

SELL (Unchanged)

Change in Numbers

TP: Bt 25.00 (From: Bt 30.00)**Downside : 10.7%****6 SEPTEMBER 2024**

PTT Global Chemical Pcl (PTTGC TB)

Still in the doldrums

We reaffirm **SELL** on PTTGC as we see it as a low-return company with a 4.4% ROE in 2026F. While we forecast earnings to turnaround, the base remains low, with a risk of the petrochemical industry's downcycle dragging on from China's large supply and weak demand.

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Low return with a challenging outlook

We reaffirm **SELL** on PTTGC with a lower DCF-based TP (rolled over to a 2025F base year) of Bt25 from Bt30. **First**, PTTGC is a low-return company at 4.4% ROE in 2026F, when we already anticipate a business turnaround. **Second**, the outlook for its core petrochemical and refinery businesses is not good due to oversupply and China's weak demand. Our expectation for an earnings turnaround next year is due to a fall in depreciation from asset write-offs rather than the business turnaround. **Third**, PTTGC expects more asset impairments of up to Bt20bn in 3Q-4Q24F, and the risks of losses generated by these plants remain. **Finally**, we see its valuation as expensive at 16.7x 2025F PE.

Tough operating environment

We cut our earnings estimates by 72/11/17% in 2024-26F to reflect weaker-than-expected petrochemical spreads and refinery margins (see our assumptions in Exhibit 3). As the downcycle drags on, we cut our HDPE-naphtha spread assumptions by US\$35/20/tonne to US\$345/400 for 2024-25F. Meanwhile, refinery margins have been disappointing due to weaker-than-expected oil demand, and we lower our market GRM assumptions by 13-24% to US\$4/6 per bbl over 2024-25F.

Still low return from Allnex

Allnex's EBITDA improved in 1H24 to an annualized EBITDA of EUR318m, up 29% from 2023 but still 12% below 2021's level when PTTGC acquired the company. Despite the improvement, we estimate a return of only 1% given the hefty acquisition price of EUR4bn. The company targets to increase EBITDA to EUR600m by 2030. However, based on our estimate, this would lead to a return of only 6%.

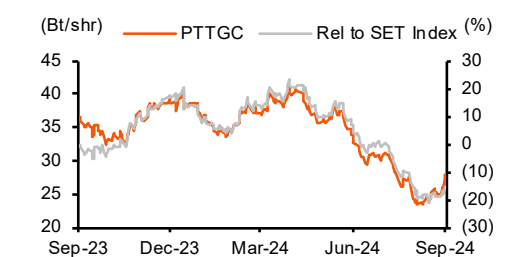
Substantial asset impairments

PTTGC expects to book more asset impairments of up to Bt20bn, mainly from Vencorex and PTTAC, in 2H24. This would lead to cost savings from lower depreciation of around Bt3bn p.a. PTTGC has yet to confirm whether or not these two companies will remain in operation. The companies generate a combined negative EBITDA of Bt1.4bn per annum. As for the European company Allnex, PTTGC invested Bt148bn in it in 2021 for a 100% stake, and PTTGC does not expect an impairment as its profits have improved.

COMPANY VALUATION

Y/E Dec (Bt m)	2023A	2024F	2025F	2026F
Sales	616,635	629,194	620,183	624,887
Net profit	999	(15,558)	7,068	12,697
Consensus NP	—	434	10,359	14,062
Diff frm cons (%)	—	na	(31.8)	(9.7)
Norm profit	(2,753)	922	7,565	12,697
Prev. Norm profit	—	3,341	8,481	15,211
Chg frm prev (%)	—	(72.4)	(10.8)	(16.5)
Norm EPS (Bt)	(0.6)	0.2	1.7	2.8
Norm EPS grw (%)	na	na	720.0	67.8
Norm PE (x)	na	136.9	16.7	9.9
EV/EBITDA (x)	11.5	10.4	8.2	6.3
P/BV (x)	0.4	0.5	0.4	0.4
Div yield (%)	2.7	2.7	2.2	4.0
ROE (%)	na	0.3	2.7	4.4
Net D/E (%)	73.9	76.5	65.0	54.2

PRICE PERFORMANCE



COMPANY INFORMATION

Price as of 6-Sep-24 (Bt)	28.00
Market Cap (US\$ m)	3,769.3
Listed Shares (m shares)	4,508.8
Free Float (%)	54.8
Avg Daily Turnover (US\$ m)	13.1
12M Price H/L (Bt)	41.00/23.40
Sector	PETRO
Major Shareholder	PTT Pcl 45.18%

