

## China Oil &amp; Gas

**Weekly Theme: Dec industry profit; Russia enhanced energy supply to China in FY23**

Industry Overview

**Industry profit: gas/chem. weakened; refining deteriorated**

According to data from China National Statistical Bureau, in Dec 2023, the E&P sector loss came in at RMB56bn, due to asset impairment and one-off expenses in FY23; FY23 profit reached RMB299bn, -16% YoY, in line with Brent price plunge (US\$83/b vs. US\$99/b in FY22). Refining sector further deteriorated to loss making of RMB6bn, dragged by weak China GRM; FY23 refining profit was RMB45bn, flat YoY. Gas distribution profit recorded RMB8bn, -23% YoY/-15% MoM; FY23 profit was RMB89bn, +17% YoY along with demand recovery in FY23. Basic chemical producers witnessed downtrend with RMB48bn of profit, +31% YoY/-13% MoM, mainly due to weaker margin and higher feedstock price; FY23 profit was RMB469bn, -36% YoY. Polyester producers' profit recorded RMB7bn, +147% YoY/+77% MoM; FY23 profit was RMB27bn, +12% YoY.

**Russia ramped up oil and gas supplies to China in FY23**

According to China Customs data, Russia exported 107.1mnt (+24% YoY) of crude oil to China in FY23, surpassing Saudi Arabia who exported 86.0mnt (-2% YoY) and becoming the top oil supplier in FY23 ([Exhibit 1](#)). We attribute the large increment in Russian cargoes mainly to attractive discounts compared with peers. The import cost of Russia crude was more competitive at around US\$76/b than the US\$86/b for Saudi Arabia in FY23, implying a discount of US\$6/b against Brent price vs. a premium of US\$4/b for Saudi oil. Besides, Russia also benefited from oil pipeline with China, which carries total capacity of 40mntpa and facilitates oil transmission between two countries.

Meanwhile, Russia supplied 8.1mnt of LNG to China in FY23 ([Exhibit 2](#)), +24% YoY, being the third-largest exporter following Australia's 24.3mnt (+11% YoY) and Qatar's 16.7mnt (+6% YoY). LNG imports from US rose to 3.2mnt, doubling its level seen in FY22. The growth in major import sources brought China's total LNG import volume in FY23 to 71.8mnt, +13% YoY, overtaking Japan to be the world's top LNG buyer. We could attribute it to 1) post-pandemic demand recovery; 2) the execution of more long-term contracts; and 3) increasing receiving capacity with 4 more new terminals starting operations.

(Charts on Page 2)

30 January 2024

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Abbreviations in appendix

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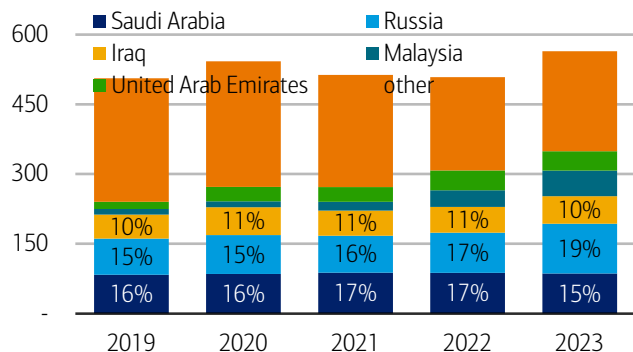
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# Weekly updates

## Exhibit 1: Crude oil import volume by country in 2023 (mnt)

Russia overtook Saudi Arabia to be the top exporter in FY23

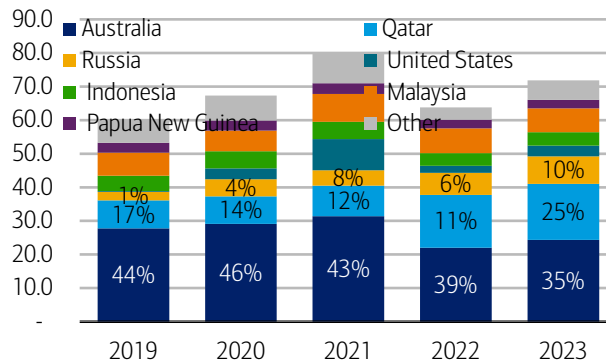


Source: China customs, BofA Global Research

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## Exhibit 2: LNG import volume by country in 2023 (mnt)

Russia LNG exports to China came in at 8.1mnt in FY23, +24% YoY



Source: China customs, BofA Global Research

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Oil prices: Brent oil price increased 6.4% WoW to US\$83.6/b and WTI oil price increased 6.3% WoW to US\$78.0/b in the week ended 26 Jan 2024. WTI discount to Brent expanded to US\$5.5/b.

