

2 DECEMBER 2021

THAILAND / OIL &amp; GAS

# PTT EXPLOR & PROD PTTEP TB

## BUY

UNCHANGED

TARGET PRICE	THB158.00
CLOSE	THB118.00
UP/DOWNSIDE	+33.9%
PRIOR TP	THB158.00
CHANGE IN TP	UNCHANGED
TP vs CONSENSUS	+12.0%

## To E&P growth and beyond

### 24% higher investment budget on new 5-year CAPEX plan

During the conference call to clarify its new 5-year CAPEX plan covering 2021-26, management delivered two key positives for PTTEP's earnings growth outlook during that period. First, PTTEP will raise its total investment budget from USD26.8b in its previous 5-year CAPEX plan (2020-25) to USD33.2b under the new 5-year plan (2021-26), mainly in 2021 by USD1.9b to accommodate USD2.3b in acquisition costs and CAPEX by USD0.6b to cUSD13.1b annually in 2022-26. The total investment still excludes any budget for potential new M&A. Second, PTTEP has increased its sales volume projection by 1.5-11.2% during 2021-25 and introduced a new sales volume projection of 528 barrels of oil equivalent (boed) for 2026.

### Sales volume growth drivers under the new plan

The higher sales volume projection for 2021-26 should be driven by the start-ups of a number of new projects, including 1) 2022: two gas fields in the Gulf of Thailand – G1/61 in Apr-22 at 800mmscfd and G2/61 in Apr-22 at 200mmscfd – and the Algeria HBR oil field phase 1 in 1H22 with a capacity of 10-13kbpd; 2) 2023: G2/61 with a capacity of 500mmscfd; 3) 2025: Mozambique LNG with an equity capacity of 156mmscfd, based on PTTEP's 8.5% stake in the total LNG capacity of 13.1mtpa, or 1,834mmscfd, in 2H25, and the start-up of an oil field in South Vietnam in 2H25 with a capacity of 490mmscfd; 4) 2026: SK410B gas field in Malaysia in 1H26 with a capacity of 800-1,000mmscfd and the start-up of the oil field Algeria HBR phase 2 in 2H26 with a capacity of 50-60kbpd.

### Mozambique's production to timely capture LNG price uptrend

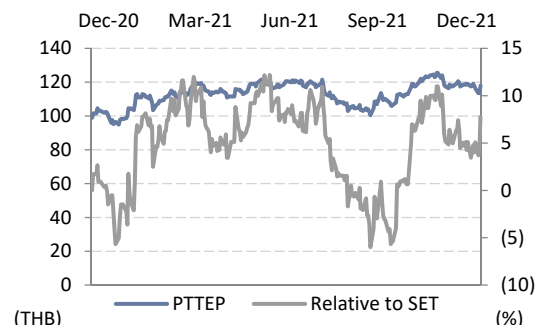
We believe the Mozambique LNG project will benefit from the potentially high LNG price in 2025 onward, based on the EIA's projected demand at 474m tonnes (mt) which would be higher than the supply at 453mt in 2025, turning the global LNG industry from an oversupplied market in 2021-24 to an undersupplied market by 2025.

### Still the best gas and oil play in the Thai energy sector

We maintain BUY and our TP of THB158, based on 6.1x 2021E EV/EBITDA, to reflect our positive view on the oil price outlook that we project to stay above USD70/bbl in 4Q21. We believe PTTEP's strong 4Q21E and 2021E net profit growth will be driven by 1) higher sales volumes from Oman 61 and Sabah H; 2) a higher ASP on higher liquid and gas prices; and 3) its low-cost structure, mainly from lower OPEX.

## KEY STOCK DATA

YE Dec (THB m)	2020	2021E	2022E	2023E
Revenue	160,401	218,352	261,837	260,318
Net profit	22,664	44,667	46,059	45,782
EPS (THB)	5.71	11.25	11.60	11.53
vs Consensus (%)	-	6.7	(7.9)	(6.0)
EBITDA	70,603	114,586	111,417	113,413
Core net profit	23,685	44,667	46,059	45,782
Core EPS (THB)	5.97	11.25	11.60	11.53
Chg. In EPS est. (%)	-	-	-	-
EPS growth (%)	(46.8)	88.6	3.1	(0.6)
Core P/E (x)	19.8	10.5	10.2	10.2
Dividend yield (%)	3.6	5.7	5.9	5.9
EV/EBITDA (x)	6.5	4.7	5.1	4.7
Price/book (x)	1.3	1.3	1.2	1.1
Net debt/Equity (%)	(3.7)	19.0	25.2	17.1
ROE (%)	6.7	12.3	12.1	11.4



Share price performance	1 Month	3 Month	12 Month
Absolute (%)	1.3	7.8	19.8
Relative to country (%)	2.8	10.7	7.0
Mkt cap (USD m)			13,900
3m avg. daily turnover (USD m)			36.6
Free float (%)			35
Major shareholder			PTT Plc. (65%)
12m high/low (THB)			125.50/94.25
Issued shares (m)			3,969.99

Sources: Bloomberg consensus; FSSIA estimates



**Suwat Sinsadok**  
suwat.sin@fssia.com  
+66 2611 3558

**Siriluck Pinthusoonthorn**  
siriluck.pin@fssia.com  
+66 2611 3562

## Investment thesis

PTTEP could see a negative impact from declining gas prices in 2021, reflecting the low oil prices in 2020, as PTTEP's gas price is linked to the average past 6-month oil price.

We believe PTTEP's average selling price will rise in tandem with the higher oil price, given PTTEP's high exposure to the oil price via its liquid price, which accounts for 30% of its production volume and 50% of its revenue. Gas constitutes 70% of its total sales volume but only 50% of its revenue.

PTTEP's cost structure remains highly competitive compared with its regional peers due to its low-cost gas fields and strict cost control strategy implemented in 2015.

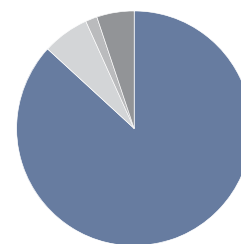
## Company profile

Established by PTT Plc (formerly Petroleum Authority of Thailand) in 1985, PTTEP is Thailand's premier oil & gas exploration and production company. Most of its petroleum assets are in the Gulf of Thailand. It was listed on the Stock Exchange of Thailand in 1992.

[www.pttep.com](http://www.pttep.com)

## Principal activities (revenue, 2020)

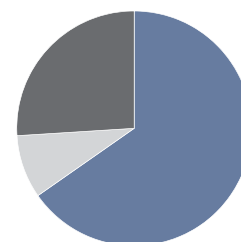
- Exploration and production - 96.7 %
- Pipeline - 7.2 %
- Others - 1.8 %
- Inter company eliminations - -5.7 %



Source: PTT Explor & Prod

## Major shareholders

- PTT Plc. - 65.3 %
- Thai NDVR - 8.7 %
- Others - 26.0 %



Source: PTT Explor & Prod

## Catalysts

Potential catalysts for PTTEP are rising oil and gas prices and potential M&A that could further drive its production and reserves higher.

## Risks to our call

Risks our TP, which is based on EV/EBITDA, are a sharp decline in oil price and a potential earnings downside from government intervention.

## Event calendar

Date	Event
Feb 2022	4Q21/2021 results announcement

## Key assumptions

	2021E	2022E	2023E
Brent oil price (USD/bbl)	68	65	60
Sales volume (boed)	424,740	513,890	533,890
ASP (USD/boe)	41.9	41.5	39.8
Gas price (USD/mmbtu)	5.5	5.6	5.5
Cost (USD/boe)	32.5	32.4	33.4

Source: FSSIA estimates

## Earnings sensitivity

- For every 1% increase in Dubai oil price, we project 2021 earnings would rise 1.3%, and vice versa, all else being equal.
- For every 1% increase in gas price, we estimate 2021 earnings would rise 1.2%, and vice versa.
- For every 1% increase in sales volume, we estimate 2021 earnings would rise 1.1%, and vice versa.

Source: FSSIA estimates

## A new 5-year CAPEX plan to boost sales volume growth

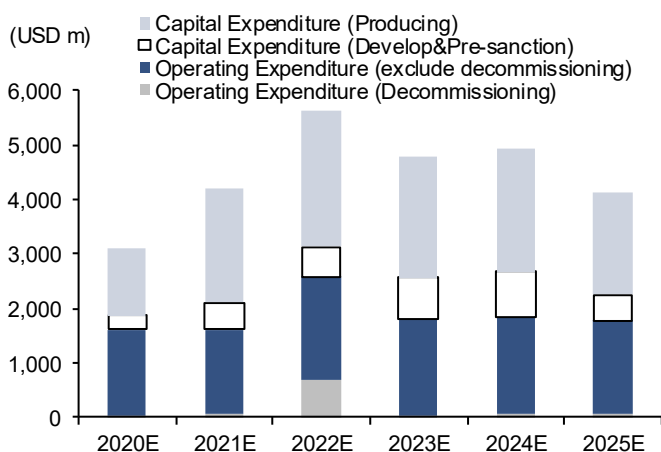
During the conference call to clarify its new 5-year CAPEX plan covering 2021-26, management delivered two key positives for PTTEP's earnings growth outlook during that period.

