Global Energy Weekly

Can (geo)politics Trump fundamentals?

07 January 2024

Commodities
Global

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See list of abbreviations at the end of this report

Fundamentals are soft due to rising non-OPEC supply…

Having peaked at $95/bbl in September and rebounded again to almost $91/bbl in the second half of October, WTI crude oil prices have pulled back considerably since the Hamas-linked spike on a softening fundamental backdrop driven in part by rising US, Guyana, Brazil, and Canadian supplies and slower economic growth. However, even if prices are lower than what they were three months ago, the geopolitical backdrop has not improved and risks from (1) Russia to (2) the Middle East to (3) Venezuela and others could keep the oil market on edge over the course of 2024. Will OPEC+ cohesion increase in 2024 as other countries join Saudi to manage production? This is one of the vexing questions for oil. So far, internal disagreements and an abrupt Angolan exit have dominated the headlines, and the oil market is now waiting for actions, not words.

…but don't count OPEC+ production cuts out just yet

Should OPEC+ loadings start to decline on the back of commitments made in November, Brent will likely gain support and rally above $80/bbl, further boosted by geopolitics. But if loadings increase on a fracturing OPEC+, prices could be on a downward path below $70/bbl. With this backdrop, we opt to lower our 2024 Brent crude oil price forecast from $90 to $80/bbl, and reset our WTI forecast to $75/bbl. Still, China's energy imports may increase sharply if Brent drops below $65/bbl, likely setting a range for the year. Geopolitics may also alter oil prices on three fronts: (1) over 60 countries representing half the world's population, from India to the US, will go to the polls this year and energy prices matter; (2) risks keep rising at key energy choke points from the Persian Gulf to the Red Sea to the Panama Canal; and (3) conflict deaths have spiked sharply in 2022 and 2023 due to Ukraine and Gaza, and more turmoil could be on the horizon.

(Geo)political risks, low stocks are a dangerous cocktail

Even then, crude inventories are declining again and product stocks remain low, lending support to oil prices. Plus, speculative length in oil is light. OECD strategic stocks also have yet to rebuild, leaving oil vulnerable to upside price swings. Importantly, long dated Brent crude oil prices remain well anchored in the middle of our $60-80/bbl band, suggesting that for prices to drop below the $70/bbl mid-cycle point, inventories would have to build meaningfully throughout this year. This is unlikely given (1) OPEC's plans to reduce production, (2) the rising chance of an economic soft landing, and (3) the (geo)political risks involved. With OPEC+ managing the downside created by a soft fundamental backdrop and red hot (geo)politics in 2024, we view selling rich out-of-the money put spreads to buy out-of-the money calls as an attractive risk-reward proposition in what we see as a rangebound market loaded with unknown unknowns.

Timestamp: 07 January 2024 05:00PM EST

Exhibit 1: BofA Commodity Research Themes and Outlook
Key takeaways

	View	Recent reports
Macro outlook	■ Our economists see world GDP rising 3% in 2023 and expanding by 2.8% in 2024.	
WTI and Brent crude oil	■ We project Brent and WTI to average \$80/bbl and \$75/bbl, respectively, in 2024. ■ The global oil balance should remain in a mild surplus during 2024, as OPEC+ withholds more supply from the market to counteract slowing demand growth ■ We forecast global demand growth of 2.3mn b/d YoY in 2023 and 1.2mn b/d in 2024. ■ Non-OPEC supply should grow roughly 2.24mn b/d YoY in 2023 and 1.35mn b/d in 2024. ■ We project total US crude and NGL supply to rise 1.5mn b/d in 2023 and 700k b/d in 2024. ■ OPEC crude oil supplies are set to fall 470k b/d in 2023 and 260k b/d in 2024 as OPEC+ actively manages balances	• Can (geo)politics Trump fundamentals? 04 January 2024 • The grind of the oil bulls 26 September 2023 • Money breaks oil's back 08 May 2023 • OPEC+'s whatever it takes moment 05 April 2023 • Global Energy Paper: Medium-term oil outlook 26 February 2023
Atlantic Basin oil products	■ Refined product markets face risks from OPEC+ cuts, a looming recession, and the pace of global refining capacity growth. ■ We forecast RBOB-Brent to average \$13/bbl in 2024, and we see ULSD-Brent cracks averaging \$26/bbl over the same period. ■ OPEC+ cuts, rising complex refining capacity, lower gasoline and diesel cracks create upside for 3.5% fuel oil cracks, which we see averaging -\$12/bbl in 2024.	• Waiting for Dangot(e) 31 October 2023 • Diesel weasels out of a cyclical downturn 29 August 2023 • In the fuel oil market, high sulfur is king 31 July 2023
US natural gas	■ US gas supply and demand growth should hit 1.6Bcf/d and 2.6Bcf/d YoY in 2024, pushing stocks to 3.95Tcf by October. ■ We forecast US Henry Hub natural gas prices will average \$3/mmbtu in 2024	• US nat gas rollercoaster nears the bottom 17 February 2023
LNG	■ LNG supply growth is manageable from historical view at 10MMT in 24 and 16MMT in 25, leaving demand to dictate future price path ■ JKM and TTF should average \$15/MMBtu and €50/MWh in 2024, but they could easily hit \$25/mmbtu or €100/MWh on cold weather	• Liquid gas can float and fly. So can oil 17 October 2023 • LNG is now a buyer's market 17 April 2023
Thermal coal	■ Seaborne coal prices pulled back on softer balances. Yet, China has come back in earnest, more than doubling thermal coal imports ■ We are constructive in 2024 on strong Asian demand and declining Russian supply	• China coal floors global gas 05 September 2023 • King coal loses its crown 31 March 2023

Source: BofA Global Research estimates

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Exhibit 2: BofA Global Research Commodity Price Forecasts
(period averages)

	units	1Q23F	2Q23F	3Q23F	4Q23F	2023F	1Q24F	2Q24F	3Q24F	4Q24F	2024F
WTI Crude Oil	(\$/bbl)	76	74	82	82	78	73	75	77	75	75
Brent Crude Oil	(\$/bbl)	82	78	86	86	83	78	80	82	80	80
US NY Harbor ULSD (HO) Cracks to Brent Crude Oil	(\$/bbl)	41	25	40	37	36	30	25	25	25	26
US RBOB Cracks to Brent Crude Oil	(\$/bbl)	23	31	29	7	22	11	21	14	7	13
NWE Low Sulphur Gasoil Cracks to Brent Crude Oil	(\$/bbl)	31	17	32	29	27	23	20	20	19	21
NWE Eurobob Cracks to Brent Crude Oil	(\$/bbl)	15	22	27	7	18	5	14	10	3	8
NWE 1% Residual Cracks to Brent Crude Oil	(\$/bbl)	-13	-8	-3	-7	-8	-6	-5	-5	-5	-5
NWE 0.5% Residual Cracks to Brent Crude Oil	(\$/bbl)	2	2	4	3	3	2	2	2	2	2
NWE 3.5% Residual Cracks to Brent Crude Oil	(\$/bbl)	-23	-11	-4	-14	-13	-13	-12	-12	-12	-12
US Natural Gas	(\$/MMBtu)	2.74	2.32	2.66	3.15	2.72	2.90	2.50	3.00	3.60	3.00
Thermal coal, Newcastle FOB	(\$/t)	253	160	147	145	176	148	148	151	153	150
Aluminium	\$/t	2,401	2,260	2,160	2,250	2,268	2,250	2,500	2,750	2,750	2,563
Copper	\$/t	8,941	8,461	8,367	8,000	8,442	8,000	8,500	8,750	9,250	8,625
Lead	\$/t	2,137	2,118	2,171	2,200	2,156	2,000	2,000	2,000	2,000	2,000
Nickel	\$/t	25,973	22,277	20,392	18,500	21,786	18,500	18,500	19,000	19,000	18,750
Zinc	\$/t	3,132	2,527	2,435	2,500	2,648	2,500	2,500	2,250	2,250	2,375
Gold	\$/oz	1892	1977	1927	1900	1924	1950	1950	2000	2000	1975
Silver	\$/oz	23	24	24	23	23	23	23	24	24	23
Platinum	\$/oz	995	1,027	932	950	976	1,000	1,000	1,100	1,100	750
Palladium	\$/oz	1,568	1,445	1,254	1,250	1,379	900	800	700	600	750

