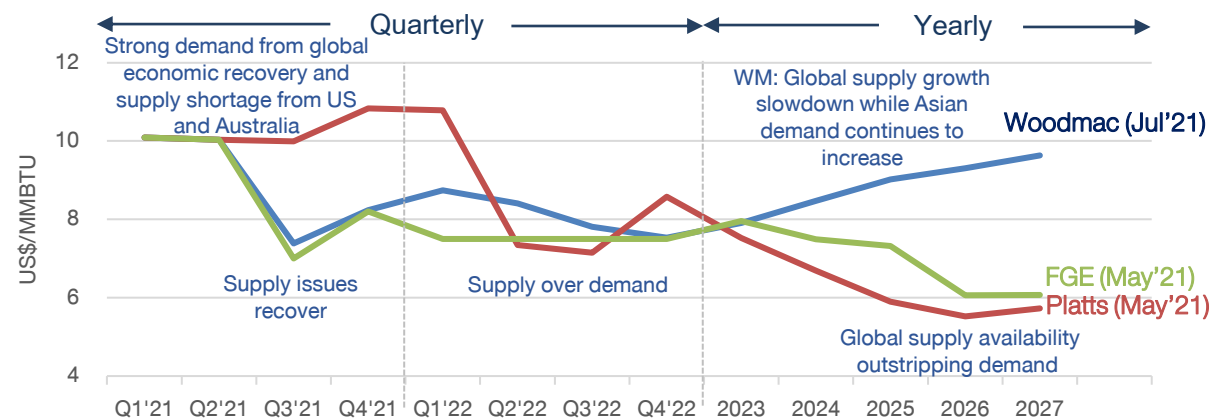
Demand & Supply Outlook



Source: EIA, Short-Term Energy Outlook as of Jul'21

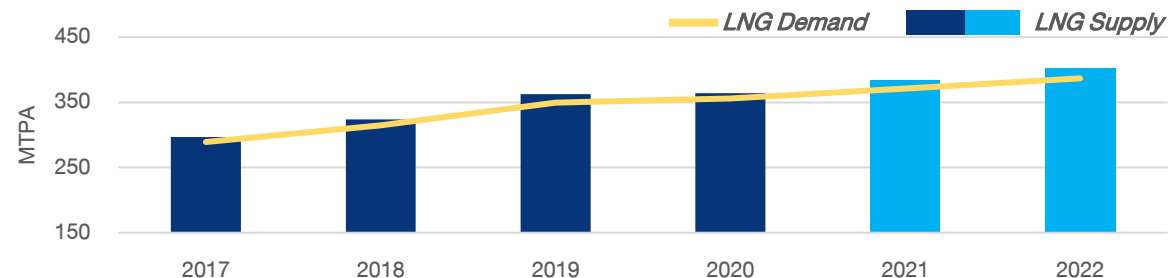
LNG Market

LNG Spot Price Outlook



Source: Information as of Jul 2021.

Global LNG Demand & Supply Outlook



Source: Wood Mackenzie, Short-Term LNG Demand & Supply Tracker as of Q2'21

Key factors to Monitor



Global COVID-19 Situation & Vaccine Distribution



Economic Recovery & Stimulus Measures



OPEC+ Production Cuts Agreement



US Sanction Policy on Iran & Venezuela



LNG Market Still Oversupply



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Operations Update

Khun Montri Rawanchaikul

President

Assets Transition in Thailand

G1/61
(Erawan)



Delayed
Site Access



Starting producing
below PSC volume



Remediation Plan
(accelerate ramp-up and
uplift other fields)

G2/61
(Bongkot)



WHP Construction
and Installation
(complete in Nov)



Awarded
drilling rig
(ready to drill in Nov)



GSA Finalized

On track towards 1st gas in 2022

Production boost in Oman

Oman Block 61

- Ramp up production to full capacity from 27 June 2021
- Gas: 1,500 MMSCFD
Condensate: 69,000 BBL/D



New volume in Algeria

Algeria HBR

- Construction and commissioning on progress
- 1st oil production expected in 2H/2021 with capacity 10-13KBPD

Stronger foothold in Malaysia

SK410B Project

- Under field development study reflecting larger gas discovery volume and CO₂ management as per GHG aspiration target
- FID target on track
- Several petroleum prospects under study with additional drilling planned in 2022

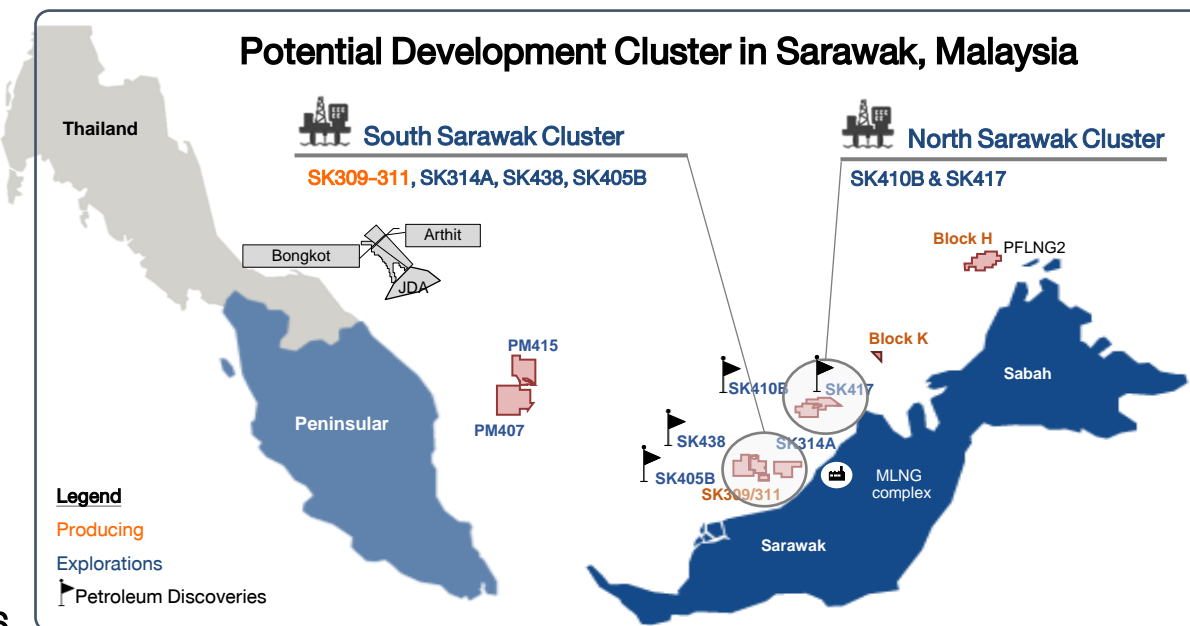
SK438 Project

- Evaluating petroleum potential at Mak Yong-1, after gas discovery at Kulintang-1 (1st exploration well) in April 2021

PM407 Project

- Conducting 3D Seismic Reprocessing and preparing for exploration drilling campaign in 2022-2023

Potential Development Cluster in Sarawak, Malaysia



New Business Update – ARV



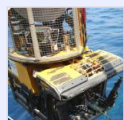
End-to-end AI-augmented **Subsea**
Inspection Repair and Maintenance (IRM)

One-stop Service for **Smart Farming**
and **Smart Forestry** Solutions

Cloud-based Asset **Inspection** and Mgmt.
Platform via Drones & AI/ML services

Thailand's largest lifetime **digital health**
ecosystem for illness and good-health.

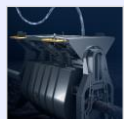
Products and Services



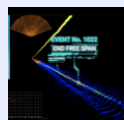
ROV
Inspection & repair



Xplorer AUV
Surveillance & inspection



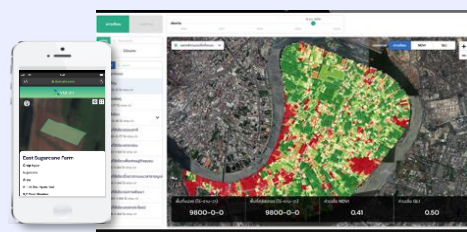
Nautilus
Repair & Maintenance



Software & Data
Analytics & Insights



AiAng Sprayer Drone



VARUN Platform



AIM Platform



Drone Inspection



**IoT
Temp
Monitoring**



Health Ecosystem Platform

Business Highlights

- Delivered ROV support for pipeline replacement to Mubadala
- Awarded for Zawtika pipeline survey
- Awarded for ME ROV support project
- 5 sales opportunities in pipeline

- 1,120 sq.km Varuna analytics performed in POC stage
- 31 AiAang sprayer drone confirmed orders in Q2 (to be delivered in Q3)
- Ongoing discussion with 3 additional AiAang distributors
- Awarded for 48 sq.km spraying service
- 14 sales opportunities in pipeline

- AeroSky JV established
- MOU signed for power sector
- Delivered POC for Telecom and Construction sectors
- Ongoing inspection services performed 2,000 km of PTT Pipeline
- Awarded for HMC long-term service
- 12 sales opportunities in pipeline

- Delivered 2,000 units of IoT cold-chain device for Covid-19 vaccine
- Ongoing development of COVID-19 risk evaluator software (Thaisavefamily platform) for Department of Health
- Ongoing health ecosystem platform development (ARVIC) with potential 1.5m users on board
- Ongoing POC development of wellness platform with BJC



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Financial Results

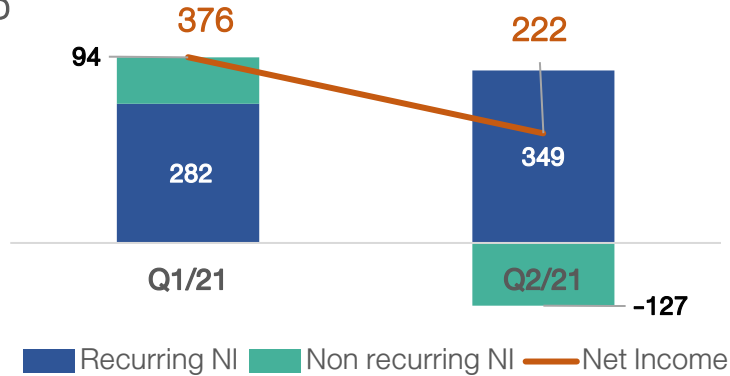
Khun Sumrid Sumneing
EVP, Finance & Accounting

