

China Oil & Gas

Weekly Theme: Dec oil & gas imports and refined exports move in opposite direction

Industry Overview

Oil Dec import resumed with FY23 imports hitting record

According to China Customs data in Dec, China crude oil imports (11.4mbd/48mnt) recovered at 10% MoM/flat YoY, mainly driven by 1) cheaper import price (US\$83/b in Dec vs. US\$89/b in Nov) to build stock; 2) allocation of new oil import quota (184mnt) to SME refineries; and 3) teapot refineries' run rate improving (61.4% in Dec vs. 58.1% in Nov). In addition, improved GRM (US\$4.6/b in Jan 2024 vs. negative US\$0.7/b in Dec 2023) and release of the first batch of refined oil product export quota (19mnt) also stimulated oil import. If domestic oil production remains the same as last month, crude oil apparent demand would be 15.4mbd/66mnt, +7% MoM/+1% YoY. In FY23, China imported 11% more crude oil last year compared with 2022 at 11.3mbd/564mnt, up from a previous oil import record of 10.8mbd/542mnt in 2020.

Meanwhile, China natural gas imports in Dec further rose to 17bcm, +16% MoM/+23% YoY, hitting monthly record, given colder weather in northern China during the heating season. In Dec, gas procurement cost came in at US\$12/MMBtu, +12% MoM/-20% YoY. Gas apparent demand would be 37bcm, +9% MoM/+9% YoY, if the output remains the same as last month's. In FY23, gas imports bounced back with all-time highs over FY22 to 164bcm, +10% YoY, and apparent demand would be 388bcm, +8% YoY due to industrial activities recovery and year-on-year lower gas prices.

Dec refined products exports down to six-month low

According to China Customs data, China's refined product exports (typically includes gasoline, diesel, jet fuel and fuel oil) in Dec fell to a six-month low at 4.6mnt, -40% YoY/-9% MoM. The sharp month-on-month drop is mainly due to exhausted export quotas at the end of the year, where almost 98% of the annual allowance has already been used in the first 11 months, so that only a tiny slice is left for Dec. Meanwhile, the monthly imports for oil products recorded 4.8mnt (+15% MoM) in Dec, making the net exports negative for the first time since Apr23. Despite the single-month decline, the annual export volume for fuel products registered 62.8mnt in 2023, +17% YoY on recovered international trade post pandemic and higher domestic crude throughput. The annual import was 47.8mnt, surging 80% YoY. In FY23, the total export quota was 54mnt, comprised of 40mnt for gasoline/diesel/kerosene and 14mnt for LSFO. Heading into 2024, we expect exports to be stabilized given a flat export quota under carbon concern.

Notable breakthrough of shale oil discovery in Sichuan

According to *Reuters report* on Jan 9, Sinopec discovered high-flow shale oil resources in Sichuan Basin, which made a notable breakthrough in the company's share oil explorations. The discovery may lead Sinopec's resources to hundreds million tons of crude in the Sichuan Basin, from just 119kt of crude oil output in 2022. The operating well of Xingye-9 tested a daily output of 108.15cm for oil and 15,800cm for gas.

(to be continued in page 2)

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Equity
China
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Abbreviations in appendix

More charts in following pages

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Timestamp: 15 January 2024 07:59AM EST

Weekly updates

Oil prices: Brent oil price decreased 0.6% WoW to US\$78.3/b and WTI oil price decreased 1.5% WoW to US\$72.7/b in the week ended 12 Jan 2024. WTI discount to Brent expanded to US\$5.6/b.

Factors supporting oil prices include:

- *Reuters* reports that the tensions in Red Sea have escalated with more oil tankers avoiding the route after US and UK air strikes on Yemen;
- *Bloomberg* reports that Iran seized an oil tanker in the Gulf of Oman in retaliation to the confiscation by the US last year;
- *Bloomberg* reports that Libya's National Oil Corporation noticed a force majeure on output disruption at Sharara oilfield due to local protests;
- The US rigs count fell to 616 rigs (oil rigs -2 WoW to 499 and gas rigs -1 WoW to 117) through the week ended 12 Jan 2024;