**24% higher investment budget.** PTTEP will raise its total investment budget from USD26.8b in its previous 5-year CAPEX plan (2020-25) to USD33.2b under the new 5-year plan (2021-26), mainly in 2021 by USD1.9b to accommodate USD2.3b in acquisition costs and CAPEX by USD0.6b to cUSD13.1b annually in 2022-26. It will also raise the CAPEX and OPEX for the Oman Block 61 project, acquired in 1Q21, and the CAPEX to boost the production of G2 (Bongkot) to compensate for the production shortfall of G1 (Erawan).

The total investment still excludes any budget for potential new M&A. Of the USD33.2b CAPEX in 2022-26, the major CAPEX are:

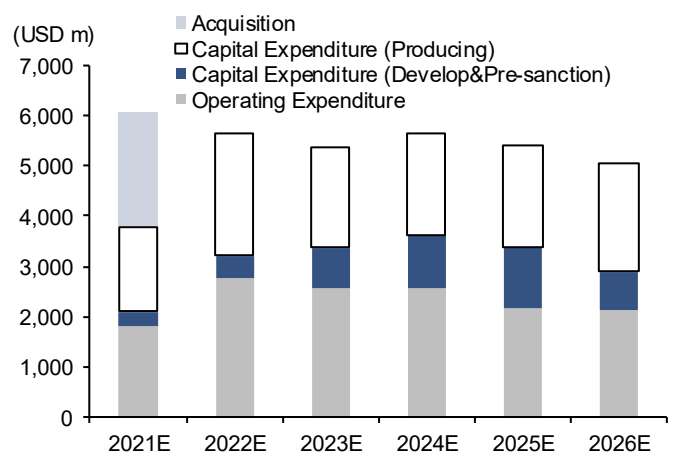
- 1) USD1.9b for the development of the Lang Lebah gas field in the SK410B area, up from its previous forecast of USD0.7b under the previous CAPEX plan (2021-25), with major annual spending of THB0.5b in 2023-26;
- 2) USD1.2b CAPEX for Mozambique LNG area 1 in 2022-25;
- 3) Decommissioning OPEX of USD350m in 2022 and USD50m-100m annually in 2023-26;
- 4) USD200m CAPEX to ramp up production at G1/61;
- 5) USD450m CAPEX for AI and Robotics Ventures (not listed) in 2022-26 (average USD80m/year);
- 6) USD2b for the gas-to-power project in Myanmar;
- 7) USD2b for a potential new LNG-to-power project and other renewable energy projects;
- 8) USD0.5b for carbon emission and capture technologies, which includes USD300m for carbon capture & storage and USD0.2b for other technologies for greenhouse gas reduction management;
- 9) No investment is earmarked for its hydrogen venture yet as it is still under study.

**Exhibit 1: Investment plan (2020 CAPEX plan)**



Source: PTTEP

**Exhibit 2: Investment plan (2021 CAPEX plan)**

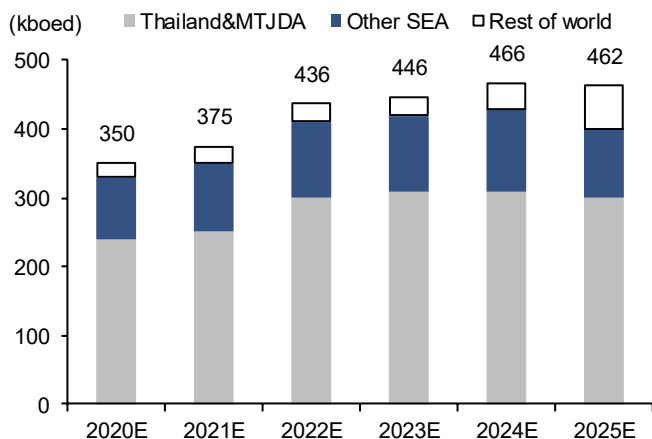


Source: PTTEP

**4.8% annual average increase in projected sales volume.** PTTEP has increased its sales volume projection by 1.5-11.2% during 2021-25 and introduced a new sales volume projection of 528boed for 2026.

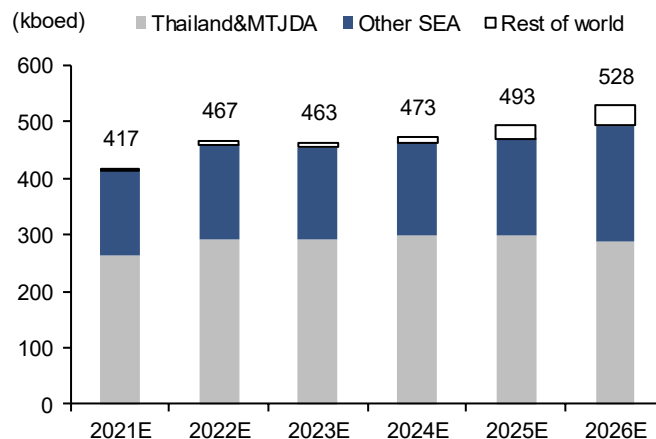
Major delays in final investment decisions (FIDs) under the new CAPEX plan include 1) a one-year delay in the FID for Lang Lebah from 2022 to 2023, with its commercial operation date (COD) scheduled for 2026 due to the longer development process as a result of the larger-than-expected gas reserve discovery; and 2) a one-year delay for the COD of the Mozambique LNG area 1 project from 2024 to 2025;

**Exhibit 3: Sales volume projections (2020 CAPEX plan)**



Source: PTTEP

**Exhibit 4: Sales volume projections (2021 CAPEX plan)**



Source: PTTEP

**Sales volume growth drivers under the new plan.** The higher sales volume projection for 2021-26 should be driven by the start-ups of a number of new projects, including:

**2022:** Two gas fields in the Gulf of Thailand – G1/61 (formerly known as Erawan) in Apr-22 at 800mmscfd and G2/61 (Bongkot and Bongkot South) in Apr-22, formerly the Bongkot South field (200mmscfd) – and the start-up of the Algeria HBR oil field phase 1 in 1H22 with a capacity of 10-13kbpd.

However, the gas production of the Contract 4 gas field, a part of G1/61, currently producing 400mmscfd as of 3Q21, should gradually decline from 400mmscfd in 2021 down to 260mmscfd by 2026, dropping by 10-20mmscfd annually, due to natural depletion.

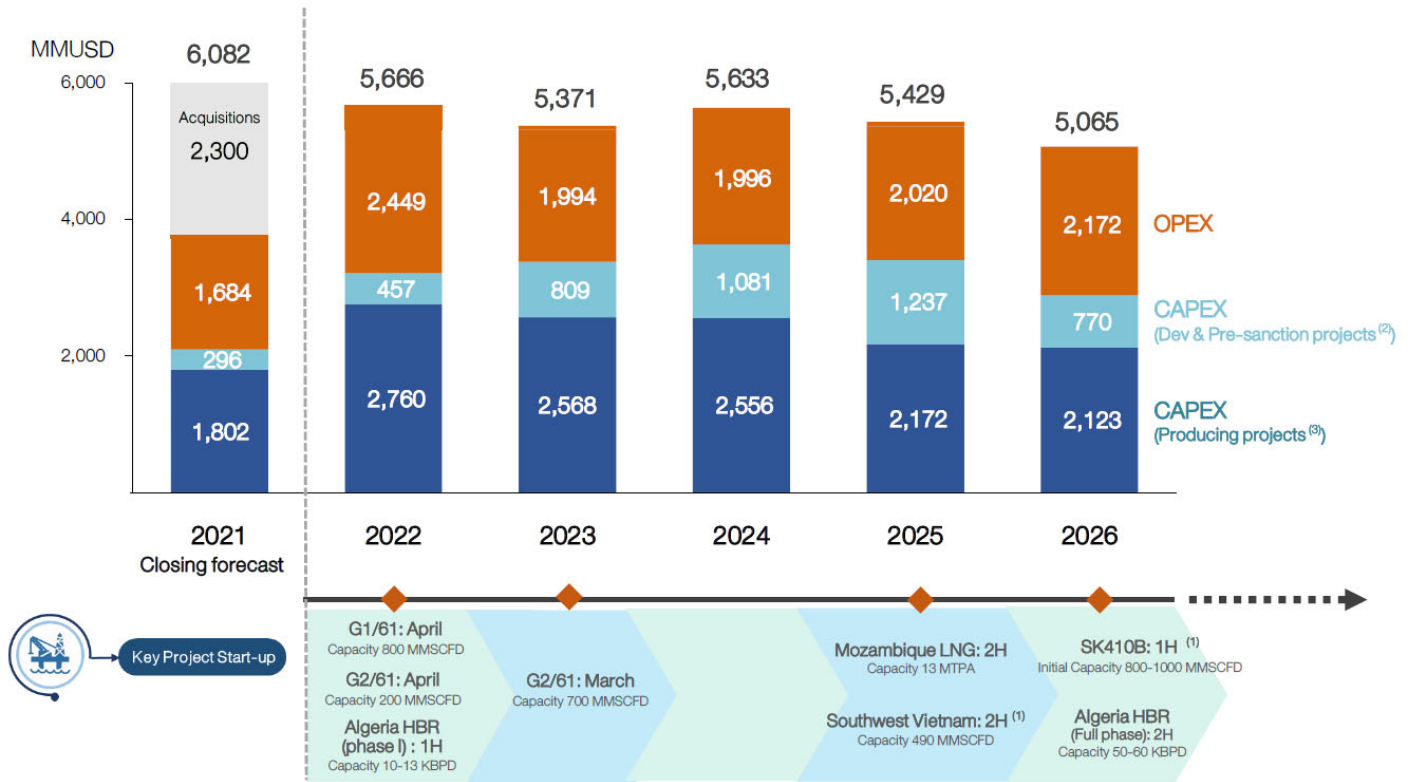
S1, PTTEP's largest oil field with a current oil production level of 30kboed, is projected to gradually decline to 10-15kboed by 2026, according to PTTEP's guidance.

