

PTT Exploration and Production

SDR (SGX: TPED)

NON RATED



Leading energy producer in Southeast Asia

Research Analyst

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- PTT Exploration and Production (PTTEP) is a leading producer of natural gas and crude oil in Southeast Asia. About 70% of its assets are in Thailand and other parts of Southeast Asia. The company's petroleum production accounts for 62% of Thailand's total domestic production volume in 2022.
- PTTEP has a competitive cash cost of US\$15 per barrel of oil equivalent (BOE). With higher energy prices, its average selling price rose to US\$53/BOE in 2022 from US\$43/BOE in 2021, exceeding its average unit cost of US\$28/BOE.
- PTTEP targets to grow its production volume by 6.3% annually on average from 2022-27. This is supported by its Proved Reserves (P1) lasting 6.8 years, and Proved Reserves + Probable Reserves (P1+P2) of 10.7 years as of December 2022.
- PTTEP intends to reach net zero greenhouse gas emissions by 2050. It has set an interim target to reduce greenhouse gas emissions intensity by at least 30 percent by 2030 and 50 percent by 2040.

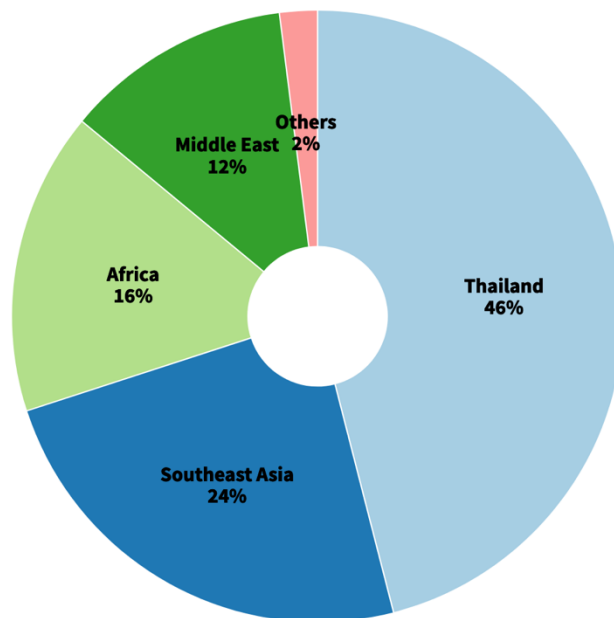
Business description

PTT Exploration and Production (PTTEP) is involved in the exploration and production of petroleum, mainly natural gas, crude oil and condensate. It is the upstream arm of Petroleum Authority of Thailand (PTT), which holds 64% of PTTEP.

The majority of PTTEP's assets are in Thailand and other parts of Southeast Asia, which make up about 70% of the book value of assets as of March 2023. Outside of Southeast Asia, the company also has assets in Africa and the Middle East.

Figure 1: PTTEP's assets are predominantly in Thailand and the rest of Southeast Asia

PTTEP book value of assets by region as of March 2023

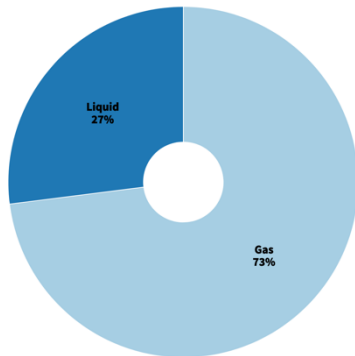


Source: Company data

PTTEP revenues are mainly from the sale of petroleum products that are pegged to world fuel price in USD. PTTEP's key markets are Thailand (63% of sales volume), Southeast Asia (21% of sales volume) and the Middle East (15% of sales volume).