Results – Net Income

Impressive recurring net income curbed by oil price hedging loss

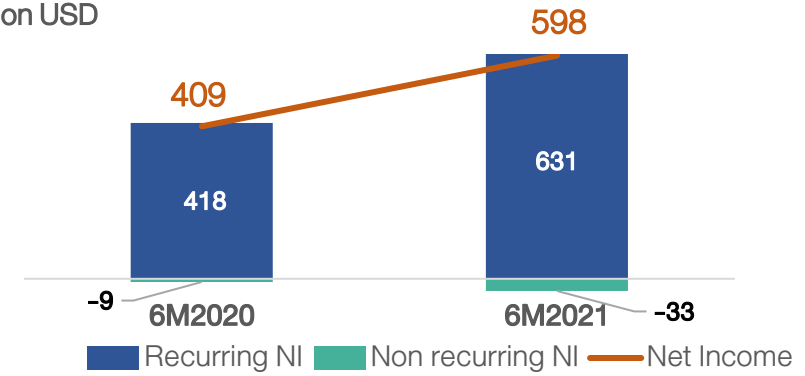
Q2/21 on Q1/21 (QoQ)

Unit: million USD



6M2021 on 6M2020 (YTD)

Unit: million USD



Recurring (+67 MMUSD or +24%)



+16%
Mainly from Oman Block 61
and Sabah H



+4%
Higher liquid price



-3%
Lower unit costs

Recurring (+213 MMUSD or +51%)



+20%
Increase from Gulf of Thailand,
Sabah H, and Oman Block 61



+3%
Higher liquid price
offset with
lower gas price



-10%
Lower unit costs

Non-recurring (-221 MMUSD or ->100%)



Higher oil price hedging loss in Q2, and realization of gain from bargain purchase offset with exploration asset write-off in Q1

Non-recurring (-24 MMUSD or ->100%)

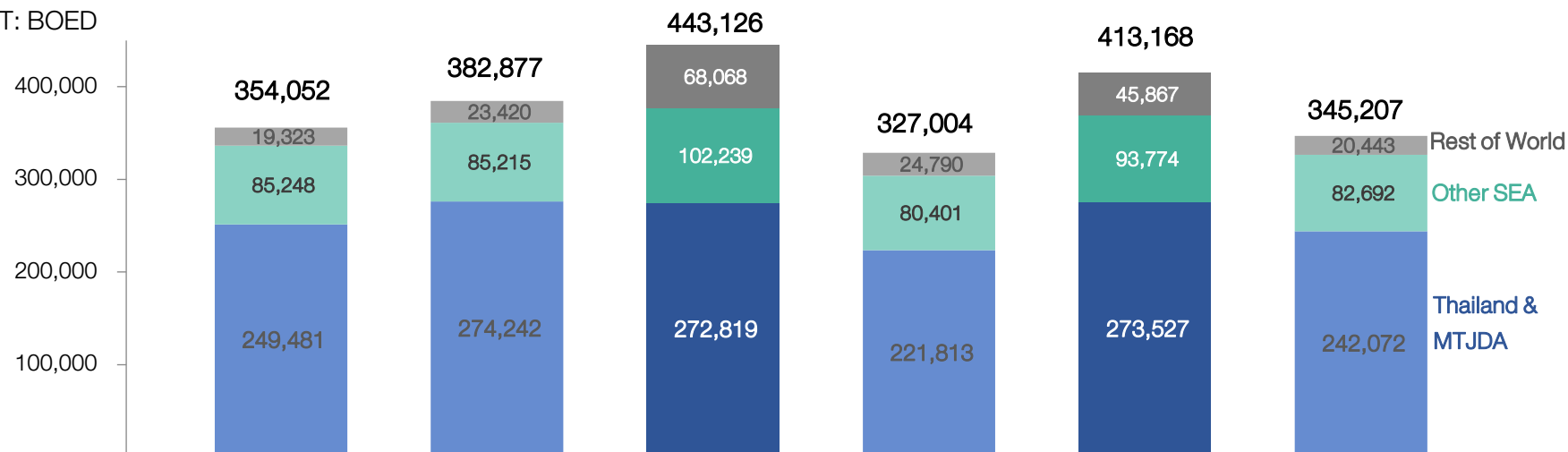


Higher oil price hedging loss offset with a gain from bargain purchase in 2021

Results – Sales Volume and Average Selling Price

Solid volume addition from Oman Block 61 and Malaysia Sabah-H

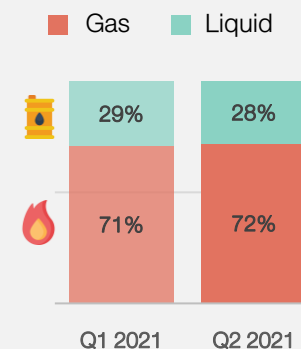
UNIT: BOED



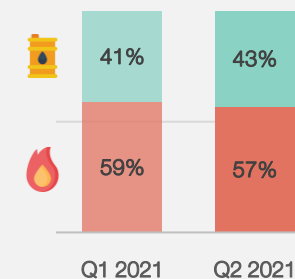
| Product Price | 2020 | Q1 21 | Q2 21 | Q2 20 | 6M 2021 | 6M 2020 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| Gas (\$/MMBTU) | 6.27 | 5.61 | 5.59 | 6.37 | 5.60 | 6.64 |
| Liquid (\$/BBL) | 41.55 | 56.59 | 63.98 | 28.92 | 60.52 | 40.80 |
| Weighted Avg. (\$/BOE) | 38.92 | 40.38 | 42.19 | 34.97 | 41.35 | 40.15 |
| Avg. Dubai (\$/BBL) | 42.27 | 60.21 | 67.02 | 30.72 | 63.62 | 40.72 |
| Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil) | 39.30 | 56.74 | 61.21 | 29.18 | 58.98 | 36.26 |

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

Volume Mix

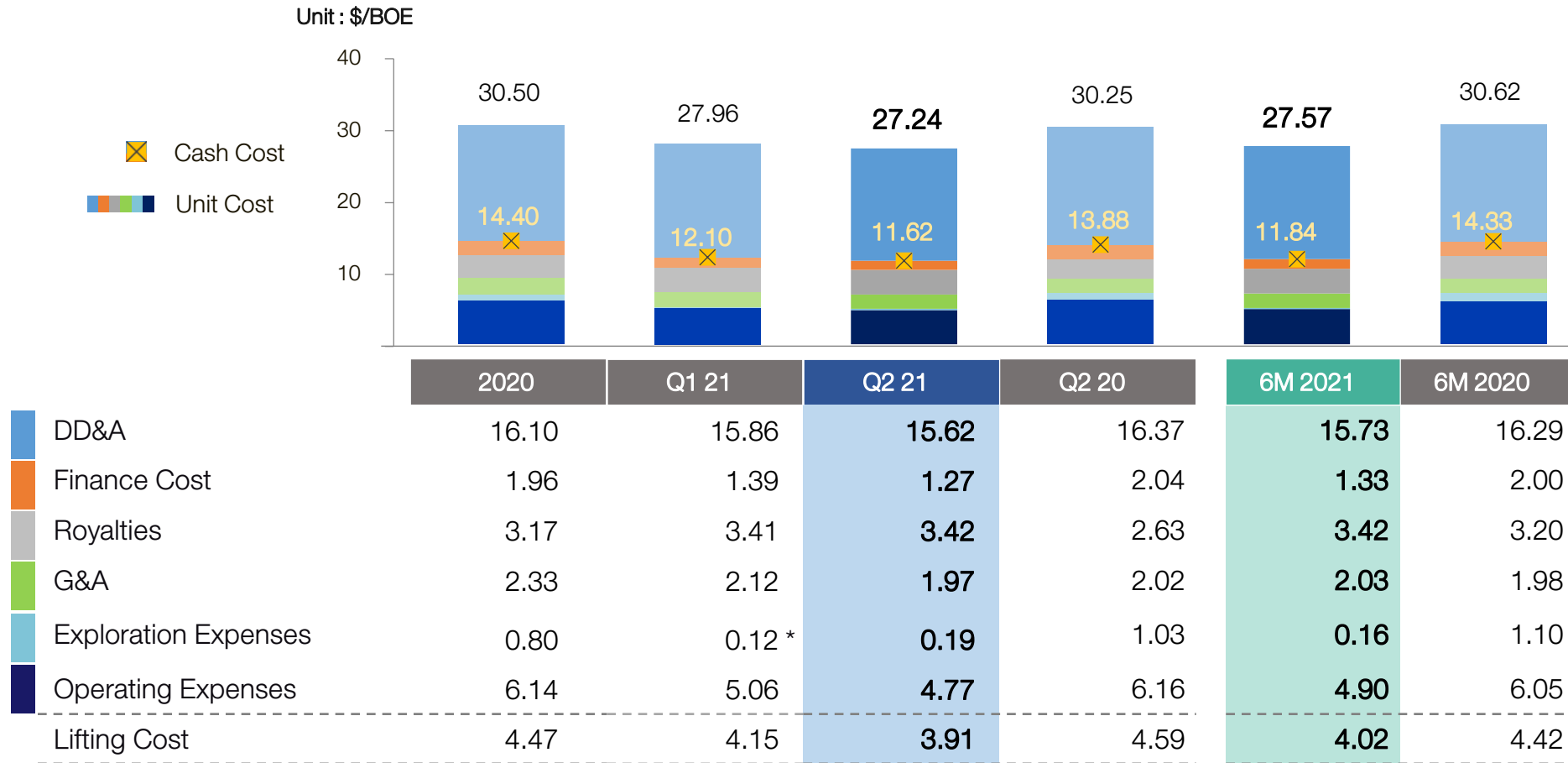


Revenue Mix



Results – Unit Cost

Consistent decline in unit cost to meet long-term aspiration cost target

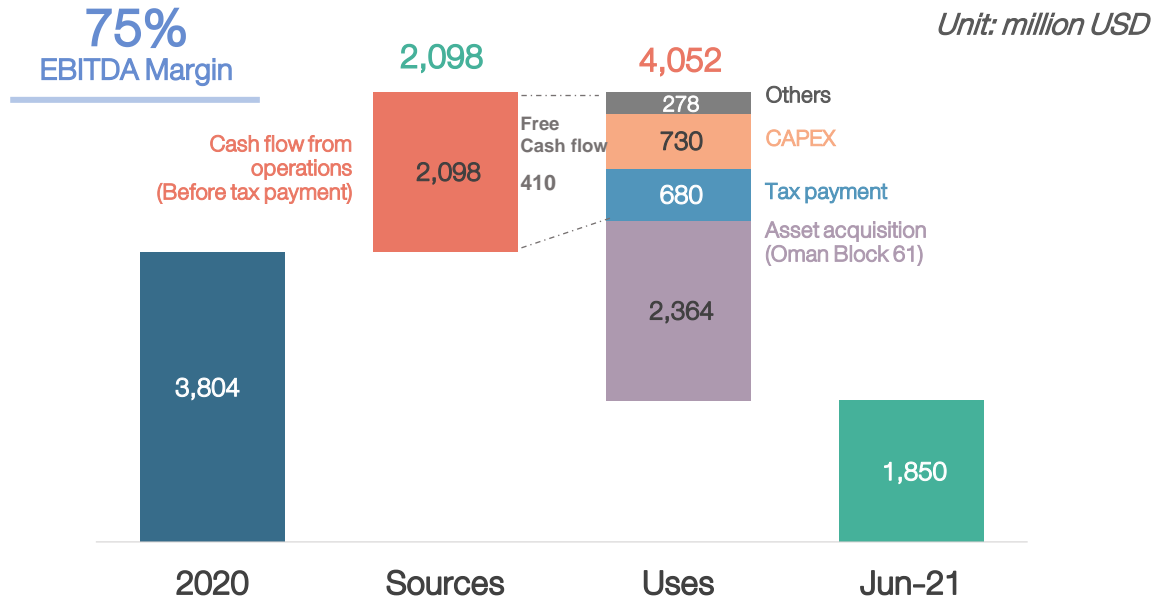


Note: * Exclude Exploration assets write-off in Brazil for Q1 21
 All Unit Cost shown above exclude costs related to new business
 The formulas for calculating ratios are provided in the supplementary section for your reference

