US Oil and Gas

OIM# 654: A lot to catch up on – start with why oil can't get >$80 despite the Red Sea

Price Objective Change

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Equity
United States
Oils

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Why can't Brent keep its head above $80?

If there is a simple way to characterize the challenge facing the US oils, it is an oil price that can't seem to break above $80 for any sustainable period, despite two conflicts and a number of terrorist attacks in one of the critical shipping lanes for oil through the Red Sea. Beyond the headlines the reality is that despite the geopolitical challenges there has not been any material loss of supply, with longer trade routes appearing as the only notable impact so far. Any risk of disruption to the free movement of oil is a risk to price. But the offset is a magnitude of OPEC+ spare production capacity that arguably mitigates the practical implications of any actual physical disruption, should it occur. Looking forward, we continue to see the challenge for oil prices that incremental non-OPEC supply fully covers demand growth with no significant room for Saudi / OPEC+ to add supply in the year ahead, but also in 2025 – an issue underlined by the latest round of updates from the EIA, IEA & OPEC which on balance reinforces the conclusion that oil markets are only balanced with current levels of production from OPEC+.

Notable is what we view as a significant change in tone from past reports discussing risk of a 'short' market with the IEA now stating *"Barring significant disruptions to oil flows, the market looks reasonably well supplied in 2024 …. while OPEC+ policies may tip the oil mkt into a small deficit at the start of the year, strong non-OPEC+ growth could lead to a substantial surplus if the OPEC+ extra voluntary cuts are unwound in 2Q24."*

In our view the implication for the sector is a deteriorating forward curve and hence deteriorating free cash outlook that is a headwind to sector valuations for the US oils, as defined within our DCF framework. It is this backdrop that has characterized our sector view for 2024 as defensive, in a year we expect to be dominated by greater stock selection to navigate headwinds to absolute valuations for the oil weighted E&P's.

4Q23 Refiners Mark to Market: negative, but stabilizing

Marking to market 4Q23 refining margins lowers our EPS estimates by 30% paced by the smaller caps (PBF 87%, DK 83%, DINO 25%), with more moderate revisions for the large caps (PSX 5%, VLO 12%). 2024 has also started with weakening margins prior to the perceived risk of refinery disruptions from winter storm Heather. However seasonal margin weakness appears to be stabilizing – and margins remain above mid cycle with the main source of support from distillate for now although weak US natural gas prices may prove a lead indicator of weak end-of-season distillate cracks much like 2022/23.

Still forward markets have fared better than spot markets, with the NYMEX 321 dropping 'just' 36% in 4Q compared to the steeper declines observed in the spot markets. Looking forward to 2024, our current FY estimate of $12.88 / bbl is now below strip at $15.6/bbl which has rolled up due on winter storm risk over the past week. Still, as things stand currently, FY24 earnings risks have moved higher improving risk / reward for the US refiners in contrast to US oil weighted E&Ps.

Exhibit 1: BBG vs. Actuals (mbbls)

Gasoline draws while crude inventories build

Crude Stocks	
Est	**(425)**
Actual	(2,492)
Diff	(2,067)
Distillate Stocks	
Est	**1,020**
Actual	2,370
Diff	1,350
Gasoline Stocks	
Est	**2,015**
Actual	3,083
Diff	1,068
Utilization	
Est	**92.0%**
Actual	92.6%
Diff	0.6%

Source: EIA

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OPEC – organization of petroleum exporting countries
E&P – exploration and production
IEA – international energy agency
DOE – department of energy

DUC – drilled uncompleted
EIA - Energy information agency
PBF-PBF Energy
DK- Delek
DINO- HF Sinclair Corp
PSX- Phillips 66
VLO- Valero

Refer to important disclosures on page 34 to 36. Analyst Certification on page 32. Price Objective Basis/Risk on page 30.
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OIM #654

Exhibit 2: Summary DOE
Summary of DOE Weekly Statistics

	Current	Prev	Change	%
Crude Oil	429.9	432.4	(2.492)	-0.6%
of which cushing	32.1	34.2	(2.099)	-6.1%
Lower 48 Production	12.900	12.800	0.100	0.8%
Motor Gasoline	248.1	245.0	3.083	1.3%
Gasoline production	9.365	9.7	(0.291)	0.0
Gasoline demand	8.269	8.325	(0.056)	-0.7%
Gasoline demand cover	30.0	29.4	0.572	1.9%
Distillate	134.8	132.4	2.370	1.8%
of which Heating Oil	6.3	5.8	0.541	9.4%
of which Diesel	128.4	126.6	1.829	1.4%
Distillate demand	3.6	3.4	0.213	6.2%
Distillate demand cover	37.0	38.6	(1.604)	-4.2%
Jet Fuel	40.9	39.3	1.605	4.1%
Jet fuel demand	1.3	1.6	(0.300)	-18.8%
Jet fuel demand cover	31.5	24.6	6.923	28.1%
Residual	26.8	25.8	0.962	3.7%
Resid demand	0.4	0.2	0.203	120.8%
Resid demand cover	72.3	153.9	(81.590)	-53.0%
Utilization	92.6%	92.9%	-0.3%	na
Product Stocks	1263.4	1260.7	2.8	0.8%

Source: DOE

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Crude and products inventory change

Exhibit 3: Distillate inventory by PADD
Distillate inventories built by 6528 kbbls

BBG Estimates	**1,020**
Actual stock change	2,370
Exports	1,033
Imports	115
Prod / consumption net	1,257
Production	4,902
Product Supplied	(3,645)
PADD 1	(702)
PADD 2	1,330
PADD 3	1,503
PADD 4	55
PADD 5	185
Total	**2,371**

Source: BofA Global Research, Bloomberg

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Exhibit 4: Crude inventory by PADD
Crude inventories built by 1336 kbbls

BBG Estimates	**(425)**
Actual stock change	(2,492)
Exports (Monthly avg)	5,029
Imports	7,420
Prod / consumption net	(7,420)
Production	13,300
Product Supplied	(20,720)
PADD 1	734
PADD 2	(2,965)
PADD 3	370
PADD 4	(583)
PADD 5	(47)
Total	**(2,491)**

Source: BofA Global Research, Bloomberg

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Exhibit 5: Gasoline inventory by PADD
Gasoline inventories built by 8029 kbbls

BBG Estimates	**2,015**
Fnsh'd MoGas stock chn'g	65.4
Exports	1,097
Imports	66
Prod / consumption net	1,096
Production	9,365
Product Supplied	(8,269)
PADD 1	(852)
PADD 2	1,978
PADD 3	807
PADD 4	321
PADD 5	828
Total	**3,082**

Source: BofA Global Research, Bloomberg

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Exhibit 6: Jet inventory by PADD
Jet inventories drew by -382 kbbls

BBG Estimates	
Actual stock change	1,605
Exports	217
Imports	(422)
Prod / consumption net	385
Production	1,683
Product Supplied	(1,298)
PADD 1	(614)
PADD 2	89
PADD 3	661
PADD 4	52
PADD 5	1,418
Total	**1,606**

Source: BofA Global Research, Bloomberg

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Why can't Brent stay above $80?

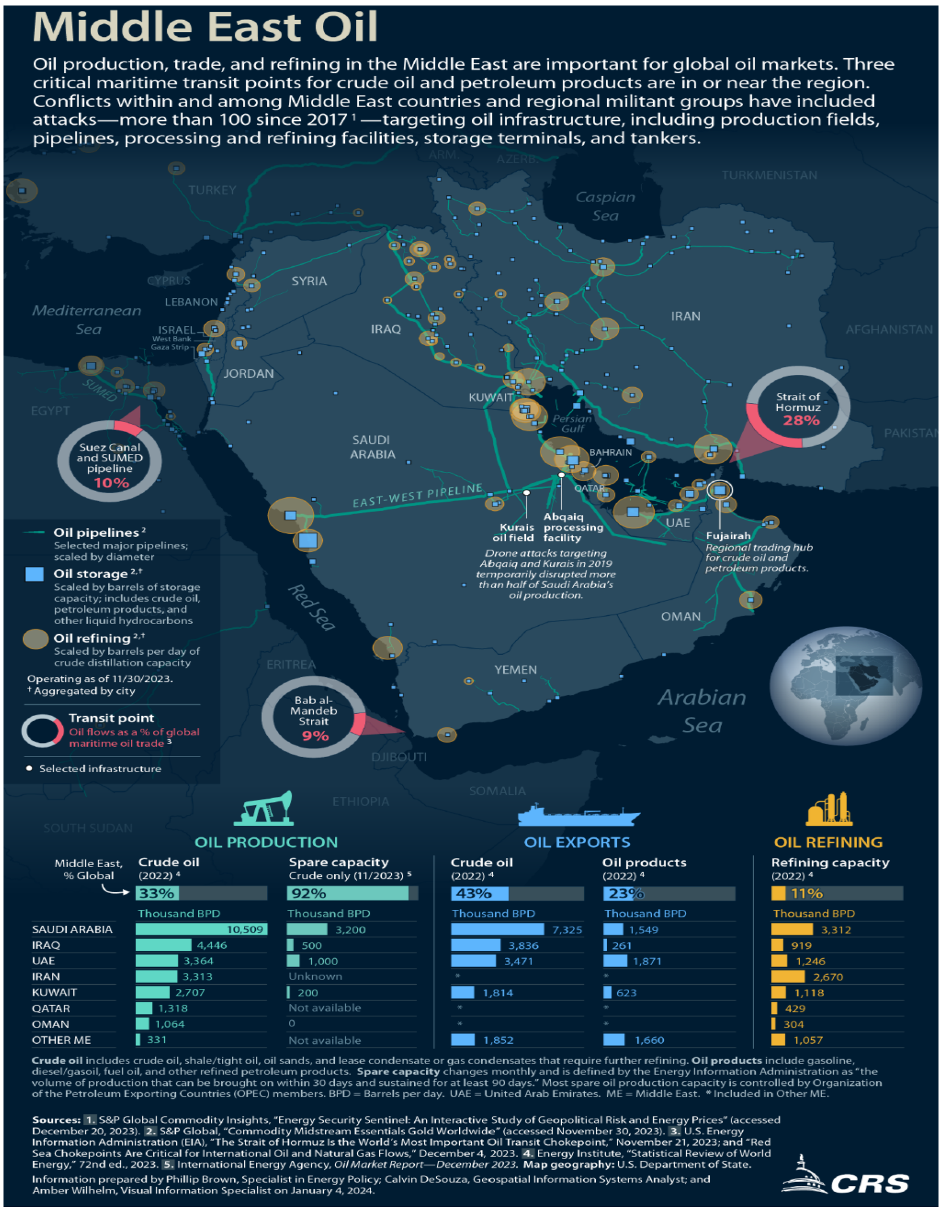
…. with the most volatile geopolitical backdrop in decades

If there is a simple way to characterize the challenge facing the US oils, it is an oil price that can't seem to break above $80 for any sustainable period, despite two conflicts and a number of terrorist attacks in one of the critical shipping lanes for oil through the Red Sea. Beyond the headlines the reality is that despite the geopolitical headlines there has not been any material loss of supply, with longer trade routes appearing as the only notable impact so far.

For a primer on oil flows we find the latest publication from the Congressional Research Service (CRS) useful to identify potential bottlenecks & highlight that per its estimates, while ~33% of global oil production comes from the Middle East just 9% passes through the Bab al Mandeb Strait, the critical conduit between the Gulf of Aden and the Red Sea.

Exhibit 7: Choke points in the Middle East

~9% of Global Maritime oil trade 'normally' flows through the Bab al Mandeb Strait



Source: CRS

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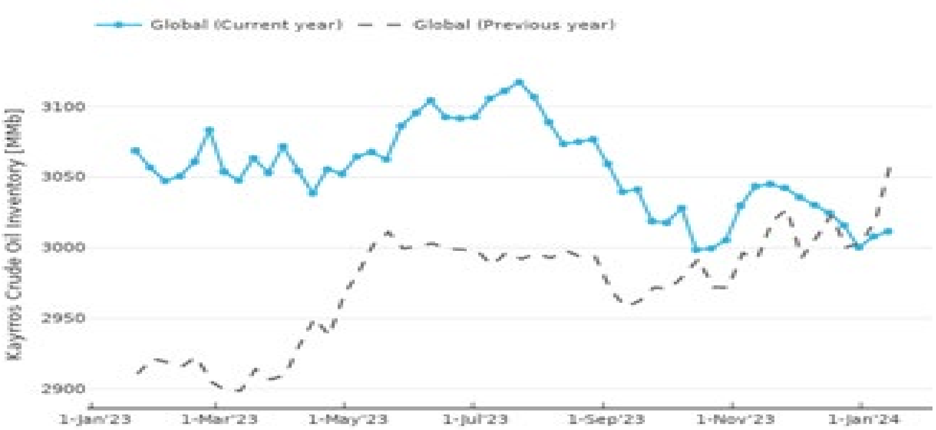
Any risk of disruption to the free movement of oil is a risk to price. However, while geopolitical risks will likely remain a factor in 2024, we believe the magnitude of OPEC+ support means a level of spare production capacity that arguably mitigates the practical implications of any actual physical disruption, should it occur.

Additionally, from the latest satellite review of physical oil markets courtesy of Kayrros, there is still no evidence of material supply tightness to offer incremental support for oil prices beyond the response from paper markets to geopolitical headlines.

Exhibit 8: Global on shore inventories
Global crude inventories climb by 6.3 mnbbl w/w



Source: Kayrros

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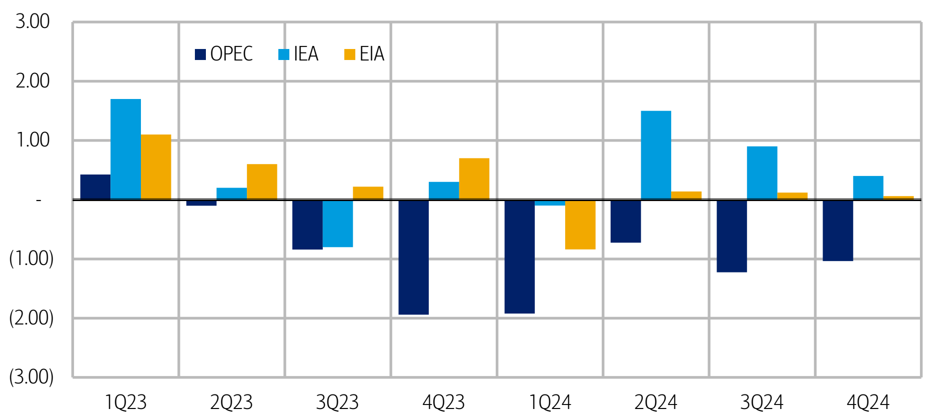
Looking forward, we continue to see the challenge for oil prices that incremental non-OPEC supply essentially offsets expected demand growth with no significant room for Saudi / OPEC+ to add supply in the year ahead, but also in 2025.

This is underlined this week by the latest round of updates from the EIA, IEA, and OPEC which on balance reinforces the conclusion that oil markets are essentially balanced with current levels of production from OPEC+.

Exhibit 9: January global liquids supply demand balances
After 1Q24 supply demand looks balance for the remainder of the year



Source: EIA

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Summarizing key points from each agencies updated views:

- **From the EIA's Short Term Energy Outlook** it still sees the market with a deficit of 840,000 bpd in 1Q24 but returning to a balanced market assuming OPEC+ production returns to 4Q23 levels for the balance of the year.

- **OPEC** has consistently had the highest supply deficit versus the IEA and EIA. With its January's oil market report (OMR) its latest estimates look relatively balanced falling from a 2024 average supply deficit of 1.63mm bpd to 1.23mm bpd.

Critically this is mostly due to upward non-OPEC supply revisions. Notable is that for 4Q23 its estimated supply deficit fell from 3.57mm bpd to 1.94mm bpd on upward supply revisions for the US and Russia. Demand estimates have held flat at an average of 104.4 mmbd for 2024. 2025 looks to be more of the same with the market estimated to be in a steep deficit of 1.27mm bpd as what looks like a relatively high demand growth assumption of 1.8mm bpd which would outpace non-OPEC supply growth of 1.4mm bpd.

To be fair, outsize demand growth, above consensus closer to 1.2-1.3mm bpd is perhaps the only route to Saudi adding back supply without damaging price.

This last point is underlined by the latest monthly oil market report, published by the IEA which is perhaps the most closely watched of the three.

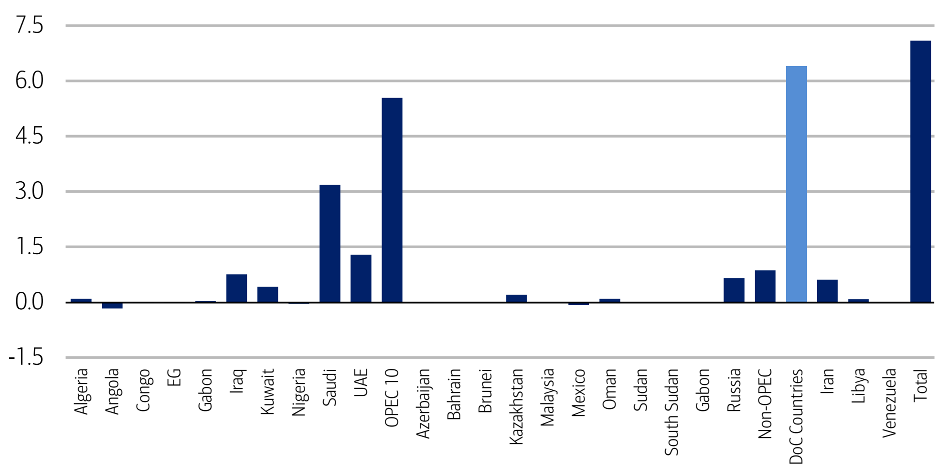
- The **IEA's** raised its 2024 demand outlook by 100,000 bpd to 1.2mm bpd. However its estimate of non-OPEC supply increased by 300,000 bpd to 1.5 mm bpd.