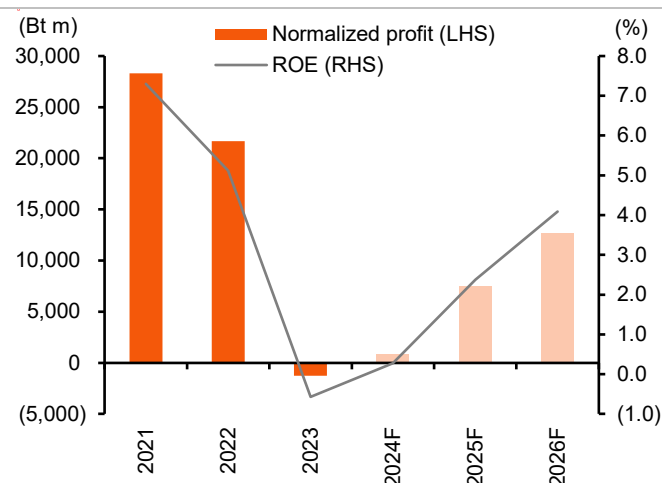
Sources: Bloomberg, Company data, Thanachart estimates

Low return with a challenging outlook

Cutting our TP to Bt25

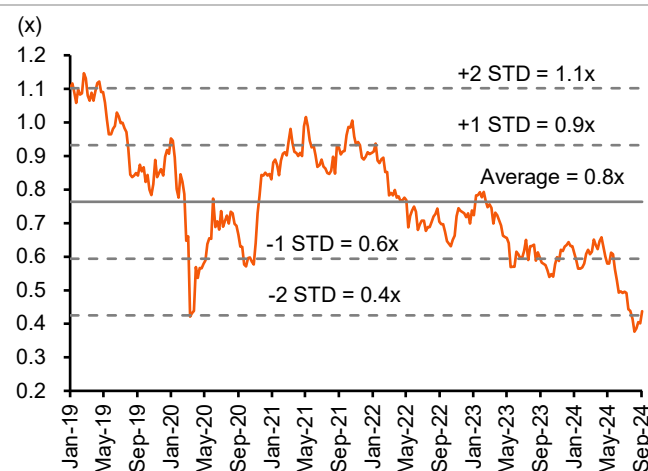
We reaffirm our SELL call on PTT Global Chemical Pcl (PTTGC) with a lower DCF-based TP (rolled over to a 2025F base year) of Bt25 from Bt30. **First**, PTTGC is a low-return company at 4.4% ROE in 2026F, when we already anticipate a business turnaround. **Second**, the outlook for its core petrochemical and refinery businesses is not good due to oversupply and China's weak demand. Our expectation for an earnings turnaround next year is due to a fall in depreciation from asset write-offs rather than the business turnaround. **Third**, PTTGC expects more asset impairments of up to Bt20bn in 3Q-4Q24F, and the risk of losses generated from these plants remain. **Finally**, we see its valuation as expensive at a 16.7x 2025F PE multiple.

Ex 1: Profit Vs. ROE



Sources: Company data, Thanachart estimates

Ex 2: P/BV Band



Sources: Bloomberg, Thanachart estimates

Tough operating environment

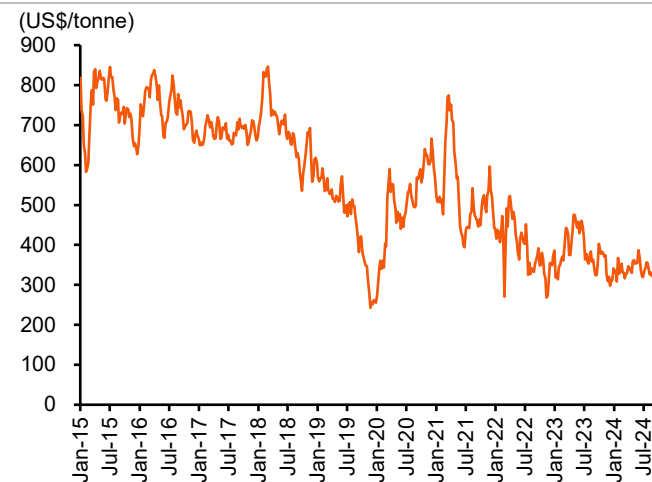
We have factored in prolonged weakness in product spreads

We cut our earnings estimates by 72/11/17% in 2024-26F to reflect weaker-than-expected petrochemical spreads and refinery margins (see our assumptions in Exhibit 3). As the downcycle drags on, we lower our HDPE-naphtha spread assumptions by US\$35/20/tonne to US\$345/400 for 2024-25F. Meanwhile, refinery margins have been disappointing due to weaker-than-expected oil demand, and we lower our market GRM assumptions by 13-24% to US\$4/6 per bbl over 2024-25F.