Source: BofA Global Research estimates

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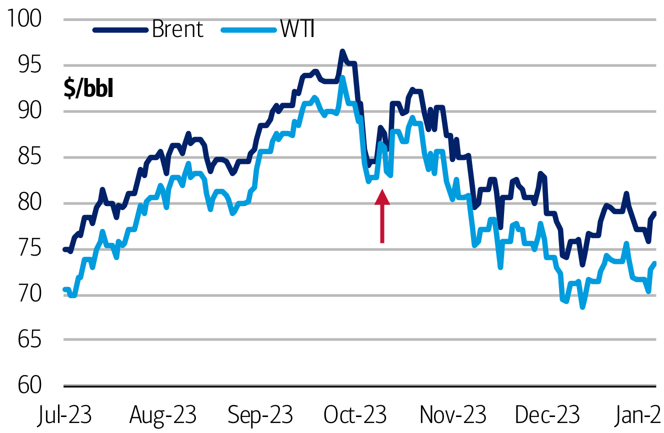
WTI has pulled back from its October 7 levels…

Having peaked at $95/bbl in September and rebounded again to almost $91/bbl in the second half of October, WTI crude oil prices have pulled back considerably since the Hamas-linked spike (Exhibit 3) on a weakening fundamental backdrop. Despite continued efforts by Saudi Arabia to keep removing crude volumes from an oversupplied market (Exhibit 4), growing US output and a slowing global demand picture in 2024 have nudged oil prices lower. Yet, after a brief drop below $70/bbl in early December and again in early January (see Energy held by a thread of diesel), crude oil prices have bounced from the lows on rising geopolitical fears.

Exhibit 3: Daily Brent and WTI prices

WTI crude oil prices have pulled back considerably since the October 7 Hamas-linked spike…



Source: Bloomberg

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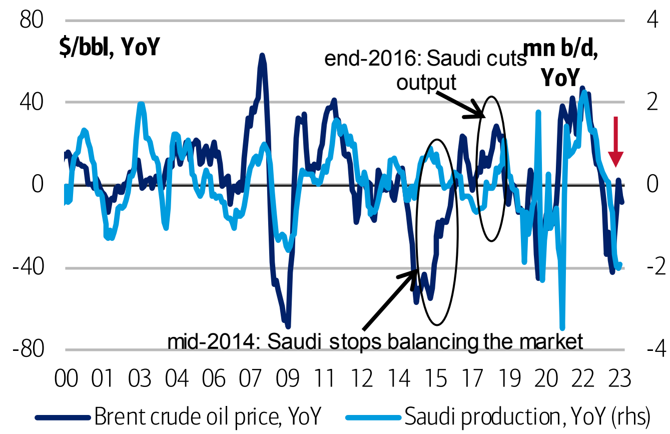
Exhibit 4: Brent crude oil price and Saudi production changes

…despite continued efforts by Saudi Arabia to keep curbing crude volumes



Source: Bloomberg

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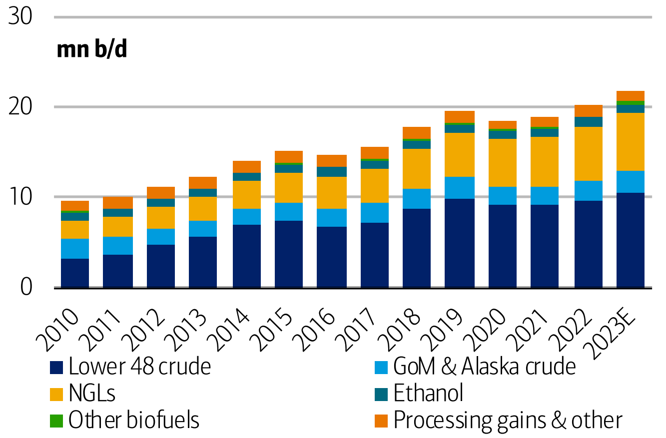
…due to expanding US shale oil supplies and…

While prices are lower than where they were three months ago, the geopolitical backdrop has not improved (see Geopolitics create oil asymmetries). It is precisely this volatile political and geopolitical backdrop that could keep the oil market on edge over the course of 2024, as fundamentals paint a softer picture. As we explained in our 2024 Year Ahead (see Year Ahead 2024: Energy outlook), the oil market needs firm OPEC+ cuts to support Brent prices above $80/bbl this year. In that regard, the fact that total US liquids production reached a record 21mn b/d at the end of last year (Exhibit 5) driven by a very large expansion in shale supply across various basins (Exhibit 6) is a huge headwind for the producer group.

Exhibit 5: Total US liquids production
Total US liquids production reached a record 21mn b/d at the end of last year...



Source: EIA

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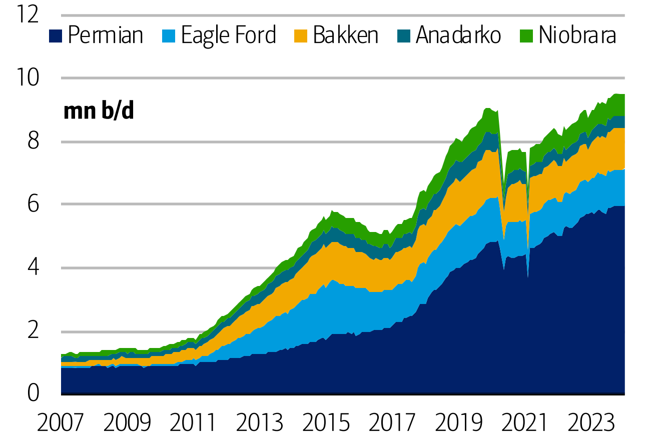
Exhibit 6: US oil production by major shale basins
...driven by a very large expansion in shale supply across various basins



Source: Bloomberg

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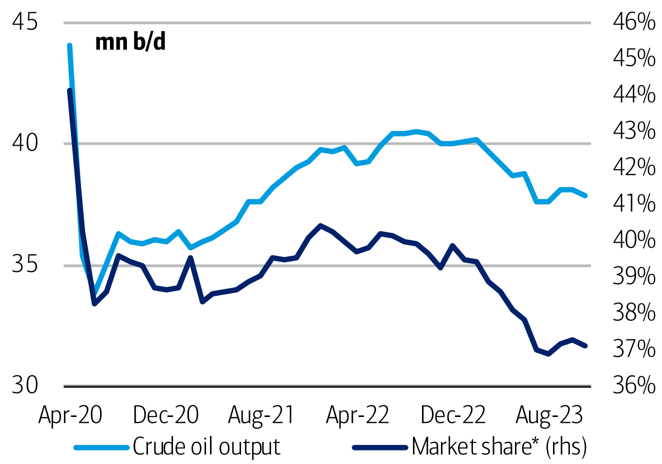
...a weak OPEC+ commitment to limit volumes

Precisely because of rapidly rising US shale supplies, as well as ongoing production growth in Guyana, Brazil, Canada, and other corners of the market, OPEC+ production and market share has come down significantly in the past year (Exhibit 7). Yet Saudi Arabia has carried most of the weight of the output cuts in the last 18 months with its voluntary production reductions. Although Saudi hoped to build goodwill to encourage others to join in the cuts, the unilateral action has led to a breakdown in OPEC cohesion and internal tensions (Exhibit 8). As the group gathered in their last meeting of 2023, some players like Angola refused to play by the new rules, ultimately leaving the organization and triggering a confidence crisis in the producer group.

Exhibit 7: OPEC+ crude oil production and market share (vs global liquids supply)
While OPEC+ production and market share has come down significantly in the past year...