Results – Cash flows and Financial Position

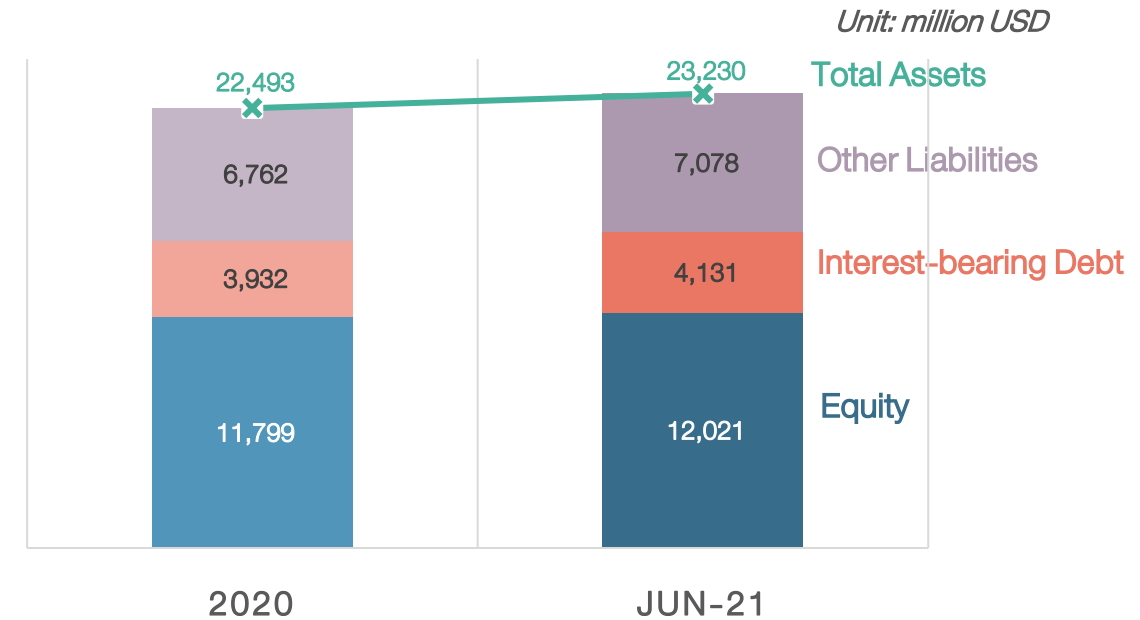
Robust operating cash flow with higher EBITDA margin

6M 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 | 0.34x | Weighted Average Loan Life (Years) | 14.08 | 12.86 |
| Weighted Average Cost of Debt (%) | 3.44 | 3.31 | Fixed : Floating | 82:18 | 78:22 |

Note: Debt profile excludes Hybrid bonds

Schedule for 1H2021 Dividend Payment

XD Date

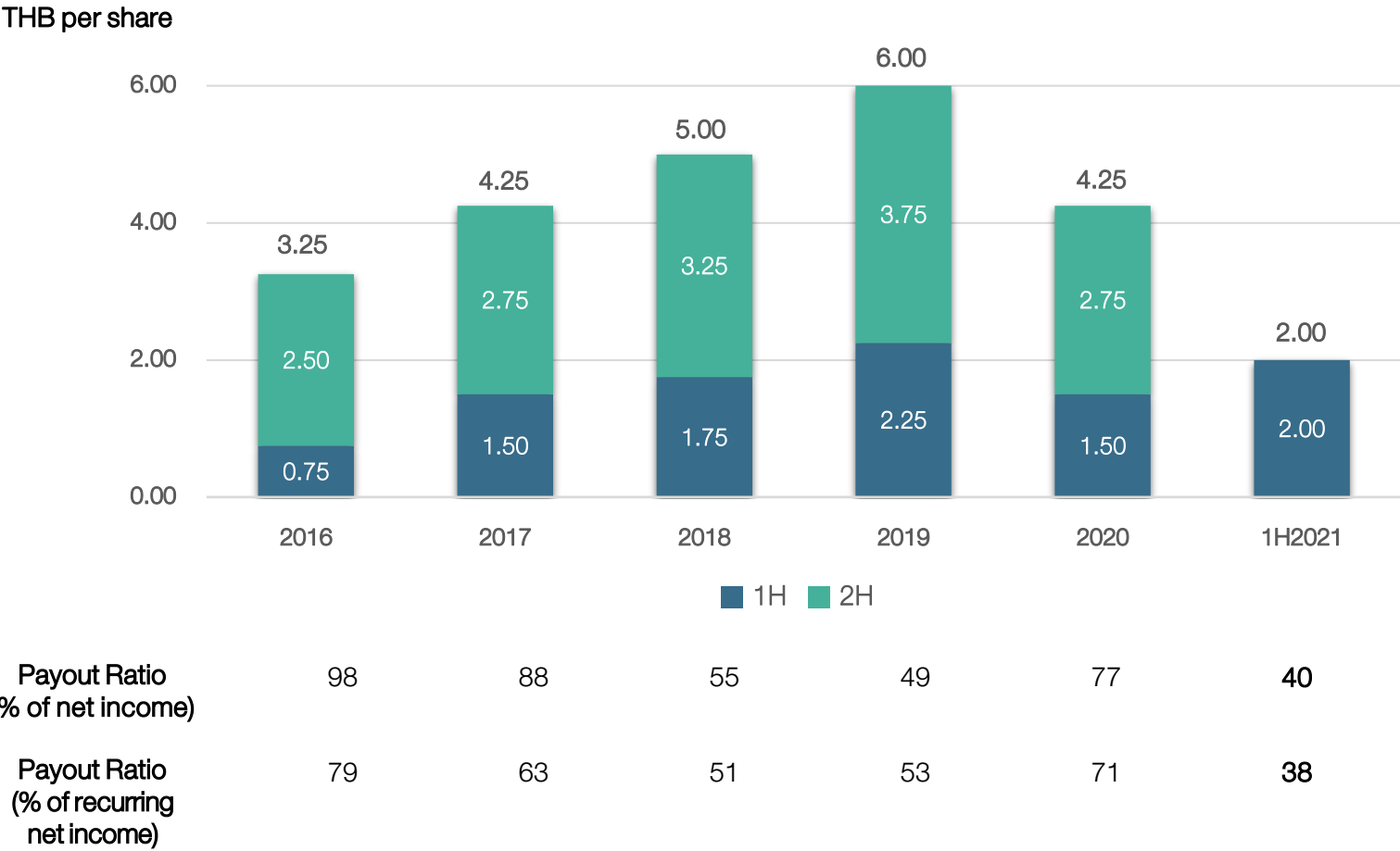
11 August 2021

Record date

13 August 2021

Payment Date

27 August 2021



Financial Outlook

2021 Guidance

Average Sales Volume*

KBOED

Q3
~405

Full year

~412

Average Gas Price**

USD/MMBTU

Q3 & Full year

~5.7

Unit Cost

USD/BOE

Q3 & Full year

~28-29

EBITDA Margin

% of Sales Revenue

Q3 & Full year

~70-75%

Note:

* Include sales volume from
ADNOC Gas Processing (AGP)

** Based on average Dubai oil
price in 2021 at 67.6 \$/BBL

Credit Rating/Outlook

International

National



BBB+ / Stable
BBB stand-alone rating

FitchRatings

BBB+ / Stable
BBB stand-alone rating

Moody's

Baa1 / Stable
Baa2 stand-alone rating

TRIS
RATING

AAA / Stable





+66 2 537 4000

Thank you and Q&A

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Supplementary information

| | |
|--|-------|
| ● Financial Results Q2/2021 | 27-29 |
| ● Industry and Thailand Energy Updates | 30-32 |
| ● Reserves at Year-end 2020 | 33 |
| ● Key Project Highlights by Region | 34-39 |
| ● Project Details | 40-44 |
| ● Organization Structure | 45 |
| ● Ratio and Formula | 46 |

Results – Net Income

Unit: million USD

| Statements of Income | Q2 21 | Q1 21 | %QoQ | Q2 20 | %YoY | 6M21 | 6M20 | %YTD |
|--|--------------|--------------|--------------|--------------|-----------------|--------------|--------------|--------------|
| Total Revenues | 1,768 | 1,779 | (1%) | 1,095 | 61% | 3,546 | 2,779 | 28% |
| Sales ⁽¹⁾ | 1,729 | 1,391 | 24% | 1,041 | 66% | 3,120 | 2,523 | 24% |
| Sales Volume (BOED) ⁽²⁾ | 443,126 | 382,877 | 16% | 327,004 | 36% | 413,168 | 345,207 | 20% |
| Sales Price (US\$/BOE) | 42.19 | 40.38 | 4% | 34.97 | 21% | 41.35 | 40.15 | 3% |
| Gain from a bargain purchase | - | 350 | (100%) | - | - | 350 | - | 100% |
| Others ⁽³⁾ | 39 | 38 | 3% | 54 | (28%) | 76 | 256 | (70%) |
| Total Expenses | 1,548 | 1,405 | 10% | 959 | 61% | 2,953 | 2,382 | 24% |
| Major Expenses: | | | | | | | | |
| Operating Expenses | 193 | 174 | 11% | 183 | 5% | 367 | 380 | (3%) |
| Exploration Expenses | 7 | 149 | (95%) | 30 | (77%) | 156 | 69 | >100% |
| G&A | 83 | 75 | 11% | 62 | 34% | 158 | 128 | 23% |
| DD&A | 629 | 547 | 15% | 488 | 29% | 1,176 | 1,024 | 15% |
| Loss on Financial Instruments | 125 | 98 | 28% | 78 | 60% | 223 | - | 100% |
| Impairment Loss on Assets | - | - | - | 47 | (100%) | - | 47 | (100%) |
| Income Tax Expenses | 321 | 192 | 67% | (68) | >100% | 513 | 384 | 34% |
| Share of profit (loss) from associates and JV | 2 | 2 | - | (2) | >100% | 5 | 12 | (58%) |
| Net income | 222 | 376 | (41%) | 134 | 66% | 598 | 409 | 46% |
| Recurring Net Income | 349 | 282 | 24% | 128 | >100% | 631 | 418 | 51% |
| Non-recurring Net Income | (127) | 94 | (>100%) | 6 | (>100%) | (33) | (9) | (>100%) |
| Non-recurring Net income breakdown: | | | | | | | | |
| Oil Price Hedging | (141) | (107) | (32%) | (26) | (>100%) | (248) | 140 | (>100%) |
| Tax from Effect of FX | - | (9) | 100% | 122 | (100%) | (9) | (103) | 91% |
| Effect from FX and others | 14 | 5 | >100% | (43) | >100% | 19 | 1 | >100% |
| Impairment Loss on Assets | - | - | - | (47) | >100% | - | (47) | 100% |
| Exploration assets write-off | - | (145) | 100% | - | - | (145) | - | (100%) |
| Gain from a bargain purchase | - | 350 | (100%) | - | - | 350 | - | 100% |

