



PTTEP

MEMBER OF
**Dow Jones
Sustainability Indices**

In Collaboration with RobecoSAM



Q1 2021 Results

Analysts Meeting

28 April 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.

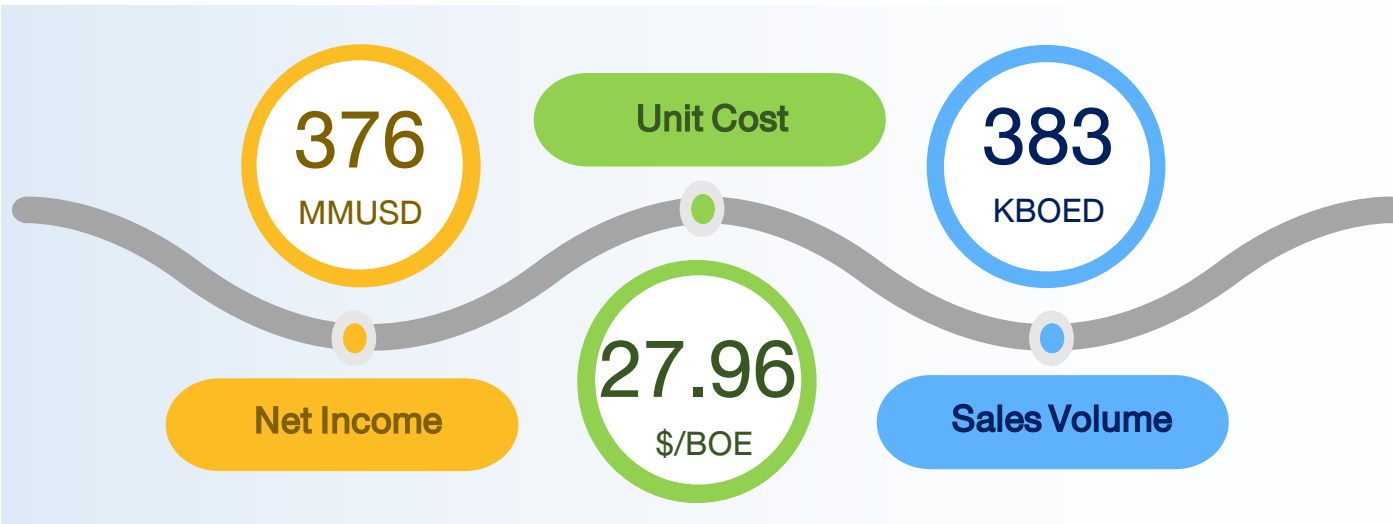
Probable Reserves - Probable reserves are defined as those unproved reserves which analysis of geological and engineering data suggests are more likely than not to be recoverable.



Q1/2021 Highlights

Khun Phongthorn Thavisin – Chief Executive Officer

Highlights & Key Achievements



First gas production



Successful M&A



Multiple discoveries in Malaysia



Erawan (G1/61) Transition



Myanmar Situation Update



Mozambique Situation Update

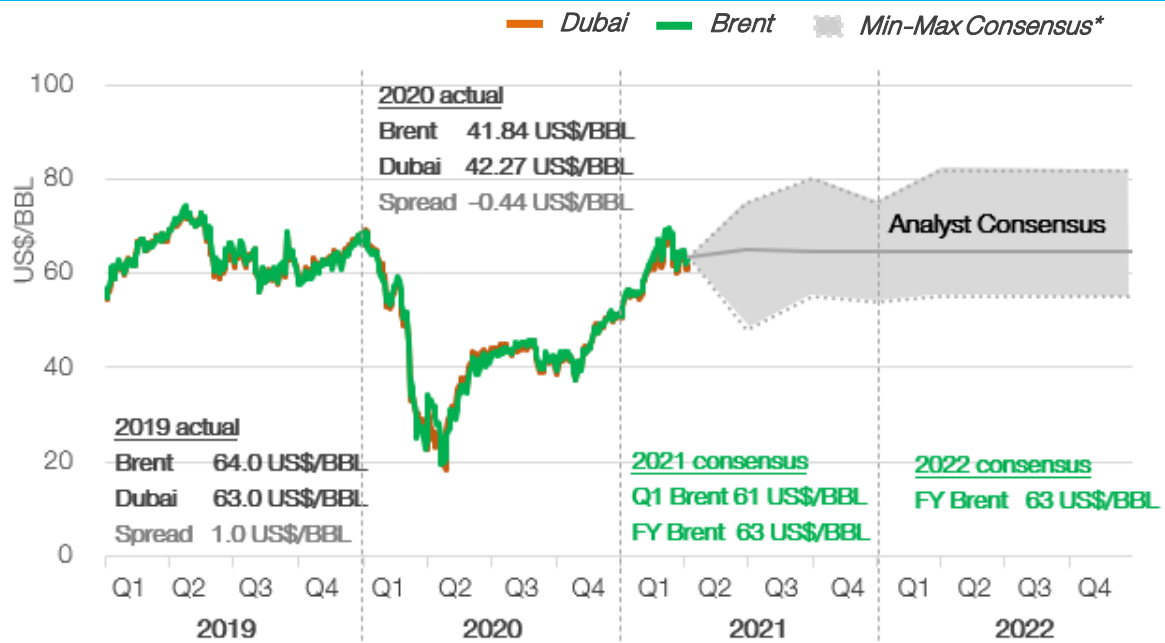


Industry Outlook

Khun Natrudee Khositaphai – EVP, Strategy & Business Development

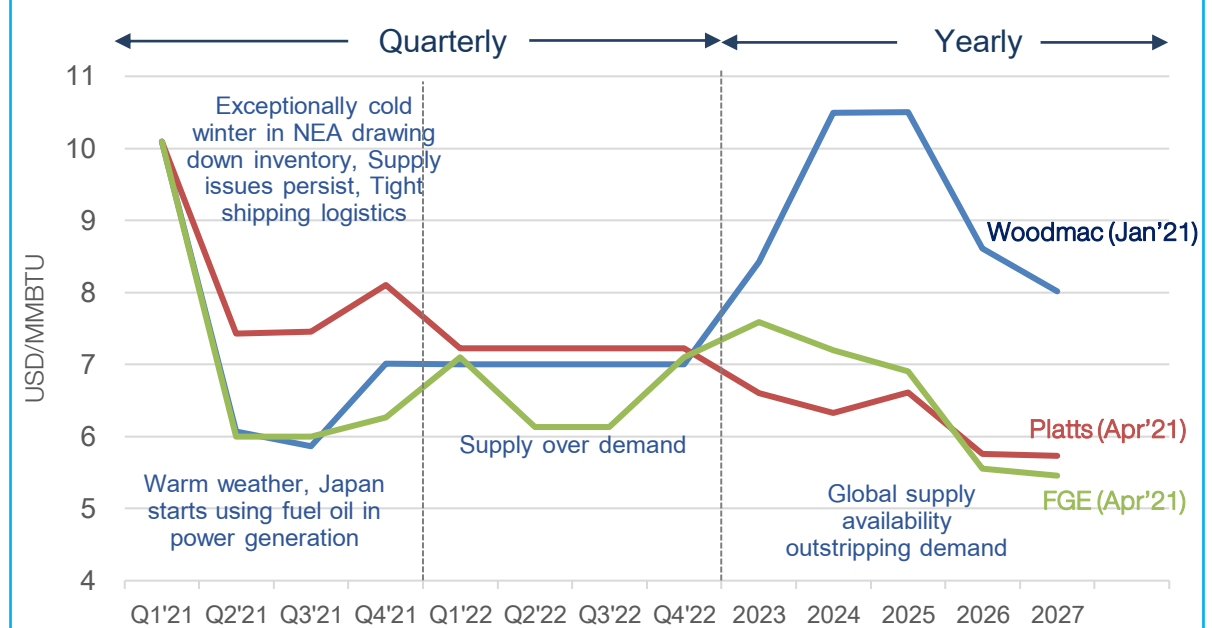
Oil and LNG prices outlook for 2021

Oil Prices Outlook



Source: Thomson Reuters Monthly Poll on Oil Prices Analyst, 5 April 2021

LNG Spot Prices Outlook



Source: Information as of April 2021.

Key factors to monitor



COVID-19 Situation & Vaccine Distribution



Economic Recession & Stimulus Measures



OPEC+ Production cuts agreement



US shale Shut-in/Bankruptcies



US Sanction Policy on Iran & Venezuela

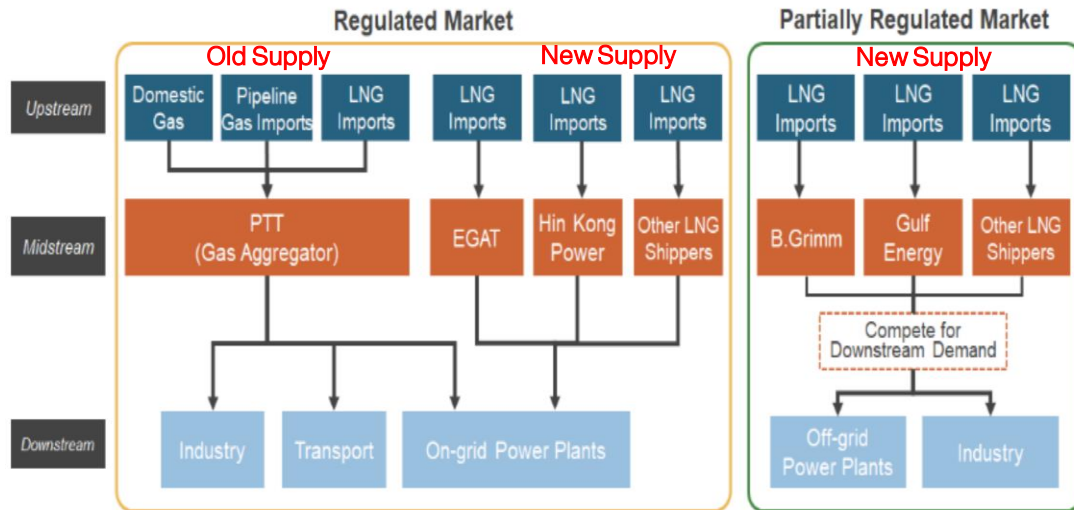


LNG Market Still Oversupply

Gas Liberalization in Thailand

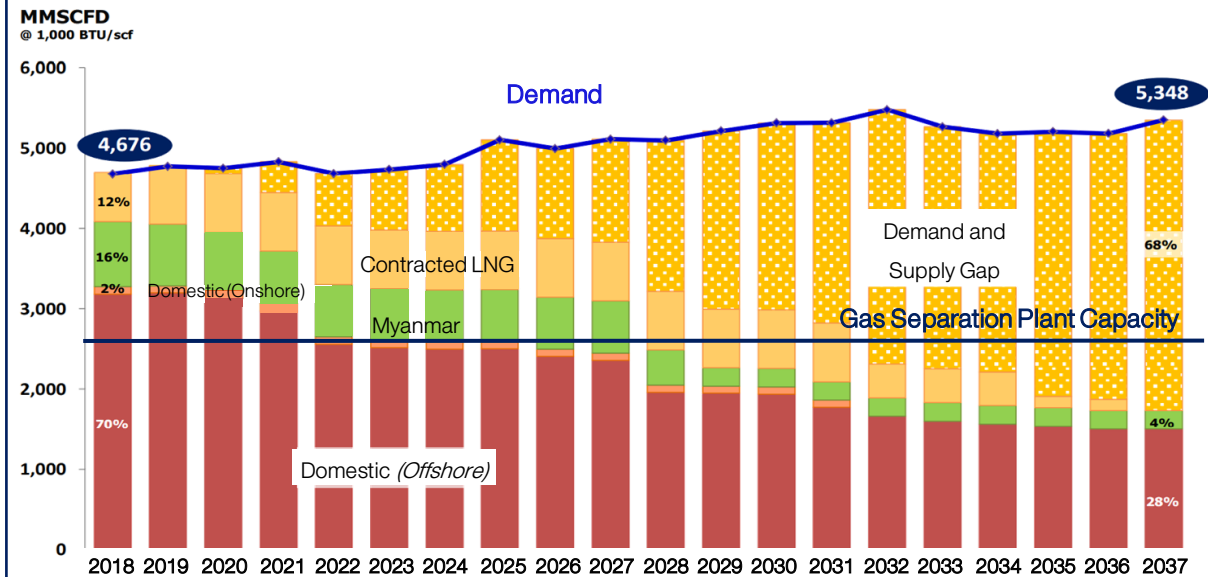
Thailand's Gas Market Structure Phase 2

Transitioning towards a liberalized market



Source: FGE report, 16 April 2021

Thailand Gas Demand and Supply



Source: Gas Plan 2018, Energy Policy and Planning Office, October 2018

- PTT will continue to manage existing gas supply, **Old Supply**, with priority to feed Gas Separation Plant given to gas from Gulf of Thailand. Main gas contributors would be G1/61 & G2/61 projects.
- New shippers will be allowed to import LNG, as **New Supply**, to feed on-grid and off-grid power plants and industries.
- PTTEP will compete in the New Supply market via PTT GL, a joint venture company between PTT and PTTEP. Expecting approval in Q2/2021.



