

US Oil and Gas

OIM# 659: Ahead of BofA RefCon 2024,
our focus turns to ‘sustainable’ volatility

Industry Overview

Ahead of BofA Refining Conference 2024 on March 14th

We continue to see risk / reward for the US refining system caught between extreme seasonal swings in refining margins associated in part with a tighter supply / demand balance in the US, and the depth of seasonal weakness for the key drivers of that volatility. In the past three summers since COVID, reduced reforming capacity has exacerbated normal seasonal swings in the pricing of low RVP gasoline, while ample availability of butanes has bloated winter gasoline supplies, albeit helping capture rates through the blend premium. Conversely, tighter balances on the US East Coast, a consequence of some 500,000 bpd of capacity losses since 2019 in the largest heating oil market in the US, has led early winter season cracks to 2-3x the average levels of the prior decade. However this also leaves margins vulnerable to soft winter demand, with weak US natural gas prices a lead indicator of pending risks to heat oil cracks. Near term, this winter margin risk has left us on the sideline of a sector notoriously led by seasonal margin swings, and associated earnings momentum. Heavy maintenance, showing up with this week's decline in gasoline and distillate inventories, had led distillate and gasoline stocks lower, but will also dent earnings for many of the US refiners. Moreover, for gasoline declining inventories is a necessary rotation out of higher RVP (winter) gasoline and little source of margin strength; lower distillate stocks on the other hand comes against the backdrop of depressed heating demand. Crack spreads have been left rangebound, awaiting direction from summer – but a key question is that three years after COVID and the closure of over 1mm bpd of refining capacity, how repeatable is exaggerated volatility in each of key refining regions.

Focus on repeatable volatility

On the US East Coast we see this led by heating oil, lifting seasonal winter margins for a limited duration, but with sufficient magnitude to consider whether this is a new normal that can lift average annual margins. On the West Coast it is gasoline, with recent closure of Phillips 66 Rodeo Refinery, shifting the West Coast to a supply / demand deficit incrementally dependent on imports as the marginal cost of supply. In both cases exaggerated margin volatility is an outcome we believe needs to be watched for its impact on what the market perceives to be the average mid cycle for these regions, and by inference for refiners exposed to these regions. To be fair, some of these issues are well understood albeit the conclusions are still playing out. But in our view there is another regional dynamic at play that is at risk of being overlooked – a tighter market dynamic in the Rockies, where a combination of capacity rationalization and rising demand from population changes is a consideration for another sub-region of exaggerated margin volatility that we suspect may be overlooked. Considering a refinery slate that is generally smaller, higher cost and lacking the advantage of coastal access, we believe the dynamics of this market are worth watching.

Please join us for our In Person 2024 refining conference in NY on Mar 14th

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Exhibit 1: BBG vs. Actuals (mbbls)

Gasoline draws while crude inventories build

| Crude Stocks | |
|-------------------|---------|
| Est | 4,199 |
| Actual | 1,367 |
| Diff | (2,832) |
| Distillate Stocks | |
| Est | (510) |
| Actual | (4,131) |
| Diff | (3,621) |
| Gasoline Stocks | |
| Est | (2,832) |
| Actual | (4,460) |
| Diff | (1,628) |
| Utilization | |
| Est | 82.0% |
| Actual | 84.9% |
| Diff | 2.9% |

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
OIM – oil inventory monitor
bpd – barrel per day
bbl – barrel