Note:

(1) Include Oman Block 61 deemed sales revenues from tax payment by government (28 MMUSD for Q2 21 and 6M21)

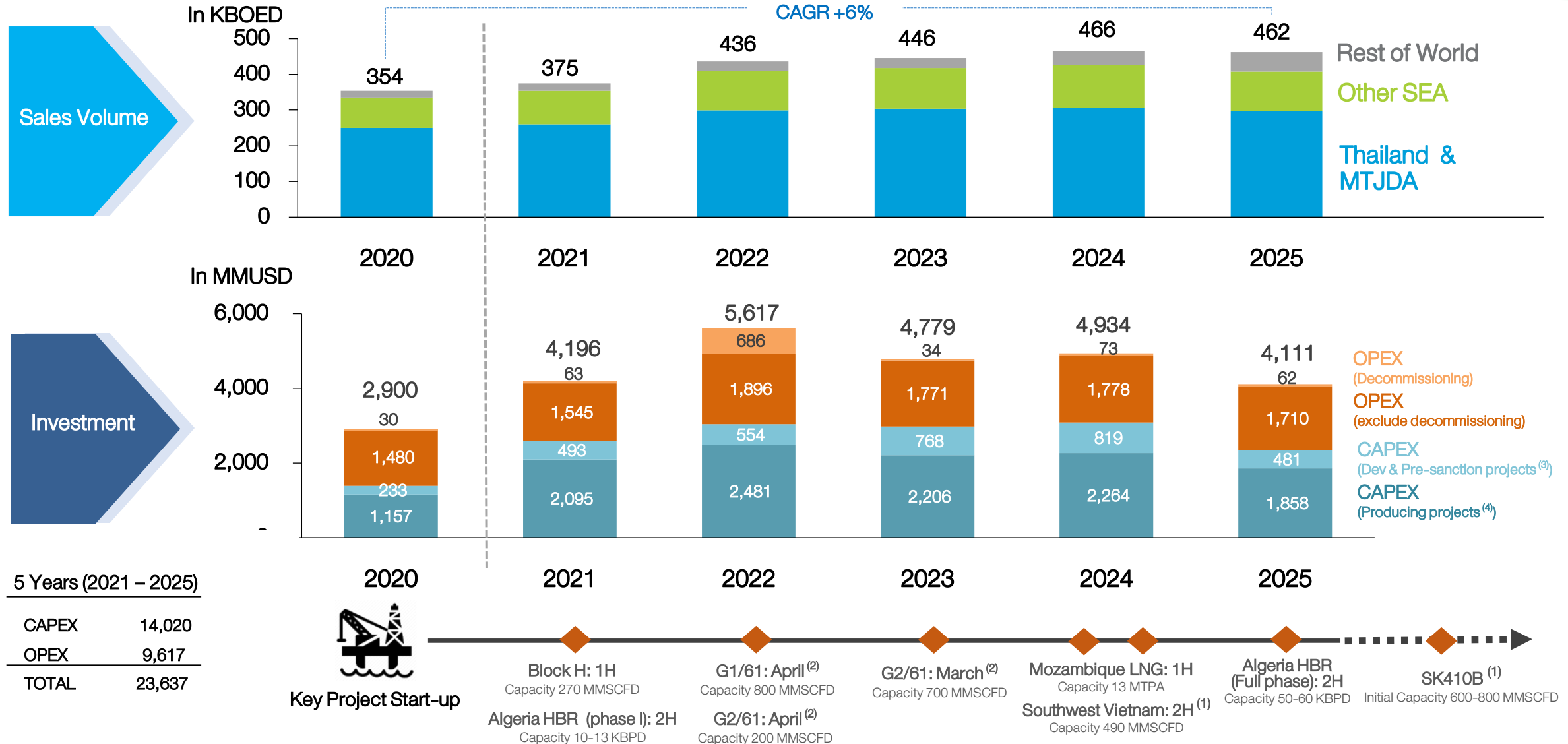
(2) Exclude Oman Block 61 deemed sales volume from tax payment by government

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

Five –Year Plan : Sales Volume

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

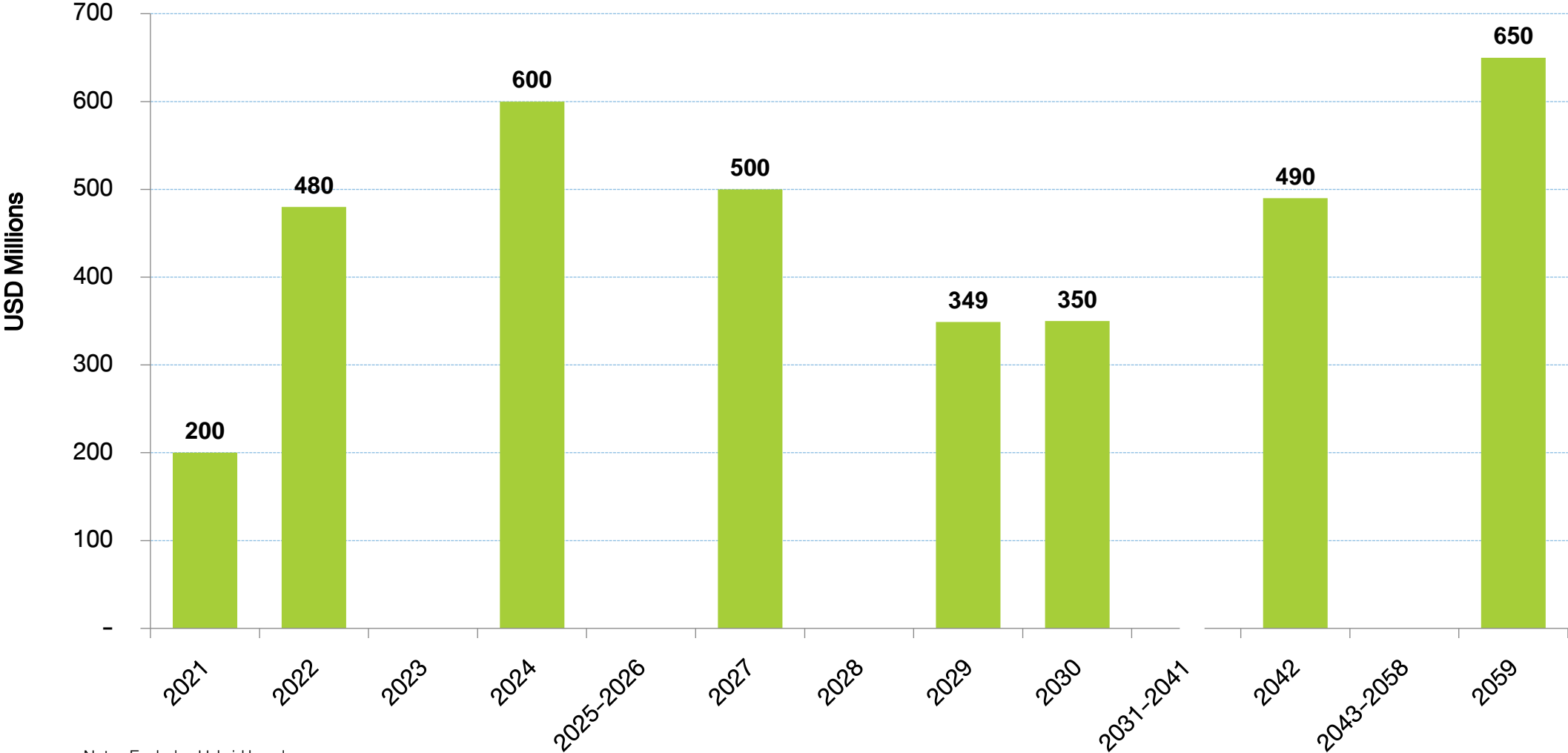
Figures have not yet reflected Oman block 61



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

Debt Maturity Profile

As of June 2021

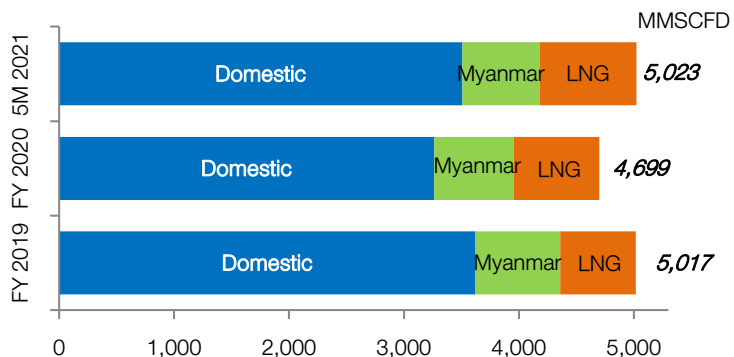


Note: Excludes Hybrid bonds

Unit: USD Millions or equivalent after cross currency swap

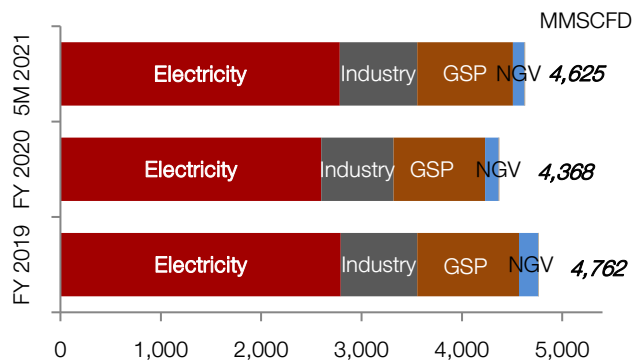
Thailand Energy Overview

Natural Gas Supply



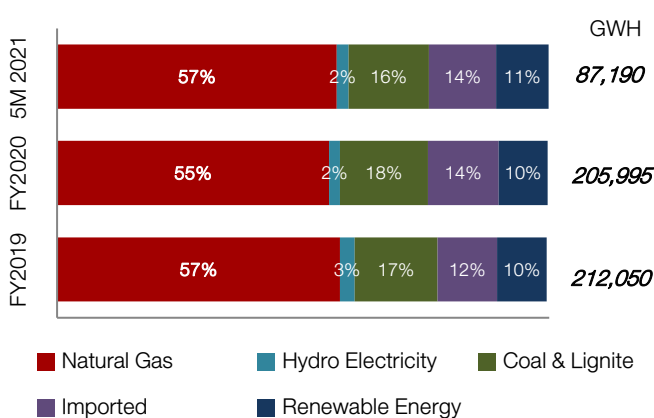
- Recovering energy demand, which rebounded to the same level of pre COVID-19
- As of April 2021: Higher domestic supply, while LNG imports decreased slightly and a decline from Myanmar piped gas imports due to natural decline