Source: IEA, BofA Global Research

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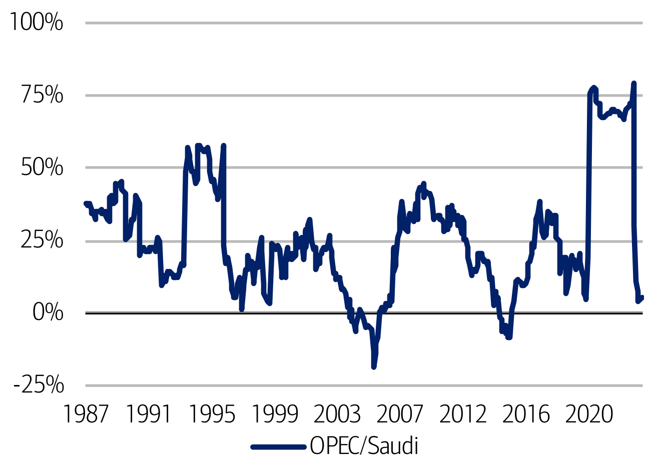
Exhibit 8: OPEC cohesion (correlation between Saudi supply changes and other OPEC supply changes)
...Saudi Arabia has carried most of the weight, leading to a breakdown in OPEC cohesion



Source: IEA, BofA Global Research estimates

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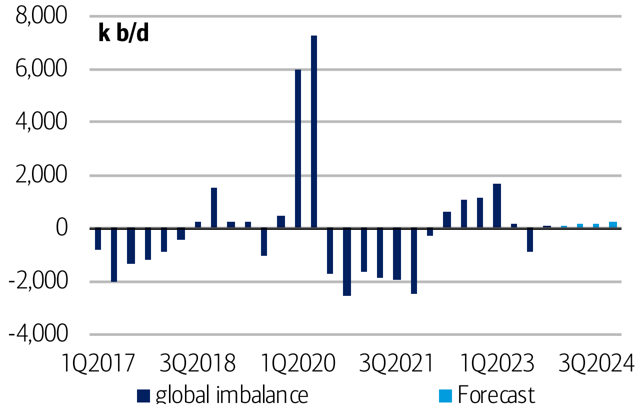
Balances look soft unless OPEC+ curbs output

Will OPEC+ cohesion increase in 2024 with others joining Saudi to manage production and ultimately market prices? This is one of the key questions for the oil market over the next few quarters. In our year ahead outlook in November, we projected a balanced oil market in 2024 and a $90/bbl Brent average for 2024, but fundamentals have softened since then (Exhibit 9). Now, Saudi oil production volumes likely must remain flat at 9mn b/d for the remainder of the year and (Exhibit 10) contributions from other members will be needed to prevent global oil balances from deteriorating further. While we assume additional cuts from other OPEC+ members, we think the group will fall short of its headline 2.2mn b/d 'cut'. Internal disagreements dominated the November meeting, so the group has spent much of the last four weeks trying to convince the market that the level of internal cohesion is still high despite the Angolan exit.

Exhibit 9: Global oil surplus (current)
In our year ahead outlook in November, we projected a balanced oil market in 2024, but balances have softened since then...



Source: IEA, BofA Global Research estimates

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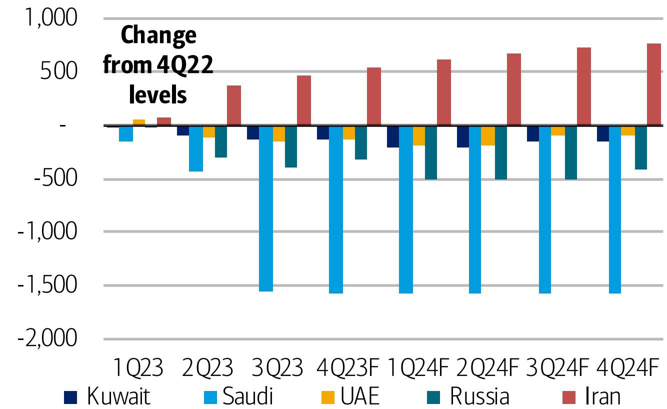
Exhibit 10: Change in supply from select countries
...and we assume Saudi oil production volumes of 9mn b/d during 2024 and cuts from other members to prevent balances from weakening further



Source: IEA, BofA Global Research estimates

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Still, growing spare capacity in Saudi and the UAE...

Moreover, while OPEC+ released a communique in their last meeting with large production cut commitments (Exhibit 11), there were a range of issues with it, starting with the lack of clarity with regard to exact quotas and production commitments levels. Further marring the view, the communique referred to both production and exports, making it difficult to gauge how balances will play out in the first half of this year. Meanwhile, spare crude oil production capacity has already increased to ~4mn b/d from a low of 1.8mn b/d in late 2022 and could continue to grow throughout 2024 (Exhibit 12) as OPEC+ continues to cut production volumes and the UAE maintains its energy investment programs.

Exhibit 11: Select press release text from recent OPEC meetings
While OPEC+ released a communique in their last meeting with production cut commitments…

Meeting	Action
10/5/2022	"Adjust downward the overall production by 2 mb/d from the August 2022 required production levels, starting November 2022 for OPEC and non-OPEC Participating Countries as per the attached table."
4/3/2023	"The Meeting noted the following voluntarily production adjustment announced on 2 April 2023 by" Saudi Arabia (500kb/d); Iraq (211kb/d); UAE (144 kb/d); Kuwait (128kb/d); Kazakhstan (78kb/d); Algeria (48kb/d); Oman (40kb/d); and Gabon (8kb/d) "starting May until the end of 2023"
6/4/2023	"Adjust the level of overall crude oil production for OPEC and non-OPEC Participating Countries in the DoC to 40.46 mb/d, starting 1 January 2024 until 31 December 2024, which is to be distributed as per the attached table."
11/30/2023	"The OPEC Secretariat noted the announcement of several OPEC+ countries of additional voluntary cuts to the total of 2.2 million barrels per day, aimed at supporting the stability and balance of oil markets. These voluntary cuts are calculated from the 2024 required production level as per the 35th OPEC Ministerial Meeting held on June 4 2023, and are in addition to the voluntary cuts previously announced in April 2023 and later extended until the end of 2024."

Source: OPEC, BofA Global Research

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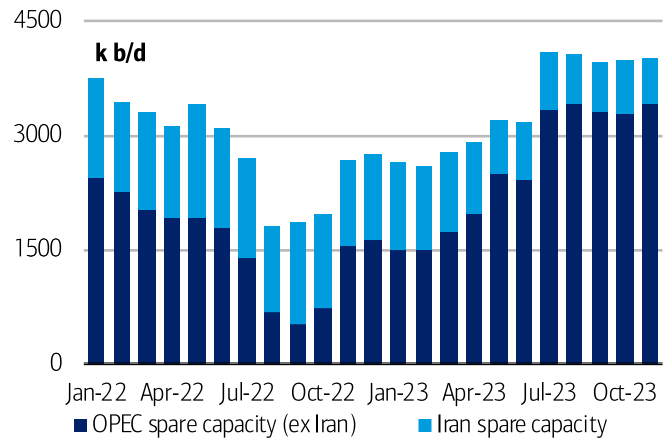
Exhibit 12: OPEC spare capacity
…spare capacity has already increased and could continue to grow throughout 2024



Source: IEA, BofA Global Research estimates

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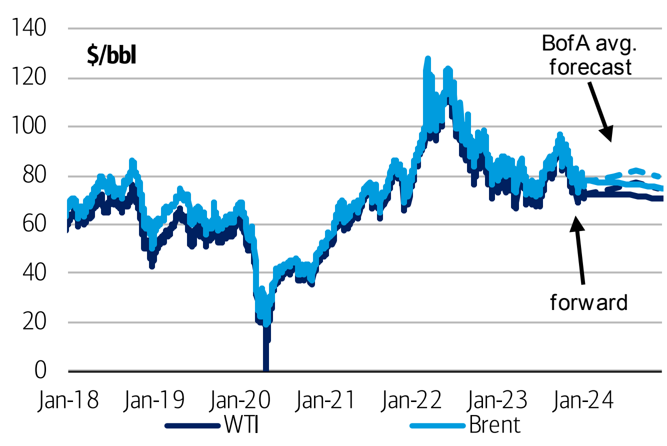
…and softer balances contribute to lower the prices in 2024

With spare capacity on the rise, OPEC+ credibility under the spotlight, and a weakening global supply/balance, oil prices have been on a downward slide for three months, even if the last month has provided some relief. From our perspective, however, we maintained our $86 and $90/bbl WTI and Brent crude oil forecasts for 2024 (Exhibit 14) despite these headwinds, but we acknowledge that fundamentals have softened and the economy continues to slow down (Exhibit 14). In the light of this, we are now resetting our projected annual averages for Brent and WTI crude oil prices in 2024 to $80 and $75, down from $90 and $86 prior.