Figure 2: PTTEP generates the bulk of its revenue from gas sales

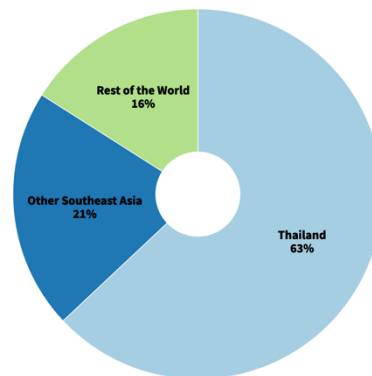
PTTEP sales by product type in 2022



Source: Company Data

Figure 3: PTTEP generates the bulk of its revenue from sales in Thailand and other parts of Southeast Asia

PTTEP sales by geographical region in 2022

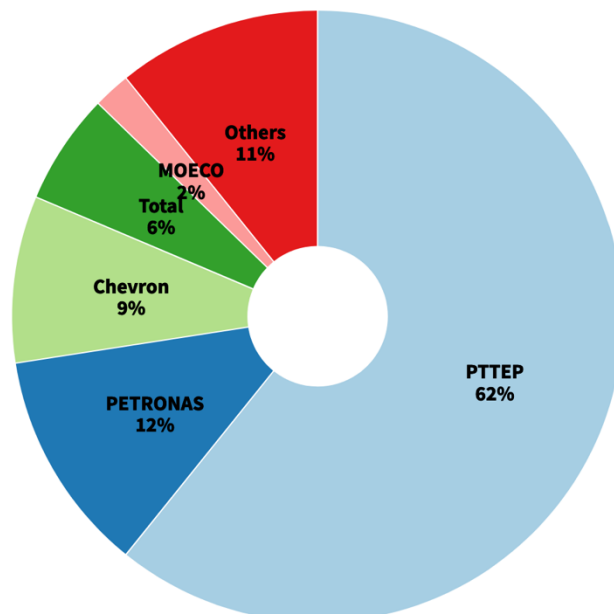


Source: Company Data

PTTEP accounts for close to 62% of Thailand’s domestic petroleum production volume. The company sells outputs from domestic and regional projects primarily to the Thai market through PTT, the major buyer and processor of all the products. PTT then turns the processed products into the country’s power sector, petrochemical industry sector, transportation sector, industry sector, and household sector.

Figure 4: PTTEP accounts for 62% of Thailand’s petroleum production volume

Breakdown of domestic production volume



Source: Department of Mineral Fuels, Ministry of Energy as of November 2022

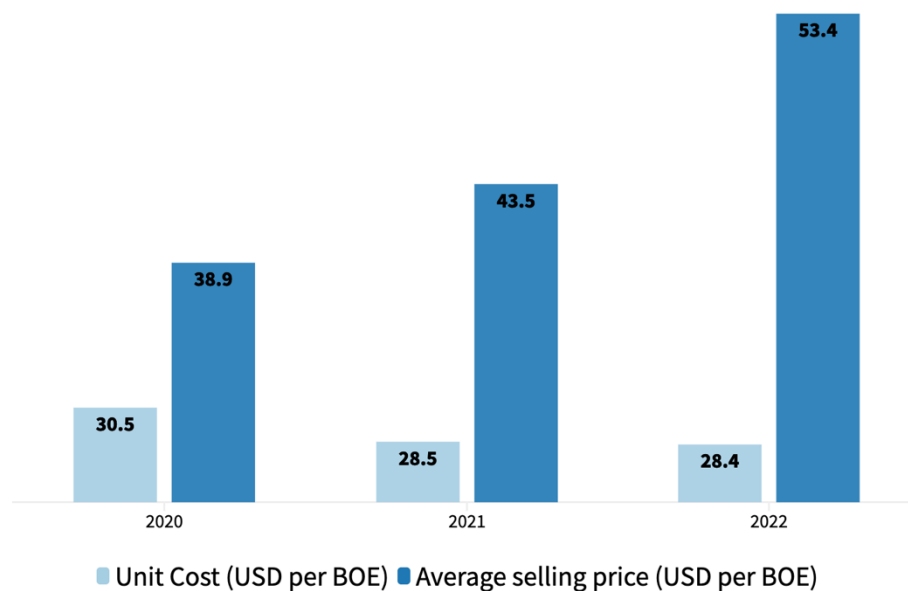
Unit economics

On a unit-economics basis, PTTEP has a cash cost of about US\$15 per barrel of oil equivalent (BOE). Including depreciation, depletion and amortization (DD&A), PTTEP's unit cost was at US\$28.4/BOE in 2022.

