Energy & Petrochemicals

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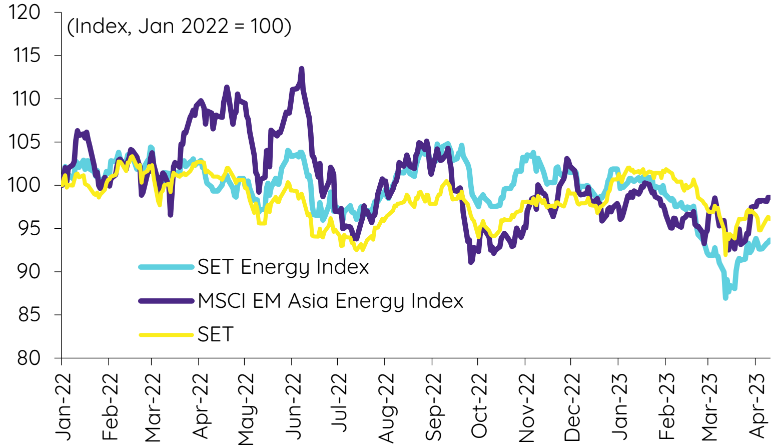
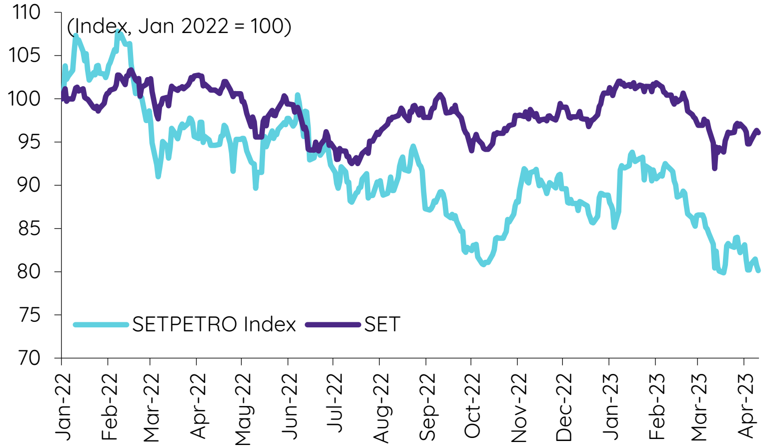
Investment summary

- **Oil & gas:** Oil price (Brent) is expected to stay above US$80/bbl given OPEC Plus voluntary production cuts, but there are downside risks on slower than expected demand growth given the banking crisis in the US and Europe that could hurt global oil demand.
- **Oil refinery:** Despite a strong 1Q23 with a rise in Singapore GRM of 30% QoQ to US$8.2/bbl, 2Q23's refining margin could weaken on higher crude premium and more diesel demand-supply imbalance. GRM will continue to normalize in 2023 after an abnormally high in 2022 due to geopolitics in Europe and gas to oil switching around the globe.
- **Utilities:** Earnings for power companies are expected to improve YoY on higher average tariff rate and lower fuel cost for natural gas (-57% YTD) and coal (-51% YTD).
- **Petrochemicals:** Uncertain global economic outlook will continue to slow recovery of demand for petrochemical products while new capacity will keep operating rate to below 80% over 2023-2025.
- **SETENERG and SETPETRO** have underperformed the SET YTD, suggesting low market appetite for commodity-related stocks despite undemanding valuation. We view this could continue for the next 3-6 months or until monetary policy reverses course and more economic stimulus is enacted.
- **2023F earnings outlook:** We expect earnings of power companies to outperform after being hit by abnormally high fuel cost in 2022.
- **Top picks:** 1) BCP (business diversification); 2) GULF (continuous earnings and capacity growth); and 3) IVL (resilient demand of necessity products)
- **Key risks:** 1) Volatile oil price, GRM and FX, 2) changes in consumer preference for fossil fuel and 3) changes in regulatory policy on GHG emissions, including carbon tax and carbon credit.

SETENERG Index vs. MSCI Asia EM Energy



SETPETRO vs. SET

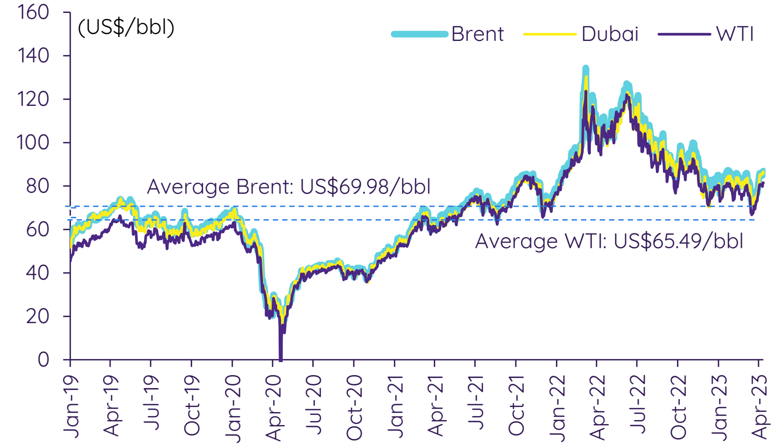


Source: Company data and InnovestX Research

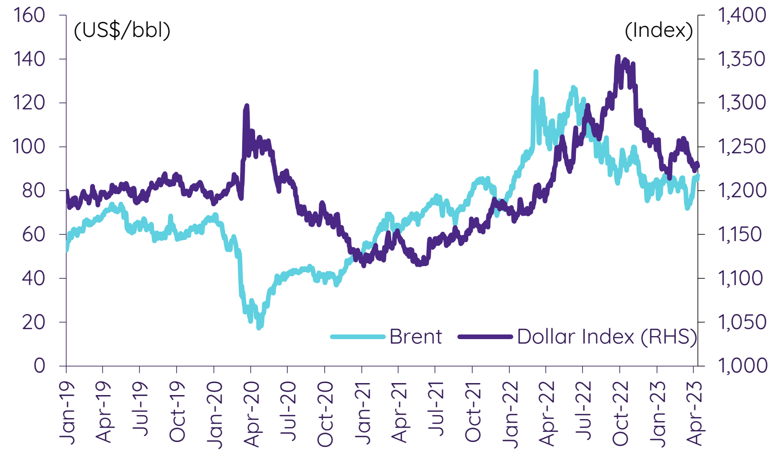
Oil price overview

- Oil price slid 9% QoQ in 1Q23 on weaker demand due to an economic slowdown and a warmer winter in western markets. Average Brent price was US$81.3/bbl in 1Q23, down 18% YoY and 8% QoQ, reflecting pessimism on demand while non-OPEC supply continued to rise amidst lower Russian oil exports as the EU embargo on refined oil products began. This led global oil inventories to increase to an 18-month high of 2,851mn bbl.
- Optimism on China's reopening has faded as the banking turmoil in the US and Europe may pull oil demand below estimates. This was believed to be behind OPEC+'s surprise announcement of a cut.
- OPEC+ surprised the market with a voluntary production cut of 1.16mb/d effective May-Dec 2023. Together with the 500kb/d drop in Russian supply, oil supply will be reduced by 1.66mb/d from May-Dec. This raised the OPEC+ production cut to 3.66mb/d from a 2mb/d cut in Oct 2022, reversing the production increase of 3.3mb/d in 2022, which followed a big 9.7mb/d cut in May 2020 and also lifted spot oil price in Apr by >US$7/bbl from the average of US$77-78/bbl in Mar.
- We believe this suggests that OPEC+ is more pessimistic on global oil demand than previously thought. The move also displays the cartel's influence in managing supply and stabilizing oil prices.
- Forward oil price shifted up by US$5-6.6/bbl for Jun-Dec after the surprise cut was announced. The price increase was halted by market concern on a slowing economy after IEA warned that OPEC+ supply cuts could stunt economic recovery.
- A weaker USD was also behind higher oil price in dollar terms.

Global oil price benchmark



Oil price (Brent) vs. US$

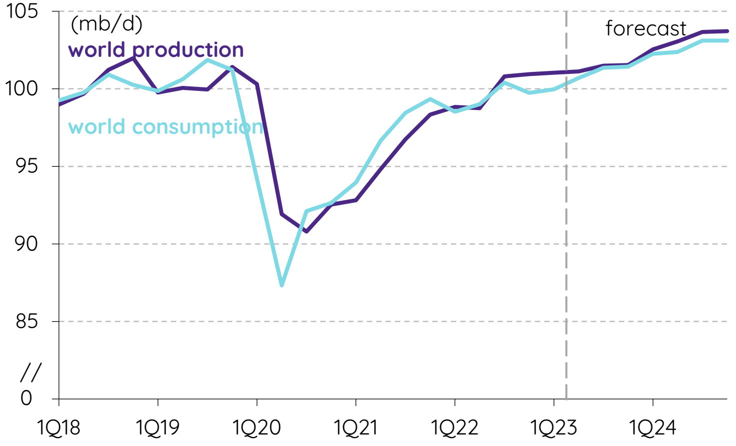


Source: Bloomberg Finance L.P. and InnovestX Research

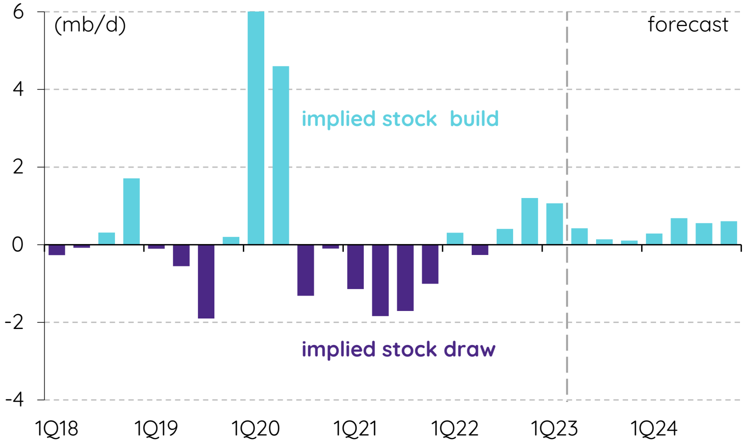
Oil demand-supply overview

- IEA expects global oil demand to climb by **2mb/d** in 2023 to a record high on the back of a recovery in China's consumption (90% of oil demand growth). Meanwhile, global oil production growth will slow to **1.2mb/d** in 2023 from +4.6mb/d in 2022 due to an extra cut by OPEC+.
- US EIA expects global oil production to increase at a faster pace of **1.5mb/d** in 2023 with a more pessimistic view on demand growth of **1.4mb/d**.
- OPEC is optimistic on global oil demand for 2023 at **2.32mb/d** but flagged downside risks to summer oil demand as part of the backdrop to output cuts as a "precautionary measure" to support market stability. Non-OPEC supply growth is expected at **1.4mb/d**, driven by the US, Brazil, Norway, Canada, Kazakhstan and Guyana, offsetting a decline from Russia.
- Oil supply from the US remains the key uncertainty with the number of oil rigs falling on a weekly basis to 588 (Apr 14), though this was 40 more than a year ago. US rig count peaked at 1,609 in 2014.

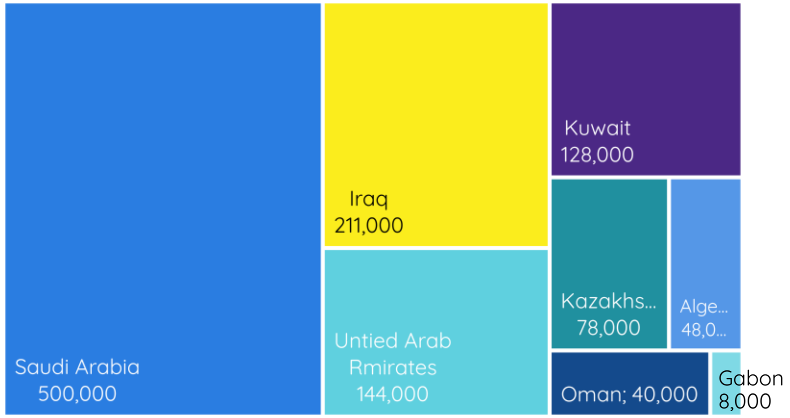
Global oil demand-supply balance



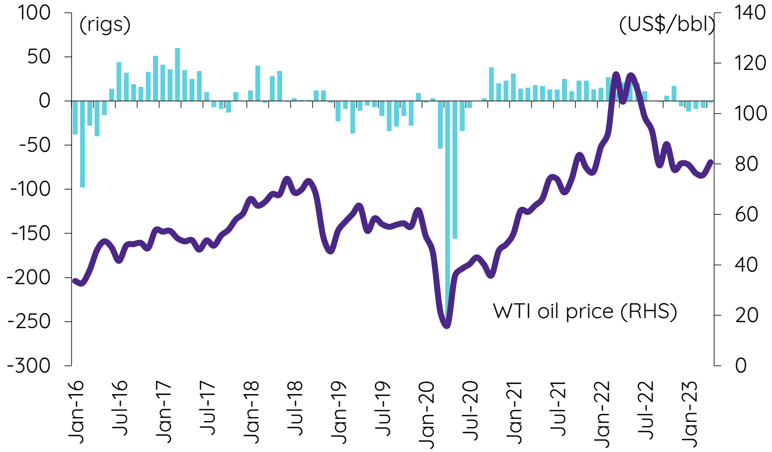
Implied oil stock build



OPEC Plus production cuts (May'23)



NA rotary rig count vs. WTI oil price

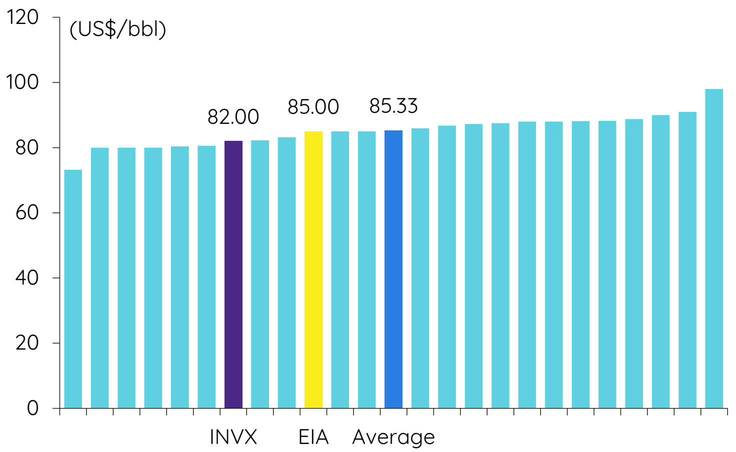


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 23, Baker Hughes, Bloomberg Finance LP and Reuters

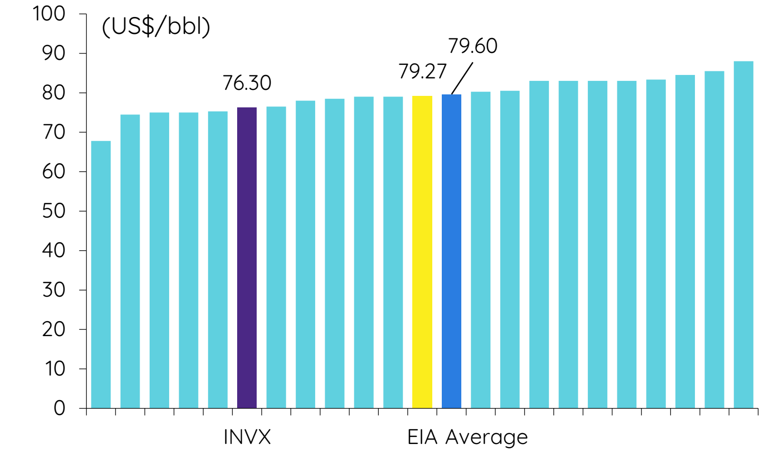
Oil price outlook

- INVX's oil price assumptions are more conservative than market consensus and the US EIA to reflect a cautious stance on oil demand.
- 2023F Brent is expected at US$82/bbl, lower than consensus and the US EIA's forecast of US$85± amidst more balanced demand-supply.
- 2024F: US$75/bbl – more balanced demand-supply is expected in 2023 on a steady increase in oil supply from OPEC+ and more supply from the US, attracted by the strong market.
- 2025F-long-term: assume a more sustainable level of US$70/bbl, not too high to dampen demand or attract new supply. Our view on L/T oil price is raised from US$65/bbl previously, based on 5-year average and OPEC's precautionary measure to curb production to stabilize oil price.
- A US$2/bbl discount is applied to derive Dubai crude price, US$80/bbl for 2023F and L/T at US$68/bbl.
- Key risks: strong than expected demand and more production cuts/disruption.

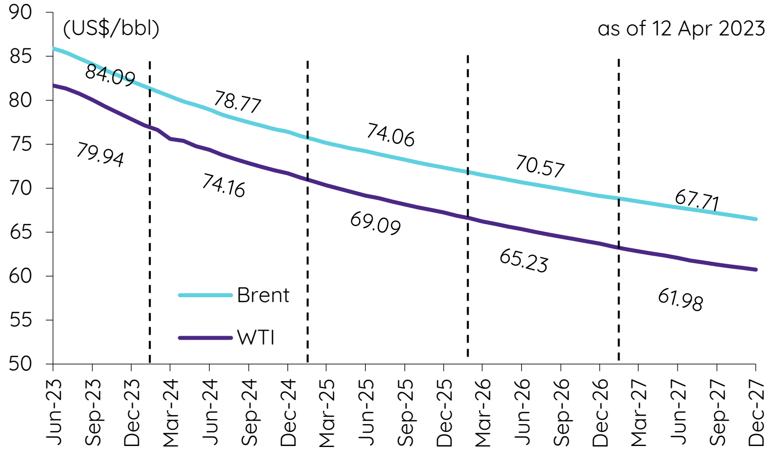
Consensus oil price – 2023 (Brent)



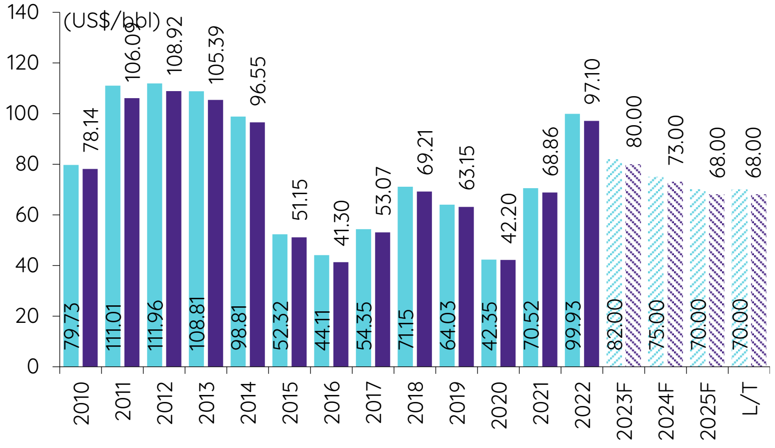
Consensus oil price – 2023 (WTI)



Oil price forward curve



INVX oil price assumption (Brent & Dubai)



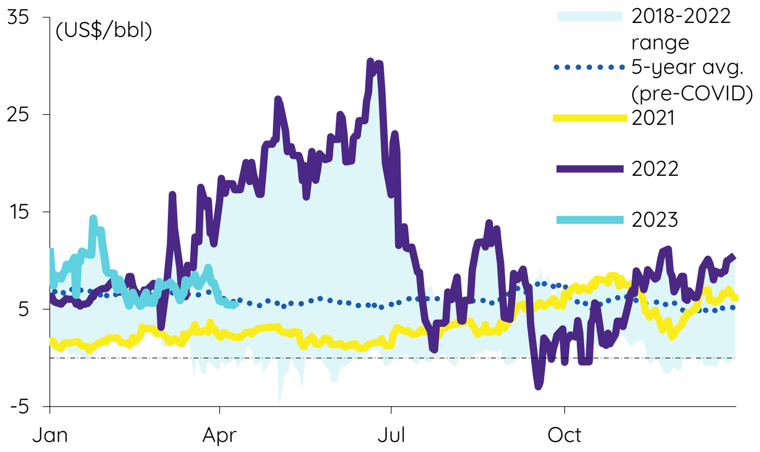
Source: Bloomberg Finance L.P., EIA and InnovestX Research

GRM review

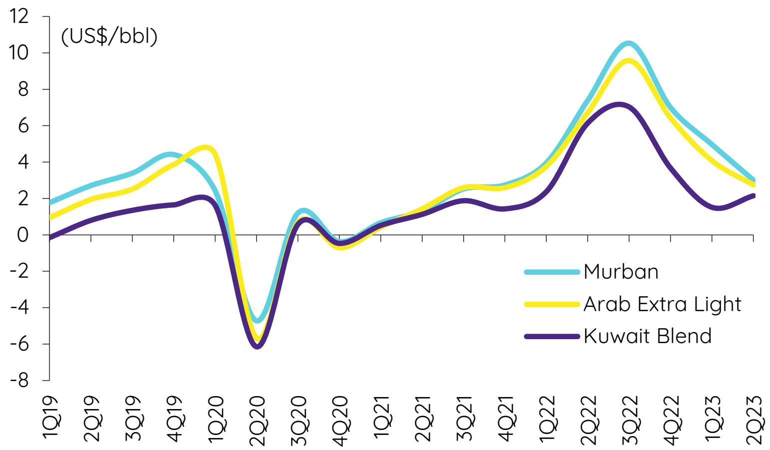
- Singapore GRM improved strongly in 2022 to an abnormally high US$10.7/bbl vs. US$3.5/bbl in 2021 and a five-year average (pre-COVID) of US$6.1/bbl. GRM has been normalizing since 4Q22-1Q23 to an average of US$7.2/bbl.
- Higher crude oil price in 2Q23TD has depressed GRM with a fall to US$5.6/bbl (QTD average), suggesting that demand for refined products remains too fragile to absorb higher oil price, especially in Europe and the US.
- Market GRM is being driven by higher demand for gasoline from greater mobility in China after the country was reopened in 1Q23.
- Crack spread for diesel is narrowing back to before Russia invaded Ukraine in late 1Q22 as demand in Europe is at its weakest point seasonally and French refineries are coming back. Gas-to-oil switching in response to high gas price has declined from warmer winter and lower gas price.
- Wider crude premium, especially for sour crude given OPEC+ production cuts, is a risk for Thai oil refiners. The crude premium in 2Q23TD at US$2.8/bbl remains in line with 5-year average of US$2.4/bbl.

Source: Bloomberg Finance L.P., Reuters, TOP and InnovestX Research

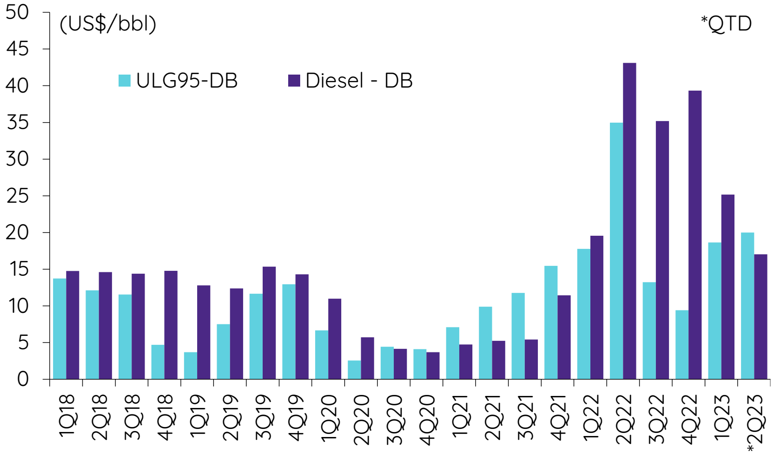
Singapore GRM



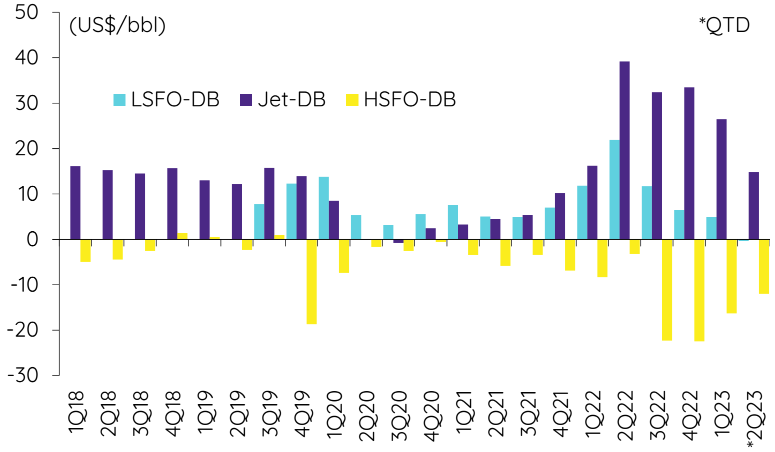
Crude premium



Crack spread: Gasoline vs. Diesel



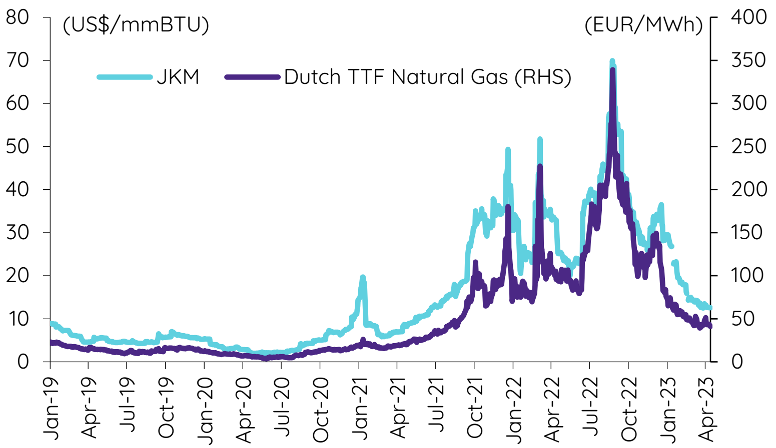
Crack spread: Jet fuel vs. Fuel oil



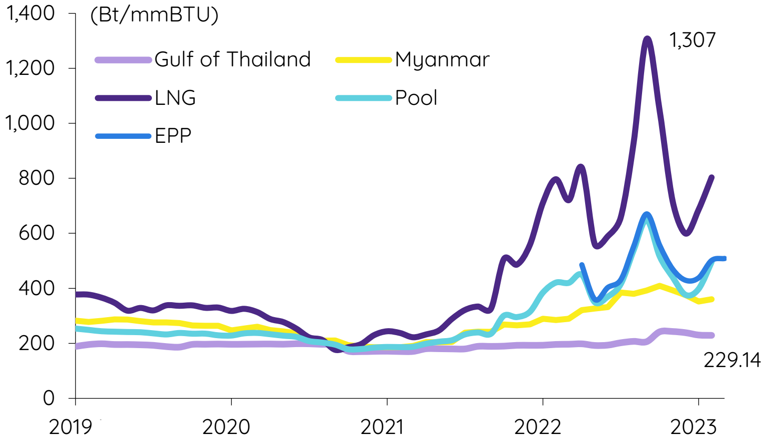
Power sector outlook

- SPP operators are expected to benefit from lower fuel prices as energy pooled price (EPP) is down 24% from peak in Sep 2022. Average EPP edged down 0.4% QoQ to Bt482.67/mmbtu.
- EPP is expected to fall further in 2Q-4Q23 on lower price for Gulf of Thailand gas due to price adjustment to reflect lower oil price for the past six months and more proportion of gas from new PSCs.
- Lower LNG price (JKM) to an average YTD of US$17.4/mmbtu (-44% YoY) will reduce pressure on Thailand's average gas cost.
- Average regional coal price YTD is down 12% YoY to US$244/t but has plunged 43% from peak in 3Q22.
- Ft rate was revised down for May-Aug 2023 to Bt0.9827/KWh. We expect the government to retain this rate until end-2023 to compensate EGAT for its accrued burden of Bt114bn from higher electricity cost.
- With the average Ft of Bt1.17/KWh (+194% YoY) in 2023, electricity tariff for the IU segment should increase 18.5% YoY.