Exhibit 13: Brent & WTI crude price history, forecast, forward curve
We now project average prices of $75 and $80/bbl for WTI and Brent crude oil in 2024…



Source: Bloomberg, BofA Global Research estimates

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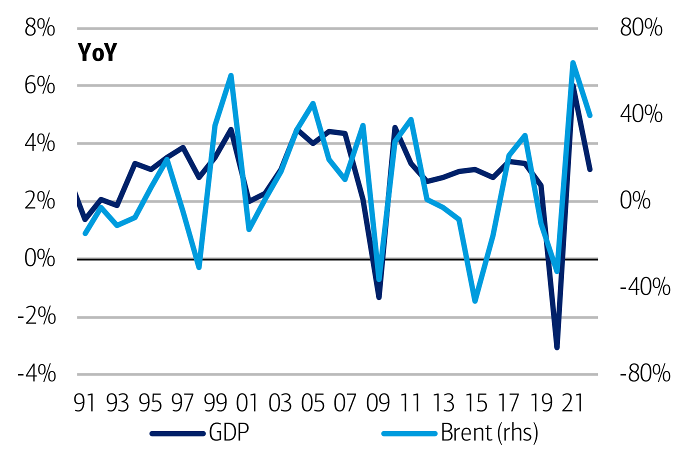
Exhibit 14: World GDP and Brent price growth
…and we acknowledge that fundamentals have softened and the economy continues to slow down



Source: IMF, Bloomberg

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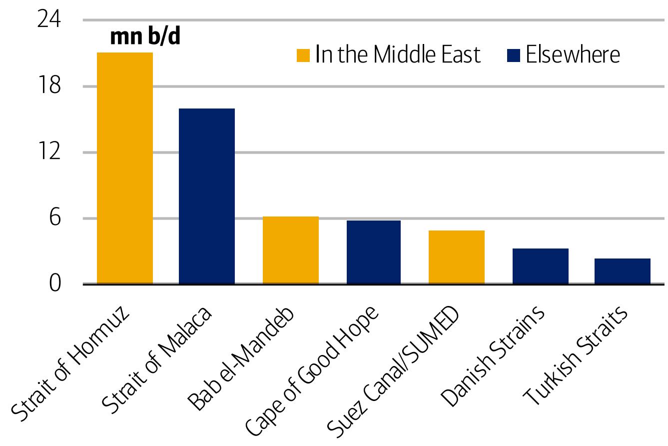
Yet geopolitical tensions in the Gulf keep rising…

Even then, we remain very worried about (geo)politics. Not only are military tensions high across the world, but we are also facing a historical election year where over 60 countries representing about half of the world's population, from India to the US to the European Parliament, will go to the polls. Energy prices matter to voters the world over and the Biden Administration has been dealing with foes for much of the past 18 months to ensure ample supplies, allowing Russia, Iran, or Venezuela to increase their export volumes relative to market expectations. Against a slowing demand and growing supply backdrop, we note growing risks at key energy trading choke points (Exhibit 15) from the Persian Gulf to the Red Sea to the Panama Canal, as well as the sharp increase in conflict deaths witnessed in 2022 and 2023 due to both the Ukraine and Gaza wars (Exhibit 16). NATO can hardly afford to stretch itself thinner into more global conflicts ahead of major elections, and autocrats are taking notice.

Exhibit 15: EIA chokepoints

Against this slowing demand and growing supply backdrop, we note growing risks at choke points…



Source: EIA (estimates as of 2019), BofA Global Research

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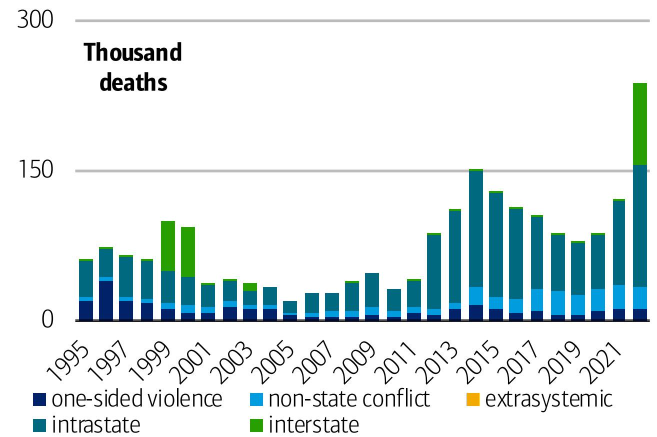
Exhibit 16: Deaths in armed conflicts

…and the sharp increase in conflict deaths witnessed in 2022 and 2023 due to both the Ukraine and Gaza wars



Source: United Nations Office for the Coordination

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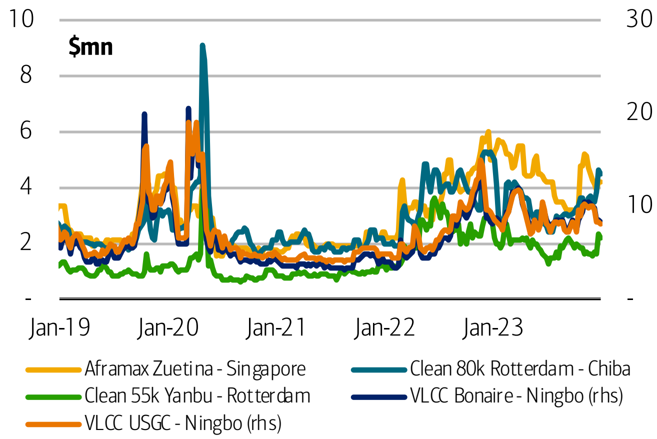
…and crude inventories are declining again…

For the time being, ample shipping capacity has kept freight rates in check despite geopolitics and weather disruptions (Exhibit 17), a factor that has surely alleviated some of the pressures on global energy markets. Yet (geo)politics remain front and center of an energy market looking for a clear direction. Importantly, the ability to manage unexpected events over the coming quarters is much thinner than in previous periods due to the lower government strategic energy stocks available at present. Saving the fact that Saudi Arabia has ample spare production capacity, there are limited tools across OECD economies to cap an unexpected surge in oil prices. Even if onshore, aboveground crude oil inventories increased in recent months from post covid lows of ~2.9bn barrels to ~3.1bn during 2023, they have started declining once again (Exhibit 18) and are now at ~3bn barrels.

Exhibit 17: Tanker spot rates

Ample shipping capacity has kept freight rates in check despite geopolitics and weather disruptions



Source: Clarksons

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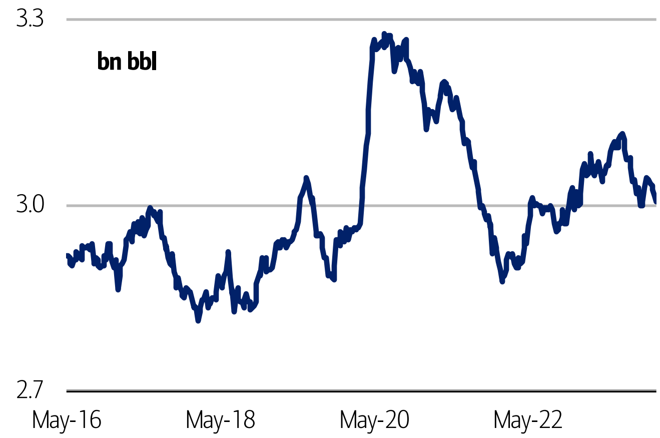
Exhibit 18: Kayrros global onshore aboveground crude oil inventories

While onshore crude oil inventories increased in recent months, they have started declining once again



Source: Kayrros

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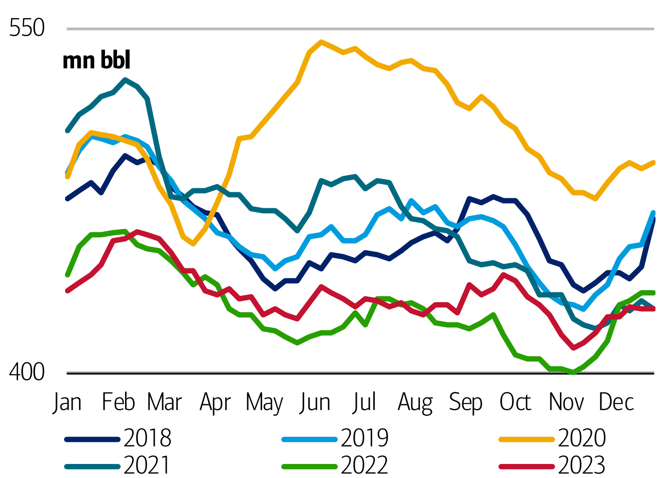
...while product stocks remain remarkably low...

While commercial crude stocks are low-ish, a much starker picture emerges for fuels like diesel, jet or even gasoline. Looking at aggregate petroleum product inventories across the main hubs, we note that stocks of transportation fuels are at very low levels and nearly 30mn barrels below five-year averages (Exhibit 19). As a result of the relatively tight petroleum product market situation, refining margins have yet to normalize after the big disruptions caused by the Ukraine war (Exhibit 20) and the banning of Russian petroleum product imports in Europe and the US. We believe new refineries will eventually expand capacity to bring crack spreads lower, but it may take some time (see Waiting for Dangot(e)).