PTTEP expects to maintain unit cost in the range of USD 27-28/BOE in 2023. This is due to lower royalty expense per unit following a decline in average selling price, as well as a drop in depreciation expense per unit. In the long term, PTTEP targets to bring its unit cost for E&P down to below US\$25/BOE.

Figure 5: PTTEP has an average unit cost of US\$28.4 per barrel of energy

PTTEP unit cost vs average selling price



Source: Company data

Reserves

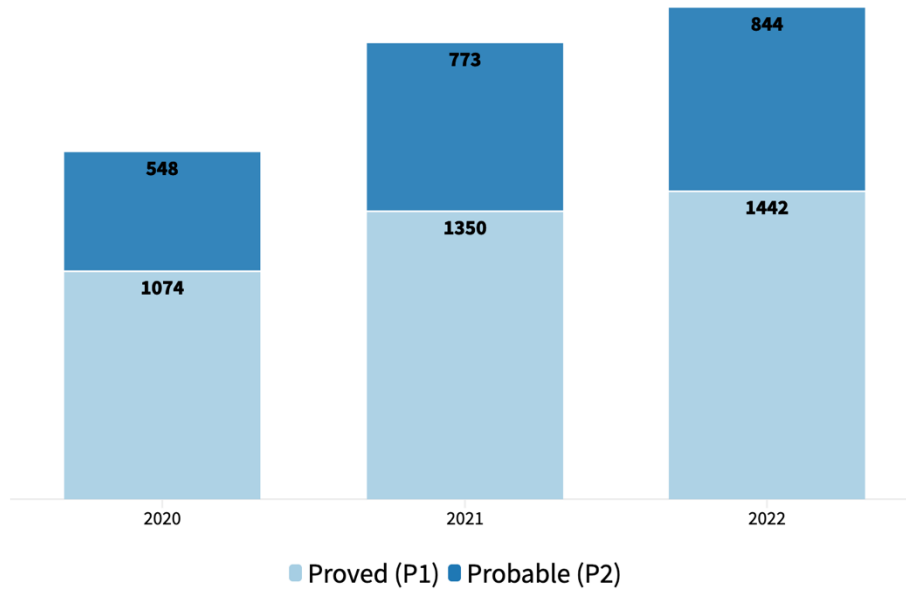
As of December 2022, PTTEP's Proved Reserves (P1) is expected to last 6.8 years, while its Proved Reserves + Probable Reserves (P1+P2) could last 10.7 years. This would exceed PTTEP's target to maintain a reserve to production ratio (R/P) of more than five years.

Proved Reserves are 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 are those additional quantities of petroleum obtained from an analysis of geoscience and/or engineering data similar to that used in the estimation of Proved Reserves but with less production possibility.

Figure 6: PTTEP's proved reserves are expected to last 6.8 years

PTTEP reserves (in MMBOE)

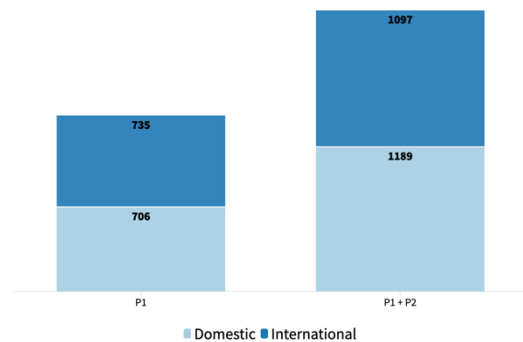


Source: Company data

In terms of geography, 52% of PTTEP's reserves (P1 + P2) is domestic, with the remaining 48% is international. By product type, 72% of PTTEP's reserves (P1 + P2) is gas, while 28% is liquid.