**2023:** G2/61 (formerly known as Bongkot) with a capacity of 500mmscfd, bringing the total capacity of G2/61 to 700mmscfd.

**2025:** Mozambique LNG with an equity capacity of 156mmscfd, based on PTTEP's 8.5% stake in the total LNG capacity of 13.1mtpa, or 1,834mmscfd, in 2H25, and the start-up of an oil field in South Vietnam in 2H25 with a capacity of 490mmscfd.

**2026:** SK410B gas field in Malaysia in 1H26 with a capacity of 800-1,000mmscfd and the start-up of the oil field Algeria HBR phase 2 in 2H26 with a capacity of 50-60kbpd.

Exhibit 5: Key growth project drivers for sales volume growth in 2021-26



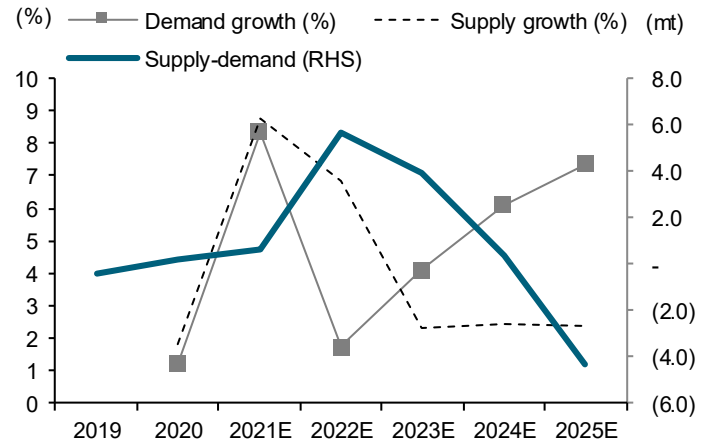
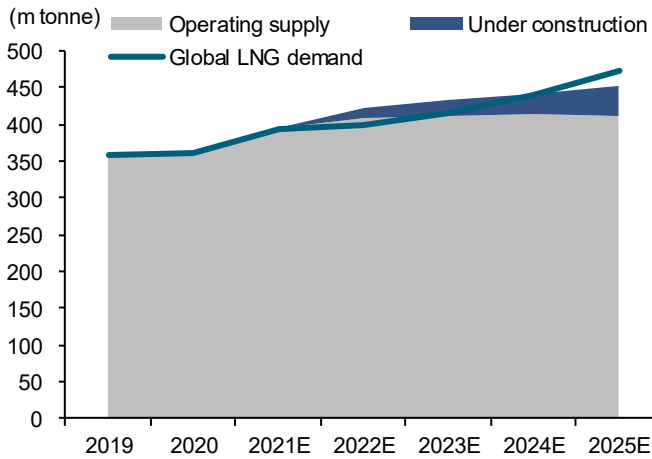
Source: PTTEP

### Global LNG industry: from oversupply to undersupply by 2025

Despite the projected LNG supply growth of 2.3-6.9% in 2022-25 by the Energy Information Administration (EIA), demand growth is expected to outpace supply growth starting in 2023-24, eventually turning the global LNG industry from an oversupply market in 2021-24 to an undersupply market by 2025. Hence, we think the price of LNG in 2025 onward is likely to rise and enter an upcycle, based on the EIA's projections.

**Exhibit 6: Global LNG supplies are projected to increasingly outpace demand in 2022-25**

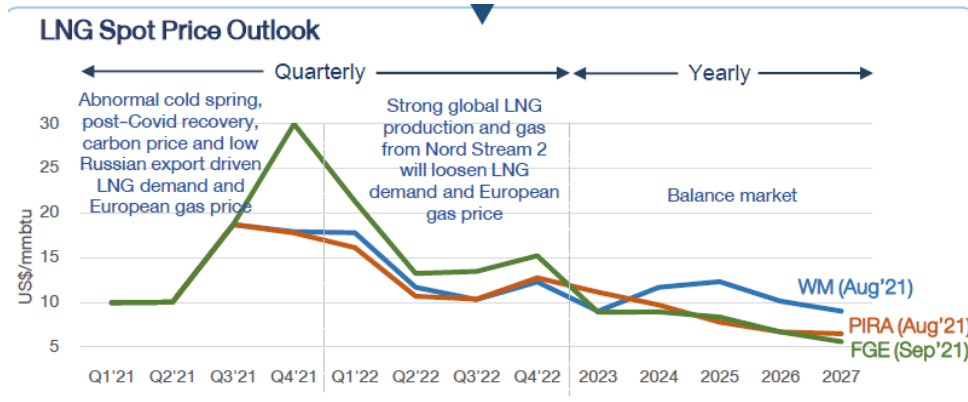
**Exhibit 7: Global LNG growth in demand, supply and supply-demand**



Source: EIA

Source: EIA

**Exhibit 8: LNG price is projected to decline in 2022 onward**

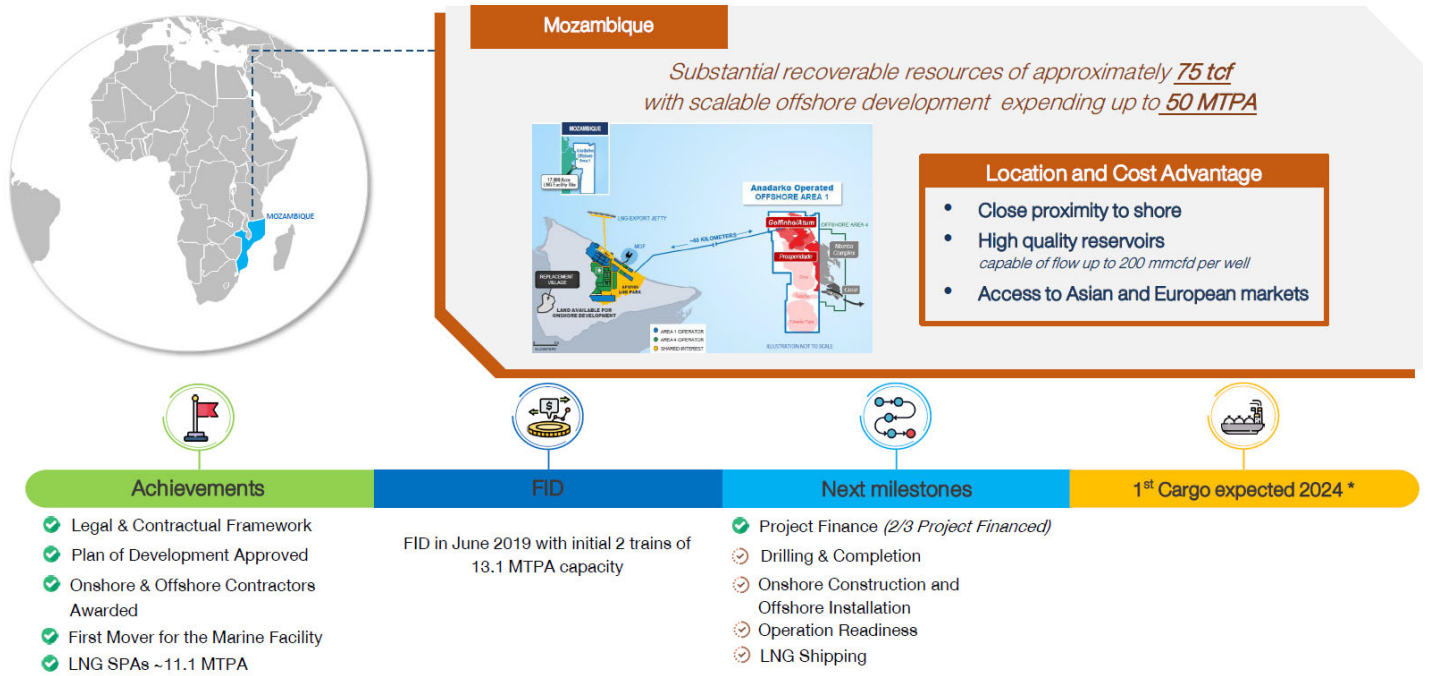


Source: PTTEP (As of Sep-21)

## Mozambique LNG project

Of all of PTTEP's growth projects, only its Mozambique LNG area 1 project (MZB) will produce LNG for export, while the remaining growth projects will be pipeline gas production sites and oil production sites. PTTEP has already announced its FID to proceed with the construction and funding of MZB in Jun-19.