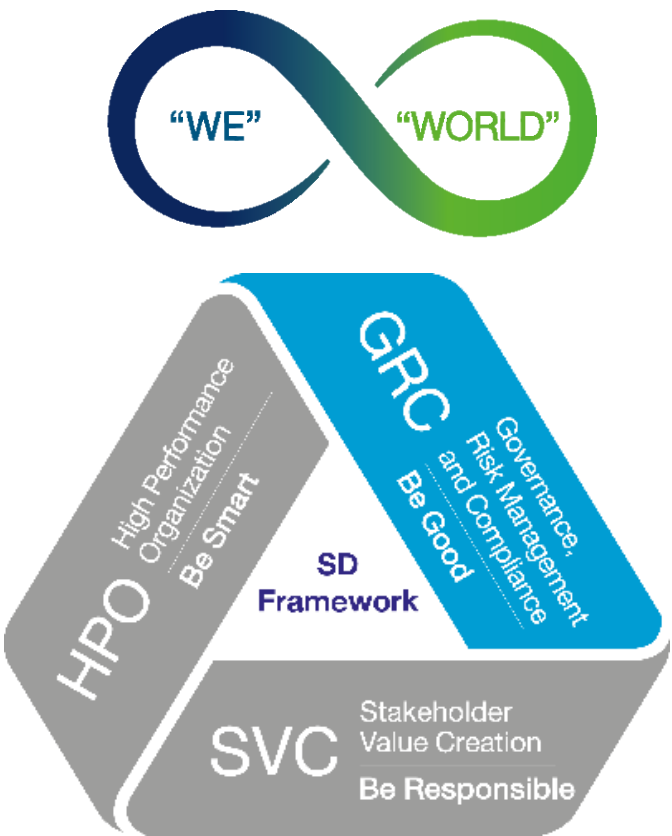
The background features a collage of three images related to the oil and gas industry. On the left, a tall industrial structure with multiple smokestacks and a flare is visible against a bright sky. On the right, an aerial view shows a large offshore oil platform with several smaller vessels nearby on the dark sea. At the bottom left, a perspective view of a long, brightly lit walkway with railings on an industrial facility is shown.

Sustainability Development

Khun Natrudee Khositaphai – EVP, Strategy & Business Development

“Energy Partner of Choice”

through Competitive Performance and Innovation for Long-term Value Creation



 **2030**

Aspirational Targets through
“Smart Assurance” &
“GRC in Common Sense”



Strategy

Smart Assurance

Effectively and concisely integrate assurance requirements within a good governance framework



Strategy

GRC in Common Sense

Cultivate GRC in employees' mindset so that they're aware of, accept, and implement GRC in daily operations and decision making



Targets

- **GRC** role model among Thai listed companies
- **GRC** maturity level at level 5 (highest level)



Process & Technology

- GRC in asset transition
- Alignment of assurance requirements
- Advanced digital technology

People

- Strengthen GRC culture
- GRC good practices expansion to business partners e.g. vendors, JV partners

Society

- Promote GRC good practices to the public



Operations Update

Khun Montri Rawanchaikul – President

Key Achievements in Malaysia

Sabah H – First Gas

- 1st gas production delivered to PFLNG2 in early Feb 2021. Ramping up to full capacity 270 MMSCFD
- Contributing ~15 KBOED to PTTEP's sales volume in 2021 and ~20 KBOED in 2022



Multiple Exploration Successes

Appraisal well result beyond expectation

- **SK410B (LLB)** – production capacity upside to 800-1,000 MMSCFD, with FID planned in 2022



New Petroleum Discoveries

- **SK417 (Dokong)** – high quality gas discovery with additional well drilling in 2021, presenting future synergy development opportunities with SK410B
- **SK405B (Sirung)** – oil and gas discovery with appraisal well planned in 2022 to assess upside potential



Assets Transition in Thailand

G1/61 (Erawan)

Continuously and closely coordinated with government for minimal impact from site access delay. The first priority on country's energy security.

G2/61 (Bongkot)

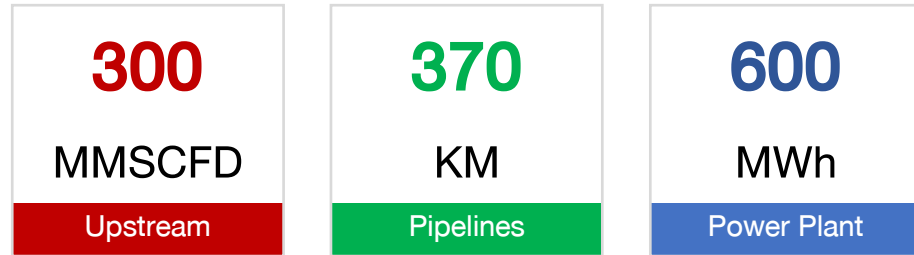
- On track – deliver gas at the minimum volume stated in PSC 2022@200MMSCFD 2023@700MMSCFD
- New production platforms installation in 2021 and 2022


Stronger Presence in Oman


- Completed the acquisition of 20% interest in Block 61, Oman on 23 March 2021
- Contributing ~29 KBOED to PTTEP's sales volume in 2021 and ~52 KBOED in 2022




New Business – Gas to Power

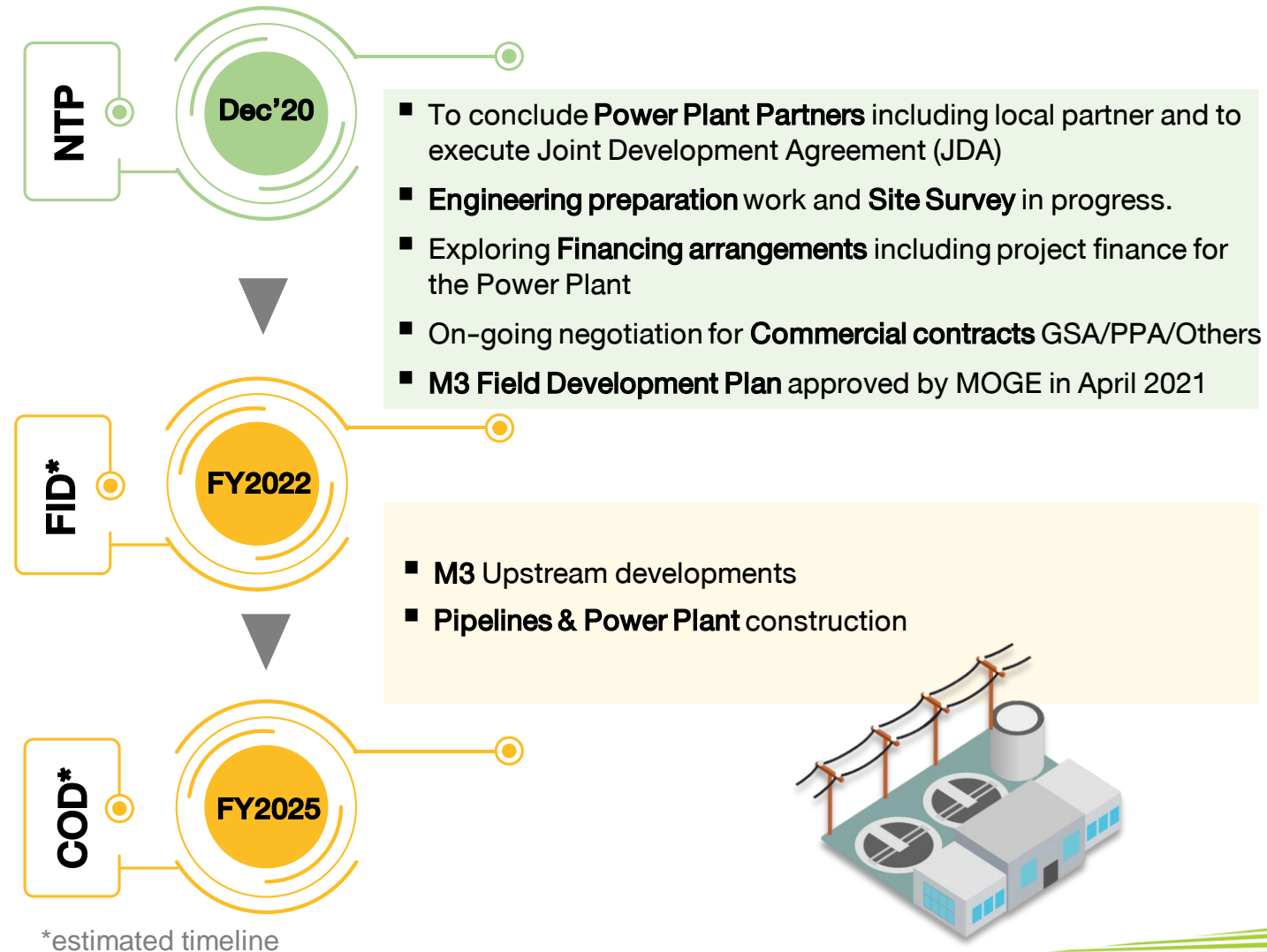


- 


Upstream: Expanding gas value chain into Power business by commercialization of gas supply from M3 and M9 (Zawtika) fields for power plant project
- 

Pipelines & Gas Stations: Offshore and onshore pipelines connecting Kanbauk, DawNyien, Kyaiklat and gas stations.
- 

Power Plant: Gas-fired Combined Cycle Power Plant (CCPP) in Kyaiklat connecting with 230kv transmission line. 100% sold to EPGE's national grid.



