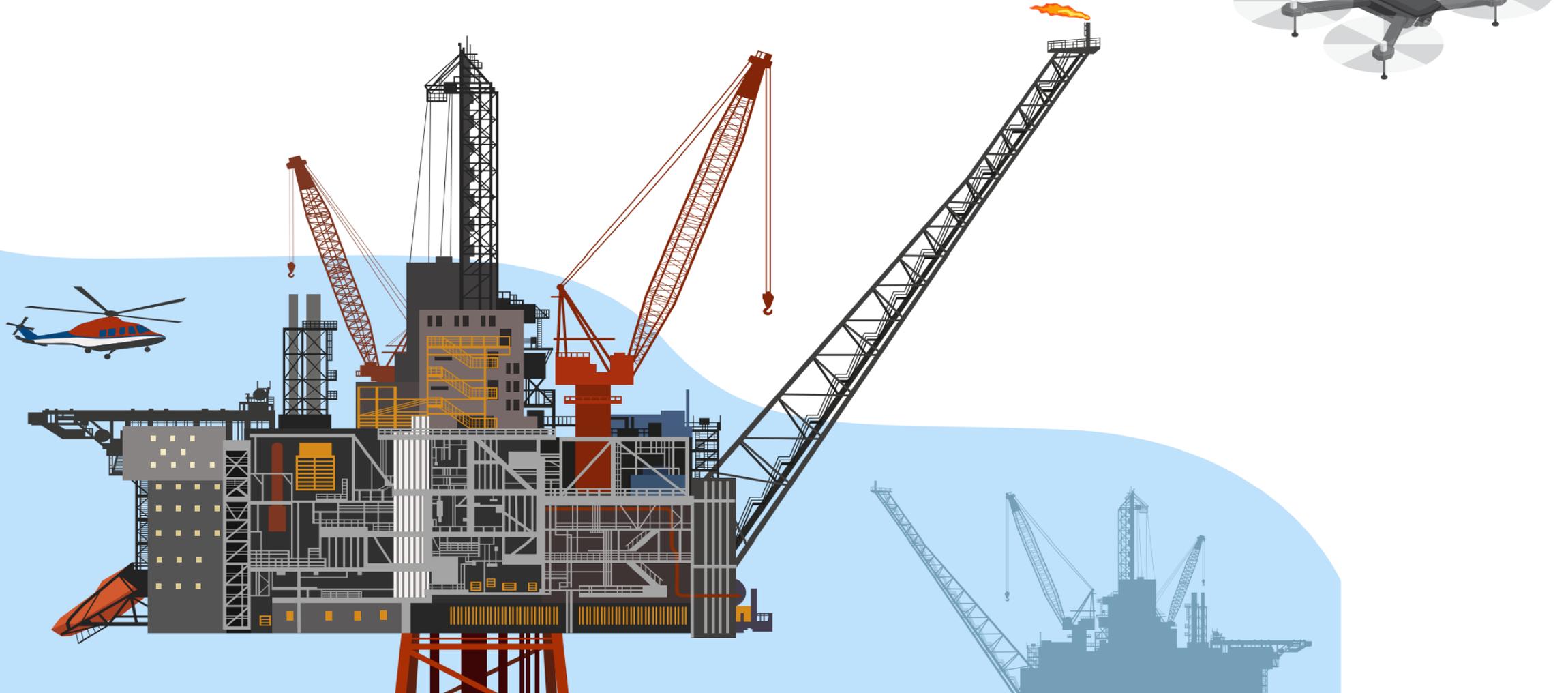


# PTTEP 201

PTT Group Investor Day by SCBS

9 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.