Notable is what we view as a significant change in tone from past reports discussing risk of a 'short' market with the IEA now stating:

"Barring significant disruptions to oil flows, the market looks reasonably well supplied in 2024 with higher-than-expected non-OPEC+ production increases set to outpace oil demand growth by a healthy margin. While OPEC+ supply management policies may tip the oil mkt into a small deficit at the start of the year, strong growth from non-OPEC+ producers could lead to a substantial surplus if the OPEC+ extra voluntary cuts are unwound in 2Q24."

As we stated earlier this year the current macro set up leaves little room for Saudi/OPEC+ to return a material portion of spare production capacity to the market.

Exhibit 10: Global crude on water
Global crude on water remains range bound



Source: Bloomberg, BofA Global Research

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As a footnote, earlier this month we saw Saudi decrease its official selling price by $2/bbl which in our view has been interpreted by the market as an early signal that market share remains an important consideration for Saudi oil policy.

Paper market watch

In our view, artificial price support can often amplify the influence of paper markets, as speculative positions sometimes challenge fundamentals that contradict price. For example Brent oil prices near $80/bbl is only at that level because Saudi is holding ~3mm bpd of the lowest cost production off the market. Further, we find paper markets often follow technical signals until something breaks in either direction – such as the geopolitical risk in the form of Houti rebel attacks in the Red Sea. For now, the latest read from our technical team suggests oil lacks conviction in any particular direction, perhaps reinforcing a near term outlook we have characterized as rangebound. Per our technical team's recent commentary:

Consolidating the 4Q23 downtrend at the supportive 200wk SMA

In Sept-Nov 2023 the daily chart of CL1 formed a head and shoulders top with a downside target of $69.60. This was reached in Dec and price action has turned sideways with support from the 200wk SMA. While supported above $69.20-71.05, potential for the first five days (FFDs) of the year tendency to lead prices sideways or higher in January and Q1 remain possible.

Exhibit 11: Technical view: WTI Crude Oil (CL1) – Daily chart

Having reached its head and shoulders target at $69.60 last month, price is consolidation at the supportive 200wk SMA with recent trading patterns supporting January and Q1.

Source: BofA Global Research

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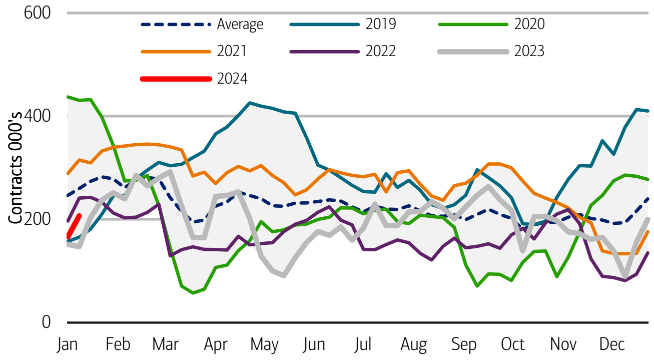
Paper market positioning in 4Q23 bottomed in early September, bouncing back on news of the Houthi attacks reach headlines. With the first data point of the year, positioning has retreated and now sits back at the bottom of the range.

Exhibit 12: Brent net managed money contracts
Net positioning is at the bottom of the 5-year range



Source: Bloomberg, BofA Global Research

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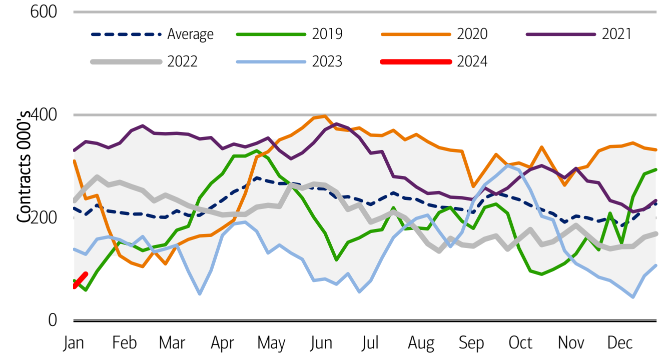
Exhibit 13: WTI net managed money contracts
Net positioning is also at the bottom of the 5-year range



Source: Bloomberg, BofA Global Research

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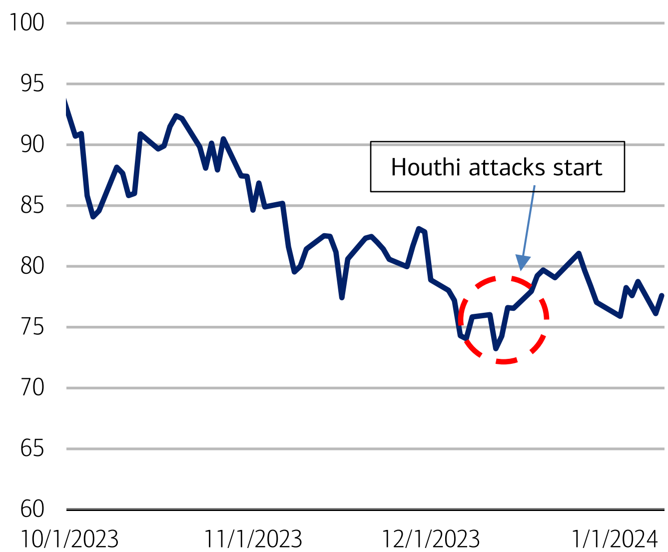
Conclusion: Perma backwardation

Repeating one of the key conclusions from our 2024 strategy outlook, we see a balanced oil market conditioned on OPEC+ supply cuts remaining in place but with a consequence that is exaggerated backwardation as a new normal for the US oils. In our view the implication for the sector is a deteriorating forward curve and hence deteriorating free cash outlook that is a headwind to sector valuations for the US oils, anchored on our DCF framework.

Exhibit 14: Brent oil prices in 4Q23
Houthi attacks start in mid-December



Source: BofA Global Research, Bloomberg

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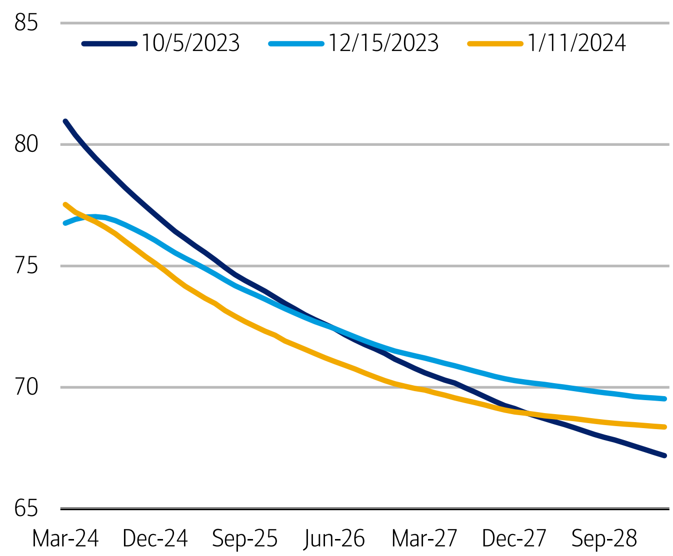
Exhibit 15: Brent forward curve
Despite a spot price reaction the curve is still lower



Source: BofA Global Research, Bloomberg

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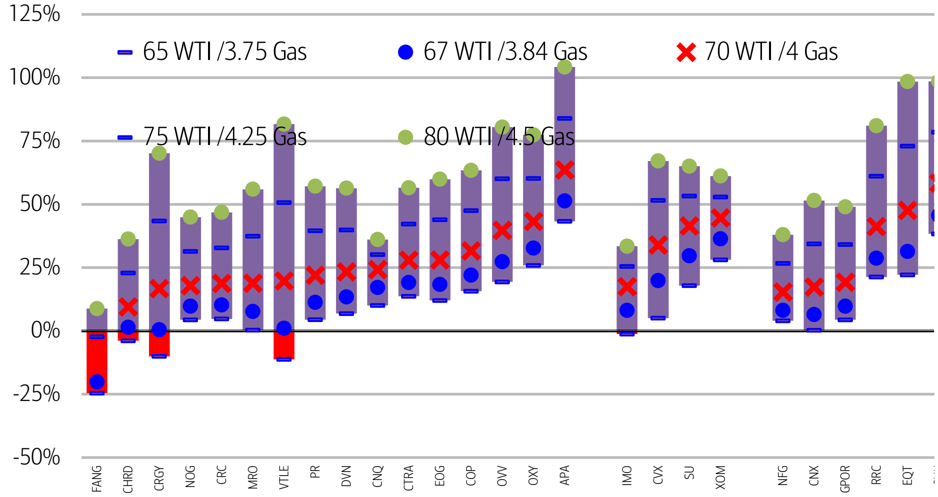
It is this backdrop that has characterized our sector view for 2024 as defensive, in a year we expect to be dominated by greater stock selection to navigate headwinds to absolute valuations for the oil weighted E&Ps.

The chart below is a reminder of where we see value in absolute terms, when backwardation is embedded in our expectations of value for the US oils.

Exhibit 16: Valuation Summary (base case $75 Brent / $4.00 HH) Gas names lead upside
Gas names lead upside



Source: Bloomberg, BofA Global Research

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Footnote: winter storm impacts on US oil production

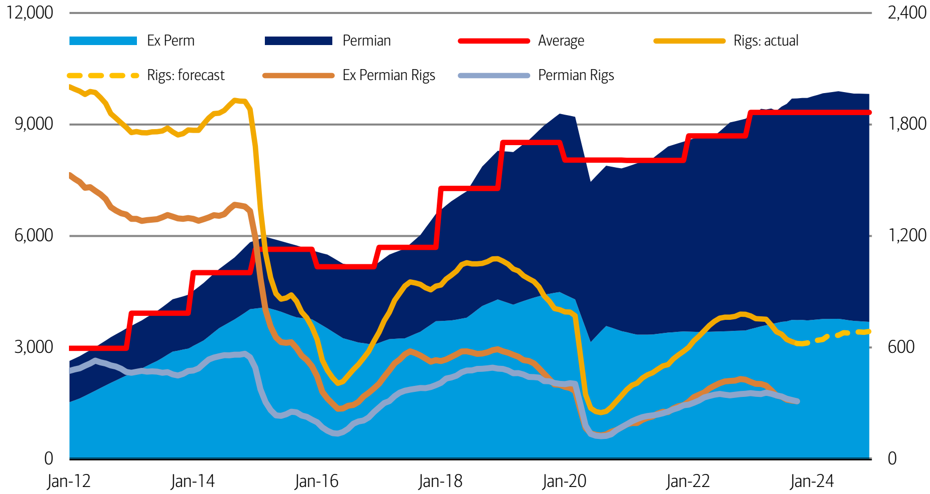
At the end of 3Q23 US oil production hit a new record at 13.2 mnbd. With the EIA's 914 data now available through Oct-23, strong US production growth has continued to be led by the GoM(171,000 bpd) and lower 48 shale (957,000 bpd). Note that in 4Q23 GoM production may be impacted by the discovery of an oil spill that caused the Main Pass Oil Gathering pipeline to be shut in, impacting 80,000 bpd of supply. However, EIA estimates suggest lower 48 production will averaging 12.8 mnbd in 4Q23.

US oil production has surprised to the upside despite a lower rig count that averaged 621 in 4Q23. Part of this comes from a DUC (drilled but uncompleted wells) draw down in the Permian, Bakken, and Eagle Ford: from Jan - Nov 2023 the Eagle Ford and Bakken saw their respective DUC counts fall by 44% and 41%. While we only have partial data for 4Q, DUCs appear to have continued to decline in Oct and Nov in all three plays – providing a tailwind for production but also a reason we expect absolute growth to slow in 2024.

The chart below shows how these dynamics between rig activity & DUCs plays into our production expectations. Per our proprietary 'rig-response' model we expect exit-to-exit production growth of just 100,000 bpd from lower 48 shale in 2024 with growth exclusively from the Permian, offset by a modest decline from the non-Permian plays. With that said, given strong exit growth last year we expect average growth in 2024 of ~500,000 bpd.

Exhibit 17: Rig Response summary

Exit to exit growth is 100 kbd



Source: BofA Global Research

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Near term we expect production in lower 48 production to be noisy due to impacts from winter storm Heather that has already affected 650,000 bpd of production in the Bakken.

Refining: -ve revisions on final 4Q23 MtM

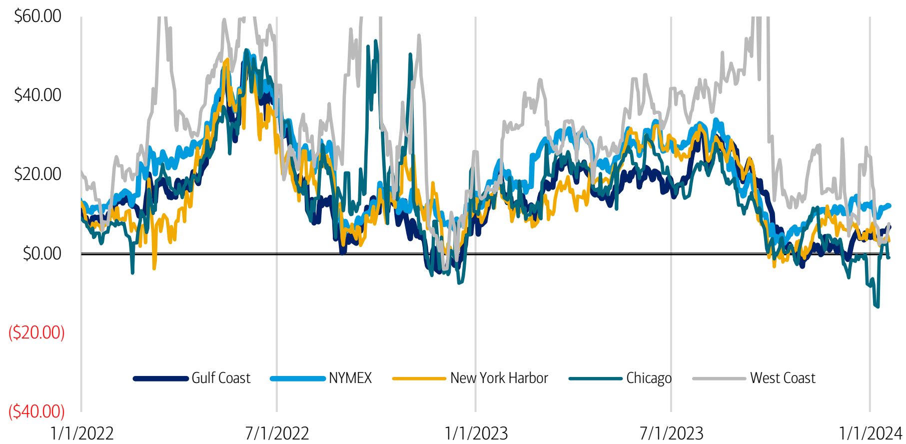
But seasonal margin weakness appears to be stabilizing

US refining margins remain above mid cycle. But the main source of support remains distillate, with margins close to $38 compared with gasoline at $17 ($14 ex RIN) but with weak US natural gas prices a lead indicator to what we expect to be a weak end of season risk to distillate.

A glance at the chart below shows the extent to which refining margins have declined from 3Q23 levels. But in absolute terms, margins are not entirely dissimilar from this time last year – which was a pre cursor to a seasonal rebound in summer, and just the second summer since COVID.

Exhibit 18: Regional refining benchmarks ex-RIN

Gulf Coast and Mid Continent markets most challenged in 4Q



Source: Bloomberg, BofA Global Research

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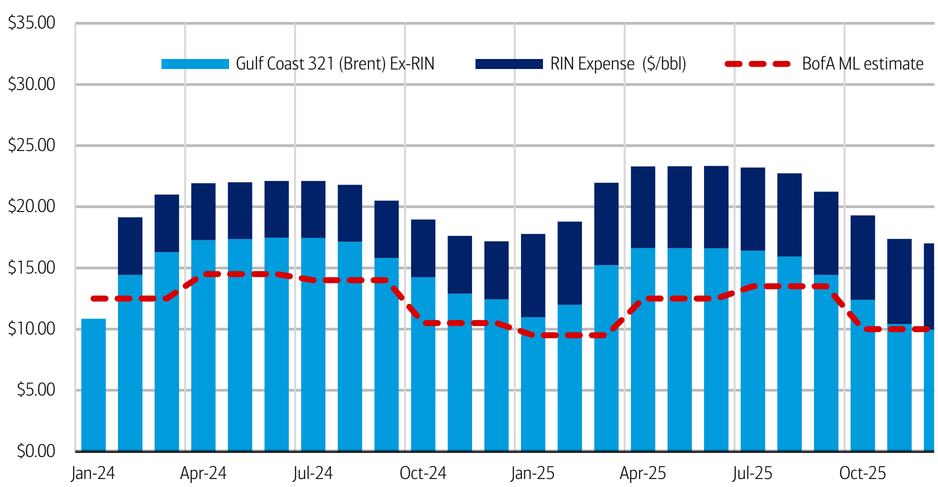
Forward markets have fared better than spot markets, with the NYMEX 321 dropping 'just' 36% compared to the steeper declines observed in the spot markets. Note that per the chart above, the Gulf Coast was the worst performer with a sequential decline of 60%.

Exhibit 19: Gulf Coast 321 ex-RIN forwards

Average $15.6/bbl in 2024



Source: Bloomberg, BofA Global Research

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Assessing regional trends:

- The Gulf Coast (GC) is naturally long product, so that the region is dependent on export markets (PADD 1, PADD 2, international) to keep inventories in balance. But against weak demand the fourth quarter local inventories expanded quickly to compress margins, especially for gasoline.

The GC gasoline crack averaged just $2.14/bbl by our estimates, compared to NYH at $4.19/bbl, and Group 3 at $4.27/bbl. Gulf Coast diesel held up better at $25/bbl, just $5/bbl off third quarter levels, but with diesel still seemingly tight, high diesel margins are needed to keep the global refining system profitable. On a 321 basis, we assess the Gulf Coast at $9.99/bbl.