Factors supporting oil prices include:

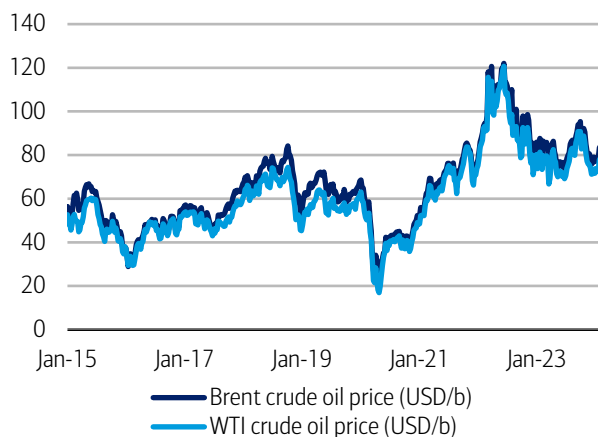
- *Bloomberg* reports that the frigid weather across the US has disrupted oil production in Permian Basin and North Dakota's Bakken, and the industry expects a slow recovery that could take few weeks;
- *Reuters* reports that Russia's Novatek claimed the suspension in a fuel export terminal in Baltic Sea due to a suspected Ukrainian drone attack;
- *Reuters* reports Houthi stepped up the attacks on vessels moving through the Red Sea, have targeted a fuel tanker and resulted in a fire breaking out;
- *Reuters* reports China has announced a 50bp cut in the bank reserve requirement ratio to inject liquidity and stimulate economic activities;
- The US commercial crude oil inventory decreased 9mb WoW to 421mb through the week ended 19 Jan 2024;
- The US crude output (one-week lag) decreased 1mbd WoW to 12.3mbd through the week ended 19 Jan 2024;

Factors suppressing oil prices include:

- *Reuters* reports that Libya is resuming operations at its largest oilfield Sharara after few weeks of disruption due to local protests;
- The US rigs count rose to 618 rigs (oil rigs +2 WoW to 499 and gas rigs -1 WoW to 119) through the week ended 26 Jan 2024.

**Exhibit 3: Brent and WTI weekly prices**

Brent oil price increased 6.4% WoW to US\$83.6/b and WTI oil price increased 6.3% WoW to US\$78.0/b in the week ended 26 Jan 2024

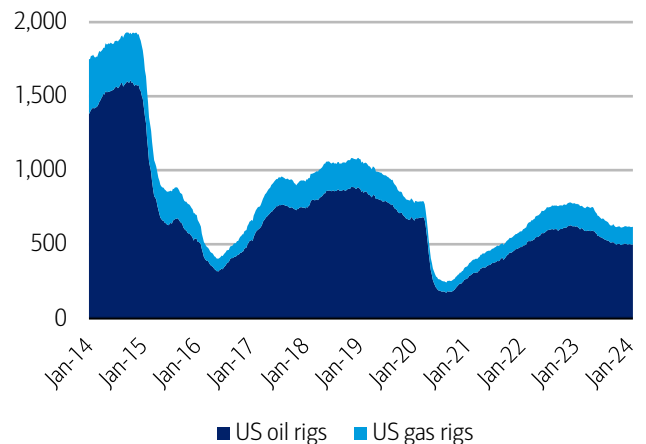


Source: Bloomberg, BofA Global Research

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**Exhibit 4: US weekly oil and gas rig count**