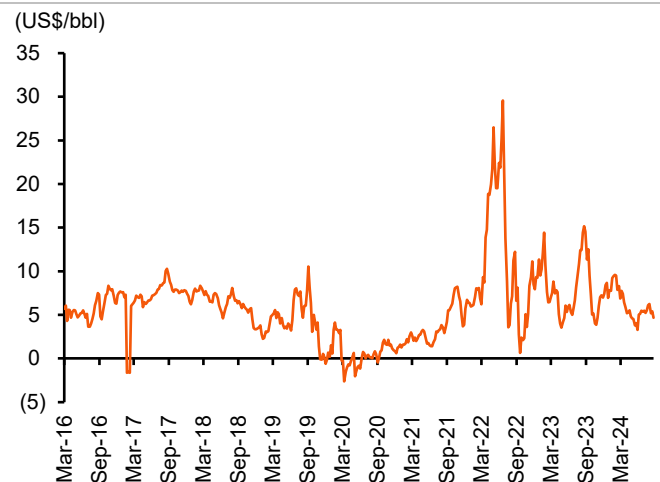
Ex 3: Earnings Revisions

	2022	2023	2024F	2025F	2025F
Reported profit (Bt m)					
- New	(8,752)	999	(15,558)	7,068	12,697
- Old			2,861	7,984	15,211
- Change (%)			(643.7)	(11.5)	(16.5)
Normalized profit (Bt m)					
- New	17,381	(2,753)	922	7,565	12,697
- Old			3,341	8,481	15,211
- Change (%)			(72.4)	(10.8)	(16.5)
Market GRM (US\$/bbl)					
- New	12.0	12.7	4.7	6.0	6.5
- Old			7.2	8.0	8.5
- Change (%)			(34.6)	(25.0)	(23.5)
HDPE-Naphtha (US\$/tonne)					
- New	392	386	344	400	450
- Old			380	420	460
- Change (%)			(9.4)	(4.8)	(2.2)

Sources: Company data, Thanachart estimates

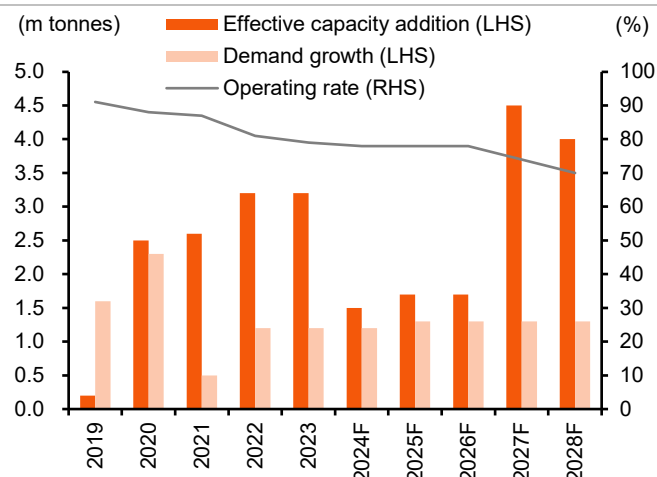
Ex 4: HDPE-Naphtha Spread

Source: Bloomberg

Ex 5: Singapore Complex Refinery Margin

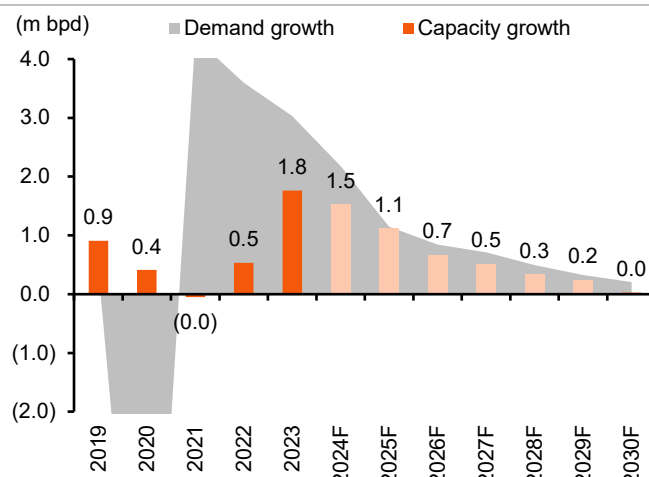
Sources: Bloomberg, Thanachart estimates