New Business – ARV



+2X
Speed

-30%
Cost

0
HumanRisk

End-to-End AI augmented subsea Inspection Repair and Maintenance (IRM) using **ROV, XPLOER, NAUTILUS, AUTOBOAT**



+10X
Speed

-20%
Cost

+10X
EnergySave

One-stop service for Smart Farming and Smart Forestry using **Varun Platform** and **AiAng Sprayer Drone**




+8X
Speed

-30%
Cost

0
HumanRisk

Cloud-based asset inspection and management via **AIM Platform**, and **Aerial Drones and AI/ML Services**



Life-time digital health
TH Largest Ecosystem

Ecosystem for illness & good health with interactive, personalized & professionally endorsed online hospital with health & welfare benefits





Financial Results

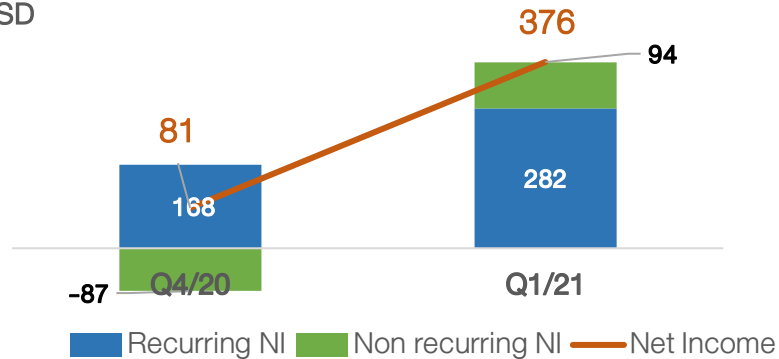
Khun Sumrid Sumneing – EVP, Finance & Accounting

Results – Net Income

Improved from higher liquid price, lower cost, and gain from asset acquisition

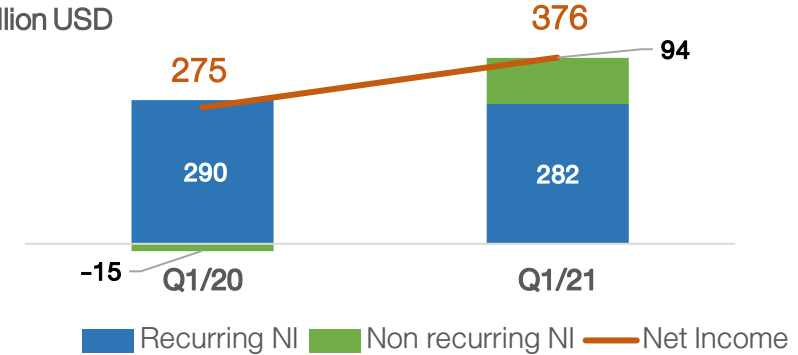
Q1/21 on Q4/20 (QoQ)

Unit: million USD



Q1/21 on Q1/20 (YoY)

Unit: million USD



Recurring (+114 MMUSD or +68%)



Sales Volume

+0.4%

From Bongkot, Block 61,
offset with Partex and Malaysia



Average
Selling Price

+10%

Higher liquid price



-10%

Lower unit costs

Recurring (-8 MMUSD or -3%)



Sales Volume

+5%

Increase from Gulf of Thailand,
Partex, and Block 61



Average
Selling Price

-10%

Lag time adjustment
Gas price



-10%

Lower unit costs

Non-recurring (+181 MMUSD or +>100%)



Mainly from Gain from a bargain purchase of Block 61 offset with
Oil price hedging loss and Exploration assets write-off

Non-recurring (+109 MMUSD or +>100%)

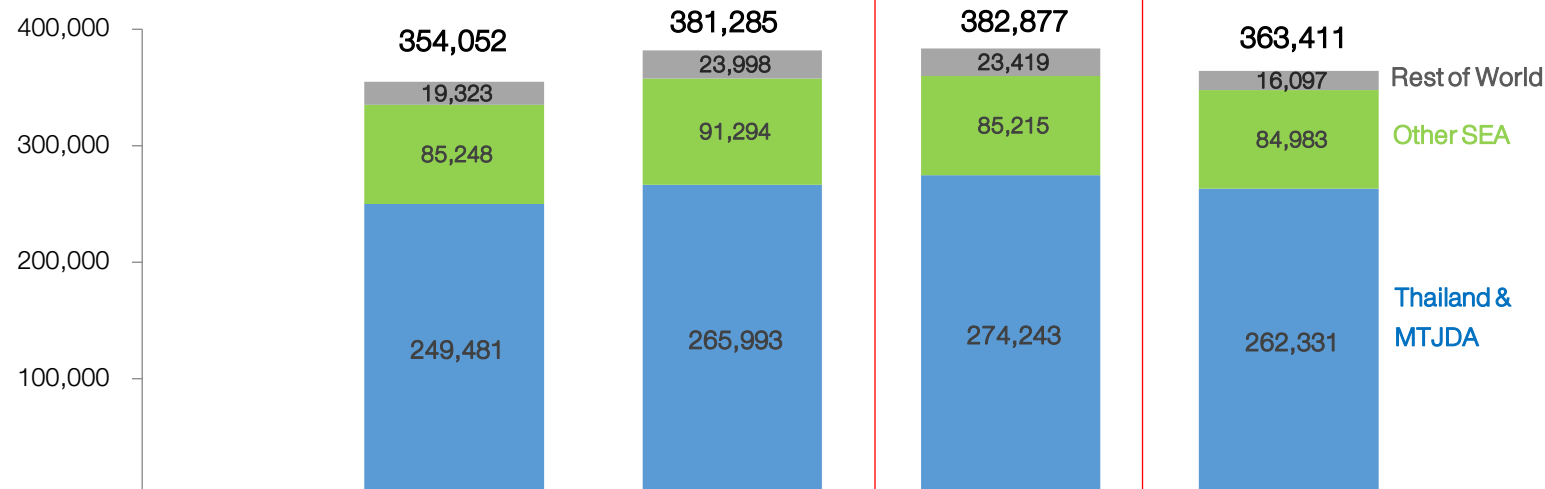


Mainly from Gain from bargain purchase
offset with oil price hedging loss

Results – Sales Volume and Avg. Selling Price

Strong volume growth from higher demand in Gulf of Thailand and acquisition of Block 61 in Oman

UNIT: BOED

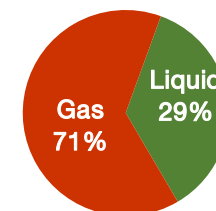


Sales Price	2020	Q4 20	Q1 21	Q1 20
Gas (\$/MMBTU)	6.27	5.63	5.61	6.87
Liquid (\$/BBL)	41.55	42.61	56.59	52.75
Weighted Avg. (\$/BOE)	38.92	36.85	40.38	44.81
Avg. Dubai (\$/BBL)	42.27	44.64	60.01	50.41
Avg. HSFO (\$/BBL) (High Sulphur Fuel Oil)	39.30	44.07	56.74	43.11

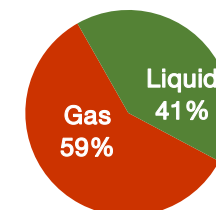
Note: Include sales volume from ADNOC Gas Processing (AGP)

Q1 2021 Sales Volume & Revenue By Product

Volume Mix

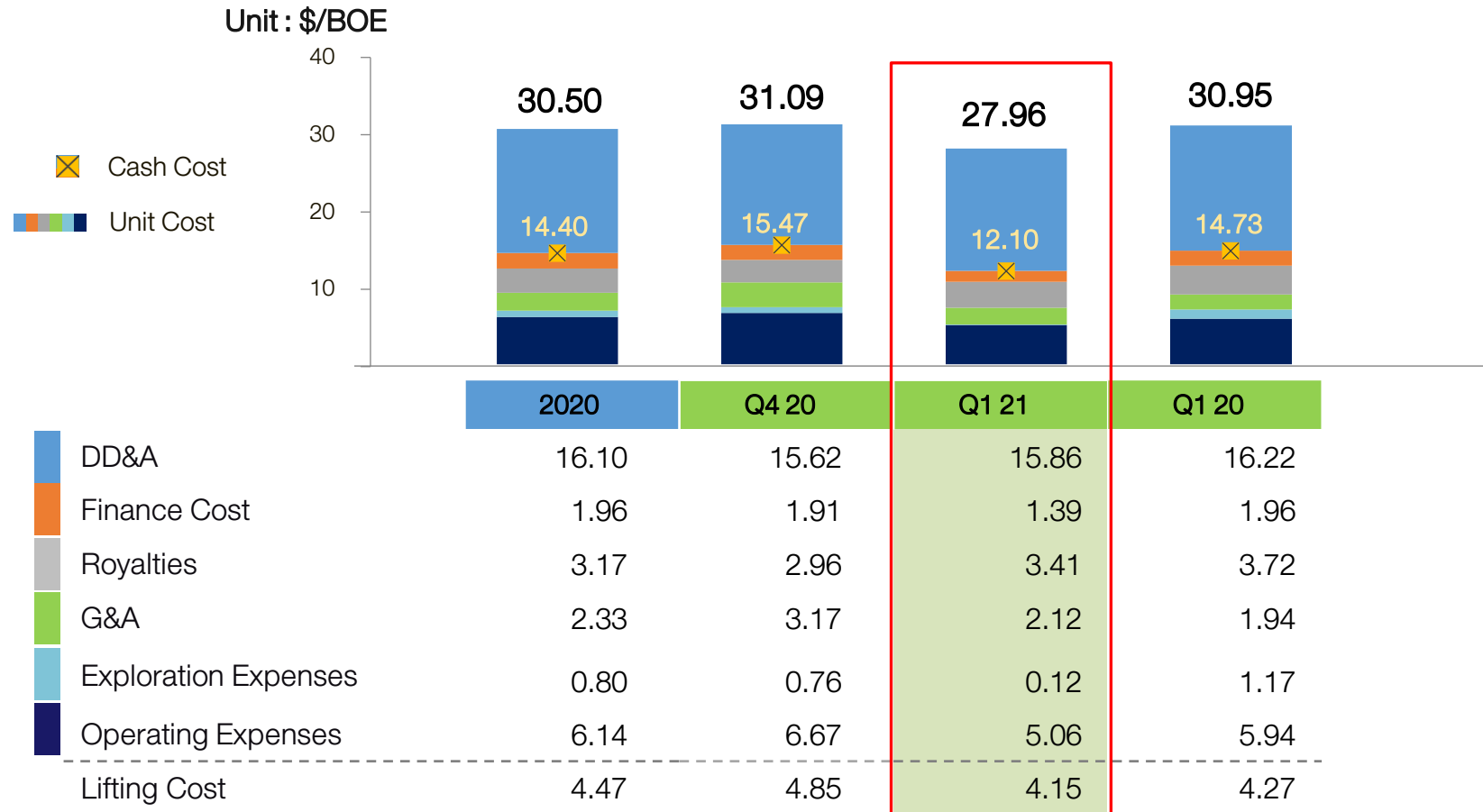


Revenue Mix



Results – Unit Cost

Lower unit cost from effective cost management



Note: * Exclude Exploration assets write-off in Brazil

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

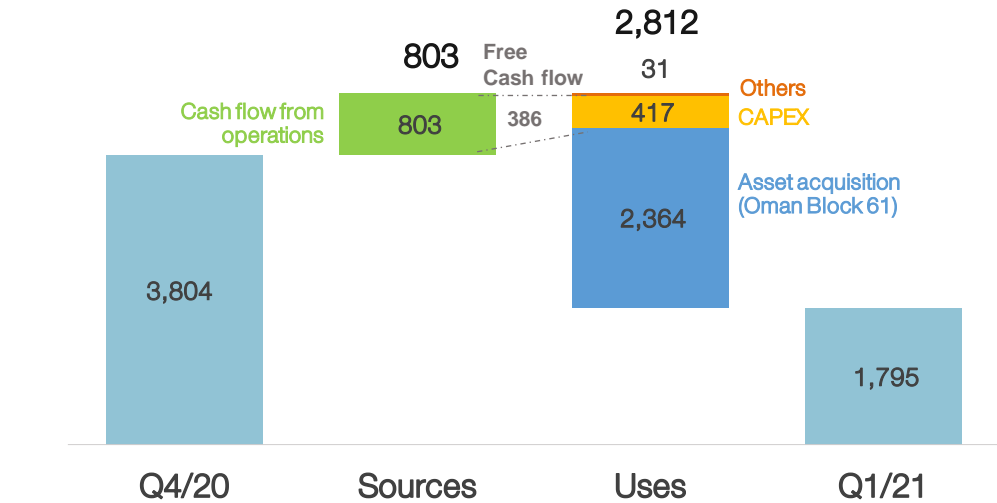
Results – Cash flows and Financial Position