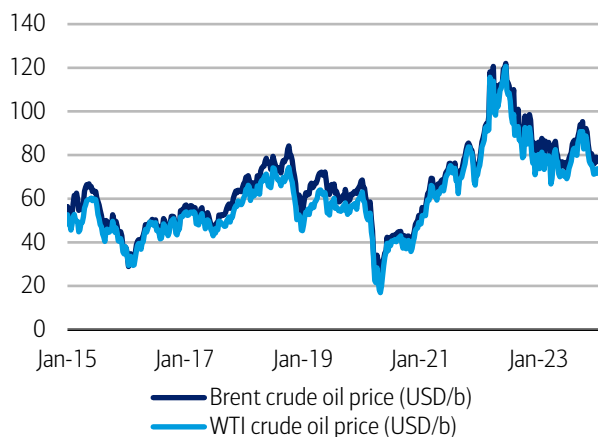
Factors suppressing oil prices include:

- *Reuters* reports that US inflation in Dec is higher than expectation with the Consumer price index rising 0.3%, swaying the anticipation on interest rate cut in March;
- The US commercial crude oil inventory increased 1mb WoW to 432mb through the week ended 5 Jan 2024;
- The US crude output (one-week lag) was flat WoW at 13.2mbd through the week ended 5 Jan 2024;

Bloomberg reports that EIA forecasts global oil consumption will surpass supply by 120,000 barrels per day in 2024 due to OPEC+'s output cut.

Exhibit 1: Brent and WTI weekly prices

Brent oil price declined 0.6% WoW to US\$78.3/b & WTI oil price fell 1.5% WoW to US\$72.7/b in the week ended 12 Jan 2024

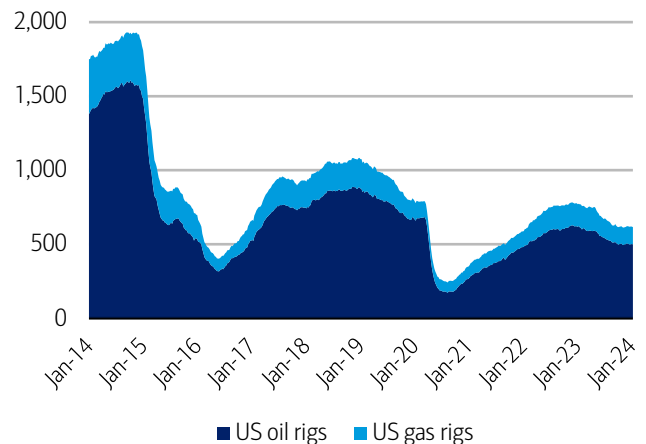


Source: Bloomberg, BofA Global Research

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Exhibit 2: US weekly oil and gas rig count

Oil rigs -2 and gas rigs -1 WoW

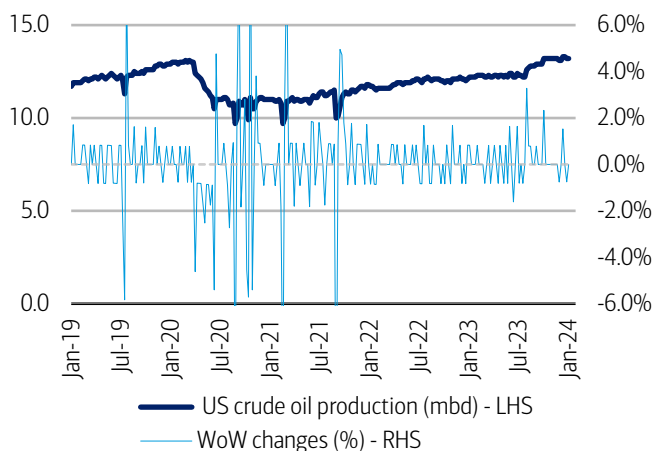


Source: Baker Hughes, Bloomberg, BofA Global Research

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Exhibit 3: US crude oil production