Figure 7: PTTEP's reserves are equally split domestically and internationally

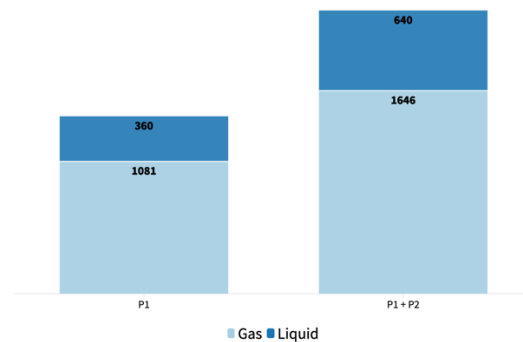
PTTEP reserves (in MMBOE)



Source: Company Data

Figure 8: PTTEP reserves are predominantly in gas assets

PTTEP reserves (in MMBOE)



Source: Company Data

Industry outlook

EIA forecasts upward pressure on oil prices in second half of 2023

The US Energy Information Administration (EIA) forecasts Brent crude oil spot price will average US\$79 per barrel (bbl) in the second half of 2023 (2H23) and US\$84/bbl in 2024. This represents an increase from the Brent crude oil price of US\$77/bbl as of 16 June 2023.

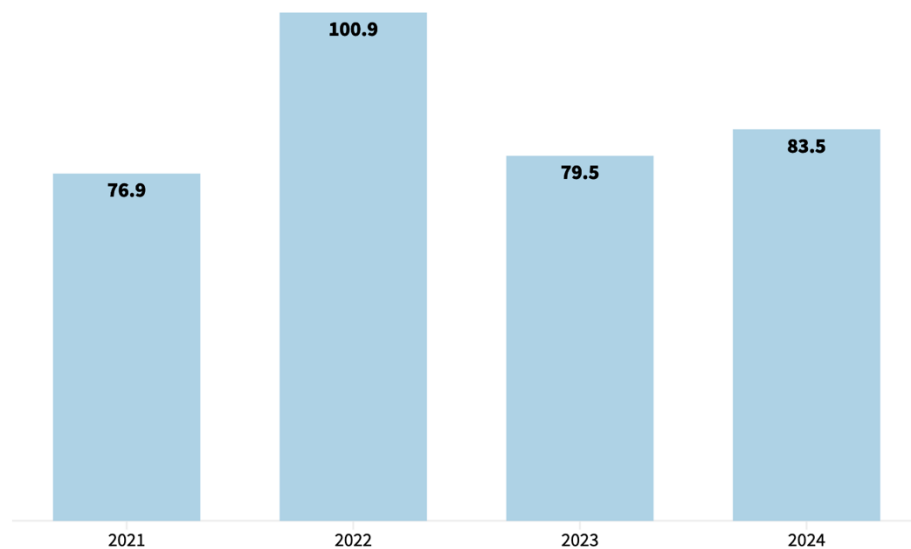
Following the announcement by OPEC+ to extend oil production cuts through 2024, EIA expects global oil inventories to fall slightly over the next year. These inventory drawdowns will likely drive up the price of crude oil, especially towards late 2023 and early 2024.

In addition, oil consumption is expected to rise by 1.6 million barrels by day (b/d) in 2023 from an average of 99.4 million b/d last year. Oil consumption is then forecasted to grow further by another 1.7 million b/d in 2024, with the bulk of the growth coming from emerging economies.

Higher oil prices could translate into higher average selling prices for PTTEP.

Figure 9: US Energy Information Administration (EIA) forecasts Brent crude oil spot price will average US\$79 per barrel in 2023

EIA oil price forecast (in US\$/bbl)



Source: US Energy Information Administration (EIA)

Company outlook

PTTEP has listed several priorities, including

- **Drive Value:** Maximise the value of existing assets and enhancing competitiveness of unit costs
- **Decarbonize:** Decarbonize to achieve net zero greenhouse gas emissions by 2050.
- **Diversify:** Diversify into new businesses, with a target for net income to contribute 20% of PTTEP's total net income by 2030.

