SECTOR UPDATE

DAOL SEC

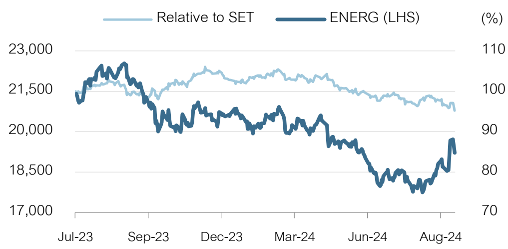
13 December 2024

Energy

More negative outlook for Upstream, refinery recovery expected in 4Q24E

Recommendation	Neutral (maintained)

Energy sector's performance



Source: Aspen

We maintain a "Neutral" rating on the energy sector. While we anticipate robust earnings for refineries in 4Q24E, driven by improving refining margins, the sector faces significant headwinds. IEA forecasts a global oil supply surplus of 0.9 mbd in 2025E, representing approx. 1% of global demand. This surplus could intensify to 1.4 mbd if OPEC+ increases production in April. This oversupply scenario is likely to exert downward pressure on crude oil prices, impacting upstream profitability. We anticipate Dubai crude prices to decline to USD73/bbl in 2025E from an average of USD79/bbl-USD80/bbl in 2024. Furthermore, above-long-term-average natural gas reserves in the European Union may cap price increases for both coal and natural gas in the coming year. Also, domestic oil retailers are expected to maintain stable marketing margins next year but regulatory risks remain a key concern. Despite the sector-wide challenges, we expect a strong 4Q24E for refineries. Marketing/operating GRMs should improve, supported by a widening crack spread in middle distillates.

The SETENERG index has underperformed the SET Index by 8% over the past six months, mirroring a trend of falling crude oil prices. We pick SPRC (BUY, Target price: Bt8.50) as Top Pick for Energy sector as we believe that a recent price correction should already reflect its weak 3Q24 earnings performance. Looking forward, we anticipate an earnings recovery in 4Q24E, largely driven by improved refining margins and a potential decrease in stock loss.

Event: 2025E investment theme

- **Refinery recovery expected in 4Q24E driven by higher crack spreads, China's export quota for 2025E likely unchanged**

We anticipate a recovery in the refinery segment in 4Q24E. This optimism is driven by widening crack spreads, particularly in middle distillates, and a potential reduction in inventory loss given the diminishing crude oil price volatility during the quarter. In 2025E, we expect crack spreads to climb up, supported by growing demand from the tourism sector, broader economic growth across Asia, and a potential YoY stable export quota to China. We believe that China will maintain its refined oil product export quota at levels similar to 2024E, which stands at 54 million tons (comprising 41 million tons for gasoline, gasoil, and jet fuel, and 13 million tons for low-sulfur fuel oil. This projection assumes current moderate levels of diesel crack spreads.

- **Challenges for upstream, regulatory risks for downstream remain in 2025E**

The outlook for the global oil market in 2025E remains challenging. OPEC has consistently downgraded its global oil demand forecasts in recent months. This, coupled with significant projected increases in global oil supply from the US Energy Information Administration (EIA) and the International Energy Agency (IEA), should imply challenging environment for upstream oil players. Coal and natural gas prices are expected to remain under pressure due to above-average natural gas inventory levels within the EU. While we view the likelihood as low, the downstream energy segment remains exposed to potential downside risks from regulatory changes in 2025E.

Valuation/Catalyst/Risk

We maintain a "Neutral" rating on the energy sector. Our top pick is SPRC (Buy, Target price: Bt8.50). We believe the recent decline in SPRC's share price likely reflects the weak performance reported in 3Q24. Looking ahead, we anticipate an earnings recovery in 4Q24E, driven by improving refining margins and a potential reduction in inventory loss.

Price performance	1M	3M	6M	12M
Absolute	-2.0%	-5.1%	0.2%	-8.5%
Relative to SET	-0.8%	-6.3%	-8.4%	-13.4%

Analyst: Panuwat Nivedmarintre, (Reg. no. 052365)

Fig 1: Peer comparison

Stock	Rec	Price 09-Dec-24	Target price	Upside (%)	Net profit (Bt mn) 23A	Net profit (Bt mn) 24E	Net profit (Bt mn) 25E	Net profit gwth (%) 24E	Net profit gwth (%) 25E	Core profit gwth (%) 24E	Core profit gwth (%) 25E	PER (x) 24E	PER (x) 25E	PBV (x) 24E	PBV (x) 25E	Div. yield (%) 24E	Div. yield (%) 25E	ROE (%) 24E	ROE (%) 25E	EV/EBITDA (x) 24E	EV/EBITDA (x) 25E
BAFS	BUY	12.70	20.00	57.5	-138	194	307	n.m.	58.3	n.m.	58.3	41.8	26.4	1.5	1.4	1.7	2.5	3.5	5.4	12.7	11.6
BANPU	SELL	5.70	5.00	-12.3	5,434	2,922	5,296	-46.2	81.2	n.m.	n.m.	19.5	10.8	0.4	0.4	4.1	6.2	2.2	3.9	5.5	5.4
BCP	BUY	32.00	40.00	25.0	13,233	3,847	8,247	-70.9	114.4	-95.8	2,155.4	11.5	5.3	0.6	0.5	3.1	4.7	5.1	10.2	5.0	5.1
* BSRC	NR	7.75	8.61	11.2	2,142	1,220	3,519	-43.1	188.6	-23.3	106.0	23.0	8.9	0.9	0.9	2.9	5.1	6.3	12.6	9.8	5.9
* IRPC	NR	1.40	1.47	5.2	-2,923	-4,527	334	n.m.	n.m.	n.m.	n.m.	n.m.	700.0	0.4	0.4	1.5	2.4	-5.2	1.1	16.1	7.0
OR	HOLD	13.90	16.00	15.1	11,094	6,025	9,095	-45.7	51.0	-36.3	37.4	27.7	18.3	1.5	1.5	2.5	2.9	5.5	8.0	10.1	8.7
PTG	HOLD	8.40	10.00	19.0	815	1,132	1,481	38.8	30.8	38.8	30.8	12.4	9.5	1.5	1.4	3.2	4.2	9.6	11.7	3.3	2.9
* PTT	NR	32.00	36.75	14.8	112,024	104,723	107,724	-6.5	2.9	-8.7	3.7	9.1	8.8	0.8	0.8	5.7	6.0	8.9	8.7	4.9	4.6
PTTEP	BUY	126.50	180.00	42.3	76,706	70,597	71,669	-8.0	1.5	-11.6	0.8	7.1	7.0	0.9	0.9	7.3	7.3	13.2	12.6	3.2	3.5
SPRC	BUY	7.00	8.50	21.4	-1,230	2,492	2,650	n.m.	6.4	n.m.	93.1	12.2	11.5	0.8	0.7	3.6	3.6	6.5	6.3	8.5	6.3
TOP	BUY	38.00	55.00	44.7	19,443	9,725	11,606	-50.0	19.3	-63.4	49.6	8.7	7.3	0.5	0.5	4.7	5.3	5.7	6.6	11.8	9.1
Sector					236,601	198,349	221,928	-16.2	11.9	-23.4	20.2	17.3	74.0	0.9	0.8	3.7	4.6	5.6	7.9	8.3	6.4