- New York Harbor wasn't much better than the Gulf Coast, with a 321 crack of $13.85, with $4.18/bbl gasoline and $32.62/bbl diesel.

- In the Mid Continent, Chicago markets detached from Group 3 as local demand for products weakened. Chicago gasoline cracks were noticeably in the red for the month of December at $(1.50)/bbl under WTI, compared to $2.74/bbl for Group 3.

Chicago area refineries have greater access to discounted WCS and Syncrude barrels, suggesting that margins were closer to break-even when adjusting for lower priced crude. While Group 3 gasoline margins managed to stay in the black until the final days of December, margins have gone red for the majority of the new year.

- California markets unsurprisingly exhibited the greatest volatility during the quarter, spiking to as high as $35/bbl at the end of the month, due to several unplanned outages, including CVX Richmond. As of writing, PSX Rodeo, that was expected to shutdown at the end of 2023, is still operating petroleum refining operations until it receives the necessary permits to fully transition to renewable diesel production. Latest commentary suggests that plan is still on track for 1Q24.

Looking forward to 2024, our current FY estimate of $12.88 ($12.50 1Q, $14.50 2Q, $14.00 3Q, $10.50 4Q), is after adjusting for RIN costs of ~$4.70/bbl and which compares to strip at $15.6/bbl which has rolled up due to winter storm Heather in the past week. As things stand currently, FY24 earnings risks have moved higher.

4Q23 Refiners Mark to Market

With this backdrop, we are lowering 4Q23 estimates by 30% paced by the smaller caps (PBF 68%, DK 83%, DINO 25%), while noting that cuts at the larger caps were more moderate (PSX 5%, VLO 12%). Note we marked to market MPC at the start of the year with our year ahead report, so there are no changes this week, but it's worth mentioning that MPC was the only name that we revised higher ahead of results with $2.76 compared to our prior estimate of $2.60, which leaves a gap versus consensus of $2.28.

- Our MPC estimate reflects a margin capture rate of 112%, which compares to the last four 4Q's at 109%, 116%, 120% and 111% - where the sequential increase of ~14% is driven mainly from wider Canadian diffs and butane blending.

- DK and PBF by contrast see the most aggressive downward revisions, with DK seeing a disproportionate impact from backwardation given that its system is 100% pipeline barrels and weak Gulf Coast pricing;

- PBF is hit on the West Coast, where throughput trended below guidance with planned work at Torrance running long, and issues with the FCC leaving gross margins less than cash operating costs by our estimates.

Exhibit 20: Earnings estimates vs consensus

4Q23 estimates cut 30% on average

		1Q23A	2Q23A	3Q23E	4Q23E	2023E	1Q24A	2Q23A	3Q24E	4Q24E	2024E	2025E
DK	BofAS	$1.38	$0.99	$2.01	($1.59)	$2.81	$0.37	$1.25	$1.23	($0.16)	$2.68	($0.21)
	Prev	1.38	0.99	2.01	(0.87)	3.53	0.37	1.25	1.23	(0.16)	2.68	(0.21)
	% Change	0.0%	0.0%	0.0%	-82.8%	-20.4%	0.0%	0.0%	0.0%	nm	0.0%	0.0%
	Consensus	$1.00	$0.68	$1.40	($1.17)	$2.97	($0.12)	$0.75	$0.63	($0.15)	$0.88	$0.14
	% Diff	38.0%	45.6%	43.4%	nm	-5.3%	416.2%	66.9%	94.3%	nm	206.3%	-246.9%
DINO	BofAS	$2.02	$2.62	$4.10	$0.75	$9.43	$1.38	$1.97	$1.99	$1.17	$6.70	$5.95
	Prev	2.02	2.62	4.10	1.00	9.68	1.37	1.96	1.99	1.16	6.48	5.93
	% Change	0.0%	0.0%	0.0%	-25.0%	-2.6%	0.7%	0.5%	0.0%	0.9%	3.4%	0.3%
	Consensus	$1.52	$2.28	$3.67	$0.80	$9.50	$1.25	$2.11	$2.09	$1.05	$6.57	$5.90
	% Diff	33.1%	15.0%	11.8%	-6.1%	-0.7%	10.3%	-6.6%	-5.0%	11.1%	2.0%	0.8%
MPC	BofAS	6.09	5.31	8.14	2.76	22.49	3.92	4.77	4.73	2.76	16.18	13.00
	Prev	6.09	5.31	8.14	2.76	22.49	3.92	4.77	4.73	2.76	16.18	13.00
	% Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Consensus	$5.62	$4.58	$7.75	$2.21	$21.90	$2.78	$4.96	$4.85	$2.32	$14.88	$13.47
	% Diff	8.3%	16.0%	5.1%	25.1%	2.7%	40.9%	-3.8%	-2.5%	19.2%	8.7%	-3.5%
PBF	BofAS	$3.86	$2.29	$6.60	$0.11	$12.93	$1.57	$2.59	$2.78	$0.97	$7.92	$6.20
	Prev	3.86	2.29	6.60	0.91	13.71	1.69	2.71	2.90	1.09	8.41	6.20
	% Change	0.0%	0.0%	0.0%	-87.9%	-5.7%	-7.1%	-4.4%	-4.1%	-11.0%	-5.8%	0.0%
	Consensus	$2.58	$2.23	$4.87	$0.18	$11.87	$0.80	$2.36	$2.43	$0.64	$5.77	$4.17
	% Diff	49.4%	2.7%	35.5%	-40.2%	9.0%	97.5%	9.9%	14.2%	51.8%	37.4%	48.7%
PSX	BofAS	$4.21	$3.90	$4.63	$2.36	$15.15	$3.38	$4.24	$4.44	$3.24	$15.30	$15.64
	Prev	4.21	3.90	4.63	2.48	15.27	3.23	4.24	4.44	3.24	15.14	15.64
	% Change	0.0%	0.0%	0.0%	-4.8%	-0.8%	4.6%	0.0%	0.0%	0.0%	1.1%	0.0%
	Consensus	$3.56	$3.51	$4.81	$2.35	$15.13	$2.60	$3.77	$3.90	$2.72	$13.01	$13.05
	% Diff	18.4%	11.2%	-3.6%	0.6%	0.2%	30.2%	12.3%	13.7%	19.3%	17.6%	19.8%
VLO	BofAS	$8.30	$5.43	$7.51	$2.92	$24.31	$3.11	$4.98	$5.07	$2.60	$15.77	$13.59
	Prev	8.30	5.43	7.51	3.31	24.69	3.12	4.99	5.08	2.62	15.80	13.62
	% Change	0.0%	0.0%	0.0%	-11.8%	-1.5%	-0.3%	-0.2%	-0.2%	-0.8%	-0.2%	-0.2%
	Consensus	$7.21	$5.04	$7.33	$2.97	$24.20	$3.13	$4.42	$4.43	$2.54	$14.28	$11.89
	% Diff	15%	8%	2%	-2%	0%	-1%	13%	14%	2%	10%	14%

Source: BofA Global Research

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Footnote: watch TMX

The start-up of the Canadian government operated crude line, TMX is penciled in to start up in 1Q24, with line fill going on now, will have a pronounced impact on US refining markets. Last Friday, the Canadian Energy Regulator approved changes to the expanded TMX pipeline that could allow operations by the end of the quarter – specifically to use smaller pipe in a section of the line where the company faced challenges drilling through hard rock.

The pipeline will move an incremental 600,000 b/d of mostly heavy sour crude into the Pacific basin, where the most likely home is the US West Coast given its proximity and capability to run like grades. We believe this will be a game changer for heavy crude prices and therefore another tailwind to west coast markets that already stand to benefit from the closure of another refinery (Rodeo) – though the timing has slipped from December to 1Q, with needed permits due within weeks.

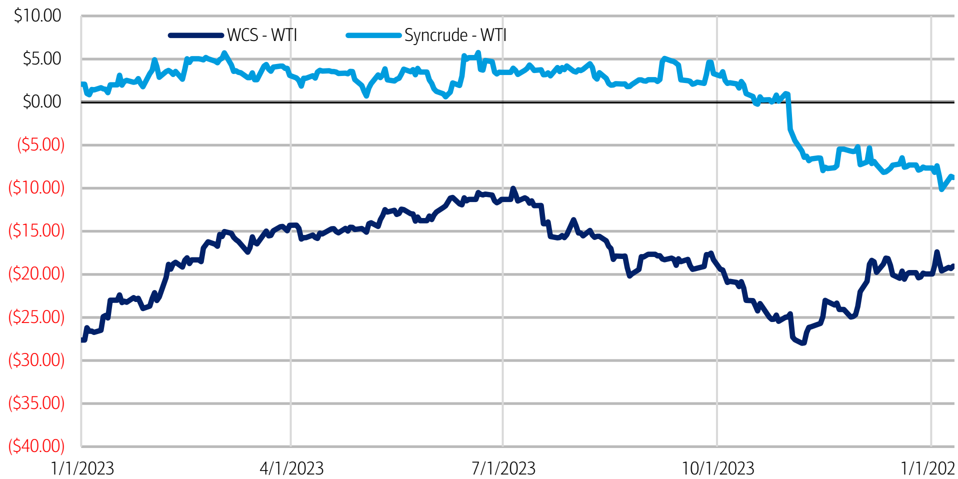
With the start-up of TMX, we believe the days of WCS blowouts will be a thing of the past, as the added egress expands market access and acts as a release valve versus building up too much stock at the local hub that results in wide differentials. The 4Q tailwind therefore may be the last for US refiners, with PSX and MPC the primary beneficiaries.

- WCS widened out from $16.17 in 3Q to $22.61 in 4Q, with the widest spreads occurring in late October / Early November when Fall refinery maintenance was peaking. From Mid-November, spreads have eased back to around $20/bbl.

- Syncrude barrels widened out at a similar cadence to WCS, but by contrast have remained wide, at $7-8/bbl.

Exhibit 21: Canadian crude differentials

WCS widened $6/bbl q/q / Syncrude widened $7/bbl q/q



Source: Bloomberg, BofA Global Research

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Capacity Watch

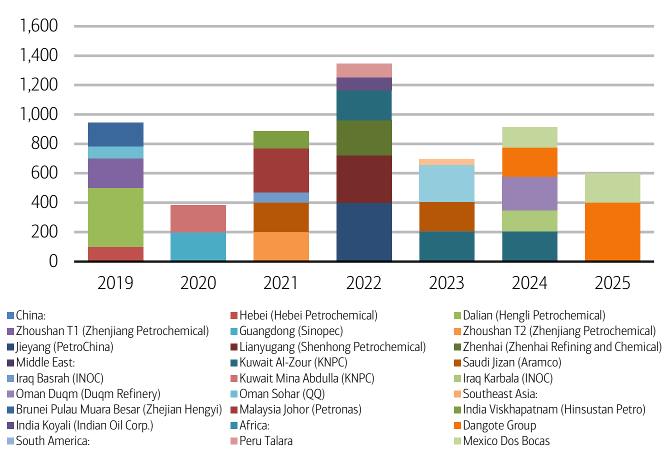
The key issue for the year ahead

In 2024, we see the sector tailwind from 'COVID closures' losing steam with the addition of new refinery start-ups, but not necessarily coming to end. Since 2022, the world has *added* 4 million bbls per day of new capacity, in various stages of start-up, with 2023 actually the high water mark for name plate additions, but with a phased start-up profile that sees commercial contributions hit in 2024. The next two start-ups represent 1 million b/d together, in Dangote and Dos Bocas, and are the primary supply side question marks weighing on the health of margins in 2024.

- Our understanding is Dangote is test-running units, with an eye to run at 300,000 b/d of its CDU capacity by mid-year, and full commercial operations by mid-2025.
- Estimates for Dos Bocas are more varied, with Platts expecting commencement by mid-2025 with a similar one-year ramp to full rates.

Exhibit 22: Global capacity additions since 2019

Dangote and Dos Bocas will add 1 million b/d of combined capacity by end 2025



Source: BofA Global Research

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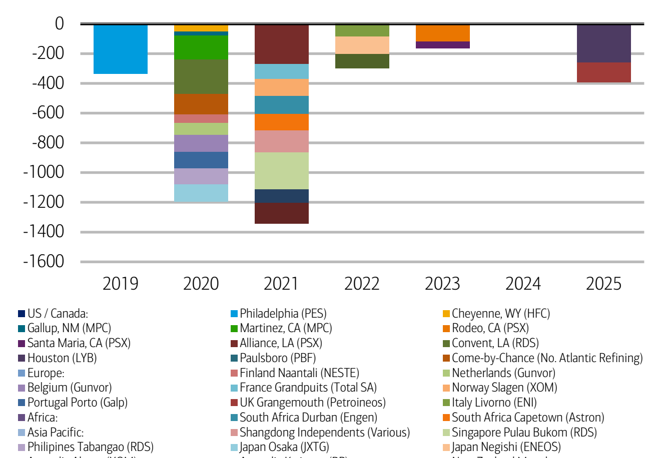
Exhibit 23: Global capacity closures since 2019

Next shutdowns to watch are Rodeo, Lyondell and Grangemouth



Source: BofA Global Research

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If all of this comes on line, the net change between 2019 to 2025 would see some 2 million b/d of new incremental capacity. But this comes with two caveats – China's capacity additions will cannibalize less efficient plants, and due to policy decisions China does not intend to be an exporter. Rather exports will serve as a release valve when local demand underperforms. So while the refining landscape isn't obviously as tight as the previous two years, we see the set up for another strong seasonal swing. For now the challenge is that gasoline inventories are plentiful in the US. Below we summarize our understanding of new refinery starts.

Start-ups

- Shenghong Petrochemical: The 320,000 b/d refinery began trial operations in May 2022, and has reported ramped up to full capacity as of end the of February 2023.

- Guangdong Petrochemical: The 400,000 b/d PetroChina refinery, located in Jieyang city, was fully commissioned on February 12th, 2023.

- Yulong Refining and Petrochemical complex: The 400,000 b/d refinery at Yantai completed construction at the end of 2023, but commissioning will slip into early 2024, with full operations achieved later in the year.

- Al Zour: The three train 615,000 b/d refinery in Kuwait, started up the first train (205,000 b/d) in September 2022. Train 2 started in April 2023, and Train 3 started in July 2023. After a fire in November, the refinery is now ramping to full rates. Once the plant is fully operational, the refinery is expected to produce 143,000 b/d of low-sulfur diesel, 97,000 b/d of jet fuel, 85,000 to 106,000 b/d of VLSFO, 86,000 b/d of Naphtha and other products. Kuwait's total refining capacity will increase to ~1.5 million b/d once all three trains are operational. European buyers are the likely buyers of the diesel fuel, while Singapore will likely take the VLSFO and Naphtha cargos.

- Duqm: The 230,000 b/d refinery on Oman's Arabian Sea coastline, was originally expected to start up in 2020, but has been subject to numerous delays. Trial operations began in 2H23 and has initiated commissioning processes for its secondary units with plans for full commercial operations in early 2024.

- Karbala: The 140,000 b/d refinery is ramping up, operating at 80% of its total capacity, and is expected to reach full production in 1H24.

- Dangote: According to Platts, the 650,000 b/d refinery located in Lagos Nigeria is now undergoing test runs. Commissioning the single train refinery is expected to be challenging – noting that Al Zour's 3 train facility was slowed or halted on several occasions during start up. Platt's expects that a phased start up will target 350,000 b/d of throughput at the crude unit initially before expanding the start-up operations to the downstream units, implying a period of time where the refinery will produce material intermediate products. Commercial operations are expected to start in the middle of 2024.

- Dos Bocas is not as far along as Dangote. Platts does not expect the 340,000 b/d refinery to start commercial operations until mid-2025, with a ramp to full rates in mid-2026.

Closures

- LyondellBasell Houston: Delayed permanent closure by one year from end-2023 to 1Q25. The refinery has total capacity of 270,000 b/d.

- Grangemouth, Scotland: INEOS has announced plans to close the 135,000 b/d refinery by early 2025 and convert it into a fuels import terminal citing increased international competition from new Middle Eastern refineries and perhaps Dangote.

Conversions to storage terminals is often less expensive than a full shutdown as the operator is not required to fully restore the land to its former state. INEOS is exploring the feasibility of converting some units to bio-refining (renewable diesel).

Re-starts

- Superior, Wisconsin: The 49,000 b/d Cenovus operated refinery restarted operations in 2Q23, and continues to ramp to full production. The refinery closed in 2018 following an explosion.
- Port Harcourt: The smaller of the two Port Harcourt refineries, with 60,000 b/d of capacity is expected to restart in 1Q24.