Ex 6: Demand/Supply Balance – HDPE



Source: TOP

Ex 7: Demand/Supply Balance – Global Refinery



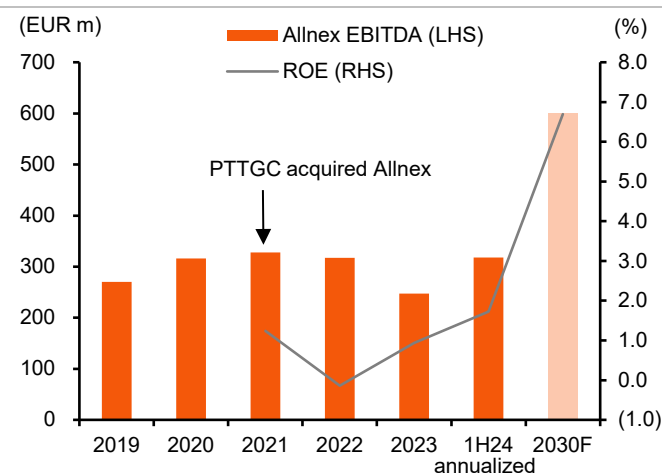
Source: TOP

Still low return from Allnex

Return from Allnex is estimated at just 6% despite the company achieving its 2030 goal

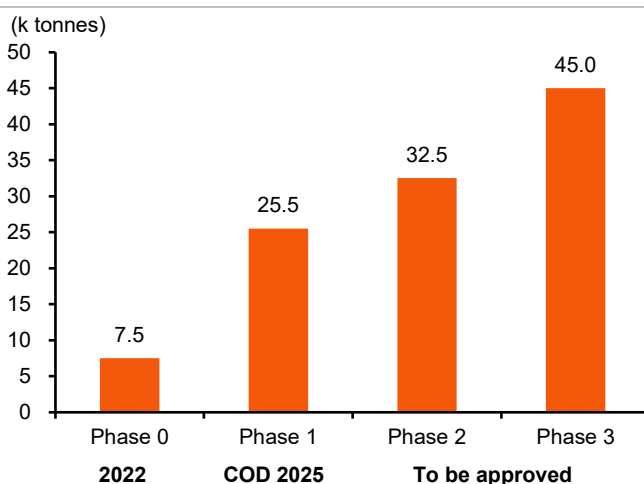
Allnex's EBITDA improved in 1H24 to an annualized EBITDA of EUR318m, up 29% from 2023 but still 12% below 2021's level when PTTGC acquired the company. Despite the improvement, we estimate a return of only 1% given the hefty acquisition price of EUR4bn. The company targets to increase EBITDA to EUR600m by 2030. However, based on our estimate, this would increase return to only 6%. The company expects this to be done by its India expansion, where it targets to increase capacity to 25.5k tonnes in 2025 from 7.5k tonnes in 2022.

Ex 8: Allnex's EBITDA Vs. Return



Sources: Company data, Thanachart estimates

Ex 9: India Expansion



Sources: Company data

Ex 10: 12-month DCF-based TP Calculation, Using A Base Year Of 2025F

(Bt m)	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F	2034F	2035F	Terminal Value
EBITDA & equity income	38,523	45,423	44,190	42,364	40,537	42,468	41,581	41,581	41,581	41,581	41,581	
Free cash flow	35,034	39,453	38,893	23,121	33,386	27,887	26,548	26,678	26,798	26,918	27,038	335,487
PV of free cash flow	32,243	33,410	30,305	16,573	22,020	16,924	14,393	13,249	12,194	11,223	10,329	128,159
Risk-free rate (%)	2.5											
Market risk premium (%)	8.0											
Beta	1.2											
WACC (%)	8.7											
Terminal growth (%)	1.0											
Enterprise value - add investments	341,022											
Net debt	215,540											
Minority interest	7,150											
Equity value	118,333											
# of shares (m)	4,509											
Equity value / share	26.0											
Political discount	5%											
Equity value/share (Bt)	25.0											