Source: Bloomberg, DAOL

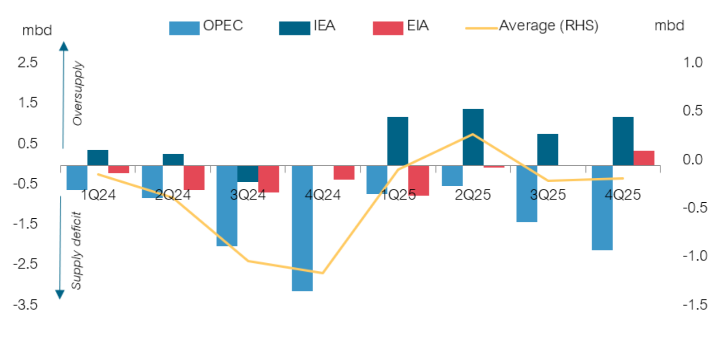
❑ Key agencies adopt a more bearish outlook on the oil market in 2025E

Global energy agencies have increasingly adopted a pessimistic view of the 2025E oil market. OPEC has repeatedly downgraded its global oil demand forecasts, citing a slower-than-expected economic recovery in China as the primary driver. Conversely, the US EIA and IEA project a substantial increase in global oil supply in 2025E, driven by the gradual easing of voluntary production cuts by OPEC+ (despite a recent three-month delay) and higher output from non-OPEC+ producers, particularly in the Americas. These factors point towards a potential oversupply situation.

In its December report, OPEC revised its 2024E global oil demand growth forecast down to 1.61 mbd from 1.82 mbd in the previous month, marking the fifth consecutive monthly downgrade. This primarily reflects slower oil demand growth in China, now projected at 430 kbd, down from 450 kbd. The IEA predicts the global oil market will enter an oversupply phase in 2025E, with supply growth outpacing demand growth (2.1 mbd vs. 1.1 mbd). Similarly, the US EIA expects supply to increase by 1.65 mbd in 2025E, exceeding demand growth of 1.30 mbd.

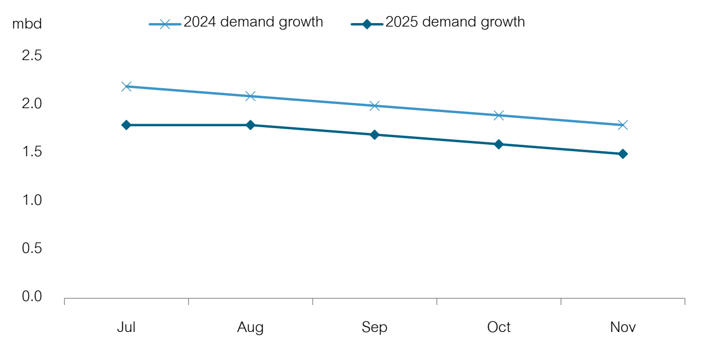
In summary, while OPEC anticipates a continued, albeit smaller, supply deficit in 2025E, the IEA projects an oversupply scenario. The US EIA forecasts a transition from a supply deficit in 1Q25E to an oversupply by 4Q25E, driven by higher new supply entering the market in 2H25E.

Fig 2: Key agencies' world oil demand/supply balance forecast



Source: OPEC, IEA, EIA, DAOL

Fig 3: OPEC's has consistently revised down demand growth



Source: OPEC

❑ **OPEC+ extends production cuts, oil demand growth driven by stimulus and potential rate cuts**

At the 38th OPEC and non-OPEC Ministerial Meeting (ONOMM) on December 5th, member nations agreed to extend voluntary production cuts until 2026E. This includes:

- 1.65 mbd of voluntary production cuts, initiated in April 2023, which will remain in effect through December 2026E.
- 2.2 mbd of voluntary production cuts, introduced in November 2023, which will continue until March 2025E before gradually tapering on a monthly basis until the end of September 2026E.

These measures were designed to stabilize the oil market, with the flexibility to pause or reverse the tapering based on market conditions. The next ONOMM meeting is scheduled for May 28, 2025.

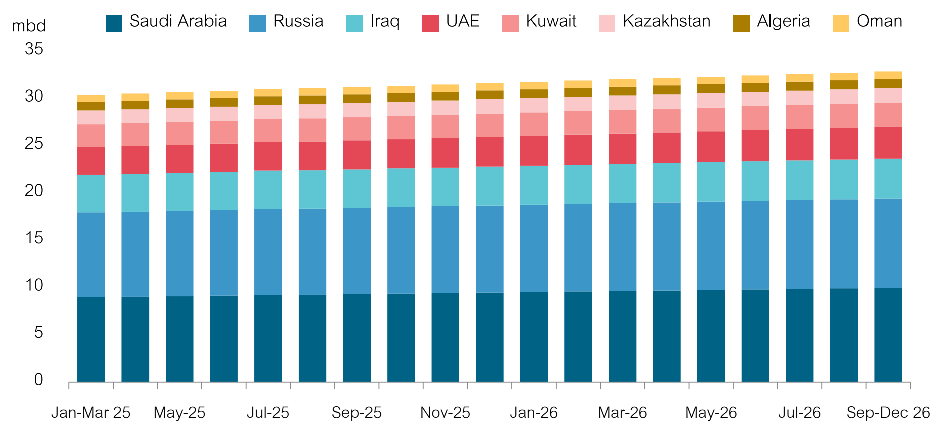
Global energy agencies project YoY growth in oil demand for 2025E, albeit at a slower rate than earlier forecasts, supported by improved economic activity. Key drivers include:

- China's economic stimulus measures, introduced throughout 2024, such as:
  - A 0.5% cut in the policy interest rate and reserve requirement ratio (RRR) for commercial banks, effective late September 2024, injecting approx. RMB1tn into liquidity.
  - A 0.5% reduction in interest rates on existing mortgage loans.
  - RMB155bn in direct assistance to low-income and vulnerable groups.
- Further monetary easing in the US, potentially enhancing global economic growth.

Besides, demand for middle distillates, particularly jet fuel, should rise, on the back growing global travel activity.