Exhibit 19: Gasoline, diesel, and jet fuel inventories in the US, ARA, and Singapore

Aggregate petroleum product inventories across the main hubs are at very low levels...



Source: Bloomberg

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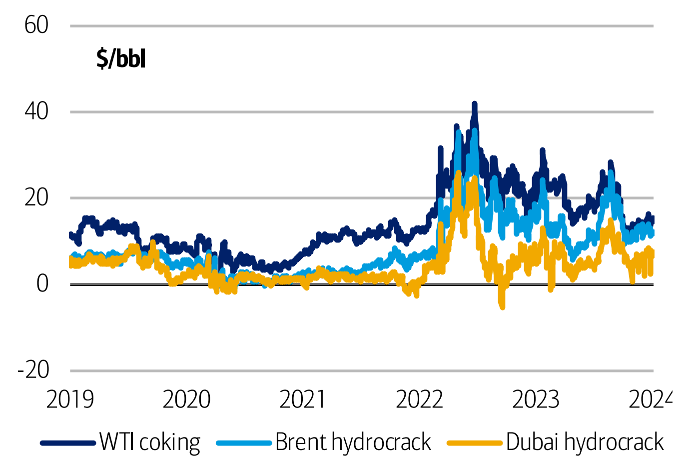
Exhibit 20: Regional refining margins

...and refining margins have yet to normalize after the big disruptions caused by the Ukraine war



Source: Bloomberg

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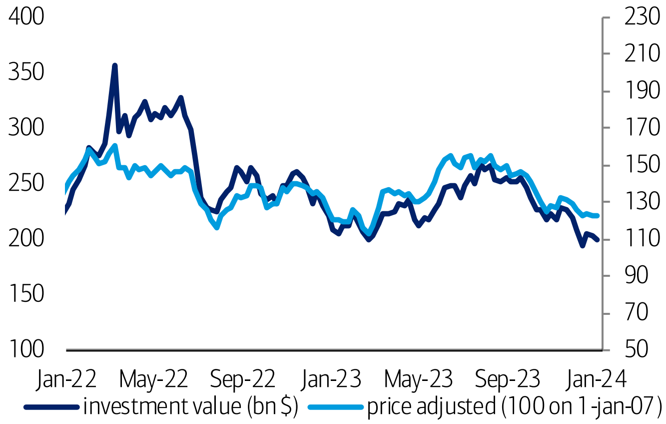
...just as speculative positioning has turned short

When it comes to investor positioning in commodity markets, we note that long exposure is down considerably in commodity indices (Exhibit 21) from a high point of ~$350bn in March 2022 to today's levels of ~$200bn. If we adjust this figure for price effects, we note that the value (indexed to Jan 1, 2007) of 122 is closer to 2020's low of

112 and even 2009 low of 91. Put differently, investor portfolios do not have much exposure to the asset class. Similarly, speculative positions across both Brent and WTI crude oil futures and options markets are down significantly (Exhibit 22) from a high last year of 545k contracts in September to 307k contracts recently after falling as low as 135k in December. So, sentiment and positioning can change on a dime, leading to large price swings, as we saw on January 3 on the back of the terrorist attack in Iran.

Exhibit 21: Index money invested in commodities (long) (nominal and price-adjusted)
Looking at investor positioning in commodity markets, we note that exposure is down considerably



Source: Bloomberg, BofA Global Research estimates

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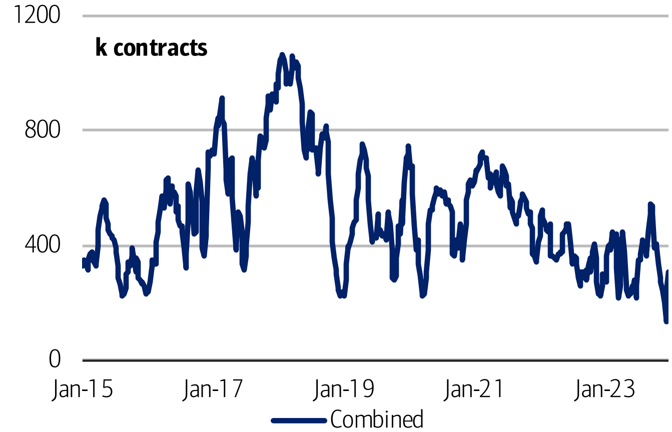
Exhibit 22: WTI and Brent managed money net length (futures only)
Similarly, speculative positions across both Brent and WTI crude oil markets are down significantly



Source: Bloomberg

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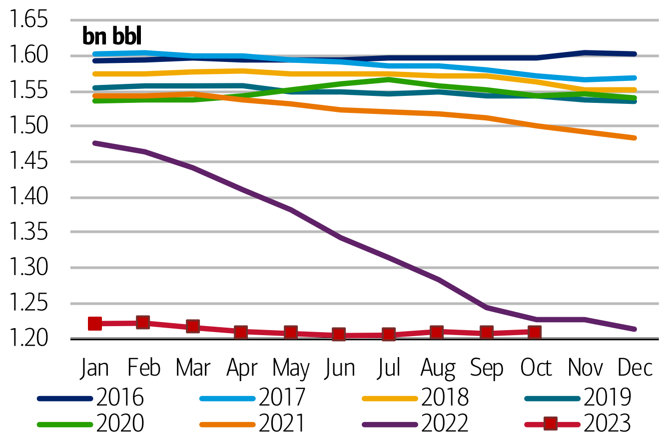
Also, OECD strategic stocks have yet to rebuild...

Beyond the fact that crude oil spec positioning length is light and commercial oil stocks are generally on the low side, strategic oil inventories across OECD economies are at the lowest point in decades (Exhibit 23). Although the US has started to push some barrels into strategic stockpiles in recent months (Exhibit 24), it is important to note that the ability of Western governments to limit an oil price rally, should there be one, has been reduced. Conversely, should oil WTI prices drop below $70/bbl for a sustained period of time, we would expect a pickup in the refill of government oil stocks globally, contributing to create a soft put for oil prices.

Exhibit 23: OECD government petroleum stocks
Strategic oil inventories across OECD economies are at the lowest point in decades...



Source: IEA

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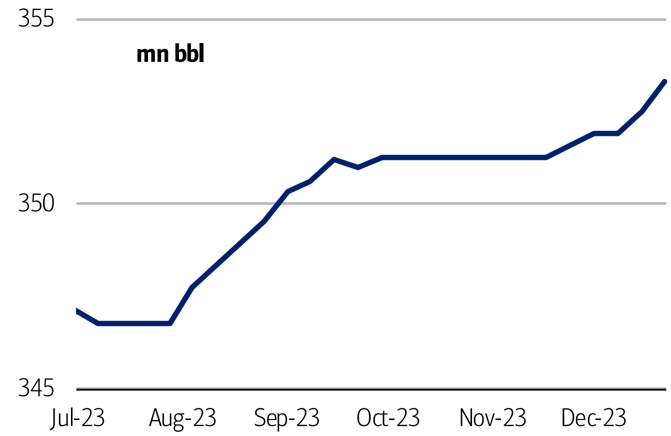
Exhibit 24: US Strategic Petroleum Reserve
...although the US has started to push some barrels into strategic stockpiles in recent months



Source: Bloomberg

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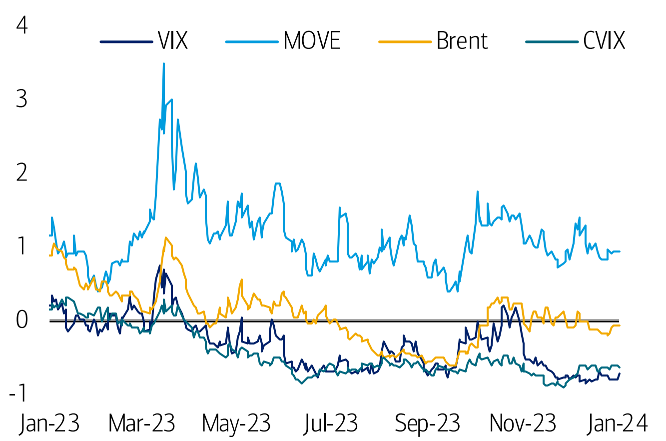
...leaving oil vulnerable to upside price swings...