Source: Thanachart estimates

Valuation Comparison

Ex 11: Comparison With Regional Peers

Name	BBG code	Country	EPS growth		— PE —		— P/BV —		EV/EBITDA		– Div yield –	
			24F	25F	24F	25F	24F	25F	24F	25F	24F	25F
			(%)	(%)	(x)	(x)	(x)	(x)	(x)	(x)	(%)	(%)
Sinopec Shanghai	338 HK	Hong Kong	na	147.1	29.7	12.0	0.4	0.4	9.2	7.3	2.1	3.6
Sinopec Yizheng	1033 HK	Hong Kong	42.3	27.0	13.5	10.6	1.0	0.9	12.3	13.0	na	na
AKR Corporindo	AKRA IJ	Indonesia	8.6	6.8	9.9	9.3	2.4	2.2	8.0	7.4	7.3	7.3
Reliance Industries Ltd	RIL IN	India	1.7	10.6	na	na	na	na	14.0	12.6	na	na
LG Chem	051910 KS	South Korea	(41.4)	163.5	26.6	10.1	0.7	0.7	7.4	5.0	1.2	2.0
SK Energy	096770 KS	South Korea	(78.5)	na	81.1	8.1	0.5	0.4	9.4	6.5	3.1	3.3
Petronas Chemicals Group	PCHEM MK	Malaysia	7.9	15.7	19.5	16.9	1.1	1.0	9.1	8.1	2.9	3.4
Formosa Chemical	1326 TT	Taiwan	(13.3)	48.9	27.9	18.7	0.7	0.7	15.6	13.5	3.1	4.3
Far Eastern New Century	1402 TT	Taiwan	16.7	12.9	20.0	17.7	0.8	0.8	10.6	9.5	4.1	4.7
IRPC Pcl *	IRPC TB *	Thailand	124.0	104.6	59.5	29.1	0.5	0.5	11.9	10.6	0.0	0.7
Indorama Ventures *	IVL TB *	Thailand	183.0	57.2	25.8	16.4	0.8	0.7	6.8	6.2	0.0	1.8
PTT Global Chemical *	PTTGC TB *	Thailand	133.5	720.0	136.9	16.7	0.5	0.4	10.4	8.2	2.7	2.2
Siam Cement *	SCC TB *	Thailand	(3.7)	66.5	20.7	12.4	0.8	0.8	18.2	9.8	2.4	4.0
Average			46.2	146.6	48.9	17.0	0.7	0.7	11.5	9.0	2.3	3.1

Sources: Bloomberg, * Thanachart estimates

Based on 6 September 2024 closing prices

COMPANY DESCRIPTION

PTT Global Chemical Pcl (PTTGC) became a fully integrated petrochemical and refining company after the amalgamation of PTTCH (PTT Chemicals) and PTTAR (PTT Aromatics & Refining) in late 2011. The company produces olefins and derivatives, and its key products are ethylene, propylene, HDPE, LDPE, LLDPE, and MEG. Together, the olefins value chain made up about half of 2022 EBITDA. PTTGC is one of the few gas-based crackers in Asia, and it has a competitive cost structure compared with other naphtha-based crackers. The company also has fully integrated refinery and aromatics plants that produce mainly paraxylene and benzene. The company also recently moved into the specialty coating business, investing in Allnex Holdings GmbH (Allnex).

Source: Thanachart

THANACHART’S SWOT ANALYSIS

S — Strength

- It is a low-cost producer that is leveraging its gas-based and flexible cracker.
- Substantial economies of scale due to synergies from its fully integrated facilities.
- Being a PTT group company helps ensure feedstock and raises its franchise value.

O — Opportunity

- Significant growth potential in terms of chemical demand in the region.
- Value enhancement from synergies, debottlenecking of its units, and further downstream integration.
- M&A activity that could lead to higher returns to investors.

CONSENSUS COMPARISON

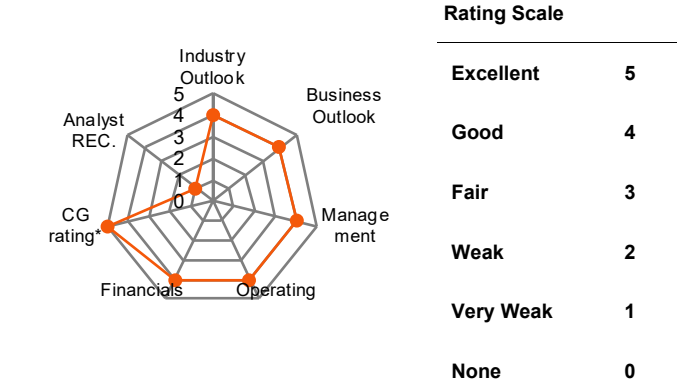
	Consensus	Thanachart	Diff
Target price (Bt)	31.32	25.00	-20%
Net profit 24F (Bt m)	434	(15,558)	na
Net profit 25F (Bt m)	10,359	7,068	-32%
Consensus REC	BUY: 8	HOLD: 13	SELL: 5

HOW ARE WE DIFFERENT FROM THE STREET?

- Our 2024-25F net profits are lower than the Bloomberg consensus estimates, likely due to us having weaker chemical spread assumptions.
- Our DCF-based TP is consequently lower than the Street’s.