**Corporate Overview**



**Assets Portfolio**



**Sustainability Development**



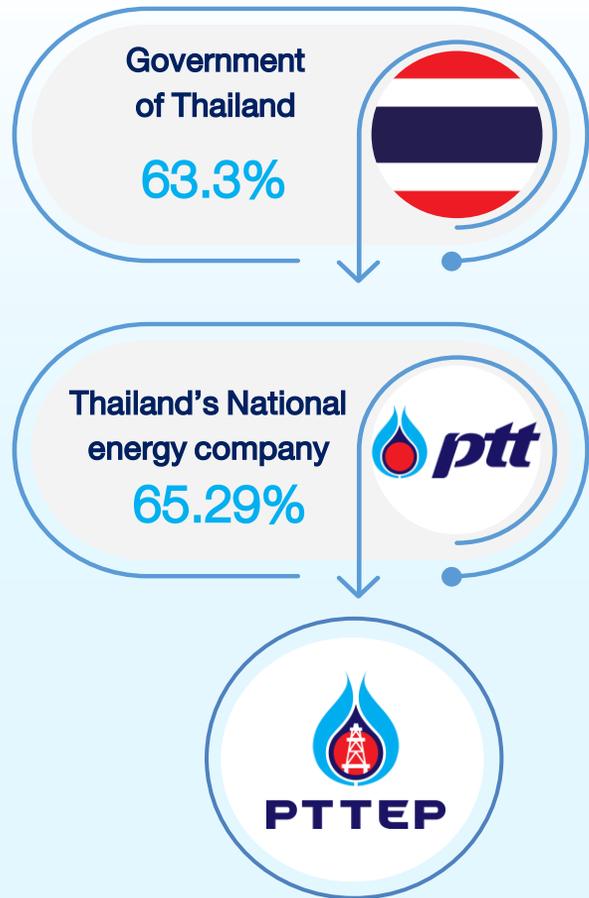
**Q1 Hi-lights & Outlook**



# Corporate Overview



# PTTEP – The Largest E&P company in Thailand



Source: XXXX, as of XXXX

**E&P arm of PTT Group**  
Established 1985

**Market Cap. > 15bn USD**  
SET Listed since 1993

**Sales Revenue > 90%**  
SEA & Middle East

**Cash Cost < 14\$/BOE**  
Cost Competitive

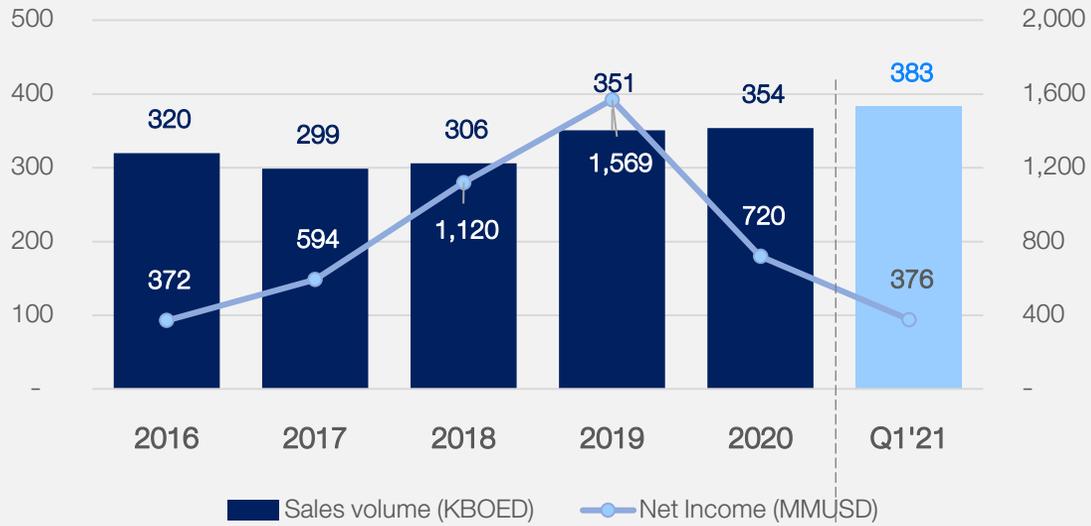
 <b>STANDARD &amp; POOR'S RATINGS SERVICES</b> <small>McGraw Hill Financial</small>	 <b>FitchRatings</b>
<b>BBB+ / Stable</b> Stand-alone at BBB	<b>BBB+ / Stable</b> Stand-alone at BBB
 <b>MOODY'S</b>	 <b>TRIS RATING</b>
<b>Baa1 / Stable</b> Stand-alone at Baa2	<b>AAA / Stable</b>



 Dow Jones Sustainability Indexes <b>2014-2020</b>	 FTSE4Good <b>2016-2020</b>	 <b>THSI</b> THAILAND SUSTAINABILITY INVESTMENT 2020 <b>2016-2020</b>
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# Consistent Performance