Flat WoW at 13.2mbd

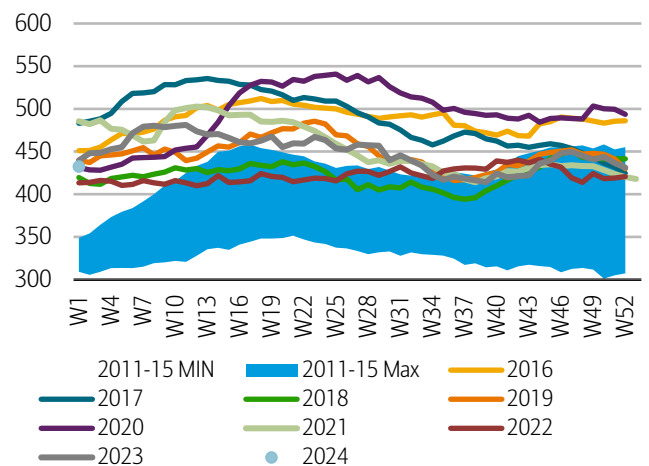


Source: EIA, Bloomberg, BofA Global Research

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Exhibit 4: US weekly crude oil inventory (mb)

Increased 1mb WoW to 432mb

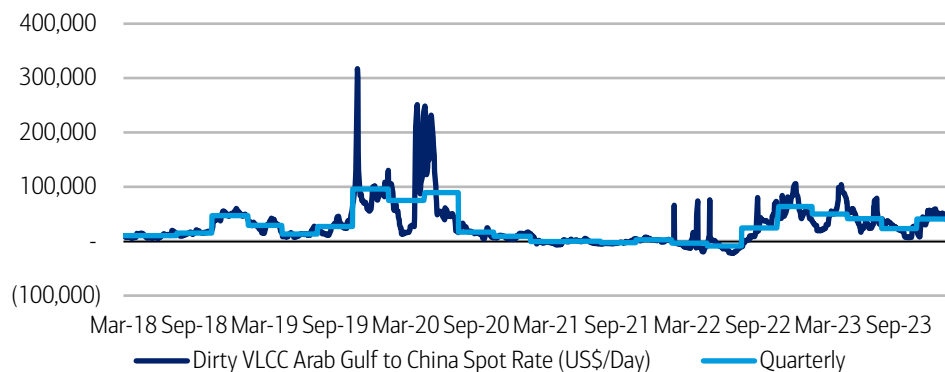


Source: EIA, Bloomberg, BofA Global Research

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Exhibit 5: Dirty VLCC Arab Gulf to China spot rate (US\$/day)

Crude oil shipping cost from Arab Gulf to China



Source: Bloomberg, BofA Global Research

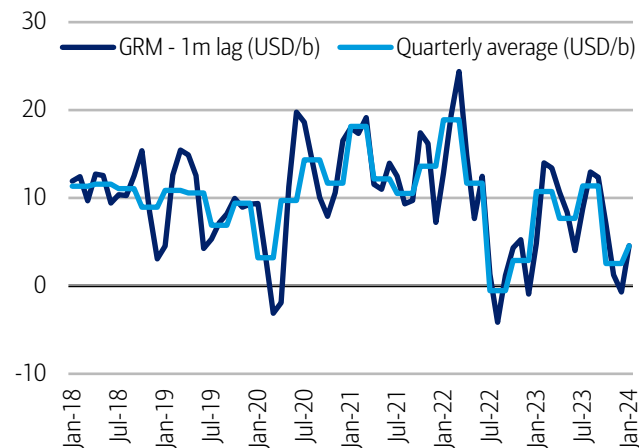
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Refining

- China's refining margin (one-month crude price lag) in Jan 2024 rose to US\$4.6/b, from negative US\$0.7/b in Dec 2023. YTD, average GRM came in at US\$4.6/b;
- National Development and Reform Commission (NDRC) raised gasoline and diesel retail prices by RMB200/ton and RMB190/ton in the latest round of price adjustment on 3 Jan 2024; prices are now RMB8,830/ton and RMB7,795/ton, respectively. The next round of price adjustment is scheduled for 17 Jan;
- The run rate of independent refineries in Shandong in the week ended 12 Jan 2024 rose to 62.7% vs. 58.1% in Dec 2023. The YTD rate averaged 61.4% in 2024, vs 61.9% in 2023;
- Based on one-month lag crude price, China diesel crack margin was flat WoW at US\$15.1/b and gasoline crack margin was flat WoW at US\$8.6/b in the week ended 12 Jan 2024;
- Compared with Singapore Dubai Crack margin, the export arbitrage spread for diesel narrowed WoW to a positive US\$7.9/b (-US\$0.9/b WoW) and for gasoline it expanded WoW to positive US\$6.5/b (+US\$1.9/b WoW) in the week ended 12 Jan 2024;
- Bloomberg reports that Chinese and other Asia refiners will hold their February demand for Saudi crude oil steady despite the price cuts, while opportunistic buying from European refineries will increase.