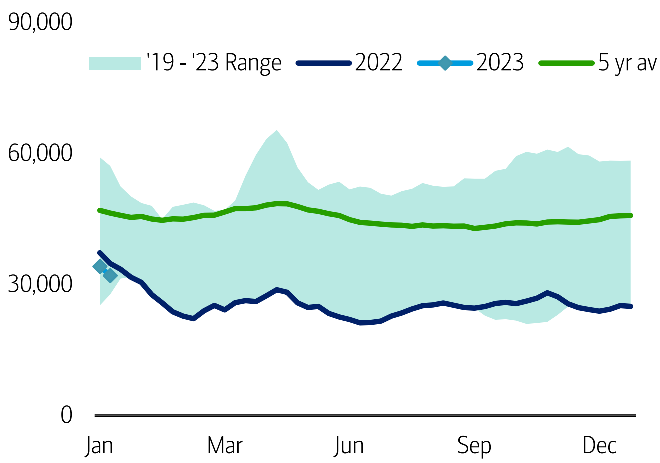
DOE Review

Crude inventories fell by 2.5 mnbbls w/w with the draw concentrated in PADD 2. Commercial inventories are still below both the 5yr average and 2023 levels due to high US exports above 5 mnbd but partially offset by record production increasing to 13.3 mnbd. Note that imports at 7.4 mnbd are also above the 5 year range.

As the last data point before the impact of winter storm Heather domestic crude inventories remain low in absolute terms, partly on the impact of year-end tax management, but also backwardation, which is a headwind to holding inventories due toi the negative price roll. While we will have to wait until for next week's Department of Energy (DOEs) to get a better idea of the impact of winter shut-ins, initial reports mention the Bakken has lost 650 kbd of production.

Exhibit 24: Cushing Inventory

Cushing Inventory -1.5% Lower w/w and 24.8% Higher y/y



Source:DOE

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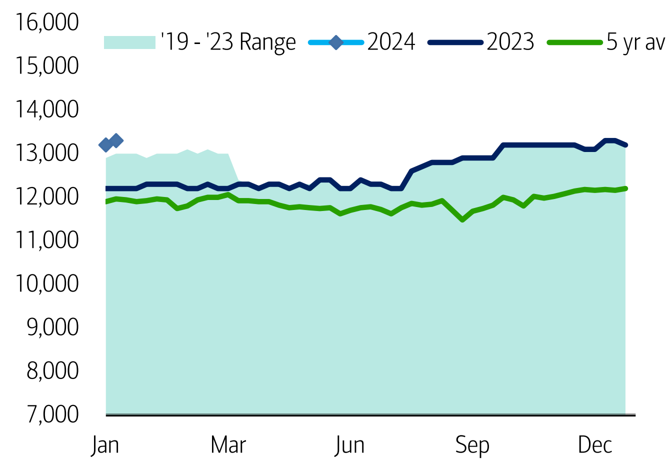
Exhibit 25: Crude Production

Crude Production 0.0% in linew/w and 8.2% Higher y/y



Source:DOE

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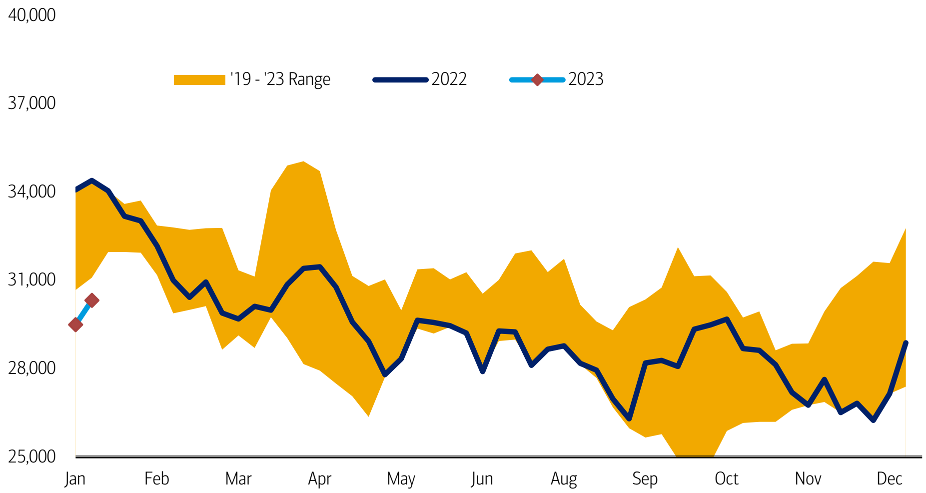
Weak seasonal gasoline demand continues with inventories adding three mnbbls this week and moving inventories above the five-year average. Note gasoline stocks now stand ~18 mm bbls above 2023 levels. However, demand is 200 kbd above 2022 levels which was still impacted by COVID. Regionally PADD 5 inventories have moved back below the five-year range which we see as a tailwind for margins if the current trend holds into the summer.

Exhibit 26: PADD 5 Gasoline stocks
PADD 5 Gasoline Stock 6.5% Higher w/w and -13.0% y/y



Source: EIA

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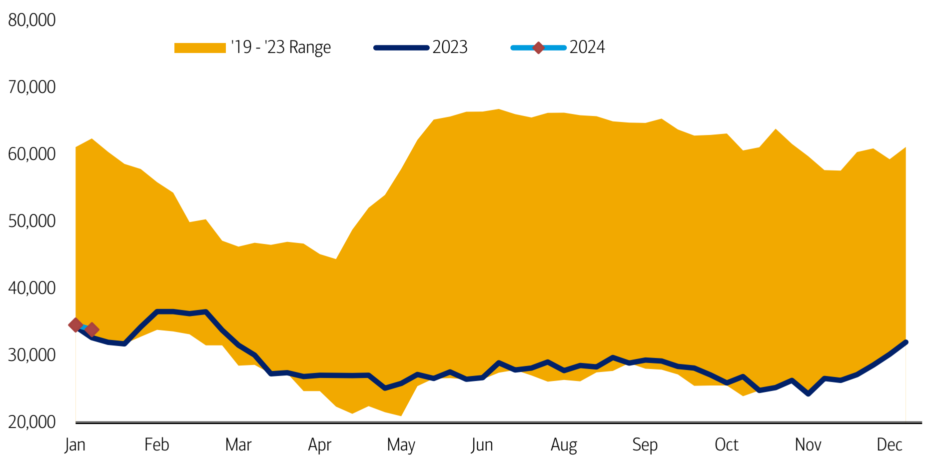
Total distillate inventories increased again lifting commercial inventories back near the five-year range. However, the increases are in PADD 2 and 3, with draws in PADD 1 (702,000 bbls) which has helped keep regional inventories at the bottom of the 5 year range.

Exhibit 27: PADD I Distillate stocks
PADD 1 Distillate Stock -0.3% Lower w/w and -32.7% y/y



Source: EIA

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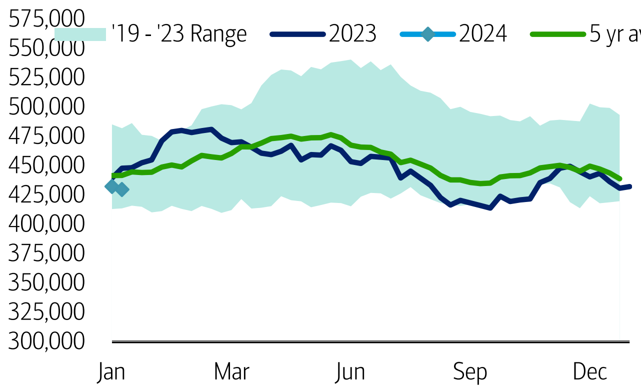
Crude oil stocks

Exhibit 28: Crude Stocks

Crude Stocks 0.3% Higher w/w and -1.9% Lower y/y



Source:DOE

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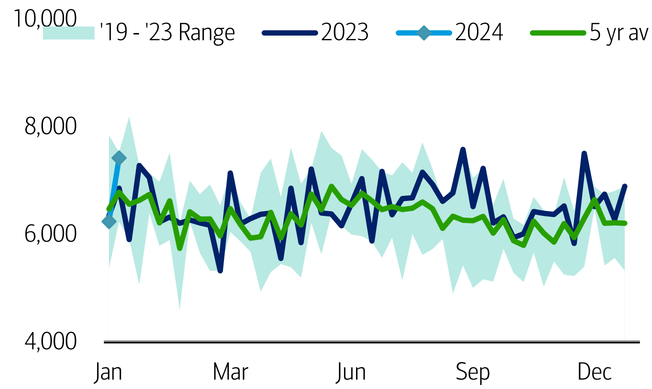
Exhibit 29: Crude Imports

Crude Imports -9.5% Lower w/w and 8.6% Lower y/y



Source:DOE

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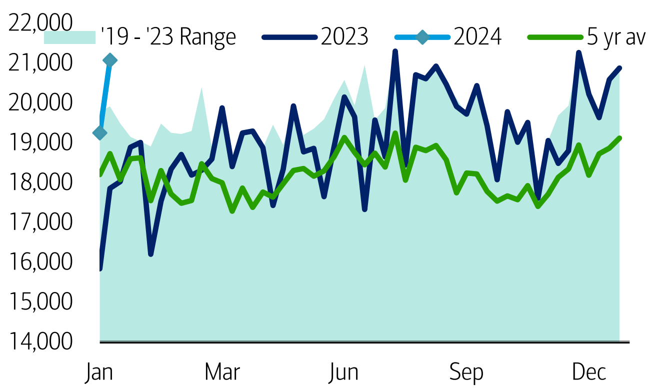
Exhibit 30: Crude Implied Demand (000 bpd)

Crude Implied Demand -7.8% Lower w/w and 31.8% Higher y/y



Source:DOE

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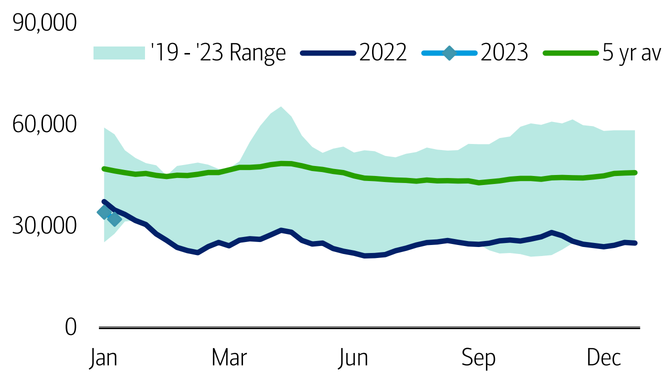
Exhibit 31: Cushing Inventory

Cushing Inventory -1.5% Lower w/w and 24.8% Higher y/y



Source:DOE

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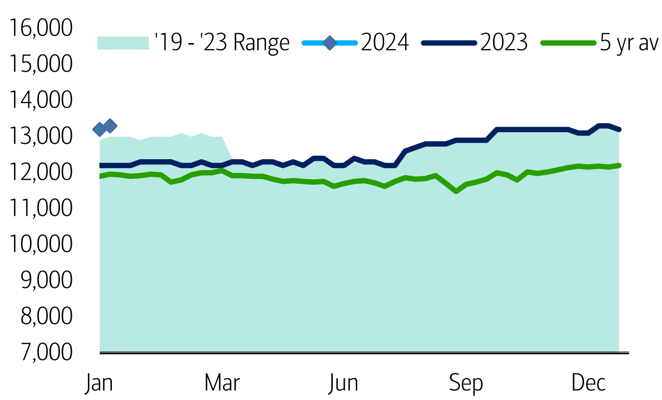
Exhibit 32: Crude Production

Crude Production 0.0% in linew/w and 8.2% Higher y/y



Source:DOE

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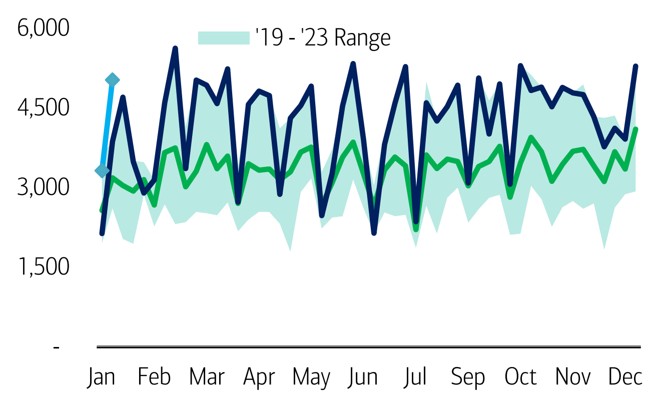
Exhibit 33: Crude Oil Exports

Crude Oil Exports -37.2% Lower w/w and 147.6% Higher y/y



Source:DOE

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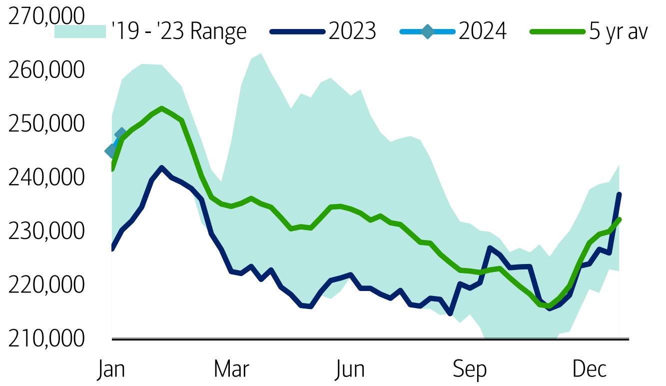
Gasoline stocks

Exhibit 34: Gasoline Stocks
Gasoline Stocks 3.4% Higher w/w and 4.5% Higher y/y



Source:DOE

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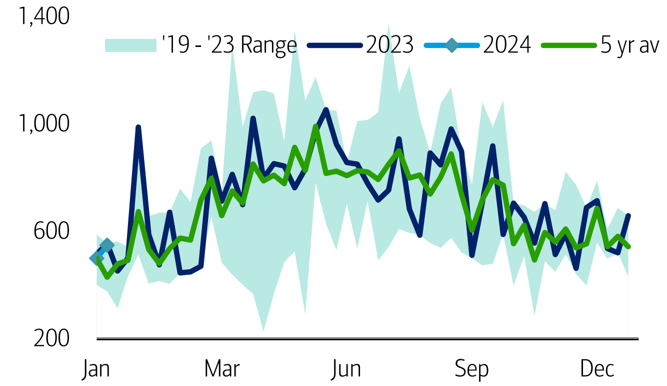
Exhibit 35: Gasoline Imports
Gasoline Imports -24.1% Lower w/w and 27.7% Lower y/y



Source:DOE

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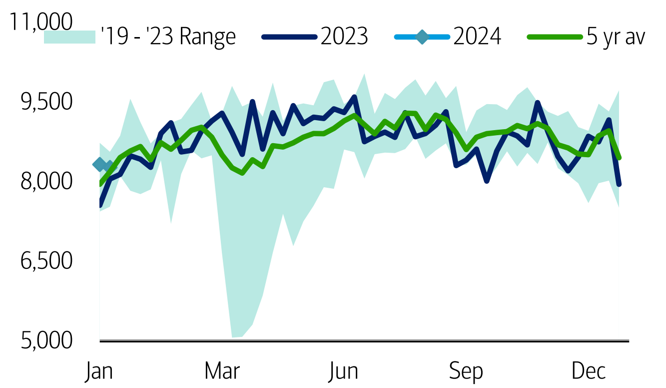
Exhibit 36: Gasoline Product Supplied (000 bpd)
Gasoline Product Supplied 4.7% Higher w/w and 5.2% Higher y/y



Source:DOE

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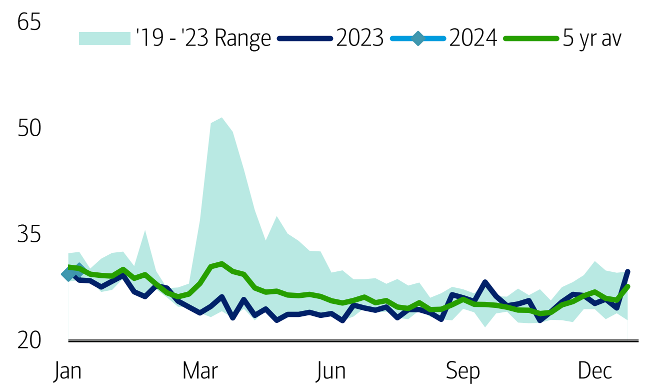
Exhibit 37: Gasoline Demand Cover
Gasoline Demand Cover -1.2% Lower w/w and -0.7% Lower y/y



Source:DOE

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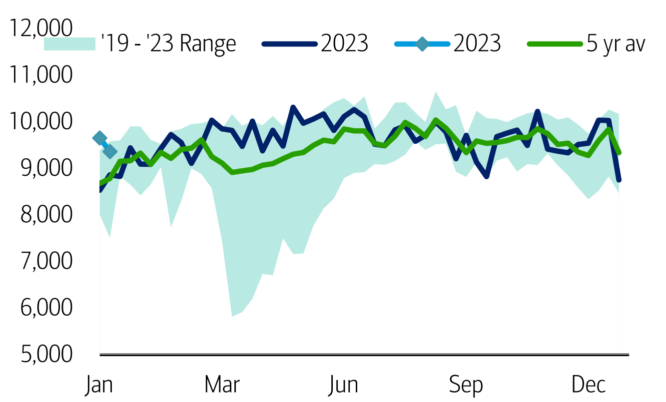
Exhibit 38: Gasoline Production
Gasoline Production 10.3% Higher w/w and 2.6% Higher y/y