## Historical Sales Volume and Net Income



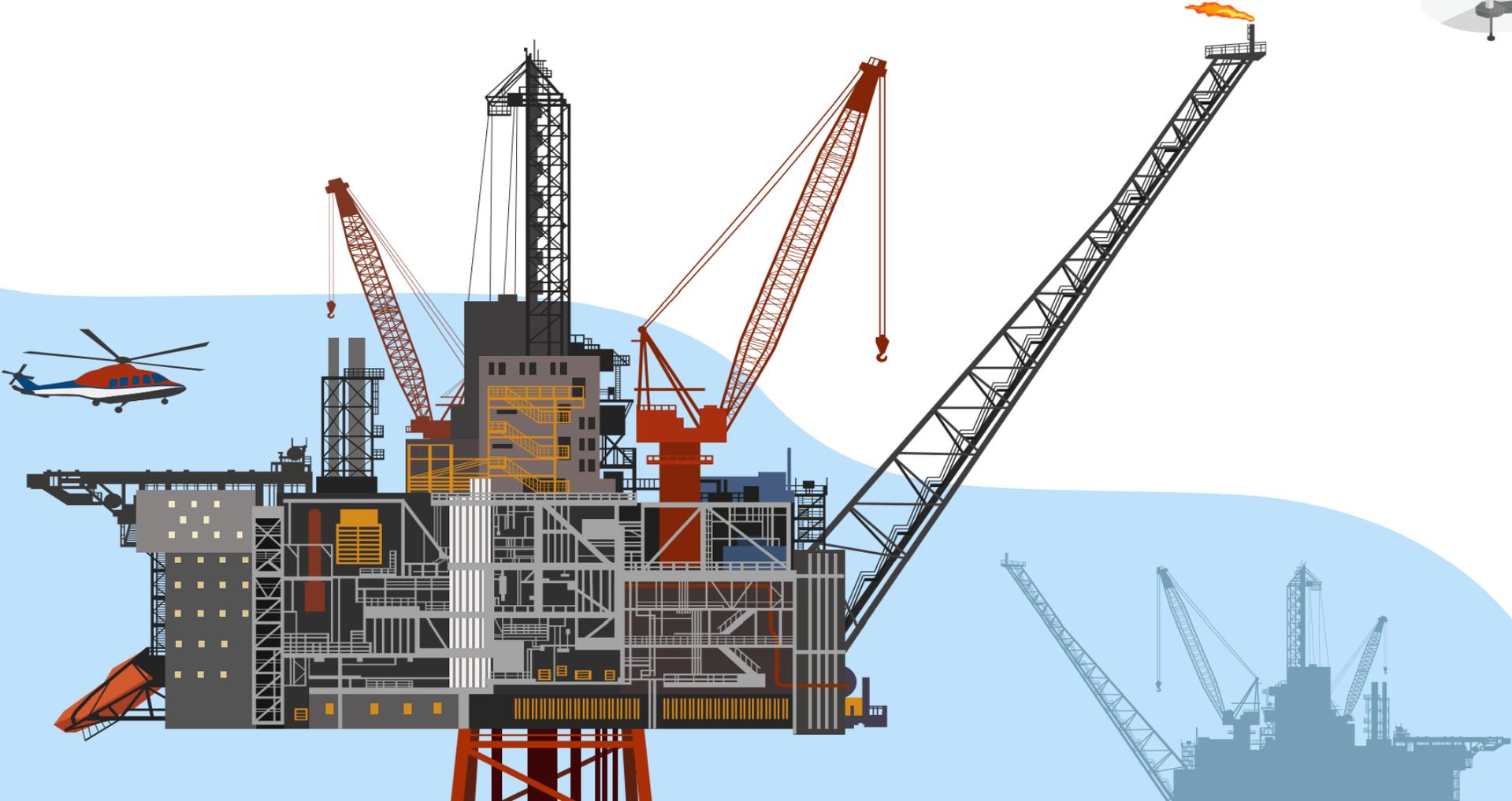
## Dividend Payment History



EBITDA margin (% of sales revenue)	71	70	73	71	68	74
Unit Cost (USD/BOE)	30.46	29.05	31.69	31.71	30.5	27.96

Payout Ratio (% of net income)	98	90	55	49	77
Payout Ratio (% of recurring net income)	79	64	51	53	71

# Assets Portfolio



# Diversified Assets Portfolio

70% Gas volume mix – 40 projects in 15 countries

## Central Asia

First presence in Kazakhstan:

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

Oil sands

## North & South America

Opportunities in an early phase:

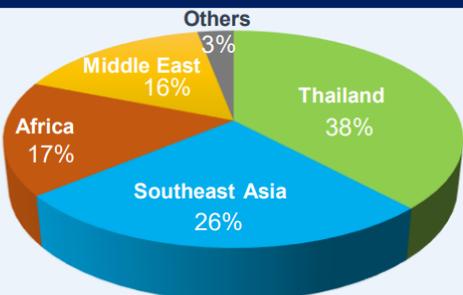
- Deepwater exploration in Brazil and Mexico with prominent and prudent operators

Oil

Oil

## Book Value of Assets by region

Total assets USD 23.3 billion



As of Mar 2021 (including Oman Block 61)

Oil

Oil

Gas/LNG

Piped Gas

Oil

GAS/LNG

## 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

11%

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 OLNK

## Thailand

64%

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

## Southeast Asia

23%

Second heartland to PTTEP

- 22% of total sales volume mainly from Malaysia and Myanmar
- 3<sup>rd</sup> 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

Energy Partner of Choice

# 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 335 MMSCFD in Q1/2021

### Project Status

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

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

## 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



● 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 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

*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 in 2022

**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 Q1/2021
- 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 238 MMSCFD in Q1/2021



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

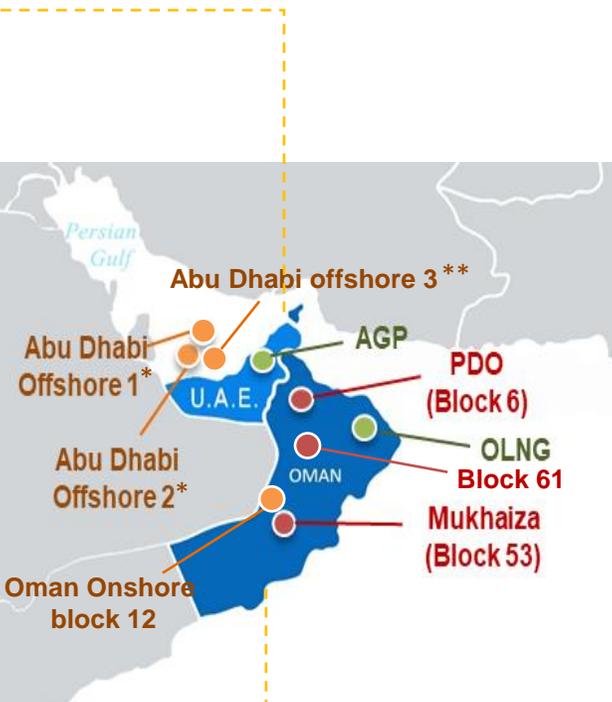
### UAE

#### 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)



\*Block awarded in 2019  
\*\*Block awarded in 2020

- Production phase
- Exploration phase
- Midstream

### Oman

#### PDO (Block 6)

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

#### 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
- 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)

#### 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)

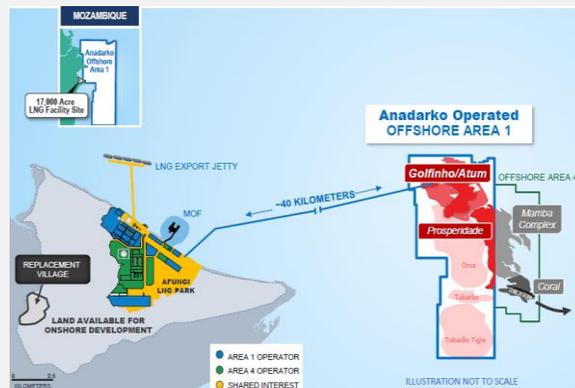
# Mozambique Area 1

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



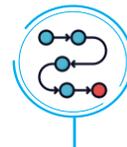
## Achievements

- ✓ 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



## 1<sup>st</sup> Cargo expected 2024

# America: Mexico and Brazil

Entry into high potential petroleum province at exploration phase

## 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

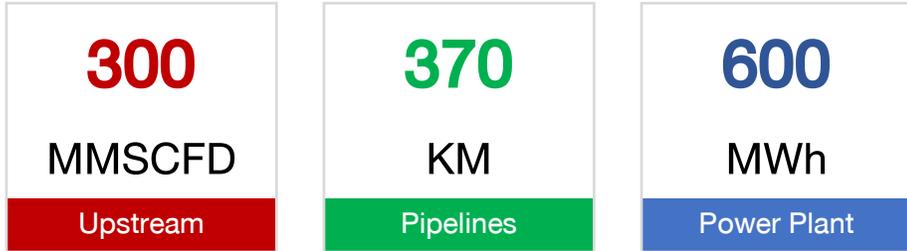
### Barreirinhas AP1

- 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

# 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

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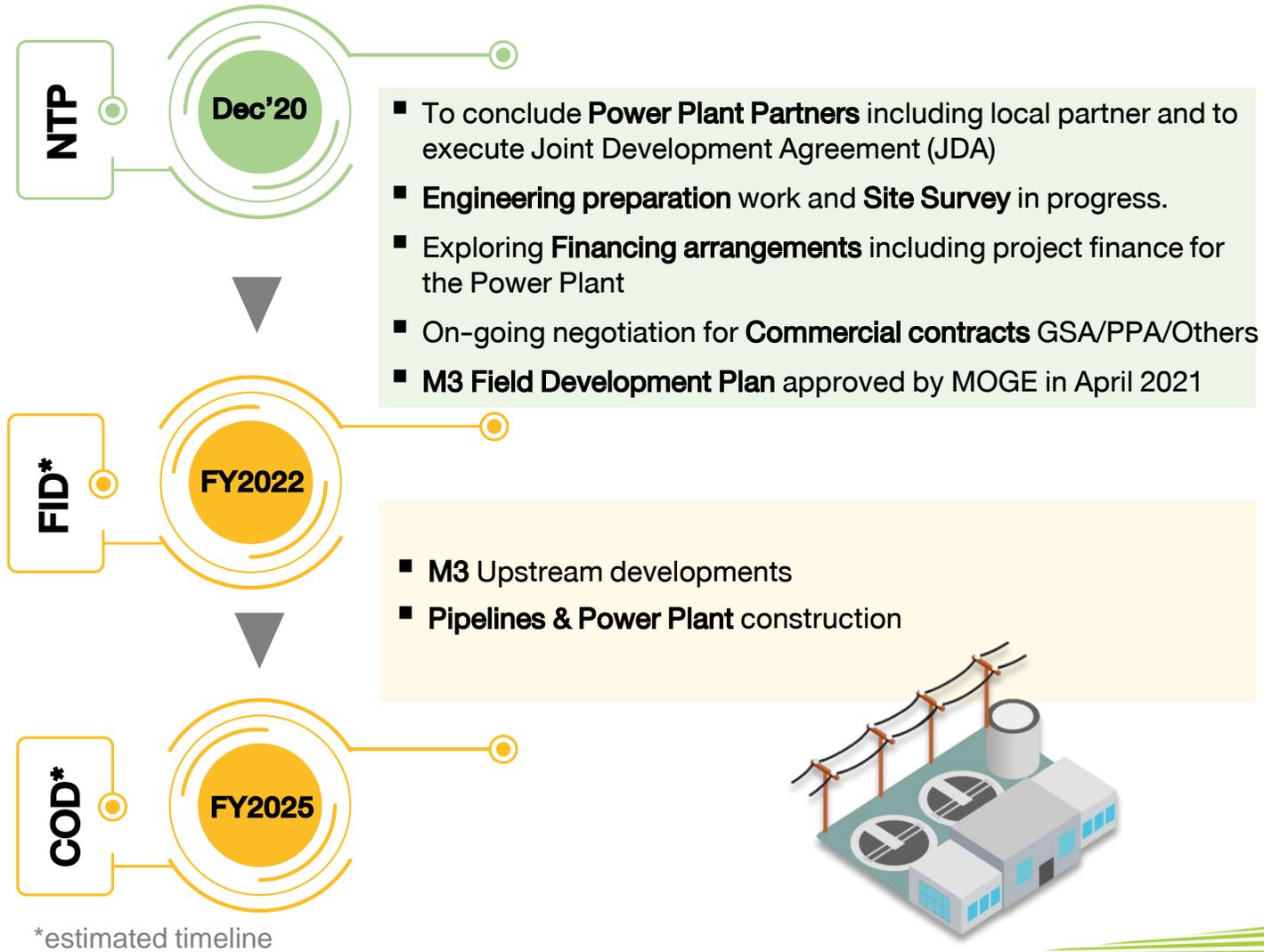
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**Pipelines & Gas Stations:** Offshore and onshore pipelines connecting Kanbauk, DawNyien, Kyaiklat and gas stations.