Exhibit 6: China gross refining margin (GRM) with 1month lag in crude prices

Profit of US\$4.6/b in Jan 2024, vs. -US\$0.7/b in the previous month

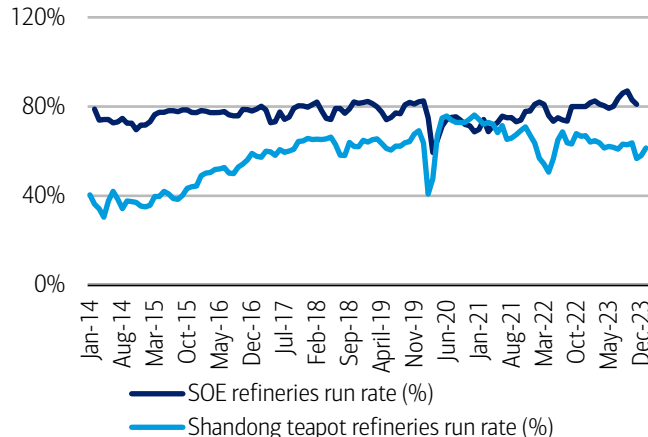


Source: Wind, BofA Global Research estimates

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Exhibit 7: Shandong teapots refinery run rates (%)

Average run rate of teapots rose to 62.7% vs. 58.1% in Dec for the week ended 12 Jan

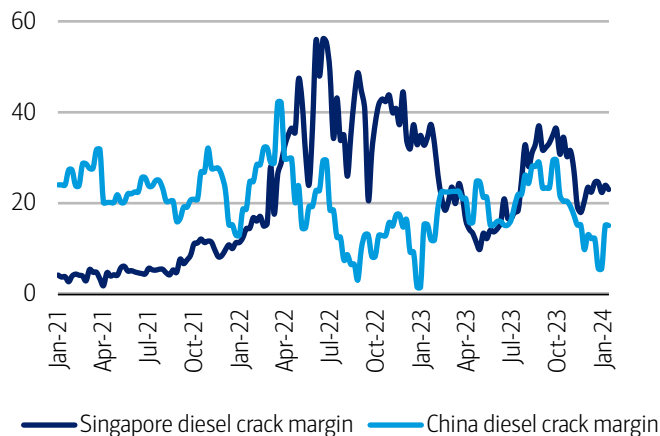


Source: Bloomberg, S&P Global, BofA Global Research

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Exhibit 8: Diesel crack margin in China vs. Singapore (US\$/b)

China diesel crack margin was US\$15.1/b for the week ended 12 Jan

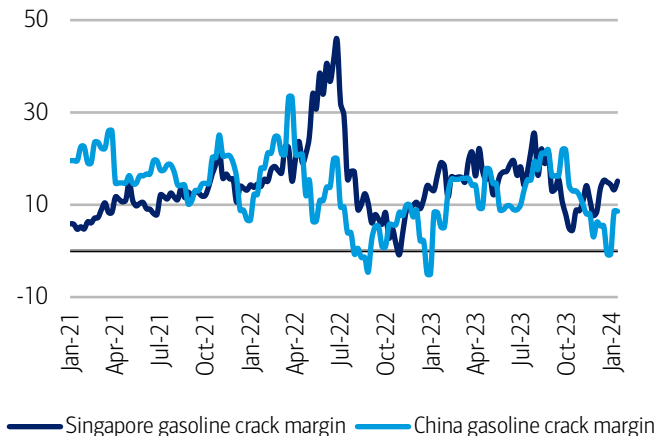


Source: Bloomberg, Wind, BofA Global Research

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Exhibit 9: Gasoline crack margin in China vs. Singapore (US\$/b)