Natural Gas Consumption



Source: Energy Policy and Planning Office (EPPO)

Electricity Generation



Exchange Rate Movement (THB/USD)



Consensus on the exchange rate mostly depends on

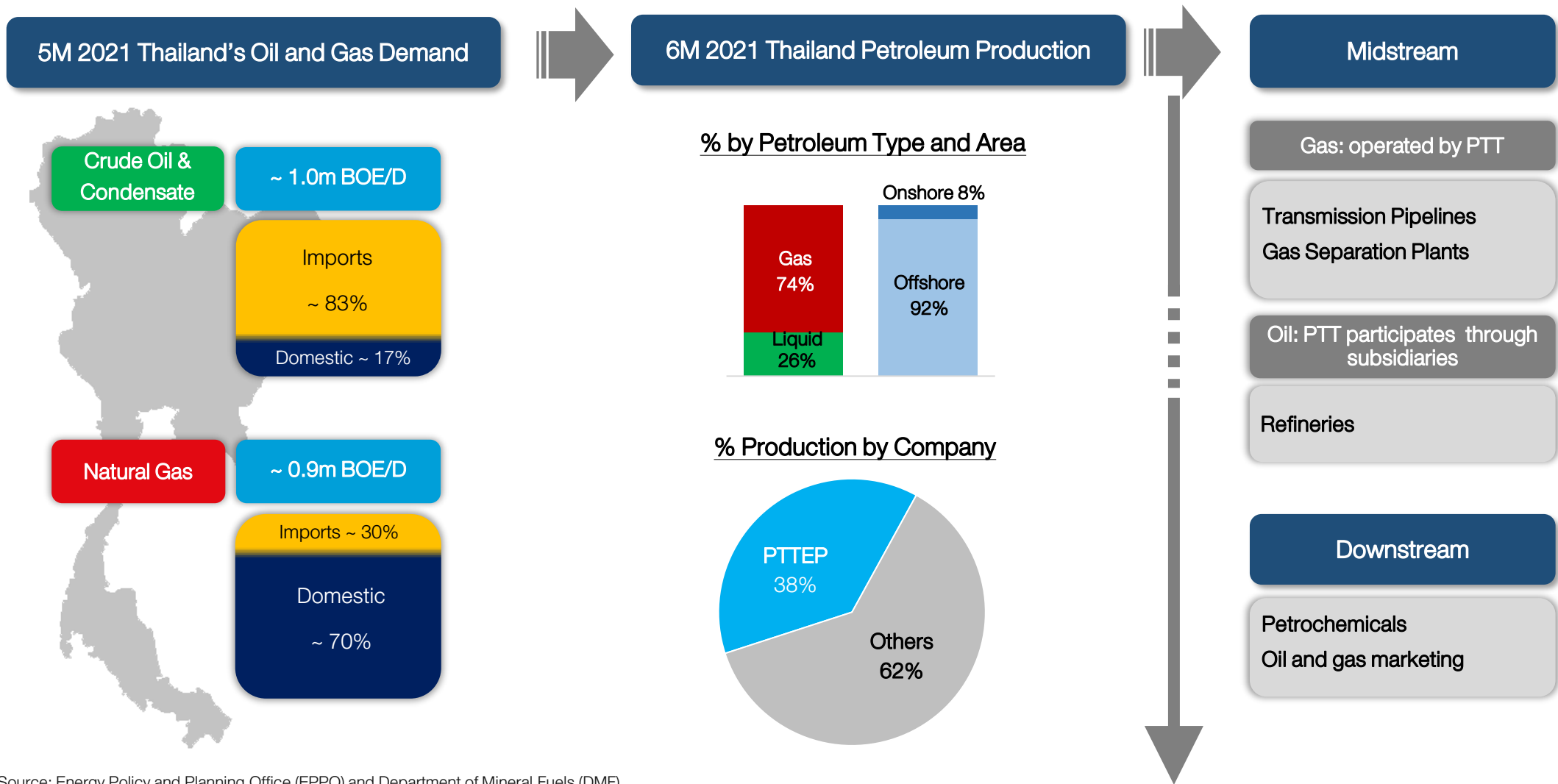
- Efficacy of Covid-19 containment measures in Thailand and vaccine procurement and distribution timeline
- Thailand's economic recovery which heavily depends on tourism recovery
- Sustained fiscal and monetary policy support in Thailand and Federal Reserve tapering timeline

Source: Bank of Thailand, Bloomberg

Forecast based on Bloomberg Consensus as of 12 July 2021

Thailand's Energy Value Chain

PTTEP contributes over 1/3 of Thailand's petroleum production

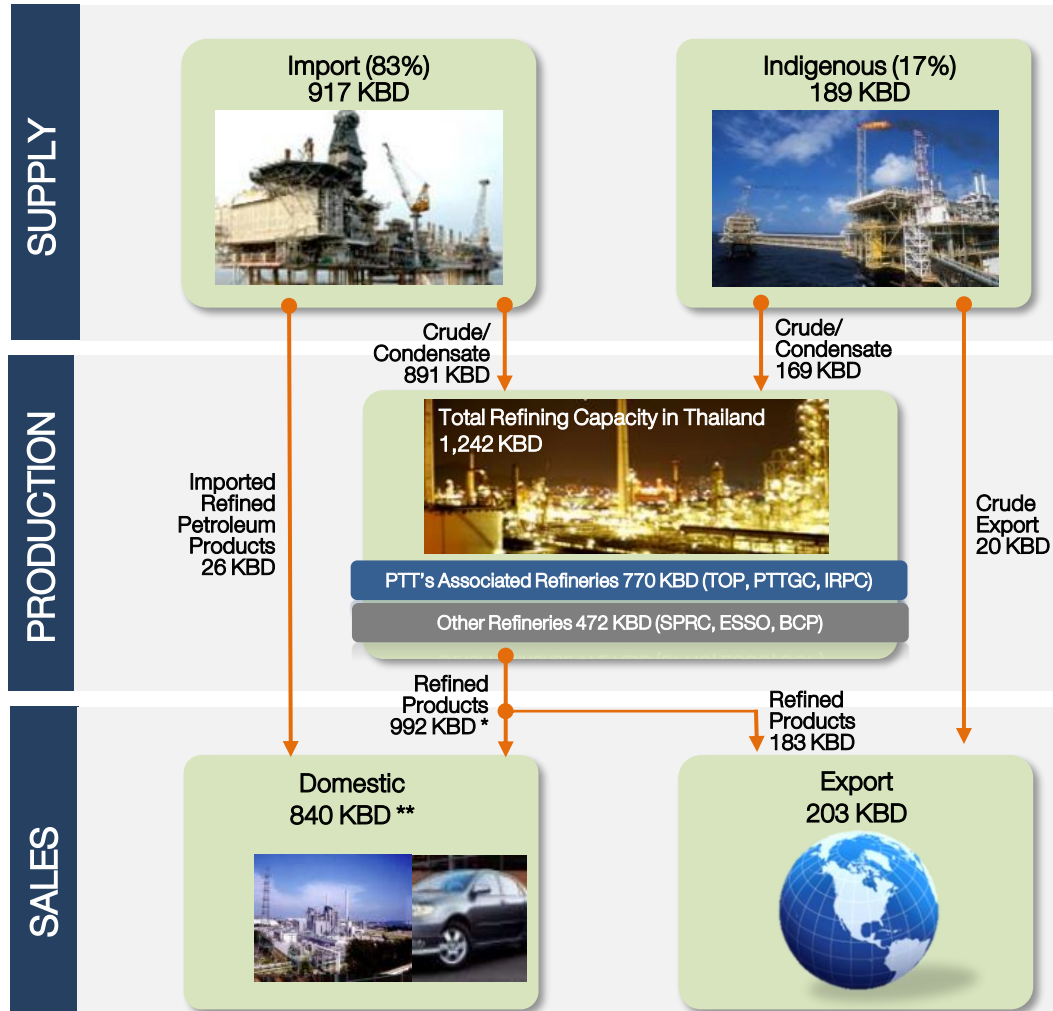


Source: Energy Policy and Planning Office (EPPO) and Department of Mineral Fuels (DMF)