Source:DOE

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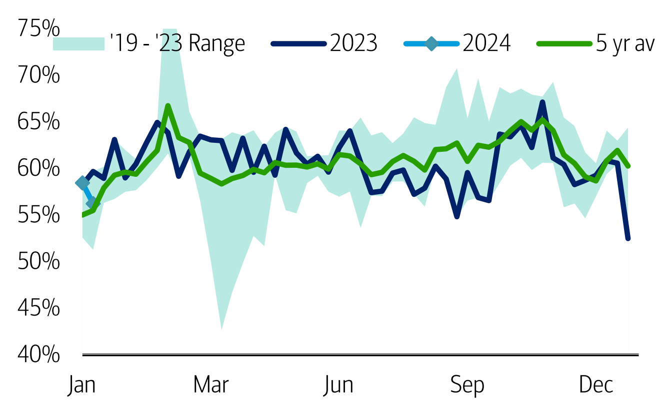
Exhibit 39: Gasoline Yield
Gasoline Yield 4.7% Higher w/w and -7.8% Lower y/y



Source:DOE

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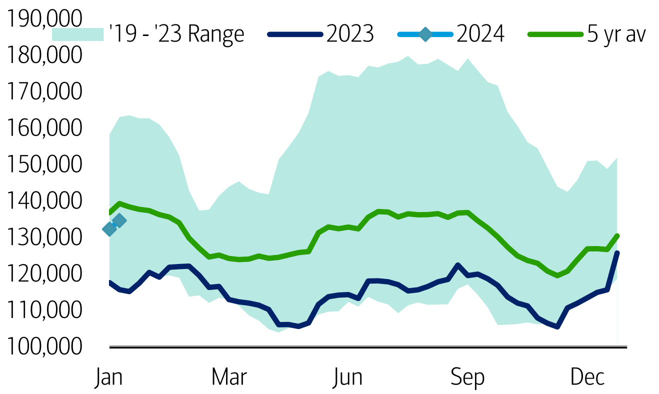
Distillate stocks

Exhibit 40: Distillate Stocks
Distillate Stocks 5.2% Higher w/w and 6.9% Higher y/y



Source:DOE

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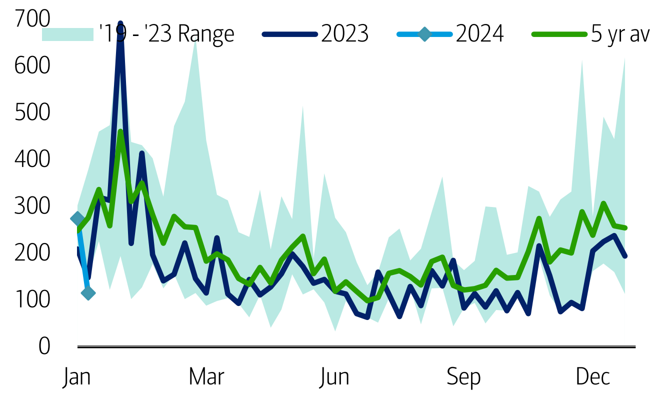
Exhibit 41: Distillate Imports
Distillate Imports 41.2% Higher w/w and -7.2% Higher y/y



Source:DOE

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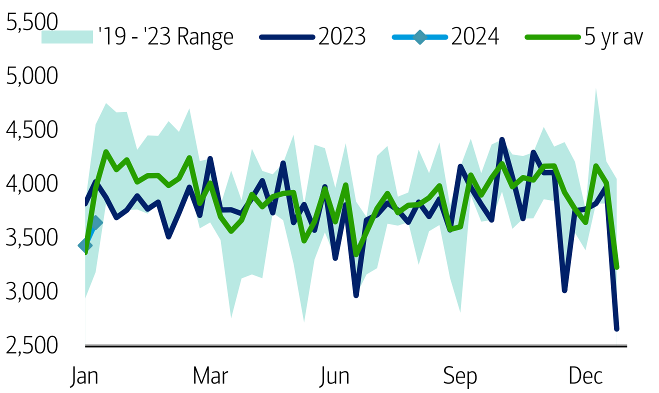
Exhibit 42: Distillate Product Supplied (000 bpd)
Distillate Product Supplied 29.1% Higher w/w and -30.4% Lower y/y



Source:DOE

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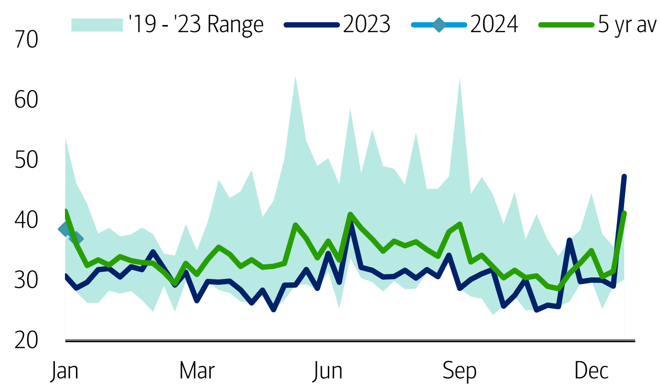
Exhibit 43: Distillate Demand Cover
Distillate Demand Cover -18.5% Lower w/w and 53.7% Higher y/y



Source:DOE

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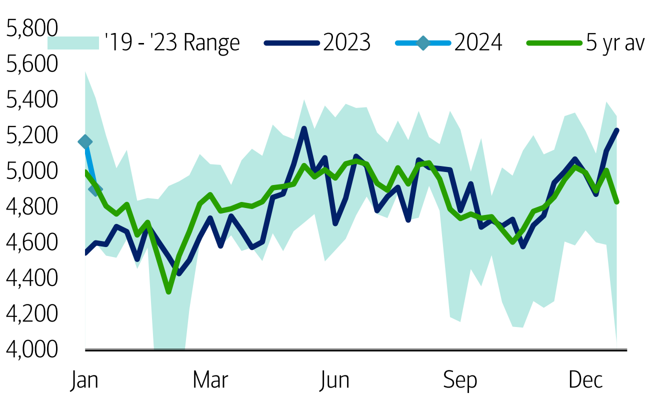
Exhibit 44: Distillate Production
Distillate Production -1.2% Lower w/w and 15.1% Higher y/y



Source:DOE

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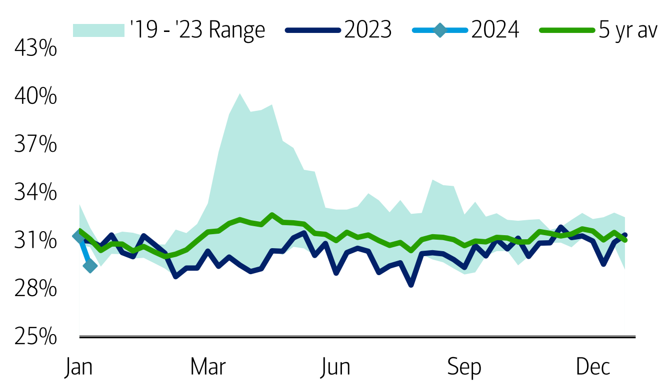
Exhibit 45: Distillate Yield
Distillate Yield -0.3% Lower w/w and 1.1% Higher y/y



Source:DOE

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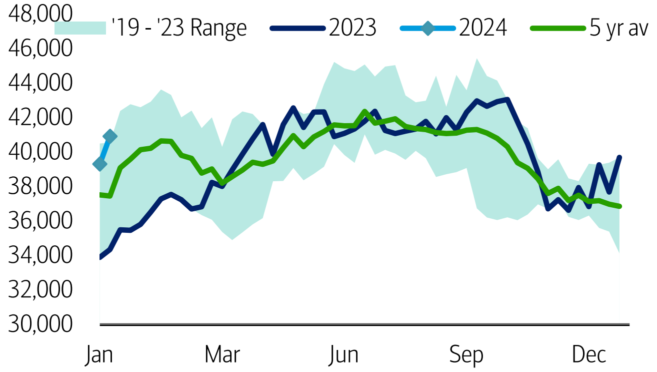
Jet stocks

Exhibit 46: Jet Stocks

Jet Stocks -1.0% Lower w/w and 17.1% Higher y/y



Source:DOE

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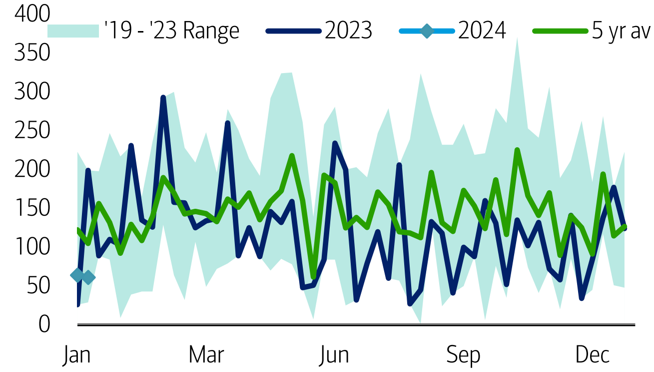
Exhibit 47: Jet Imports

Jet Imports -48.4% Lower w/w and 376.9% Higher y/y



Source:DOE

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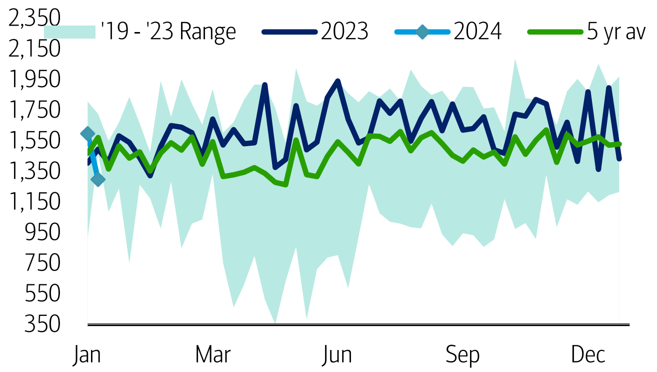
Exhibit 48: Jet Implied Demand (000 bpd)

Jet Product Supplied 11.4% Higher w/w and 2.0% Higher y/y



Source:DOE

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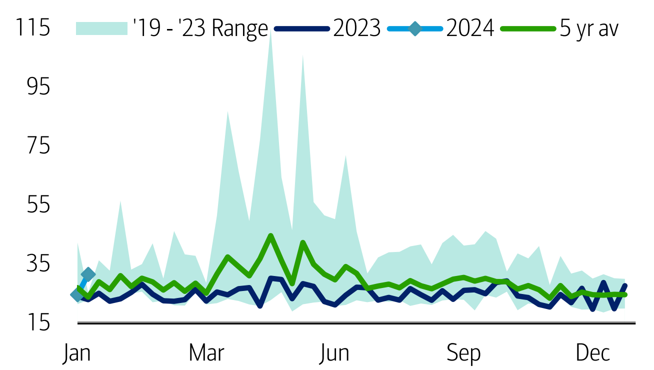
Exhibit 49: Jet Demand Cover

Jet Demand Cover -11.1% Lower w/w and 14.8% Higher y/y



Source:DOE

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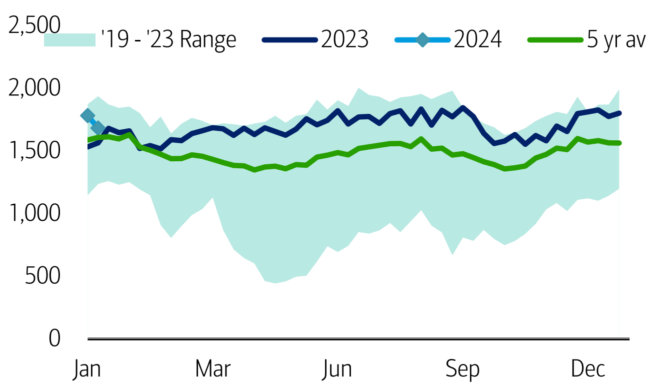
Exhibit 50: Jet Production

Jet Production -1.1% Lower w/w and 17.5% Higher y/y



Source:DOE

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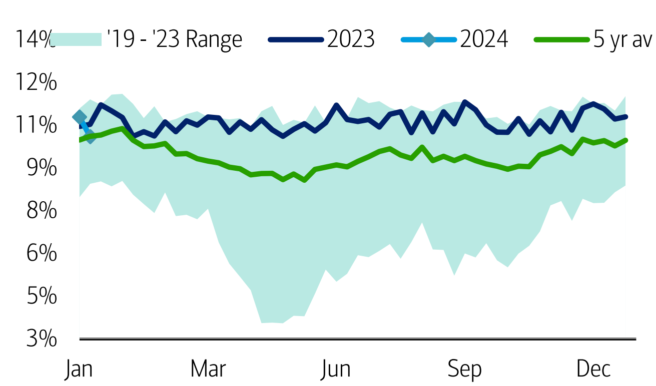
Exhibit 51: Jet Yield

Jet Yield -0.1% Lower w/w and 3.3% Higher y/y



Source:DOE

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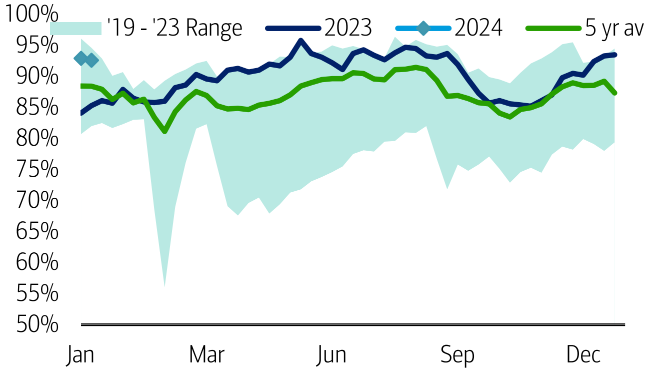
Refinery Utilization

Exhibit 52: Utilization
Refinery Utilization -0.6% Lower w/w and 11.2% Higher y/y



Source:DOE

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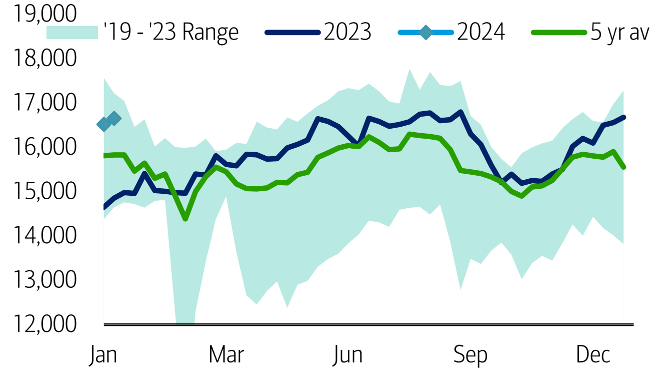
Exhibit 53: Crude Throughput
Crude Throughput -1.0% Lower w/w and 13.8% Higher y/y



Source:DOE

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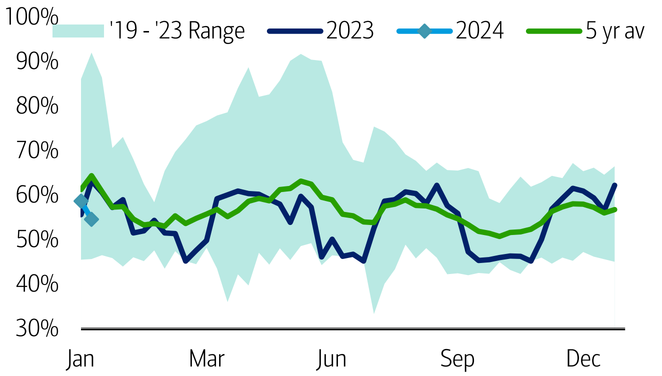
Exhibit 54: PADD I Utilization
PADD 1 Utilization Lower w/w and 3.8% Lower y/y



Source:DOE

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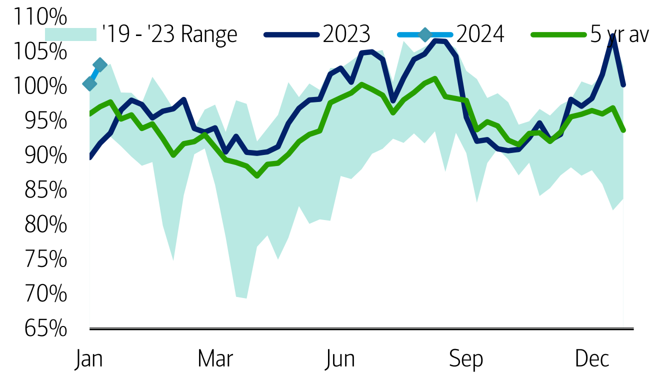
Exhibit 55: PADD II Utilization
PADD 2 Utilization 4.1% Higher w/w and 7.1% Higher y/y



Source:DOE

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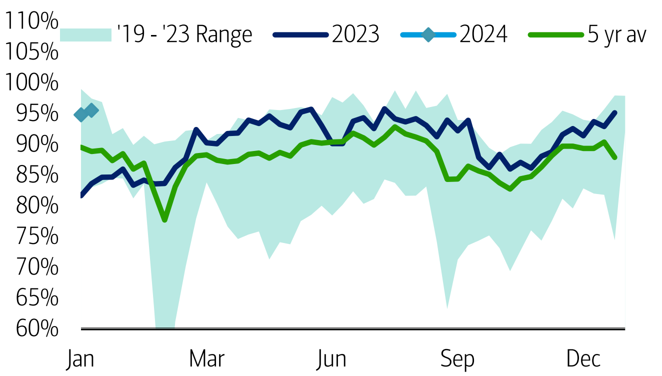
Exhibit 56: PADD III Utilization
PADD 3 Utilization 0.0% in linew/w and 12.1% Higher y/y