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- 

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

+10X Speed	-20% Cost	+10X EnergySave
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One-stop service for Smart Farming and Smart Forestry using **Varun Platform** and **AiAng Sprayer Drone**

+8X Speed	-30% Cost	0 HumanRisk
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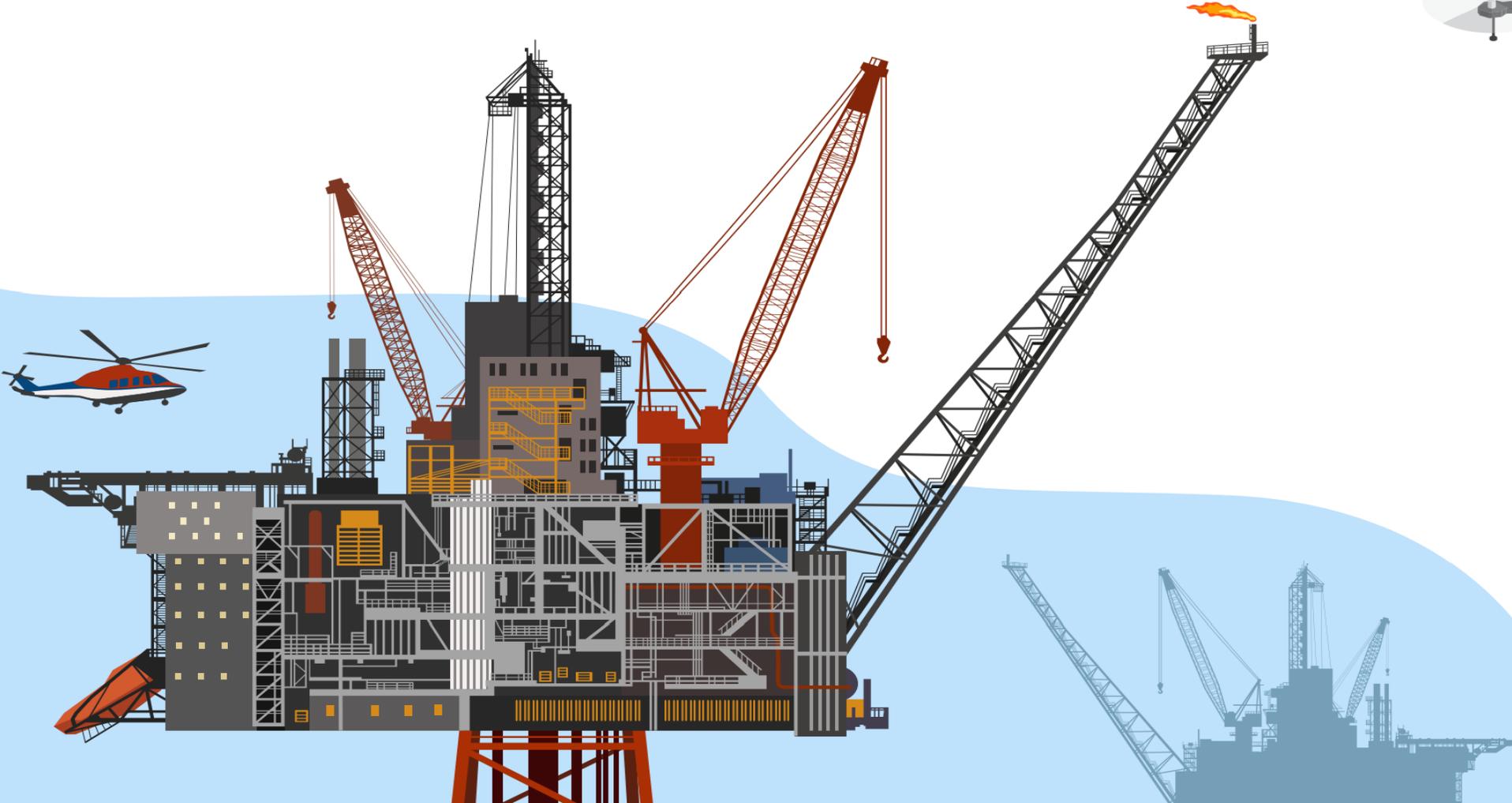
Cloud-based asset inspection and management via **AIM Platform**, and **Aerial Drones and AI/ML Services**

**Life-time digital health**  
TH Largest Ecosystem

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



# Sustainable Development



# Delivering Sustainability & Positive Societal Impacts

## “Energy Partner of Choice”

through Competitive Performance and Innovation for Long-term Value Creation



PTTEP JOURNEY TOWARDS SUSTAINABILITY

### 2030 Targets

#### GHG Reduction



**25%**

Reduction of GHG emissions intensity (2012 base year)