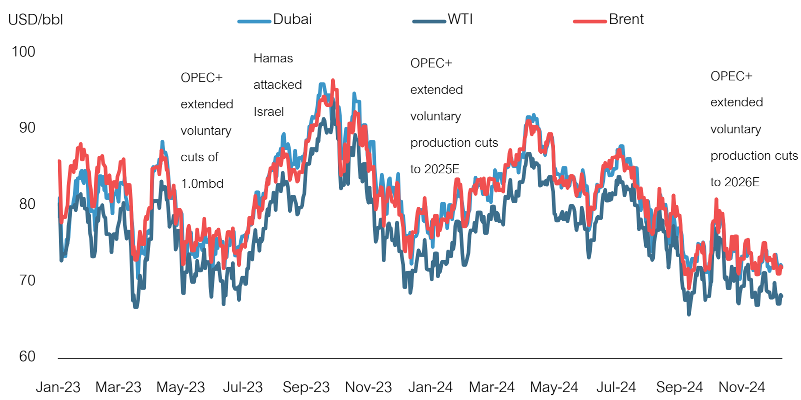
Average Dubai crude oil price YTD was USD82.6/bbl, up from USD81.9/bbl in 2023. Looking forward, we expect the average price of Dubai crude to decline to USD73.0/bbl in 2025E, reflecting a weaker oil market outlook as new supply growth outpaces demand.

Fig 4: OPEC+ has again delayed removal of voluntary production cuts



Source: OPEC

Fig 5: Crude oil price timeline



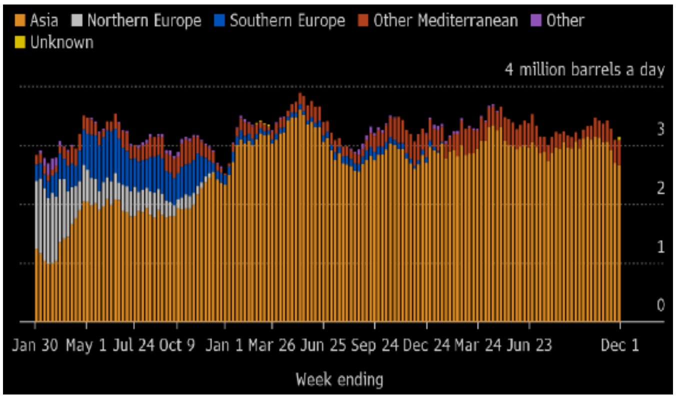
Source: Bloomberg, DAOL

❑ Geopolitical risks persist in 2025E

Geopolitical tensions are expected to remain a critical factor influencing global oil prices in 2025E due to their potential impact on oil supply. Key risks include:

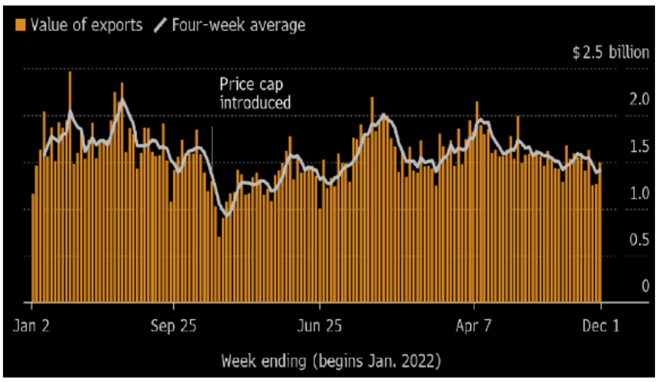
- Russia-Ukraine war: The ongoing conflict, which began in February 2022, has significantly disrupted oil trade routes, with Russia redirecting crude exports to Asia (primarily China and India) due to European sanctions. Despite efforts towards a resolution, the likelihood of Europe lifting sanctions or reverting to pre-war energy reliance on Russia remains low, given the strategic interests of the US and its European allies.
- Middle East conflict: The escalation of hostilities in the Middle East following Hamas's attacks on Israel in October 2023 has involved Iran, Houthi, Hezbollah, and Syria. While ceasefire negotiations are underway, risks of violations remain high. Additionally, US president elect Trump also showed support for Israel. Looking forward, we believe that, when US president elect Trump is in office, US may become more strict on its sanctions on Iranian oil exports, similar to measures implemented during his previous presidency. This could disrupt global oil supply.
- Other regional tensions: Increased disputes involving North and South Korea, as well as China-Taiwan relations, present growing risks of escalation. However, their direct impact on global oil supply is expected to be more limited compared to the Russia-Ukraine and Middle East conflicts.

Fig 6: Four-week average crude shipments from Russia (2022-2024)



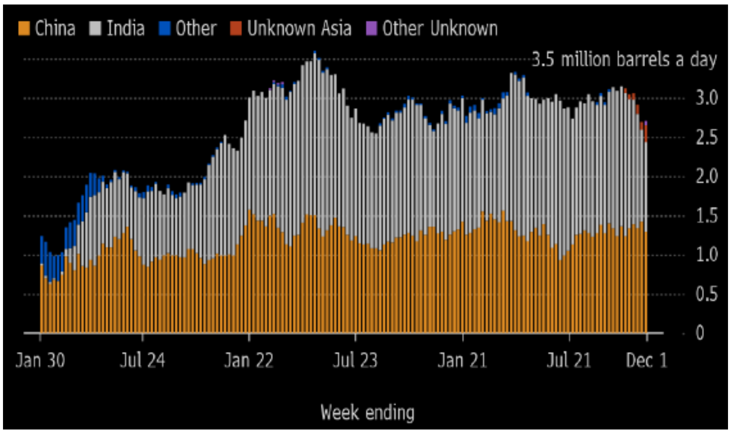
Source: Bloomberg

Fig 7: Russia's gross income from seaborne crude exports (2022-2024)



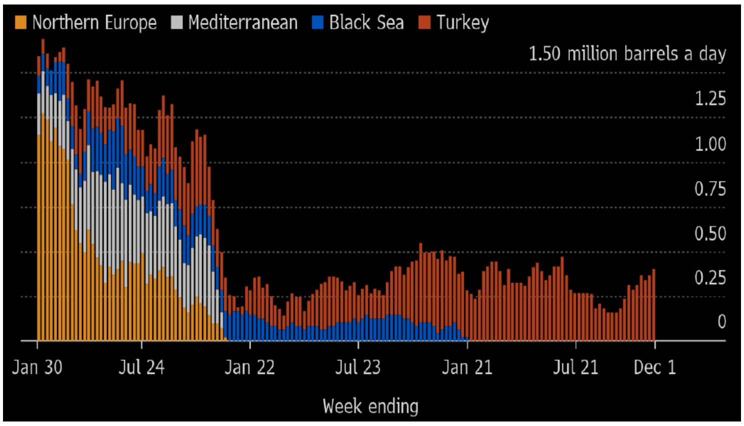
Source: Bloomberg

Fig 8: Russia's crude shipments to Asia (2022-2024)