DUC – drilled uncompleted

OIM #659

Exhibit 2: Summary DOE

Summary of DOE Weekly Statistics

| | Current | Prev | Change | % |
|-------------------------|---------------|---------------|----------------|--------------|
| Crude Oil | 448.5 | 447.2 | 1.367 | 0.3% |
| of which cushing | 31.7 | 31.0 | 0.701 | 2.3% |
| Lower 48 Production | 12,800 | 12,900 | (0.100) | -0.8% |
| Motor Gasoline | 239.7 | 244.2 | (4.460) | -1.8% |
| Gasoline production | 9,626 | 9.4 | 0.207 | 0.0 |
| Gasoline demand | 9,013 | 8,467 | 0.546 | 6.4% |
| Gasoline demand cover | 26.6 | 28.8 | (2.242) | -7.8% |
| Distillate | 117.0 | 121.1 | (4.131) | -3.4% |
| of which Heating Oil | 6.4 | 7.2 | (0.812) | -11.2% |
| of which Diesel | 110.6 | 113.9 | (3.319) | -2.9% |
| Distillate demand | 4.1 | 3.5 | 0.538 | 15.2% |
| Distillate demand cover | 28.7 | 34.3 | (5.538) | -16.2% |
| Jet Fuel | 40.1 | 40.0 | 0.059 | 0.1% |
| Jet fuel demand | 1.6 | 1.6 | 0.035 | 2.2% |
| Jet fuel demand cover | 24.5 | 25.0 | (0.497) | -2.0% |
| Residual | 29.6 | 29.5 | 0.121 | 0.4% |
| Resid demand | 0.5 | 0.4 | 0.111 | 30.7% |
| Resid demand cover | 62.7 | 81.6 | (18.932) | -23.2% |
| Utilization | 84.9% | 81.5% | 3.4% | na |
| Product Stocks | 1222.8 | 1228.3 | -5.5 | -0.5% |

Source: DOE

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Crude and products inventory change

Exhibit 3: Distillate inventory by PADD

Distillate inventories drew by -4131 kbbbls

| | |
|------------------------|----------------|
| BBG Estimates | (510) |
| Actual stock change | (4,131) |
| Exports | 1,055 |
| Imports | 195 |
| Prod / consumption net | 271 |
| Production | 4,345 |
| Product Supplied | (4,074) |
| PADD 1 | (1,251) |
| PADD 2 | (383) |
| PADD 3 | (2,363) |
| PADD 4 | 233 |
| PADD 5 | (367) |
| Total | (4,131) |

Source: BofA Global Research, Bloomberg

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Exhibit 4: Crude inventory by PADD

Crude inventories built by 1367 kbbbls

| | |
|------------------------|--------------|
| BBG Estimates | 4,199 |
| Actual stock change | 1,367 |
| Exports (Monthly avg) | 4,637 |
| Imports | 7,222 |
| Prod / consumption net | (7,222) |
| Production | 13,200 |
| Product Supplied | (20,422) |
| PADD 1 | 780 |
| PADD 2 | 2,007 |
| PADD 3 | (2,153) |
| PADD 4 | 383 |
| PADD 5 | 350 |
| Total | 1,367 |

Source: BofA Global Research, Bloomberg

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Exhibit 5: Gasoline inventory by PADD

Gasoline inventories drew by -4461 kbbbls

| | |
|--------------------------|----------------|
| BBG Estimates | (2,832) |
| Fnsh'd MoGas stock chn'g | (1,144) |
| Exports | 782 |
| Imports | 55 |
| Prod / consumption net | 613 |
| Production | 9,626 |
| Product Supplied | (9,013) |
| PADD 1 | 930 |
| PADD 2 | (1,317) |
| PADD 3 | (3,488) |
| PADD 4 | (20) |
| PADD 5 | (566) |
| Total | (4,461) |

Source: BofA Global Research, Bloomberg

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Exhibit 6: Jet inventory by PADD

Jet inventories built by 58 kbbbls

| | |
|------------------------|-----------|
| BBG Estimates | 59 |
| Actual stock change | 172 |
| Exports | (447) |
| Imports | 95 |
| Prod / consumption net | 1,734 |
| Production | (1,639) |
| Product Supplied | (999) |
| PADD 1 | (80) |
| PADD 2 | 1,402 |
| PADD 3 | (109) |
| PADD 4 | (156) |
| PADD 5 | 58 |
| Total | 58 |