#### Circular Model for E&P



**≥50%**

of main structures reused

**Zero** waste to landfill



#### Ocean for Life



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

**≥50%**

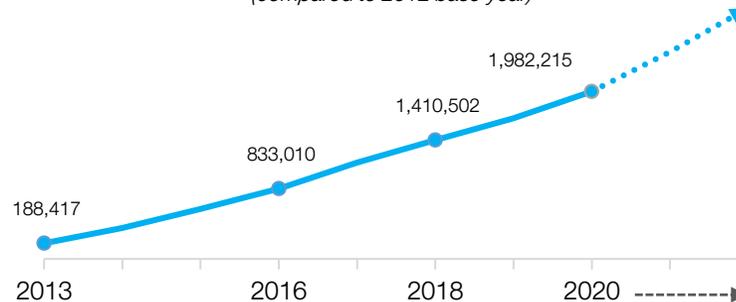
Increase in Community Income for local community that participated in our program (before project implementation)

### 2020 Key Performance

#### Accumulative GHG Emissions Reduction

(Unit: Absolute (tonne CO<sub>2</sub> equivalent))

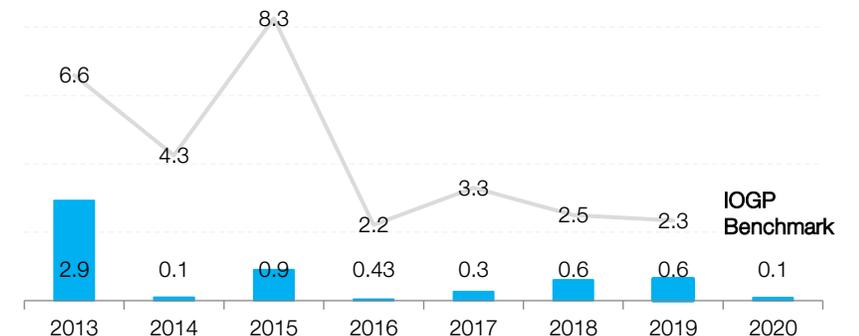
8% Reduction of GHG Emission Intensity in 2020 (compared to 2012 base year)



#### Oil and Chemical Spill Rate

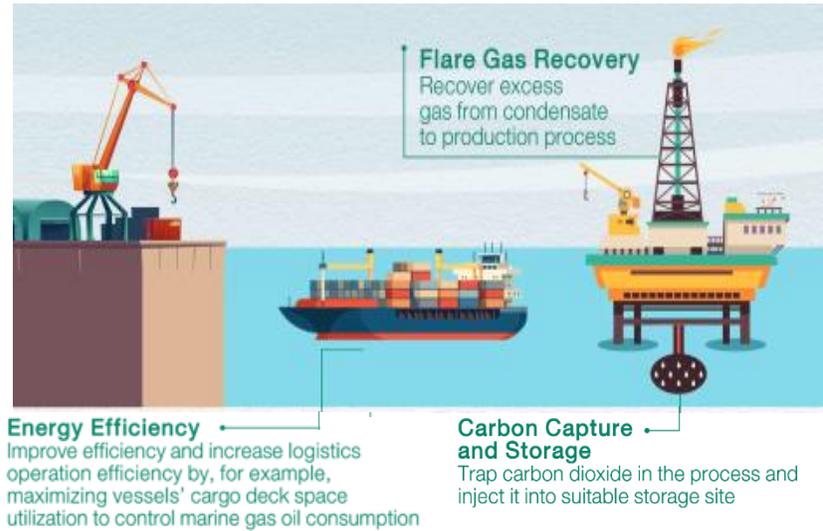
(Unit: Tonne per million tonne of petroleum production)

Towards Zero Spills Aspiration



# Key Highlights

## GHG Reduction



**Flare Gas Recovery**  
Recover excess gas from condensate to production process

**Energy Efficiency**  
Improve efficiency and increase logistics operation efficiency by, for example, maximizing vessels' cargo deck space utilization to control marine gas oil consumption

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

## Renewable Energy

> 70% of energy used at offshore remote platforms are from renewable energy (Thailand)



## Circular Model for E&P

### Zero Waste to Landfill

Achieved zero hazardous waste to landfill in 2020

### Topside Reuse Project

1<sup>st</sup> Topside Reuse was introduced at Arthit Operation in 2021



### Pilot Recycled Drill Cuttings Road

1<sup>st</sup> Pilot completed at PTTEP Technology and Innovation Centre (PTIC)