### Exhibit 9: Mozambique Area 1 LNG project



Source: PTTEP

We believe MZB should benefit from the potentially high LNG price in 2025 onward, as the EIA's projected demand of 474mt would be higher than the supply at 453mt in 2025.

As of 3Q21, MZB has already secured long-term gas sales contracts with eight clients for a total contracted LNG sales volume of 11.18mtpa. We believe the selling price formula for each contract should be favourable for MZB, and the remaining 2mtpa capacity should command a higher spot LNG selling price thanks to the projected strong demand in 2025.

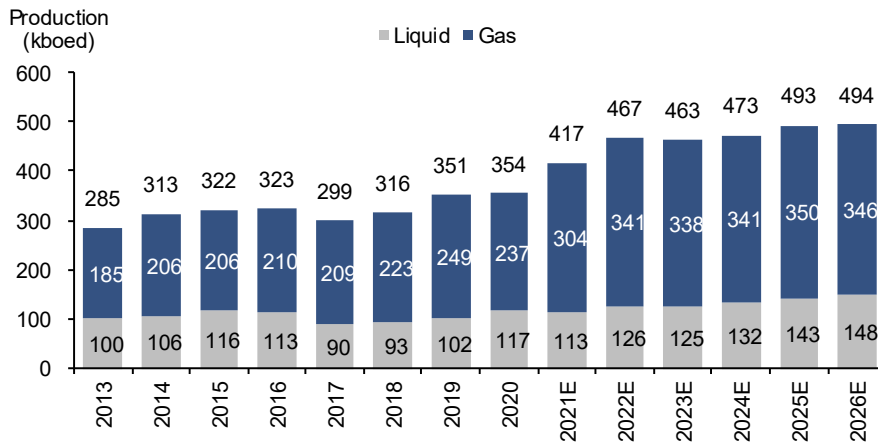
### Exhibit 10: Mozambique LNG project's gas sales contracts by customers

Customers	Country	Amount (MTPA)
JERA (Japan) and CPC (Taiwan)	Japan / Taiwan	1.60
Electricite de France, S.A. (EDF)	France	1.20
Tohoku Electric Power Co., Inc.	Japan	0.28
CNOOC	China	1.50
Shell	Global Portfolio	2.00
Tokyo Gas & Centrica	Japan / UK	2.60
Bharat Gas	India	1.00
Pertamina	Indonesia	1.00
<b>Total</b>		<b>11.18</b>

Source: PTTEP

**Growth projects in the pipeline.** After a series of M&A in 2019-21, we believe PTTEP is poised to see a more sustainable sales volume growth trajectory, with its sales volume growing from 354kboed in 2020 to 494kboed in 2026 at a 4.8% CAGR from 2021-26, with a series of committed growth projects in Thailand, Algeria, Mozambique, Vietnam, and Malaysia.

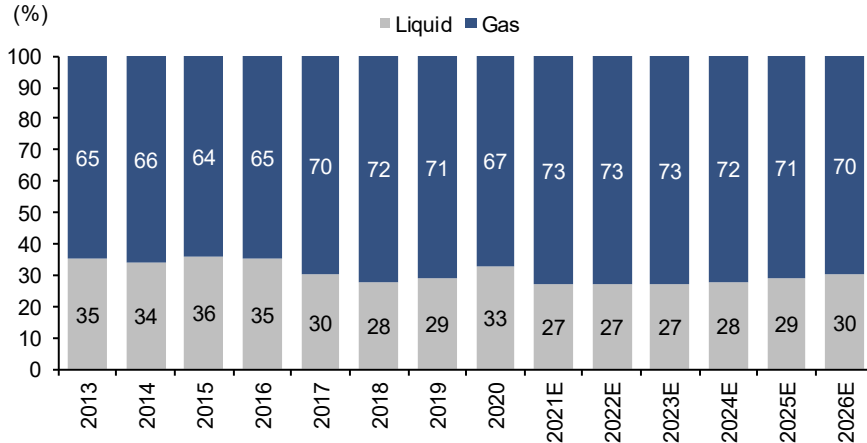
**Exhibit 11: Sales volume breakdown by product**



Source: PTTEP

PTTEP expects to remain a gas-driven company with a gas sales volume proportion above 70% of its total sales volume throughout the entire 6-year period of its projection. However, most of the growth capacity would come from overseas, mainly in Malaysia (SK10B) and East Africa (Mozambique LNG area 1), which would be PTTEP’s first LNG project to benefit from the projected higher LNG price post-2024.

**Exhibit 12: Sales volume breakdown by product**



Source: PTTEP

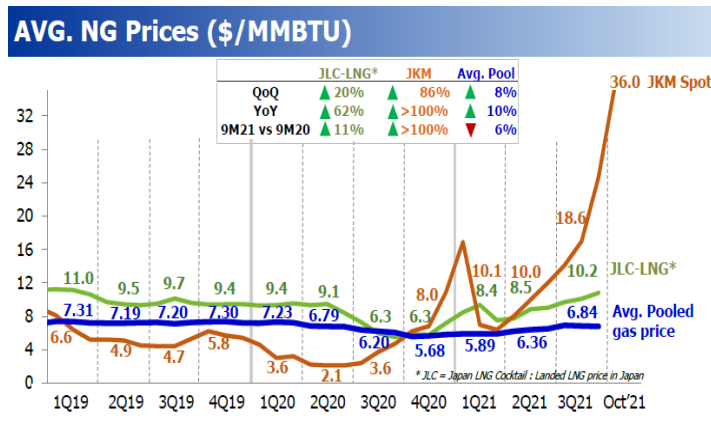


### A structural decline in Thailand's gas price in 2022 onward

**Short-term impact from the higher gas price in Thailand.** In the short term in 4Q21-1H22, Thailand is projected to see a higher pool gas price, which we estimate to rise q-q by 25% in 4Q21. However, we project that in 2H22 onward, Thailand will begin to see a structural decline in the gas price, mainly from the low gas prices of G1/61 and G2/61 in 2022-23 and the lower gas price from the industry LNG price as a result of the increasingly changing industry balance from an oversupply in 2021-24 to an undersupply by 2025.

The higher gas price could have a negative impact on small power producers (SPPs), as the electricity tariff is being raised at a lower rate than the hike in the gas price, thanks to the government's subsidies. We estimate that this mismatch between the electricity tariff and the gas price could lead to earnings downsides of 10% for B.Grimm Power (BGRIM TB, BUY, TP THB58), 8% for Global Power Synergy (GPSC TB, BUY, TP THB100), 3% for Gulf Energy Development (GULF TB, BUY, TP THB56), and 1-2% for Ratch Group (RATCH TB, BUY, TP THB60) and Electricity Generating (EGCO TB, BUY, TP THB245) (independent power producers (IPPs)) in 4Q21.

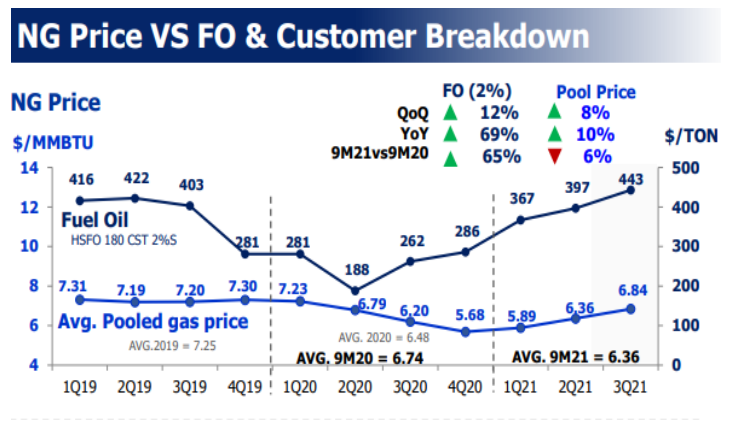
**Exhibit 13: Thailand's pool gas price vs JKM spot LNG price and JLC contract LNG price**



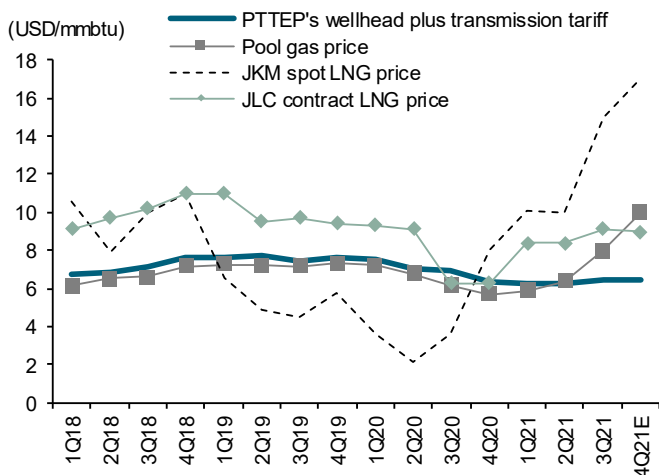
Source: PTT

While the pool gas price was only USD6.84/mmbtu in 3Q21, the LNG price imported by PTT was USD9/mmbtu, still lower than the USD36/mmbtu Japan Korea Market (JKM) spot LNG price and USD10.2/mmbtu Japan LNG Cocktail price. While the higher gas price is a bane to SPPs (BGRIM, GULF, and GPSC), we see a margin upside for PTTEP as a key producer of gas in the Gulf of Thailand and an importer of oil from Myanmar.