Oil rigs +2 and gas rigs -1 WoW

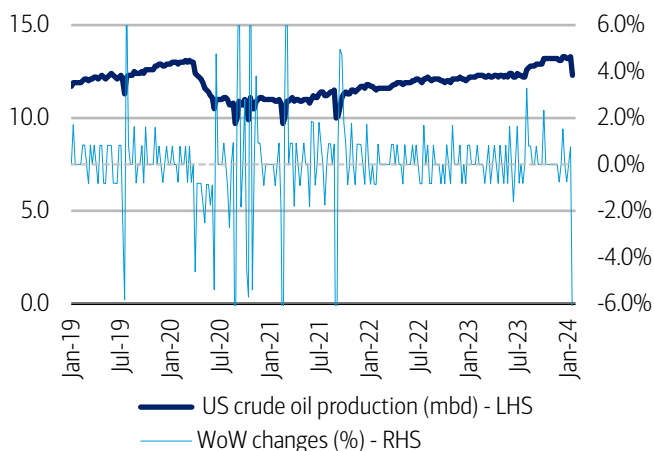


Source: Baker Hughes, Bloomberg, BofA Global Research

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**Exhibit 5: US crude oil production**

Decreased 1mbd WoW to 12.3mbd

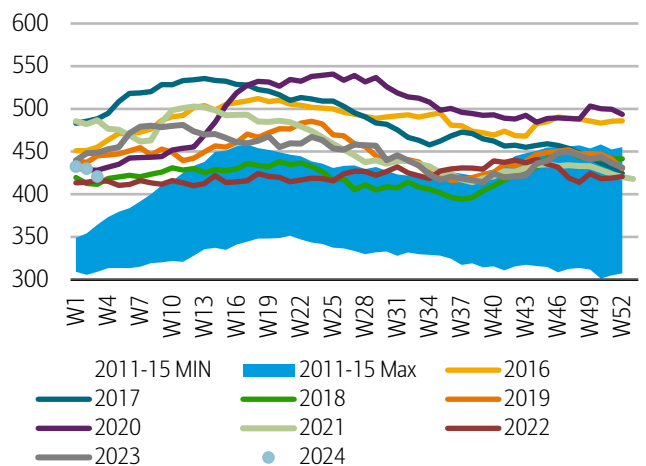


Source: EIA, Bloomberg, BofA Global Research

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**Exhibit 6: US weekly crude oil inventory (mb)**

Decreased 9mb WoW to 421mb

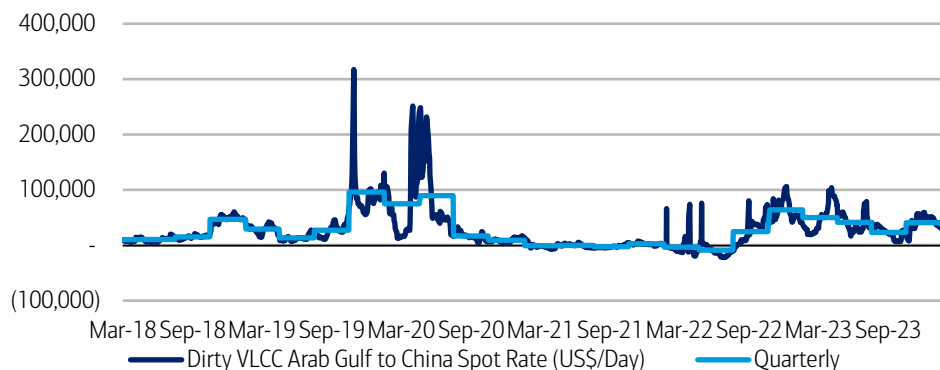


Source: EIA, Bloomberg, BofA Global Research

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**Exhibit 7: Dirty VLCC Arab Gulf to China spot rate (US\$/day)**

Crude oil shipping cost from Arab Gulf to China



Source: Bloomberg, BofA Global Research

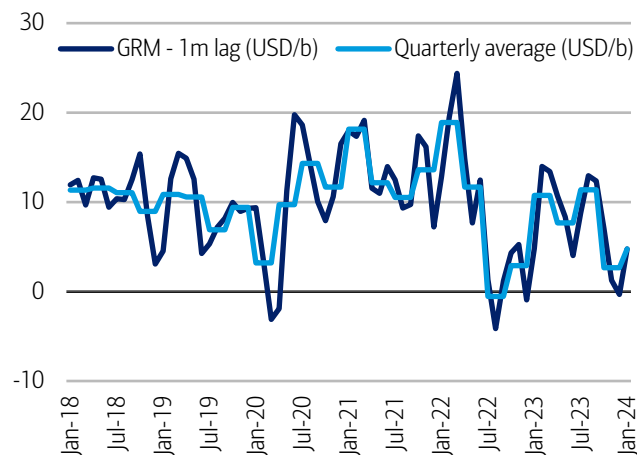
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## Refining