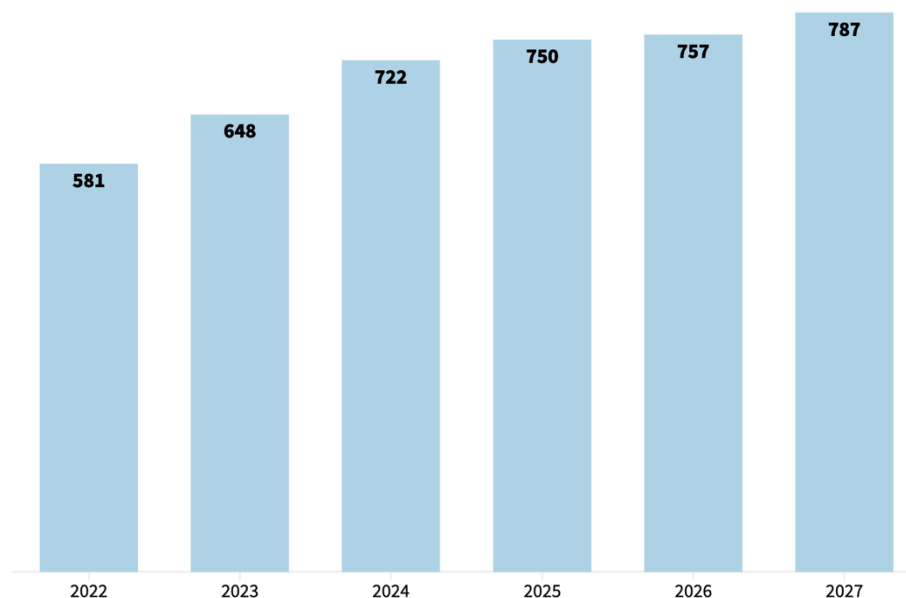
Driving value by maximizing value of existing assets

In the long term, PTTEP forecasts its production volume to grow 6.3% CAGR from 2022-27. This would exceed its target of growing its average production by 5% sustainably. Correspondingly, US\$29.1bn in E&P budget has been earmarked.

PTTEP expects the average sales volume for 2023 to be approximately 470,000 BOED. This will be slightly higher than the 468,130 BOED of sales volume in 2022, driven by the production ramp up of its G1/61 Project in Thailand.

Figure 10: PTTEP's production is expected to grow at 6.3% CAGR from 2022 to 2027E

PTTEP production (in KBOED)



Source: Company data

Decarbonisation

PTTEP intends to reach net zero greenhouse gas emissions by 2050. It has set an interim target to reduce greenhouse gas emissions intensity by at least 30 percent by 2030 and 50 percent by 2040, compared to the 2020 base year.

It intends to do this through the following:

- Manage E&P for low carbon portfolio
- Execute GHG emission reduction plan
- Accelerate CCS projects
- Maximise use of renewable and future energy in operation
- Pursue emission offsetting and Ocean for life

Diversify into new business

PTTEP is diversify into new businesses, and targets to achieve net income target contribution to reach 20% of PTTEP total net income by 2030.

- Scale up AI & Robotic Ventures
- Capture gas-to-power and renewable energy opportunity
- Explore CCUS, H2 and future energy
- Commercialise in-house technology

Risks

Gas prices expected to be weaker in the near term

PTTEP's gas price formulas are partially linked to oil prices with reference to average historical prices ranging from the past 6 to 24 months. As of June 2023, the average gas price for full year 2023 is estimated to be approximately 6.0 USD/MMBTU, lower than the previous year. This reflects a lower Dubai price assumption and more sales volume contribution from G1/61 Project and G2/61 Project under Petroleum Sharing Contracts, where the gas price will be lower, compared to the concession regime

The average 2023 Asian spot LNG price is forecasted to be around US\$28 to US\$33/MMBTU according to Platts forecast as of November 2022 and FGE forecast as of January 2023. This represents a decline compared to the average of US\$34/MMBTU in 2022. According to FGE as of January 2023, total production capacity of LNG projects is expected to reach 433 million tons per annum (MTPA) in 2023, with additional supply from Indonesia, the United States, and Russia. However, demand for LNG is expected to be around 415 MTPA.