Thailand's Oil and Gas Balance

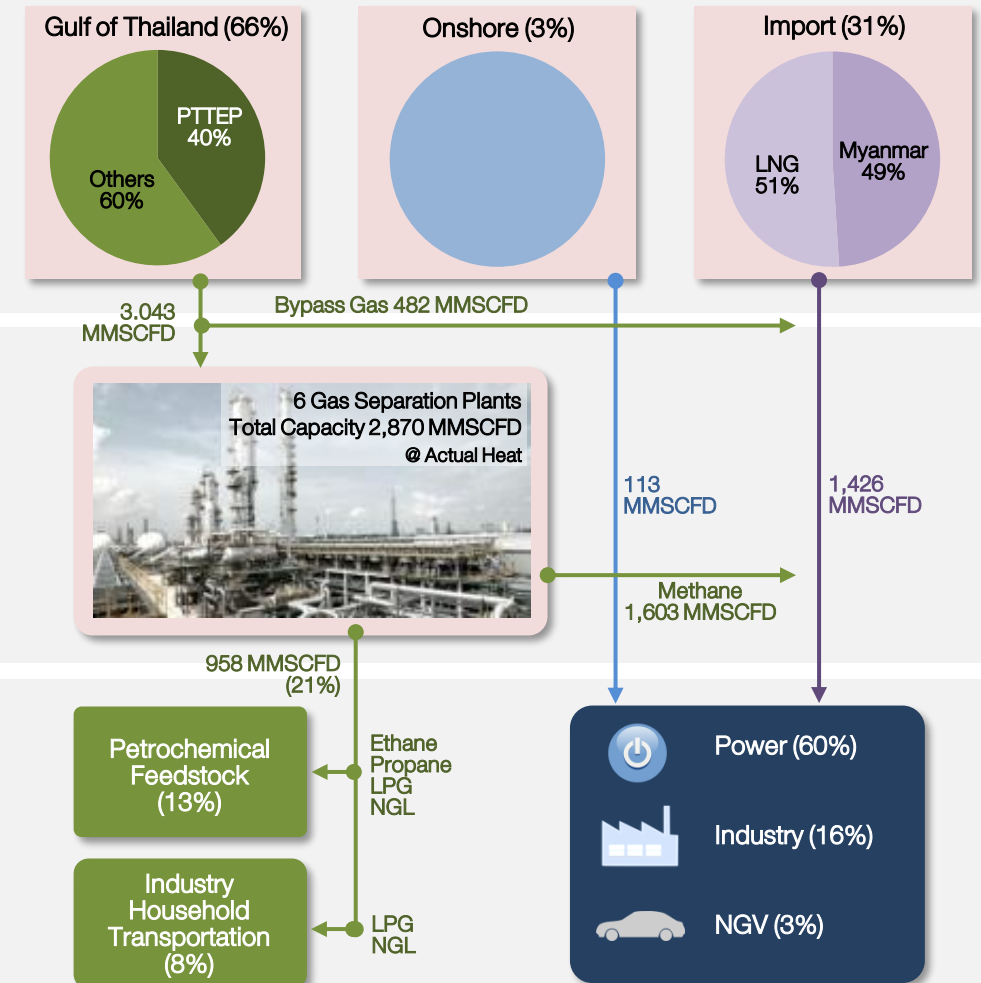
Oil Balance***

Maintains stability supply through adequate refining capacity



Natural Gas Balance****

Main driver of the Thailand economy



Source: PTT

Note: * Refined product from refineries = 919 KBD, including domestic supply of LPG from GSPs and Petrochemical Plants = 92 KBD

** Not included Inventory

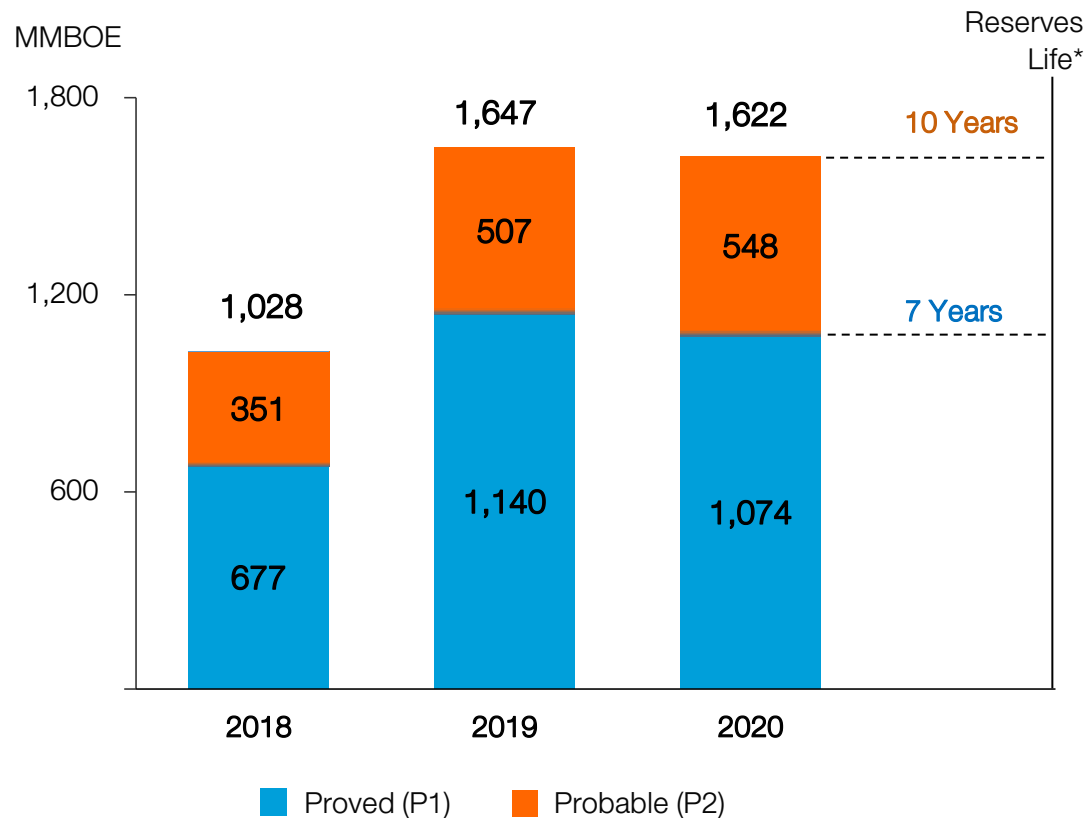
*** Information as of 3M21

**** Information as of 3M21

MMSCFD @ Heating Value 1,000 Btu/ft³

Reserves at the Year-end 2020 *(not including Oman Block 61)*

Sustained reserve life at over 5 years target

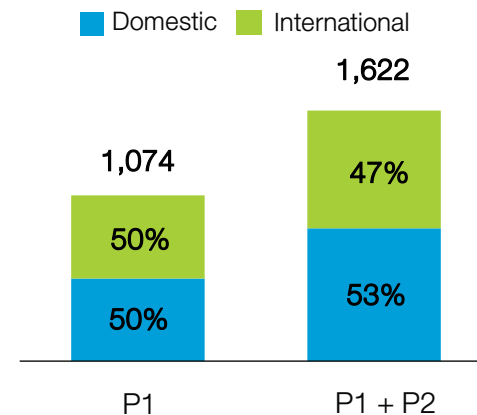


5-Year Average Proved Reserves Replacement Ratio (RRR)

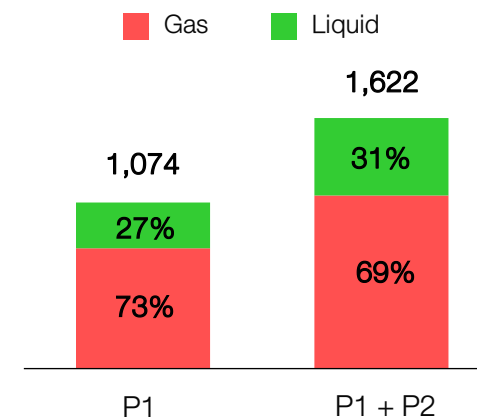
| 2018 | 2019 | 2020 |
|------|------|------|
| 0.7x | 1.5X | 1.5X |

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

2020 by Geography



2020 by Product Type



Diversified international portfolio



Central Asia

- First presence in Kazakhstan:**
- Production: Dunga onshore oil field from the acquisition of Partex in 2019

Oil sands

Oil

Thailand

PTTEP's primary operational base

- 66% of total sales volume
- 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

North & South America

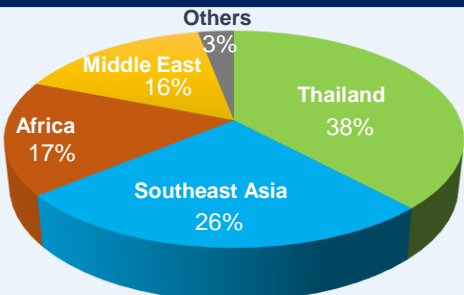
- Opportunities in an early phase:**
- Deepwater exploration in Brazil and Mexico with prominent and prudent operators

Oil

Oil

Book Value of Assets by region

Total assets USD 23.23 billion



As of Jun 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 17 KBPD
- Development : Algeria's Hassi Bir Rakaiz with target 1st phase production in 2021 and Mozambique Area 1 with target first cargo in 2024

Middle East

Strong presence in UAE and Oman:

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

Piped Gas

Oil

GAS/LNG

Southeast Asia

Second heartland to PTTEP

- 23% of total sales volume, mainly from Malaysia and Myanmar
- 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

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, brought online in March 2014 with current gas supply of 340 MMSCFD in 6M2021

Project Status

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

Thailand

Production / Ramp-up Projects

Bongkot (66.6667% WI)

Average natural gas and condensate sales volume of 919 MMSCFD and 22 KBPD in 6M2021

S1 (100% WI)

The largest onshore crude oil production field in Thailand with 6M2021 average crude oil sales volume of 28 KBPD

Arthit (80% WI)

Average sales volume in 6M2021 was 243 MMSCFD of natural gas and 12 KBPD of condensates

Contract 4 (60% WI)

Average sales rate of 395 MMSCFD for natural gas and 16 KBPD for condensate in 6M2021



● Production phase
● Exploration phase

Malaysia

Production

Block K Project :

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

- Average production volume in 6M2021 was 25* KBPD of crude oil and 25* MMSCFD of natural gas

SK309 and SK311 Project : (59.5% WI)

For East Patricia field (42% WI)

- Average production volume in 6M2021 was 173* MMSCFD of natural gas and 17* 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 6M2021 at 142 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 significant discovery
- Expected Final Investment Decision (FID) announcement by end of 2022/beginning of 2023

Sarawak SK417 and Sarawak SK405B projects

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

Note: WI – working interest

Other South East Asia countries

Expanding foothold in the region



- Production projects
- Pre sanction projects

Vietnam



Vietnam 16-1 (28.5% WI)

- Average sales volume of crude oil was 12 KBPD in 6M2021
- 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
- First production target by end of 2024, and ramp up to full capacity of 490 MMSCFD

Indonesia

Natuna Sea A (11.5% WI)

- Average sales volume of natural gas was 214 MMSCFD in 6M2021
- The project is preparing the drilling of additional development wells in 2021.