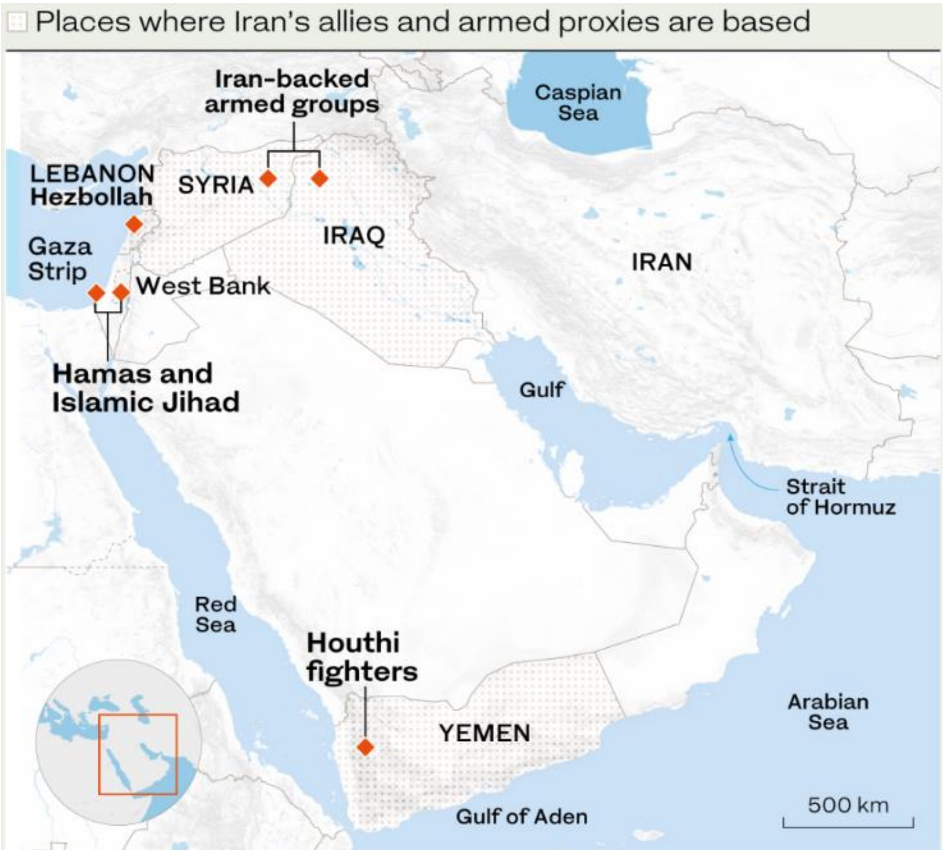
Source: Bloomberg

Fig 9: Russia's crude shipments to Europe and Turkey (2022-2024)



Source: Bloomberg

Fig 10: Axis of resistance in the Middle East



Source: Arab News, AFP Map data, OSM, NASA, Nature Earth

❑ **Trump's energy policies may boost US oil production and LNG exports but potentially reduce Middle East oil supply**

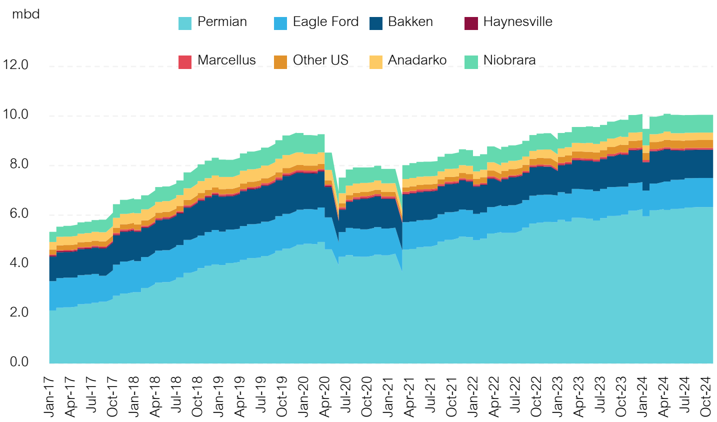
President-elect Trump's proposed energy agenda aims to reduce US energy prices within 18 months, targeting inflation through an aggressive "Drill, Baby, Drill" strategy. This policy focuses on boosting domestic oil production and LNG exports. However, we believe the global impact of these policies will likely be limited for the following reasons:

- US oil production growth constraints:
  - US oil production has already experienced high growth since 2020
  - WTI crude prices, which remain below USD70.0/bbl, are only marginally above the breakeven threshold of USD62.0-65.0/bbl for most US shale operators. This price range discourages significant new investment and rapid production growth.
- LNG export expansion and US gas prices:
  - Increased LNG exports would help alleviate oversupply in the domestic natural gas market, providing upward support to US natural gas prices.
  - However, the extent of this impact could be moderated by potential trade restrictions.

Additionally, Trump's return to the presidency may introduce geopolitical risks that could influence global oil prices. Specifically:

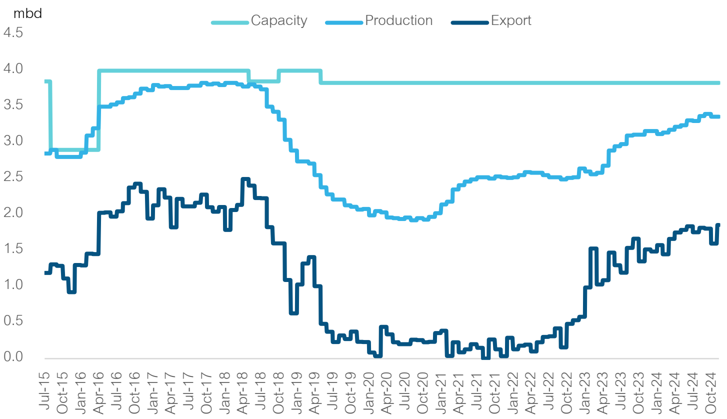
- Iranian oil sanctions:
  - A Trump administration may impose stricter sanctions on Iranian oil exports
  - Currently, Iran exports 1.9 mbd, significantly higher than the 0.2 mbd in December 2020 during the final months of Trump's previous term. Iran's oil production now stands at 3.4 mbd, compared to 2.0 mbd during the same period, indicating a substantial capacity at risk of being affected by more strict implementation of sanctions.