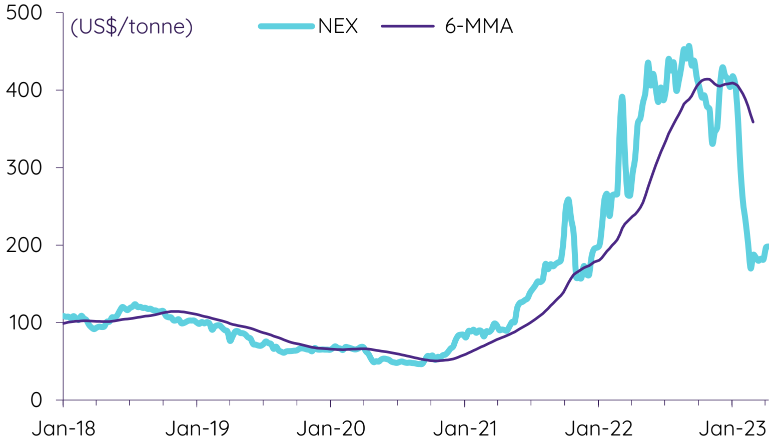
Global gas price



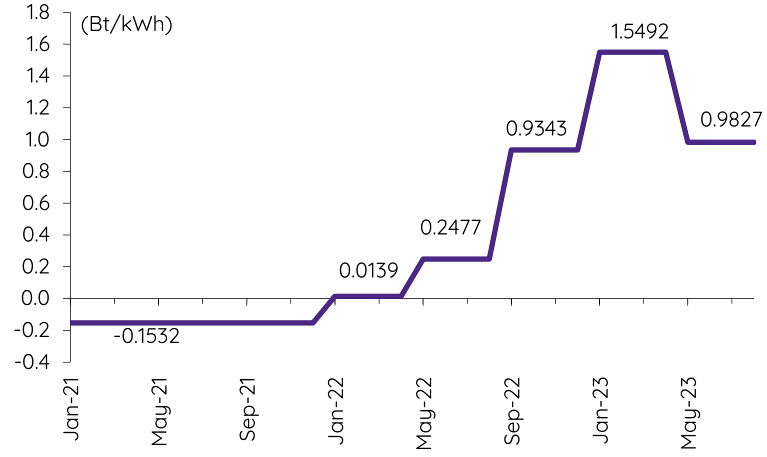
Thailand gas price



NEX coal price



Ft adjustment

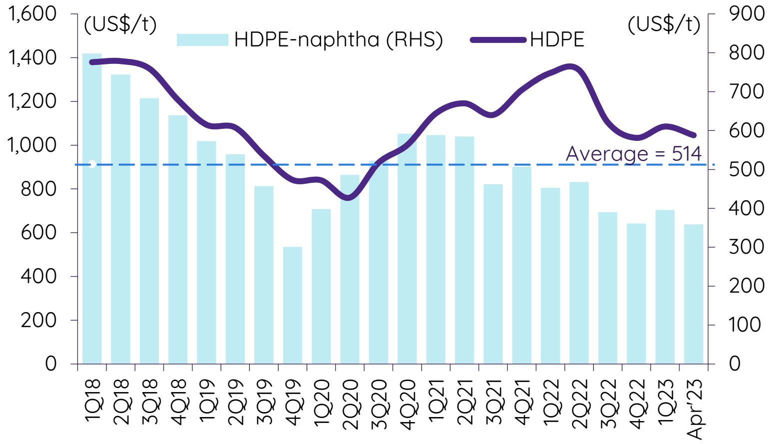


Source: Bloomberg Finance L.P. , Investing.com, EPPO and InnovestX Research

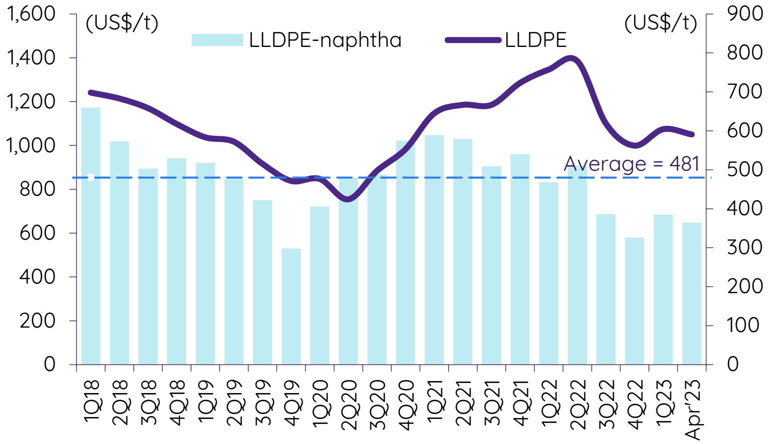
Petrochemical product spread (1)

- PE product spread remained weak in 1Q23 and Apr 2023 at <US$400/t, way below 5-year average of US$514/t due to market concerns about demand-supply imbalance as well as pessimism on the global economy as interest rates rise. Margins are not likely to recover until 2024 (S&P Global).
- After strong product spread during the early days of COVID-19 that increased demand for packaging for home appliances and electronics devices due to world-wide remote work (WFH), LDPE-naphtha spread fell more sharply than the other two PE products. The current spread of US$394/t is far below its peak of US$976/t in 1Q21.
- Current PP-naphtha spread of US$362/t is far below 5-year average of US$570/t due to a continuous increase in new supply, mainly on-purpose propylene plants and PP, attracted by the need for hygiene products during the pandemic. PP spread is likely to remain under pressure for a longer period than PE over the next five years when operating rate improves back to 80% from 75%± currently given high feedstock cost while demand recovery may stall amidst a deteriorating global economy.

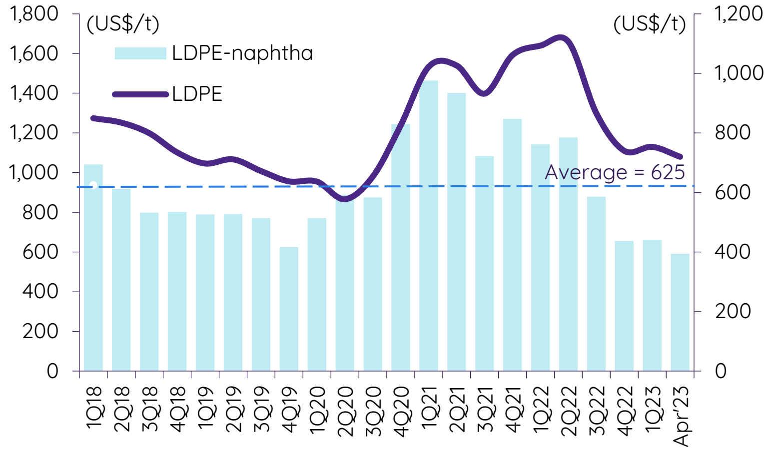
HDPE vs. naphtha (Asia)



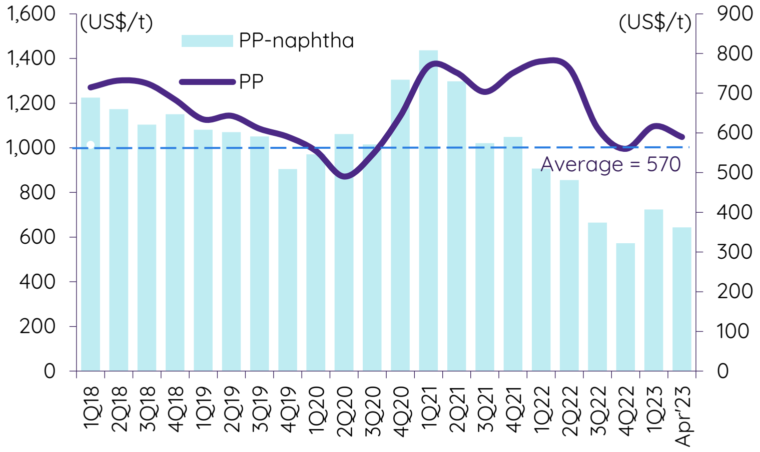
LLDPE vs. naphtha (Asia)



LDPE vs. naphtha (Asia)



PP vs. naphtha (Asia)

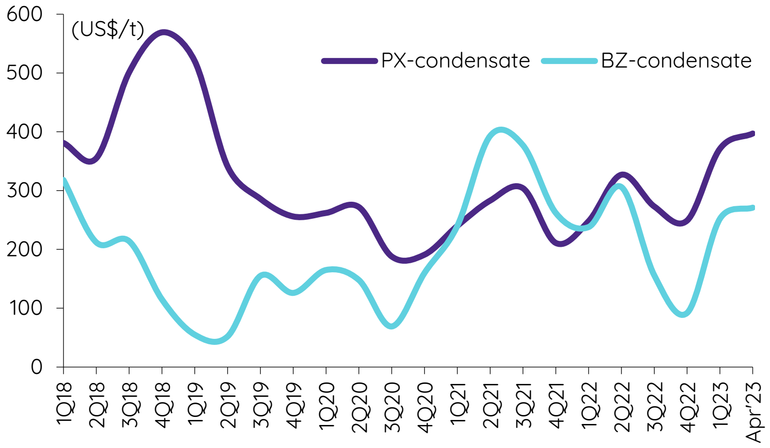


Source: Bloomberg Finance LP and InnovestX Research

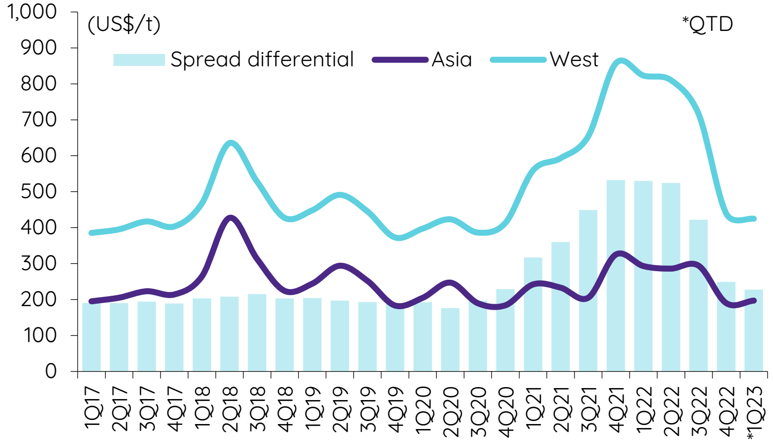
Petrochemical product spread (2)

- Despite new capacity, PX spread continued to recover from 4Q22 due to tighter supply in the region from planned maintenance shutdowns of oil refineries and higher demand for the alternative PX feedstock product, gasoline blendstock. However, the PX price rise has been at a slower pace than naphtha cost, implying narrowing PX-naphtha spread in the near term.
- Benzene-ULG95 spread remained weak at below US$100/t in 1Q23 and continued to fall in Apr 2023. Demand for downstream benzene products polystyrene (PS) and acrylonitrile butadiene styrene (ABS) improved slightly and helped support benzene price, signaling slight improvement of demand in production of home appliances and in construction.
- Integrated PET spread edged up QoQ in 1Q23, mainly in Asian markets after heavy destocking in Dec 2023. Weak demand in Europe continued to depress spread in western markets while differential between the two regions is normalizing from lower freight cost. Downstream end-users are worried about a weaker recovery in the market than expected from China's reopening and more air travel, as well as higher demand from Russia.

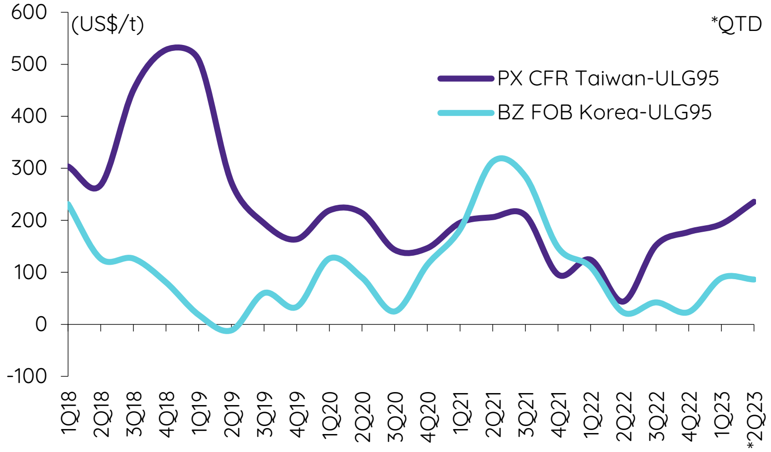
PX/BZ - condensate spread (Asia)



Integrated PET spread



PX/BZ - ULG 95 spread (Asia)



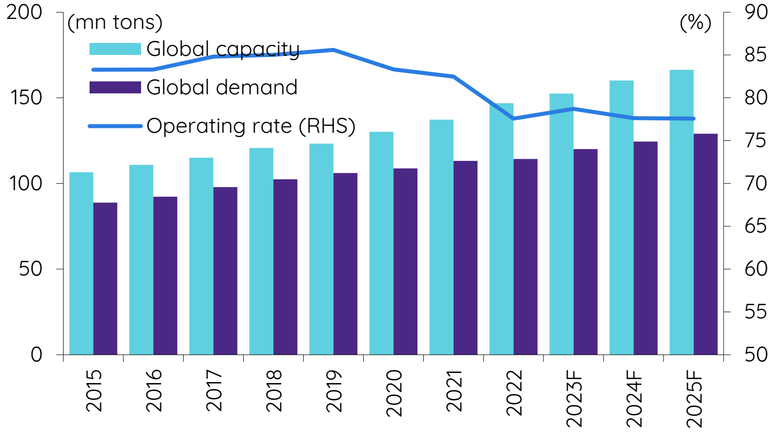
ICIS Petrochemical Index – NE Asia

Source: Bloomberg Finance LP and InnovestX Research

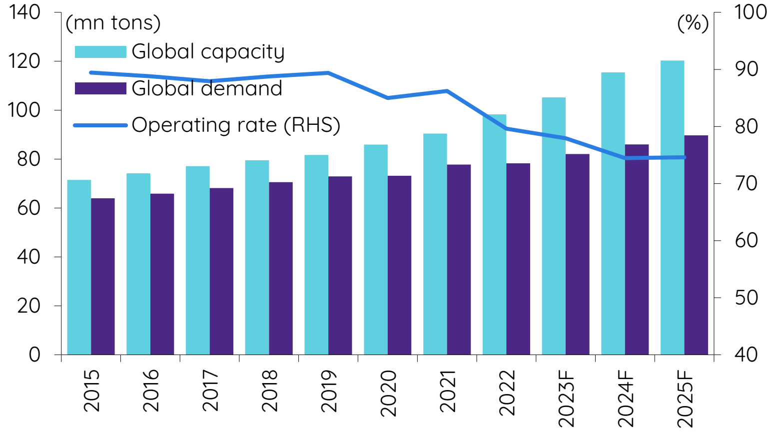
Petrochemical sector outlook

- Operating rate for global PE is expected to remain below 80% in 2023-25F, based on estimates by S&P Global Commodity Insights. This is due to capacity growth of 4.3% p.a. in the period, mainly in China, vs. 4.1% growth in demand. At the peak in product spread in 2018, operating rate shot up to 85-86%.
- PP outlook is worse, with operating rate expected to fall to 74-75% vs. previous peak of 89%. Capacity growth is expected at 7% p.a. during 2023-25F, above the 5% p.a. growth in global demand. Overcapacity of PP is due to more on-purpose plants in Asia, mainly PDH. Major capacity builds over 2023-2025F will keep margins subdued.
- In the aromatics chain, PX/PTA capacity looks more balanced than benzene/styrene capacity in 2023-24F. More that 50% of benzene is used to produce styrene, and other key downstream products include cumene/phenol (19%) and cyclohexane (13%). Most of these products are related to durable goods (automotive and home appliances) and construction materials, for which recovery has been slow.

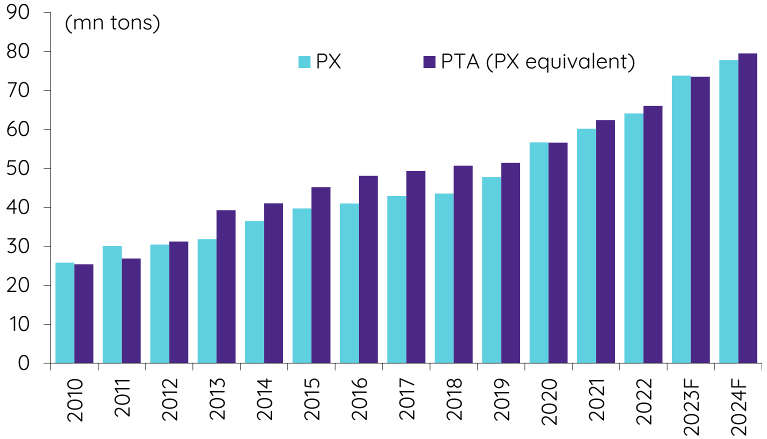
Global capacity vs. demand (Polyethylene)



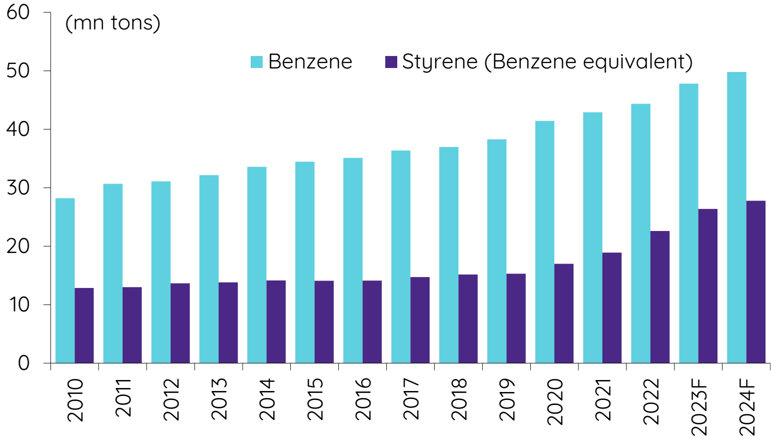
Global capacity vs. demand (Polypropylene)



PX vs. PTA capacities (Asia)



Benzene vs. styrene capacities (Asia)

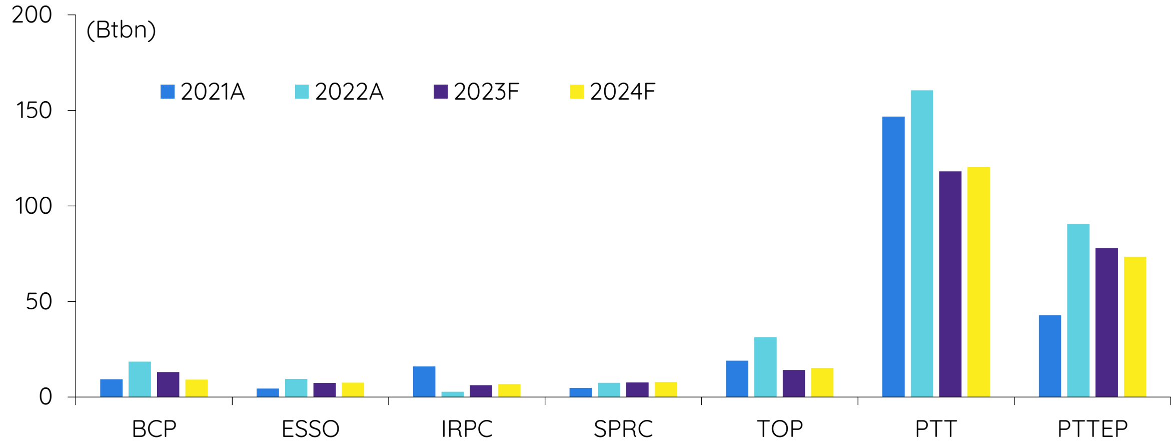


Source: S&P Global Commodity Insights and InnovestX Research

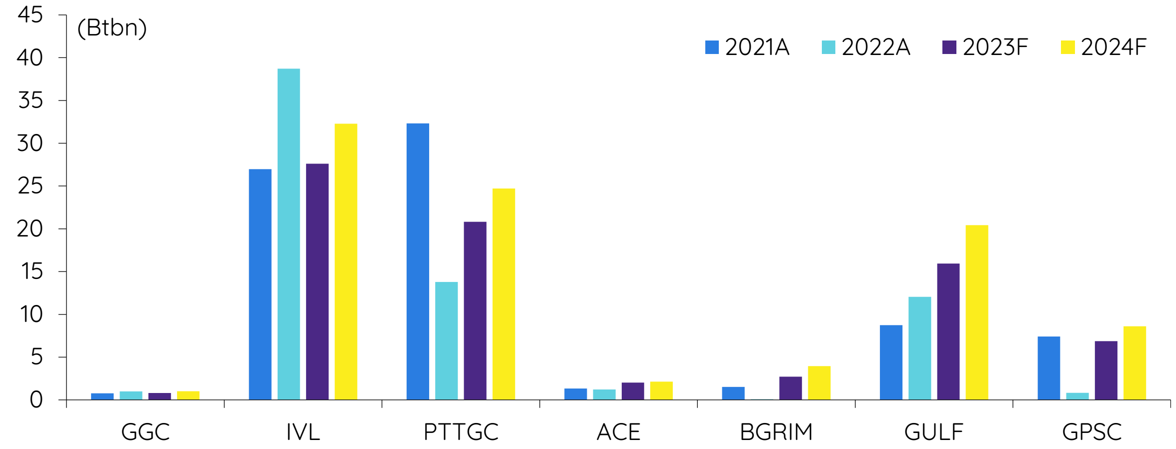
Earnings recap and outlook

- **2022:** Oil and gas companies performed quite well in 2022, especially PTTEP, on a higher oil price and market GRM driven by geopolitics in Europe, despite huge losses from oil price and crack spread hedging. Only IRPC turned in a weaker profit, plunging 83% YoY from a month-long major turnaround of the oil refinery, cutting utilization of the oil refinery to only 55% and the petrochemical complex to 74% for olefins and 54% for aromatics and styrenic chains. The performance of petrochemical companies was mixed while most power companies, especially those with a high proportion of SPPs, showed weaker profit YoY on higher fuel cost as electricity tariff was slow to respond. Only GULF continued to report stronger profit YoY, thanks to its continuous increase of operating capacity and smaller exposure to the IU segment by its SPP business.
- **2023F:** Lower oil price in 2023 despite OPEC's production cut is expected to hurt profit of the upstream oil company PTTEP, and this will have a knock-on effect on parent PTT. We also expect profit at oil refiners to soften as market GRM normalizes. It appears to us that EU's ban on Russian oil products has had limited impact on global supply of refined products while global inventories of middle distillate products remain sufficient to accommodate demand despite a prolonged strike in France which has disrupted operation of several oil refineries. We expect earnings recovery for power companies following a decline in fuel cost and the Ft rate adjustment.