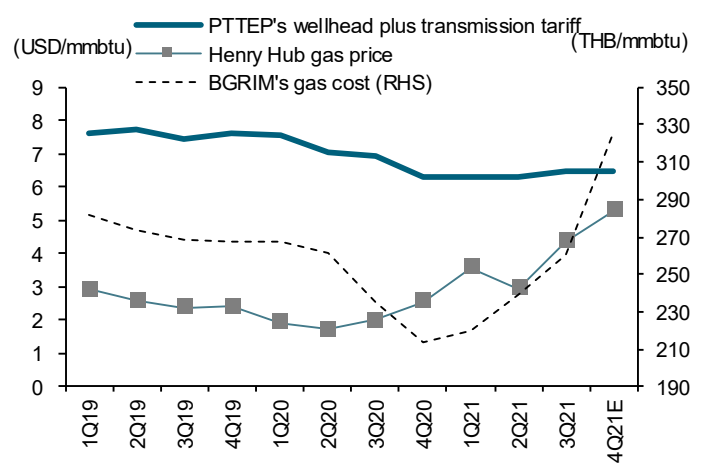
**Exhibit 14: Thailand's pool gas price vs fuel oil price**



Source: PTT

**Exhibit 15: PTTEP's wellhead average gas price, Thailand's pool gas price, JKM spot LNG price, and JLC contract LNG price**

Sources: PTT; Bloomberg; PTTEP

**Exhibit 16: PTTEP's gas average selling price plus transmission tariff, US Henry Hub gas price, and BGRIM's gas cost**

Sources: PTTEP, BGRIM, Bloomberg

According to management, PTTEP's average selling price (ASP) for gas is projected to increase to USD5.9/mmbtu in 2022, up from USD5.8/mmbtu in 2021, and to USD6.0/mmbtu in 1H22 before declining to USD5.8/mmbtu in 2H22, as the low-price gas supply of 1,000mmscfd (22% of Thailand's total gas supply of 4,500mmscfd estimated in 2022) from G1/61 and G2/61 should be on stream in 2022.

In 2023, PTTEP expects its ASP for gas to drop further to USD5.4/mmbtu (based on a Dubai crude oil price assumption of USD65/bbl), down from USD5.9/mmbtu in 2022 (based on a Dubai crude oil price assumption of USD70/bbl), due to the additional gas supply from G2/61 of 500mmscfd with a low ASP for gas at USD3-4/mmbtu vs its current ASP of USD6-7/mmbtu.

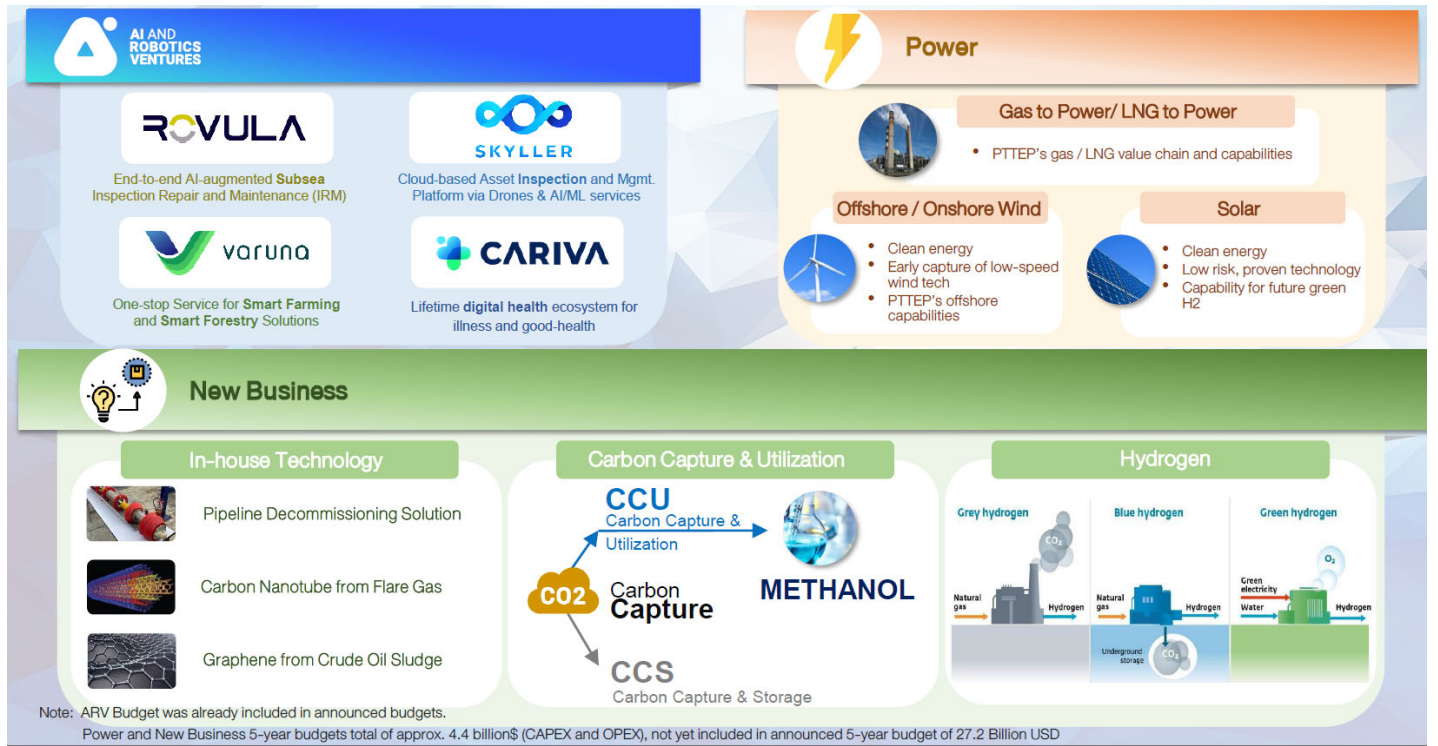
**EBITDA margin of over 70% is likely sustainable in 2022 onward.** Despite the projected lower ASP for gas in 2022 onward, we believe PTTEP will be able to maintain its high EBITDA margin at over 70% as its projected cost per unit drops from USD29/boe in 2021 down to USD28.2/boe in 2022, USD27/boe in 2023, and USD26/boe thereafter, given the structurally lower gas cost structure of G1/62 and G2/62 in Thailand.

### Growth for E&P and beyond

On top of its investment plan to drive earnings and capacity growth in its core exploration & production (E&P) business, PTTEP is now strategically diversifying into new businesses, such as:

- 1) The technology and platform-based ventures subsidiary, AI and Robotics Ventures;
- 2) A downstream 600MW gas-to-power plant in Myanmar (COD in 2026) – the FID is scheduled to be announced in late 2022 or early 2023 – with a planned USD3b investment, using its self-produced gas as the energy feedstock;
- 3) Renewable energy including wind and solar farms;
- 4) Carbon capture and utilisation and carbon capture and storage technologies to achieve its target emission reduction;
- 5) Green hydrogen technology.