Building strategic presence and gaining access to Upstream oil & gas asset as well as Midstream Complex

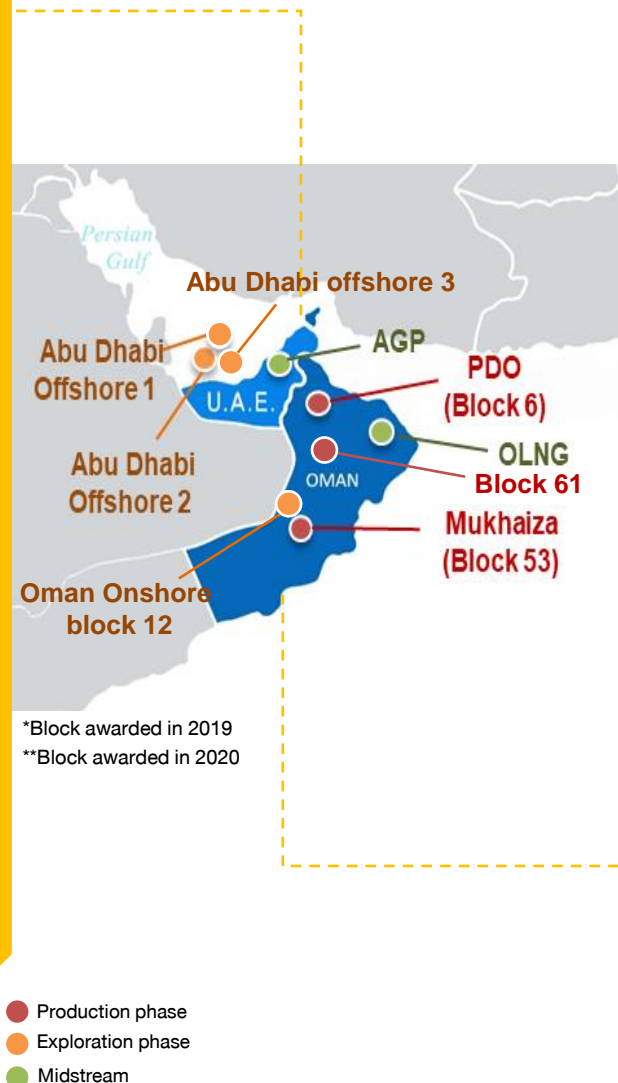
UAE

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)



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 627 KBPD in Q22021
- 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 in Q22021
- Operated by Occidental Petroleum (47% interest)

Oman Block 61

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

Oman LNG

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

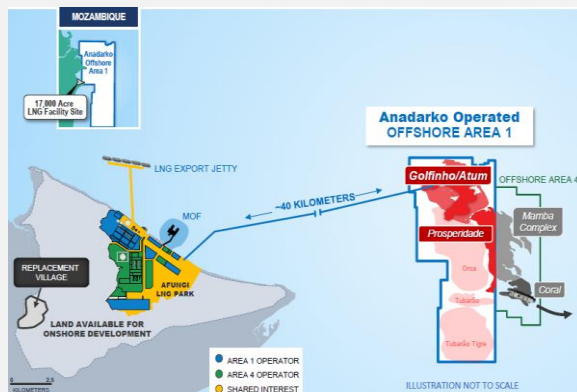
Mozambique Area 1

On the path of unlocking value from world class LNG asset



Mozambique

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



Location and Cost Advantage

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



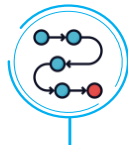
Achievements

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



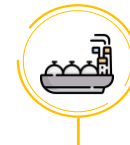
FID

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



Next milestones

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



1st Cargo expected 2024

America: Mexico and Brazil

Entry into high potential petroleum province at exploration stage

Mexico

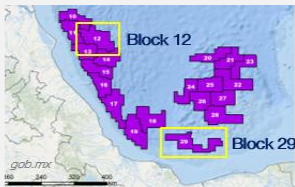
Deep-water with high petroleum potentials and attractive fiscal regime

Mexico block 12 (2.4)

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

Mexico block 29 (2.4)

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



● Exploration phase

Brazil

Deep Water

Barreirinhas AP1

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

BM-ES-23

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



| | Project | Status* | Phase | PTTEP's Share | Partners (as of April 2021) | 6M2021 Average Sales Volume ** | | 2021 Key Activities |
|------------------|----------------------------------|---------|------------|---------------|--|--------------------------------|------------------------------------|---|
| | | | | | | Gas (MMSCFD) | Liquid (KBPD) | |
| Thailand and JDA | | | | | | | | |
| 1 | Arthit | OP | Production | 80% | Chevron MOECO 16% 4% | 243 | 12 | <ul style="list-style-type: none">• Ensure gas deliverability level at DCQ***• Drill development wells |
| 2 | B6/27 | OP | Production | 100% | | - | - | <ul style="list-style-type: none">• Prepare for decommissioning activities |
| 3 | B8/32 & 9A | JV | Production | 25.001% | Chevron MOECO 51.66% 16.71% KrisEnergy 4.63% Palang Sophon 2% | 48 | 15 | <ul style="list-style-type: none">• Ensure deliverability of production volumes as nominated from the buyer• Drill development wells |
| 4 | Bongkot | OP | Production | 66.6667% | TOTAL 33.3333% | 919 | 22 | <ul style="list-style-type: none">• Drill development wells• Maintain production level as planned• Carry out wells plug and abandonment, and prepare for non-transferred wellhead platforms decommissioning |
| 5 | Contract 3 (Formerly Unocal III) | JV | Production | 5% | Chevron MOECO 71.25% 23.75% | 501 | 27 | <ul style="list-style-type: none">• Prepare for decommissioning activities |
| 6 | Contract 4 (Formerly Pailin) | JV | Production | 60% | Chevron MOECO 35% 5% | 395 | 16 | <ul style="list-style-type: none">• Ensure gas deliverability level at DCQ***• Drill development wells• Topside reuse |
| 7 | E5 | JV | Production | 20% | ExxonMobil 80% | 8 | - | <ul style="list-style-type: none">• Ensure gas deliverability level at DCQ*** |
| 8 | G4/43 | JV | Production | 21.375% | Chevron MOECO 51% 21.25% Palang Sophon 6.375% | 1 | 3 | <ul style="list-style-type: none">• Deliver production volumes as nominated from the buyer and oil production as planned |
| 9 | G4/48 | JV | Production | 5% | Chevron MOECO 71.25% 23.75% | 2 | 0.2 | <ul style="list-style-type: none">• Prepare for decommissioning activities |
| 10 | L53/43 & L54/43 | OP | Production | 100% | - | - | 1 | <ul style="list-style-type: none">• Maintain production plateau• Explore for additional field potential i.e. new drilling well and EOR/IOR• Prepare for decommissioning activities |
| 11 | PTTEP1 | OP | Production | 100% | - | - | 0.2 | <ul style="list-style-type: none">• Maintain production plateau• Explore for additional field potential i.e. new drilling well and EOR/IOR• Prepare for decommissioning activities |
| 12 | S1 | OP | Production | 100% | - | 8 | Crude:28 KBPD LPG: 190 MTon/Day | <ul style="list-style-type: none">• Maximize crude production by fully implemented the business plan and work activities as planned• 10 years strategy roadmap is being submitted to the management committee to ensure all focused strategic areas will be set up in the long term until end of concession in year 2031 |
| 13 | Sinphuhorm | OP | Production | 55% | Apico**** 35% ExxonMobil 10% | 97 | 0.3 | <ul style="list-style-type: none">• Ensure gas deliverability• Drill development well• Sinphuhorm new Gas Sales Agreement is under Government's consideration and approval process |

* 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 | Status* | Phase | PTTEP's Share | Partners (as of April 2021) | 6M 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 decommissioning activities |
| 15 | MTJDA | JOC | Production | 50% | Petronas-Carigali 50% | 263 | 8 | <ul style="list-style-type: none">Ensure gas deliverability level at DCQ*** |
| 16 | G9/43 | OP | Exploration | 100% | - | - | - | <ul style="list-style-type: none">Activity suspended |
| 17 | G1/61 (Erawan) | OP | Exploration | 60% | MP G2 (Thailand) Limited 40% | - | - | <ul style="list-style-type: none">Awarded as an operator for Erawan field (Contract 1, 2 and 3) under PSC (after concession-end in 2022)Preparing all transitional works including construction of facilities, staff recruitment, Gas Sales Agreement, and related procurement activities, aiming for successful transition and gas production as per commitment. |
| 18 | G2/61 (Bongkot) | OP | Exploration | 100% | - | - | - | <ul style="list-style-type: none">Awarded as a sole operator under PSC (after concession-end in 2022/2023)Drill appraisal and exploration wellsInstallation new wellhead platforms and drill production wellsFinalise Gas Sales Agreement and Prepare for seamless operation handover |
| Others SEA | | | | | | | | |
| 1 | Malaysia | OP (except Gumusut-Kakap (GK) in Block K) | Production/ Exploration | 6.4-80% (varied by permits) | Varied by permits | SK309 and SK311** 173 Block K** 25 Block H** 142 | SK309 and SK311** 17 Block K** 25 | <ul style="list-style-type: none">SK309 and SK311: Pemanis Gas Development Topside Installation and South Acis Satellite infill oil development drillingBlock K: SNP Development DrillingBlock H: Maximize production at plateau 270MMSCFD after first gas in February 2021 |
| 2 | Yadana | JV | Production | 25.5% | TOTAL 31.24% Chevron 28.26% MOGE 15% | 767 | - | <ul style="list-style-type: none">Drill 2nd production wellNew DCQ*** proposal and negotiation with PTT |
| 3 | Yetagun | JV | Production | 19.3178% | Petronas-Carigali 40.91018% MOGE 20.4541% Nippon Oil 19.3178% | - | - | <ul style="list-style-type: none">Suspended the production due to the feed gas was not sufficient for the minimum threshold level |
| 4 | Zawtika (M9 & a part of M11) | OP | Production | 80% | Myanma Oil and Gas Enterprise (MOGE) 20% | 340 | - | <ul style="list-style-type: none">Some activities are delayed and process under difficulty due to the political situation and COVID-19 in Myanmar |
| 5 | Myanmar M3 | OP | Exploration | 80% | MOECO 20% | - | - | <ul style="list-style-type: none">Waiting for approval of PSC SupplementaryFEED & OE and survey activitiesGas Sales Agreement negotiation |
| 6 | Myanmar M11 | OP | Exploration | 100% | - | - | - | <ul style="list-style-type: none">Waiting for final termination document from MOGELeftover material transferring to MOGE in progress (slow progress due to current situation in Myanmar) |
| 7 | Myanmar MD-7 | OP | Exploration | 50% | TOTAL 50% | - | - | <ul style="list-style-type: none">Termination process in progressLeftover material transferring to MOGE in progress (slow progress due to current situation in Myanmar) |
| 8 | Myanmar MOGE 3 | OP | Exploration | 77.5% | Palang Sophon 10% MOECO 10% WinPreciousResources 2.5% | - | - | <ul style="list-style-type: none">Termination process in progressLeftover material transferring to MOGE in progress (slow progress due to current situation in Myanmar) |