Earnings performance – Energy (core profit)



Earnings performance – Petrochemicals & Utilities (core profit)



Source: Company data and InnovestX Research

Valuation

- Valuation of commodity-linked stocks are undemanding, but lack of investor appetite will persist on the uncertain global economic outlook that will derail demand for oil and petrochemical products. We prefer companies with business diversification to minimize risks from volatile product prices.
- Although valuation of power companies is rich, earnings turnaround and continuous capacity growth will be share price catalysts in 2023. We prefer companies with continuous earnings and capacity growth.
- We remain cautious on petrochemical companies on a demand-supply imbalance. We believe demand for durable goods and construction will remain under pressure.

Valuation summary – Oil & Gas

	Rating	Price	Target	ETR	P/E (x)			EPS Growth (%)			PBV (x)			ROE (%)			Div. Yield (%)			EV/EBITDA (x)		
		(Bt/Sh)	(Bt/Sh)	(%)	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F
BCP	Outperform	31.75	44.0	47.7	2.4	3.3	4.8	99.1	(29.2)	(29.9)	0.7	0.6	0.6	24.2	14.7	9.3	7.1	9.1	6.6	1.8	1.1	1.5
ESSO	Neutral	8.80	10.3	23.9	3.2	4.1	4.0	114.0	(22.0)	1.7	1.1	0.9	0.8	41.0	24.8	21.2	9.1	6.8	8.0	5.2	5.7	4.8
IRPC	Neutral	2.54	3.9	59.4	18.5	8.3	7.7	(82.5)	122.6	8.6	0.7	0.6	0.6	3.4	7.6	7.9	2.8	5.9	6.7	10.6	6.4	5.8
PTT	Outperform	31.50	48.0	59.4	5.6	7.6	7.5	9.4	(26.4)	1.8	0.9	0.8	0.8	10.7	7.5	7.2	6.3	7.0	7.0	3.4	3.1	2.5
PTTEP	Neutral	162.00	187.0	20.4	7.1	9.9	10.8	111.5	(28.2)	(9.1)	1.4	1.3	1.2	20.6	13.5	11.5	5.7	4.9	4.3	2.4	3.1	3.4
SPRC	Neutral	10.70	12.5	26.2	6.2	6.1	5.9	54.9	2.5	2.9	1.2	1.1	1.0	20.4	19.0	18.1	10.4	9.3	10.3	4.6	3.7	3.1
TOP	Neutral	52.50	76.0	48.6	3.5	8.2	7.7	61.0	(57.6)	7.3	0.7	0.7	0.7	22.3	8.7	8.8	7.0	3.8	4.0	4.6	9.8	9.3
Average					**6.6**	**6.8**	**6.9**	**52.5**	**(5.5)**	**(2.4)**	**0.9**	**0.9**	**0.8**	**20.4**	**13.7**	**12.0**	**6.9**	**6.7**	**6.7**	**4.7**	**4.7**	**4.3**

Valuation summary – Utilities

	Rating	Price	Target	ETR	P/E (x)			EPS Growth (%)			PBV (x)			ROE (%)			Div. Yield (%)			EV/EBITDA (x)		
		(Bt/Sh)	(Bt/Sh)	(%)	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F
ACE	Neutral	2.24	3.6	62.5	18.6	18.1	13.0	(8.3)	2.8	39.3	1.6	1.5	1.4	8.9	8.5	10.9	0.0	1.8	2.2	12.6	11.5	6.6
BGRIM	Neutral	40.00	48.0	21.3	1,452.6	38.3	26.3	(95.3)	3,693.1	45.5	3.5	3.3	3.1	0.2	6.2	8.2	0.2	1.3	2.0	22.7	16.2	13.8
GPSC	Outperform	68.25	84.0	24.8	231.2	28.0	22.3	(88.8)	724.3	25.5	1.7	1.6	1.5	0.7	5.8	7.0	0.7	1.8	2.2	22.3	14.1	9.1
GULF	Outperform	54.00	63.0	17.8	52.6	39.8	31.0	37.7	32.3	28.2	5.7	5.3	4.8	11.6	13.8	16.2	1.1	1.1	1.3	37.5	29.1	24.5
Average					**438.7**	**31.0**	**23.2**	**(38.6)**	**1,113.1**	**34.6**	**3.1**	**2.9**	**2.7**	**5.4**	**8.6**	**10.6**	**0.5**	**1.5**	**1.9**	**23.7**	**17.7**	**13.5**

Valuation summary – Petrochemicals

	Rating	Price	Target	ETR	P/E (x)			EPS Growth (%)			PBV (x)			ROE (%)			Div. Yield (%)			EV/EBITDA (x)		
		(Bt/Sh)	(Bt/Sh)	(%)	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F	22A	23F	24F
GGC	Neutral	13.20	13.4	4.5	13.5	16.5	12.6	30.4	(18.2)	30.9	1.3	1.3	1.1	9.9	7.8	9.3	3.8	3.0	3.2	6.7	6.4	4.7
IVL	Outperform	34.00	62.0	87.1	4.9	6.9	5.9	43.5	(28.7)	16.9	1.0	0.9	0.8	22.5	14.1	14.9	4.7	4.7	5.3	4.9	4.9	4.0
PTTGC	Neutral	43.75	56.0	33.3	14.3	9.5	8.0	(57.3)	50.9	18.7	0.7	0.6	0.6	4.4	6.8	7.7	2.3	5.3	6.2	9.5	7.2	6.6
Average					**10.9**	**11.0**	**8.8**	**5.5**	**1.3**	**22.2**	**1.0**	**0.9**	**0.9**	**12.2**	**9.6**	**10.6**	**3.6**	**4.3**	**4.9**	**7.1**	**6.1**	**5.1**

Source: Company data and InnovestX Research

Peer comparison (1)

Peer: Oil & Gas

	P/E (x)			EPS Growth (%)			PBV (x)			ROE (%)			Div. Yield (%)			EV/EBITDA (x)		
	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F
Sinopec Shanghai Petrochemical Co Ltd	10.0	7.6	7.5	145.3	31.7	1.3	0.5	0.4	0.4	4.7	6.2	8.0	5.3	8.0	9.2	10.0	8.1	6.3
China Petroleum & Chemical Corp	7.2	6.9	7.4	9.9	4.7	(7.5)	0.6	0.6	0.6	8.9	8.6	8.9	8.1	8.1	8.2	4.7	4.6	4.5
PetroChina Co Ltd	6.3	6.7	7.4	(16.1)	(5.7)	(9.6)	0.6	0.5	0.5	9.0	7.9	7.6	7.4	7.2	7.5	3.8	3.8	3.7
Indian Oil Corp Ltd	9.8	6.8	6.0	24.1	43.9	13.9	0.8	0.7	0.6	10.0	12.3	7.6	6.2	7.7	8.1	7.8	6.3	5.5
Petronas Dagangan Bhd	28.9	26.9	22.8	(1.5)	7.5	18.0	3.9	3.9	3.9	14.0	14.8	16.0	3.4	3.6	3.9	13.3	12.7	12.1
PTT PCL	8.8	8.5	7.9	11.6	3.8	7.3	0.8	0.8	0.7	9.1	8.9	9.1	6.2	6.4	6.7	5.4	5.4	5.5
PTT Exploration & Production PCL	9.1	9.7	10.8	(0.6)	(6.1)	(9.8)	1.3	1.2	1.2	14.4	11.7	10.4	5.3	4.7	4.4	3.0	3.1	3.3
Average	**11.5**	**10.4**	**10.0**	**24.7**	**11.4**	**1.9**	**1.2**	**1.2**	**1.1**	**10.0**	**10.1**	**9.7**	**6.0**	**6.5**	**6.9**	**6.9**	**6.3**	**5.8**

Peer: Refinery

Company	P/E (x)			EPS Growth (%)			PBV (x)			ROE (%)			Div. Yield (%)			EV/EBITDA (x)		
	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F
Bharat Petroleum Corp Ltd	10.7	7.5	5.8	72.7	43.5	29.7	1.26	1.14	0.92	13.0	16.5	n.m.	3.9	4.7	5.3	9.9	7.7	n.a.
Hindustan Petroleum Corp Ltd	10.3	4.4	4.4	175.6	132.5	0.9	1.06	0.87	0.67	8.2	19.2	22.1	5.9	7.2	6.2	n.a.	7.4	n.a.
Indian Oil Corp Ltd	9.8	6.8	6.0	24.1	43.9	13.9	0.79	0.73	0.61	10.0	12.3	7.6	6.2	7.7	8.1	7.8	6.3	5.5
Reliance Industries Ltd	20.3	18.3	17.0	15.5	10.9	7.5	1.74	1.60	n.a	8.8	9.1	8.9	0.4	0.5	1.0	12.0	10.8	9.4
S-Oil Corp	5.9	6.6	6.8	(24.7)	(10.3)	(2.9)	0.98	0.90	0.88	17.7	14.5	14.3	5.3	4.8	4.4	4.4	4.6	4.4
SKC Co Ltd	36.5	17.4	9.8	251.3	109.2	78.5	1.89	1.73	1.59	6.0	10.4	17.9	1.0	1.1	1.2	13.8	8.4	6.0
Bangchak Corp PCL	5.6	6.3	5.4	(38.3)	(11.6)	16.9	0.61	0.57	0.57	10.0	8.8	9.0	6.1	5.8	6.5	3.6	3.9	3.9
IRPC PCL	12.3	9.6	6.5	198.6	28.0	47.2	0.61	0.59	0.57	5.3	7.1	8.1	4.0	4.5	5.5	8.9	7.5	6.6
Esso Thailand PCL	4.9	5.1	4.6	(34.7)	(4.2)	11.9	1.05	0.86	0.70	19.1	18.0	15.1	5.7	7.5	8.9	7.1	6.7	7.0
Thai Oil PCL	8.7	8.6	6.0	(61.4)	0.8	43.0	0.72	0.69	0.63	8.6	8.0	11.2	5.1	4.8	7.0	9.5	9.6	7.5
Star Petroleum Refining PCL	6.6	6.6	6.4	(8.3)	(0.6)	3.7	1.09	1.01	0.94	15.4	13.8	12.9	7.0	7.0	7.3	5.1	5.3	5.6
Average	**12.0**	**8.8**	**7.1**	**51.8**	**31.1**	**22.7**	**1.07**	**0.97**	**0.81**	**11.1**	**12.5**	**12.7**	**4.6**	**5.0**	**5.6**	**8.2**	**7.1**	**6.2**

Source: Bloomberg Finance LP and InnovestX Research

Peer comparison (2)

Peer: Petrochemicals

Company	P/E (x)			EPS Growth (%)			PBV (x)			ROE (%)			Div. Yield (%)			EV/EBITDA (x)		
	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F
China Petroleum & Chemical Corp	10.4	9.9	9.7	7.9	5.3	2.6	0.9	0.9	0.8	8.8	8.7	8.6	5.9	5.7	5.2	4.6	4.5	4.4
Sinopec Shanghai Petrochemical Co Ltd	28.5	21.3	21.9	146.4	34.1	(3.0)	1.3	1.3	1.3	2.8	5.9	8.8	2.5	3.1	3.4	11.2	7.7	5.8
PetroChina Co Ltd	6.3	6.7	7.4	(13.9)	(5.7)	(9.6)	0.6	0.5	0.5	9.0	7.9	7.6	7.4	7.2	7.5	3.8	3.8	3.7
Asahi Kasei Corp	17.2	10.6	9.8	206.3	62.2	8.5	0.8	0.7	0.7	5.2	7.0	7.8	3.9	3.9	4.2	7.4	6.6	5.5
Sumitomo Chemical Co Ltd	13.6	7.8	6.8	29.8	74.2	15.8	0.6	0.6	0.6	4.4	7.5	8.4	3.6	4.0	4.5	8.9	7.3	5.9
Mitsui Chemicals Inc	7.1	6.6	6.2	(8.1)	7.9	5.3	0.8	0.7	0.7	11.6	11.3	10.9	3.8	4.1	4.6	5.6	5.3	4.7
Reliance Industries Ltd	20.3	18.3	17.0	15.5	10.9	7.5	1.7	1.6	n.a	8.8	9.1	8.9	0.4	0.5	1.0	12.0	10.8	9.4
Petronas Chemicals Group Bhd	11.3	11.1	10.5	(17.5)	2.1	5.6	1.4	1.4	1.3	12.3	12.1	11.7	4.5	4.6	4.8	7.5	7.2	7.1
Lotte Chemical Corp	20.9	9.2	8.5	385.6	128.2	7.4	0.5	0.5	0.7	2.3	5.2	6.0	2.0	2.8	2.4	8.3	5.6	4.6
LG Chem Ltd	25.8	16.1	10.7	27.0	60.4	49.6	1.7	1.6	1.4	7.1	10.5	13.2	1.4	1.6	2.3	8.6	6.4	4.8
Formosa Plastics Corp	17.5	15.0	15.5	(7.0)	16.4	(2.8)	1.6	1.5	1.4	8.6	10.4	10.9	4.4	5.2	4.5	17.0	15.4	14.1
Formosa Chemicals & Fibre Corp	27.4	20.3	22.1	102.7	34.9	(7.9)	1.2	1.2	1.6	4.7	5.3	4.8	2.9	3.5	3.4	18.1	15.0	13.4
Nan Ya Plastics Corp	19.6	14.8	15.8	(1.9)	32.1	(6.3)	1.6	1.5	n.a	8.6	10.6	9.3	4.3	5.1	4.7	14.2	12.4	11.9
Formosa Petrochemical Corp	29.0	21.4	n.m.	100.3	35.2	n.m.	2.5	2.3	n.a	9.3	10.4	n.m.	2.1	2.4	n.a	17.2	13.7	n.a.
Far Eastern New Century Corp	17.1	14.0	n.m.	13.9	22.0	n.m.	0.8	0.8	n.a	4.4	5.4	n.m.	4.5	5.6	n.a	10.9	10.4	n.a.
Indorama Ventures PCL	7.2	6.5	5.9	(12.5)	10.4	10.2	0.9	0.8	0.8	13.5	12.9	13.7	4.0	4.3	4.5	6.1	6.0	5.6
IRPC PCL	12.3	9.6	6.5	198.6	28.0	47.2	0.6	0.6	0.6	5.3	7.1	8.1	4.0	4.5	5.5	8.9	7.5	6.6
PTT Global Chemical PCL	10.1	8.2	6.8	324.3	22.4	20.2	0.8	0.6	0.6	5.9	7.2	8.6	5.4	5.4	6.8	8.9	8.3	7.1
Global Green Chemicals PCL	17.3	15.0	13.1	(17.7)	15.0	14.8	1.3	1.2	1.1	7.5	7.9	8.8	3.2	3.3	3.4	8.3	8.7	7.2
Eastman Chemical Co	10.9	9.4	8.4	17.7	15.8	11.8	1.7	1.6	1.5	16.0	16.6	18.4	3.9	4.1	4.3	8.0	7.4	6.9
Alpek SAB de CV	6.8	6.4	6.4	(55.6)	7.2	(0.0)	0.8	0.7	0.7	12.9	12.2	11.7	6.8	7.2	8.1	4.1	4.4	4.3
Average	**16.0**	**12.3**	**11.0**	**68.7**	**29.5**	**9.3**	**1.2**	**1.1**	**0.9**	**8.1**	**9.1**	**9.8**	**3.9**	**4.2**	**4.5**	**9.5**	**8.3**	**7.0**

Source: Bloomberg Finance LP and InnovestX Research

Top picks

Top picks

Company	TP (Bt)	Valuation method	Bullish views	Bearish views	Risks
BCP	44.00	Sum-of-the-parts (0.6xPBV for oil-related businesses and DCF for power)	▪ BCP's oil refinery has become more cost-efficient after the 3E project was completed in 2022. In addition to cost savings, it allows it to operate the oil refinery at 120kbd via increasomg the capacity of upgrading units, hence reducing processing cost/bbl and improve GRM. ▪ Strong and stable earnings cash flow from the power business will stabilize earnings performance in the longer term. Earnings contribution from the E&P business in Norway is solid, especially when gas supply from Russia is banned. ▪ A subsidiary in the biofuel business will secure supply of biodiesel and ethanol for its oil marketing business and reduce risk of volatile feedstock cost.	▪ Asset impairment for the E&P business may continue to reduce investor appetite for the stock. ▪ Competition in the oil retail business may intensify, requiring more promotional expenses and reduce marketing margin. ▪ The government's measures to control the cost of living by capping retail oil price erodes marketing margin from time to time.	▪ Economic slowdown would hurt demand for refined oil products and GRM while oil price volatility would cause more stock loss, though we see this as unlikely. ▪ Regulatory changes on GHG emissions and government intervention to cap domestic retail oil price.
GULF	63.00	Sum-of-the-parts (DCF for power and TP for INTUCH and SPCG)	▪ Leading position in power generation in Thailand, especially in new IPP projects. ▪ Capacity expansion plan with committed PPAs will secure earnings growth. ▪ Capacity growth in renewable power plants in Thailand and overseas will minimize risks from energy transition. ▪ Exposure to the industrial segment is getting smaller, hence lower negative impact on overall profit from lag before Ft adjustment. ▪ More cash generation from infrastructure and utilities projects.	▪ Stretched valuation and high gearing. ▪ Dividend yield to remain lower than peers given several investments in the pipeline.	▪ Lower than expected investment return on new projects, but GULF's excellent track record in bringing projects in on time and on budget minimizes this risk. ▪ SPP electricity and steam sales to industrial customers, exposed to a poor economy and fuel costs, and weather-related risk at renewable power projects.
IVL	62.00	1.7x PBV	▪ Demand growth for IVL's products should be resilient in 2023 as they are used for daily necessities, especially for the combined PET and IOD segments. Demand for PET is expected to increase when social gatherings like sports events return to normal due to global reopening, especially China's. ▪ IVL's leading position in the market and its cost competitiveness is expected to sustain long-term margin. More cost optimization will continue to reduce its operating cost in 2023-25. ▪ Earnings performance will remain solid, though easing from 2022's high base, driven by full-year profit contribution from Oxiteno which has broadened its portfolio in the IOD business in the US, and a slight capacity increase from new acquisitions and expansions. Existing IOD operations in the US will also improve on the resumption of ethane cracker production.	▪ Outlook for product spread remains challenging given easing logistics constraints between Asia and western markets which boosted premium on integrated PET spread to US$400-500/t during 3Q21-3Q22 from ~US$200/t normally. ▪ Slower economic growth in Europe (>20% of IVL revenue) will be its key challenge in 2023 with 0% GDP growth expected (World Bank). IVL's competitive operating cost, production reliability and market position will keep it afloat despite high energy cost and weak demand outlook. ▪ High energy cost in Europe will continue to hurt IVL's operating cost while cost passthrough will be more difficult amidst economic hardship.	▪ Weaker demand and product spread. ▪ Less efficiency improvement at new assets. ▪ Inefficient operating assets could incur more asset impairments. ▪ Changes in rules on plastic products.

Source: InnovestX Research

innovest X

BCP | Outperform | TP: Bt44

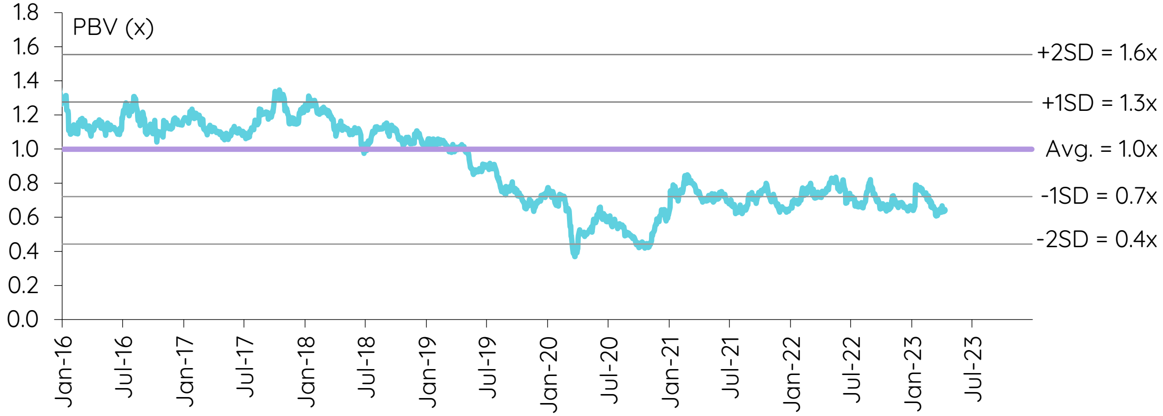
- Business diversification: BCP is the top pick for oil and gas on its solid earnings in 2023 despite a fall of 29% due to abnormally high GRM and gas price in 2022. Business diversification is likely to minimize an adverse impact of volatile oil price.
- Oil refinery is running at a crude run of >120kbd, thanks to more favorable demand for UCO (11% of product yield in 2022) in North Asia. This helped market GRM to outperform others in 2020-22. The flexibility of BCP's refinery enables it to adjust crude used and product yield to maximize profit.
- Outlook for OKEA remains bright as supply from Russia is banned and Norway has become the key gas supplier for the EU. OKEA plans to double production by end-2023 via both organic and a new acquisition, Statfjord Area from Equinor. The expansion of OKEA will be financed by its abundant cash on hand.
- ESSO acquisition: BCP's access to refined oil products for its marketing business will improve and ESSO will strengthen BCP's customer base in the commercial/wholesale segment and increase the proportion of high-yield products, mainly light distillate products (gasoline). Incremental value from the acquisition is estimated at Bt17-18/share to our TP based on 100% acquisition.
- Earnings outlook: We expect BCP's core operating profit to slip in 2023F as market GRM normalizes after overshooting in 2022, especially in 2Q22. GRM should remain healthy against historical average and the oil refinery will run full out. We also expect lower impact from inventory loss and the oil marketing business should gradually return to normal as pressure from oil price is easing. Importantly, the E&P business will continue to pump profit from the ground with higher sales volume, though selling price could soften YoY.
- **Valuation:** Our TP of Bt44/share is based on sum-of-the-parts valuation of Bt29 for the oil business and Bt15/share for power.
- **Key risks: 1)** Economic slowdown would hurt demand for refined oil products and GRM while oil price volatility may cause more stock loss, 2) regulatory changes on GHG emissions and government intervention in domestic retail oil price.