China gasoline crack margin was US\$8.6/b for the week ended 12 Jan

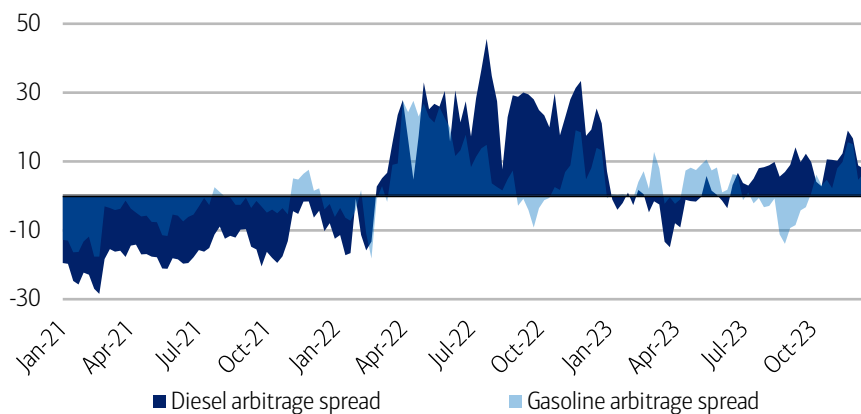


Source: Bloomberg, Wind, BofA Global Research

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Exhibit 10: Diesel/gasoline export arbitrage spread

Export arbitrage spread for diesel narrowed WoW to positive US\$7.9/b (-US\$0.9/b WoW) and that for gasoline expanded to positive US\$6.5/b (+US\$1.9/b WoW), respectively, for the week ended 12 Jan



Source: Bloomberg, Wind, BofA Global Research

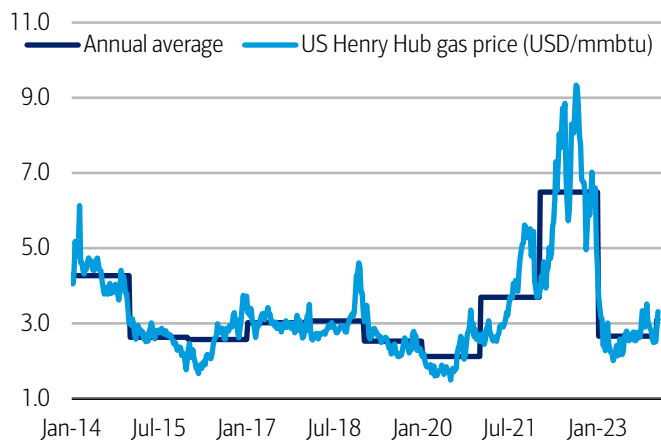
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Natural gas

- The US Henry Hub natural gas price increased by 14.5% WoW to US\$3.31/mmbtu in the week ended 12 Jan 2024, 3.1% lower YoY;
- The Netherlands TTF natural gas price decreased by 7.7% WoW to US\$10.16/mmbtu in the week ended 12 Jan 2024, 49.2% lower YoY;
- The JKM swap future decreased by 3.2% WoW to USD11.20/mmbtu (US\$1.04/mmbtu premium over TTF) in the week ended 12 Jan 2024;
- *Bloomberg* reports that US is reviewing the approvals of new LNG export projects under green pressure, which could lead to the export shrinkage.

Exhibit 11: US Henry Hub natural gas price (US\$/mmbtu)

Increased by 14.5% WoW to US\$3.31/mmbtu

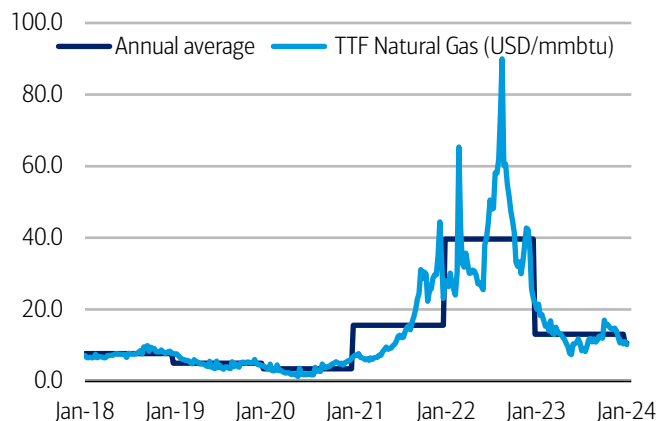


Source: Bloomberg, BofA Global Research

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Exhibit 12: Netherlands TTF Natural gas price (US\$/mmbtu)