- China's refining margin (one-month crude price lag) in Jan 2024 rose to US\$4.8/b, from negative US\$0.3/b in Dec 2023. YTD, average GRM came in at US\$4.8/b;
- National Development and Reform Commission (NDRC) cut gasoline and diesel retail prices both by RMB50/ton in the latest round of price adjustment on 17 Jan 2024; prices are now RMB8,780/ton and RMB7,745/ton, respectively. The next round of price adjustment is scheduled for 31 Jan;
- The run rate of independent refineries in Shandong in the week ended 26 Jan 2024 rose to 62.6% vs. 58.1% in Dec 2023. The YTD rate averaged 62.1% in 2024, vs 61.9% in 2023;
- Based on one-month lag crude price, China diesel crack margin was flat WoW at US\$14.3/b and gasoline crack margin was flat WoW at US\$7.9/b in the week ended 26 Jan 2024;
- Compared with Singapore Dubai Crack margin, the export arbitrage spread for diesel narrowed WoW to a positive US\$8.3/b (-US\$2.9/b WoW) and for gasoline expanded WoW to positive US\$12.4/b (+US\$3.1/b WoW) in the week ended 26 Jan 2024.

### Exhibit 8: China gross refining margin (GRM) with 1month lag in crude prices

Profit of US\$4.8/b in Jan 2024, vs. -US\$0.3/b in the previous month

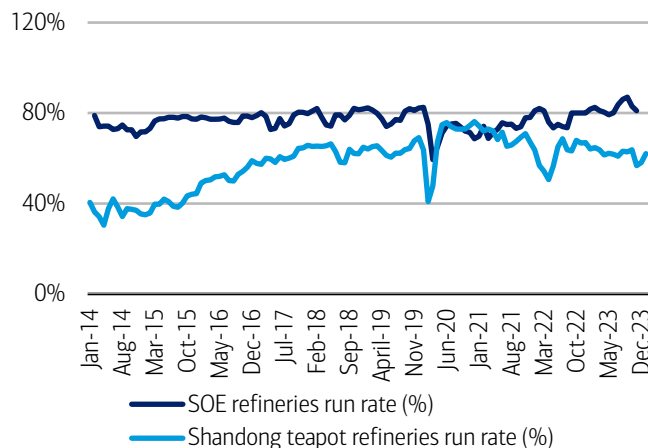


Source: Wind, BofA Global Research estimates

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### Exhibit 9: Shandong teapots refinery run rates (%)

Average run rate of teapots rose to 62.1% vs. 58.1% in Dec for the week ended 26 Jan

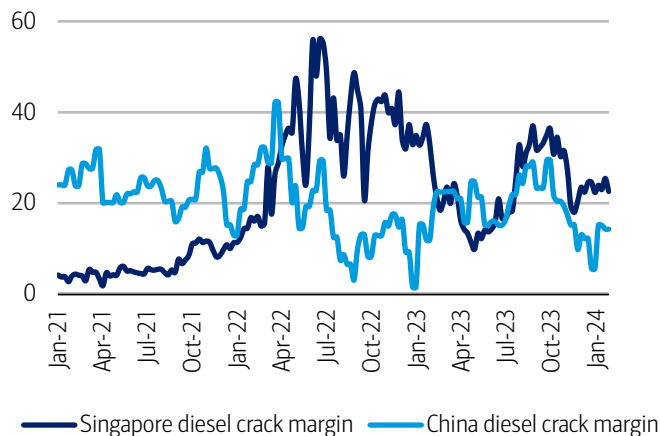


Source: Bloomberg, S&P Global, BofA Global Research

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**Exhibit 10: Diesel crack margin in China vs. Singapore (US\$/b)**