Fig 11: Key US oil production fields



Source: Bloomberg, DAOL

Fig 12: Iran's historical oil capacity/production/export



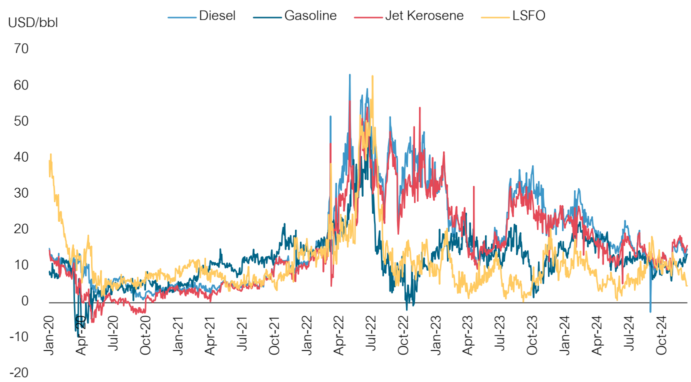
Source: Bloomberg, DAOL

❑ Refinery sector expected to swing to positive territory in 4Q24E on crack spread recovery and lower inventory loss

The weak performance reported in 3Q24 was largely attributed to substantial inventory loss, mainly due to sharp decline in crude oil prices and narrowed crack spreads. However, we anticipate a turnaround in earnings for 4Q24E. Key drivers of this expected recovery include improving market/operating GRMs in line with widening crack spreads, particularly in middle distillates. Additionally, crude oil price volatility has decreased significantly. Brent crude averaged at USD74.2/bbl QTD, a notable decline from USD78.6/bbl in 3Q24 and USD85.0/bbl in 2Q24. This reduced volatility is expected to minimize inventory losses.

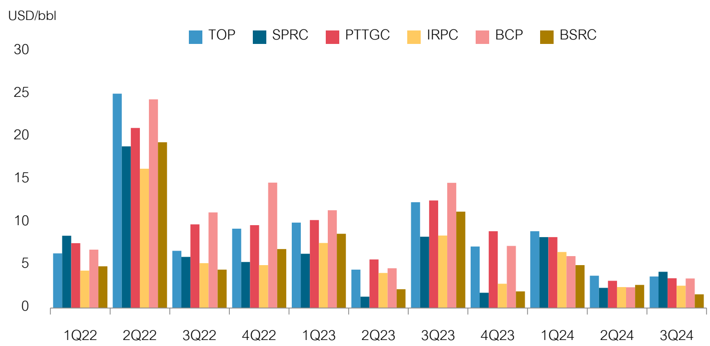
SG GRM in 4Q24E has averaged at USD5.3/bbl (+47% QTD), aligning with the recovery in product crack spreads. Notably, jet fuel (USD15.0/bbl, +15% QTD), diesel (USD14.9/bbl, +9% QTD), and gasoline (USD11.6/bbl, +4% QTD) have witnessed strong spread increases. LSFO cracks also experienced a marginal rise of +2% QTD to USD6.4/bbl. Furthermore, crude premiums experience mixed trends, with Murban premium rising to USD1.6/bbl (from USD1.3/bbl in 3Q24), but still lower YoY compared to USD3.3/bbl in 4Q23, and Arab light premium averaged at USD1.7/bbl (-55% YoY, -16% QoQ).

Fig 13: Singapore Dubai crack spread trend



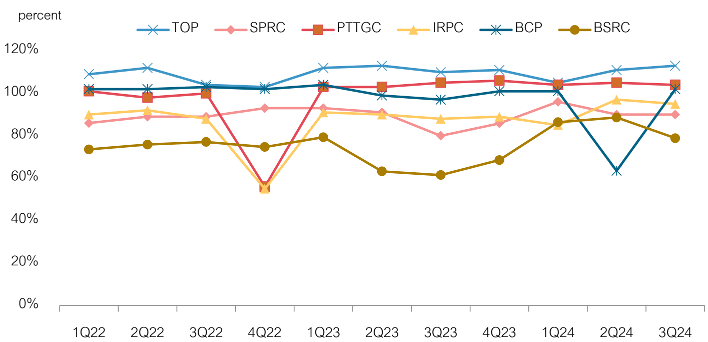
Source: Bloomberg, DAOL

Fig 14: Quarterly market/operating GRM trend



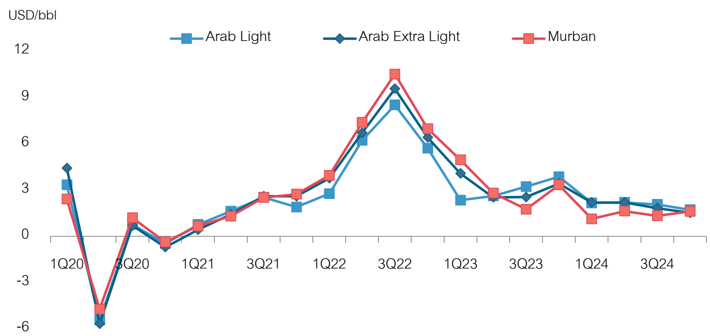
Source: TOP, SPRC, PTTGC, IRPC, BCP, BSRC, DAOL

Fig 15: Quarterly crude run by company



Source: TOP, SPRC, PTTGC, IRPC, BCP, BSRC, DAOL

Fig 16: Crude premium trend



Source: TOP, DAOL

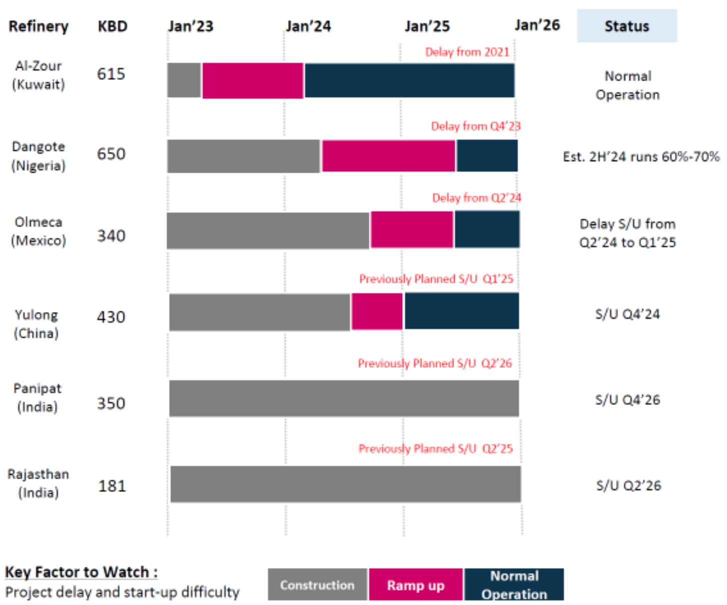
❑ Crack spread outlook for 2025E: Recovery amidst dynamic market forces

The crack spread is projected to recover in 2025E, driven by stronger demand, particularly for middle distillates such as jet fuel and gasoil. Key drivers and challenges include:

- Strengthening middle distillate demand: Energy Aspects forecasts a YoY increase of +0.5 mbd YoY in middle distillate demand, primarily driven by rising global travel activity and sustained economic growth in Asia.
- Gasoline market pressures: While gasoline demand is also forecast to rise in 2025E, the market may face downward pressure on crack spreads due to increased supply from recently commissioned refineries such as Dangote and Olmeca. These refineries, known for their high gasoline production yield, could contribute to a potential gasoline supply surplus.
- Global oil market dynamic: Despite the potential for increased supply from new refineries, global oil demand is expected to outpace net new supply (new capacity minus closures) in 2025E. This underlying market balance is expected to support overall crack spread levels.