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

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

*** DCQ = Daily Contractual Quantity



| | Project | Status* | Phase | PTTEP's Share | Partners <i>(as of April 2021)</i> | | 6M 2021 Average Sales Volume ** | | 2021 Key Activities |
|-------------|-----------------------|---------|-------------|---------------|--|----------------------------------|---------------------------------|---------------|---|
| | | | | | | | Gas (MMSCFD) | Liquid (KBPD) | |
| Others SEA | | | | | | | | | |
| 9 | Vietnam 9-2 | JOC | Production | 25% | PetroVietnam SOCO | 50% 25% | 15 | 3 | <ul style="list-style-type: none">Maintain production levelDevelopment drilling study support |
| 10 | Vietnam 16-1 | JOC | Production | 28.5% | PetroVietnam SOCO OPECO | 41% 28.5% 2% | 8 | 12 | <ul style="list-style-type: none">Maintain production levelDrill development wellsUnder procurement process for Equipment and Services |
| 11 | Vietnam B & 48/95 | JV | Exploration | 8.5% | PetroVietnam MOECO | 65.88% 25.62% | - | - | <ul style="list-style-type: none">Negotiation process on commercial terms in order to push forward the Final Investment Decision (FID)The first production target at the end of 2024 |
| 12 | Vietnam 52/97 | JV | Exploration | 7% | PetroVietnam MOECO | 73.4% 19.6% | - | - | <ul style="list-style-type: none">Negotiation process on commercial terms in order to push forward the Final Investment Decision (FID)The first production target at the end of 2024 |
| 13 | Natuna Sea A | JV | Production | 11.5% | Premier Oil KUFPEC Petronas Pertamina | 28.67% 33.33% 15% 11.5% | 214 | 2 | <ul style="list-style-type: none">Drill development wells |
| 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">Preparation for exploration well which to be drilled in Q3/2021 |
| 3 | Abu Dhabi Offshore 3 | JV | Exploration | 30% | Eni Abu Dhabi | 70% | - | - | <ul style="list-style-type: none">Appraisal plan of Pre-existing discovery has been approved by ADNOCProject is on-going with G&G study. |
| 4 | PDO (Block 6) | JOC | Production | 2% | Government of Oman Shell Total | 60% 34% 4% | - | 627** | <ul style="list-style-type: none">Normal operations with daily production around 600 KBD |
| 5 | Mukhaizna | JV | Production | 1% | Occidental OOCEP Indian Oil Mubadala | 47% 20% 17% 15% | - | 96** | <ul style="list-style-type: none">Normal operations with daily production around 95 KBD |
| 6 | Oman Onshore Block 12 | JV | Exploration | 20% | Total E&P Oman Block 12 B.V. | 80% | - | - | <ul style="list-style-type: none">3D seismic reprocessing (original 3D) in progressPreparation of 3D seismic acquisition (new 3D) |
| 7 | Oman Block 61 | JV | Production | 20% | BP Makarim Gas Development LLC PC Oman Ventures Limited (PETRONAS) | 40% 30% 10% | 647 | 31 | <ul style="list-style-type: none">Completed production ramp up as planned |

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

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

| | Project | Status* | Phase | PTTEP's Share | Partners (as of April 2021) | 6M 2021 Average Sales Volume ** | | 2021 Key Activities |
|---------------------|-----------------------------------|---------|-------------|---------------|---|-----------------------------------|---------------|--|
| | | | | | | Gas (MMSCFD) | Liquid (KBPD) | |
| Other International | | | | | | | | |
| 1 | PTTEP Australasia (PTTEP AA) | OP | Exploration | 100% | - | - | - | <ul style="list-style-type: none">AC/RL7 (Cash Maple) and Oliver (AC/RL12) Field : under way to define proper direction in order to increase development opportunitiesOther exploration projects: G&G studies |
| 2 | Mozambique Area 1 | JV | Development | 8.5% | Total, Mitsui, ENH, OVL OVRL & Oil India , Bharat | 26.5%,20% 15%, 10% 10%, 10% | - | - <ul style="list-style-type: none">First Cargo is expected by 2024 (Under further assessment)1st Debt drawdown in project FinanceThe Force Majeure has been declared by the operator for safety reason due to the security incident in Palma.Project management under FM and study of impactsPlan to resume the project after safety security |
| 3 | Algeria 433a & 416b (Bir Seba) | JOC | Production | 35% | PetroVietnam Sonatrach | 40% 25% | - | 3 <ul style="list-style-type: none">Drill development wellsExisting wells interventionProduction respect OPEC+ policy |
| 4 | Algeria Hassi Bir Rekaiz | OP | Development | 24.5% | CNOOC Sonatrach | 24.5% 51% | - | - <ul style="list-style-type: none">Drilling development wellsExpected first oil production for the initial phase of around 10,000-13,000 barrels per day (BPD) in 2021 |
| 5 | Mariana Oil Sands | OP | Exploration | 100% | - | - | - | - |
| 6 | Barreirinhas AP1 | JV | Exploration | 25% | Shell Brasil Mitsui E&P Brasil | 65% 10% | - | - <ul style="list-style-type: none">Waiting for exploration wells drilling permit from the government |
| 7 | Brazil BM-ES-23 | JV | Exploration | 20% | Petrobras INPEX | 65% 15% | - | - <ul style="list-style-type: none">Evaluating the petroleum potential for development concept |
| 8 | Mexico block 12 (2.4) | JV | Exploration | 20% | PC Carigali Mexico Ophir Mexico | 60% 20% | - | - <ul style="list-style-type: none">The geophysical survey processing and interpretation are in progress for further petroleum potential evaluationDrilling exploration wells |
| 9 | Mexico block 29 (2.4) | JV | Exploration | 16.67% | Repsol Mexico PC Carigali Mexico Wintershal DEA | 30% 28.33% 25% | - | - <ul style="list-style-type: none">Completed drilling of 2 exploration wells in 2020 with successful result.The drilling operation for exploration well and appraisal drilling is ongoing, and it is expected to complete by Q4/2021. |

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

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

| | Project | Status* | Phase | PTTEP's Share | Partners (as of April 2021) | 6M 2021 Average Sales Volume ** | | 2021 Key Activities |
|---------------------|----------------------------|-------------|-----------------|---------------|--|---------------------------------|---------------|--|
| | | | | | | Gas (MMSCFD) | Liquid (KBPD) | |
| Other International | | | | | | | | |
| 10 | Block 17/06 | JV | Pre development | 2.5% | Total Sonangol 30% SSI 30% Acrep 27.5% Falcon Oil 5% 5% | - | - | • Completed Begonia FEED study (in-house) |
| 11 | Potiguar | OP | Production | 50% | Petro reconcavo 50% | - | 0.2 | • Maintain production plateau |
| 12 | Dunga | JV | Production | 20% | Total OOCEP 60% 20% | 2 | 11 | • Continue to curb production per OPEC+ agreement to support price • Procurement process for designing of Compression, Separation upgrade and Flare package • Engineering of Sea water and Export Line |
| Midstream Project | | | | | | | | |
| 1 | Oman LNG | Shareholder | On line | 2% | Government of Oman 51% Shell 30% Total 5.54% Korea LNG 5% Mitsubishi 2.77% Mitsui 2.77% Itochu 0.92% | - | - | • Normal operations |
| 2 | ADNOC Gas Processing (AGP) | JV | On line | 2% | ADNOC 68% Shell 15% Total 15% | - | *** | • Perform midstream operation activities • Maintain production and plant integrity with maintenance work as planned • Improving plant's efficiency and capacity with plant debottlenecking as planned |

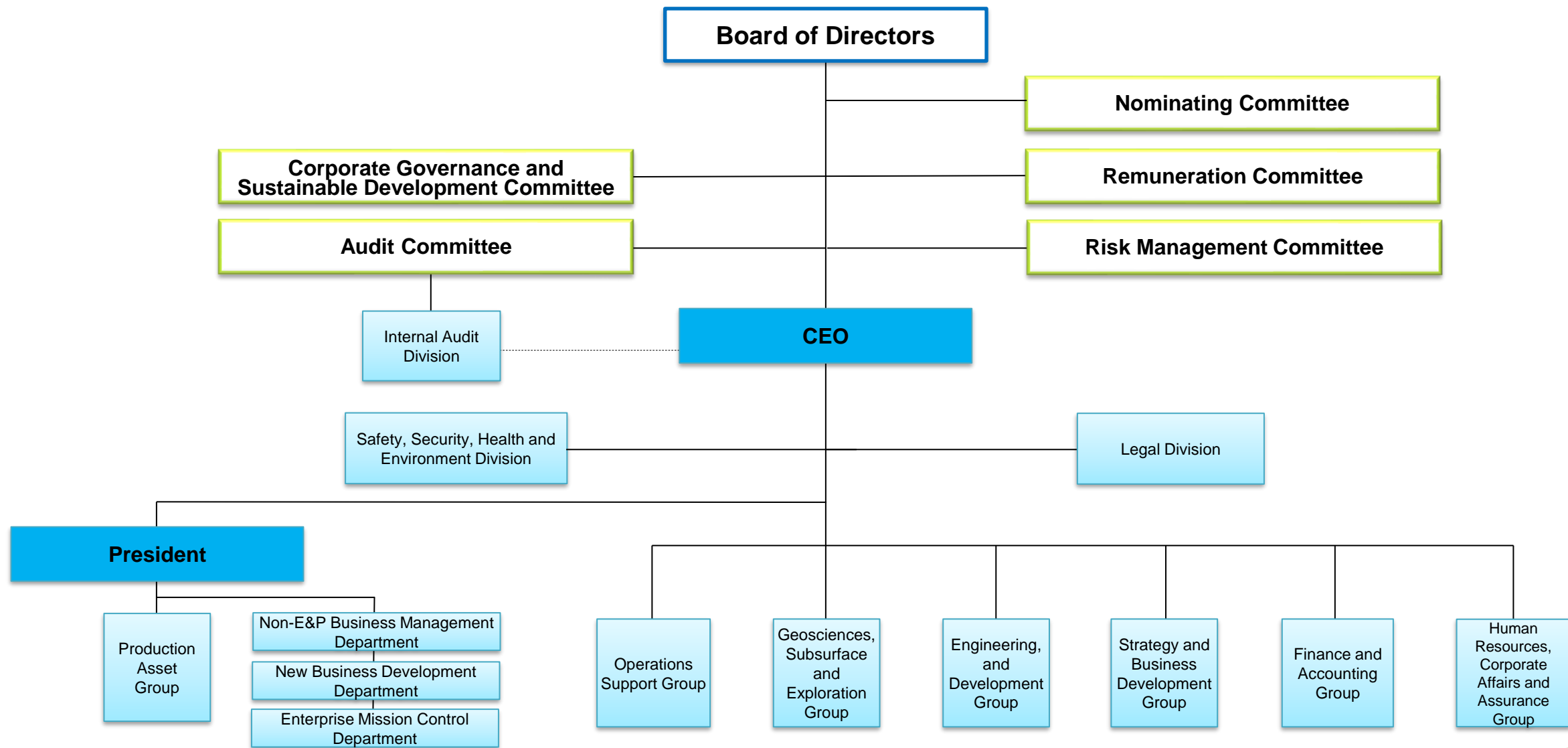
* Status: OP = PTTEP operatorship / JOC = PTTEP joint operatorship/ / JV = PTTEP as Joint Venture Partner

** Sales volume stated at 100% basis

*** Products are propane, butane and naphtha.

Organization structure

Ensuring transparency, integrity and good corporate governance



Supplementary Index : Ratio & Formula

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