Sources: Bloomberg consensus, Thanachart estimates

COMPANY RATING



Source: Thanachart; *CG Rating

W — Weakness

- Cyclical business with volatile earnings and cash flow.
- Potential impact of stock losses (due mainly to oil price movements) on earnings.
- Reliance on bulk chemicals and limited exposure to specialty chemicals.

T — Threat

- Depleting low-cost domestic gas supply would reduce its competitive edge of being a low-cost producer.
- Low oil prices erode its competitive advantage.
- Increasing competition from low-cost producers in the Middle East and US-based crackers.
- Overpaying for acquisitions and limited synergies.

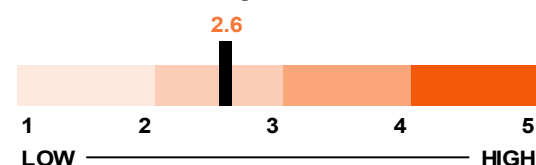
RISKS TO OUR INVESTMENT CASE

- Higher-than-expected oil prices and/or chemical spreads would be the key upside risk to our call.
- Increased gas supply from its parent company, PTT, or lower outages at the complex would be another upside risk.

Source: Thanachart

PTTGC is a large-scale olefins cracker, with 35-45% of its olefins intake running on ethane gas and 55-65% on naphtha/LPG. It also has 145kbd of oil refinery capacity. Our ESG score for PTTGC is 2.6, at the low end of our coverage. The firm has clear intentions and targets to cut carbon emissions, but its score is dragged down by its high energy intensity and information disclosure that could be improved.

Thanachart ESG Rating



	SET ESG Index	SET ESG (BBB-AAA)	DJSI Index	MSCI (CCC-AAA)	ESG Book (0-100)	Refinitiv (0-100)	S&P Global (0-100)	Moody's (0-100)	CG Rating (0-5)
PTTGC	YES	AAA	YES	A	-	52.49	90.00	50.0	5.0

Sources: SETTRADE, SET ESG Index, SET ESG Rating, The Dow Jones Industrial Average (DJSI), MSCI ESG Research LLC, ESG Book, Refinitiv ESG Information, S&P Global Market Intelligence, Moody's ESG Solutions, Thai IOD (CG rating)

Note: Please see third party on "terms of use" toward the back of this report.

Factors

Our Comments

ENVIRONMENT

- Environmental Policies & Guidelines
- Energy Management
- Carbon Management
- Water Management
- Waste Management

- PTTGC released 8.2m tonnes of CO2 equivalent in 2023, down 3% from 2022. We think this was attributable to weak chemical demand. Its carbon emission intensity also dropped to 0.37 tonnes CO2 equivalent per tonne of production from 0.41 in 2022. PTTGC also emitted less carbon than the Thai petrochemical industry, which mainly uses naphtha.
- PTTGC aims for its greenhouse gas (GHG) emissions to peak in 2025. It targets to cut GHG emissions by 20% from the 2020 level by 2030.
- The firm is also interested in carbon capture and storage (CCS) investment, which we expect to be a collaboration among the PTT group given the high investment costs.

SOCIAL

- Human Rights
- Staff Management
- Health & Safety
- Product Safety & Quality
- Social Responsibility

- PTTGC encourages a safety culture with a total recordable injury rate (TRIR) of employees and contractors of only 0.4 and 0.63 cases per 1m man hours, respectively.
- PTTGC's staff turnover rate was low, at 5.43% in 2023, and staff training was 38.68 training hours/person/year. It also focuses on the well-being of employees, such as by implementing its Work From Home (WFH) policy as normal work behavior, providing insurance for employees and families, and offering an Employee Assistance Program (EAP) to boost the quality of life and help counsel employees with personal issues.
- PTTGC in 2023 received a high satisfaction rate of over 90% from customers, suppliers, employees, and communities.

GOVERNANCE &
SUSTAINABILITY

- Board
- Ethics & Transparency
- Business Sustainability
- Risk Management
- Innovation

- PTTGC has a 15-member board of directors (BOD), nine of whom are independent directors with an average tenure of 1.3 years.
- There are many related-party transactions with its parent company, PTT. Gas (ethane and propane) feedstock is supplied by PTT. Pricing is on a net-back or equal-IRR basis with PTT's gas separation plant business.
- We see room for improvement in more timely information disclosure, such as the performance of its US\$4.75bn Allnex acquisition and regarding past supply outages.
- We see balance sheet risk from a potential asset impairment from the high investment cost of Allnex.