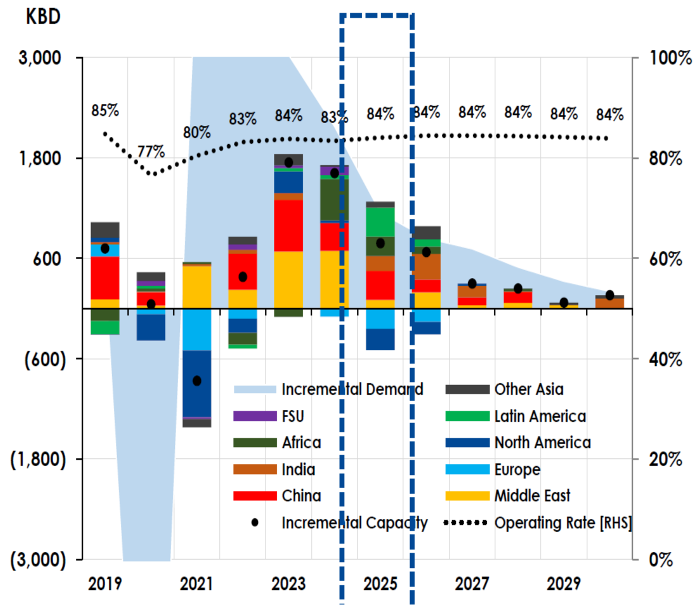
Regarding China's oil product export quota, we believe that China will maintain its export quotas at levels similar to 2024, totaling 54 million tons. This level splits into gasoline, gasoil, and jet fuel of 41 mt, and low-sulfur fuel oil (LSFO) of 13 mt. This stability in export quotas is likely due to moderately strong diesel cracks, which should not incentivize a boost in export quota.

Fig 17: Timeline of new refinery startups



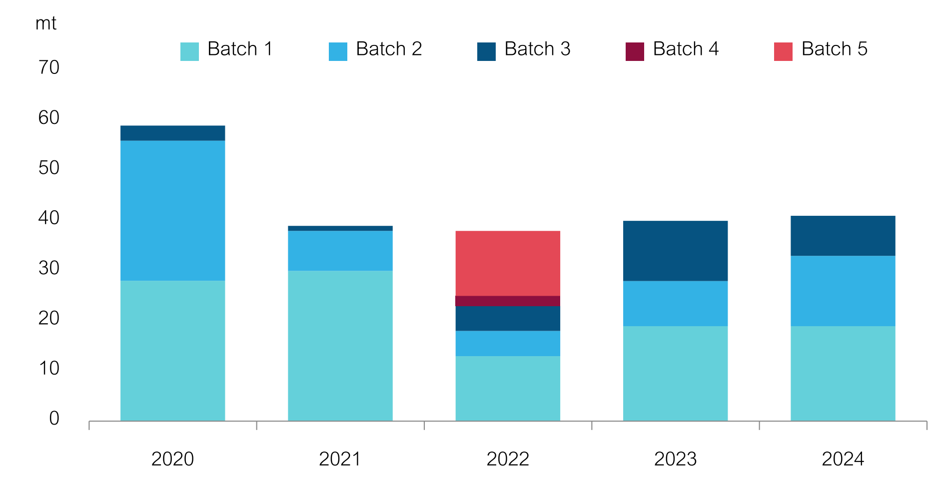
Source: FACTs Semi Annual Reports (Apr'24), FACTs AWRO (May'24) Energy Aspect

Fig 18: Global Effective CDU Addition VS Additional Demand



Source: FACTs Semi Annual Reports (Apr'24), FACTs AWRO (May'24) Energy Aspect

Fig 19: China's export allowance (clean refined fuel)



Source: TOP, Energy Aspect

❑ Marketing margin outlook: Stable amid seasonal demand growth in 4Q24E

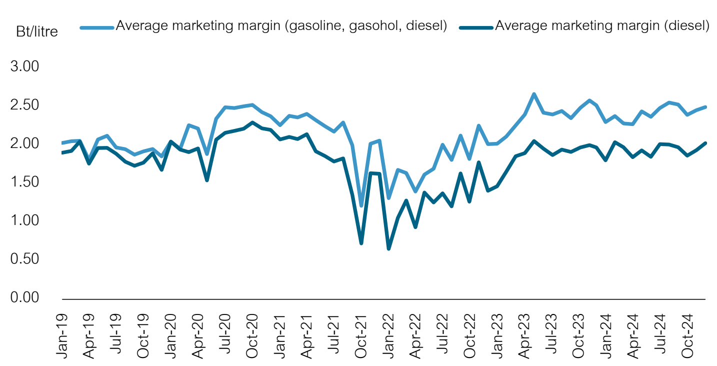
Retail oil companies are expected to experience stable marketing margins on a QoQ basis in 4Q24E. According to the Energy Policy and Planning Office (EPPO), the average marketing margin for gasoline, gasohol, and diesel QTD was at Bt2.45/liter (-3% YoY, -3% QoQ), while the margin for diesel alone was at Bt2.03/liter (-2% YoY, -3% QoQ).

The domestic oil demand outlook for 2025E remains positive, aligning with global trends:

- Jet Fuel: Expected to exhibit strong growth of +14% YoY to 18.5mn liters per day (mmld) in 2025E, driven by improving tourism demand. This growth rate is slightly lower than the +18% YoY growth observed in 2024E.
- Gasoil: Demand is forecast to rise by +1.0% YoY, reaching 69.4 mmld, an increase from the +0.1% YoY growth in 2024E.
- Gasoline: Expected to grow by +0.9% YoY, reaching 31.7 mmld in 2025E, compared to +0.1% YoY in 2024E.

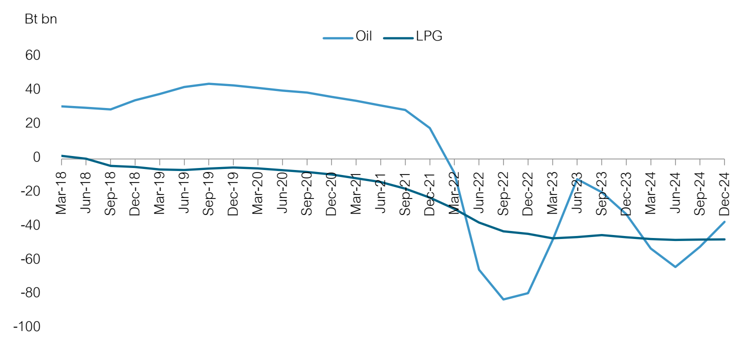
As of December 1st, the oil fuel fund reported a deficit of Bt84.3bn, compared to -Bt78.6bn at the end of 2023 and the lowest level of -Bt133bn in November 2022.