Source:DOE

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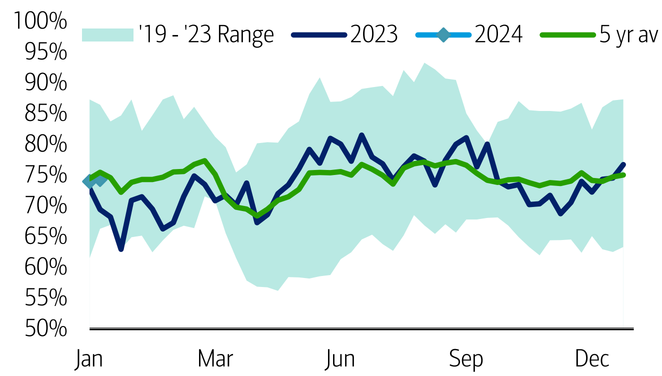
Exhibit 57: PADD V Utilization
PADD 5 Utilization -2.8% Lower w/w and 4.7% Higher y/y



Source:DOE

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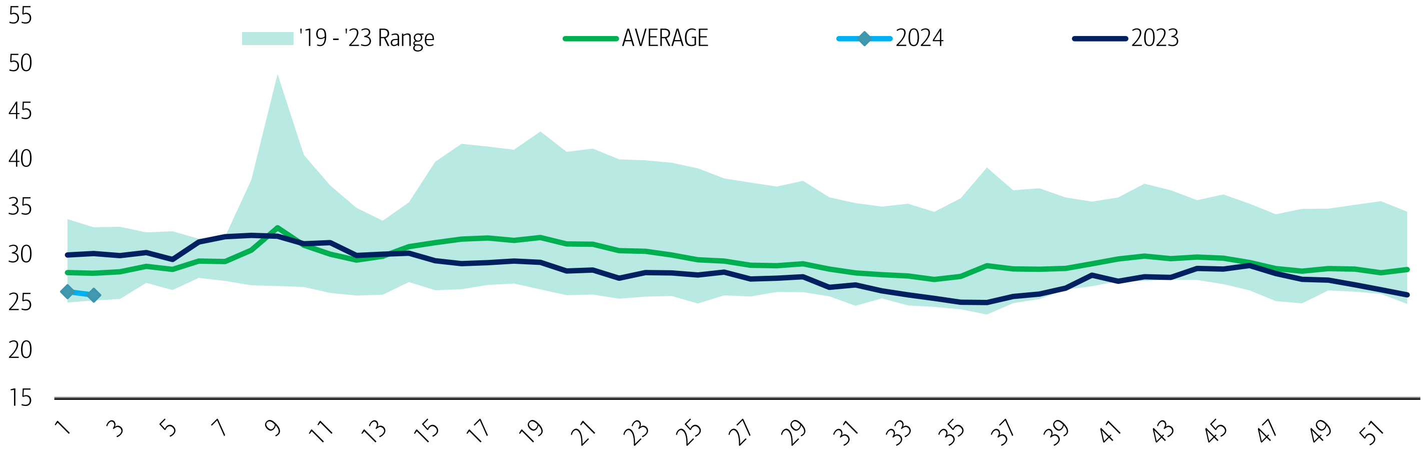
Crude demand coverage

Exhibit 58: US Crude Demand Cover

US Crude Demand Cover 1.3% Higher w/w and -13.9% Lower y/y



Source: DOE

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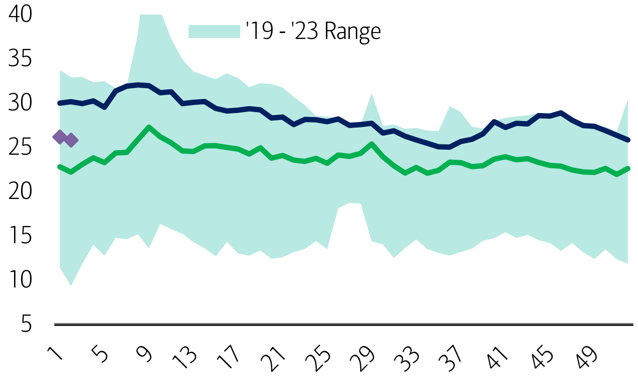
Exhibit 59: PADD I Crude Demand Cover

PADD 1 Crude Demand Cover 6.0% Higher w/w and -20.9% Lower y/y



Source:DOE

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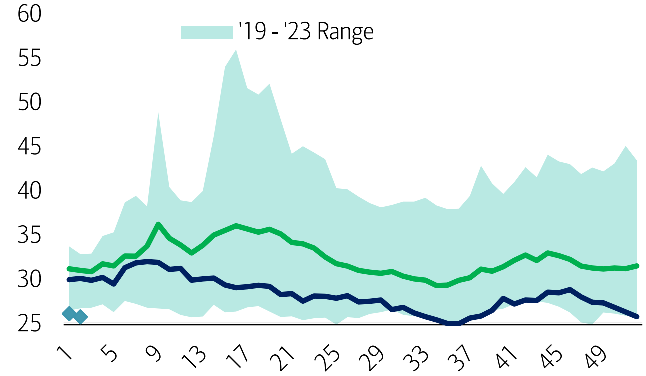
Exhibit 60: PADD II Crude Demand Cover

PADD 2 Crude Demand Cover 0.6% Higher w/w and -5.5% Lower y/y



Source:DOE

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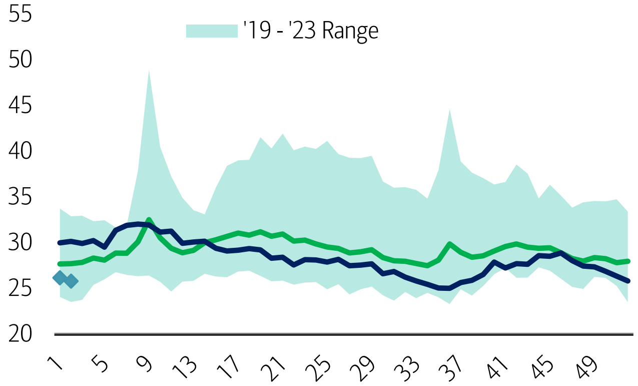
Exhibit 61: PADD III Crude Demand Cover

PADD 3 Crude Demand Cover 0.6% Higher w/w and -8.9% Lower y/y



Source:DOE

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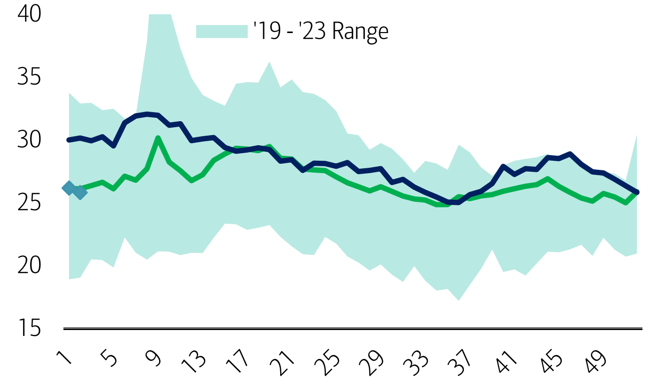
Exhibit 62: PADD V Crude Demand Cover

PADD 5 Crude Demand Cover 2.3% Higher w/w and -4.1% Lower y/y



Source:DOE

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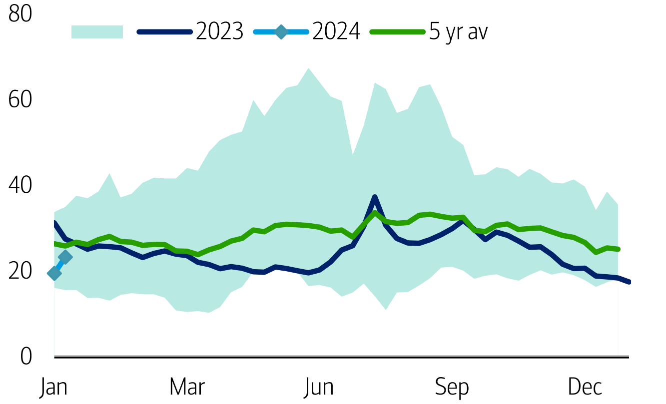
NGL pricing

Exhibit 63: Ethane

Ethane Price is 15.2% Higher w/w and -35.3% Lower y/y



Source: Bloomberg

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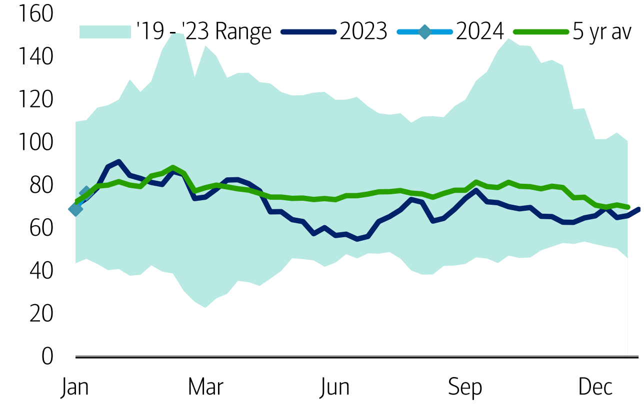
Exhibit 64: Propane

Propane Price is 0.0% in linew/w and -4.3% Lower y/y



Source: Bloomberg

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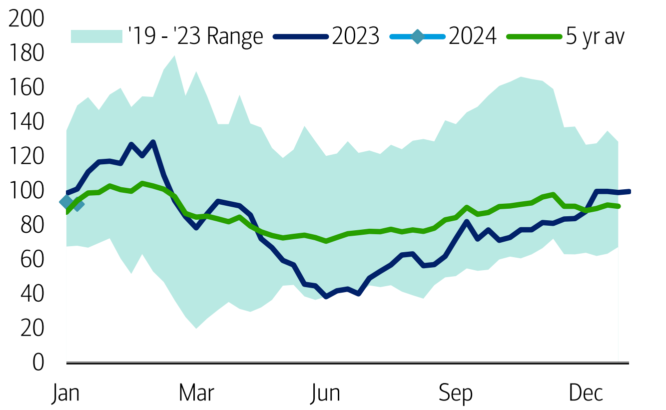
Exhibit 65: Butane

Butane Price is -7.2% Lower w/w and 0.1% Lower y/y



Source: Bloomberg

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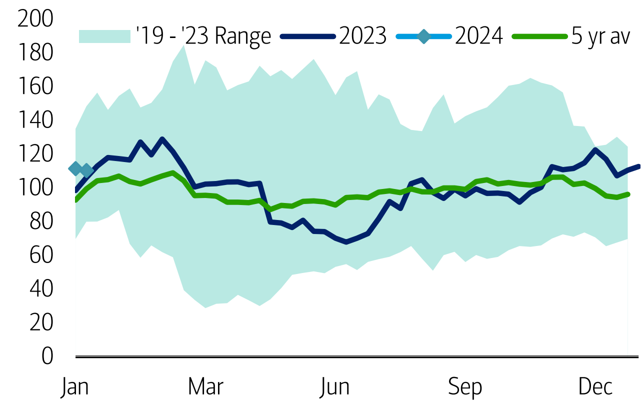
Exhibit 66: Isobutane

Isobutane Price is -2.4% Lower w/w and 8.2% Higher y/y



Source: Bloomberg

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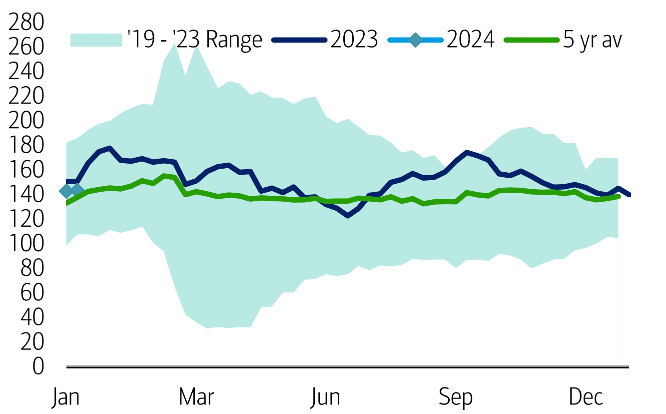
Exhibit 67: Natural Gasoline

Natural Gasoline Price is 4.2% Higher w/w and -6.7% Lower y/y



Source: Bloomberg

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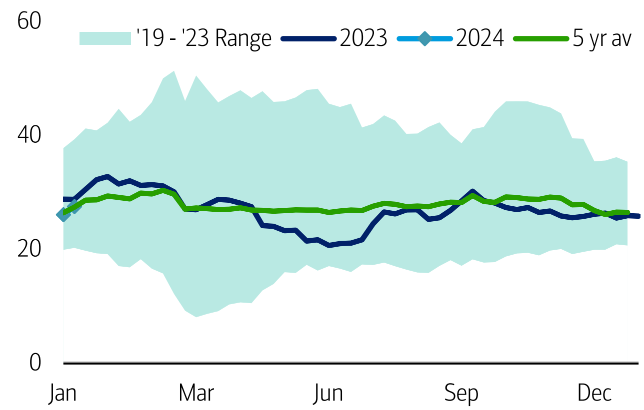
Exhibit 68: NGL Composite Barrel

NGL Composite Barrel is -75.3% Lower w/w and 6.2% Lower y/y



Source: Bloomberg

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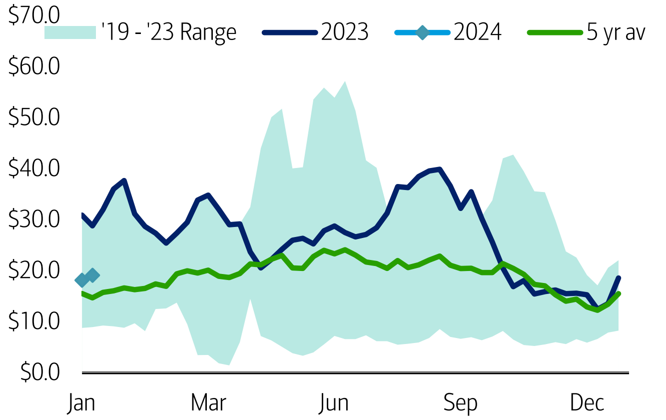
Crack spreads

Exhibit 69: Gulf Coast 321

Gulf Coast 321 LLS 14.4% Higher w/w and -46.1% Lower y/y



Source: Bloomberg

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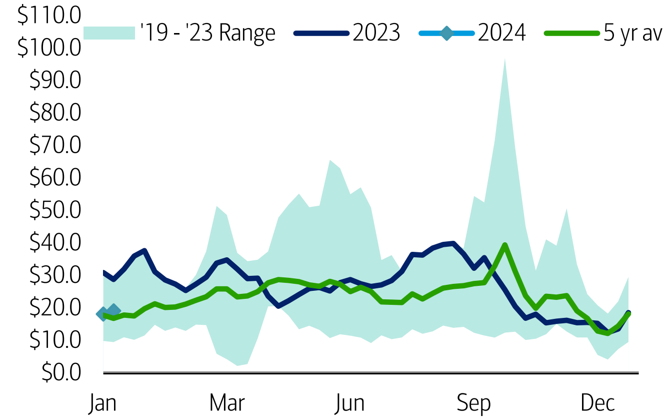
Exhibit 70: West Coast 321

West Coast 321 ANS -40.8% Lower w/w and 6.7% Lower y/y



Source: Bloomberg

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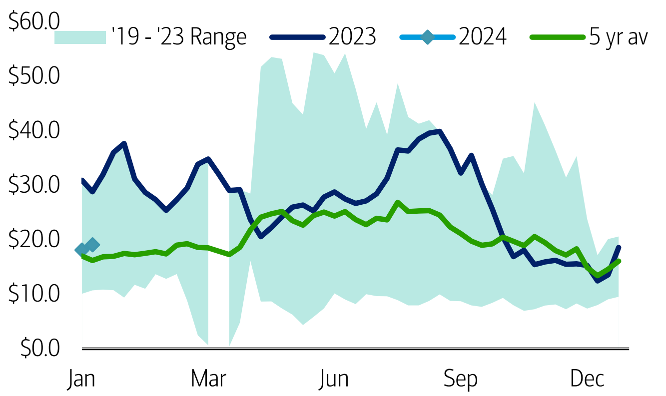
Exhibit 71: Northeast 321

New York 321 Brent -3.3% Lower w/w and -27.7% Lower y/y



Source: Bloomberg

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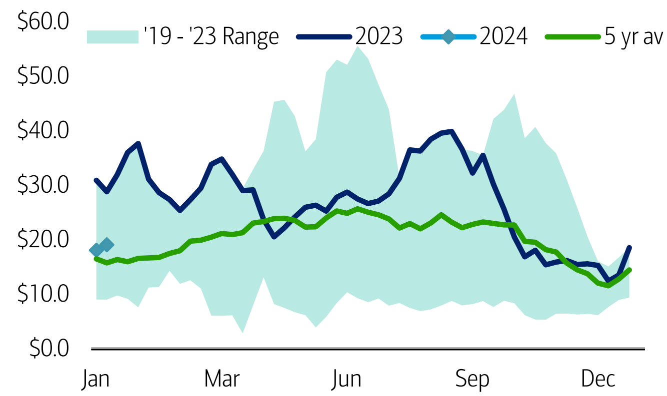
Exhibit 72: Midcont 321