Sources: Company data, Thanachart

INCOME STATEMENT

FY ending Dec (Bt m)	2022A	2023A	2024F	2025F	2026F
Sales	678,267	616,635	629,194	620,183	624,887
Cost of sales	631,848	587,414	597,514	580,652	578,603
Gross profit	46,419	29,221	31,680	39,531	46,284
% gross margin	6.8%	4.7%	5.0%	6.4%	7.4%
Selling & administration expenses	31,457	26,824	27,370	26,978	27,183
Operating profit	14,962	2,397	4,310	12,553	19,101
% operating margin	2.2%	0.4%	0.7%	2.0%	3.1%
Depreciation & amortization	26,646	27,504	28,404	25,970	26,322
EBITDA	41,608	29,901	32,714	38,523	45,423
% EBITDA margin	6.1%	4.8%	5.2%	6.2%	7.3%
Non-operating income	7,526	8,001	6,500	6,500	6,500
Non-operating expenses	0	0	0	0	0
Interest expense	(9,170)	(10,708)	(9,948)	(10,890)	(9,920)
Pre-tax profit	13,318	(310)	862	8,163	15,681
Income tax	(2,272)	1,352	76	1,533	3,920
After-tax profit	15,590	(1,662)	786	6,630	11,761
% net margin	2.3%	-0.3%	0.1%	1.1%	1.9%
Shares in affiliates' Earnings	2,908	(1,225)	0	800	800
Minority interests	(1,117)	134	137	135	136
Extraordinary items	(26,134)	3,752	(16,480)	(497)	0
NET PROFIT	(8,753)	999	(15,558)	7,068	12,697
Normalized profit	17,381	(2,753)	922	7,565	12,697
EPS (Bt)	(1.9)	0.2	(3.5)	1.6	2.8
Normalized EPS (Bt)	3.9	(0.6)	0.2	1.7	2.8

We expect a turnaround in 2024-25F earnings, but there could be a risk

BALANCE SHEET

FY ending Dec (Bt m)	2022A	2023A	2024F	2025F	2026F
ASSETS:					
Current assets:	172,009	186,874	213,216	210,197	215,507
Cash & cash equivalent	31,963	46,249	70,000	70,000	75,000
Account receivables	45,254	57,761	58,937	58,093	58,534
Inventories	76,619	68,517	69,695	67,728	67,489
Others	18,173	14,347	14,584	14,375	14,484
Investments & loans	81,236	74,836	74,836	74,836	74,836
Net fixed assets	296,321	285,860	267,115	249,545	230,468
Other assets	170,399	171,435	171,435	171,435	171,435
Total assets	719,965	719,005	726,603	706,013	692,247
LIABILITIES:					
Current liabilities:	103,976	125,841	145,418	203,225	122,538
Account payables	57,613	71,163	72,387	70,344	70,096
Bank overdraft & ST loans	4,318	2,203	0	0	0
Current LT debt	9,341	18,915	40,000	100,000	20,000
Others current liabilities	32,704	33,560	33,032	32,881	32,442
Total LT debt	263,890	243,934	245,540	158,954	217,036
Others LT liabilities	53,272	53,048	53,737	53,296	53,527
Total liabilities	421,138	422,824	444,696	415,475	393,100
Minority interest	7,528	7,287	7,150	7,015	6,879
Preferreds shares	0	0	0	0	0
Paid-up capital	45,088	45,088	45,088	45,088	45,088
Share premium	36,937	36,937	36,937	36,937	36,937
Warrants	0	0	0	0	0
Surplus	(3,299)	(5,775)	(5,775)	(5,775)	(5,775)
Retained earnings	212,574	212,644	198,508	207,273	216,017
Shareholders' equity	291,300	288,895	274,758	283,523	292,267
Liabilities & equity	719,965	719,005	726,603	706,013	692,247

Sources: Company data, Thanachart estimates

CASH FLOW STATEMENT

FY ending Dec (Bt m)	2022A	2023A	2024F	2025F	2026F
Earnings before tax	13,318	(310)	862	8,163	15,681
Tax paid	1,753	(859)	(343)	(1,404)	(3,984)
Depreciation & amortization	26,646	27,504	28,404	25,970	26,322
Chg In working capital	(12,276)	9,145	(1,131)	768	(450)
Chg In other CA & CL / minorities	(4,265)	9,842	(554)	729	316
Cash flow from operations	25,176	45,321	27,239	34,226	37,886
Capex	(21,925)	(17,042)	(9,660)	(8,400)	(7,245)
Right of use	(14,235)	142	0	0	0
ST loans & investments	(532)	531	54	0	0
LT loans & investments	(6,530)	6,400	0	0	0
Adj for asset revaluation	0	0	0	0	0
Chg In other assets & liabilities	(16,235)	(5,955)	(15,791)	(938)	230
Cash flow from investments	(59,457)	(15,925)	(25,397)	(9,338)	(7,015)
Debt financing	9,438	(11,706)	20,488	(26,586)	(21,918)
Capital increase	0	0	0	0	0
Dividends paid	(11,746)	(1,269)	1,421	1,698	(3,953)
Warrants & other surplus	(6,443)	(2,136)	0	0	0
Cash flow from financing	(8,751)	(15,110)	21,908	(24,888)	(25,871)
Free cash flow	3,251	28,279	17,579	25,826	30,641