Decreased by 7.7% WoW to US\$10.16/mmbtu

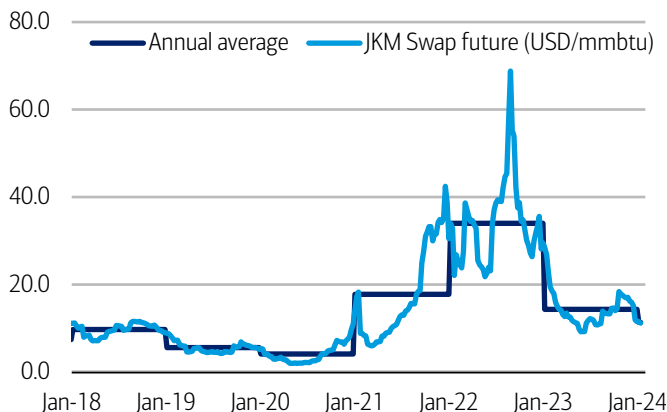


Source: Bloomberg, BofA Global Research

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Exhibit 13: Northern Asia LNG-JKM swap future (US\$/mmbtu)

Decreased by 3.2% WoW to US\$11.20/mmbtu



Source: Bloomberg, BofA Global Research

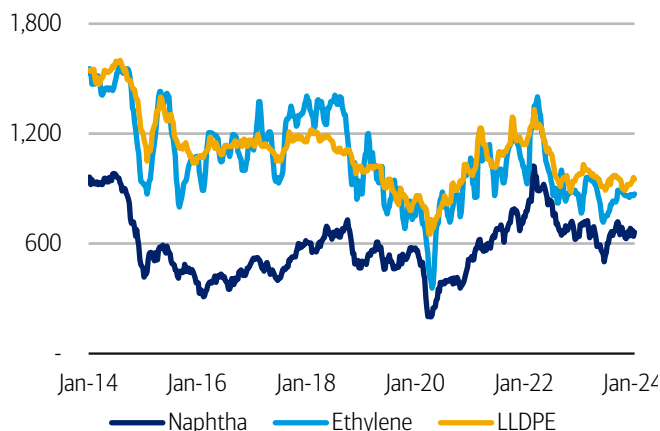
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Chemicals

- Northeast Asia LLDPE price decreased WoW to US\$951/ton and PP price increased WoW to US\$949/ton in the week ended 12 Jan 2024;
- LLDPE-ethylene spread narrowed WoW to US\$80/ton;
- PP-propylene spread expanded WoW to US\$153/ton;
- East China m-MDI price increased by 1.0% WoW to RMB19,800/ton and p-MDI price increased by 1.0% WoW to RMB15,500/ton in the week ended 12 Jan 2024.

Exhibit 14: Northeast Asia naphtha, ethylene and LLDPE prices (US\$/ton)

Ethylene price increased and LLDPE price decreased WoW

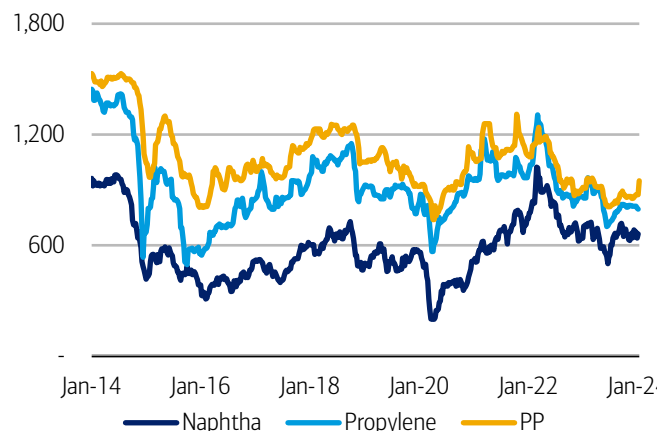


Source: Wind, BofA Global Research

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Exhibit 15: Northeast Asia naphtha, propylene and PP prices (US\$/ton)