Mid Cont 321 WTI 0.6% Higher w/w and -63.4% Lower y/y



Source: Bloomberg

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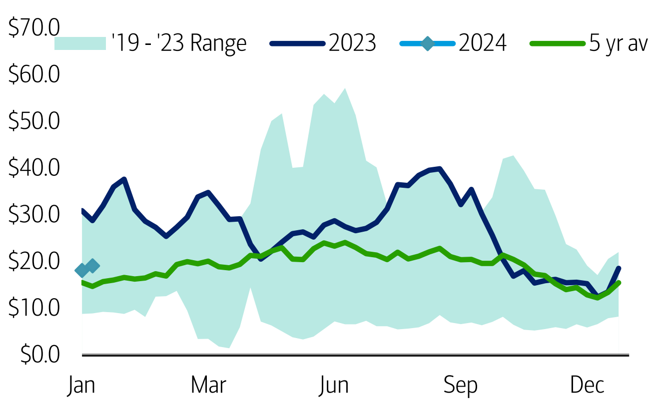
Exhibit 73: NWE 321

Northwest Europe 321 Brent 8.2% Higher w/w and -53.5% Lower y/y



Source: Bloomberg

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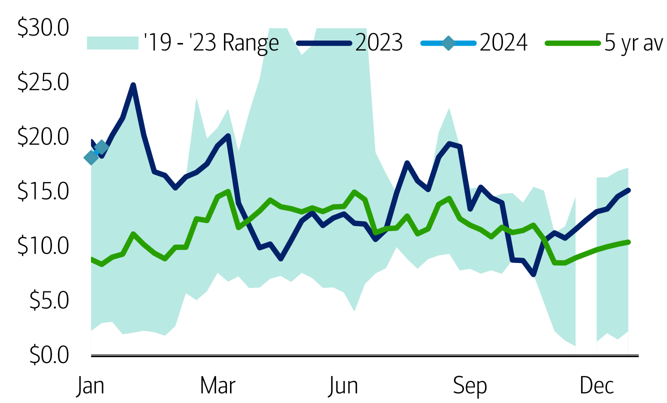
Exhibit 74: Dubai 321

Dubai 321 -4.2% Lower w/w and -20.3% Lower y/y



Source: Bloomberg

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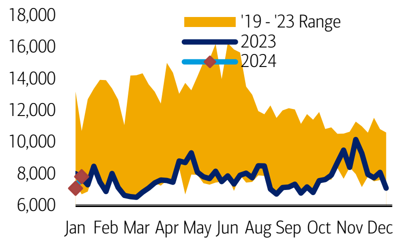
Regional Breakdown

Exhibit 75: PADD I Crude Stock
PADD 1 Crude Stock -12.1% Lower w/w and -17.8% y/y



Source: EIA

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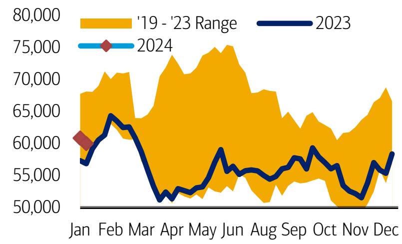
Exhibit 76: PADD I Gasoline Stock
PADD 1 Gasoline Stock 1.2% Higher w/w and -7.3% y/y



Source: EIA

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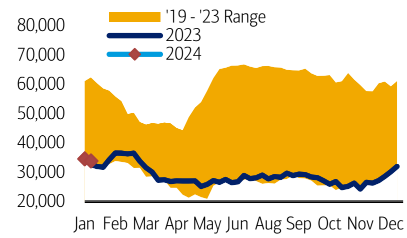
Exhibit 77: PADD I Distillate Stock
PADD 1 Distillate Stock -0.3% Lower w/w and -32.7% y/y



Source: EIA

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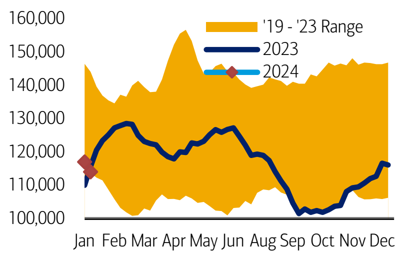
Exhibit 78: PADD 2 Crude Stock
PADD 2 Crude Stock -2.5% Lower w/w and -18.6% y/y



Source: EIA

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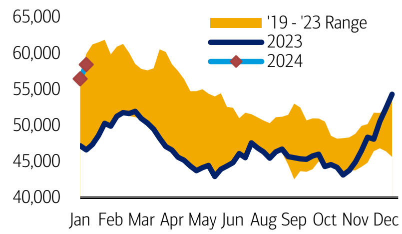
Exhibit 79: PADD 2 Gasoline Stock
PADD 2 Gasoline Stock 7.5% Higher w/w and -4.1% y/y



Source: EIA

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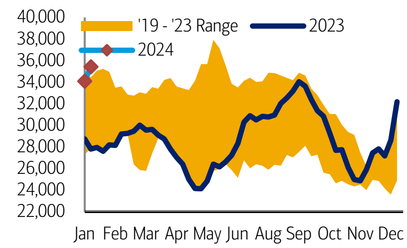
Exhibit 80: PADD 2 Distillate Stock
PADD 2 Distillate Stock 6.7% Higher w/w and -1.4% y/y



Source: EIA

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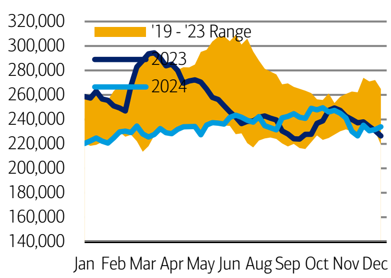
Exhibit 81: PADD 3 Crude Stock
PADD 3 Crude Stock -1.2% Lower w/w and -13.4% y/y



Source: EIA

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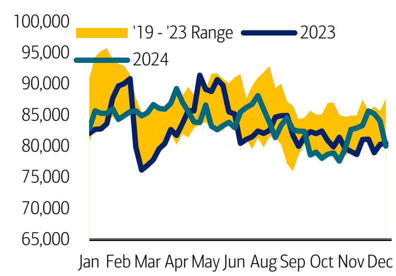
Exhibit 82: PADD III Gasoline Stocks
PADD 3 Gasoline Stock 2% Higher w/w and -14.5% y/y



Source: EIA

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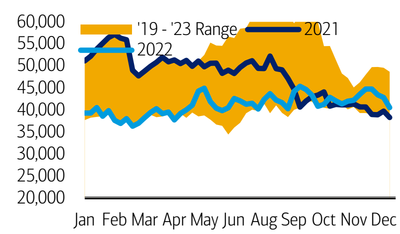
Exhibit 83: PADD III Distillate Stocks
PADD 5 Distillate Stock 1% Higher w/w and -1.3% y/y



Source: EIA

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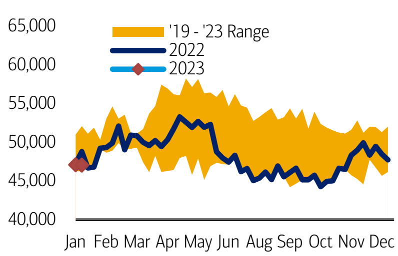
Exhibit 84: PADD 5 Crude Stock
PADD 5 Crude Stock 6.1% Higher w/w and -2.0% y/y



Source: EIA

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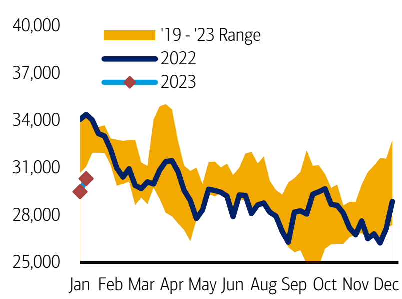
Exhibit 85: PADD 5 Gasoline Stock
PADD 5 Gasoline Stock 6.5% Higher w/w and -13.0% y/y



Source: EIA

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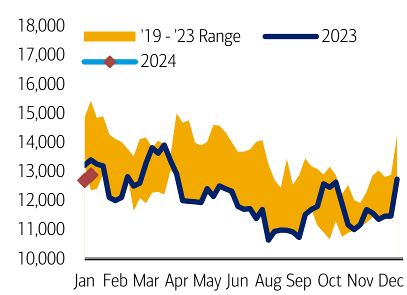
Exhibit 86: PADD 5 Distillate Stock
PADD 5 Distillate Stock 1.6% Higher w/w and -15.2% y/y



Source: EIA

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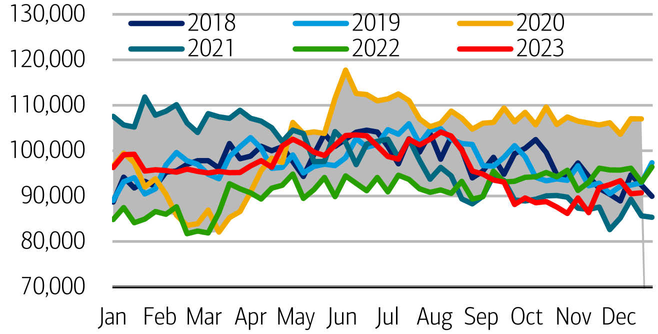
Amsterdam, Rotterdam, Antwerp

Exhibit 87: Total ARA Petroleum Stocks (thousand barrels)
Inventories -4% lower w/w



Source: Genscape, PJK

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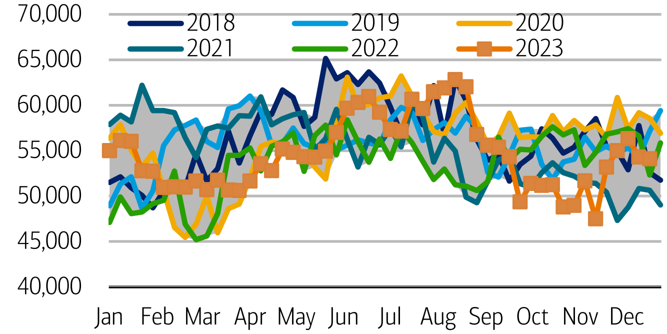
Exhibit 88: Genscape ARA Crude Stocks (thousand barrels)
Inventories -1% lower w/w



Source: Genscape, PJK

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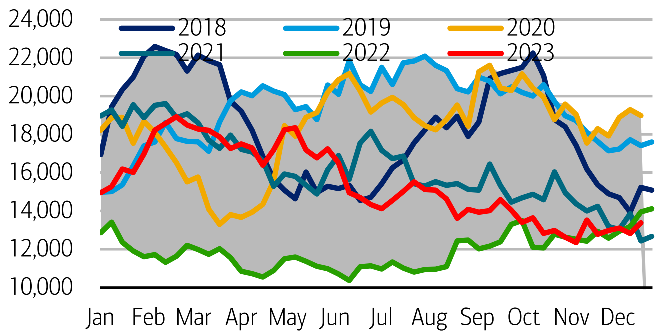
Exhibit 89: ARA Gasoil Stocks (thousand barrels)
Inventories -2% lower w/w



Source: Genscape, PJK

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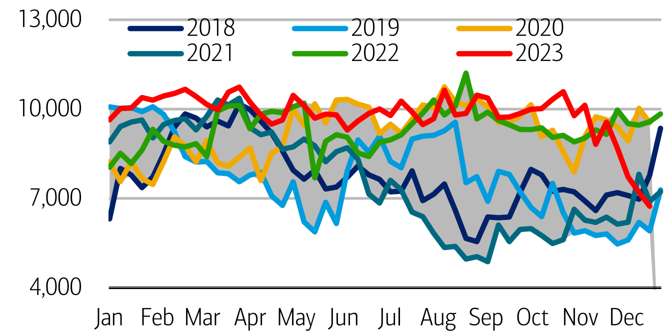
Exhibit 90: ARA Gasoline Stocks (thousand barrels)
Inventories -3% lower w/w



Source: Genscape, PJK

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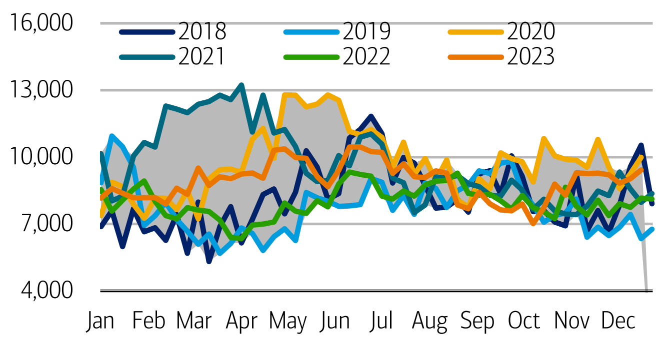
Exhibit 91: ARA Fuel Oil Stocks (thousand barrels)
Inventories 9% higher w/w



Source: Genscape, PJK

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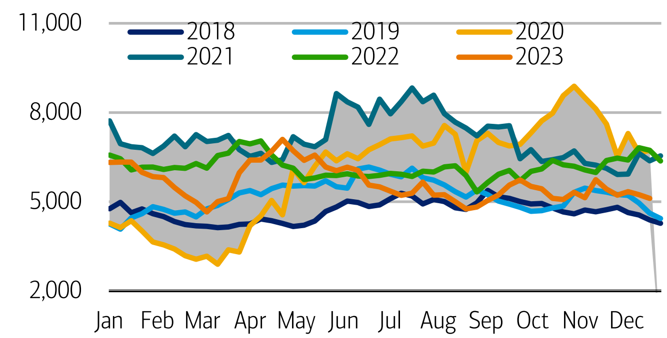
Exhibit 92: ARA Jet Stocks (thousand barrels)
Inventories 7% higher w/w



Source: Genscape, PJK

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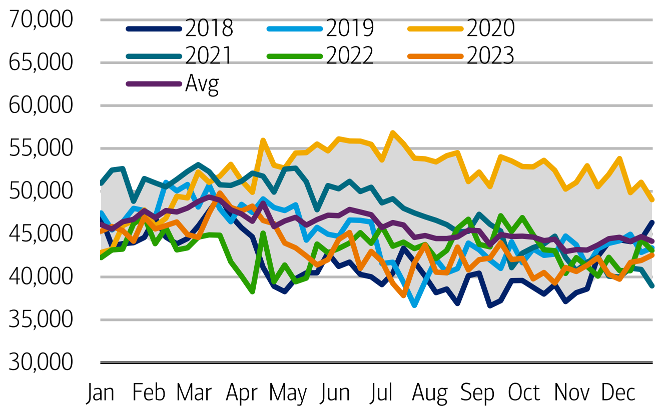
Singapore

Exhibit 93: Total Singapore Light Distillate, Middle Distillate and Residue Stocks (thousand barrels)

Inventories 0% higher w/w



Source: International Enterprise

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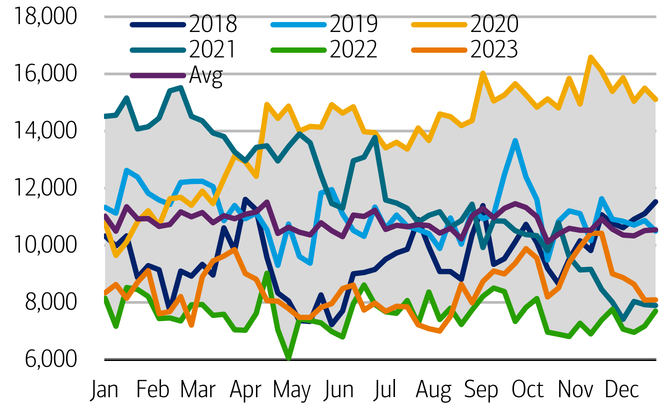
Exhibit 94: Singapore Middle Distillate Stocks (thousand barrels)

Inventories -9% lower w/w



Source: International Enterprise

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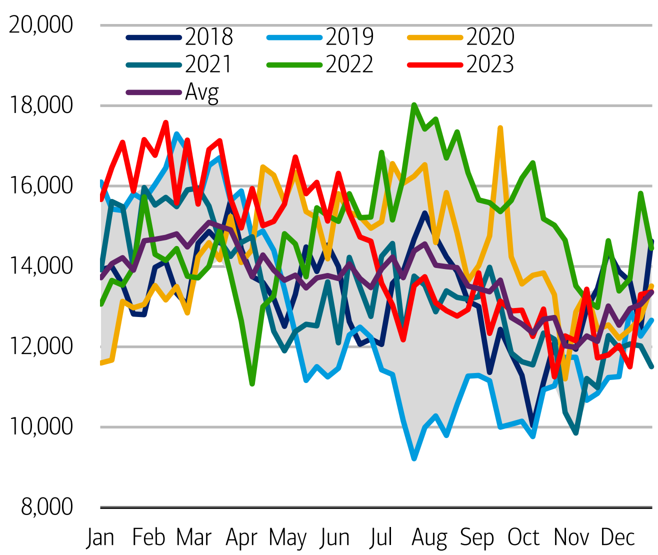
Exhibit 95: Singapore Light Distillate Stocks (thousand barrels)