## Ocean for Life

### MoU with Kasetsart University



- Baseline Study of Microplastics in the GoT
- 1<sup>st</sup> Sampling conducted in Q4/2020

### MoU with Department of Marine and Coastal Resources



10-year cooperation (2020-2030) to support Ocean for Life target in 2030

### CSR Projects

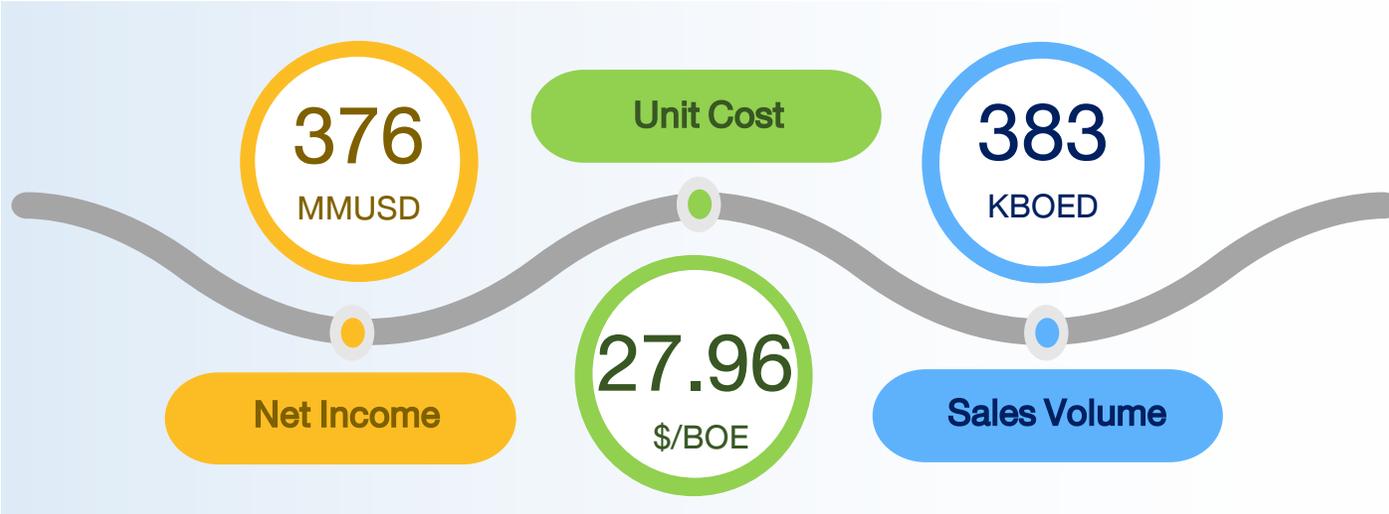
- Aquatic Animal Hatchery Learning Center, Sea Turtle Conservation
- "H.T.M.S. Prab and Sattakut" underwater learning sites
- Mangrove Plantation
- Coastal Conservation Area and Fish Home
- Ocean Waste Management
- Sea Food Product Value Enhancement



# Q1/21 Hi-lights



# Highlights & Key Achievements



## First gas production



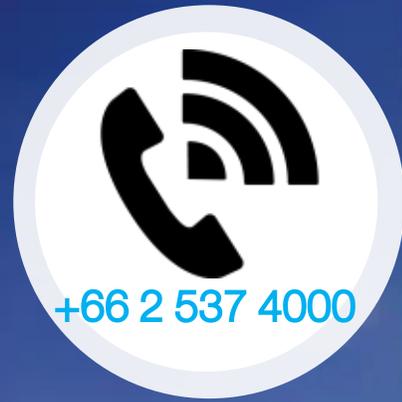
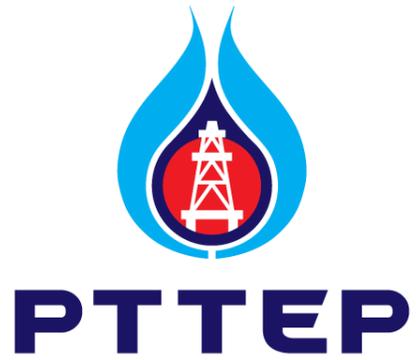
## Successful M&A



## Multiple discoveries in Malaysia



-  Erawan (G1/61) Transition
-  Myanmar Situation Update
-  Mozambique Situation Update



# Thank you and Q&A

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



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<http://www.pttep.com>