Exhibit 17: PTTEP's investment plan for non-E&P ventures



Source: PTTEP

## Financial Statements

PTT Explor &amp; Prod

Profit and Loss (THB m) Year Ending Dec	2019	2020	2021E	2022E	2023E
Revenue	191,053	160,401	218,352	261,837	260,318
Cost of goods sold	(18,946)	(14,793)	(49,178)	(84,961)	(81,826)
<b>Gross profit</b>	<b>172,107</b>	<b>145,607</b>	<b>169,174</b>	<b>176,877</b>	<b>178,493</b>
Other operating income	-	-	-	-	-
Operating costs	(74,681)	(75,004)	(54,588)	(65,459)	(65,080)
<b>Operating EBITDA</b>	<b>97,426</b>	<b>70,603</b>	<b>114,586</b>	<b>111,417</b>	<b>113,413</b>
Depreciation	(25,124)	(26,100)	(28,948)	(31,819)	(34,276)
Goodwill amortisation	0	0	0	0	0
<b>Operating EBIT</b>	<b>72,301</b>	<b>44,503</b>	<b>85,638</b>	<b>79,599</b>	<b>79,137</b>
Net financing costs	(1,235)	(5,987)	(14,000)	(5,640)	(5,640)
Associates	380	1,307	1,307	1,307	1,307
Recurring non-operating income	(5,564)	3,933	2,807	2,807	2,807
Non-recurring items	4,252	(1,021)	0	0	0
<b>Profit before tax</b>	<b>69,754</b>	<b>41,428</b>	<b>74,444</b>	<b>76,766</b>	<b>76,304</b>
Tax	(20,952)	(18,764)	(29,778)	(30,706)	(30,522)
<b>Profit after tax</b>	<b>48,803</b>	<b>22,664</b>	<b>44,667</b>	<b>46,059</b>	<b>45,782</b>
Minority interests	0	0	0	0	0
Preferred dividends	0	0	0	0	0
Other items	-	-	-	-	-
<b>Reported net profit</b>	<b>48,803</b>	<b>22,664</b>	<b>44,667</b>	<b>46,059</b>	<b>45,782</b>
<b>Non-recurring items &amp; goodwill (net)</b>	<b>(4,252)</b>	<b>1,021</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Recurring net profit</b>	<b>44,550</b>	<b>23,685</b>	<b>44,667</b>	<b>46,059</b>	<b>45,782</b>
<b>Per share (THB)</b>					
Recurring EPS *	11.22	5.97	11.25	11.60	11.53
Reported EPS	12.29	5.71	11.25	11.60	11.53
DPS	8.25	4.25	6.75	6.96	6.92
Diluted shares (used to calculate per share data)	3,970	3,970	3,970	3,970	3,970
<b>Growth</b>					
Revenue (%)	11.2	(16.0)	36.1	19.9	(0.6)
Operating EBITDA (%)	9.5	(27.5)	62.3	(2.8)	1.8
Operating EBIT (%)	11.1	(38.4)	92.4	(7.1)	(0.6)
Recurring EPS (%)	23.0	(46.8)	88.6	3.1	(0.6)
Reported EPS (%)	34.8	(53.6)	97.1	3.1	(0.6)
<b>Operating performance</b>					
Gross margin inc. depreciation (%)	76.9	74.5	64.2	55.4	55.4
Gross margin of key business (%)	76.9	74.5	64.2	55.4	55.4
Operating EBITDA margin (%)	51.0	44.0	52.5	42.6	43.6
Operating EBIT margin (%)	37.8	27.7	39.2	30.4	30.4
Net margin (%)	23.3	14.8	20.5	17.6	17.6
Effective tax rate (%)	30.0	45.3	40.0	40.0	40.0
Dividend payout on recurring profit (%)	73.5	71.2	60.0	60.0	60.0
Interest cover (X)	54.1	8.1	6.3	14.6	14.5
Inventory days	184.2	248.2	80.9	55.0	62.1
Debtor days	63.4	58.4	40.5	58.4	78.0
Creditor days	143.2	475.6	152.5	46.0	52.0
Operating ROIC (%)	13.5	8.6	15.7	12.0	11.0
ROIC (%)	7.6	5.5	9.3	7.8	7.6
ROE (%)	11.9	6.7	12.3	12.1	11.4
ROA (%)	6.9	4.1	7.9	7.3	7.3
* Pre-exceptional, pre-goodwill and fully diluted					
<b>Revenue by Division (THB m)</b>					
Exploration and production	194,999	155,181	222,543	266,029	264,510
Pipeline	11,439	11,513	11,513	11,513	11,513
Others	2,653	2,875	2,875	2,875	2,875
Inter company eliminations	(18,039)	(9,168)	(18,579)	(18,579)	(18,579)

Sources: PTT Explor &amp; Prod; FSSIA estimates

## Financial Statements

PTT Explor &amp; Prod

Cash Flow (THB m) Year Ending Dec	2019	2020	2021E	2022E	2023E
Recurring net profit	44,550	23,685	44,667	46,059	45,782
Depreciation	25,124	26,100	28,948	31,819	34,276
Associates & minorities	-	-	-	-	-
Other non-cash items	35,065	35,065	35,066	35,066	35,066
Change in working capital	34,563	(17,958)	(27,045)	(12,139)	7,152
<b>Cash flow from operations</b>	<b>139,303</b>	<b>66,891</b>	<b>81,636</b>	<b>100,805</b>	<b>122,276</b>
Capex - maintenance	-	-	-	-	-
Capex - new investment	(115,506)	(115,506)	(114,807)	(114,807)	(81,807)
Net acquisitions & disposals	192	176	457	838	838
Other investments (net)	0	1	0	0	0
<b>Cash flow from investing</b>	<b>(115,314)</b>	<b>(115,329)</b>	<b>(114,350)</b>	<b>(113,969)</b>	<b>(80,969)</b>
Dividends paid	(21,655)	(20,986)	(26,800)	(27,636)	(27,469)
Equity finance	0	0	0	0	0
Debt finance	31,659	3,457	4,984	5,000	(20,000)
Other financing cash flows	(52,064)	92,102	(24,288)	13,128	14,805
<b>Cash flow from financing</b>	<b>(42,061)</b>	<b>74,574</b>	<b>(46,104)</b>	<b>(9,508)</b>	<b>(32,664)</b>
Non-recurring cash flows	-	-	-	-	-
Other adjustments	0	0	0	0	0
<b>Net other adjustments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Movement in cash</b>	<b>(18,072)</b>	<b>26,136</b>	<b>(78,818)</b>	<b>(22,672)</b>	<b>8,643</b>
Free cash flow to firm (FCFF)	31,279.40	(40,482.25)	(25,923.41)	(6,373.71)	48,098.11
Free cash flow to equity (FCFE)	3,582.99	47,121.57	(52,018.40)	4,964.02	36,112.84

### Per share (THB)

FCFF per share	7.88	(10.20)	(6.53)	(1.61)	12.12
FCFE per share	0.90	11.87	(13.10)	1.25	9.10
Recurring cash flow per share	26.38	21.37	27.38	28.45	29.00

Balance Sheet (THB m) Year Ending Dec	2019	2020	2021E	2022E	2023E
Tangible fixed assets (gross)	1,061,295	1,100,534	1,215,341	1,330,148	1,411,955
Less: Accumulated depreciation	(739,794)	(805,044)	(877,415)	(956,961)	(1,042,652)
<b>Tangible fixed assets (net)</b>	<b>321,501</b>	<b>295,491</b>	<b>337,927</b>	<b>373,187</b>	<b>369,303</b>
<b>Intangible fixed assets (net)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Long-term financial assets	-	-	-	-	-
Invest. in associates & subsidiaries	13,675	13,523	13,992	14,461	14,929
Cash & equivalents	85,122	111,257	32,439	9,767	18,411
A/C receivable	27,599	23,752	24,657	59,135	52,064
Inventories	9,961	10,156	11,639	13,957	13,876
Other current assets	19,443	7,551	7,551	7,551	7,551
<b>Current assets</b>	<b>142,125</b>	<b>152,716</b>	<b>76,286</b>	<b>90,410</b>	<b>91,901</b>
Other assets	192,163	213,908	238,677	204,189	194,359
<b>Total assets</b>	<b>669,464</b>	<b>675,637</b>	<b>666,881</b>	<b>682,247</b>	<b>670,493</b>
Common equity	357,059	354,411	372,280	390,703	409,016
Minorities etc.	0	0	0	0	0
<b>Total shareholders' equity</b>	<b>357,059</b>	<b>354,411</b>	<b>372,280</b>	<b>390,703</b>	<b>409,016</b>
Long term debt	81,559	85,016	90,000	95,000	75,000
Other long-term liabilities	169,005	179,953	171,865	163,777	155,689
<b>Long-term liabilities</b>	<b>250,564</b>	<b>264,969</b>	<b>261,865</b>	<b>258,777</b>	<b>230,689</b>
A/C payable	7,194	31,356	9,746	11,687	11,620
Short term debt	13,208	13,208	13,208	13,208	13,208
Other current liabilities	41,440	11,693	9,782	7,871	5,960
<b>Current liabilities</b>	<b>61,841</b>	<b>56,257</b>	<b>32,736</b>	<b>32,766</b>	<b>30,788</b>
<b>Total liabilities and shareholders' equity</b>	<b>669,464</b>	<b>675,637</b>	<b>666,881</b>	<b>682,247</b>	<b>670,493</b>
Net working capital	8,369	(1,591)	24,318	61,084	55,910
Invested capital	535,709	521,330	614,913	652,921	634,502

\* Includes convertibles and preferred stock which is being treated as debt

### Per share (THB)

Book value per share	89.94	89.27	93.77	98.41	103.03
Tangible book value per share	89.94	89.27	93.77	98.41	103.03

### Financial strength

Net debt/equity (%)	2.7	(3.7)	19.0	25.2	17.1
Net debt/total assets (%)	1.4	(1.9)	10.6	14.4	10.4
Current ratio (x)	2.3	2.7	2.3	2.8	3.0
CF interest cover (x)	97.5	28.2	5.5	22.2	21.9