Source: Company data and InnovestX Research

Forecasts and valuation

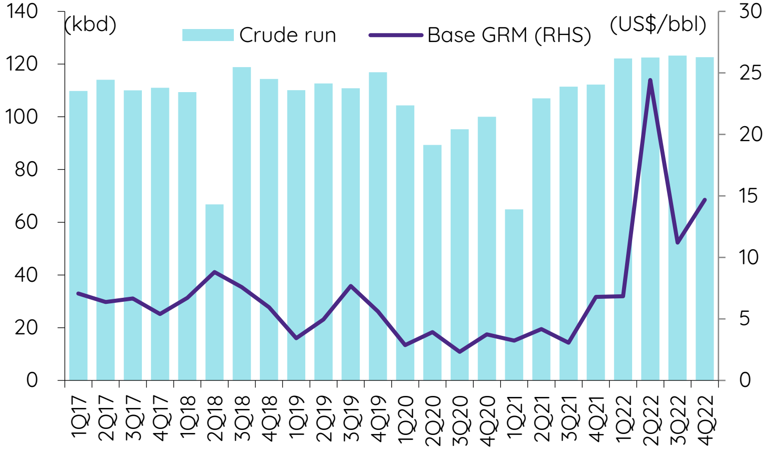
Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	199,417	312,202	297,004	272,667	246,802
EBITDA	(Btmn)	25,357	47,735	40,911	32,698	32,679
Core profit	(Btmn)	9,301	18,513	13,101	9,180	9,253
Reported profit	(Btmn)	7,624	12,575	13,101	9,180	9,253
Core EPS	(Bt)	6.75	13.45	9.51	6.67	6.72
DPS	(Bt)	2.00	2.25	2.90	2.10	2.10
P/E, core	(x)	4.7	2.4	3.3	4.8	4.7
EPS growth, core	(%)	n.a.	99.1	(29.2)	(29.9)	0.8
P/BV, core	(x)	0.8	0.7	0.6	0.6	0.5
ROE	(%)	14.5	24.2	14.7	9.3	8.8
Dividend yield	(%)	6.3	7.1	9.1	6.6	6.6
FCF yield	(x)	26.1	43.6	58.1	44.7	44.8
EV/EBIT	(x)	5.9	2.3	2.1	2.1	1.3
EBIT growth, core	(%)	n.a.	118.3	(18.2)	(26.6)	(0.1)
EV/CE	(x)	1.1	0.8	0.7	0.5	0.4
ROCE	(%)	13.0	21.2	17.8	14.7	16.8
EV/EBITDA	(x)	4.0	1.8	1.6	1.4	0.9
EBITDA growth	(%)	458.4	88.3	(14.3)	(20.1)	(0.1)

PBV band

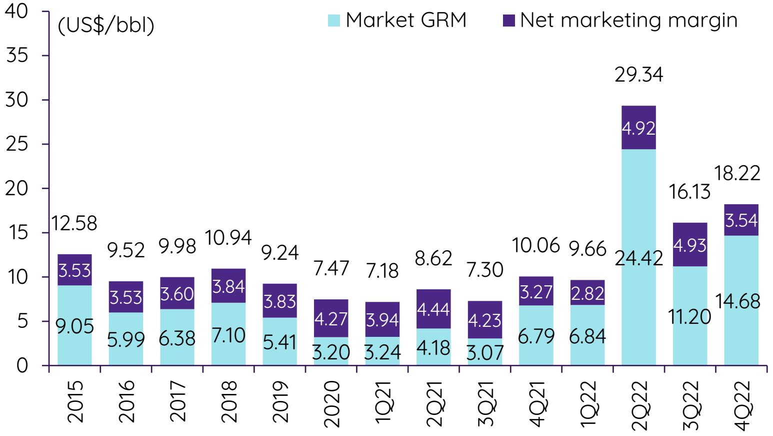


BCP | Outperform | TP: Bt44

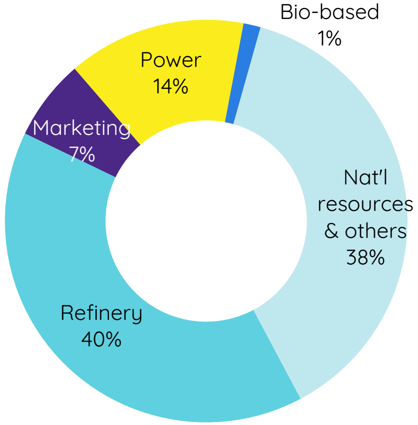
Crude run vs. operating GRM



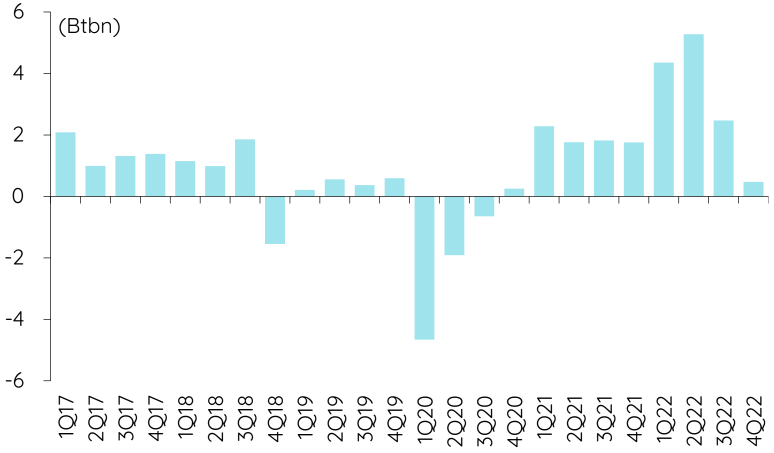
Integrated margin



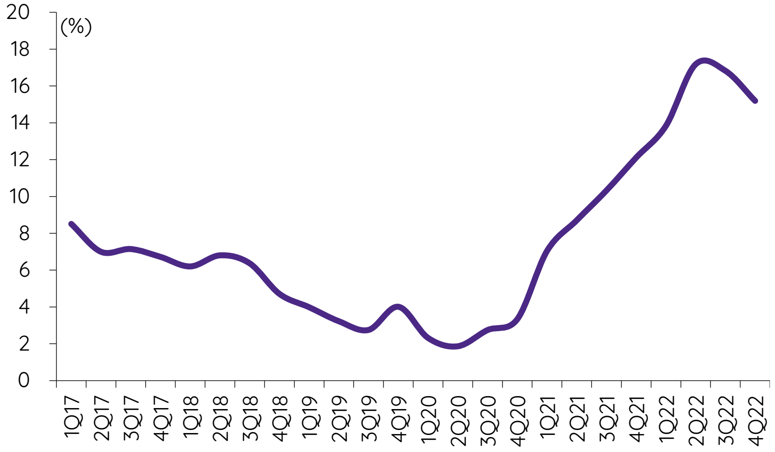
EBITDA breakdown



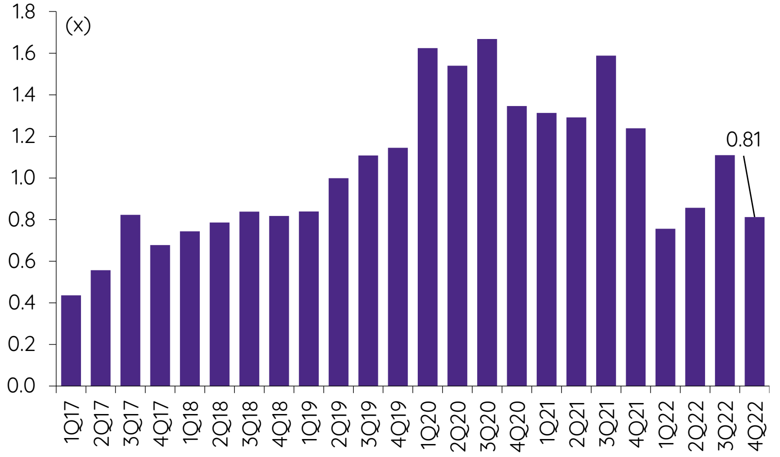
Quarterly net profit



EBITDA margin (12MMA)



Net interest-bearing debt to equity



Source: Company data and InnovestX Research

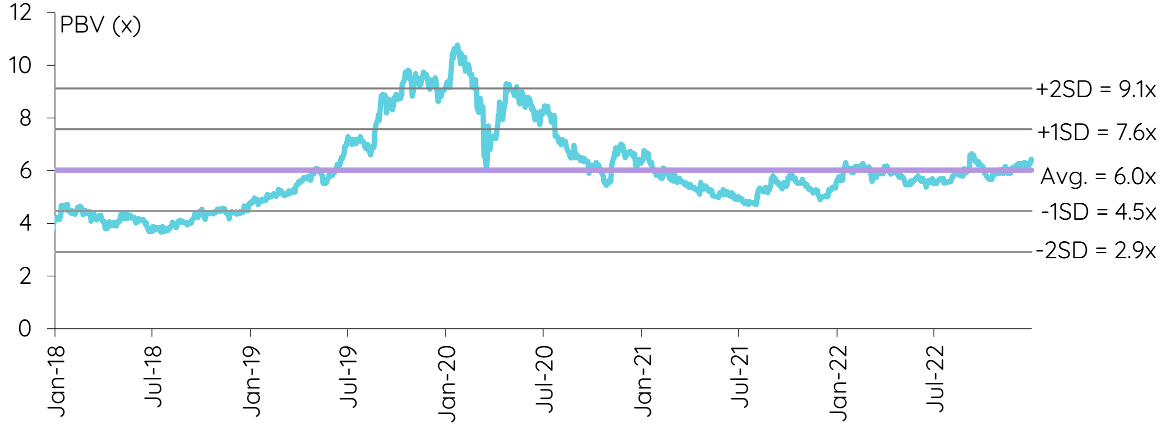
GULF | Outperform | TP: Bt63

- GULF's earnings outlook is promising with core profit to rise 32% YoY in 2023F, driven by another IPP, GPD, with total capacity of 2,650MW. The first unit of this power plant (662.5MW) started up in Mar 2023, and will be followed by the second unit in Oct 2023. More capacity in Oman (Duqm SEZ) will gradually come on line in 2023 after the initial startup of 40MW in late 2021 to reach 326MW. Equity income from INTUCH will continue to support earnings in 2023 thanks to stable contribution of Bt4-5bn per annum.
- GULF wants to acquire more PPAs to develop power projects, both conventional and renewable, in Thailand and overseas. The newest is 49% interest in an operating gas-fired power project in the US, Jackson Generation (1,200MW). This is expected to add Bt1.4/share based on 40-year project life and 15% EIRR.
- More renewable power projects in Thailand have been granted to GULF with combined capacity of 1,624MW (equivalent to 33% of total awarded capacity of 4,852MW). It also acquired 24.99% in a 1,500MW offshore wind project in UK that is in the early stages of development.
- Progress in the digital business will be more visible in 2023 with investment in a data center via a 40%-JV with Singtel (35%) and ADVANC (25%) and 51%-JV with Binance to set up a digital asset exchange with operating license by 1H23.
- All investment projects continue to progress as planned, including new IPPs, Laem Chabang deep sea port and Map Tha Phut Phase 3.
- **Valuation:** TP of Bt63 is based on sum-of-the-parts, using DCF on committed capacity and equity value of INTUCH and SPCG. Upside is its digital business, renewable projects in Thailand and new acquisitions.
- **Key risks:** 1) Lower than expected investment return on new projects, but GULF's excellent track record in bringing projects in on time and on budget minimizes this risk, 2) SPP electricity and steam sales to industrial customers, exposed to a poor economy and fuel costs, and weather-related risk at renewable power projects.

Forecasts and valuation

Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	47,467	94,151	119,285	123,407	132,342
EBITDA	(Btmn)	18,287	22,473	28,496	33,425	36,695
Core profit	(Btmn)	8,745	12,045	15,932	20,421	23,413
Reported profit	(Btmn)	7,670	11,418	15,932	20,421	23,413
Core EPS	(Bt)	0.75	1.03	1.36	1.74	2.00
DPS	(Bt)	0.44	0.60	0.60	0.70	0.80
P/E, core	(x)	72.5	52.6	39.8	31.0	27.1
EPS growth, core	(%)	85.0	37.7	32.3	28.2	14.7
P/BV, core	(x)	6.6	5.7	5.3	4.8	4.3
ROE	(%)	10.9	11.6	13.8	16.2	16.7
Dividend yield	(%)	0.8	1.1	1.1	1.3	1.5
FCF yield	(x)	(10.1)	(2.2)	2.9	2.8	6.7
EV/EBIT	(x)	62.8	48.4	40.2	32.6	27.9
EBIT growth, core	(%)	75.2	30.9	18.4	21.8	11.9
EV/CE	(x)	837.3	(14.7)	(14.7)	(17.1)	(16.6)
ROCE	(%)	1,033.0	(24.8)	(30.7)	(44.9)	(51.5)
EV/EBITDA	(x)	45.6	37.5	29.1	24.5	21.3
EBITDA growth	(%)	66.0	22.9	26.8	17.3	9.8

PBV band



Source: Company data and InnovestX Research

GULF | Outperform | TP: Bt63

Capacity breakdown (2022)

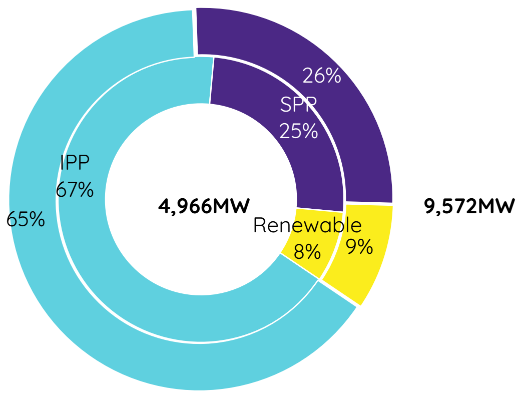
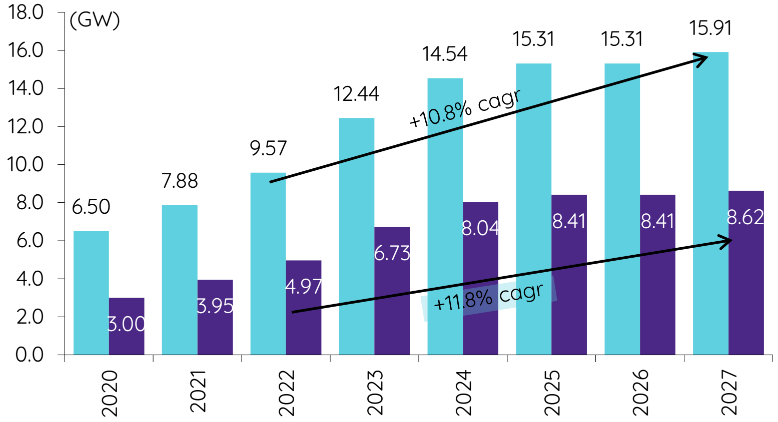
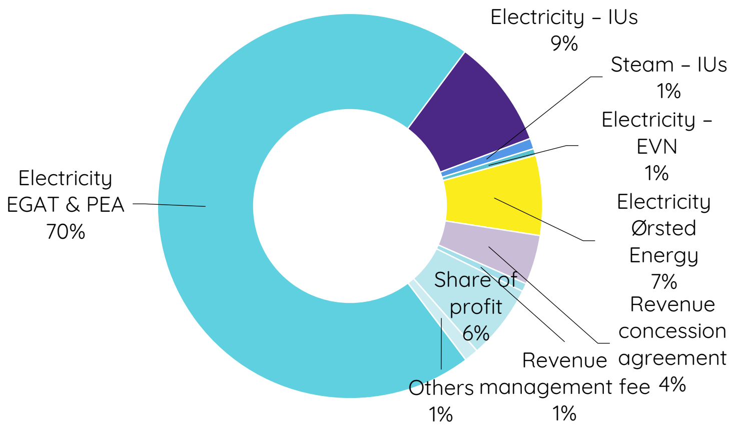


*Chart inside represents equity MW.

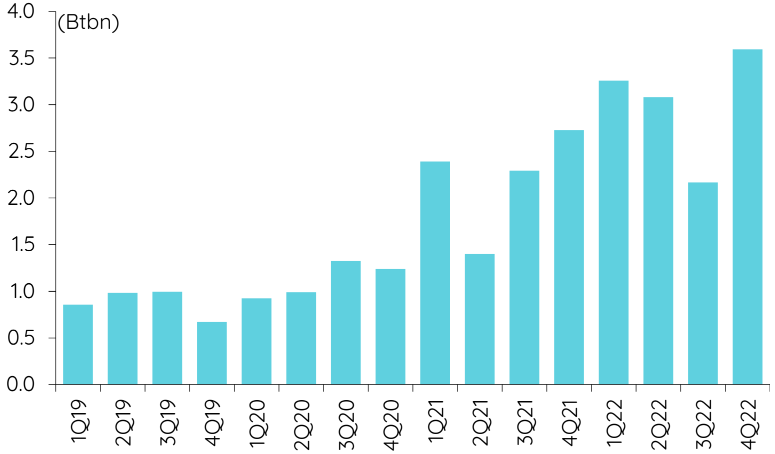
Capacity growth



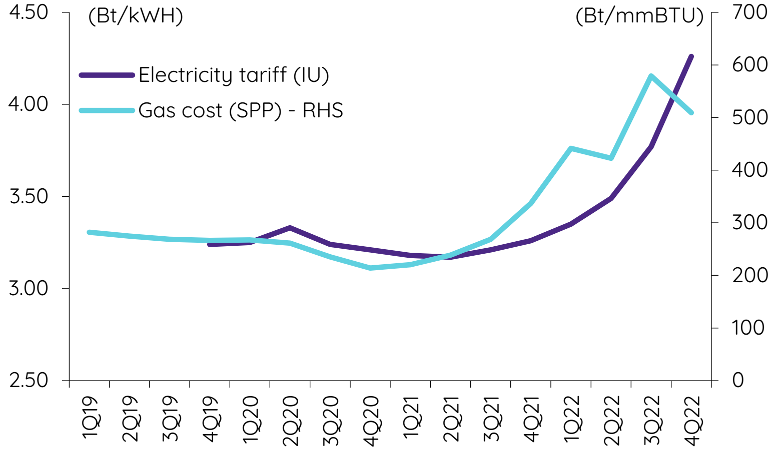
Revenue breakdown (2022)



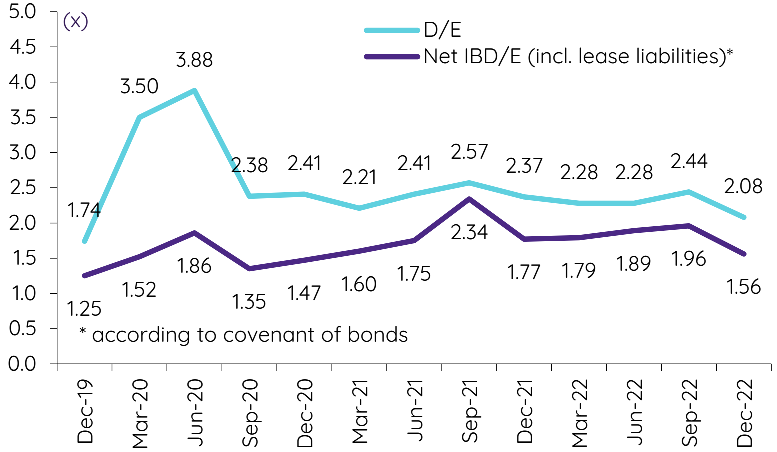
Quarterly core net profit



Electricity tariff (IU) vs. gas cost (SPP)



Net interest-bearing debt to equity



Source: Company data and InnovestX Research

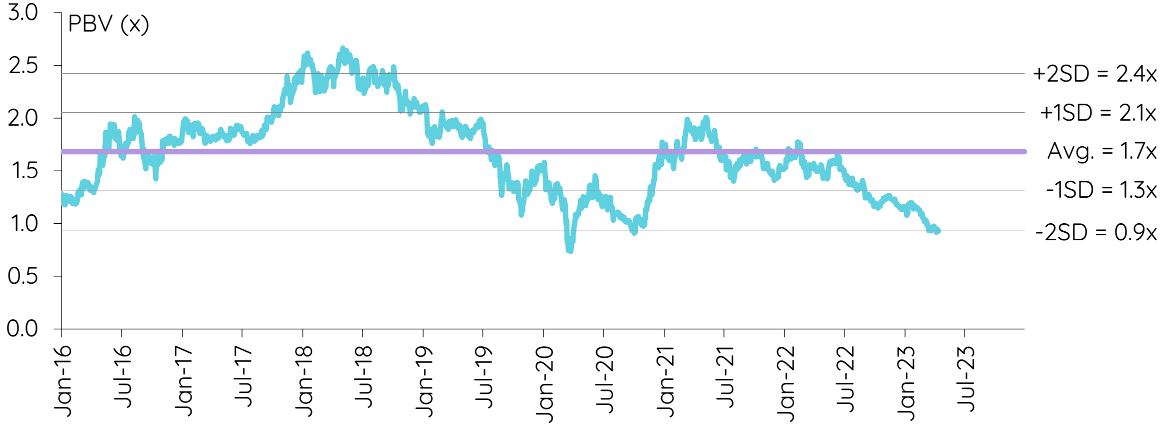
IVL | Outperform | TP: Bt62

- We view that PET demand is more resilient than other plastics for packaging due to its recyclability. IVL's competitive position remains strong with a lead market share backed by reliable supply.
- We expect 1Q23 earnings to recover QoQ as destocking fades and sentiment improves on China's reopening
- IVL's challenging target core EBITDA of US$2.5-2.6bn by 2025, up from US$1.7bn in 2021 is achievable, in our view, given its good track record. The increase in installed capacity to nearly 21mtpa by 2025 (CAGR 3%) from 19mtpa in 2022 and capex (2023-25) of US$2.4bn leaves headroom for new investment of US$3.5-5bn.
- We expect product spread to normalize in 2023 after skyrocketing several years from supply and logistics disruption that widened the premium on integrated PET spread in Europe and North America. The damage from high gas cost will fall from 2022's >US$500mn.
- Full-year profit from Oxiteno will be key to earnings on the YoY basis due to healthy demand for surfactant and MTBE for gasoline blending. Sales volume is expected to rise 5% YoY to 15.4mt in 2023F with expected core EBITDA/t of US$133/t vs. US$158/t in 2022.
- Its financial position will continue to strengthen with net D/E of only 0.6x by end-2024, down from 1.5x (end-2022) or post completion of Oxiteno acquisition.
- **Valuation:** TP of Bt62 is based on an average PBV multiple of 1.7x (5-year average). The current valuation at 0.9x PBV (2023) or -2SD is undemanding. We believe market pessimism on the stock is overdone, reflecting concerns on demand in western markets, mainly Europe.
- **Risk factors:** 1) Weaker demand and product spread, 2) less efficiency improvement at new assets and 3) changes in rules on plastic products.

Forecasts and valuation

Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	468,108	656,266	636,780	590,381	523,462
EBITDA	(Btmn)	64,338	84,054	74,460	78,577	80,701
Core profit	(Btmn)	26,972	38,717	27,614	32,273	42,681
Reported profit	(Btmn)	26,288	31,006	27,614	32,273	42,681
Core EPS	(Bt)	4.80	6.90	4.92	5.75	7.60
DPS	(Bt)	1.00	1.60	1.60	1.80	2.30
P/E, core	(x)	7.1	4.9	6.9	5.9	4.5
EPS growth, core	(%)	2,210.1	43.5	(28.7)	16.9	32.3
P/BV, core	(x)	1.2	1.0	0.9	0.8	0.7
ROE	(%)	18.9	22.5	14.1	14.9	17.6
Dividend yield	(%)	2.9	4.7	4.7	5.3	6.8
FCF yield	(x)	4.2	1.8	31.3	30.2	37.2
EV/EBIT	(x)	9.2	7.1	7.8	6.2	4.4
EBIT growth, core	(%)	443.3	36.9	(20.9)	8.9	9.3
EV/CE	(x)	1.1	1.0	1.0	0.9	0.7
ROCE	(%)	8.5	10.6	9.7	11.3	14.7
EV/EBITDA	(x)	6.1	4.9	4.9	4.0	3.0
EBITDA growth	(%)	127.1	30.6	(11.4)	5.5	2.7

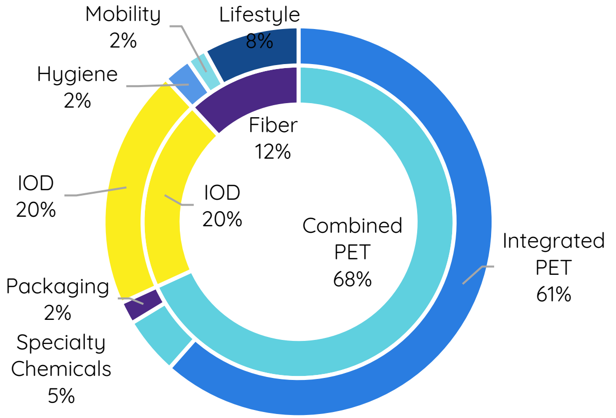
PBV band



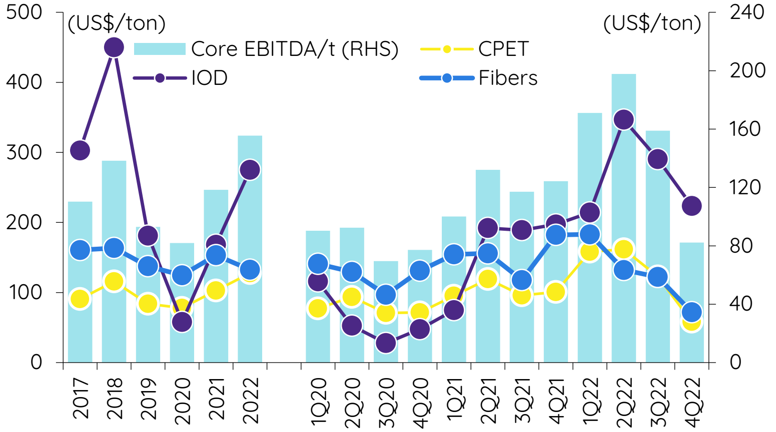
Source: Company data and InnovestX Research

IVL | Outperform | TP: Bt62

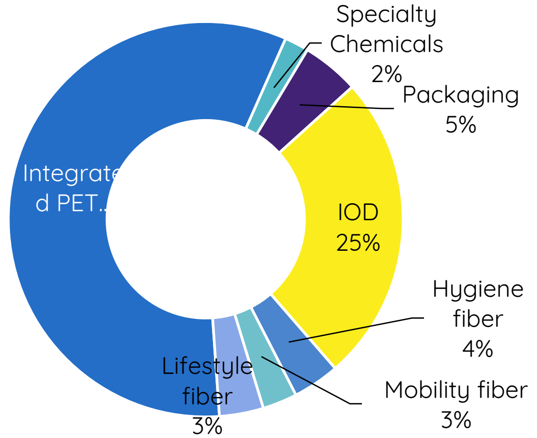
Capacity breakdown (2022)



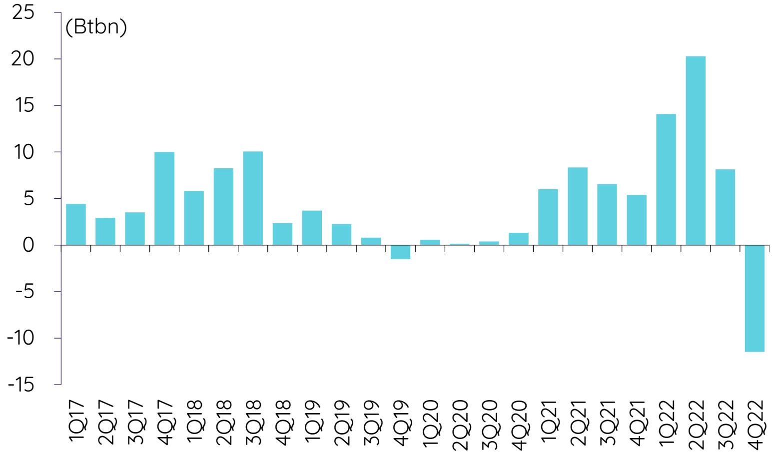
Core EBITDA/t by segment



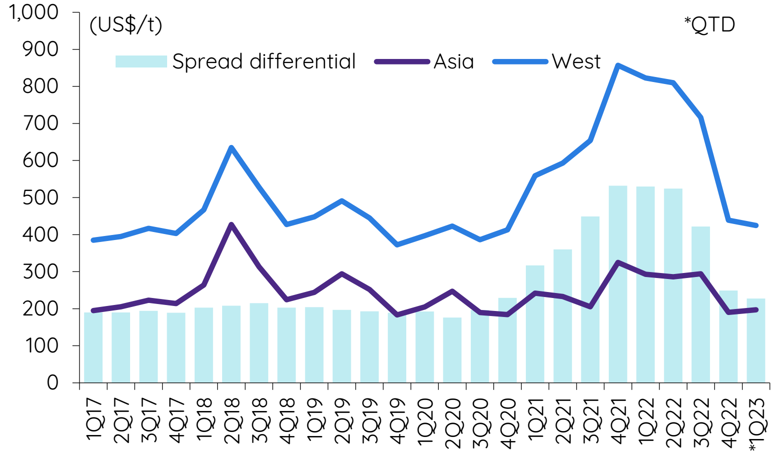
EBITDA breakdown (2022)