Financial summary

In FY22, PTTEP total revenues was THB 340 billion, 45% higher YoY, driven by an increase in average sales volume and average selling price. Higher average sales volume was due to the first production of G1/61 Project in April 2022, the full-year production of Oman Block 61 Project, as well as Arthit Project due to higher gas nomination from buyer.

Figure 11: PTTEP's financial summary

Statement of Comprehensive Balance Sheet, Unit: M.Baht

Accounting Type	Consolidate (FY, December)			Consolidate (Qtrly)	
	FY2020	FY2021	FY2022	1QFY2022	1QFY2023
Cash And Cash Equivalents	111,257	85,528	122,324	111,413	144,633
Current Assets	152,716	139,584	196,842	172,002	209,370
Non-Current Assets	522,921	643,952	673,022	631,879	662,400
Total Assets	675,637	783,536	869,864	803,881	871,771
Current Liabilities	56,257	104,502	114,616	129,400	99,123
Non-Current Liabilities	264,969	263,684	288,128	261,517	292,408
Total Liabilities	321,226	368,186	402,744	390,917	391,531
Shareholders' Equity	354,411	415,350	467,121	412,964	480,240
Minority Interest	-	-	-	-	-

Statement of Comprehensive Income, Unit: M.Baht

Accounting Type	Consolidate (FY, December)			Consolidate (Qtrly)	
	FY2020	FY2021	FY2022	1QFY2022	1QFY2023
Total Revenues	166,600	234,631	339,902	68,890	77,805
EBITDA	114,634	157,158	234,583	45,760	56,681
EBIT	49,384	86,864	151,415	28,673	40,098
Net Profit : Owners Of The Parent	22,664	38,864	70,901	10,519	19,281
EPS (B.)	5.65	9.70	17.94	2.64	4.86

Statement of Cash Flow, Unit: M.Baht

Accounting Type	Consolidate (FY, December)			Consolidate (Qtrly)	
	FY2020	FY2021	FY2022	1QFY2022	1QFY2023
Operating Cash Flow	86,674	110,069	164,916	40,486	49,903
Investing Cash Flow	-33,515	-123,016	-58,760	-12,923	-24,158
Financing Cash Flow	-26,469	-22,199	-69,958	-1,521	-2,319
Net Cash Flow	26,690	-35,146	36,198	26,042	23,426

Ratios Annualized : ROE, ROA

	FY2021	FY2022	1QFY2022	1QFY2023
ROE (%)	10.1	16.1	9.5	17.8
ROA (%)	11.9	18.3	12.6	19.4
D/E (X)	0.9	0.9	1.0	0.8
Gross Profit Margin (%)	87.3	88.2	90.5	83.8
EBIT Margin (%)	37.02	44.6	41.6	51.5
Net Profit Margin (%)	16.6	20.9	15.3	24.78

Source: Stock Exchange of Thailand

Key management

Mr. Montri Rawanchaikul, CEO

Mr. Montri Rawanchaikul was appointed CEO of PTTEP on 1 October 2021. Prior to being CEO, Mr. Rawanchaikul was President of PTTEP from October 2020 to January 2021. Mr Rawanchaikul has spent more than 17 years in PTTEP, having started at the company in June 2005.



Mr Rawanchaikul holds a Master of Applied Science (Exploration Geophysics) degree from the University of New South Wales, Australia and a Bachelor of Science (Physics) degree from Chiang Mai University.

Disclosure Appendix

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