China diesel crack margin was US\$14.3/b for the week ended 26 Jan

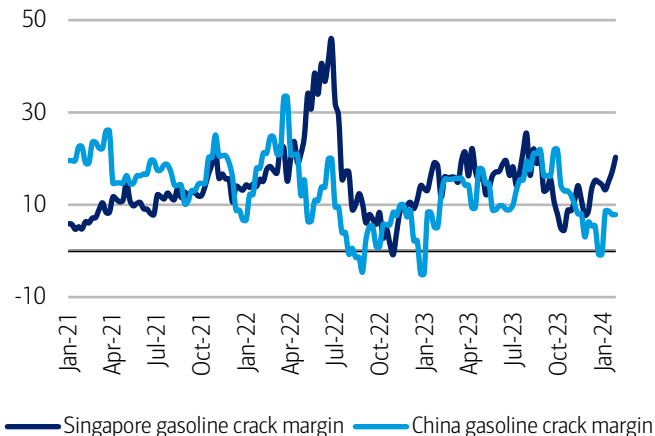


Source: Bloomberg, Wind, BofA Global Research

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**Exhibit 11: Gasoline crack margin in China vs. Singapore (US\$/b)**

China gasoline crack margin was US\$7.9/b for the week ended 26 Jan

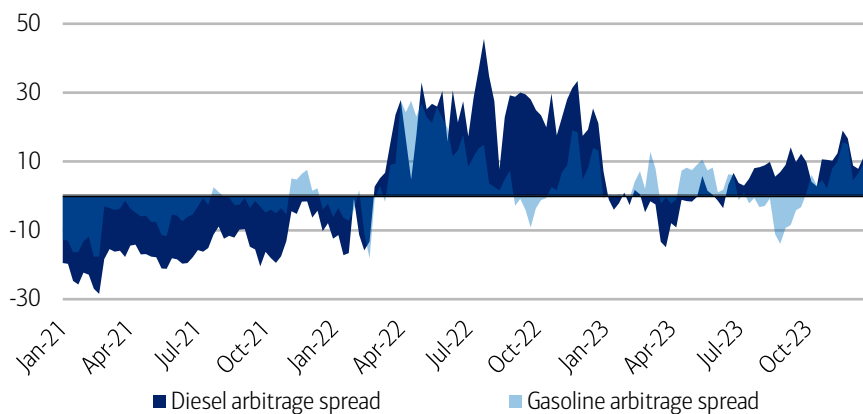


Source: Bloomberg, Wind, BofA Global Research

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**Exhibit 12: Diesel/gasoline export arbitrage spread**

Export arbitrage spread for diesel narrowed WoW to positive US\$8.3/b (-US\$2.9/b WoW) and that for gasoline expanded to positive US\$12.4/b (+US\$3.1/b WoW), respectively, for the week ended 26 Jan



Source: Bloomberg, Wind, BofA Global Research

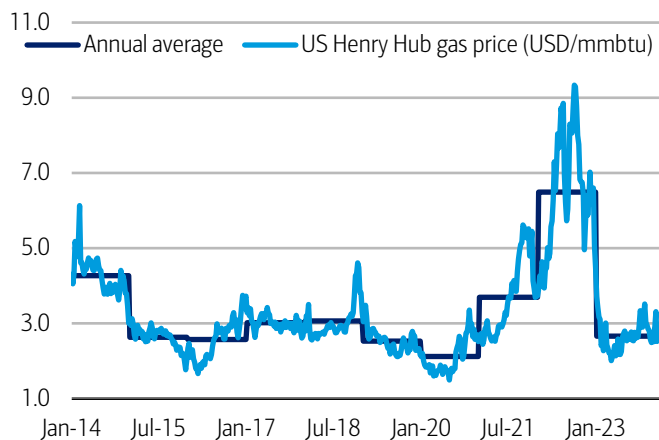
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## Natural gas

- The US Henry Hub natural gas price increased by 7.7% WoW to US\$2.71/mmbtu in the week ended 26 Jan 2024, down 12.8% YoY;
- The Netherlands TTF natural gas price decreased by 2.5% WoW to US\$8.81/mmbtu in the week ended 26 Jan 2024, down 51.8% YoY;
- The JKM swap future decreased by 3.1% WoW to USD9.29/mmbtu (US\$0.48/mmbtu premium over TTF) in the week ended 26 Jan 2024;
- Reuters reports that the Biden administration paused approvals for LNG export applications for climate concerns.