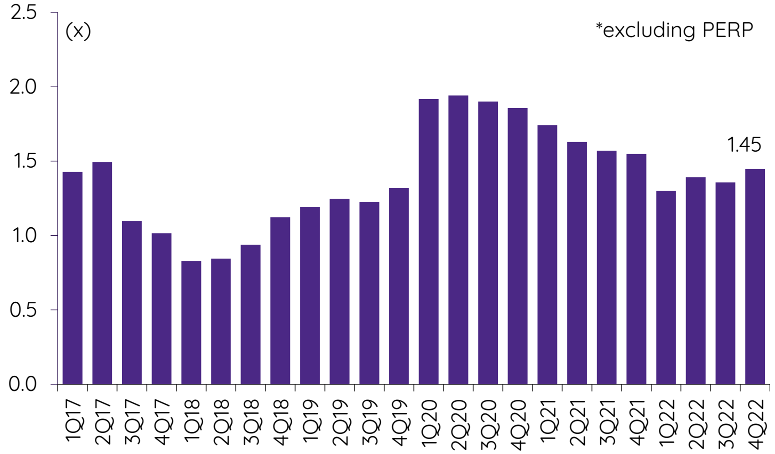
Quarterly net profit



Integrated PET spread differential



Net interest-bearing debt to equity*



Source: Company data and InnovestX Research

Other stocks under coverage

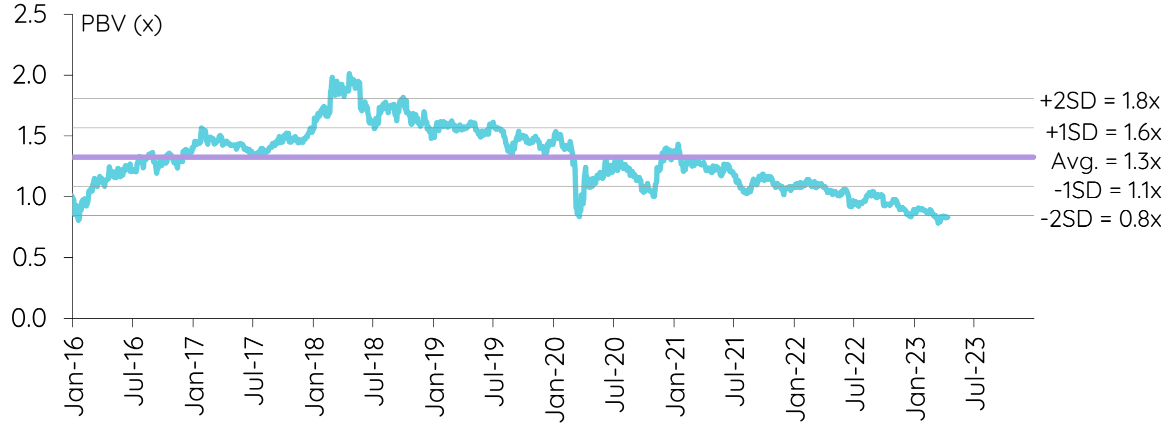
PTT | Outperform | TP: Bt48

- Although PTT remains one of our preferred plays amidst the uncertainties surrounding oil price outlook, as it has proven earnings resilience during a volatile oil price environment, its exposure to the upstream petrochemical business could drag on its earnings in 2023.
- Core profit is expected to weaken 26% YoY in 2023F on lower profit from upstream business, where profit will be hurt by lower oil and gas prices. We view that there remains upside from higher-than-expected oil price and gas price adjustment if supply is tightened further by OPEC+.
- PTT's gas business is expected to improve YoY, backed by the supply and marketing business after suffering from a mismatch in selling price and cost of gas for the industrial segment.
- Share price performance (-5% YTD) lined up with the SET but outperformed SETENERG's -8%. It still lags oil price (+10%) on market pessimism on its outlook and the damage it could suffer from the uncertain global economy.
- **Valuation:** We value PTT based on sum-of-the-parts with PTTEP and P&R associates as key contributors. At our TP, the stock trades at only 7.6x (-1.2SD) 2023 PE.
- **Key risks:** 1) An economic slowdown would erode demand for PTT's energy and petrochemical products while oil price volatility may cause more stock loss, though we see this as unlikely, 2) lower gas demand than expected and more intense competition in the oil marketing business, and 3) more asset impairment, losses from asset divestment and regulatory changes on GHG emissions.

Forecasts and valuation

Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	2,258,818	3,367,203	3,308,380	3,125,105	2,815,480
EBITDA	(Btmn)	424,028	480,495	425,357	427,730	434,601
Core profit	(Btmn)	146,790	160,536	118,143	120,307	122,214
Reported profit	(Btmn)	108,363	91,175	118,143	120,307	122,214
Core EPS	(Bt)	5.14	5.62	4.14	4.21	4.28
DPS	(Bt)	2.00	2.00	2.20	2.20	2.20
P/E, core	(x)	6.1	5.6	7.6	7.5	7.4
EPS growth, core	(%)	459.6	9.4	(26.4)	1.8	1.6
P/BV, core	(x)	0.9	0.9	0.8	0.8	0.7
ROE	(%)	10.6	10.7	7.5	7.2	6.9
Dividend yield	(%)	6.3	6.3	7.0	7.0	7.0
FCF yield	(x)	(7.3)	(2.6)	40.0	27.9	30.2
EV/EBIT	(x)	5.1	5.2	4.1	3.3	2.6
EBIT growth, core	(%)	255.7	13.0	2.6	0.7	0.5
EV/CE	(x)	0.6	0.6	0.6	0.5	0.4
ROCE	(%)	8.1	7.7	7.3	7.7	8.4
EV/EBITDA	(x)	3.4	3.4	3.1	2.5	1.9
EBITDA growth	(%)	94.7	13.3	(11.5)	0.6	1.6

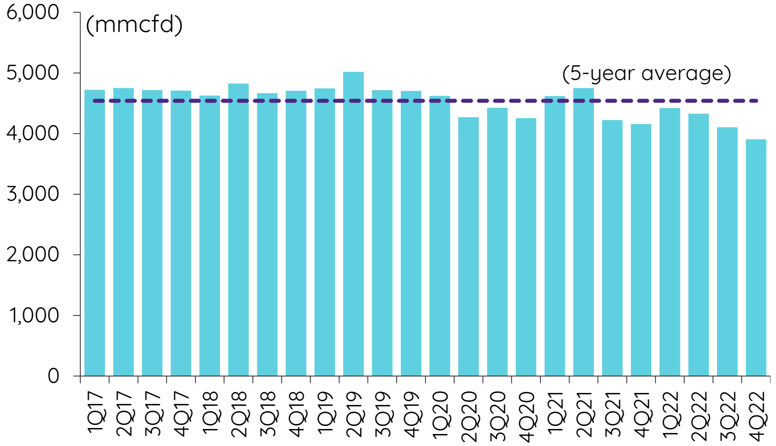
PBV band



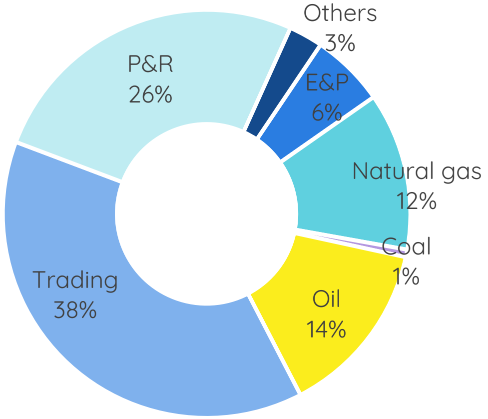
Source: Company data and InnovestX Research

PTT | Outperform | TP: Bt48

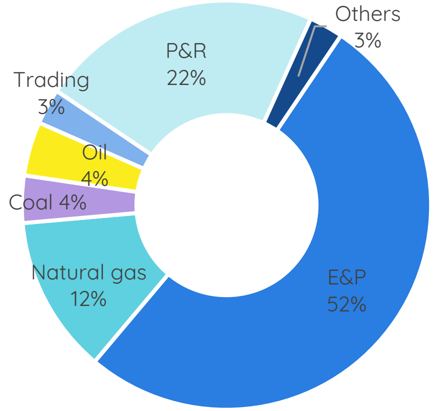
Gas sales volume



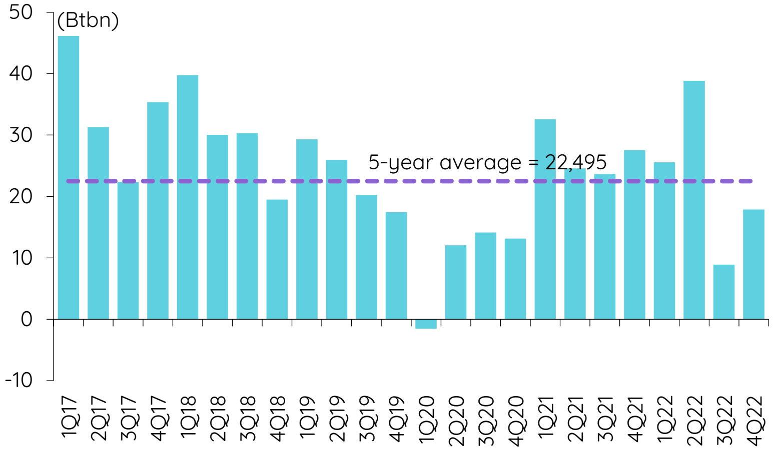
Revenue breakdown (2022)



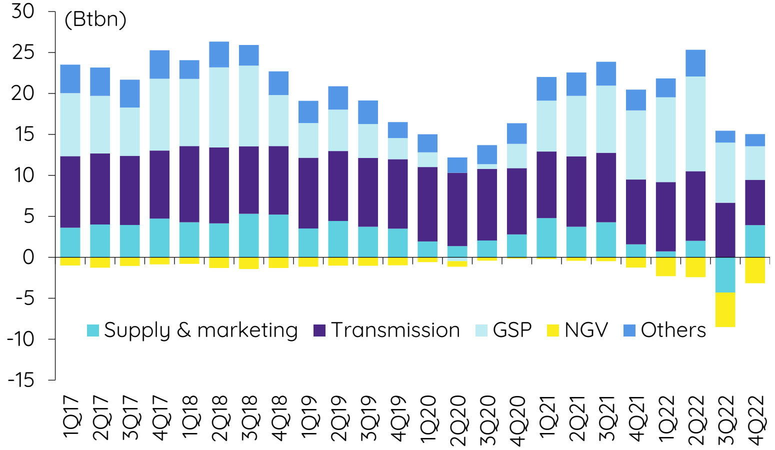
EBITDA breakdown (2022)



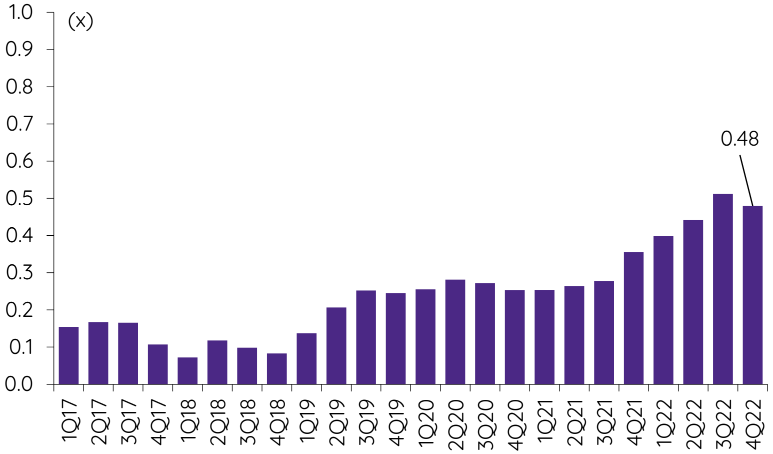
Quarterly net profit



EBITDA breakdown – gas business



Net interest-bearing debt to equity



Source: Company data and InnovestX Research

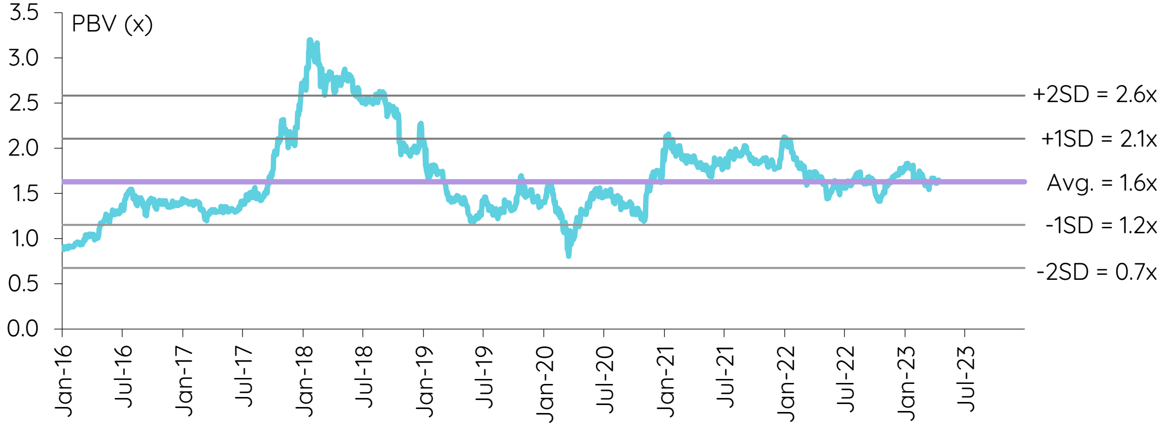
GPSC | Outperform | TP: Bt84

- We believe the worst is past and expect a strong recovery in 2023F profit on higher tariff rate and lower fuel cost. Pressure from energy cost on GPSC's earnings should be much lower as LNG price is expected to decline gradually after peaking in Jan 2023 and it can get more gas from local sources. Coal price is also expected to fall from US$423/t in 4Q22 to an average of <US$300/t in 2023.
- India's solar business (AEPL) will also turn to a profit of Bt200mn in 2023 based on current operating capacity, a turnaround from a net loss of Bt301mn in 2022; contribution from its 25% interest in CFXD in 2023 is expected at Bt100-150mn with all capacity operational in late 2023.
- GPSC's SPP replacement projects (Glow Energy Phase 2) started up in 4Q22, improving overall SPP efficiency in addition to synergy with GLOW SPP.
- GPSC's future investments will focus on four key markets: Thailand, Taiwan, Vietnam and India, and mainly in renewable power projects. Market disappointment on the result of renewable power projects in Thailand – merely 16MW solar projects in the first phase - could sour market sentiment in the near term. The company expects more projects will be selected in the second phase, which will open in Jun 2023.
- **Valuation:** DCF-based TP of Bt84 is unchanged despite a hiccup in 2022.
- **Key risks:** Higher than expected fuel cost, delays in Ft adjustment, lower return on new investments and regulatory changes regarding GHG emissions.

Forecasts and valuation

Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	74,874	123,685	140,362	132,277	134,049
EBITDA	(Btmn)	20,681	12,895	20,054	28,730	22,203
Core profit	(Btmn)	7,412	832	6,862	8,615	9,311
Reported profit	(Btmn)	7,319	891	6,862	8,615	9,311
Core EPS	(Bt)	2.63	0.30	2.43	3.06	3.30
DPS	(Bt)	1.50	0.50	1.20	1.50	1.70
P/E, core	(x)	26.0	231.2	28.0	22.3	20.7
EPS growth, core	(%)	(1.3)	(88.8)	724.3	25.5	8.1
P/BV, core	(x)	1.8	1.8	1.8	1.7	1.6
ROE	(%)	6.5	0.7	5.8	7.0	7.2
Dividend yield	(%)	2.2	0.7	1.8	2.2	2.5
FCF yield	(x)	(1.9)	(5.8)	3.3	13.1	6.7
EV/EBIT	(x)	24.2	75.9	25.7	20.2	18.7
EBIT growth, core	(%)	(9.0)	(67.0)	190.7	17.4	3.8
EV/CE	(x)	3.1	3.8	3.8	4.5	4.6
ROCE	(%)	7.7	0.4	12.0	18.2	20.3
EV/EBITDA	(x)	13.4	22.3	14.1	9.1	11.3
EBITDA growth	(%)	(2.9)	(37.7)	55.5	43.3	(22.7)

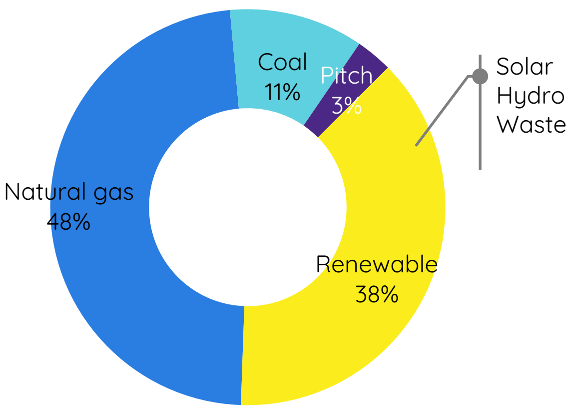
PBV band



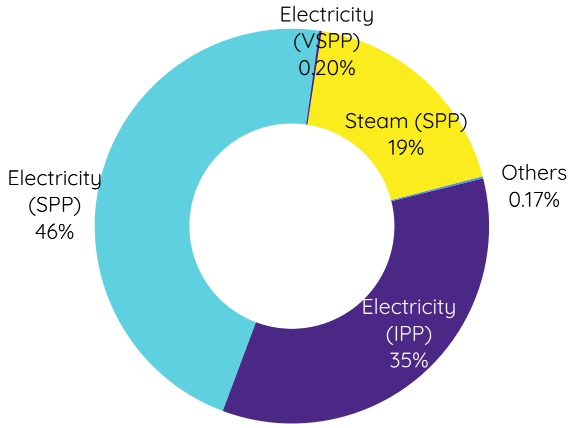
Source: Company data and InnovestX Research

GPSC | Outperform | TP: Bt84

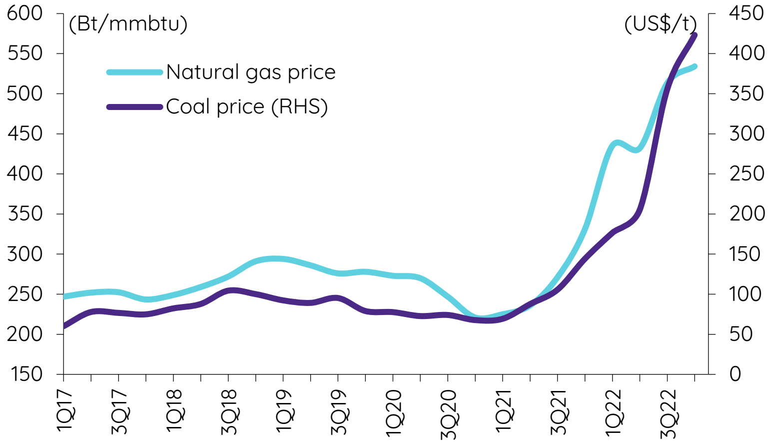
Capacity breakdown



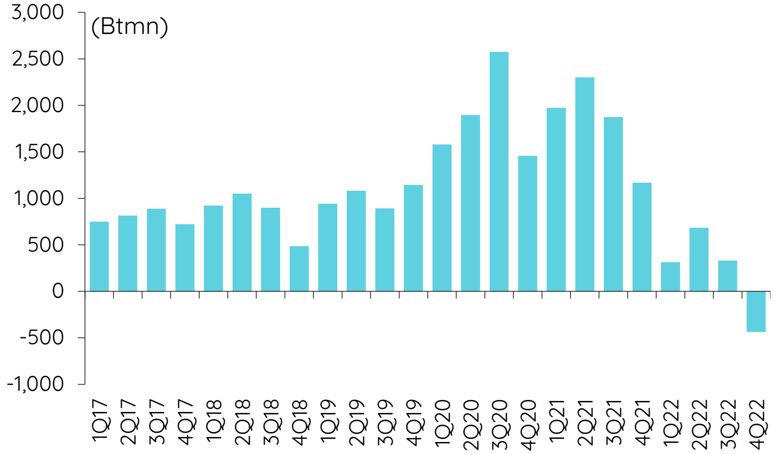
Revenue breakdown



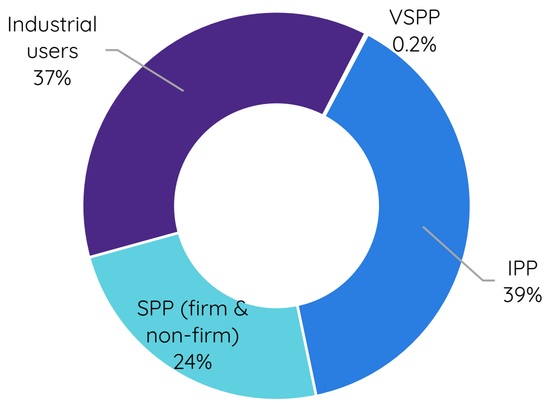
Fuel price - SPP



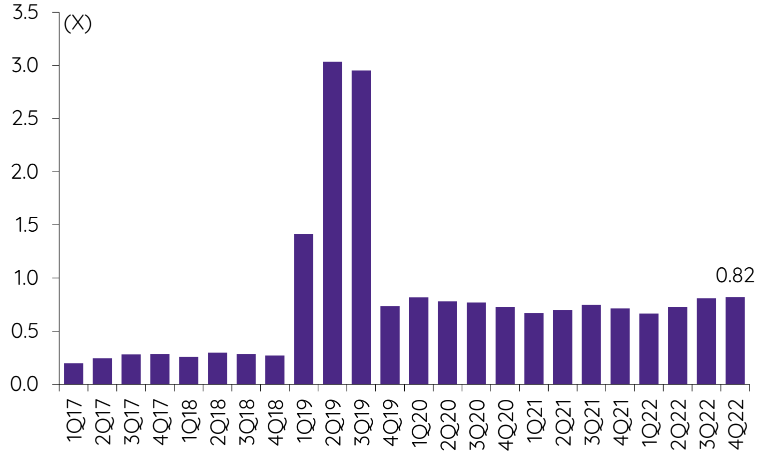
Quarterly net profit



Electricity sales volume breakdown (2022)



Net interest-bearing debt to equity



Source: Company data and InnovestX Research

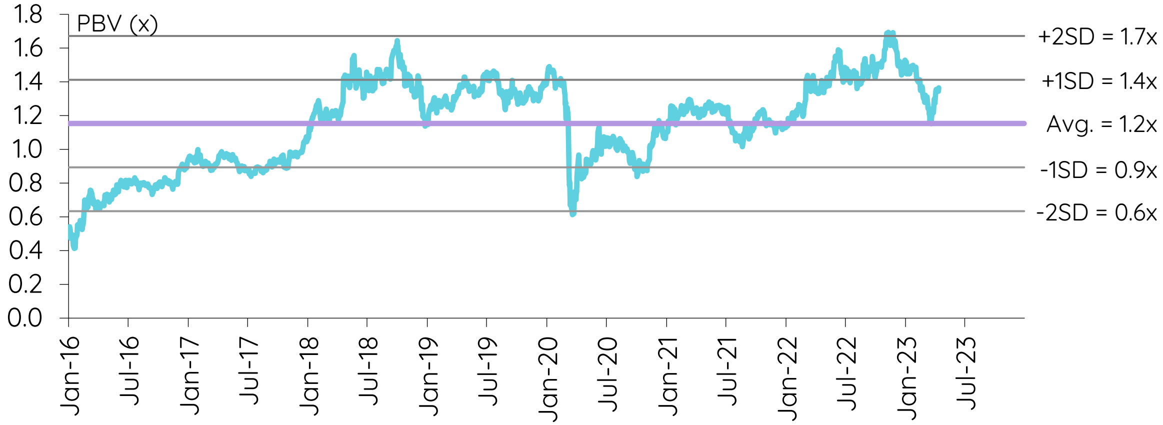
PTTEP | Neutral | TP: Bt187

- PTTEP remains our proxy play on oil price, but its earnings performance is expected to soften in 2023 in line with lower oil price. With an average Dubai oil price of US$80/bbl vs. US$97/bbl in 2022, PTTEP's ASP is expected to fall 10% to US$48/BOE in 2023.
- Target sales volume for 2023 has been guided to edge up by only 0.4% YoY to 470kBOED on lower production sharing of Oman Block 61. This is largely offset by higher production in Thailand and MTJDA, and full-year operation of thge HBR project in Algeria. Five-year sales volume is expected to rise to 550kBOED by 2027 or CAGR of 6.3%.
- Average gas price is likely to decline to US$6.1/mmbtu in 2023, down 2.7% YoY when the PSCs of Block G1/61 (Erawan) and Block G2/61 start in 2022-23, though this will be offset by lower unit cost.
- PTTEP continues to diversify from E&P to other arenas in the new s-curve, including four businesses under a subsidiary in AI and robotics – ARV, new energy and carbon capture and storage (CCS).
- Strong balance sheet with net interest-bearing debt to equity of only 0.2x (end-2022) allows room for new M&As in target countries outside Thailand.
- **Valuation:** Our DCF-based TP (end-2023) at Bt187/share is based on L/T Dubai of US$68/bbl and Brent of US$70/bbl from 2025F. Although the share is currently trading at only 9.9x PE (2023F) vs. 10-year average of 16.4x, investor appetite for the stock will be limited amidst rising global risks.
- **Risk factors:** 1) Volatile crude oil price, 2) higher unit cost, 3) asset impairment and 4) regulatory change on GHG emissions.