Source: BofA Global Research, Bloomberg

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Focus on volatility

Ahead of BofA Refining Conference 2024 on March 14th

We continue to see risk / reward for the US refining system caught between extreme seasonal swings in refining margins associated in part with a tighter supply / demand balance in the US, and the depth of seasonal weakness for the key drivers of that volatility. In the past three summers since COVID, reduced reforming capacity has exacerbated normal seasonal swings in the pricing of low RVP gasoline, while ample availability of butanes has bloated winter gasoline supplies, albeit helping capture rates through the blend premium. Conversely, tighter balances on the US East Coast, a consequence of some 500,000 bpd of capacity losses since 2019 in the largest heating oil market in the US, has led cracks to 2-3x the average levels of the prior decade. However this also leaves margins vulnerable to soft winter demand, with weak US natural gas prices a lead indicator of pending risks to heat oil cracks.

Near term, this winter margin risk has left us on the sideline of a sector notoriously led by seasonal margin swings, and associated earnings momentum. Heavy maintenance, showing up with this week's decline in gasoline and distillate inventories, had led distillate and gasoline stocks lower, but will also dent earnings for many of the US refiners. Moreover, for gasoline declining inventories is a necessary rotation out of higher RVP (winter) gasoline and little source of margin strength; lower distillate stocks on the other hand comes against the backdrop of depressed heating demand.

So crack spreads have been left rangebound, awaiting direction from summer – but with a critical question we believe can be answered in 2024: three years after COVID and the closure of over 1mm bpd of refining capacity, how repeatable is exaggerated volatility in each of key refining regions.

- On the US East Coast we see this led by heating oil, lifting seasonal winter margins for a limited duration, but with sufficient magnitude to consider whether this is a new normal that can lift average annual margins to levels that can be embedded in another upward shift in mid cycle margins;
- On the West Coast it is gasoline, with recent closure of Phillips 66 Rodeo Refinery, shifting the West Coast to a supply / demand deficit incrementally dependent on imports as the marginal cost of supply.

In both cases exaggerate margin volatility is an outcome we believe needs to be watched for its impact on what the market perceives to be the average mid cycle for these regions, and by inference for refiners exposed to these regions. To be fair, some of these issues are well understood albeit the conclusions are still playing out. But in our view there is another regional dynamic at play that is at risk of being overlooked – a tighter market dynamic in the rockies, where a combination of capacity rationalization and rising demand from population changes is a consideration for another sub-region of exaggerated margin volatility that we suspect may be overlooked. Considering a refinery slate that is generally smaller, higher cost and lacking the advantage of coastal access, we believe the dynamics of this market are worth watching, given implications for regional refiners to benefit from a potential upwards reset in mid-west margin volatility. Below we focus on some of the changes underway in this region.

Focus on PADD 4

The table below illustrates the evolution of product balances in PADD 4 (Rockies: Colorado, Utah, Idaho, Wyoming, Montana), where the shutdown at Cheyenne created a finely balanced market dependent on PADD 2 imports for equilibrium. While our balances show pre-COVID consumption figures, regional population growth has been palpable, leaving upside risks. That combination has strengthened margins – measured in stronger basis relative to other regions (Group 3, Gulf Coast) – catching the attention of market opportunists interested in capturing a piece of the economic rent.