Propylene price decreased and PP price increased WoW

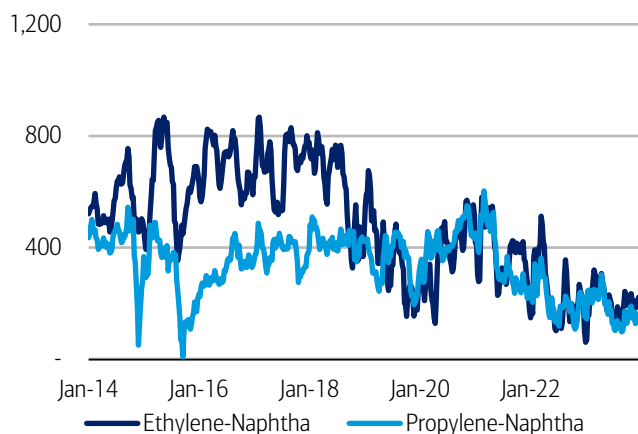


Source: Wind, BofA Global Research

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Exhibit 16: Northeast Asia ethylene/propylene-naphtha spread (US\$/ton)

Ethylene-naphtha spread and propylene-naphtha spread narrowed WoW

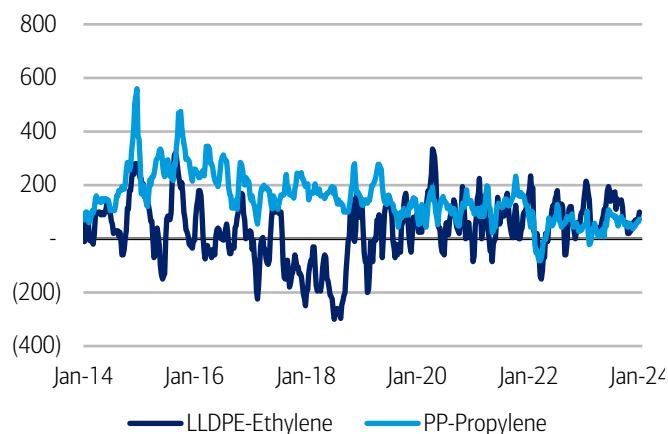


Source: Wind, BofA Global Research

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Exhibit 17: Northeast Asia LLDPE-ethylene and PP-propylene spread (US\$/ton)

LLDPE-ethylene spread narrowed and PP-propylene spread expanded WoW



Source: Wind, BofA Global Research

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Exhibit 18: East China m-MDI and p-MDI price (RMB/ton)

East China m-MDI price increased by 1.0% WoW to RMB19,800/ton and p-MDI price increased by 1.0% WoW to RMB15,500/ton in the week ended 12 Jan



Source: Wind, BofA Global Research

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Appendix

Exhibit 19: Abbreviations

Abbreviations used in the report

Abbreviation	Full name	Abbreviation	Full name
bbl/b	Barrel(s)	m-MDI	Monomeric methylene diphenyl isocyanate
bnt	Billion tons	mntpa	Million tons per year
CCS	Carbon capture and storage	MoM	Month on month
CDU	Crude distillation unit	mnt	Million tons
cm	Cubic meters	MTBE	Methyl tert-butyl ether
CNPC	China national petroleum corporation	NBS	National bureau of statistics
EOR	Enhanced oil recovery	NDRC	National Development and Reform Commission
EVA	Ethylene vinyl acetate	PTR	PetroChina
FDPE	Full density polyethylene	p-MDI	Polymeric methylene diphenyl isocyanate
GRM	Gross refining margin	PP	Polypropylene
HDPE	High density polyethylene	SNP	Sinopec
JKM	Japan/Korea Marker (Northeast Asian spot price index for LNG delivered ex-ship to Japan and Korea)	SOE	State owned enterprise
ktpa	Thousand tons per year	t	Ton(s)
LLDPE	Linear low-density polyethylene	TTF	Title transfer facility
LNG	Liquefied natural gas	UHMWPE	Ultra-high molecular weight polyethylene
mb	Million barrels	VLCC	Very large crude carrier
mbd	Million barrels per day	WoW	Week on week
mmbtu	Metric million British thermal unit	WTI	West Texas Intermediate
mmt	Million metric tons	YoY	Year on year
MDI	Methylene diphenyl isocyanate	YTD	Year to date

Source: BofA Global Research

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