Valuation	2019	2020	2021E	2022E	2023E
<b>Recurring P/E (x) *</b>	<b>10.5</b>	<b>19.8</b>	<b>10.5</b>	<b>10.2</b>	<b>10.2</b>
<b>Recurring P/E @ target price (x) *</b>	<b>14.1</b>	<b>26.5</b>	<b>14.0</b>	<b>13.6</b>	<b>13.7</b>
Reported P/E (x)	9.6	20.7	10.5	10.2	10.2
Dividend yield (%)	7.0	3.6	5.7	5.9	5.9
Price/book (x)	1.3	1.3	1.3	1.2	1.1
Price/tangible book (x)	1.3	1.3	1.3	1.2	1.1
EV/EBITDA (x) **	4.9	6.5	4.7	5.1	4.7
EV/EBITDA @ target price (x) **	6.5	8.7	6.1	6.5	6.1
EV/invested capital (x)	0.9	0.9	0.9	0.9	0.8

\* Pre-exceptional, pre-goodwill and fully diluted \*\* EBITDA includes associate income and recurring non-operating income

Sources: PTT Explor &amp; Prod; FSSIA estimates

## Corporate Governance report of Thai listed companies 2020

EXCELLENT LEVEL										
AAV	ADVANC	AF	AIRA	AKP	AKR	ALT	AMA	AMATA	AMATAV	ANAN
AOT	AP	ARIP	ARROW	ASP	BAFS	BANPU	BAY	BCP	BCPG	BDMS
BEC	BEM	BGRIM	BIZ	BKI	BLA	BOL	BPP	BRR	BTS	BWG
CENTEL	CFRESH	CHEWA	CHO	CIMBT	CK	CKP	CM	CNT	COL	COMAN
COTTO	CPALL	CPF	CPI	CPN	CSS	DELTA	DEMCO	DRT	DTAC	DTC
DV8	EA	EASTW	ECF	ECL	EGCO	EPG	ETE	FNS	FPI	FPT
FSMART	GBX	GC	GCAP	GEL	GFPT	GGC	GPSC	GRAMMY	GUNKUL	HANA
HARN	HMPRO	ICC	ICHI	III	ILINK	INTUCH	IRPC	IVL	JKN	JSP
JWD	K	KBANK	KCE	KKP	KSL	KTB	KTC	LANNA	LH	LHFG
LIT	LPN	MAKRO	MALEE	MBK	MBKET	MC	MCOT	METCO	MFEC	MINT
MONO	MOONG	MSC	MTC	NCH	NCL	NEP	NKI	NOBLE	NSI	NVD
NYT	OISHI	ORI	OTO	PAP	PCSGH	PDJ	PG	PHOL	PLANB	PLANET
PLAT	PORT	PPS	PR9	PREB	PRG	PRM	PSH	PSL	PTG	PTT
PTTEP	PTTGC	PYLON	Q-CON	QH	QTC	RATCH	RS	S	S & J	SAAM
SABINA	SAMART	SAMTEL	SAT	SC	SCB	SCC	SCCC	SCG	SCN	SDC
SEAFCO	SEOIL	SE-ED	SELIC	SENA	SIRI	SIS	SITHAI	SMK	SMPC	SNC
SONIC	SORKON	SPALI	SPI	SPRC	SPVI	SSSC	SST	STA	SUSCO	SUTHA
SVI	SYMC	SYNTEC	TACC	TASCO	TCAP	TFMAMA	THANA	THANI	THCOM	THG
THIP	THRE	THREL	TIP	TIPCO	TISCO	TK	TKT	TTB	TMILL	TNDT
TNL	TOA	TOP	TPBI	TQM	TRC	TRC	TSC	TSR	TSTE	TSTH
TTCL	TTW	TU	TVD	TVI	TVO	TWPC	U	UAC	UBIS	UV
VGI	VIH	WACOAL	WAVE	WHA	WHAUP	WICE	WINNER	TRUE		

VERY GOOD LEVEL										
2S	ABM	ACE	ACG	ADB	AEC	AEONTS	AGE	AH	AHC	AIT
ALLA	AMANAH	AMARIN	APCO	APCS	APURE	AQUA	ASAP	ASEFA	ASIA	ASIAN
ASIMAR	ASK	ASN	ATP30	AUCT	AWC	AYUD	B	BA	BAM	BBL
BFIT	BGC	BJC	BJCHI	BROOK	BTW	CBG	CEN	CGH	CHARAN	CHAYO
CHG	CHOTI	CHOW	CI	CIG	CMC	COLOR	COM7	CPL	CRC	CRD
CSC	CSP	CWT	DCC	DCON	DDD	DOD	DOHOME	EASON	EE	ERW
ESTAR	FE	FLOYD	FN	FORTH	FSS	FTE	FVC	GENCO	GJS	GL
GLAND	GLOBAL	GLOCON	GPI	GULF	GYT	HPT	HTC	ICN	IFS	ILM
IMH	INET	INSURE	IRC	IRCP	IT	ITD	ITEL	J	JAS	JCK
JCKH	JMART	JMT	KBS	KCAR	KGI	KIAT	KOOL	KTIS	KWC	KWM
L&E	LALIN	LDC	LHK	LOXLEY	LPH	LRH	LST	M	MACO	MAJOR
MBAX	MEGA	META	MFC	MGT	MILL	MITSIB	MK	MODERN	MTI	MVP
NETBAY	NEX	NINE	NTV	NWR	OCC	OGC	OSP	PATO	PB	PDG
PDI	PICO	PIMO	PJW	PL	PM	PPP	PRIN	PRINC	PSTC	PT
QLT	RCL	RICHY	RML	RPC	RWI	S11	SALEE	SAMCO	SANKO	SAPPE
SAWAD	SCI	SCP	SE	SEG	SFP	SGF	SHR	SIAM	SINGER	SKE
SKR	SKY	SMIT	SMT	SNP	SPA	SPC	SPCG	SR	SRICHA	SSC
SSF	STANLY	STI	STPI	SUC	SUN	SYNEX	T	TAE	TAKUNI	TBSP
TCC	TCMC	TEAM	TEAMG	TFG	TIGER	TITLE	TKN	TKS	TM	TMC
TMD	TMI	TMT	TNITY	TNP	TNR	TOG	TPA	TPAC	TPCORP	TPOLY
TPS	TRITN	TRT	TRU	TSE	TVT	TWP	UEC	UMI	UOBKH	UP
UPF	UPOIC	UT	UTP	UWC	VL	VNT	VPO	WIJK	WP	XO
YUASA	ZEN	ZIGA	ZMICO							

GOOD LEVEL										
7UP	A	ABICO	AJ	ALL	ALUCON	AMC	APP	ARIN	AS	AU
B52	BC	BCH	BEAUTY	BGT	BH	BIG	BKD	BLAND	BM	BR
BROCK	BSBM	BSM	BTNC	CAZ	CCP	CGD	CITY	CMAN	CMO	CMR
CPT	CPW	CRANE	CSR	D	EKH	EP	ESSO	FMT	GIFT	GREEN
GSC	GTB	HTECH	HUMAN	IHL	INOX	INSET	IP	JTS	JUBILE	KASET
KCM	KKC	KUMWEL	KUN	KWG	KYE	LEE	MATCH	MATI	M-CHAI	MCS
MDX	MJD	MM	MORE	NC	NDR	NER	NFC	NNCL	NPK	NUSA
OCEAN	PAF	PF	PK	PLE	PMTA	POST	PPM	PRAKIT	PRECHA	PRIME
PROUD	PTL	RBF	RCI	RJH	ROJNA	RP	RPH	RSP	SF	SFLEX
SGP	SISB	SKN	SLP	SMART	SOLAR	SPG	SQ	SSP	STARK	STC
SUPER	SVOA	TC	TCCC	THMUI	TIW	TNH	TOPP	TPCH	TIPIP	TPLAS
TTI	TYCN	UKEM	UMS	VCOM	VRANDA	WIN	WORK	WPH		

## Description

## Score Range

Excellent

90-100

Very Good

80-89

Good

70-79

## Disclaimer:

The disclosure of the survey results of the Thai Institute of Directors Association ("IOD") regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the Market for Alternative Investment disclosed to the public and able to be accessed by a general public investor. The result, therefore, is from the perspective of a third party. It is not an evaluation of operation and is not based on inside information.

The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey results may be changed after that date. FSS International Investment Advisory Company Limited does not confirm nor certify the accuracy of such survey results.