Strong operating cash flow offset with cash outflow for future growth

Q1 2021 : Source and Use of Funds*

74%**
EBITDA Margin

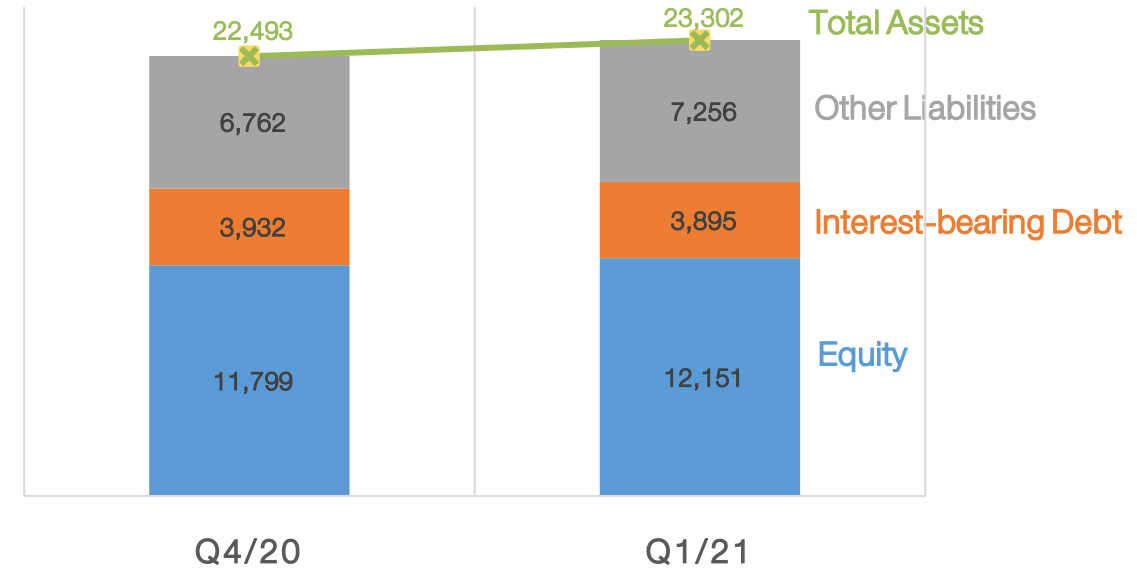
Unit: million USD



Note: * Include Short-term investment
Net of adjustment for the effect of exchange rate changes on cash and cash equivalents
** Exclude Exploration assets write-off in Brazil

Financial Position

Unit: million USD



Debt Profile

D/E ratio

0.33x

0.32x

Weighted Average
Loan Life (Years)

14.08

13.84

Weighted Average
Cost of Debt (%)

3.44

3.44

Fixed : Floating

82:18

82:18

Remark: Debt profile excludes Hybrid bonds

Financial Outlook

2021 Guidance

Average Sales Volume*

KBOED

Q2
~416

Full year

~405

Average Gas Price**

USD/MMBTU

Q2
~5.8

Full year

~5.6

Unit Cost

USD/BOE

Q2 & Full year

~28-29

EBITDA Margin

% of Sales Revenue

Q2 & Full year

~70-72%

Note:

* Include sales volume from
ADNOC Gas Processing (AGP)

** Based on average Dubai oil
price in 2021 at 55.5 \$/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

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



Please scan here to take the survey



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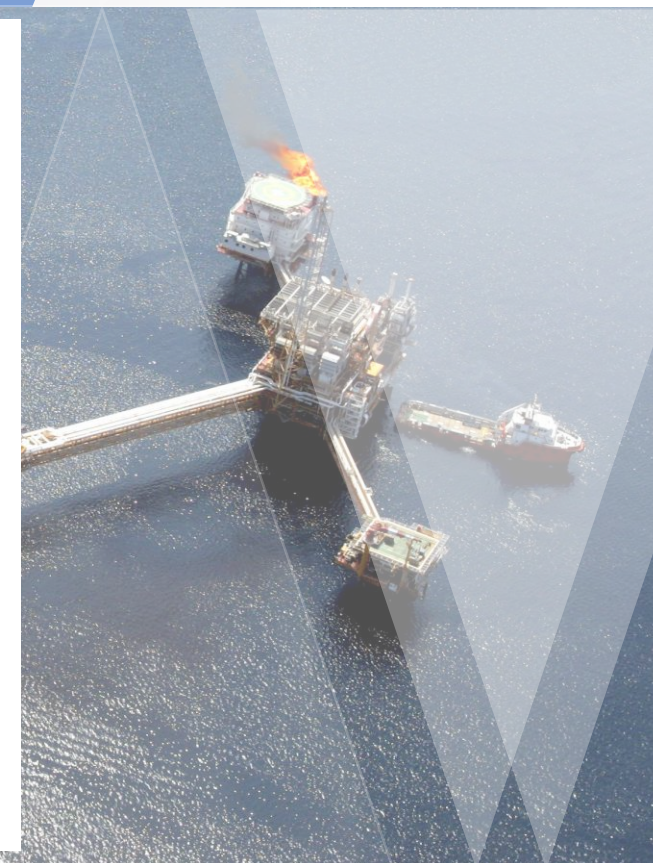
<http://www.pttep.com>



Supplementary information



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Results – Net Income

Strong net income from higher liquid price and gain on assets acquisition

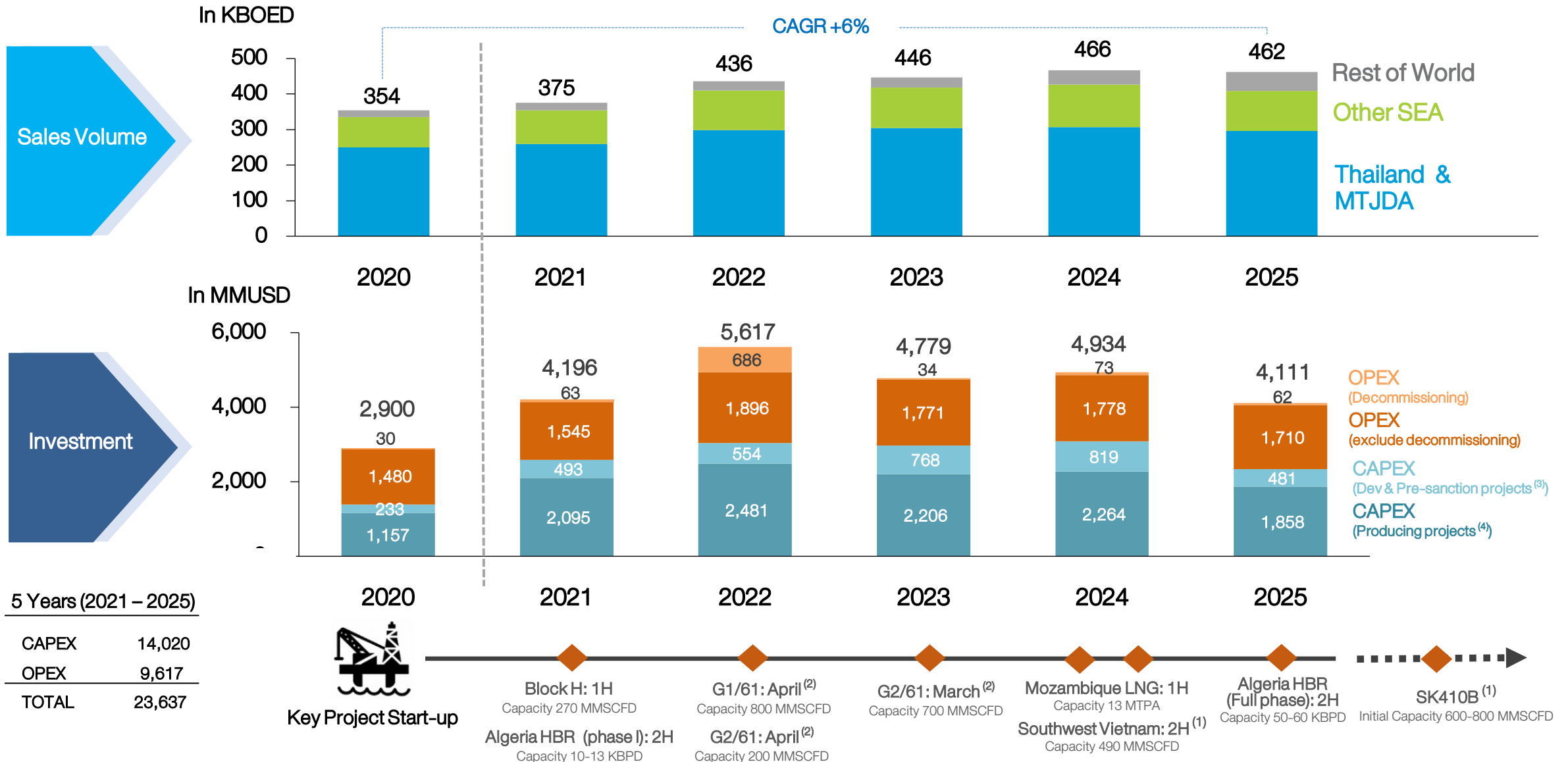
Unit: MMUSD

Statements of Income	Q1 21	Q4 20	%YTD	Q1 20	% YoY
Total Revenues	1,779	1,348	32%	1,771	0%
Sales	1,391	1,292	8%	1,482	(6%)
Sales Volume (BOED)	382,877	381,285	0%	363,411	5%
Sales Price (US\$/BOE)	40.38	36.85	10%	44.81	(10%)
Gain from a bargain purchase	350	-	100%	-	100%
Others **	38	56	(32%)	289	(87%)
Total Expenses	1,403	1,267	11%	1,496	(6%)
Major Expenses:					
Operating Expenses	174	234	(26%)	197	(12%)
Exploration Expenses	149	27	>100%	39	>100%
G&A	75	117	(36%)	66	14%
DD&A	547	548	0%	536	2%
Loss on Financial Instruments	98	72	36%	-	100%
Income Tax Expenses	192	79	>100%	452	(58%)
Net income	376	81	>100%	275	37%
Recurring Net Income	282	168	68%	290	(3%)
Non-recurring Net Income	94	(87)	>100%	(15)	(>100%)
Major items: Non-recurring Net Income - Gain (Loss) from					
Tax from Effect of FX	(9)	10	(>100%)	(225)	96%
Oil Price Hedging	(107)	(38)	(>100%)	166	(>100%)
Effect from FX and others	5	(15)	>100%	44	(89%)
Impairment Loss on Assets	-	(44)	100%	-	-
Exploration assets write-off	(145)	-	(100%)	-	(100%)
Gain from a bargain purchase	350	-	100%	-	100%

* Consisted of Gain/(Loss) on FX and Forward Contract

Five –Year Plan : Sales Volume and Investment

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



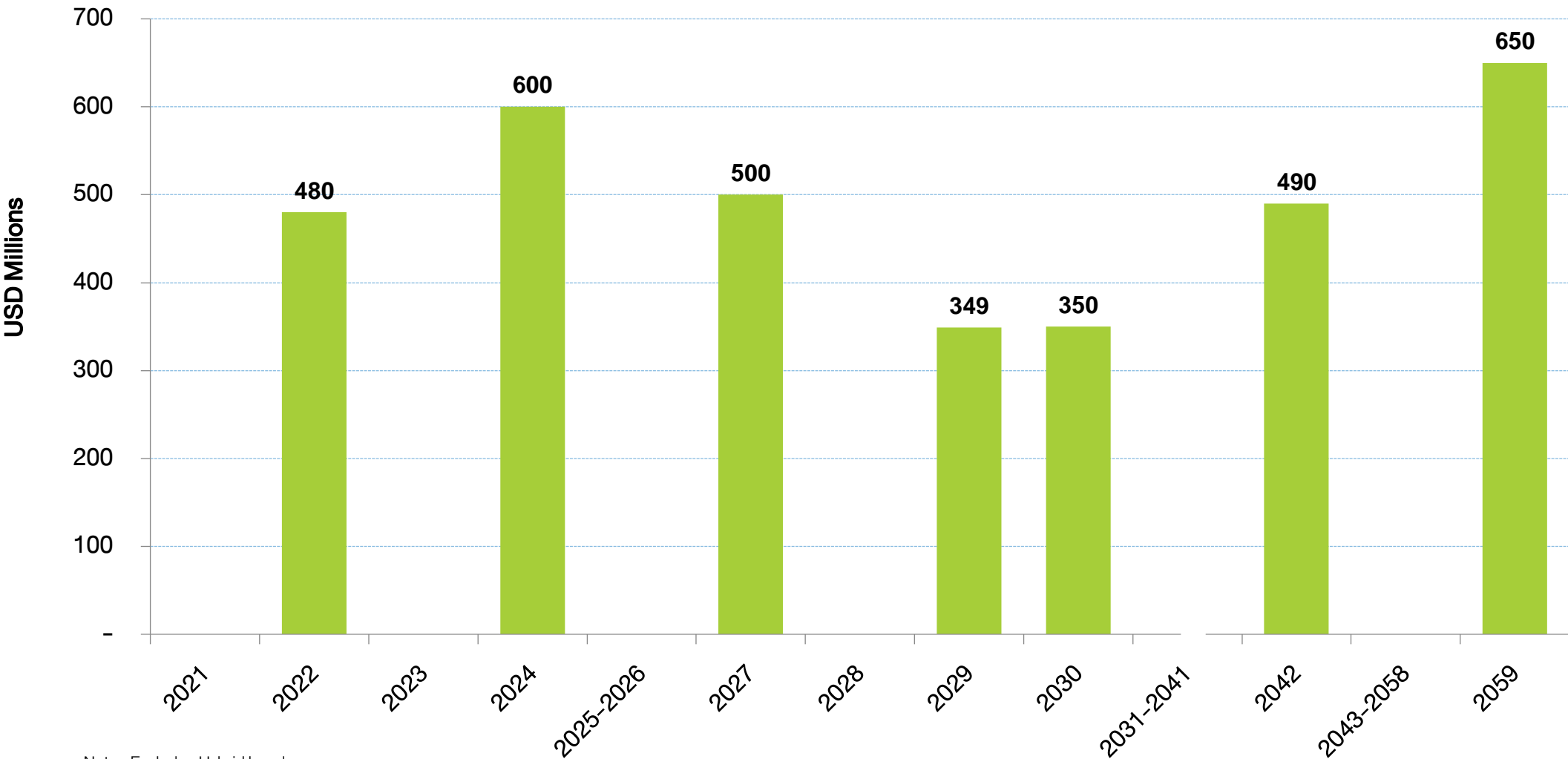
Note: the above 5-year plan does not include the acquisition of Oman Block 61.