Inventories -3% lower w/w



Source: International Enterprise

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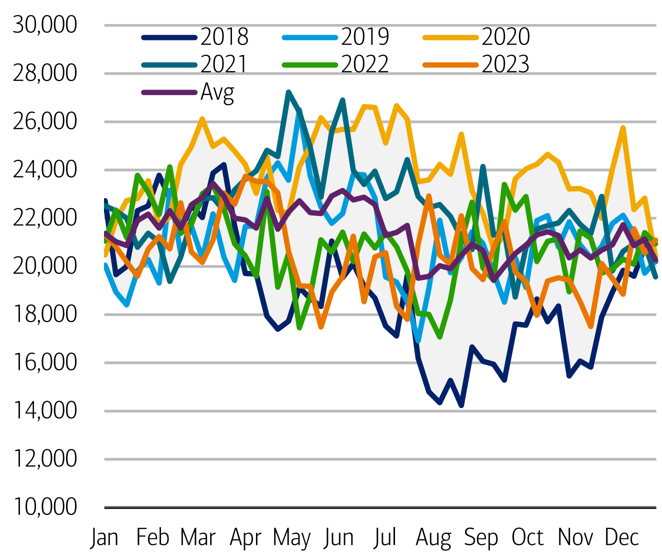
Exhibit 96:

Inventories 6% higher w/w



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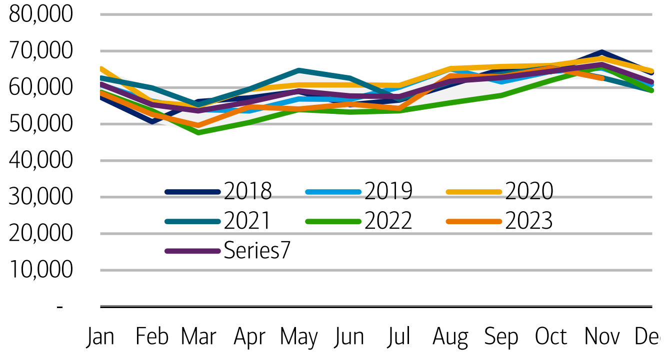
Japan

Exhibit 97: Japan Heavy Fuel Oil Stock (thousand barrels)
Inventories -5% lower w/w



Source: Ministry of Economy Trade and Industry of Japan

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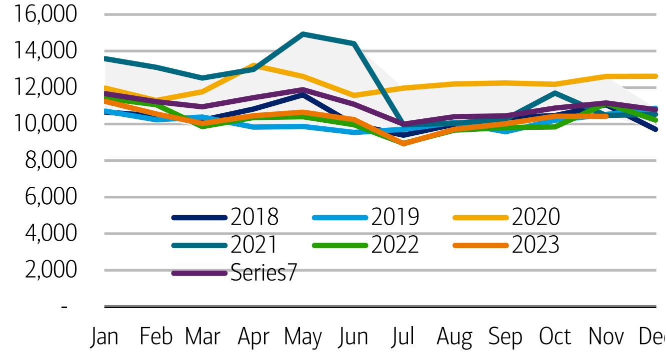
Exhibit 98: Japan Heavy Fuel Oil Stock (thousand barrels)
Inventories -5% lower w/w



Source: Ministry of Economy Trade and Industry of Japan

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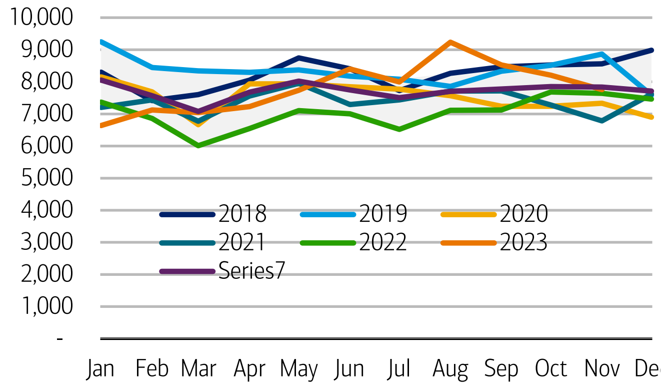
Exhibit 99: Japan Heavy Fuel Oil Stock (thousand barrels)
Inventories -5% lower w/w



Source: Ministry of Economy Trade and Industry of Japan

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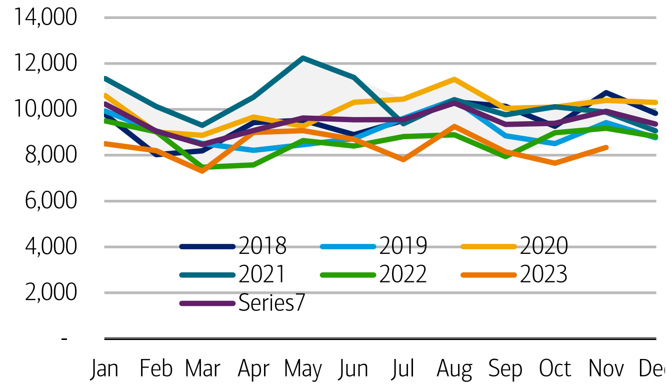
Exhibit 100: Japan Heavy Fuel Oil Stock (thousand barrels)
Inventories -5% lower w/w



Source: Ministry of Economy Trade and Industry of Japan

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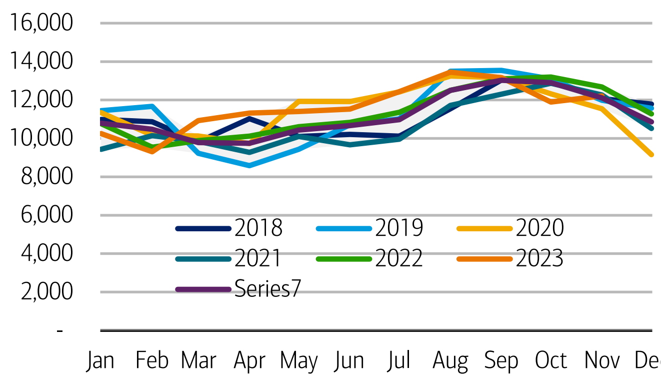
Exhibit 101: Japan Heavy Fuel Oil Stock (thousand barrels)
Inventories -5% lower w/w



Source: Ministry of Economy Trade and Industry of Japan

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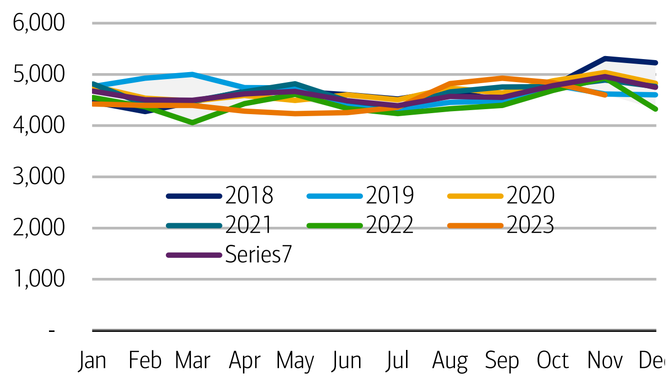
Exhibit 102: Japan Heavy Fuel Oil Stock (thousand barrels)
Inventories -5% lower w/w



Source: Ministry of Economy Trade and Industry of Japan

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Exhibit 103: Reported Global Oil and Product Stocks

Crude oil Decreased -5,962 thousand barrels and Products Increased 15,208 thousand barrels

Current	Crude	Products	Light Distillates	Middle Distillates	Heavy Distillates / Residue	For Week Ended
US	787,397	442,528	244,982	171,699	25,847	1/5/2024
Japan	64,250	87,094	33,862	34,853	18,379	12/23/2023
ARA		35,338	6,524	18,582	10,233	1/4/2024
Singapore		42,666	12,990	7,363	22,313	1/3/2024
Fujairah		18,238	6,831	2,797	8,610	1/1/2024
Previous	Crude	Products	Light Distillates	Middle Distillates	Heavy Distillates / Residue	
US	785,453	427,200	236,954	165,553	24,693	
Japan	72,156	88,851	33,191	37,187	18,473	
ARA		34,649	6,736	18,486	9,426	
Singapore		42,552	13,367	8,091	21,094	
Fujairah		17,404	7,264	187	9,953	
Stock Change	Crude	Products	Light Distillates	Middle Distillates	Heavy Distillates / Residue	
US	1,944	15,328	8,028	6,146	1,154	
Japan	(7,906)	(1,757)	671	(2,334)	(94)	
ARA		689	(213)	95	806	
Singapore		114	(377)	(728)	1,219	
Fujairah		834	(433)	2,610	(1,343)	
Plus / Minus	(5,962)	15,208	7,677	5,789	1,742	

Source: EIA, International Enterprise Singapore, Jetroleum Association of Japan, FEDCom/S&P Global Platts

BofA GLOBAL RESEARCH

Exhibit 104: Stocks mentioned

Prices and ratings for stocks mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
DK	DK US	Delek	US$ 24.08	C-2-9
DINO	DINO US	HF Sinclair Corp.	US$ 52.39	C-2-7
MPC	MPC US	Marathon Petrol	US$ 151.8	B-2-7
PBF	PBF US	PBF Energy	US$ 42.14	C-2-7
PSX	PSX US	Phillips 66	US$ 127.67	B-2-7
VLO	VLO US	Valero	US$ 125.96	C-2-7

Source: BofA Global Research

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Price objective basis & risk

Delek US Holdings, Inc. (DK)

Our price objective of $30/share is based on an assessed DCF value treating the assets as annuities after deducting maintenance capital. We use a long term Gulf Coast 321 crack spread in our benchmark assumptions of $11.50/bbl, a long-term crude differential of $4, a WACC of 10.0%, a zero terminal growth rate, and a 21% corporate tax rate.

The downside (upside) risks to our PO are as follows: (1) Revenue commitments for agreements with DKL could pose a risk in the event of downtime at refineries. (2) It is vulnerable to refining margin correction. If demand for refined products is weaker (stronger) than expected, or if oil prices remain robust (weak), this could pressure (lift) margins. (3) The inability to capture the price environment due to cost pressures (opex, capex, and taxation).

HF Sinclair Corporation (DINO)

Our price objective of $62/share is based on an assessed discounted cash flow (DCF) value, treating the assets as annuities after deducting maintenance capital. We use a long-term Gulf Coast 321 crack spread in our benchmark assumptions of $11.50/barrel, a long-term crude differential of $3.50, a weighted-average cost of capital (WACC) of 9.75%, a zero terminal growth rate, and a 22% corporate tax rate

The downside (upside) risks to our PO: (1) Revenue commitments for agreements with HEP could pose a risk in the event of downtime at refineries. (2) It is vulnerable to refining margin correction. If demand for refined products is weaker (stronger) than expected, or if oil prices remain robust (weak), this could pressure (lift) margins. (3) It could be unable to capture the price environment due to cost pressures (opex, capex, and taxation).

Upside risks are better margins than anticipated and outperformance at Holly Energy Partners (HEP), of which HFC owns 60%.

Marathon Petroleum Company (MPC)
Our price objective of $168/share is based on an assessed DCF value treating the assets as annuities after deducting maintenance capital. We use a long-term Gulf Coast 321 crack spread in our benchmark assumptions of $11.50/bbl, a long-term crude differential of $3.5, a WACC of 8.6%, a zero terminal growth rate.

Upside risks to our price objective are higher crack spreads as a result of unforeseen tightness in refined product markets. The downside risks to our price objective are as follows: (1) The company is weighted toward sour crude and has a number of expansion projects to process more sour crude. If the sweet-sour crude differentials narrow, the benefits of a more complex refinery would diminish, which could delay their return on investment. (2) The company is vulnerable to refining margin correction. If demand for refined products is weaker than expected, or if oil prices remain robust, this could pressure margins. (3) The company could be unable to capture the price environment due to cost pressures (opex, capex, and taxation).

PBF Energy (PBF)
Our price objective (PO) of $51/share is based on an assessed discounted cash flow (DCF) value treating the assets as annuities after deducting maintenance capital. We use a long term Gulf Coast 321 crack spread in our benchmark assumptions of $11.50/barrel, a long-term crude differential of $3.5, a weighted-average cost of capital (WACC) of 9.50%, a zero terminal growth rate, and a 26% corporate tax rate.

Upside risks to our PO are if crude spreads and crack spreads remain above our expectations there could be upside to earnings and valuation. Downside risks to our PO are: if margins and crude spreads compress faster than we forecast, this could hurt earnings and shares.

Phillips 66 (PSX)
Our price objective of $150/share is based on a sum of the parts valuation of PSX's four main businesses with refining assets assessed by a discounted cash flow (DCF) value that treats the assets as annuities after deducting maintenance capital. This valuation is also supported by a dividend discount model. We use a long term Gulf Coast 321 crack spread in our benchmark assumptions of $11.5/bbl, a long-term crude differential of $3.5 and a weighted-average cost of capital (WACC) of 8.0%, and a 22% corporate tax rate.

The risks to our price objective are (1) the company is weighted toward heavy crude. As light-heavy crude differentials narrow, the benefits of a more complex refinery will diminish, which may delay return on investment, (2) the company is vulnerable to refining margin correction. If demand for refined products or chemicals is weaker than expected, or if oil prices remain robust, this could pressure margins, (3) the inability to capture the price environment due to cost pressures (opex, capex, and taxation).

Valero Energy Corp. (VLO)
Our price objective of $156/share is based on an assessed DCF value by treating the assets as annuities after deducting maintenance capital. We use a long term Gulf Coast 321 crack spread in our benchmark assumptions of $11.50/bbl, a long-term crude differential of $3.5 and a WACC of 9.25%, a zero terminal growth rate, and a 22% corporate tax rate.

Downside risks to our price objective are: (1) the company is heavily weighted toward sour crude. As light-heavy crude differentials narrow, the benefits of a more complex refinery will diminish, which may delay return on investment, (2) the company is vulnerable to refining margin correction. If demand for refined products is weaker than expected, or if oil prices remain robust, this could pressure margins, (3) the inability to capture the price environment due to cost pressures (opex, capex, and taxation), (4) tax reform is not passed.

Upside risks to our price objective are: (1) higher-than-expected crack spreads, and (2) stronger-than-expected gasoline demand.

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I, Doug Leggate, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

US - Large Cap Oils Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	APA Corporation	APA	APA US	Doug Leggate
	Canadian Natural Resources	YCNQ	CNQ CN	Doug Leggate
	Canadian Natural Resources	CNQ	CNQ US	Doug Leggate
	Chesapeake Energy	CHK	CHK US	Doug Leggate
	Chevron Corp.	CVX	CVX US	Doug Leggate
	ConocoPhillips	COP	COP US	Doug Leggate
	Coterra Energy Inc	CTRA	CTRA US	Doug Leggate
	EQT Corporation	EQT	EQT US	John H. Abbott
	ExxonMobil Corp.	XOM	XOM US	Doug Leggate
	Granite Ridge Resources, Inc	GRNT	GRNT US	John H. Abbott
	Imperial Oil	IMO	IMO US	Doug Leggate
	Imperial Oil	YIMO	IMO CN	Doug Leggate
	Kimbell Royalty Partners	KRP	KRP US	John H. Abbott
	Occidental Petroleum Corp.	OXY	OXY US	Doug Leggate
	Ovintiv Inc	YOVV	OVV CN	Doug Leggate
	Ovintiv Inc	OVV	OVV US	Doug Leggate
	Range Resources Corp	RRC	RRC US	Doug Leggate
	Suncor	YSU	SU CN	Doug Leggate
	Suncor	SU	SU US	Doug Leggate
NEUTRAL				
	California Resources Corporation	CRC	CRC US	Kalei Akamine
	CNX Resources	CNX	CNX US	John H. Abbott
	Delek US Holdings, Inc.	DK	DK US	Doug Leggate
	Devon Energy Corp.	DVN	DVN US	Doug Leggate
	EOG Resources	EOG	EOG US	Doug Leggate
	Gulfport Energy Corporation	GPOR	GPOR US	Doug Leggate
	HF Sinclair Corporation	DINO	DINO US	Doug Leggate
	Marathon Petroleum Company	MPC	MPC US	Doug Leggate
	PBF Energy	PBF	PBF US	Doug Leggate
	Permian Resources Corporation	PR	PR US	Doug Leggate
	Phillips 66	PSX	PSX US	Doug Leggate
	Valero Energy Corp.	VLO	VLO US	Doug Leggate
UNDERPERFORM				
	Chord Energy Corporation	CHRD	CHRD US	John H. Abbott
	Crescent Energy Company	CRGY	CRGY US	John H. Abbott
	Diamondback Energy Inc.	FANG	FANG US	Doug Leggate
	Marathon Oil Corp.	MRO	MRO US	Doug Leggate
	National Fuel Gas Company	NFG	NFG US	John H. Abbott
	Northern Oil and Gas	NOG	NOG US	John H. Abbott
	Vital Energy Inc	VTLE	VTLE US	John H. Abbott
RSTR				
	Pioneer Natural Resources	PXD	PXD US	Doug Leggate
	Southwestern Energy Corp.	SWN	SWN US	Doug Leggate

Disclosures

Important Disclosures

Equity Investment Rating Distribution: Energy Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	83	61.48%	Buy	64	77.11%
Hold	28	20.74%	Hold	21	75.00%
Sell	24	17.78%	Sell	18	75.00%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

R1 Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster R2
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

R2 Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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