With oil prices trapped in a $25/bbl range for most of last year compared to a $50/bbl range in 2022, volatility implied in crude oil options prices has been declining steadily but it has not collapsed. On a relative basis, volatility in the Brent crude oil market is not as high as it has been in the interest rates market (Exhibit 25) but has stayed persistently above the depressed vol levels witnessed in the equity and foreign exchange markets. Importantly, oil options continue to price a marked put skew due to continued dominance of producer hedging flows (Exhibit 26) and the relatively absence of consumer hedging activity, offering an attractive opportunity for investors worried about geopolitical risks.

Exhibit 25: Z-score of cross-asset implied volatility since 2006
On a relative basis, volatility in the Brent crude oil market is not as high as in the rates market



Source: BofA Global Research, Bloomberg

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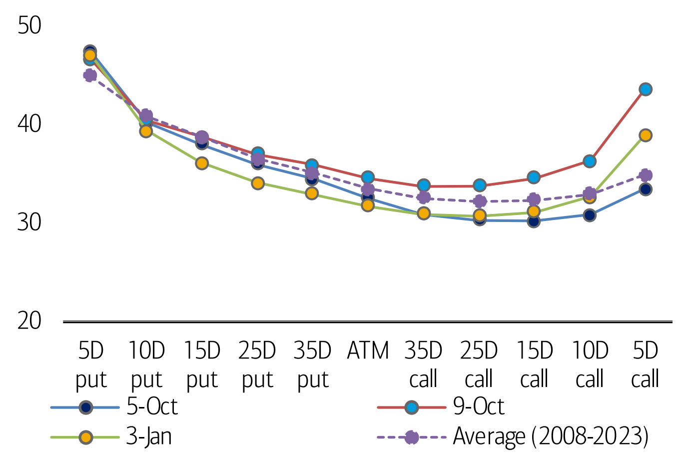
Exhibit 26: Brent crude 3-month option skew
Oil options continue to price a marked put skew due to continued dominance of producer hedging flows



Source: Bloomberg

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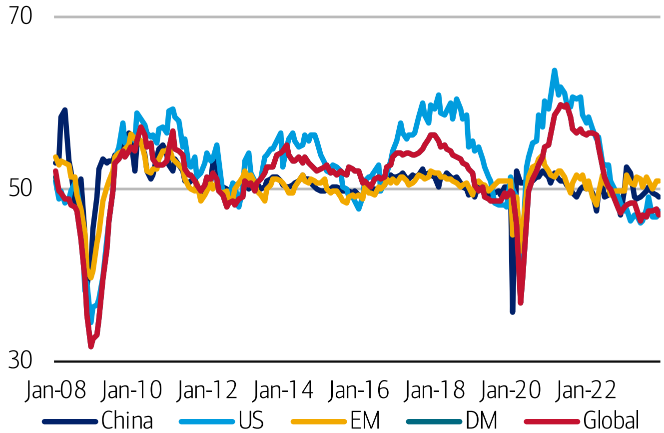
...especially if the economy improves on rate cuts

Another factor that has caused oil prices to drop is the worsening macro conditions across the global economy, particularly in the industrial and trade sectors. For starters, PMIs have been sinking for quite some time and are in contraction mode around the globe (Exhibit 27). However, industrial activity cannot contract forever if the economic outlook brightens. So, an eventual upturn in global manufacturing could quickly lead to rising metals prices and eventually energy prices too (Exhibit 28). Put differently, unless a recession unfolds over the coming months, industrials will have to restock on their finished and intermediate goods, as well as their raw materials this year, triggering a round of fresh commodity demand (see Rates, recession, and restocking are the keys to energy).

Exhibit 27: Global manufacturing purchasing manager indices
PMIs have been sinking for quite some time and are in contraction mode around the globe...



Source: Bloomberg

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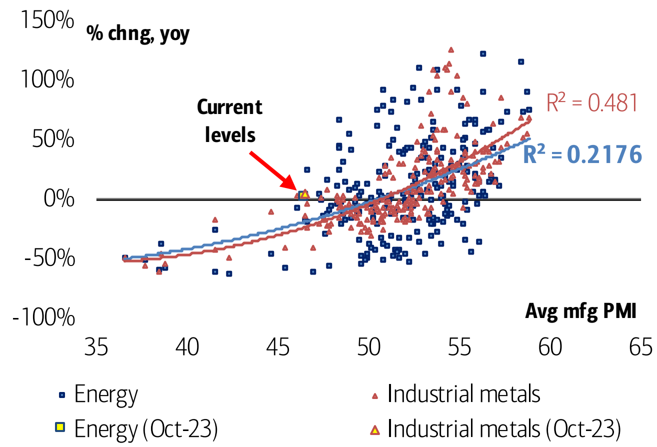
Exhibit 28: Average manufacturing vs (US, China, Eurozone) and annual commodity sector index returns
...but an eventual upturn in global industrial activity could quickly lead to rising metals and energy prices



Source: ISM, Markit, Bloomberg

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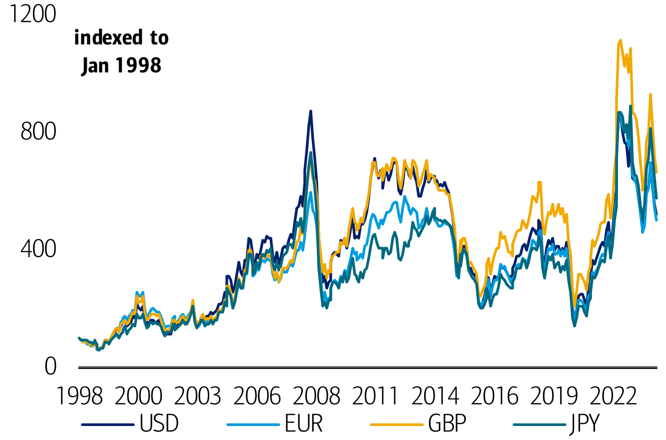
With fuel prices dropping relative to income...

Beyond the tailwinds that a cyclical inflection point could create for the energy sector over the course of the next few weeks, there are also important demand and price-level considerations related to the inflation-adjusted and relative prices of energy. While fuel prices measured in local currency have risen in absolute levels compared to history and fuels are somewhat expensive in a range of economies including the United Kingdom and Japan (Exhibit 29), fuel prices adjusted for income and inflation have come down considerably (Exhibit 30) in other places like the United States. After all, $1 in 2024 has the purchasing power of $0.84 in 2019 before the pandemic.

Exhibit 29: Front-month gasoil futures price in local currency indexed to January 1998
While fuel prices measured in local currency have risen in absolute levels compared to history...



Source: Bloomberg, BofA Global Research

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Exhibit 30: US gasoline price as a share of hourly wages
...fuel prices adjusted for income or inflation in the US have come down considerably

Source: Bloomberg, BofA Global Research

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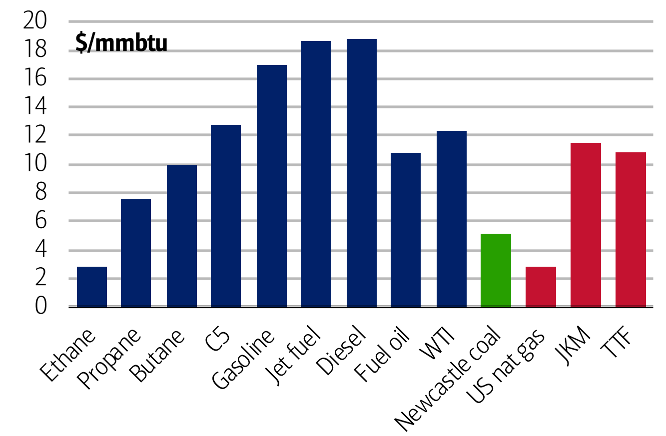
...and nat gas and thermal coal staying high...

Beyond the inflation considerations that define the real price of energy, it is also crucial to understand relative fuel prices to capture how high or how low Brent and WTI prices can trade over the course of this year. On this point, when looked at from a relative calorific value cross-fuel perspective, crude oil is not particularly expensive right now given its position as the king of thermal fuels (Exhibit 31) even after the slight drop in European TTF natural gas prices below EUR35/MWh in the first week of the year. In part, this is because Australian thermal coal and JKM liquid natural gas prices have held up (Exhibit 32) better than the European counterparts, although admittedly warm winter weather has been a headwind for prices.