⁽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 March 2021

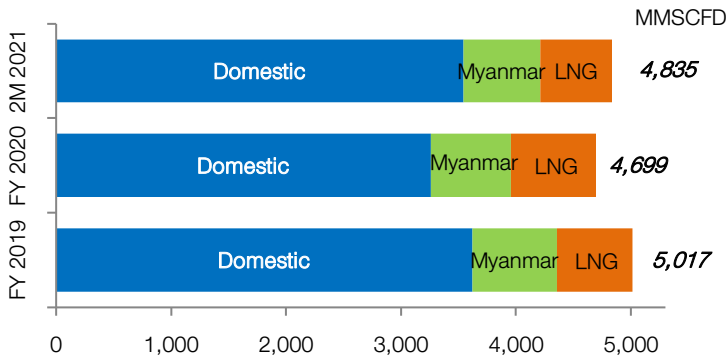


Note: Excludes Hybrid bonds

Unit: USD Millions or equivalent after cross currency swap

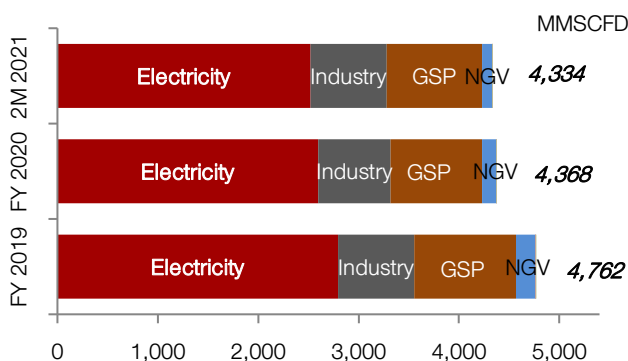
Thailand Energy Overview

Natural Gas Supply



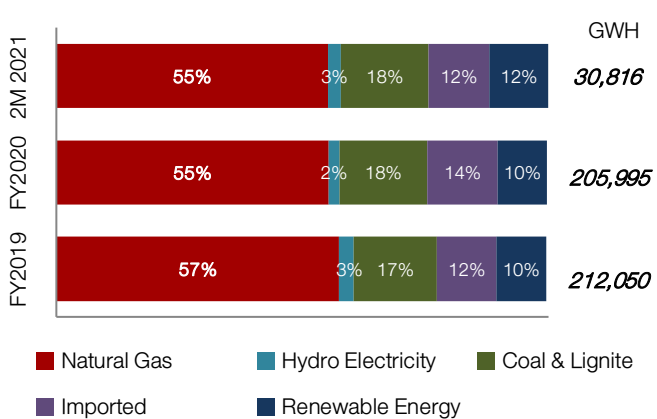
- Recovering energy demand, but still lower than pre COVID-19 level.
- Higher domestic supply with less LNG imports and a slight decline from Myanmar piped gas imports due to natural decline

Natural Gas Consumption



Source: EPPO

Electricity Generation



Exchange Rate Movement (THB/USD)



Consensus on the exchange rate mostly depends on

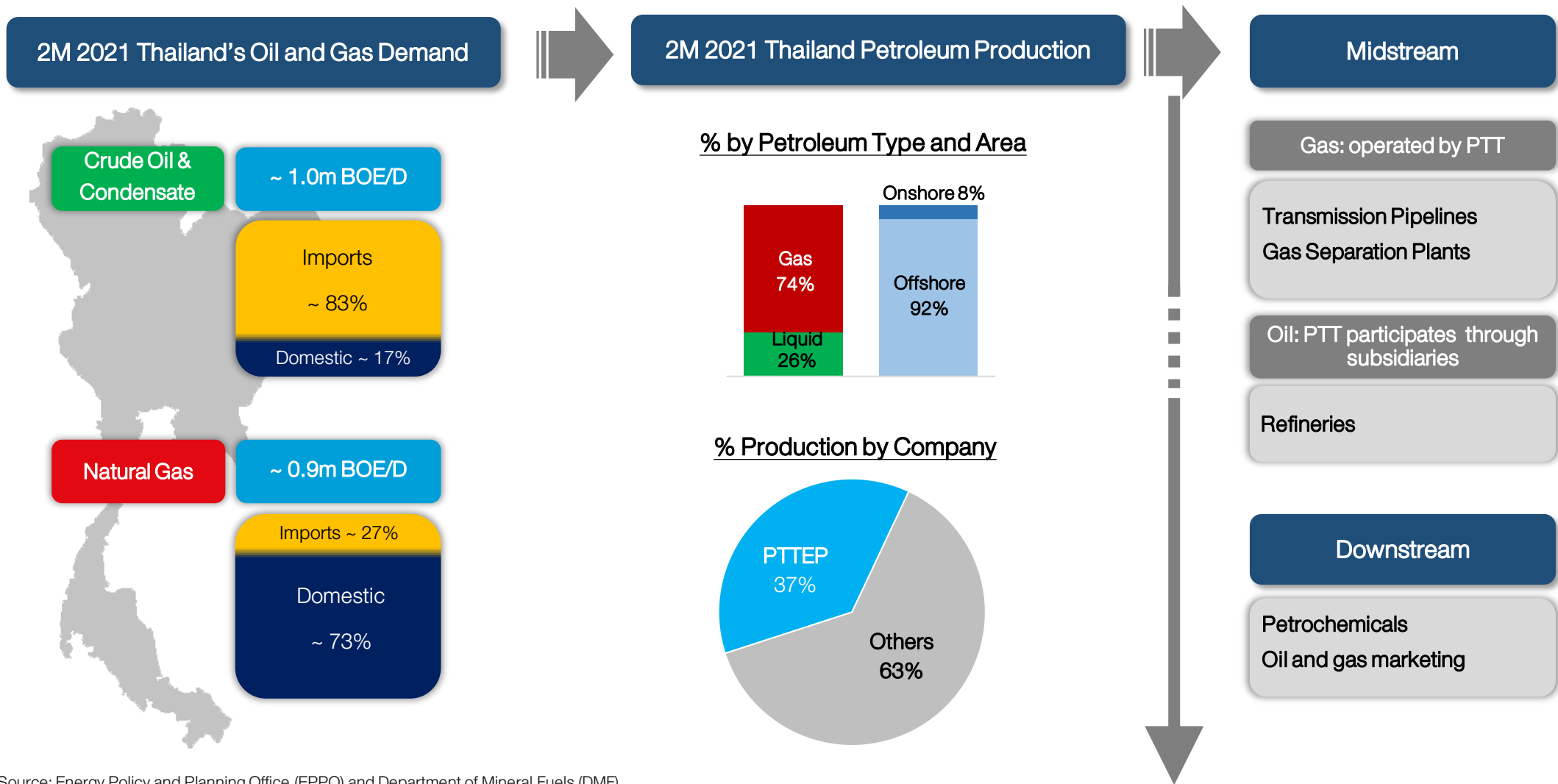
- New wave of Covid-19 infections and efficacy of Covid-19 containment measures
- The recovery of tourism sector in Thailand and global economic recovery
- Sustained and coordinated government policy support

Source: Bank of Thailand, Bloomberg

Forecast based on Bloomberg Consensus as of 31 March 2021

Thailand's Energy Value Chain

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

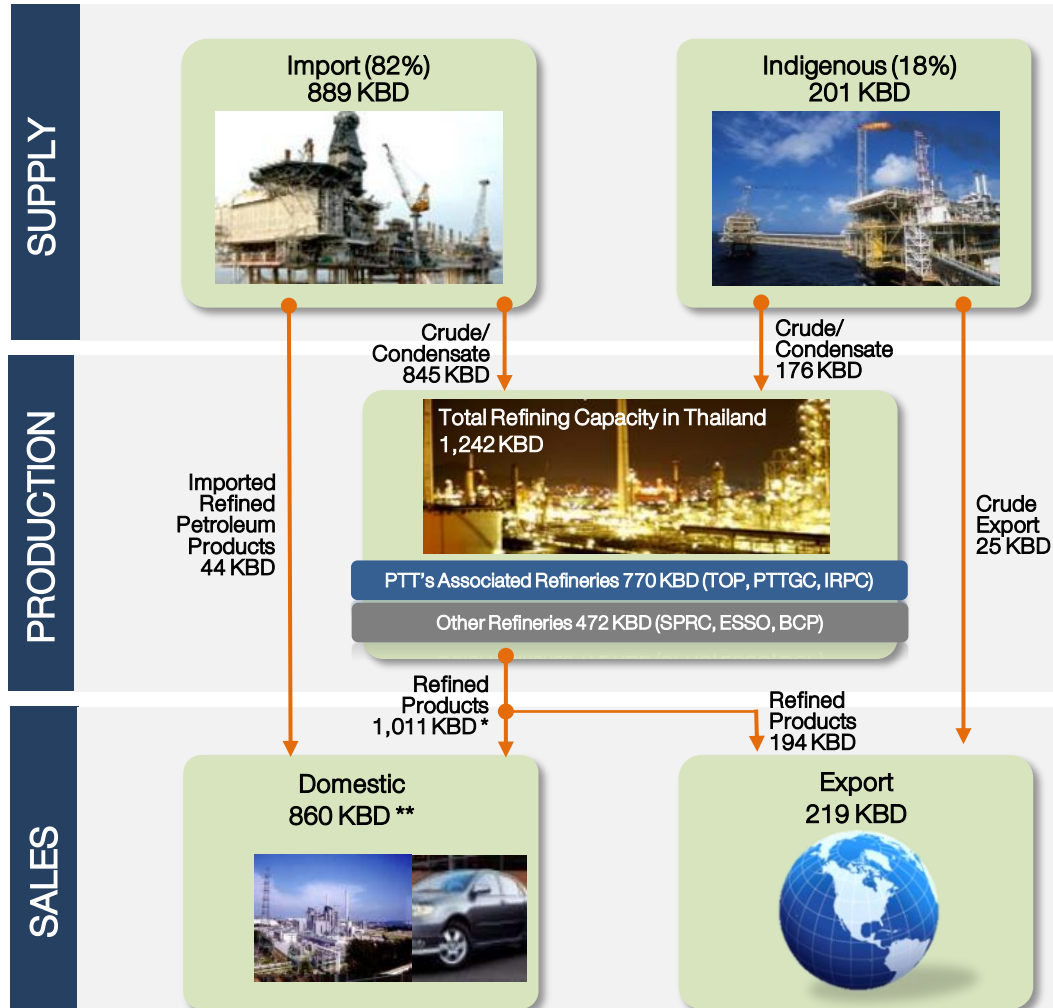


Source: Energy Policy and Planning Office (EPPO) and Department of Mineral Fuels (DMF)