### Exhibit 13: US Henry Hub natural gas price (US\$/mmbtu)

Increased by 7.7% WoW to US\$2.71/mmbtu

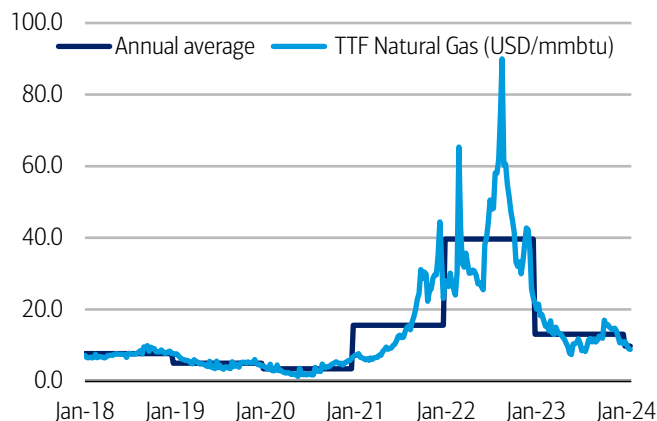


Source: Bloomberg, BofA Global Research

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### Exhibit 14: Netherlands TTF Natural gas price (US\$/mmbtu)

Decreased by 2.5% WoW to US\$8.81/mmbtu

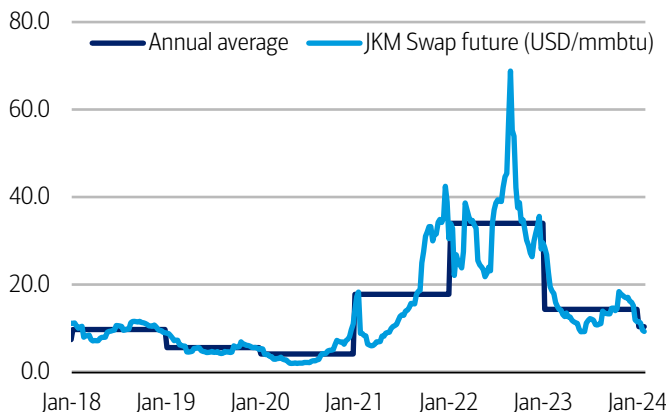


Source: Bloomberg, BofA Global Research

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### Exhibit 15: Northern Asia LNG-JKM swap future (US\$/mmbtu)

Decreased by 3.1% WoW to US\$9.29/mmbtu



Source: Bloomberg, BofA Global Research

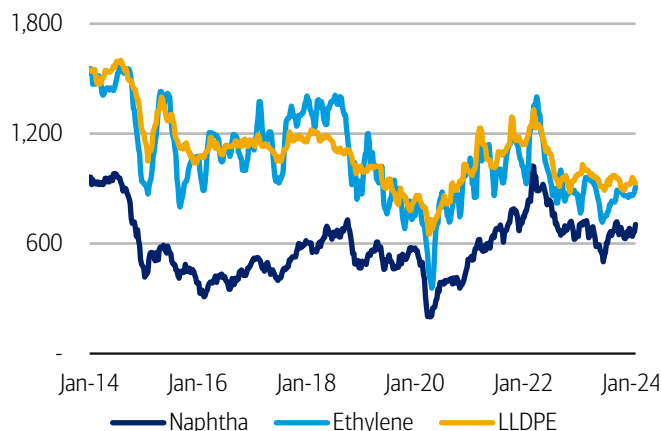
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## Chemicals

- Northeast Asia LLDPE price was flat WoW at US\$931/ton and PP price decreased WoW to US\$864/ton in the week ended 26 Jan 2024;
- LLDPE-ethylene spread narrowed WoW to US\$20/ton;
- PP-propylene spread narrowed WoW to US\$53/ton;
- East China m-MDI price was flat WoW at RMB20,000/ton and p-MDI price increased by 3.2% WoW to RMB15,900/ton in the week ended 26 Jan 2024.