Fig 20: Monthly average marketing margin



Source: EPPO, DAOL

Fig 21: Oil fund status has been improving



Source: Oil Fuel Fund Office (OFFO), DAOL

❑ Regulatory risks persist in 2025E

In our view, energy companies in Thailand should continue to face regulatory risks in 2025E. The government is currently working on implementing adjustments to the oil pricing structure. The proposed changes include:

- Shifting to monthly price adjustments: Moving away from daily price adjustments and aligning prices more closely with actual production costs.
- Transitioning to a cost-plus model: Shifting from an international price reference system to a cost-plus model for pricing.

Furthermore, the government is preparing legislation to establish a Strategic Petroleum Reserve (SPR). The initial proposal suggests holding reserves for 90 days to enhance national energy security and meet international standards. Discussions are ongoing regarding the government's role in establishing the SPR, including whether to invest directly or collaborate with foreign entities. Currently, Thailand mandates that oil traders reserve 6% of crude oil and 1% of refined oil for a total of 7% of their sales, equivalent to approximately 25 days of supply.

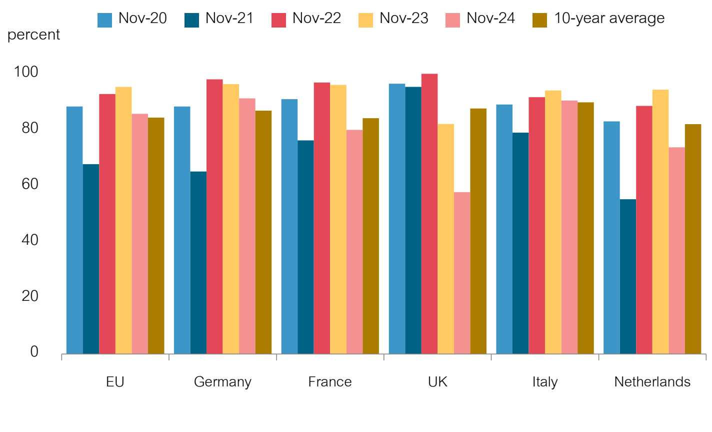
We view regulatory risks as a "fat tail" risk, meaning they have a low probability of occurrence but could have a significant impact on financial performance if they materialize. The actual impact of these risks will depend on the specific policy developments and their direct effects on each company's operations and profitability.

❑ High gas and coal stockpiles weighing on prices

According to the Gas Infrastructure Europe (GIE), the EU's gas storage facilities were filled at 86% capacity as of November 2024, exceeding the 10-year average of 84%. This ample supply has kept gas prices relatively low. Similarly, China reported record-high coal inventories at its ports, reaching 25.6 mt since 2015. This surplus of coal supply also contributes to downward pressure on coal prices. We expect these high inventory levels to continue to exert a significant influence on energy prices, with gas and coal prices likely to remain relatively low. While seasonal fluctuations may cause some positive price movements from quarter to quarter, the overall trend suggests that prices will remain subdued.

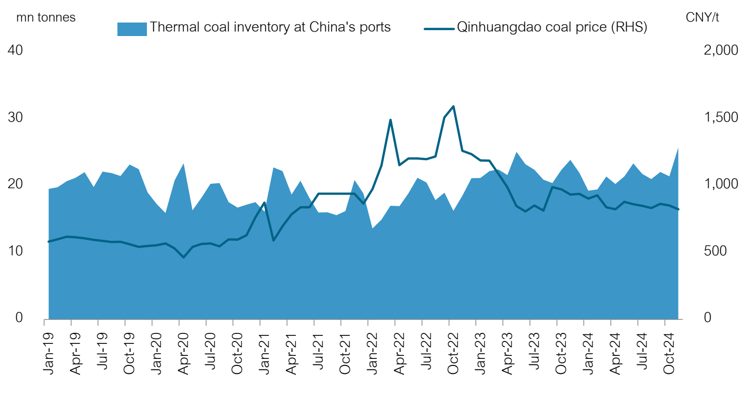
Since 2022, energy fuel prices have been steadily declining, reflecting the impact of high gas stock levels in Europe. Average Henry Hub natural gas futures QTD were at USD2.8/mmbtu (-3% YoY, +27% QoQ), while average Newcastle coal futures were at USD142/ton (+ 5% YoY, +1% QoQ).

Fig 22: EU gas in storage (select countries) (as of Nov 2024)



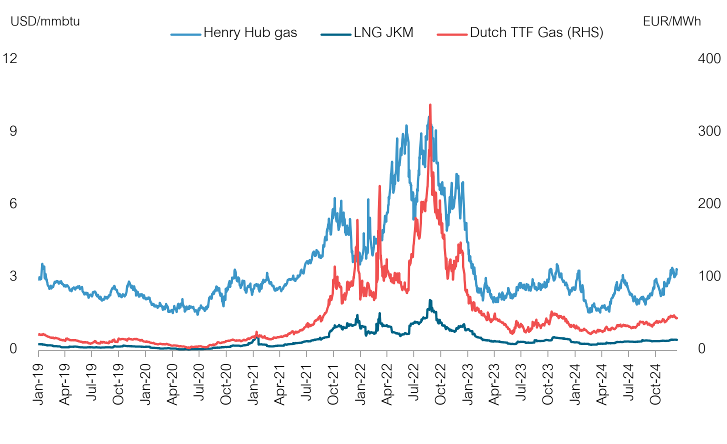
Source: *Gas Infrastructure Europe (GIE), DAOL*

Fig 23: China's thermal coal inventory at ports vs coal price



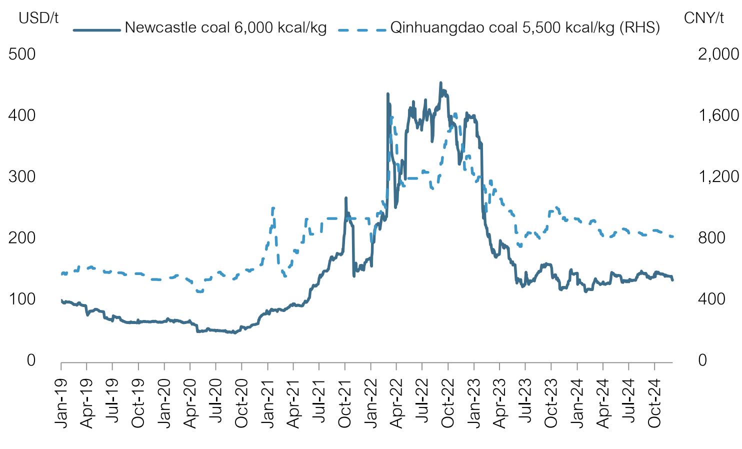
Source: *Bloomberg, DAOL*

Fig 24: Gas price trend (Henry Hub, LNG JKM, Dutch TTF)