Thailand's Oil and Gas Balance

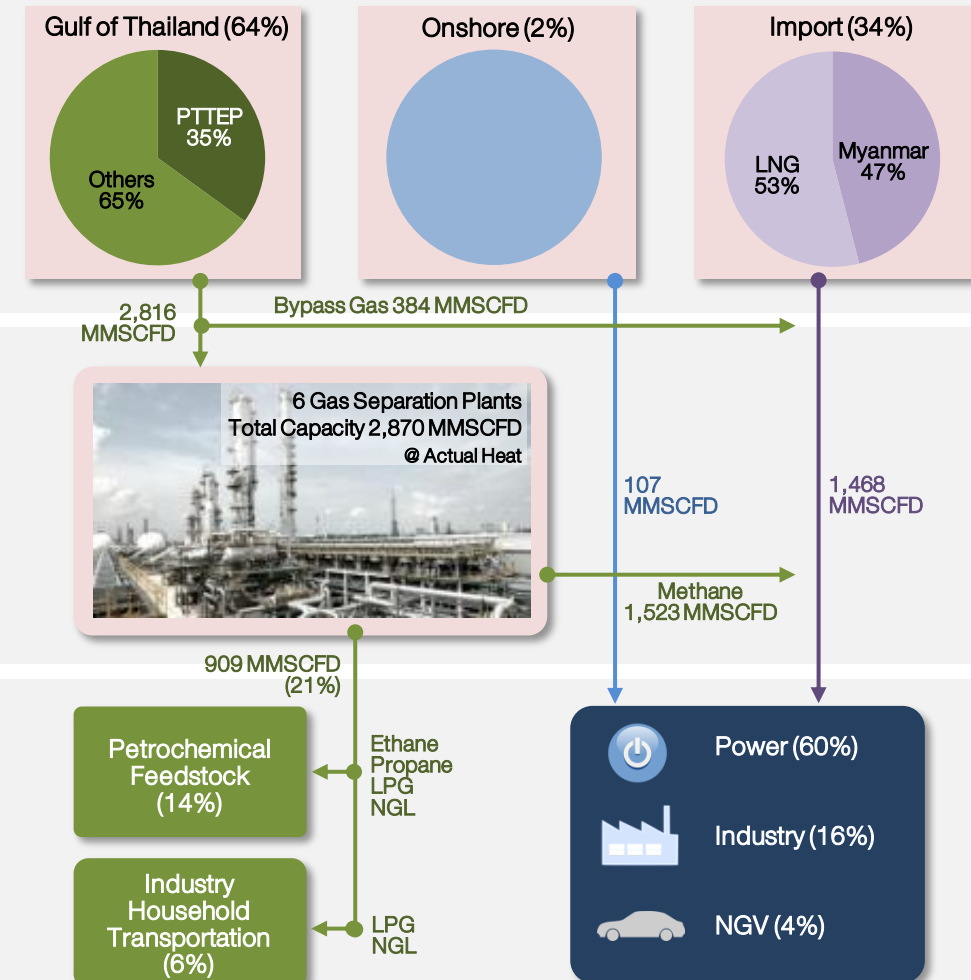
Oil Balance***

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 12M20
 **** Information as of 12M20
 MMSCFD @ Heating Value 1,000 Btu/ft³

“Energy Partner of Choice”

through competitive performance and innovation for long-term value creation

Strengthen core business



*Top Quartile Unit Cost (25 US\$/BOE)
& Production 5% CAGR ⁽¹⁾*

- Maximize Value of Existing Assets
- G1& G2 Asset Transition
- Development Projects
- Execute Exploration Activities

Drive LNG Value Chain

JV Investment & Marketing Capability ⁽¹⁾



Diversify to New Business

20% Net Income from New Business ⁽¹⁾

- Scale up and Expand Markets for ARV
- Power Business



Transform to New Normal

*Efficiency improvement &
Top Quartile Manpower ⁽¹⁾*

Grow E&P Portfolio

7 years for Reserve to Production Ratio ⁽¹⁾

- E&P Growth on core areas



GHG Reduction

*25% GHG Intensity Reduction ⁽²⁾
(from base year 2012)*

- Flare gas utilization
- Energy efficiency
- Study carbon storage



Circular Model for E&P

*50% Reuse of Structure &
Zero Waste to Landfill ⁽²⁾*

- Top-side reuse
- Drill cuttings for road pavement
- Mobile production facility usage



Ocean for Life

*Improve Positive Value to Biodiversity
& Community Income ⁽²⁾*

- Ocean health monitoring
- Rig to Reef
- Environmental restoration and reservation



CORRUPT ON

- Zero tolerate on corruption
- Zero tolerate on non-compliance

- Strengthen GRC culture
- Expand GRC to business partners



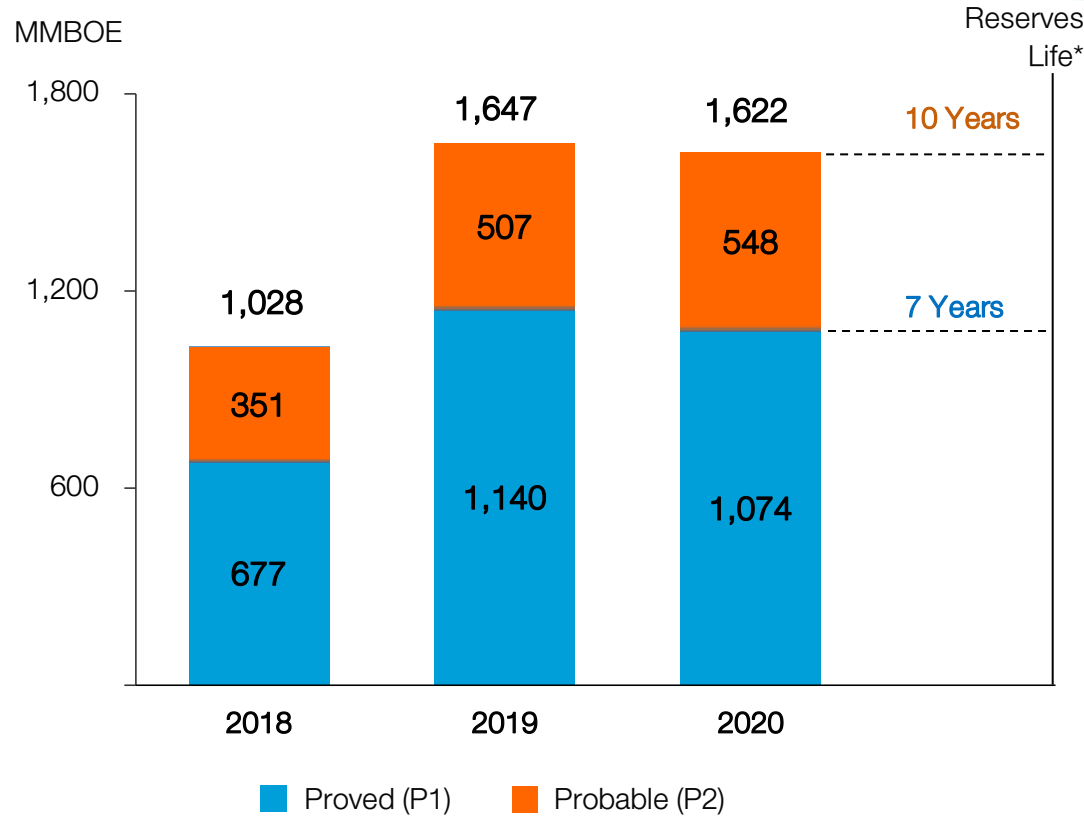
GRC Role Model for TH listed company



Note: ⁽¹⁾ Aspiration Targets in 2030
⁽²⁾ Achievement Targets in 2030

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

Sustained reserve life at 7 years target

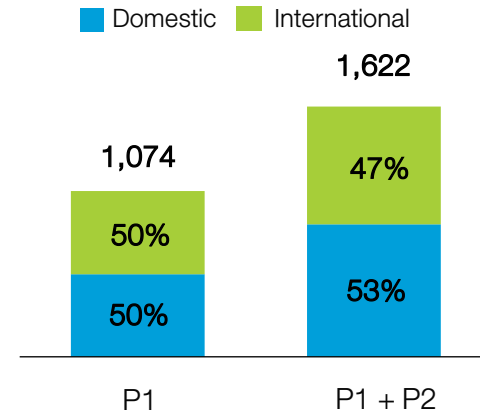


5-Year Average Proved Reserves Replacement Ratio (RRR)

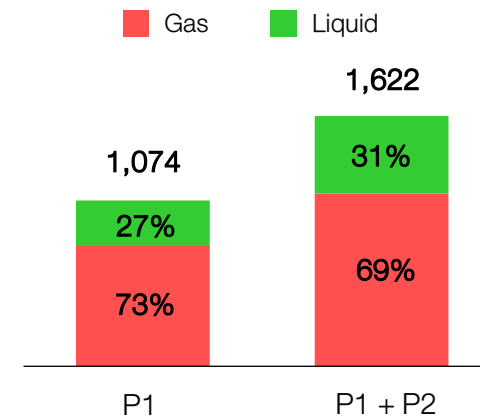
2018	2019	2020
0.7x	1.5X	1.5X

- 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 core production base

- 72% of total sales volume
- Key producing assets include Bongkot, Arthit, Contract 4 and S1
- Bongkot (G2/61) and Erawan (G1/61) are in transition process to ensure production continuity

North & South America

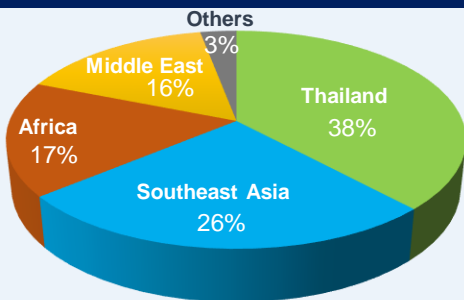
- Opportunities in an early phase:**
- Deepwater exploration in Brazil and Mexico with prominent and prudent operators

Oil

Oil

Book Value of Assets by region

Total assets USD 23.3 billion



As of Mar 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 OLNG

Piped Gas

Oil

GAS/LNG

Southeast Asia

Second heartland to PTTEP

- 22% of total sales volume mainly from Malaysia and Myanmar
- 3rd Largest by resources size in Malaysia with significant gas discovery in Sarawak SK 410B Project
- 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” to maintain strong foundation with full expertise

Thailand



● Production / Ramp-up Projects

Bongkot (66.6667% WI)

- Average natural gas and condensate sales volume of 930 MMSCFD and 22 KBPD in Q1/2021

S1 (100% WI)

- The largest onshore crude oil production field in Thailand with Q1/2021 average crude oil sales volume of 28 KBPD

Arthit (80% WI)

- Average sales volume in Q1/2021 was 243 MMSCFD of natural gas and 11 KBPD of condensates

Contract 4 (60% WI)

- Average sales rate of 420 MMSCFD for natural gas and 16 KBPD for condensate in Q1/2021

Myanmar



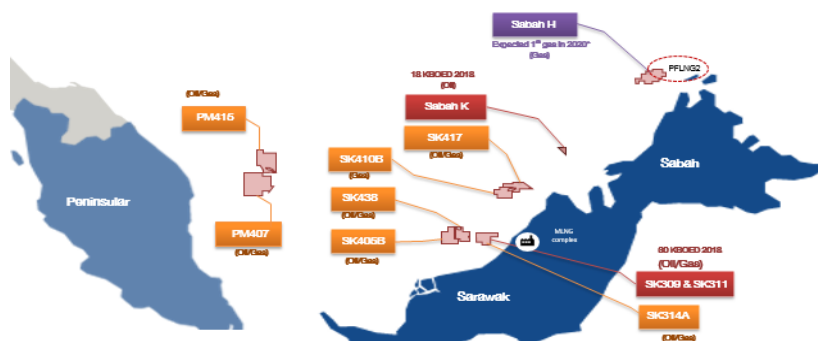
- 3 producing gas fields supplying gas to both Thailand and Myanmar: Yadana, Yetagun*, and Zawtika
- Operate Zawtika project, brought online in March 2014 with current gas supply of 335 MMSCFD in Q1/2021