Exhibit 31: Fuel prices in Mmbtu
When looked at from a relative calorific value cross-fuel perspective, oil is not particularly expensive right now



Source: Bloomberg, BofA Global Research

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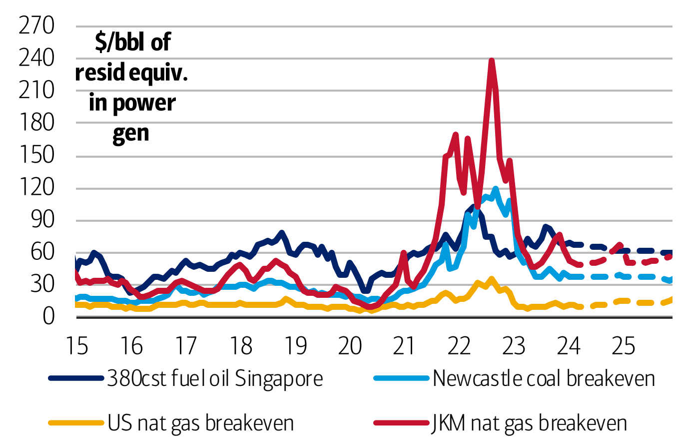
Exhibit 32: Asia resid fuel oil prices and breakevens with coal and gas in power generation
In part, this is because Australian thermal coal and JKM liquid natural gas prices have held up



Source: Bloomberg, BofA Global Research

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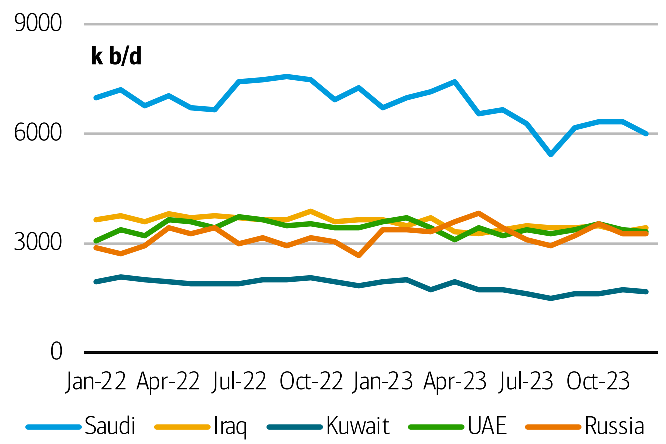
...prompt oil has limited downside near-term...

So, what happens next over the coming weeks? Given the geopolitical risks involved and the relatively low starting point for stocks, we see limited downside for Brent and WTI prices in the near-term. Even then, looking at loadings for Russian and Middle East oil across a range of shipping terminals, we note that exports have yet to start dropping

(Exhibit 33) to reflect the agreement that OPEC+ came to last month. If these loadings start to decline in earnest as we expect, the Brent oil market will likely gain support and rally above $80/bbl, further boosted by geopolitics. But if loadings increase further and reflect a fractured OPEC+, crude prices could take again a downward path below $70/bbl. If it comes to that, we would emphasize that China's energy imports have tended to increase sharply when Brent prices drop below $65/bbl (Exhibit 34).

Exhibit 33: Monthly crude loadings by country

Looking at loadings for Russian and Middle East oil, we note that exports have yet to start dropping



Source: Bloomberg

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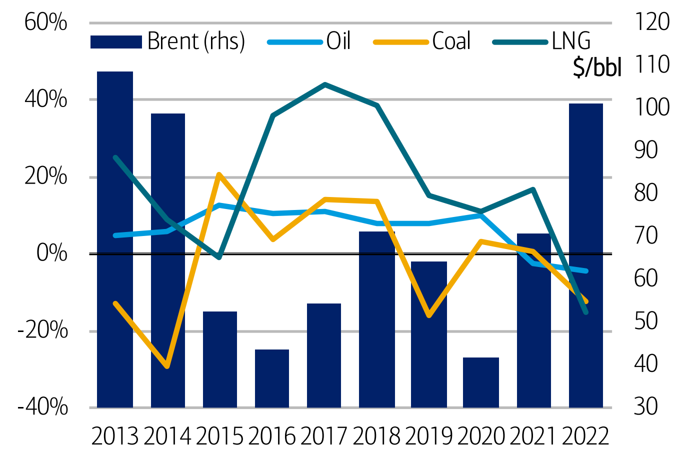
Exhibit 34: YoY change in imports to China by fuel versus Brent prices

China's energy imports have tended to increase sharply when Brent (oil or gas) prices dropped below $65



Source: Energy Institute

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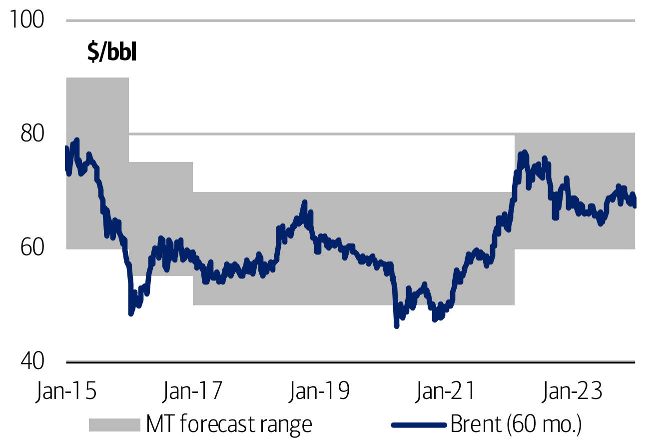
...as long-dated prices remain anchored at $70

Beyond OPEC+ actions and SPR refills, we still believe China energy import needs (see report: China coal floors global gas) will likely floor crude oil prices in 2024. More importantly, long dated Brent crude oil prices remain well anchored in the middle of our $60-80/bbl band (Exhibit 35), suggesting that for prices to drop below the $70/bbl midpoint inventories would have to build steadily throughout this year, an unlikely event given (1) OPEC's plans to reduce production, (2) the high likelihood of an economic soft landing, and (3) the (geo)political risks involved. After all, the cost curve for global oil production has not changed materially in recent years and lower prices would likely trigger a reduction in US shale drilling and completion activity (Exhibit 36). With OPEC+ managing the downside created by a soft fundamental backdrop and red hot (geo)politics in 2024, we view selling rich out-of-the money put spreads to buy out-of-the money calls as an attractive risk-reward proposition in what we see as a rangebound market loaded with unknown unknowns.

Exhibit 35: Long dated Brent prices

Long dated Brent crude oil prices remain well anchored in the middle of our $60-80/bbl band



Source: Bloomberg, BofA Global Research estimates

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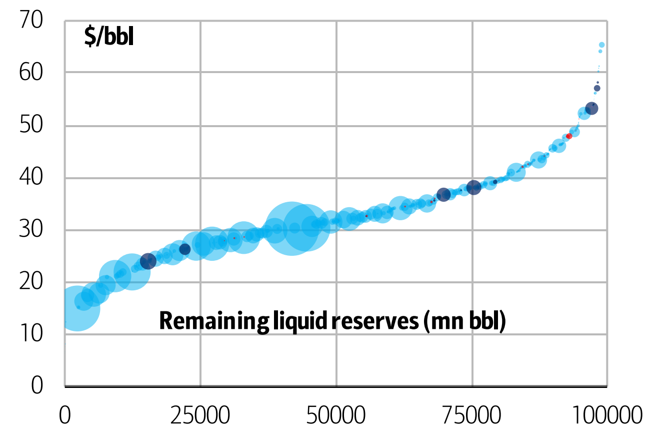
Exhibit 36: Global tight oil asset cost curve

The cost curve for tight oil production has not changed materially in recent years



Note: Assumes 15% cost of capital. **Source:** Woodmac

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Exhibit 37: BofA global oil supply forecast (in thousand b/d)
Quarterly and annual averages