\* CGR scoring should be considered with news regarding wrong doing of the company or director or executive of the company such unfair practice on securities trading, fraud, and corruption SEC imposed a civil sanction against insider trading of director and executive; \*\* delisted

Source: Thai Institute of Directors Association (IOD); FSSIA's compilation

## Anti-corruption Progress Indicator 2020

CERTIFIED										
2S	ADVANC	AI	AIE	AIRA	AKP	AMA	AMANAHA	AP	AQUA	ARROW
ASK	ASP	AYUD	B	BAFS	BANPU	BAY	BBL	BCH	BCP	BCPG
BGC	BGRIM	BJCHI	BKI	BLA	BPP	BROOK	BRR	BSBM	BTS	BWG
CEN	CENTEL	CFRESH	CGH	CHEWA	CHOTI	CHOW	CIG	CIMBT	CM	CMC
COL	COM7	CPALL	CPF	CPI	CPN	CSC	DCC	DELTA	DEMCO	DIMET
DRT	DTAC	DTC	EASTW	ECL	EGCO	FE	FNS	FPI	FPT	FSS
FTE	GBX	GC	GCAP	GEL	GFPT	GGC	GJS	GPSC	GSTEEL	GUNKUL
HANA	HARN	HMPRO	HTC	ICC	ICHI	IFS	INET	INSURE	INTUCH	IRPC
ITEL	IVL	K	KASET	KBANK	KBS	KCAR	KCE	KGI	KKP	KSL
KTB	KTC	KWC	L&E	LANNA	LHFG	LHK	LPN	LRH	M	MAKRO
MALEE	MBAX	MBK	MBKET	MC	MCOT	MFC	MFEC	MINT	MONO	MOONG
MPG	MSC	MTC	MTI	NBC	NEP	NINE	NKI	NMG	NNCL	NSI
NWR	OCC	OCEAN	OGC	ORI	PAP	PATO	PB	PCSGH	PDG	PDI
PDJ	PE	PG	PHOL	PL	PLANB	PLANET	PLAT	PM	PPP	PPPM
PPS	PREB	PRG	PRINC	PRM	PSH	PSL	PSTC	PT	PTG	PTT
PTTEP	PTTGC	PYLON	Q-CON	QH	QLT	QTC	RATCH	RML	RWI	S & J
SABINA	SAT	SC	SCB	SCC	SCCC	SCG	SCN	SEAOIL	SE-ED	SELIC
SENA	SGP	SIRI	SITHAI	SMIT	SMK	SMPC	SNC	SNP	SORKON	SPACK
SPC	SPI	SPRC	SRICHA	SSF	SSSC	SST	STA	SUSCO	SVI	SYNTEC
TAE	TAKUNI	TASCO	TBSP	TCAP	TCMC	TFG	TFI	TFMAMA	THANI	THCOM
THIP	THRE	THREL	TIP	TIPCO	TISCO	TKT	TTB	TMD	TMILL	TMT
TNITY	TNL	TNP	TNR	TOG	TOP	TPA	TPCORP	TPP	TRU	TSC
TSTH	TTCL	TU	TVD	TVI	TVO	TWPC	U	UBIS	UEC	UKEM
UOBKH	UWC	VGI	VIH	VNT	WACOAL	WHA	WHAUP	WICE	WIJK	XO
ZEN	TRUE									
DECLARED										
7UP	ABICO	AF	ALT	AMARIN	AMATA	AMATAV	ANAN	APURE	B52	BKD
BM	BROCK	BUI	CHO	CI	COTTO	DDD	EA	EFORL	EP	ERW
ESTAR	ETE	EVER	FSMART	GPI	ILINK	IRC	J	JKN	JMART	JMT
JSP	JTS	KWG	LDC	MAJOR	META	NCL	NOBLE	NOK	PK	PLE
ROJNA	SAAM	SAPPE	SCI	SE	SHANG	SINGER	SKR	SPALI	SSP	STANLY
SUPER	SYNEX	THAI	TKS	TOPP	TRITN	TTA	UPF	UV	WIN	ZIGA

Level	
Certified	This level indicates practical participation with thoroughly examination in relation to the recommended procedures from the audit committee or the SEC's certified auditor, being a certified member of Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) or already passed examination to ensure independence from external parties.
Declared	This level indicates determination to participate in the Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC)

**Disclaimer:**

The disclosure of the Anti-Corruption Progress Indicators of a listed company on the Stock Exchange of Thailand, which is assessed by Thaipat Institute, is made in order to comply with the policy and sustainable development plan for the listed companies of the Office of the Securities and Exchange Commission. Thaipat Institute made this assessment based on the information received from the listed company, as stipulated in the form for the assessment of Anti-corruption which refers to the Annual Registration Statement (Form 56-1), Annual Report (Form 56-2), or other relevant documents or reports of such listed company. The assessment result is therefore made from the perspective of Thaipat Institute that is a third party. It is not an assessment of operation and is not based on any inside information. Since this assessment is only the assessment result as of the date appearing in the assessment result, it may be changed after that date or when there is any change to the relevant information. Nevertheless, FSS International Investment Advisory Company Limited does not confirm, verify, or certify the accuracy and completeness of the assessment results.

Note: Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of June 24, 2019) are categorised into: 1) companies that have declared their intention to join CAC, and; 2) companies certified by CAC.

Source: The Securities and Exchange Commission, Thailand; \* FSSIA's compilation

## GENERAL DISCLAIMER

### ANALYST(S) CERTIFICATION

#### Suwat Sinsadok FSS International Investment Advisory Securities Co., Ltd

The individual(s) identified above certify(ies) that (i) all views expressed in this report accurately reflect the personal view of the analyst(s) with regard to any and all of the subject securities, companies or issuers mentioned in this report; and (ii) no part of the compensation of the analyst(s) was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed herein.

This report has been prepared by FSS International Investment Advisory Company Limited (FSSIA). The information herein has been obtained from sources believed to be reliable and accurate; however FSS makes no representation as to the accuracy and completeness of such information. Information and opinions expressed herein are subject to change without notice. FSS has no intention to solicit investors to buy or sell any security in this report. In addition, FSS does not guarantee returns nor price of the securities described in the report nor accept any liability for any loss or damage of any kind arising out of the use of such information or opinions in this report. Investors should study this report carefully in making investment decisions. All rights are reserved.

This report may not be reproduced, distributed or published by any person in any manner for any purpose without permission of FSSIA. Investment in securities has risks. Investors are advised to consider carefully before making investment decisions.

Company	Ticker	Price	Rating	Valuation & Risks
PTT Explor & Prod	PTTEP TB	THB 118.00	BUY	Risks our TP, which is based on EV/EBITDA, are a sharp decline in oil price and a potential earnings downside from government intervention.
PTT PCL	PTT TB	THB 36.75	BUY	Risks to our SoTP-based valuation are the oil price and potential earnings downside from government intervention.
B.Grimm Power	BGRIM TB	THB 39.50	BUY	The downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand, 2) a lower crude price, and 3) unplanned shutdowns of its SPPs.
Global Power Synergy	GPSC TB	THB 73.50	BUY	The downside risks to our SoTP-based TP on GPSC include 1) lower-than-expected demand for electricity in Thailand; 2) a lower crude price; and 3) lower-than-expected demand from industrial users.
Gulf Energy Development	GULF TB	THB 40.00	BUY	The downside risks to our SoTP-based TP on GULF include 1) lower-than-expected demand for electricity in Thailand; 2) a lower crude price; and 3) delays in project commercial operation dates.
Ratch Group	RATCH TB	THB 43.50	BUY	The downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand; 2) lower crude price; and 3) delays in starting new projects.
Electricity Generating	EGCO TB	THB 167.50	BUY	Downside risks to our SoTP-based TP include 1) lower-than expected demand for electricity in Thailand; 2) delays in project commencement or commercial operation dates (COD); and 3) government intervention in electricity tariff subsidies.

Source: FSSIA estimates

### Additional Disclosures

Target price history, stock price charts, valuation and risk details, and equity rating histories applicable to each company rated in this report is available in our most recently published reports. You can contact the analyst named on the front of this note or your representative at Finansia Syrus Securities Public Company Limited

FSSIA may incorporate the recommendations and target prices of companies currently covered by FSS Research into equity research reports, denoted by an 'FSS' before the recommendation. FSS Research is part of Finansia Syrus Securities Public Company Limited, which is the parent company of FSSIA.

All share prices are as at market close on 01-Dec-2021 unless otherwise stated.

## RECOMMENDATION STRUCTURE

### Stock ratings

Stock ratings are based on absolute upside or downside, which we define as (target price\* - current price) / current price.

BUY (B). The upside is 10% or more.

HOLD (H). The upside or downside is less than 10%.

REDUCE (R). The downside is 10% or more.

Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

\* In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.



## Industry Recommendations

**Overweight.** The analyst expects the fundamental conditions of the sector to be positive over the next 12 months.

**Neutral.** The analyst expects the fundamental conditions of the sector to be maintained over the next 12 months.

**Underweight.** The analyst expects the fundamental conditions of the sector to be negative over the next 12 months.

## Country (Strategy) Recommendations

**Overweight (O).** Over the next 12 months, the analyst expects the market to score positively on two or more of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

**Neutral (N).** Over the next 12 months, the analyst expects the market to score positively on one of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

**Underweight (U).** Over the next 12 months, the analyst does not expect the market to score positively on any of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.