Project Status

Production	• Zawtika (80% WI)
	• Yadana (25.5% WI)
	• Yetagun* (19.3% WI)
Appraisal	• M3 (80% WI)
Exploration	• MD-7 (50% WI)

Note: Yetagun production has been temporarily ceased until further notice due to depletion of gas production at the field

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 Q1/2021 was 29* KBPD of crude oil and 29* MMSCFD of natural gas

SK309 and SK311 Project : (59.5% WI)

For East Patricia field (42% WI)

- Average production volume in Q1/2021 was 164* MMSCFD of natural gas and 17* KBPD of condensates and crude

Block H Project :

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

- First gas completed early February 2021 with average production volume in Q1/2021 at 81 MMSCFD of natural gas
- Full capacity at 270 MMSCFD

Exploration

Sarawak SK410B Project (42.5% WI)

- Multi TCF significant discovery
- Expected Final Investment Decision (FID) announcement in 2022

Sarawak SK417 and Sarawak SK405B projects

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

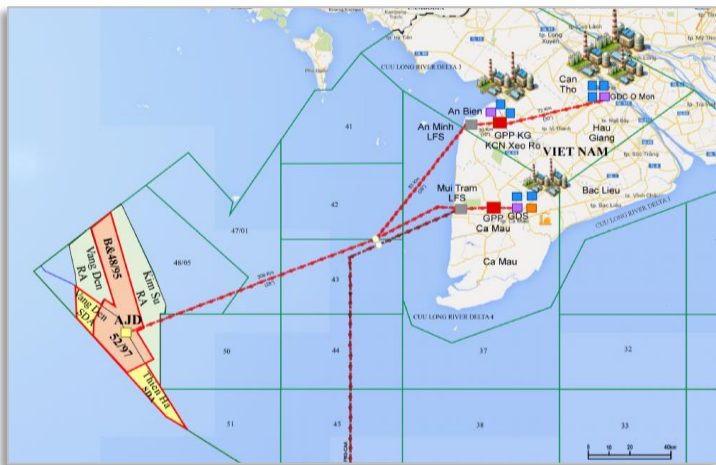
For Block K, gross production is net off utilization

Note: WI – working interest

Other South East Asia countries

Expanding foothold in the region

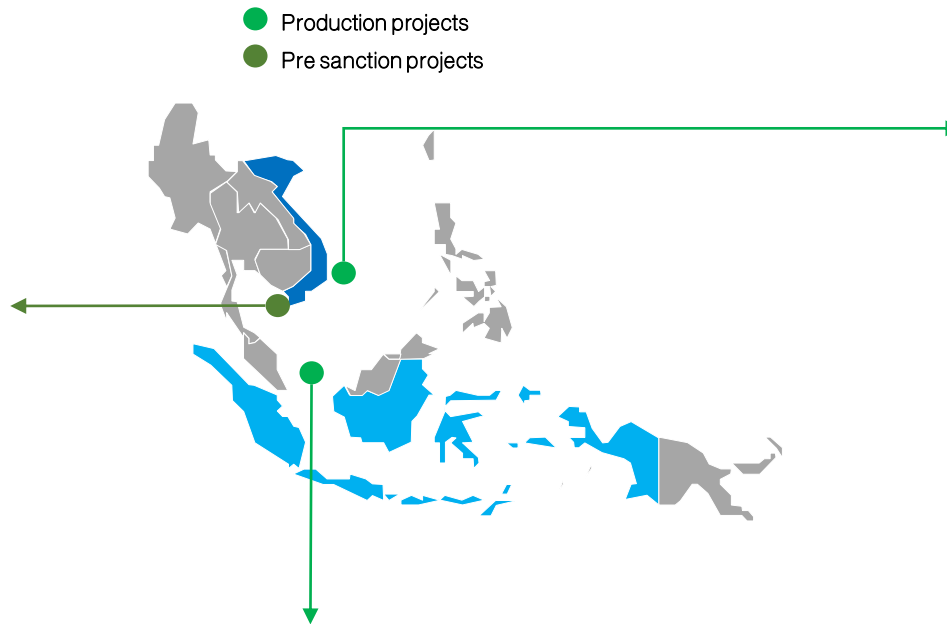
Vietnam and Indonesia



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



Vietnam 16-1 (28.5% WI)

- Average sales volume of crude oil was 12 KBPD in Q1/2021
- The project is preparing the drilling of additional development wells in order to maintain the production level in 2021.

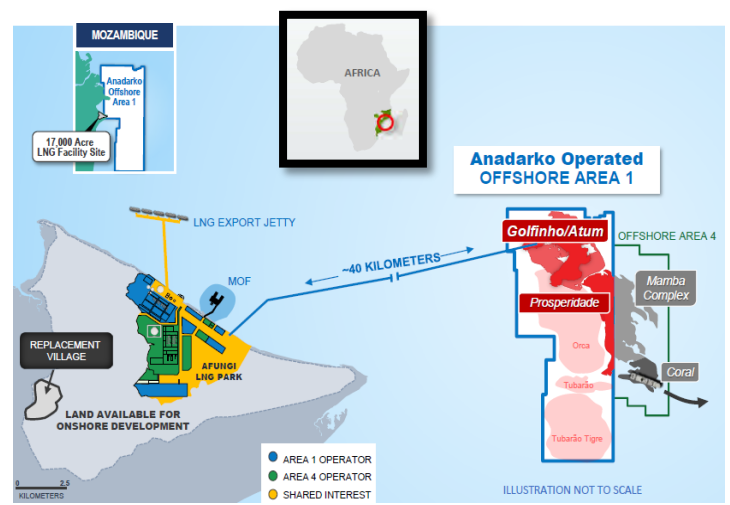


Natuna Sea A (11.5% WI)

- Average sales volume of natural gas was 238 MMSCFD in Q1/2021

Mozambique Area 1

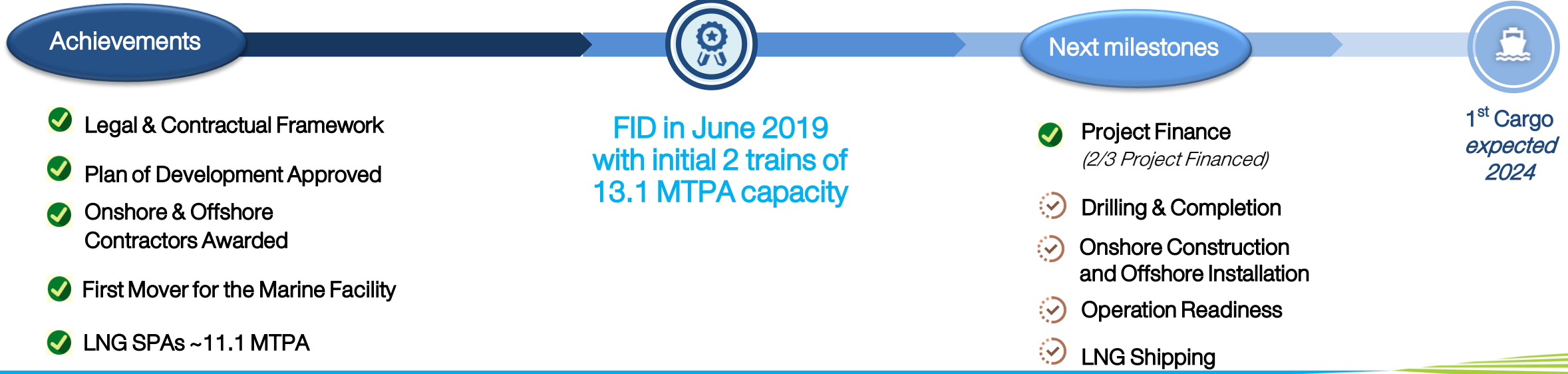
On the path of unlocking value from world class LNG asset



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 in June 2019
with initial 2 trains of
13.1 MTPA capacity

Next milestones

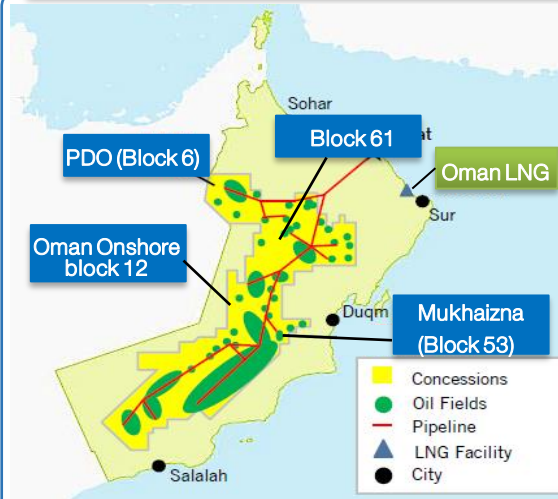
- ✓ Project Finance
(2/3 Project Financed)
- ⌚ Drilling & Completion
- ⌚ Onshore Construction and Offshore Installation
- ⌚ Operation Readiness
- ⌚ LNG Shipping

1st Cargo
*expected
2024*

The Middle East

Access to the largest oil asset in Oman and mega Midstream Complex

Oman



PDO (Block 6)

- Largest asset covering around 1/3 of the country
- Long-life asset, produced only 15% of reserves in-place
- Multi-field oil production volume: 624,314 BPD (69% of Oman production)
- Operated by Petroleum Development of Oman (Joint Operating Company)

Mukhaizna (Block 53)

- Largest single onshore producing field in Oman
- Oil production volume: 94,227 BPD (10% of Oman production)
- Operated by Occidental Petroleum (47% interest)

Block 61

- Largest tight gas development in Middle East
- Gas production capacity: 1,500 MMSCFD
- Operated by BP Exploration (Epsilon) Limited (40% interest)

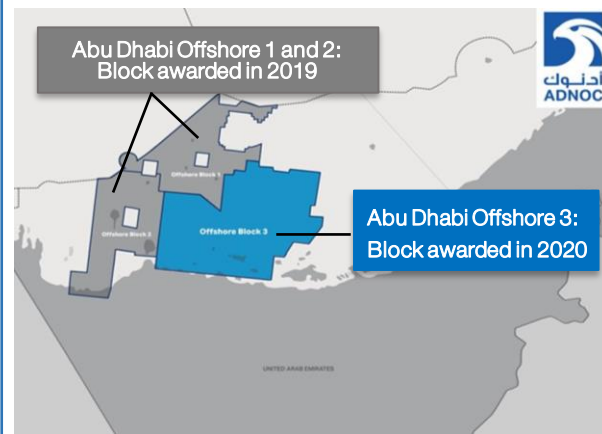
Block 12

- 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)

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)

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)



ADNOC Gas Processing Plant (AGP) : JV Plants; Asab, Bab and Bu Hasa

-- Entry into high potential petroleum province at exploration phase --

Deep Water Brazil



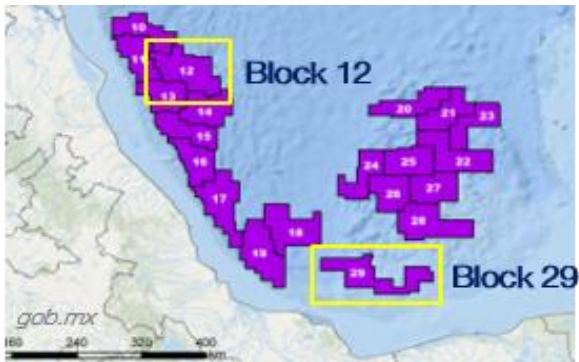
Barreirinhas AP1

- 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

Gulf of Mexico, 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.