Source: Bloomberg, DAOL

Fig 25: Newcastle coal price vs Qinhuangdao coal price



Source: Bloomberg, DAOL

❑ Maintaining "Neutral" rating on the energy sector

We maintain our "Neutral" rating on the energy sector with the following stock recommendations and target prices:

- SPRC (BUY, Target price: Bt8.50): Our target price is based on a 2025E PBV of 0.88x, around -1.8 SD below the 5-year historical average. We forecast a strong QoQ recovery in market GRM in 4Q24E. This recovery is expected to be driven by a rebound in crack spreads across all products and the full-quarter operation of the Single Point Mooring (SPM).
- BCP (BUY, Bt40.00): Our target price is derived from the SOTP method. We foresee a turnaround in earnings for 4Q24E, driven by improved operating GRM and lower stock loss. Additionally, retail fuel sales should rise due to a higher number of public holidays in the final quarter of the year.
- TOP (BUY, Bt55.00): Our target price is based on a 2025E PBV of 0.70x, approximately -1.5 SD below the 5-year historical average. We expect earnings to turn profitable in 4Q24E, supported by higher market GRM and lower stock loss. However, potential delays in commercial operations date (COD) of Clean Fuel Program (CFP) due to outstanding payments to subcontractors could impact construction progress. This issue is currently under evaluation, and more clarity is expected in early 2025E.
- PTTEP (BUY, Bt180.00): Our DCF-based target price is based on a WACC of 6.7%, no terminal growth, and a long-term Dubai crude oil price of USD65.0/bbl. We forecast a recovery in sales volume in 4Q24E, with the potential to reach a record high. This expected recovery is attributed to the operation normalization of projects in the Gulf of Thailand. Additionally, higher oil loading from projects in Africa and Malaysia should also be another supportive catalyst.
- BAFS (BUY, Bt20.00): Our target price is derived from a SOTP method. We anticipate strong YoY and QoQ profit growth in 4Q24E, supported by the high season and the recent operation of Runway 3 at Suvarnabhumi Airport. However, these positive factors could be partially offset by a seasonal increase in employee expenses.
- BANPU (SELL, Bt5.00): Our target price is based on a SOTP valuation. We expect earnings to swing to positive territory in 4Q24E, driven by increased ASP for coal and natural gas, fueled by strong winter demand in the West, and reduced FX losses.
- OR (HOLD, Bt16.00): Our target price is based on a 2025E PER of 21.1x, around -2.1 SD below the Commerce sector’s 5-year historical average. We anticipate a recovery in 4Q24E, driven by improved GP/liter due to lower stock losses. However, a potential change in its investment could further result in asset impairment losses if its JV incurs losses.
- PTG (HOLD, Bt10.00): Our target price is based on a PER of 13x, implying -1.0 SD below the 5-year historical average. We expect a QoQ earnings recovery in 4Q24E, driven by growth in oil sales volumes and a rebound in marketing margins.

Fig 26+: Energy sector's PBV band

Source: Setsmart, DAOL

Fig 27: SPRC's PBV band

Source: Setsmart, DAOL

Fig 28: TOP's PBV band

Source: Setsmart, DAOL

Fig 29: BCP's PBV band

Source: Setsmart, DAOL

Fig 30: PTTEP's PBV band

Source: Setsmart, DAOL

Fig 31: BAFS's PBV band

Source: Setsmart, DAOL

Fig 32: BANPU's PBV band

Source: Setsmart, DAOL

Fig 33: Commerce sector's PER band

Source: Setsmart, DAOL

Fig 34: PTG's PER band

Source: Setsmart, DAOL

Corporate governance report of Thai listed companies 2021

CG rating by the Thai Institute of Directors Association (Thai IOD)

Score	Symbol	Description	ความหมาย
90-100		Excellent	ดีเลิศ
80-89		Very Good	ดีมาก
70-79		Good	ดี
60-69		Satisfactory	ดีพอใช้
50-59		Pass	ผ่าน
< 50	No logo given	n.a.	n.a.

IOD disclaimer

The Corporate Governance Report (CGR) of Thai listed Companies is based on a survey and assessment of information that companies listed on the Stock Exchange of Thailand and the Market for Alternative Investment ("listed companies") disclose to the public. The CGR is a presentation of information from the perspective of outsiders on the standards of corporate governance of listed companies. It is not any assessment of the actual practices of the listed companies, and the CGR does not use any non-public information. The CGR is not therefore an endorsement of the practices of the listed companies. It is not a recommendation for investment in any securities of any listed companies or any recommendation whatsoever. Investors should exercise their own judgment to analyze and consider any information relating to the listed companies presented in this CGR report. No representation or warranty is made by the Institute of Directors or any of its personnel as to the completeness or accuracy of the CGR report or the information used.

DAOL SEC's stock rating definition

BUY	The stock presents a good buying opportunity as it appears undervalued and/or will appreciate in the medium term. A return of the stock, excluding dividend, is expected to exceed 10%.
HOLD	The stock lacks a catalyst in the medium to long term, and there is uncertainty regarding earnings growth. A return of the stock is expected to be between 0% and 10%.
SELL	The stock appears overvalued and/or will perform poorly in the medium to long term, while there is major challenge at a company.

Notes: The expected returns may be subject to change at any time without notice.

ESG rating (ESG: Environmental, Social, and Governance)

DAOL SEC believes environmental, social and governance (ESG) practices will help determine the sustainability and future financial performance of companies. We thus incorporate ESG into our valuation model.

- **Environmental** criteria consider how the company safeguards the environment and conserves natural resources. DAOL SECURITIES (THAILAND) calculates how much revenue derives from a business operation that can be harmful to the environment.
- **Social** criteria examine how it manages relationships with employees, suppliers, customers, and the communities where it operates. It also consists of employee welfare. DAOL SECURITIES (THAILAND) analyzes the company's non-financial statement reports (news and announcements), including NGO-related activities, retrieved from Bloomberg.
- **Governance** ensures a company uses accurate and transparent accounting method, internal controls, risk assessments, shareholder rights, and anti-corruption policies. DAOL SECURITIES (THAILAND) relates the IOD's CG rating system.

DAOL SECURITIES (THAILAND)'S ESG Scale of Ratings

Excellent (5)	Very Good (4)	Good (3)	Satisfactory (2)	Pass (1)

DAOL SECURITIES (THAILAND) assigns an "n.a." to notify an insufficient information.