Forecasts and valuation

Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	219,068	331,350	292,444	294,537	300,676
EBITDA	(Btmn)	160,693	253,734	206,320	196,877	197,800
Core profit	(Btmn)	42,888	90,721	65,181	59,282	64,253
Reported profit	(Btmn)	38,864	70,901	65,181	59,282	64,253
Core EPS	(Bt)	10.80	22.85	16.42	14.93	16.18
DPS	(Bt)	5.00	9.25	8.00	7.00	8.00
P/E, core	(x)	15.0	7.1	9.9	10.8	10.0
EPS growth, core	(%)	106.6	111.5	(28.2)	(9.1)	8.4
P/BV, core	(x)	1.5	1.4	1.3	1.2	1.1
ROE	(%)	11.1	20.6	13.5	11.5	11.7
Dividend yield	(%)	3.1	5.7	4.9	4.3	4.9
FCF yield	(x)	(0.5)	16.6	2.1	(0.9)	(0.2)
EV/EBIT	(x)	7.3	3.6	5.0	5.7	6.0
EBIT growth, core	(%)	95.8	88.7	(26.0)	(7.5)	0.4
EV/CE	(x)	1.0	0.9	0.9	0.9	0.8
ROCE	(%)	6.6	13.0	9.4	8.0	8.1
EV/EBITDA	(x)	4.1	2.4	3.1	3.4	3.6
EBITDA growth	(%)	44.2	57.9	(18.7)	(4.6)	0.5

PBV band

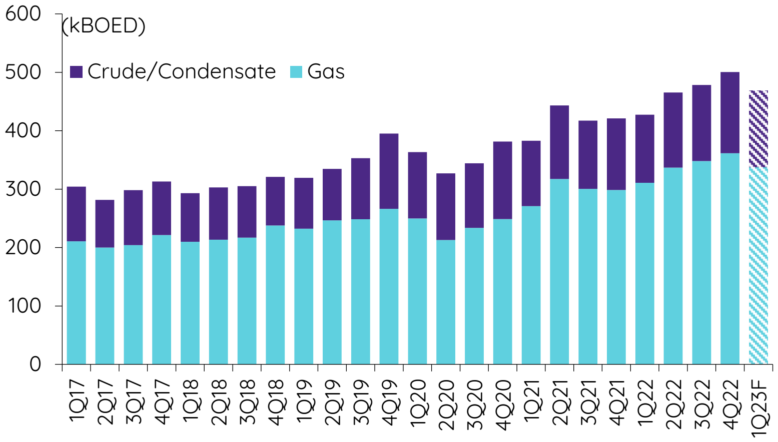


Source: Company data and InnovestX Research

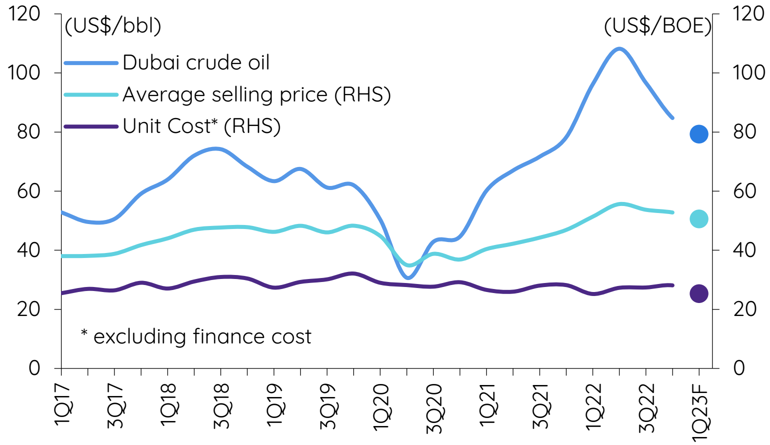
innovest X

PTTEP | Neutral | TP: Bt187

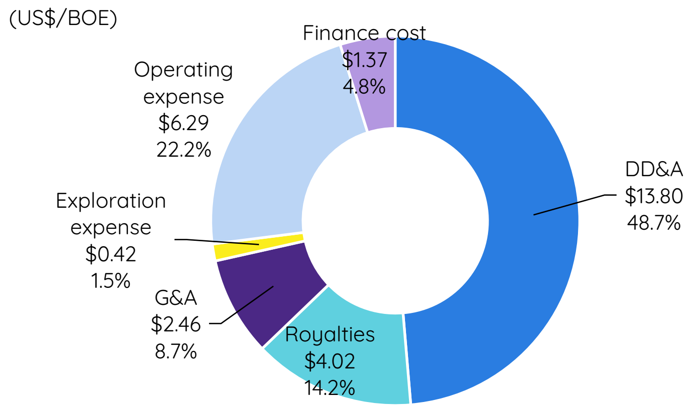
Sales volume breakdown



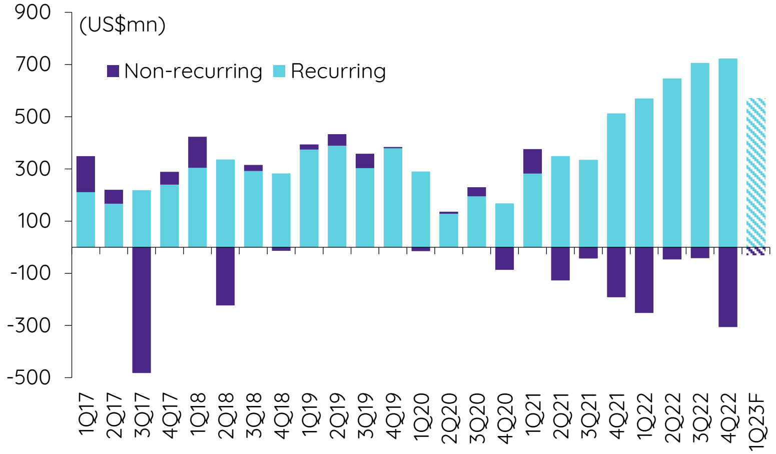
ASP vs. unit cost



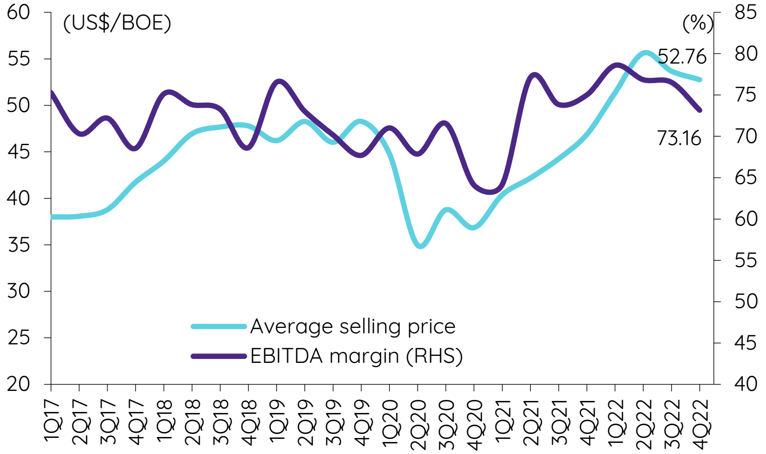
PTTEP's unit cost breakdown



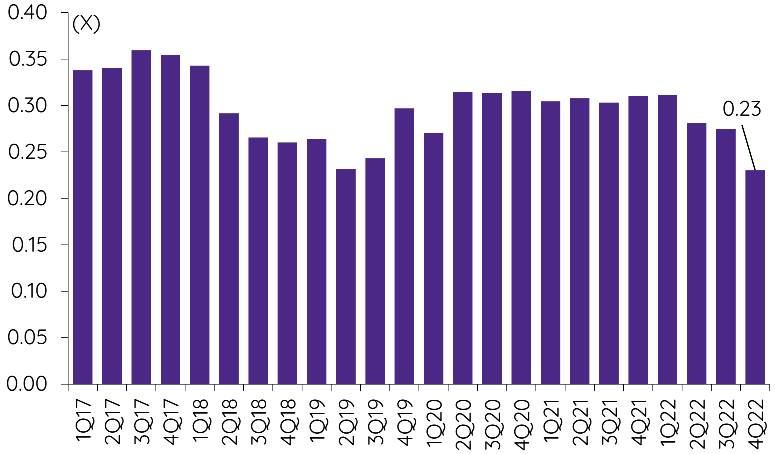
Quarterly net profit



EBITDA margin



Interest-bearing debt to equity



Source: Company data and InnovestX Research

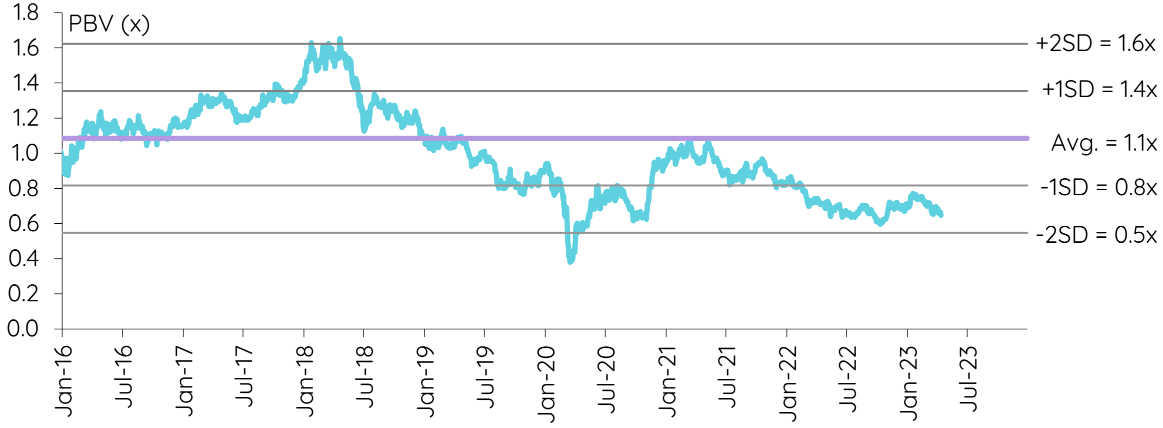
PTTGC | Neutral | TP: Bt56

- Earnings are expected to improve in 2023F without a huge inventory loss and other extra items. Management expects gas supply from the Gulf of Thailand to improve in 2H23, allowing PTTGC to maximize the utilization rate of its gas crackers and reduce the adverse impact from high naphtha cost.
- Demand for petrochemical products is also expected to recover following China's reopening, though additional capacity, mostly in China, is still a risk.
- More gas from the Gulf of Thailand will improve PTTGC's feedstock competitiveness in 2023F but the low PE-naphtha spread suggests that its ORP will be operated at sub-optimal utilization rate.
- Allnex is expected to deliver stronger earnings in 2023 as China's reopening lessens supply chain disruption in the region. Production in automotive and home appliances will increase demand for allnex's coating products. Slower demand in Europe remains a risk.
- **Valuation:** TP of Bt56 is based on 0.8x PBV (2023) or -1SD of 5-year average. Investor appetite on the stock is expected to rise when the demand-supply imbalance for polyolefins products improves, expected in 2024 at the earliest.
- **Key risk factors:** 1) Volatile crude oil price and product spread for oil refining and petrochemicals, 2) higher feedstock cost due to lower gas feedstock, 3) asset impairment and 4) regulatory change on GHG emissions and single-use plastics (<3% of capacity).

Forecasts and valuation

Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	468,953	683,954	655,969	618,676	556,792
EBITDA	(Btmn)	61,952	46,537	62,268	64,179	67,424
Core profit	(Btmn)	32,313	13,792	20,813	24,706	27,704
Reported profit	(Btmn)	44,982	(8,752)	20,813	24,706	27,704
Core EPS	(Bt)	7.17	3.06	4.62	5.48	6.14
DPS	(Bt)	3.75	1.00	2.30	2.70	3.10
P/E, core	(x)	6.1	14.3	9.5	8.0	7.1
EPS growth, core	(%)	n.a.	(57.3)	50.9	18.7	12.1
P/BV, core	(x)	0.6	0.7	0.6	0.6	0.6
ROE	(%)	10.5	4.4	6.8	7.7	8.2
Dividend yield	(%)	8.6	2.3	5.3	6.2	7.1
FCF yield	(x)	(39.9)	(7.9)	1.2	15.1	18.9
EV/EBIT	(x)	8.5	23.3	13.3	12.1	10.4
EBIT growth, core	(%)	n.a.	(51.6)	76.7	5.4	9.1
EV/CE	(x)	0.9	1.2	1.2	1.2	1.1
ROCE	(%)	8.0	5.0	6.8	7.3	8.3
EV/EBITDA	(x)	5.3	9.5	7.2	6.6	5.9
EBITDA growth	(%)	211.5	(24.9)	33.8	3.1	5.1

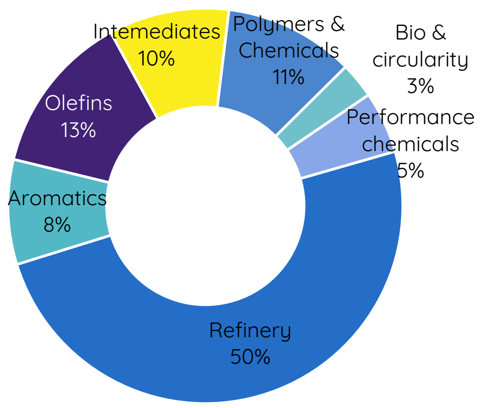
PBV band



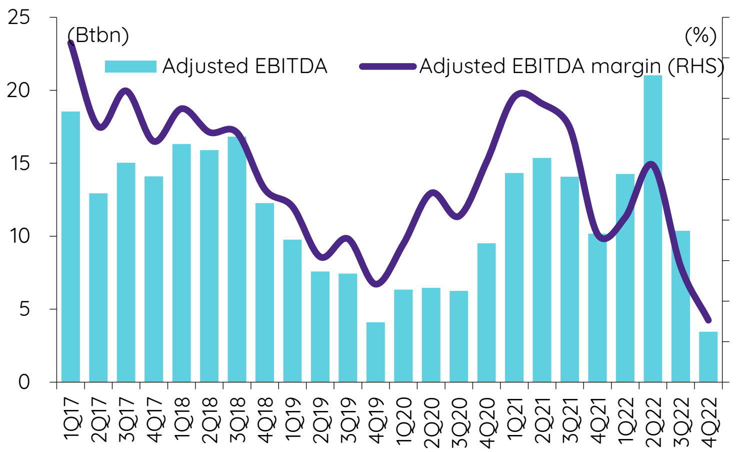
Source: Company data and InnovestX Research

PTTGC | Neutral | TP: Bt56

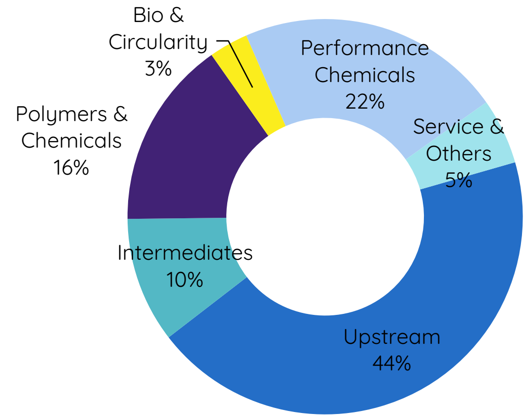
Capacity breakdown



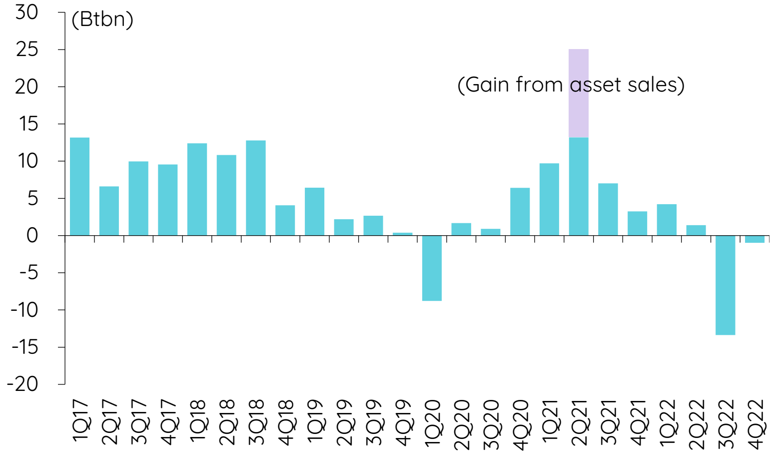
Adjusted EBITDA margin



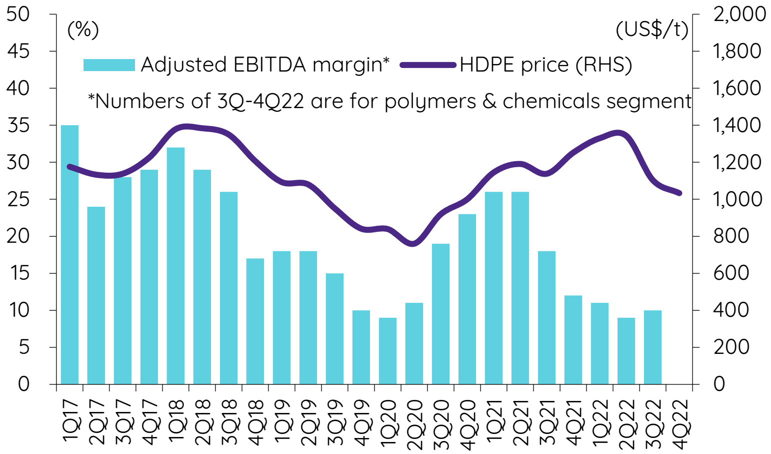
EBITDA breakdown



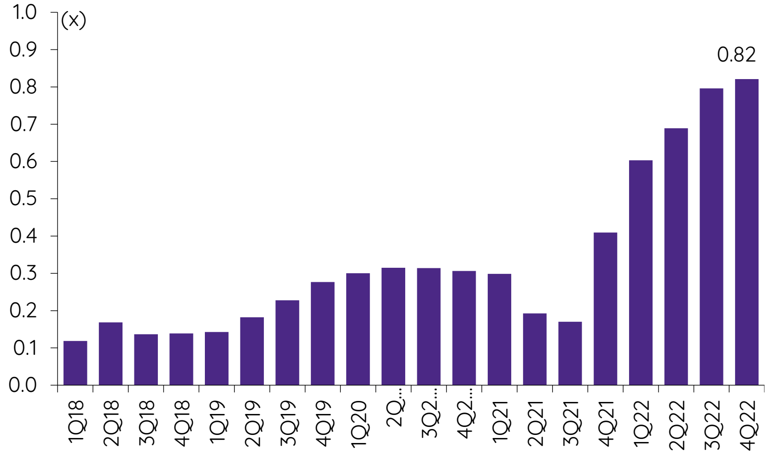
Quarterly net profit



Adjusted EBITDA margin (Olefins)



Net interest-bearing debt to equity



Source: Company data and InnovestX Research

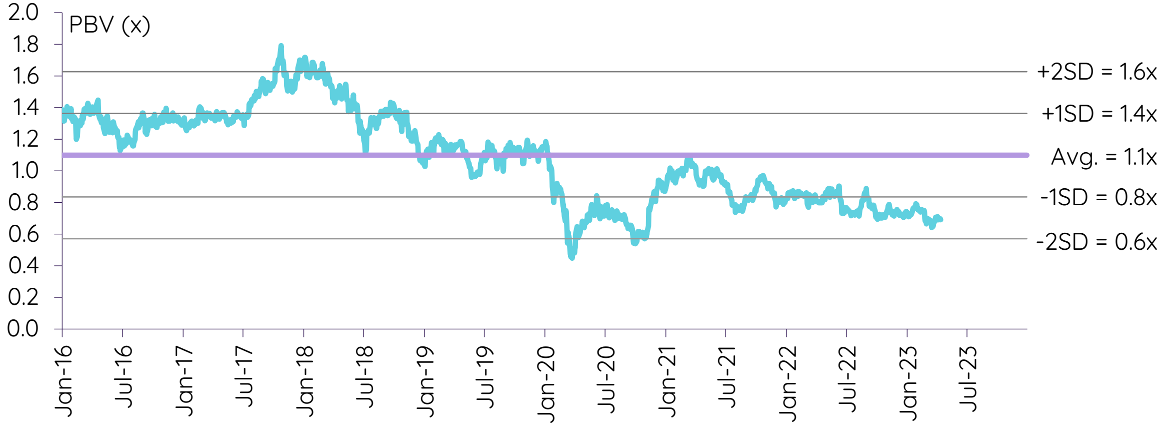
TOP | Neutral | TP: Bt76

- TOP's cost position will remain competitive amidst uncertain oil refining margin and aromatics product spread caused by weaker demand globally.
- We expect TOP's core net profit to fall 58% in 2023F as market GRM is normalizing compared to a surge in 2022 due to geopolitical risks.
- China's reopening will be a key driver for overall GRM, especially for jet fuel and gasoline as demand for transport fuel improves. Low crack spread for middle distillates could be a near-term drag on overall GRM given higher inventory build and new capacity despite the impact of the EU's ban on Russian oil products. Aromatics will be a key drag due to excess supply in the region for both PX and benzene.
- Utilization rates could be back to near normal in 2023 (275kbd crude intake) to accommodate domestic demand to capture a better margin than available for exports. Most of TOP's refined oil products are sold to PTT, which has a large petrol station network.
- TOP's earnings power will increase when CFP is operational in early 2025.
- TOP's balance sheet is getting stronger with net IBD/E of 0.8x (end-2022), down from 1.2x (end-2021) after a successful recapitalization.
- **Valuation:** TP of Bt76/share is based on 5-year average PBV of 1.1x (2023). Current share price implies 0.7x PBV (-1.3SD).
- **Key risks:** Volatile oil price and GRM, weaker oil price causing inventory loss and weaker demand for aromatics that could erode product spread. Other risks are regulatory changes on GHG emissions.