	Project	Status*	Phase	PTTEP's Share	Partners <i>(as of April 2021)</i>	Q1 2021 Average Sales Volume **		Q1 2021 Key Activities
						Gas (MMSCFD)	Liquid (KBPD)	
Thailand and JDA								
1	Arthit	OP	Production	80%	Chevron MOECO 16% 4%	243	11	<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%	49	14	<ul style="list-style-type: none">• Drill development wells• Reuse wellhead platform study
4	Bongkot	OP	Production	66.6667%	TOTAL 33.3333%	927	22	<ul style="list-style-type: none">• Drill development wells• Maintain production level as plan• 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%	488	25	<ul style="list-style-type: none">• Prepare for decommissioning activities
6	Contract 4 (Formerly Pailin)	JV	Production	60%	Chevron MOECO 35% 5%	413	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	4	<ul style="list-style-type: none">• Total Reuse for new platforms
9	G4/48	JV	Production	5%	Chevron MOECO 71.25% 23.75%	3	-	<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: 185 Ton/Day	<ul style="list-style-type: none">• Drill development wells• Maximize crude production as per 2021 target• 10 years strategy road map is under preparation to ensure all focused strategic areas will be set up in the long term after PPE approval until 14 Mar 2031.
13	Sinphuhorm	OP	Production	55%	Apico**** ExxonMobil 35% 10%	98	0.3	<ul style="list-style-type: none">• Ensure gas deliverability• Drill development well• Negotiate and finalize new GSA key term

* 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)	Q1 2021 Average Sales Volume **		Q1 2021 Key Activities
						Gas (MMSCFD)	Liquid (KBPD)	
Thailand and JDA								
14	L22/43	OP	Production	100%	-	-	-	<ul style="list-style-type: none">Re-visit resume production plan (current field potential is not economic viable)Explore additional field potentialPrepare for decommissioning activities
15	MTJDA	JOC	Production	50%	Petronas-Carigali 50%	261	10	<ul style="list-style-type: none">Drill development wellsEnsure gas deliverability level at DCQ***
16	G9/43	OP	Exploration	100%	-			
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 head platform
Others SEA								
1	Malaysia	OP (except Gumusut-Kakap (GK) in Block K)	Production/ Exploration/ Development	6.4-80% (varied by permits)	Varied by permits	SK309 and SK311** 164 Block K** 30 Block H** 81	SK309 and SK311** 17 Block K** 29	<ul style="list-style-type: none">Production projects(SK309 and SK311, Block K): infill developmentBlock H: first gas in February 2021Multiple discoveries : Sarawak SK410B, SK417 and SK405BOther exploration projects: drill exploration wells and perform 3D seismic activities
2	Yadana	JV	Production	25.5%	TOTAL 31.24% Chevron 28.26% MOGE 15%	766	-	<ul style="list-style-type: none">Drill production wellsEnsure gas deliverability level at DCQ***
3	Yetagun	JV	Production	19.3178%	Petronas-Carigali 40.91018% MOGE 20.4541% Nippon Oil 19.3178%	16	2	<ul style="list-style-type: none">Temporary shutdown on 1 April 2021 due to insufficient natural gas for the minimum production.
4	Zawtika (M9 & a part of M11)	OP	Production	80%	Myanma Oil and Gas Enterprise (MOGE) 20%	335	-	<ul style="list-style-type: none">Some activities are delayed and process under difficulty due to the turbulence situation in Myanmar.
5	Myanmar M3	OP	Exploration	80%	MOECO 20%	-	-	<ul style="list-style-type: none">Waiting for an approval of Field Development Plan (FDP) and PSC Supplementary.FEED/ Subsurface/ Surface studiesNegotiate and Finalize GSA
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)

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** 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>		Q1 2021 Average Sales Volume **		Q1 2021 Key Activities
							Gas (MMSCFD)	Liquid (KBPD)	
Others SEA									
9	Vietnam 9-2	JOC	Production	25%	PetroVietnam SOCO	50% 25%	13	2	<ul style="list-style-type: none">• Maintain production level• Development 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 level• Drill development wells• Under procurement process for Equipment and Services
11	Vietnam B & 48/95	JV	Exploration	8.5%	PetroVietnam MOECO	65.88% 25.62%	-	-	<ul style="list-style-type: none">• Negotiation process on commercial terms in order to push forward the Final Investment Decision (FID)• The first production target at the end of 2024
12	Vietnam 52/97	JV	Exploration	7%	PetroVietnam MOECO	73.4% 19.6%	-	-	<ul style="list-style-type: none">• Negotiation process on commercial terms in order to push forward the Final Investment Decision (FID)• The first production target at the end of 2024
13	Natuna Sea A	JV	Production	11.5%	Premier Oil KUFPEC Petronas Pertamina	28.67% 33.33% 15% 11.5%	238	2	<ul style="list-style-type: none">• Drill development wells• FEED study: Start Anoa & Gajah Baru compressor project
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">• Signed the Concession Agreement with ADNOC in December 2020• Preparing the Appraisal plan of Pre-existing discovery which to be submitted to ADNOC for consideration
4	PDO (Block 6)	JOC	Production	2%	Government of Oman Shell Total	60% 34% 4%	-	624**	<ul style="list-style-type: none">• A part of Partex acquisition which was completed on 4 November 2019• Maintain production plateau• Perform Development activities• Drill exploration and appraisal wells
5	Mukhaizna	JV	Production	1%	Occidental OOCEP Indian Oil Mubadala	47% 20% 17% 15%	-	94**	<ul style="list-style-type: none">• A part of Partex acquisition which was completed on 4 November 2019• Maintain production plateau• Drill exploration wells• Perform Development activities
6	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)• Preparing to drill an exploration well
7	Oman Block 61	JV	Production	20%	BP Makarim Gas Development LLC PC Oman Ventures Limited (PETRONAS)	40% 30% 10%	91	4	<ul style="list-style-type: none">• Completed the acquisition on 23 March 2021

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** 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)	Q1 2021 Average Sales Volume**		Q1 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 Orchid Field (AC/P54) : under way to define proper direction in order to increase development opportunitiesOther exploration projects: G&G studiesAC/L4: total block relinquishment
2	Mozambique Area 1	JV	Development	8.5%	Total, Mitsui, ENH, OVL 26.5%,20% OVRL & Oil India , 15%, 10% Bharat 10%, 10%	-	-	<ul style="list-style-type: none">First Cargo is expected by 20241st Debt drawdown in project FinanceThe Force Majeure has been declared by the operator for safety reason due to the security incident in Palma.
3	Algeria 433a & 416b (Bir Seba)	JOC	Production	35%	PetroVietnam 40% Sonatrach 25%	-	18	<ul style="list-style-type: none">Drill development wellsProduction respect OPEC policy
4	Algeria Hassi Bir Rekaiz	OP	Development	24.5%	CNOOC 24.5% Sonatrach 51%	-	-	<ul style="list-style-type: none">Drilling development wellsExpected first oil production for the initial phase of around 10,000-13,000 barrels per day (BPD) in 2021
5	Mariana Oil Sands	OP	Exploration	100%	-	-	-	<ul style="list-style-type: none">Conduct well abandonment campaign and reclamation activities
6	Barreirinhas AP1	JV	Exploration	25%	Shell Brasil 65% Mitsui E&P Brasil 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 65% INPEX 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 60% Ophir Mexico 20%	-	-	<ul style="list-style-type: none">Geophysical survey has been performed for petroleum potential evaluation.Drilling Exploration wells
9	Mexico block 29 (2.4)	JV	Exploration	16.67%	Repsol Mexico 30% PC Carigali Mexico 28.33% Wintershal DEA 25%	-	-	<ul style="list-style-type: none">Completed drilling of 2 exploration wells in 2020 with success result.The appraisal plan and exploration plan were approved by the Mexican regulators (CNH) on 25 March 2021.Preparing for exploration well and appraisal drilling.

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

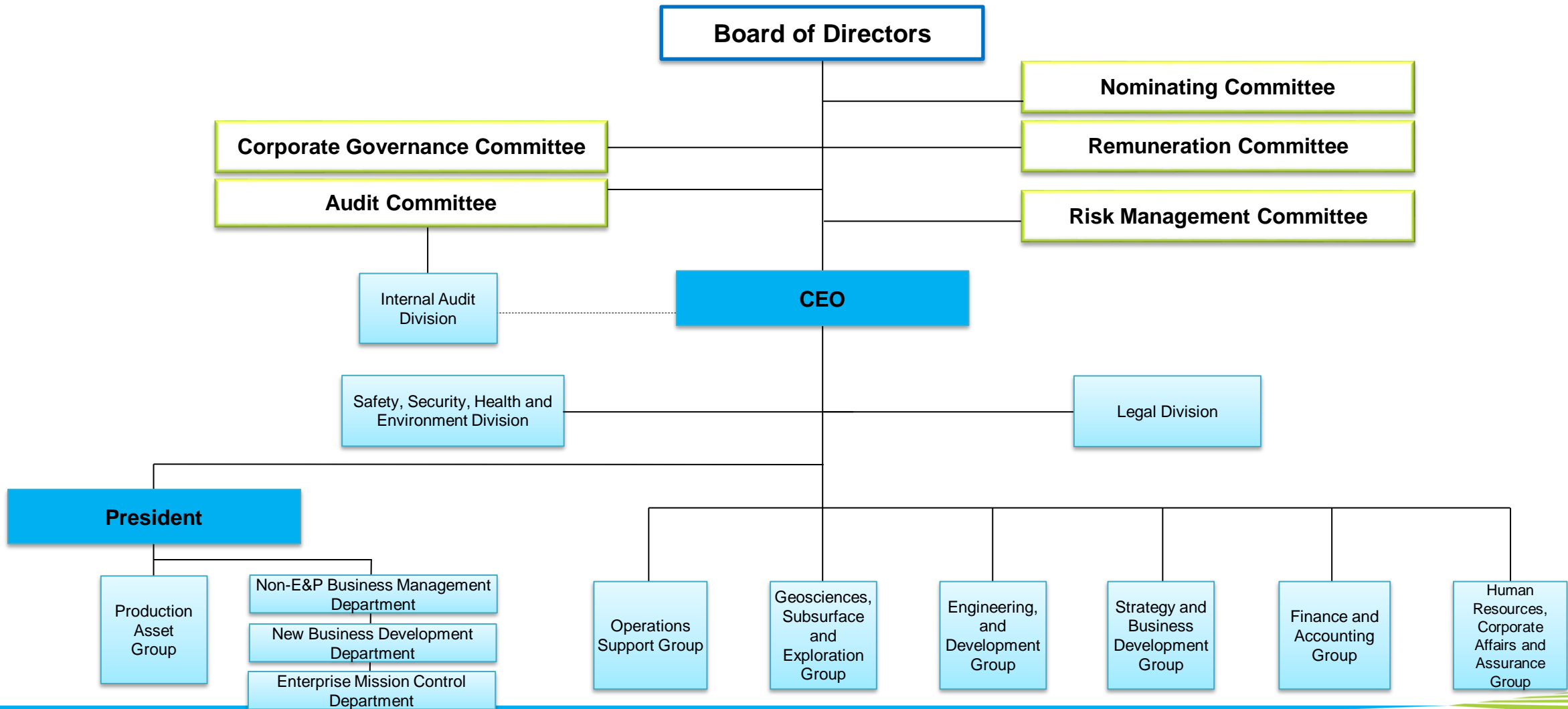
	Project	Status*	Phase	PTTEP's Share	Partners <i>(as of April 2021)</i>		Q1 2021 Average Sales Volume**		Q1 2021 Key Activities
							Gas (MMSCFD)	Liquid (KBPD)	
Other International									
10	Block 17/06	JV	Pre development	2.5%	Total Sonangol 30% SSI 27.5% Acrep 5% Falcon Oil 5%	-	-	<ul style="list-style-type: none">Development phaseFEED and Predevelopment Study and expect to be completed in mid year 2021	
11	Potiguar	OP	Production	50%	Petro reconcavo 50%	-	0.2	<ul style="list-style-type: none">Maintain production plateau	
12	Dunga	JV	Production	20%	Total OOCEP 60% 20%	2	11	<ul style="list-style-type: none">continue to curb production per OPEC+ agreement to support priceNew well tie-ins to gather the systemProcurement process for designing of Compression and Separation upgradeDesigning 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%			<ul style="list-style-type: none">Power Project to maintain operations, cost optimization, and plant integrity.	
2	ADNOC Gas Processing (AGP)	JV	On line	2%	ADNOC 68% Shell 15% Total 15%			<ul style="list-style-type: none">Perform Midstream operation activitiesMaintain production and plant integrity by upgrading firewater network and plant fireImproving plant's efficiency and capacity with plant debottlenecking	

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** Sales volume stated at 100% basis

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	$\text{Trailing-12-month EBITDA} / \text{Trailing-12-month Interest Expenses \& Amortization of Bond Issuing Cost}$