We expect positive FCF from limited capex

VALUATION

FY ending Dec	2022A	2023A	2024F	2025F	2026F
Normalized PE (x)	7.3	na	136.9	16.7	9.9
Normalized PE - at target price (x)	6.5	na	122.2	14.9	8.9
PE (x)	na	126.4	na	17.9	9.9
PE - at target price (x)	na	112.8	na	15.9	8.9
EV/EBITDA (x)	8.9	11.5	10.4	8.2	6.3
EV/EBITDA - at target price (x)	8.6	11.1	10.0	7.8	6.0
P/BV (x)	0.4	0.4	0.5	0.4	0.4
P/BV - at target price (x)	0.4	0.4	0.4	0.4	0.4
P/CFO (x)	5.0	2.8	4.6	3.7	3.3
Price/sales (x)	0.2	0.2	0.2	0.2	0.2
Dividend yield (%)	3.6	2.7	2.7	2.2	4.0
FCF Yield (%)	2.6	22.4	13.9	20.5	24.3
(Bt)					
Normalized EPS	3.9	(0.6)	0.2	1.7	2.8
EPS	(1.9)	0.2	(3.5)	1.6	2.8
DPS	1.0	0.8	0.8	0.6	1.1
BV/share	64.6	64.1	60.9	62.9	64.8
CFO/share	5.6	10.1	6.0	7.6	8.4
FCF/share	0.7	6.3	3.9	5.7	6.8

Sources: Company data, Thanachart estimates

After our profit cuts, we don't see PTTGC's valuation as attractive at 18x 2025F PE

FINANCIAL RATIOS

FY ending Dec	2022A	2023A	2024F	2025F	2026F
Growth Rate					
Sales (%)	45.8	(9.1)	2.0	(1.4)	0.8
Net profit (%)	na	na	na	na	79.6
EPS (%)	na	na	na	na	79.6
Normalized profit (%)	(38.6)	na	na	720.0	67.8
Normalized EPS (%)	(38.6)	na	na	720.0	67.8
Dividend payout ratio (%)	(51.5)	338.5	40.0	40.0	40.0
Operating performance					
Gross margin (%)	6.8	4.7	5.0	6.4	7.4
Operating margin (%)	2.2	0.4	0.7	2.0	3.1
EBITDA margin (%)	6.1	4.8	5.2	6.2	7.3
Net margin (%)	2.3	(0.3)	0.1	1.1	1.9
D/E (incl. minor) (x)	0.9	0.9	1.0	0.9	0.8
Net D/E (incl. minor) (x)	0.8	0.7	0.8	0.7	0.5
Interest coverage - EBIT (x)	1.6	0.2	0.4	1.2	1.9
Interest coverage - EBITDA (x)	4.5	2.8	3.3	3.5	4.6
ROA - using norm profit (%)	2.4	na	0.1	1.1	1.8
ROE - using norm profit (%)	5.7	na	0.3	2.7	4.4
DuPont					
ROE - using after tax profit (%)	5.1	na	0.3	2.4	4.1
- asset turnover (x)	0.9	0.9	0.9	0.9	0.9
- operating margin (%)	3.3	na	1.7	3.1	4.1
- leverage (x)	2.4	2.5	2.6	2.6	2.4
- interest burden (%)	59.2	(3.0)	8.0	42.8	61.3
- tax burden (%)	117.1	na	91.1	81.2	75.0
WACC (%)	8.2	8.2	8.2	8.7	8.7
ROIC (%)	3.4	0.4	4.7	2.1	3.0
NOPAT (Bt m)	17,514	2,397	23,922	10,195	14,326
invested capital (Bt m)	536,886	507,698	490,298	472,477	454,303

Sources: Company data, Thanachart estimates

Net D/E remains relatively low

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ESG risk combines the concepts of management and exposure to arrive at an absolute assessment of ESG risk. We identify five categories of ESG risk severity that could impact a company's enterprise value

Moody's ESG Solutions

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