Forecasts and valuation

Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	345,496	529,589	477,049	389,084	382,744
EBITDA	(Btmn)	30,309	52,014	27,123	28,405	36,789
Core profit	(Btmn)	19,037	31,404	14,222	15,261	19,068
Reported profit	(Btmn)	12,578	32,668	14,222	15,261	19,068
Core EPS	(Bt)	9.33	15.03	6.37	6.83	8.54
DPS	(Bt)	2.60	3.70	2.00	2.10	2.60
P/E, core	(x)	5.6	3.5	8.2	7.7	6.2
EPS growth, core	(%)	n.a.	61.0	(57.6)	7.3	24.9
P/BV, core	(x)	0.9	0.8	0.7	0.7	0.6
ROE	(%)	15.7	22.3	8.7	8.8	10.2
Dividend yield	(%)	5.0	7.0	3.8	4.0	5.0
FCF yield	(x)	(29.7)	31.1	(12.1)	5.8	39.1
EV/EBIT	(x)	11.4	5.6	14.2	13.2	9.3
EBIT growth, core	(%)	n.a.	93.4	(57.7)	6.5	20.3
EV/CE	(x)	1.2	1.1	1.1	1.1	1.0
ROCE	(%)	9.4	16.0	6.4	6.7	9.1
EV/EBITDA	(x)	8.6	4.8	9.8	9.3	6.0
EBITDA growth	(%)	n.a.	71.6	(47.9)	4.7	29.5

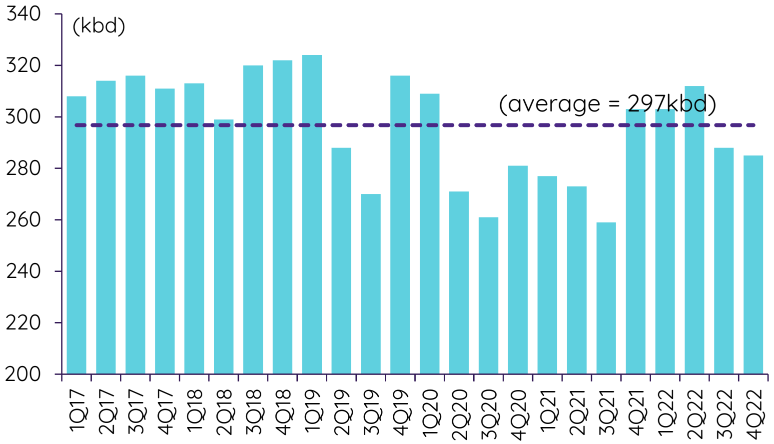
PBV band



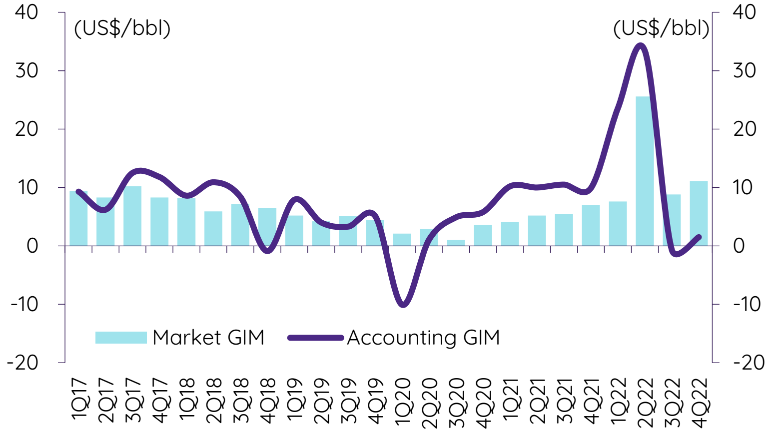
Source: Company data and InnovestX Research

TOP | Neutral | TP: Bt76

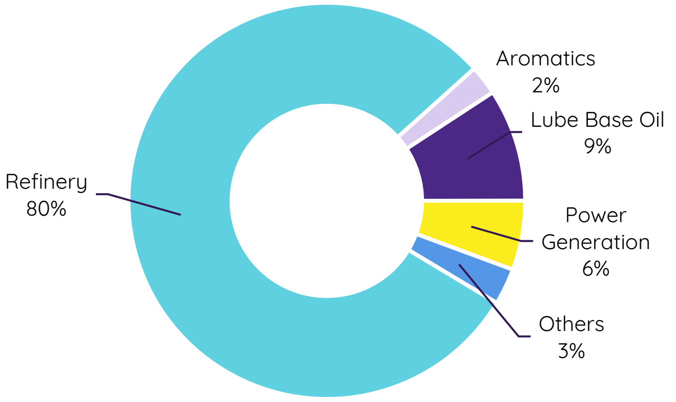
Integrated intake



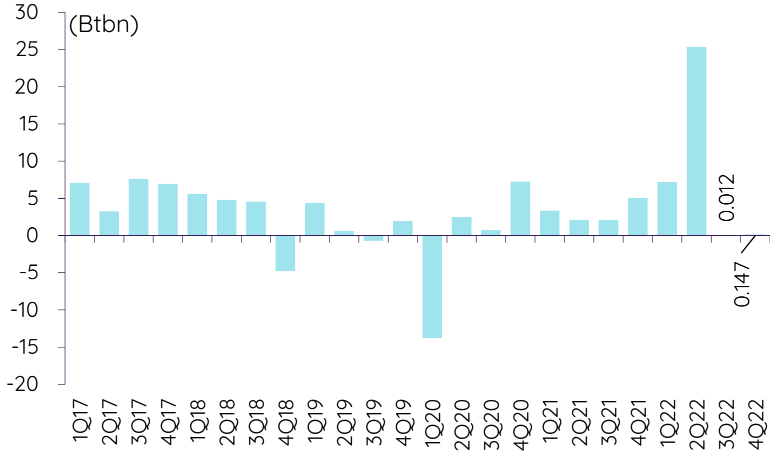
Gross integrated margin



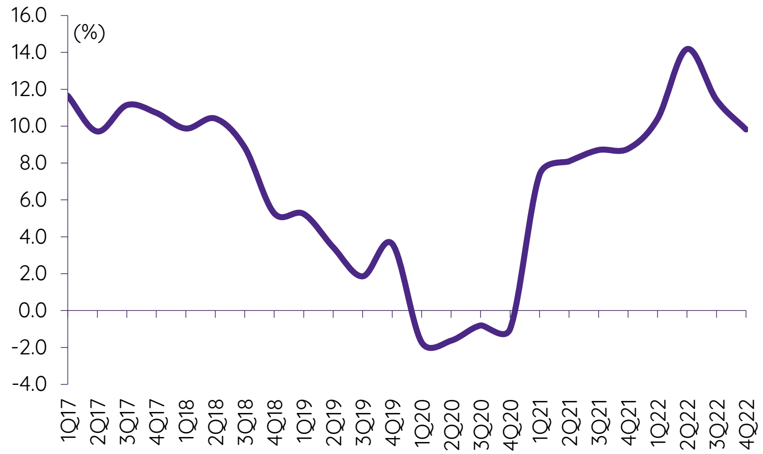
EBITDA breakdown



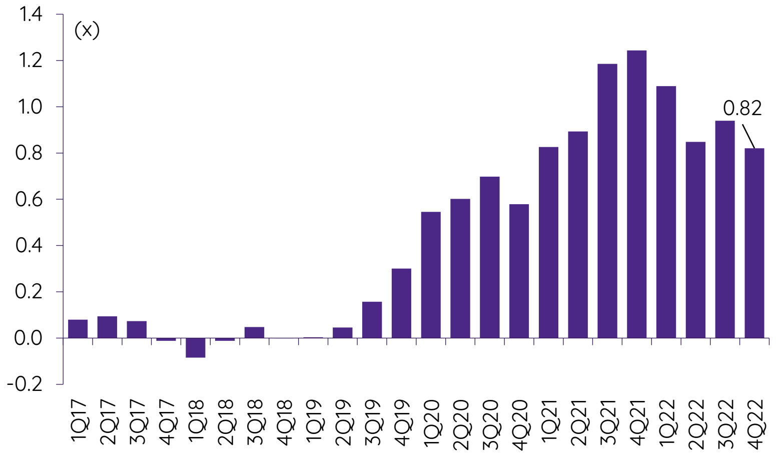
Quarterly net profit



EBITDA margin (12MMA)



Net interest-bearing debt to equity



Source: Company data and InnovestX Research

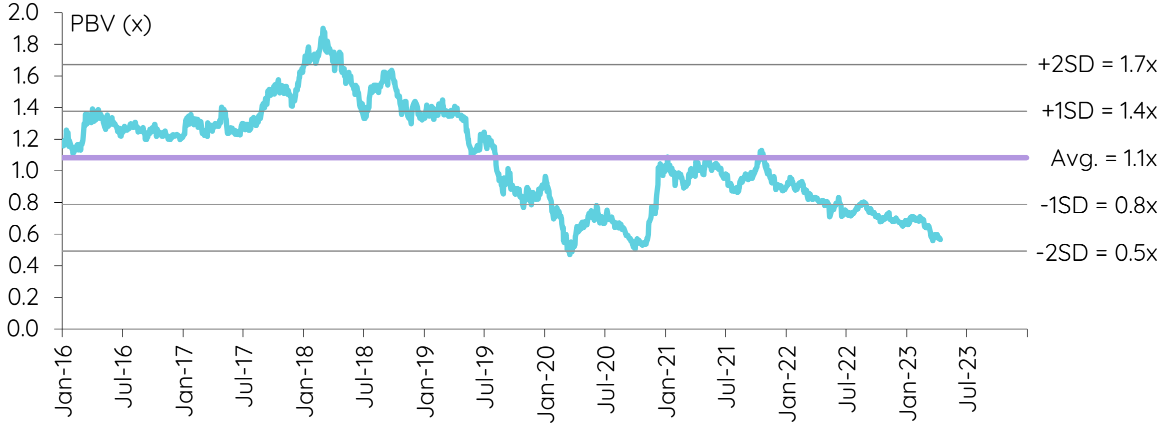
IRPC | Neutral | TP: Bt3.90

- Although we believe the worst is already behind us and earnings should turn around, outlook for 2023 remains challenging given uncertain demand and pressure from new supply in the petrochemical business.
- Despite a 19-21-day maintenance shutdown of the petrochemical complex in 1Q23, we expect an earnings turnaround in 2023 on the absence of huge inventory and oil hedging losses. Management guided to an average crude run of 200kbd, up from 175kbd, with GIM of US$11-12/bbl, based on current product spread. Operating expenses are expected to normalize at ~US$6/bbl after spiking to US$9/bbl in 4Q22.
- Market GIM will be aided by better crack spread for petroleum products, mainly gasoline and diesel, while product spread for petrochemical products remains clouded by uncertain global economic growth.
- The key challenge is the outlook for petrochemicals given new capacity at a time when demand growth is unable to catch up, mainly for PP and ABS, despite China's reopening.
- **Valuation:** We value IRPC based on 1x PBV (2023F) and derive a TP of Bt3.9/share. Despite a cheap valuation, we rate the stock as NEUTRAL as we believe market appetite for the stock is limited given the uncertain outlook for the petrochemical business.
- **Key risks:** Volatile oil price and GRM, weaker oil price causing inventory loss and weaker demand for petrochemical products could erode product spread. Other risks are regulatory changes on GHG emissions.

Forecasts and valuation

Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	255,115	324,800	348,678	329,049	286,928
EBITDA	(Btmn)	28,017	11,314	17,446	18,060	18,874
Core profit	(Btmn)	16,021	2,804	6,242	6,780	7,602
Reported profit	(Btmn)	14,505	(4,364)	6,242	6,780	7,602
Core EPS	(Bt)	0.78	0.14	0.31	0.33	0.37
DPS	(Bt)	0.22	0.07	0.15	0.17	0.19
P/E, core	(x)	3.2	18.5	8.3	7.7	6.8
EPS growth, core	(%)	n.a.	(82.5)	122.6	8.6	12.1
P/BV, core	(x)	0.6	0.7	0.6	0.6	0.6
ROE	(%)	19.6	3.4	7.6	7.9	8.5
Dividend yield	(%)	8.7	2.8	5.9	6.7	7.5
FCF yield	(x)	10.1	(8.3)	(0.4)	24.4	12.9
EV/EBIT	(x)	5.2	36.9	12.4	11.0	9.2
EBIT growth, core	(%)	n.a.	(83.2)	177.2	4.3	8.0
EV/CE	(x)	0.8	0.9	0.9	0.8	0.8
ROCE	(%)	12.5	3.6	5.6	6.1	7.0
EV/EBITDA	(x)	3.6	10.6	6.4	5.8	5.0
EBITDA growth	(%)	956.9	(59.6)	54.2	3.5	4.5

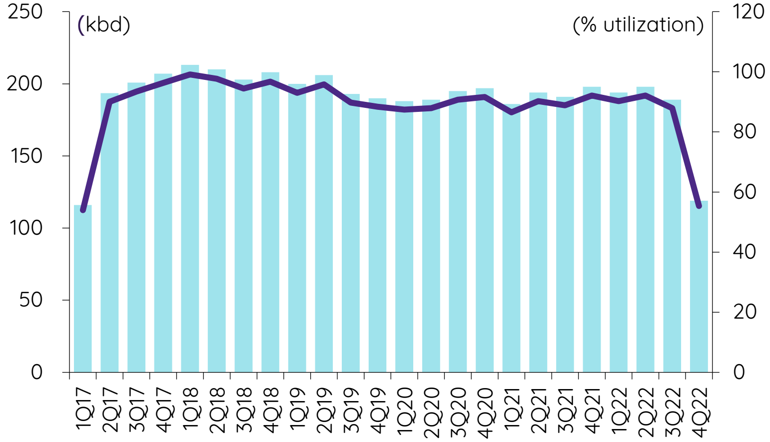
PBV band



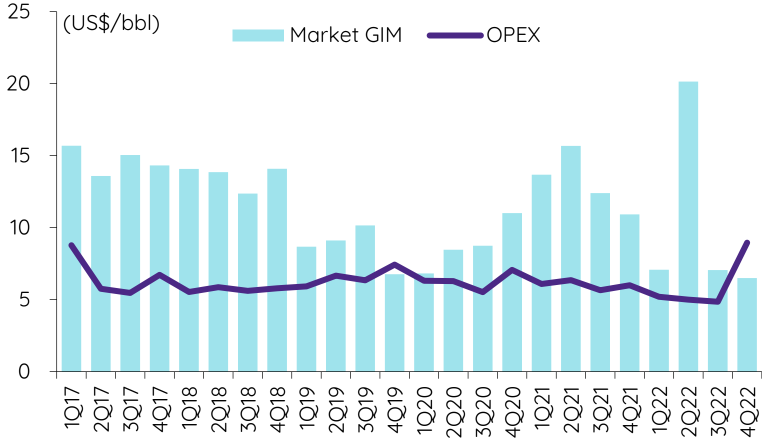
Source: Company data and InnovestX Research

IRPC | Neutral | TP: Bt3.90

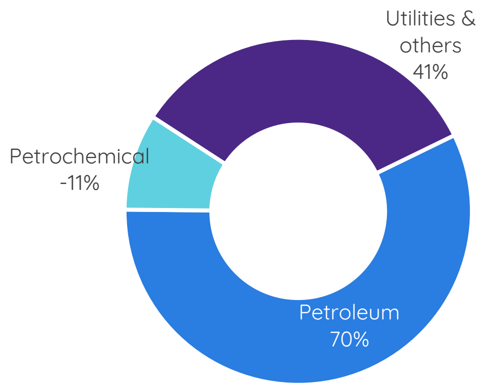
Crude run vs. operating GRM



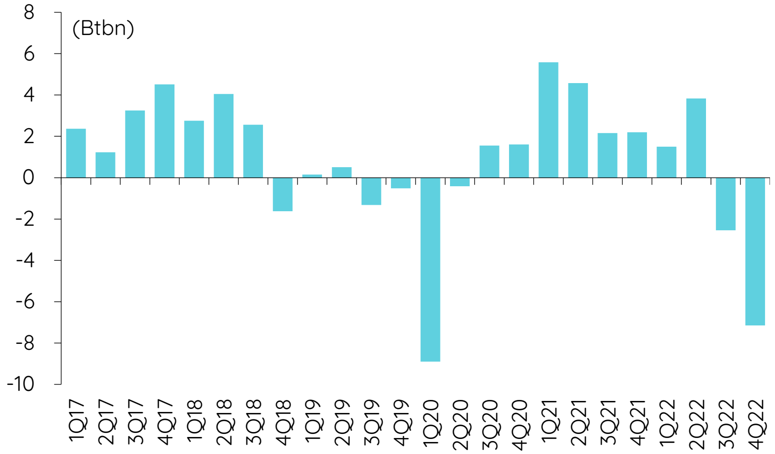
Integrated margin



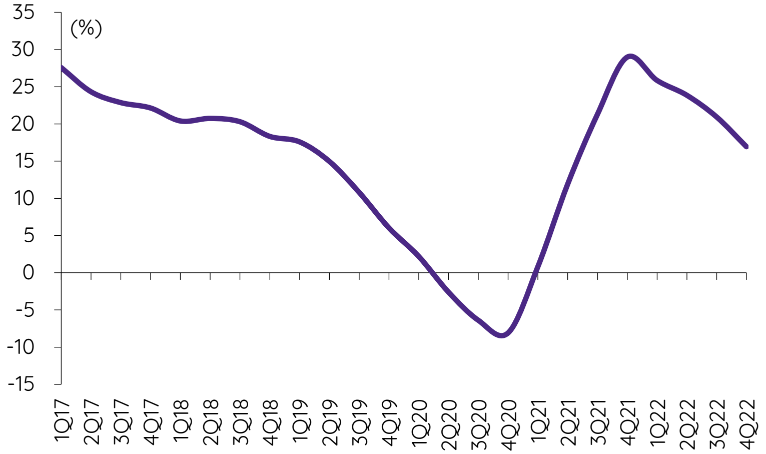
EBITDA breakdown (2022)



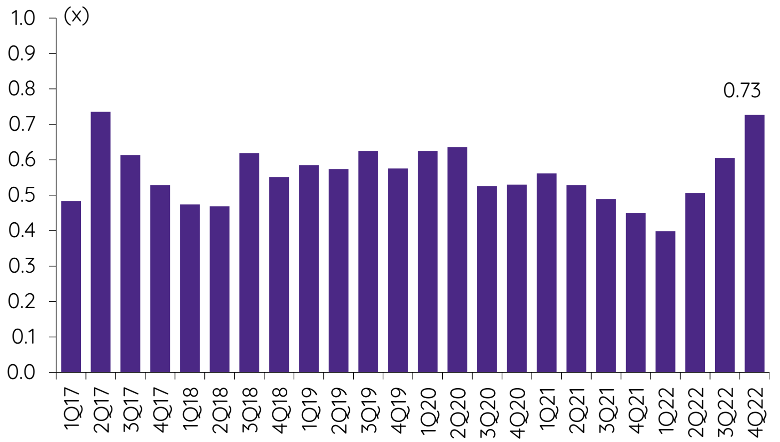
Quarterly net profit



EBITDA margin (12MMA)



Net interest-bearing debt to equity



Source: Company data and InnovestX Research

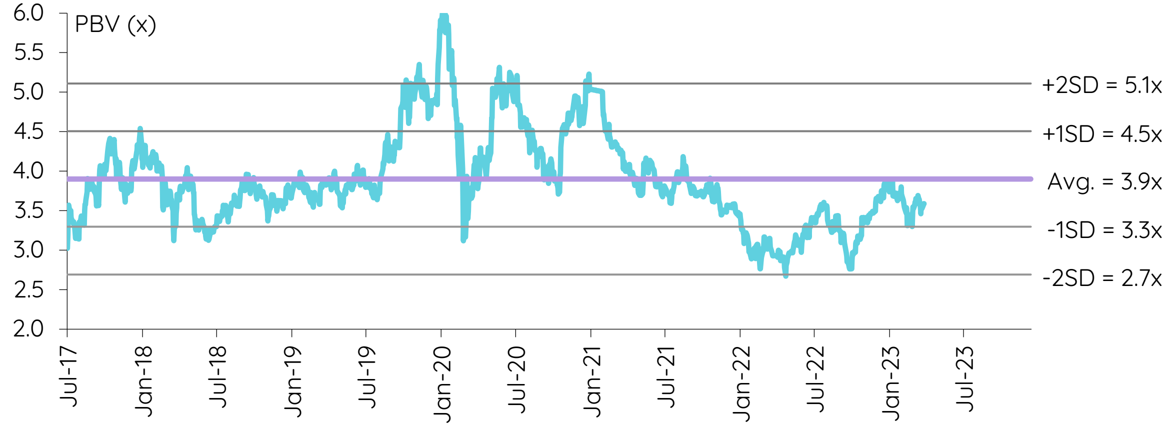
BGRIM | Neutral | TP: Bt48

- BGRIM's worst ever year with a net loss of Bt1.2bn is in the rear view mirror and we expect operating profit to recover in 2023F on lower gas cost and higher tariff.
- Average gas cost in 2023F should fall to Bt400-450/mmbtu vs. Bt475/mmbtu in 2022. Coupled with higher average Ft rate and absence of asset impairment, we expect 2023 to bring a net profit of Bt2.7bn.
- We expect the five new SPP plants under the SPP Replacement scheme to lend support via 15% energy consumption savings. More power projects will commence operations in 2023: U-Tapao hybrid solar (18MW plus 50MWh energy storage system) and two SPPs in Angthong (196 MW attributable).
- BGRIM won 339.3MW in the first phase of renewable power projects with equity-based capacity of 161.26MW, mainly for solar farms. This is equivalent to 6% of current equity MW and the power projects will start up gradually over 2026-2030.
- BGRIM targets 10GW capacity by 2030, up from 3.3GW at end-2022, with >50% of total capacity in renewable energy, up from 25% currently. Despite this ambitious target, management reaffirms its financial discipline with net D/E of 2x.
- **Valuation:** TP of Bt48/share is based on DCF of committed capacity.
- **Key risks:** Higher than expected gas cost and delayed adjustment of Ft rate to catch up with higher fuel cost.

Forecasts and valuation

Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	46,628	62,395	66,109	69,441	66,726
EBITDA	(Btmn)	12,422	10,311	14,020	15,952	16,918
Core profit	(Btmn)	1,520	72	2,723	3,961	4,722
Reported profit	(Btmn)	2,276	(1,244)	2,723	3,961	4,722
Core EPS	(Bt)	0.58	0.03	1.04	1.52	1.81
DPS	(Bt)	0.42	0.07	0.50	0.80	0.90
P/E, core	(x)	68.6	1,452.6	38.3	26.3	22.1
EPS growth, core	(%)	(39.4)	(95.3)	3,693.1	45.5	19.2
P/BV, core	(x)	3.5	3.5	3.3	3.1	2.8
ROE	(%)	3.8	0.2	6.2	8.2	8.8
Dividend yield	(%)	1.1	0.2	1.3	2.0	2.3
FCF yield	(x)	(5.0)	(9.8)	2.6	7.0	8.4
EV/EBIT	(x)	29.0	43.9	25.1	19.9	17.4
EBIT growth, core	(%)	(3.5)	(26.9)	70.3	22.2	9.4
EV/CE	(x)	2.3	2.3	2.3	2.3	2.2
ROCE	(%)	7.1	4.8	8.1	10.5	11.7
EV/EBITDA	(x)	17.0	22.7	16.2	13.8	12.5
EBITDA growth	(%)	(4.7)	(17.0)	36.0	13.8	6.1

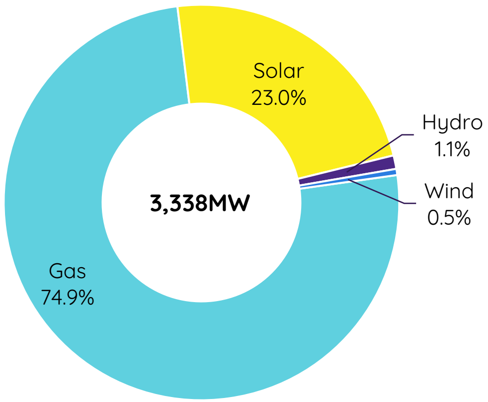
PBV band



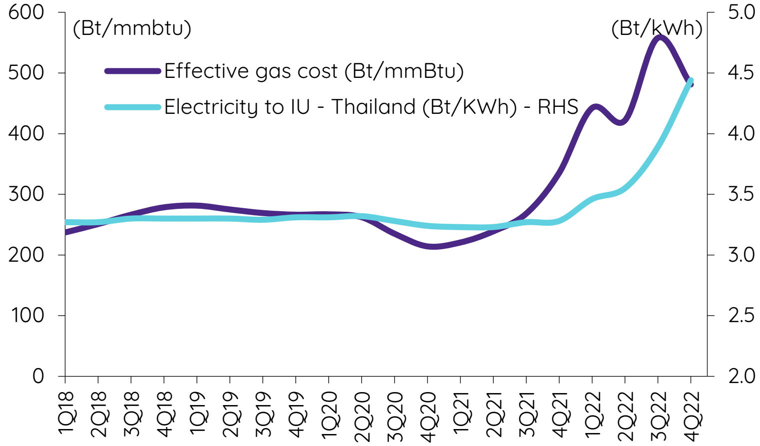
Source: Company data and InnovestX Research

BGRIM | Neutral | TP: Bt48

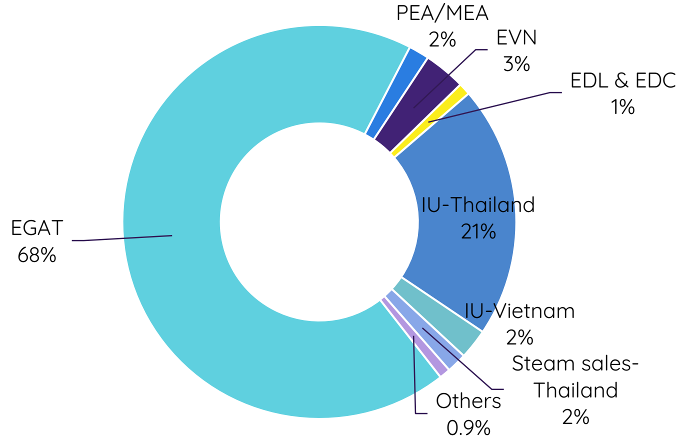
Capacity breakdown (2022)



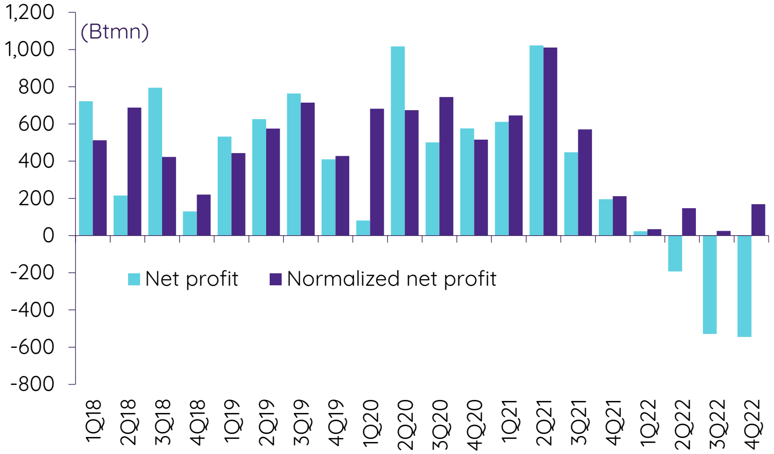
Gas cost vs. tariff for IUs



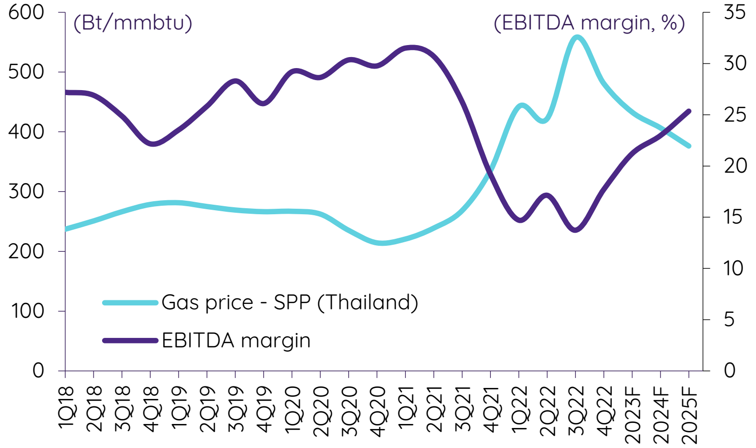
Revenue breakdown



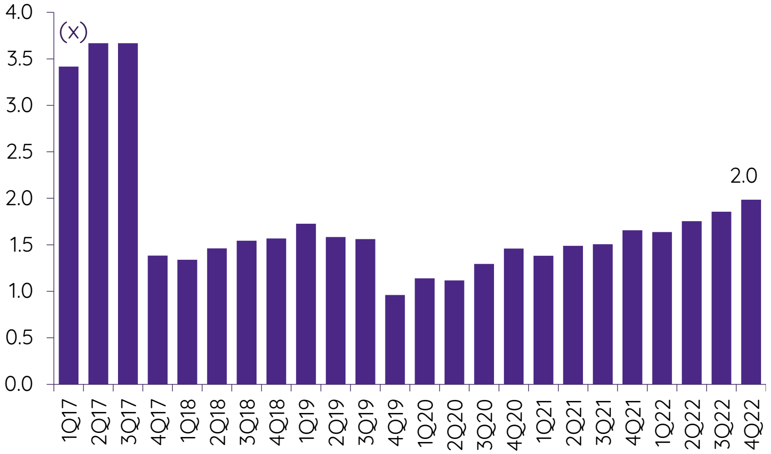
Quarterly net profit



EBITDA margin (12MMA)