### Exhibit 11: Northeast Asia naphtha, ethylene and LLDPE prices (US\$/ton)

Ethylene price increased and LLDPE price flat WoW

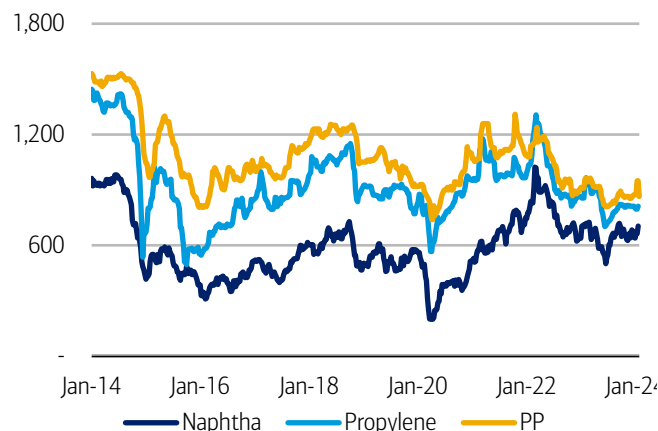


Source: Wind, BofA Global Research

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### Exhibit 12: Northeast Asia naphtha, propylene and PP prices (US\$/ton)

Propylene price increased and PP price decreased WoW

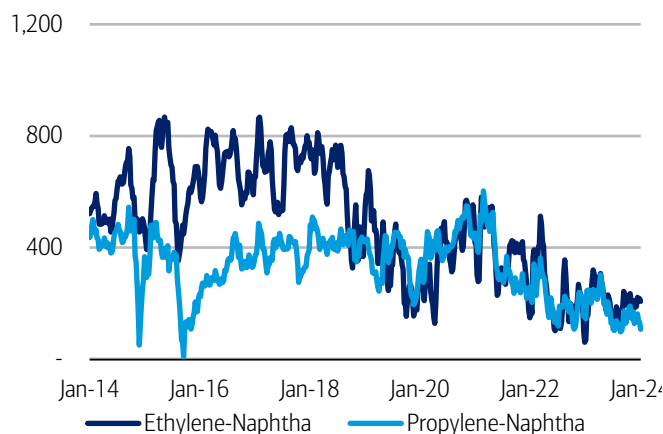


Source: Wind, BofA Global Research

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### Exhibit 13: Northeast Asia ethylene/propylene-naphtha spread (US\$/ton)

Ethylene-naphtha spread and propylene-naphtha spread narrowed WoW

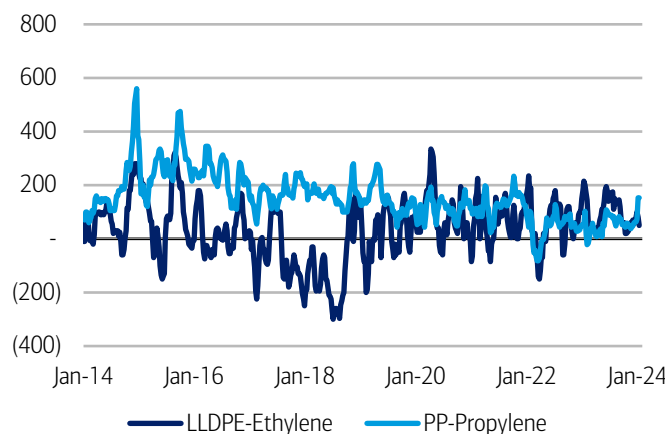


Source: Wind, BofA Global Research

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### Exhibit 14: Northeast Asia LLDPE-ethylene and PP-propylene spread (US\$/ton)

LLDPE-ethylene spread and PP-propylene spread narrowed WoW



Source: Wind, BofA Global Research

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**Exhibit 5: East China m-MDI and p-MDI price (RMB/ton)**

East China m-MDI price was flat WoW at RMB20,000/ton and p-MDI price increased by 3.2% WoW to RMB15,900/ton in the week ended 26 Jan



Source: Wind, BofA Global Research

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## Appendix

**Exhibit 21: 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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