	2022	1Q2023F	2Q2023F	3Q2023F	4Q2023F	2023F	1Q2024F	2Q2024F	3Q2024F	4Q2024F	2024F
OECD Americas	25,690	26,680	26,860	27,690	27,860	27,270	27,790	27,930	28,230	28,520	28,120
United States	17,920	18,720	19,250	19,720	19,920	19,400	19,730	20,070	20,250	20,310	20,090
-Crude	*11,910*	*12,630*	*12,750*	*13,060*	*13,270*	*12,920*	*13,250*	*13,330*	*13,390*	*13,510*	*13,370*
-NGL	*5,930*	*6,010*	*6,420*	*6,580*	*6,580*	*6,400*	*6,400*	*6,640*	*6,770*	*6,720*	*6,630*
Canada	5,750	5,850	5,460	5,870	5,840	5,750	5,950	5,800	5,880	6,100	5,930
Mexico	2,010	2,100	2,140	2,090	2,090	2,110	2,100	2,050	2,100	2,100	2,090
OECD Asia Oceania	480	460	460	460	470	460	470	470	450	450	460
Australia	410	390	380	380	400	390	400	400	390	390	390
OECD Europe	3160	3280	3230	3040	3130	3,170	3220	3090	3140	3240	3,170
Norway	1,900	2,000	2,010	1,960	1,990	1,990	2,080	1,980	2,030	2,080	2,040
United Kingdom	830	830	770	630	670	730	730	700	700	750	720
Non-OECD Europe	110	100	100	100	100	100	100	100	100	90	100
Former Soviet Union	13,900	14,150	13,790	13,590	13,750	13,820	13,520	13,570	13,520	13,720	13,580
Russia	11,090	11,200	10,910	10,810	10,890	10,950	10,700	10,700	10,700	10,800	10,730
Azerbaijan	670	640	620	620	610	620	610	610	600	600	610
Kazakhstan	1,820	1,990	1,950	1,850	1,940	1,930	1,900	1,950	1,900	2,000	1,940
Non-OPEC Africa	1,290	1,230	1,270	1,300	1,290	1,270	1,280	1,290	1,290	1,280	1,290
Egypt	600	590	600	600	600	600	590	590	590	590	590
Sudan	200	170	200	230	210	200	210	210	210	200	210
Non-OPEC Asia	6,880	7,030	6,990	6,840	6,790	6,910	6,890	6,930	6,930	6,920	6,920
India	700	680	690	690	680	690	700	710	710	710	710
Malaysia	560	580	550	540	570	560	560	560	560	550	560
China	4,180	4,340	4,340	4,210	4,160	4,260	4,250	4,300	4,300	4,300	4,290
Non-OPEC Latin America*	5,640	5,960	6,000	6,280	6,350	6,150	6,560	6,670	6,720	6,720	6,670
Argentina	710	750	760	760	790	760	800	810	820	830	820
Brazil	3,120	3,300	3,320	3,630	3,620	3,470	3,750	3,750	3,800	3,800	3,780
Colombia	760	780	790	790	790	790	780	780	770	770	770
Guyana	270	380	380	360	410	380	500	600	600	600	580
Non-OPEC Middle East	3,160	3,130	3,150	3,110	3,130	3,130	3,170	3,170	3,160	3,160	3,160
Oman	1,072	1,072	1,059	1,048	1,047	1,056	1,072	1,069	1,059	1,057	1,064
Qatar	1,801	1,813	1,812	1,811	1,810	1,811	1,810	1,810	1,810	1,810	1,810
Processing Gains	2,310	2,310	2,350	2,380	2,370	2,350	2,440	2,440	2,440	2,440	2,440
Global Biofuels	2,940	2,680	3,280	3,600	3,160	3,180	2,770	3,390	3,680	3,270	3,280
Non-OPEC** (incl. processing gains)	65,580	67,020	67,470	68,390	68,410	67,820	68,200	69,030	69,640	69,810	69,170
OPEC crude	29,080	29,340	28,870	28,000	28,210	28,610	28,100	28,260	28,500	28,560	28,350
Saudi Arabia crude	10,530	10,420	10,140	9,020	9,000	9,650	9,000	9,000	9,000	9,000	9,000
Kuwait	2,700	2,700	2,630	2,570	2,570	2,620	2,500	2,500	2,570	2,570	2,540
UAE	3,340	3,440	3,270	3,230	3,250	3,300	3,200	3,200	3,300	3,300	3,250
Iraq crude	4,440	4,350	4,120	4,290	4,350	4,280	4,350	4,350	4,350	4,350	4,350
Iran crude	2,550	2,700	3,000	3,110	3,180	2,990	3,250	3,300	3,350	3,400	3,330
Libya crude	990	1,150	1,160	1,150	1,150	1,150	1,050	1,150	1,150	1,150	1,130
Nigeria crude	1,150	1,270	1,150	1,210	1,300	1,230	1,300	1,300	1,300	1,300	1,300
Venezuela crude	700	710	790	790	800	770	830	850	880	900	860
other OPEC crude	2,680	2,590	2,610	2,630	2,620	2,610	2,620	2,610	2,600	2,590	2,610
Total OPEC NGLs + Non-conventional	5,440	5,500	5,530	5,560	5,550	5,530	5,550	5,550	5,550	5,550	5,550
Total OPEC	34,520	34,840	34,390	33,570	33,760	34,140	33,650	33,810	34,050	34,110	33,900
Total World Supply	100,100	101,860	101,870	101,960	102,180	101,960	101,850	102,840	103,690	103,920	103,080

Source: IEA, EIA, BofA Global Research estimates

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Exhibit 38: BofA global oil demand forecast (in thousand b/d)

Quarterly and annual averages

	2022	1Q2023F	2Q2023F	3Q2023F	4Q2023F	2023F	1Q2024F	2Q2024F	3Q2024F	4Q2024F	2024F
TOTAL OECD Demand	45,680	45,370	45,680	46,040	45,950	45,760	45,140	45,490	45,820	45,860	45,580
OECD Americas Demand	24,790	24,460	25,180	25,360	25,060	25,010	24,560	24,900	25,160	25,050	24,920
United States	20,160	19,920	20,500	20,480	20,350	20,310	19,940	20,160	20,320	20,250	20,170
Canada	2,410	2,330	2,470	2,640	2,490	2,480	2,370	2,500	2,570	2,540	2,500
Mexico	1,860	1,830	1,840	1,860	1,850	1,840	1,860	1,860	1,880	1,870	1,870
OECD Europe Demand	13,510	13,100	13,550	13,620	13,230	13,370	12,920	13,410	13,330	13,100	13,190
OECD Pacific Demand	7,380	7,810	6,960	7,060	7,660	7,370	7,670	7,170	7,330	7,720	7,470
TOTAL NON-OECD Demand	53,770	54,810	56,030	56,790	56,220	55,960	56,700	57,190	57,680	57,840	57,350
China	14,660	15,580	16,580	16,930	16,670	16,440	16,500	16,800	17,130	17,450	16,970
India	5,280	5,570	5,580	5,290	5,530	5,490	5,750	5,820	5,500	5,740	5,700
Other Asia (ex. China & India)	8,780	8,840	8,900	8,840	9,100	8,920	9,090	9,100	8,970	9,290	9,110
Middle East	8,840	8,670	8,800	9,330	8,640	8,860	8,910	9,130	9,480	8,750	9,070
Latin America	6,210	6,180	6,320	6,470	6,350	6,330	6,350	6,360	6,540	6,470	6,430
FSU	4,940	4,870	4,900	4,990	4,910	4,920	4,910	4,930	5,020	4,920	4,940
Africa	4,280	4,320	4,180	4,150	4,220	4,220	4,390	4,270	4,240	4,400	4,320
Non-OECD Europe	790	780	760	790	800	780	810	780	800	810	800
TOTAL Demand	99,450	100,180	101,700	102,820	102,170	101,720	101,850	102,670	103,500	103,700	102,930
Market imbalance (supply - demand)	650	1,680	170	-860	10	240	0	170	190	220	150

Source: IEA, EIA, BofA Global Research estimates

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Exhibit 39: Acronyms list

Acronym	Definition
$/bbl	dollars per barrel
2H2023	Second half of 2023
avg	average
b/d	barrels per day
bbl	barrel
bn	billion
boe	barrel of oil equivalent
Btu	British thermal unit
CB	central bank
CPI	consumer price index
DM	developed market
ECB	European Central Bank
EM	European market
EM	emerging market
EUAs	European Union Allowances
EUR	Euro
EV	electric vehicle
GoM	Gulf of Mexico
GWh	gigawatt hours
IEA	International Energy Agency
JKM	Japan Korea Marker
JPY	Japanese Yen
LNG	liquified natural gas
MA	moving average
mcm	million cubic meters
ME	Middle East
Mfg	manufacturing
MMBtu	million British thermal unit
mn	million
mt	metric ton
MWh	Megawatt hours
NBS	National Bureau of Statistics of China
ngl	natural gas liquids
NWE	North west Europe
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
OPEC+	OPEC countries plus ten additional countries
PMI	purchasing managers index
rhs	righthand side
SPR	Strategic Petroleum Reserve
TTF	Dutch TTF
TWh	terawatt hours
WTI	West Texas Intermediate
YoY	year over year
yr	year

Source: BofA Global Research

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