Net interest-bearing debt to equity



Source: Company data and InnovestX Research

SPRC | Neutral | TP: Bt12.50

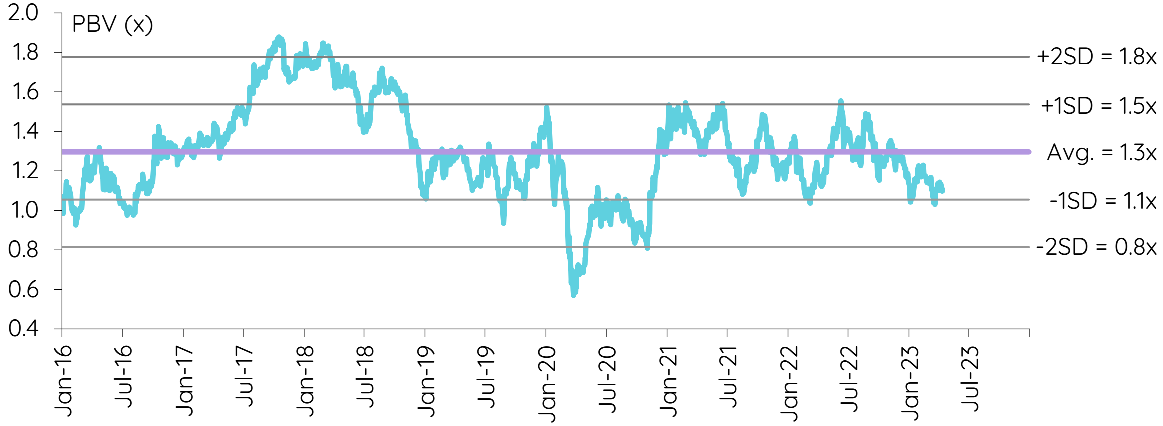
- SPRC's market GRM is expected to normalize in 2023F, falling 8% to US$8.9/bbl from US$9.6/bbl in 2022 after an abnormally high US$9.64/bbl in 2022, driven by a spike in 2Q22 when demand for diesel increased from a switch to oil from gas after gas price shot up. This should, however, remain far above the 5-year average of US$5/bbl.
- We expect overall GRM to be driven by higher crack spread for all key products – diesel, jet fuel and gasoline – due to demand recovery upon China's reopening.
- SPRC plans to expand its business to oil retail via the acquisition of 100% of Chevron Lubricants (Thailand) Co., Ltd which operates oil marketing under the Caltex brand and related assets, including 2.51% in BAFS and 9.91% in Thai Petroleum Pipeline Co., Ltd (Thappline). The transaction will be completed by 1Q24 and financed by internal cash flow from operations and loans. SPRC's low gearing ratio of 0.25x (end-2022) provides room for more borrowing to support this investment. We view that SPRC will face a challenging task in the oil marketing business as it attempts to increase its market share (now at 4.2% in the retail business) given the high competition.
- **Valuation:** TP of Bt12.5/share is based on average 1.3x PBV (2023F).
- **Key risks:** Economic slowdown may hurt demand for its refined oil products which would also damage market GRM, while oil price volatility may bring more stock loss. Other risks include more expenses related to logistics costs as the oil loading facility has not yet come back on line after the oil spill in Jan 202,2 and regulatory changes in GHG emissions.

Source: Company data and InnovestX Research

Forecasts and valuation

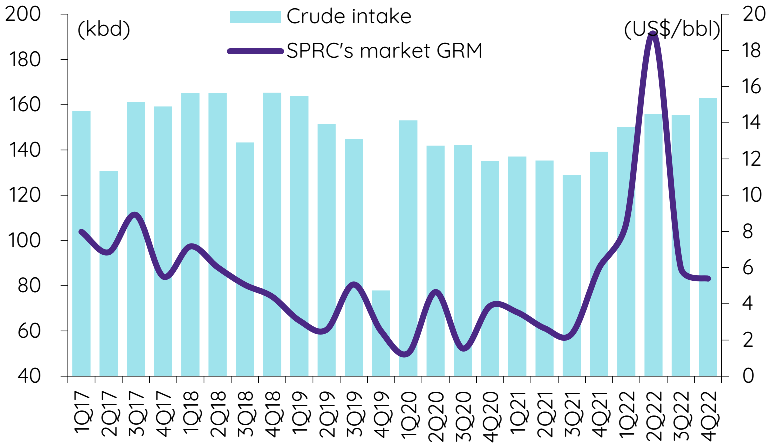
Year to 31 Dec	Unit	2021	2022	2023F	2024F	2025F
Revenue	(Btmn)	172,484	285,264	264,222	241,420	203,055
EBITDA	(Btmn)	8,843	12,306	12,405	12,396	12,923
Core profit	(Btmn)	4,821	7,466	7,657	7,877	8,275
Reported profit	(Btmn)	4,746	7,674	7,657	7,877	8,275
Core EPS	(Bt)	1.11	1.72	1.77	1.82	1.91
DPS	(Bt)	0.18	1.11	1.00	1.10	1.00
P/E, core	(x)	9.6	6.2	6.1	5.9	5.6
EPS growth, core	(%)	n.a.	54.9	2.5	2.9	5.1
P/BV, core	(x)	1.3	1.2	1.1	1.0	1.0
ROE	(%)	15.9	20.4	19.0	18.1	17.6
Dividend yield	(%)	1.7	10.4	9.3	10.3	9.3
FCF yield	(x)	9.0	0.9	31.4	26.2	29.3
EV/EBIT	(x)	8.3	5.8	4.7	3.9	2.9
EBIT growth, core	(%)	n.a.	56.5	1.0	(0.1)	5.4
EV/CE	(x)	1.3	1.2	1.1	1.0	0.9
ROCE	(%)	12.3	15.9	18.9	21.4	26.3
EV/EBITDA	(x)	5.8	4.6	3.7	3.1	2.3
EBITDA growth	(%)	n.a.	39.2	0.8	(0.1)	4.3

PBV band

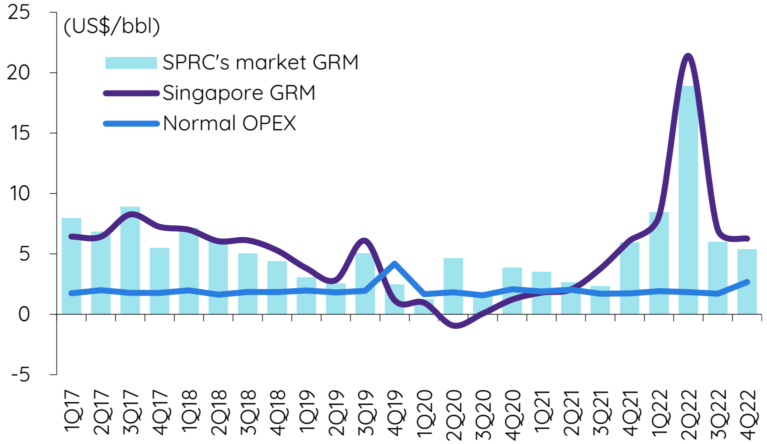


SPRC | Neutral | TP: Bt12.50

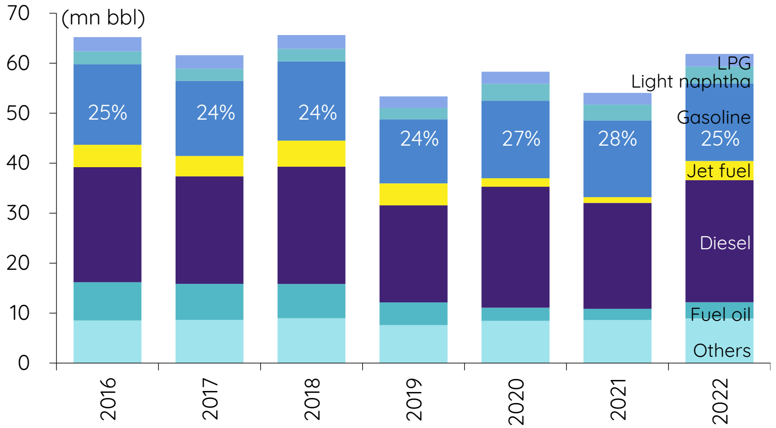
Crude intake vs. market GRM



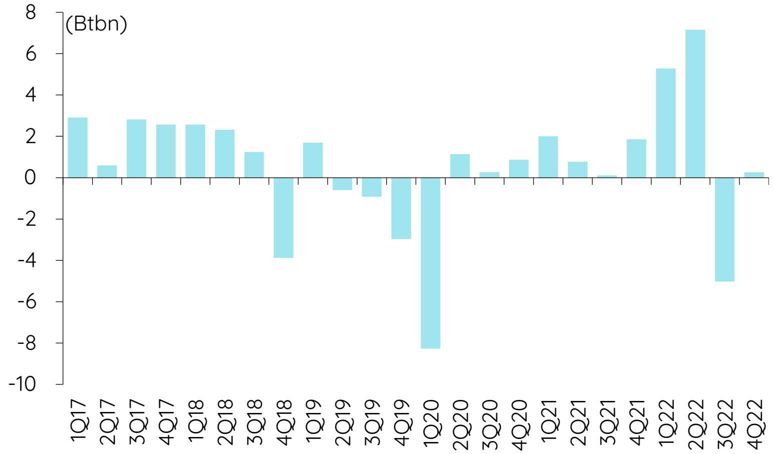
Market GRM vs. OPEX



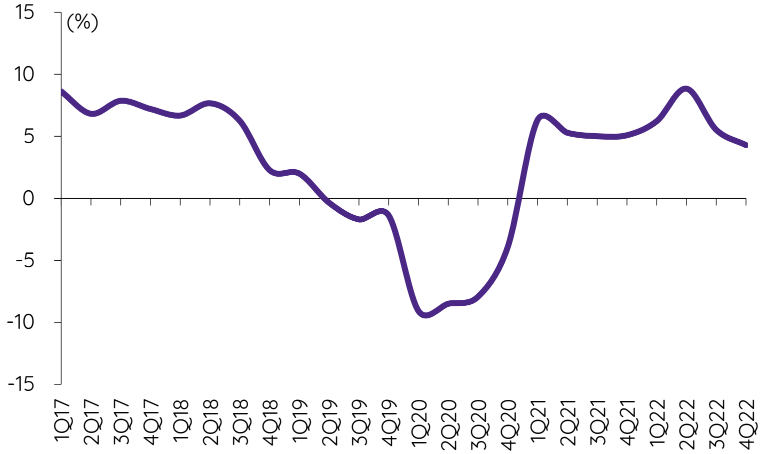
Production breakdown



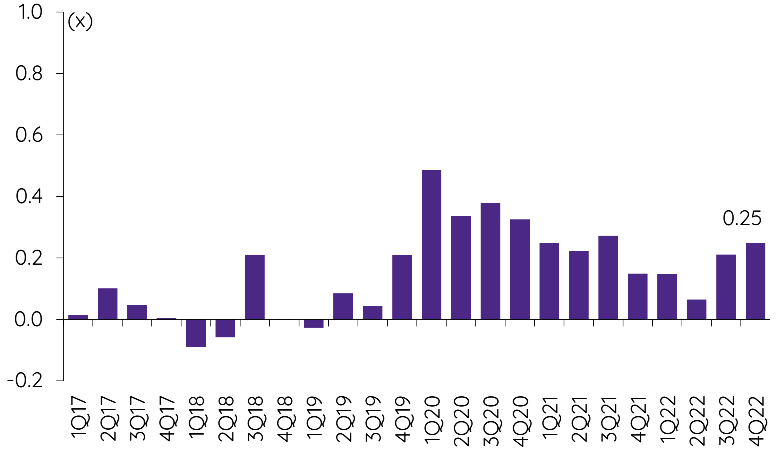
Quarterly net profit



EBITDA margin (12MMA)



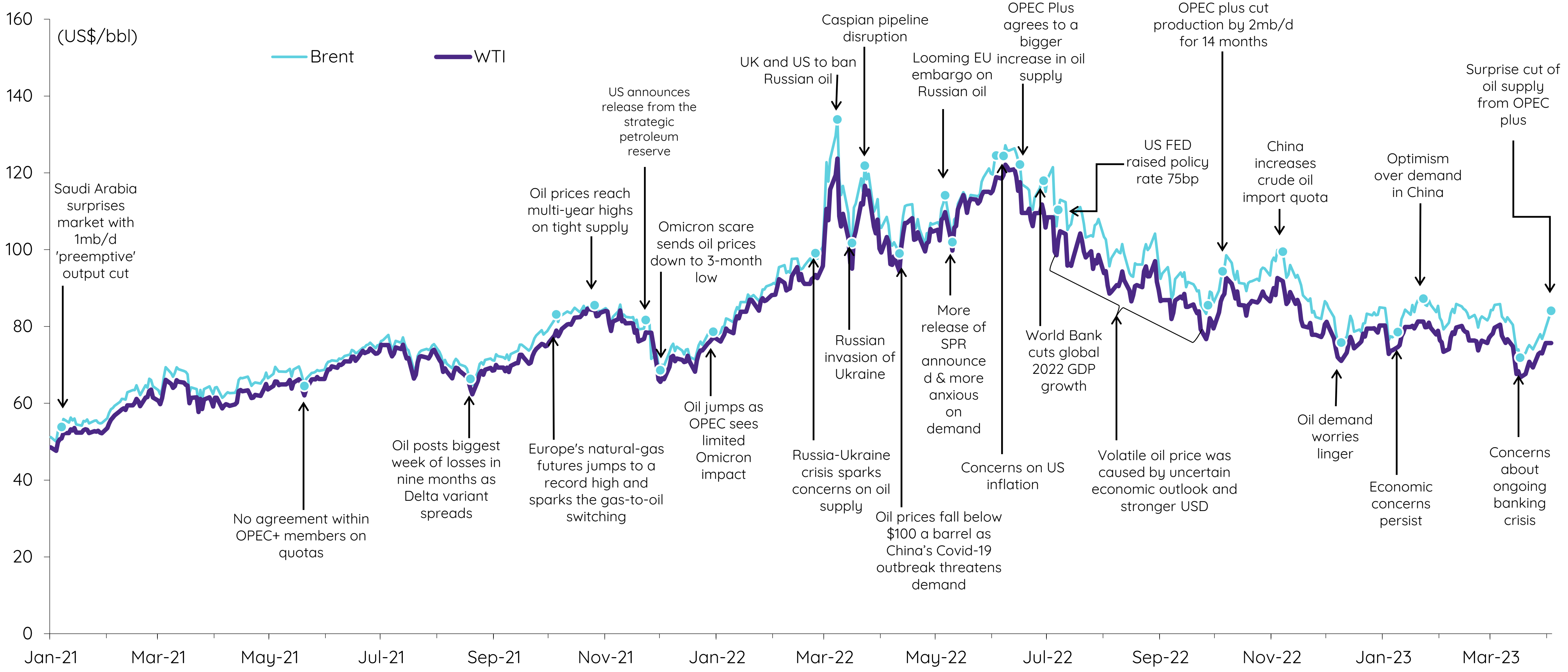
Net interest-bearing debt to equity



Source: Company data and InnovestX Research

Appendix

Key oil market events



Source: Bloomberg Finance LP, Reuters and InnovestX Research

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CG Rating 2022 Companies with CG Rating

Companies with Excellent CG Scoring

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To recognize well performers, the list of companies attaining "Good", "Very Good" and "Excellent" levels of recognition (Not including listed companies qualified in the "no announcement of the results" clause from 1 January 2021 to 27 October 2022) is publicized.

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2S, 7UP, ADVANC, AF, AI, AIE, AIRA, AJ, AKP, AMA, AMANAH, AMATA, AMATAV, AP, APCS, AS, ASIAN, ASK, ASP, AWC, AYUD, B, BAFS, BAM, BANPU, BAY, BBL, BCH, BCP, BCPG, BE8, BEC, BEYOND, BGC, BGRIM, BKI, BLA, BPP, BROOK, BRR, BSBM, BTS, BWG, CEN, CENTEL, CFRESH, CGH, CHEWA, CHOTI, CHOW, CIG, CIMBT, CM, CMC, COM7, COTTO, CPALL, CPF, CPI, CPL, CPN, CRC, CSC, DCC, DELTA, DEMCO, DIMET, DRT, DUSIT, EA, EASTW, EGCO, EP, EPG, ERW, ESTAR, ETE, FE, FNS, FPI, FPT, FSMART, FSS, FTE, GBX, GC, GCAP, GEL, GFPT, GGC, GJS, GPI, GPSC, GSTEEL, GULF, GUNKUL, HANA, HARN, HEMP, HENG, HMPRO, HTC, ICC, ICHI, IFS, III, ILINK, INET, INSURE, INTUCH, IRC, IRPC, ITEL, IVL, JKN, JR, K, KASET, KBANK, KBS, KCAR, KCE, KGEN, KGI, KKP, KSL, KTB, KTC, KWI, L&E, LANNA, LH, LHFG, LHK, LPN, LRH, M, MAJOR, MAKRO, MALEE, MATCH, MBAX, MBK, MC, MCOT, META, MFC, MFEC, MILL, MINT, MONO, MOONG, MSC, MST, MTC, MTI, NEP, NINE, NKI, NOBLE, NOK, NWR, OCC, OGC, ORI, PAP, PATO, PB, PCSGH, PDG, PDJ, PG, PHOL, PK, PL, PLANB, PLANET, PLAT, PM, PPP, PPPM, PPS, PR9, PREB, PRG, PRINC, PRM, PROS, PSH, PSL, PSTC, PT, PTG, PTT, PTTEP, PTTGC, PYLON, Q-CON, QH, QLT, QTC, RABBIT, RATCH, RML, RWI, S&J, SAAM, SABINA, SAPPE, SAT, SC, SCB, SCC, SCCC, SCG, SCGP, SCM, SCN, SEAOIL, SE-ED, SELIC, SENA, SGP, SINGER, SIRI, SITHAI, SKR, SMIT, SMK, SMPC, SNC, SNP, SORKON, SPACK, SPALI, SPC, SPI, SPRC, SRICHA, SSF, SSP, SSSC, SST, STA, STGT, STOWER, SUSCO, SVI, SYMC, SYNTEC, TAE, TAKUNI, TASCO, TCAP, TCMC, TFG, TFI, TFMAMA, TGH, THANI, THCOM, THIP, THRE, THREL, TIDLOR, TIPCO, TISCO, TKS, TKT, TMILL, TMT, TNITY, TNL, TNP, TNR, TOG, TOP, TOPP, TPA, TPCS, TPP, TRU, TSC, TSTE, TSTH, TTA, TTB, TTCL, TU, TVDH, TVI, TVO, TWPC, UBE, UBIS, UEC, UKEM, UOBKH, UPF, UV, VGI, VIH, WACOAL, WHA, WHAUP, WICE, WIIK, XO, YUASA, ZEN, ZIGA

Declared (ประกาศเจตนารมณ์)

AH, ALT, APCO, ASW, B52, CHG, CI, CPR, CPW, DDD, DHOUSE, DOHOME, ECF, EKH, ETC, EVER, FLOYD, GLOBAL, ILM, INOX, J, JMART, JMT, JTS, KEX, KUMWEL, LDC, MEGA, NCAP, NOVA, NRF, NUSA, OR, PIMO, PLE, RS, SAK, SIS, SSS, STECH, SUPER, SVT, TKN, TMD, TMI, TQM, TRT, TSI, VARO, VCOM, VIBHA, W, WIN

N/A

24CS, 3K-BAT, A, A5, AAI, AAV, ABM, ACAP, ACC, ACE, ACG, ADB, ADD, AEONTS, AFC, AGE, AHC, AIT, AJA, AKR, ALL, ALLA, ALPHAX, ALUCON, AMARC, AMARIN, AMC, AMR, ANAN, AOT, APEX, APP, APURE, AQ, AQUA, ARIN, ARIP, ARROW, ASAP, ASEFA, ASIA, ASIMAR, ASN, ATP30, AU, AUCT, AURA, BA, BBGI, BBIK, BC, BCT, BDMS, BEAUTY, BEM, BGT, BH, BIG, BIOTEC, BIS, BIZ, BJC, BJCHI, BKD, BLAND, BLESS, BLISS, BM, BOL, BR, BRI, BROCK, BSM, BTG, BTNC, BTW, BUI, BVG, BYD, CAZ, CBG, CCET, CCP, CEYE, CGD, CH, CHARAN, CHASE, CHAYO, CHIC, CHO, CITY, CIVIL, CK, CKP, CMAN, CMO, CMR, CNT, COLOR, COMAN, CPANEL, CPH, CPT, CRANE, CRD, CSP, CSR, CSS, CTW, CV, CWT, D, DCON, DEXON, DITTO, DMT, DOD, DPAINT, DTCENT, DTCI, DV8, EASON, ECL, EE, EFORL, EMC, ESSO, F&D, FANCY, FMT, FN, FORTH, FTI, FVC, GENCO, GIFT, GL, GLAND, GLOCON, GLORY, GRAMMY, GRAND, GREEN, GSC, GTB, GTV, GYT, HFT, HL, HPT, HTECH, HUMAN, HYDRO, ICN, IFEC, IHL, IIG, IMH, IND, INGRS, INSET, IP, IRCP, IT, ITC, ITD, ITNS, ITTHI, JAK, JAS, JCK, JCKH, JCT, JDF, JSP, JUBILE, KAMART, KC, KCC, KCM, KDH, KIAT, KISS, KJL, KK, KKC, KLINIQ, KOOL, KTIS, KTMS, KUN, KWC, KWM, KYE, LALIN, LEE, LEO, LIT, LOXLEY, LPH, LST, MACO, MANRIN, MASTER, MATI, MAX, M-CHAI, MCS, MDX, MEB, MENA, METCO, MGT, MICRO, MIDA, MITSIB, MJD, MK, ML, MODERN, MORE, MOSHI, MPIC, MTW, MUD, MVP, NATION, NC, NCH, NCL, NDR, NER, NETBAY, NEW, NEWS, NEX, NFC, NNCL, NPK, NSL, NTSC, NTV, NV, NVD, NYT, OHTL, OISHI, ONEE, OSP, OTO, PACE, PACO, PAF, PCC, PEACE, PERM, PF, PICO, PIN, PJW, PLUS, PMTA, POLAR, POLY, POMPUI, PORT, POST, PPM, PQS, PRAKIT, PRAPAT, PRECHA, PRI, PRIME, PRIN, PRO, PROEN, PROUD, PRTR, PSG, PTC, PTECH, PTL, RAM, RBF, RCL, READY, RICHY, RJH, ROCK, ROH, ROJNA, RP, RPC, RPH, RSP, RT, S, S11, SA, SABUY, SAF, SAFARI, SALEE, SAM, SAMART, SAMCO, SAMTEL, SANKO, SAUCE, SAWAD, SAWANG, SCAP, SCI, SCP, SDC, SE, SEAFCO, SECURE, SENAJ, SFLEX, SFP, SFT, SGC, SGF, SHANG, SHR, SIAM, SICT, SIMAT, SISB, SJWD, SK, SKE, SKN, SKY, SLM, SLP, SM, SMART, SMD, SMT, SNNP, SO, SOLAR, SONIC, SPA, SPCG, SPG, SPVI, SQ, SR, SSC, STANLY, STARK, STC, STEC, STHAI, STI, STP, STPI, SUC, SUN, SUTHA, SVOA, SVR, SWC, SYNEX, TACC, TAPAC, TC, TCC, TCCC, TCJ, TCOAT, TEAM, TEAMG, TEGH, TEKA, TFM, TGE, TGPRO, TH, THAI, THANA, THE, THG, THL, THMUI, TIGER, TIPH, TITLE, TK, TKC, TLI, TM, TMC, TMW, TNDT, TNH, TNPC, TOA, TPAC, TPBI, TPCH, TPIPL, TPIPP, TPLAS, TPOLY, TPS, TQR, TR, TRC, TRITN, TRUBB, TRUE, TRV, TSE, TSF, TSR, TTI, TTT, TTW, TVT, TWP, TWZ, TYCN, UAC, UBA, UMI, UMS, UNIQ, UP, UPOIC, UREKA, UTP, UVAN, VL, VNG, VPO, VRANDA, WARRIX, WAVE, WFX, WGE, WINMED, WINNER, WORK, WORLD, WP, WPH, XPG, YGG, YONG

Explanations

Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of July 7, 2022) are categorised into: companies that have declared their intention to join CAC, and companies certified by CAC.