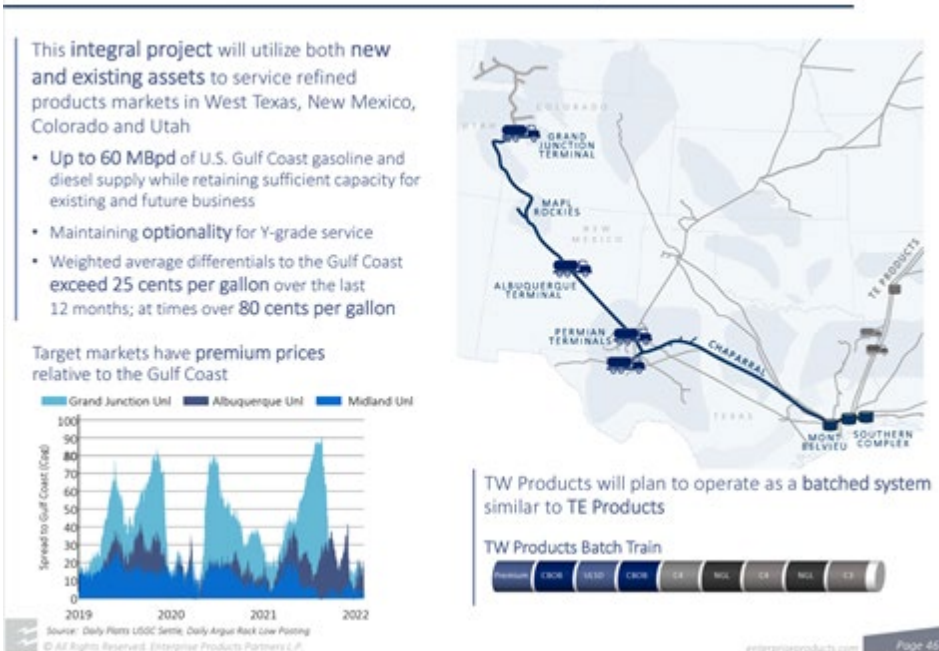


Enterprise Products Partners (EPD) is commissioning the first phase of Texas Western, now. In the project, two existing NGL pipelines are repurposed to move refined products, from the Gulf Coast into West Texas, and then on to Junction Colorado. The system can move 'up to 60,000 b/d,' potentially impacting local balances in both markets.

Exhibit 1: TW Products system commissioning now

Phase 1 commissioning now, Phase 2 will be completed in 2Q24

TW Products (Texas Western Products System)



Source: Enterprise Products

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While West Texas / Permian Basin fuel demand is difficult to discern from public data, we can make an estimate for gasoline based on local population, and an estimate on diesel mainly based on oilfield activity – arriving at 40,000 b/d of gasoline and 90,000 b/d of diesel. Comparing that to Chaparral's capacity to move 60,000 b/d, the impact to the region could be significant. The region has ~300,000 b/d of refining capacity (excluding McKee and Borger that are located further north outside of Amarillo), that reasonably operates at 90%, suggesting 250,000 b/d of clean products. The tariff to ship on the pipeline is \$2.00/bbl, which is low enough to keep Gulf Coast refiners in the black.

One loop on Mid-America Pipeline (MAPL) will be repurposed to move refined products south to north, from West Texas to Junction Colorado. Our understanding is that this leg of the system is also sized for 60,000 b/d, which could have an outsized impact on local balances. PADD 4 gasoline and diesel demand are about 350,000 b/d and 220,000 b/d respectively, and currently in balance with existing local refineries plus PADD 2 imports. Therefore this pipe will could shift the region into a surplus – though for practical matters, a supply side response will of course bring things back into equilibrium.

As an additional matter, OneOk is expanding the Magellan system by 15,000 b/d to West Texas, and 5,000 b/d into Denver.

Exhibit 3: PADD 4 refined product balances

TW pipeline will tip regional balances higher

| | Pre-Cheyenne | Post-Cheyenne | Post-Texas Western |
|--------------------------------|--------------|---------------|--------------------|
| Rockies Product Demand: | | | |
| Gasoline | 347 | 347 | 347 |
| Diesel | 221 | 221 | 221 |
| Total | 568 | 568 | 568 |
| Refineries: | | | |
| Par Billings (MT) | 63 | 63 | 63 |
| PSX Billings (MT) | 65 | 65 | 65 |
| CLMT Great Falls (MT) | 25 | 25 | 25 |
| DINO Casper (WY) | 25 | 25 | 25 |
| DINO Sinclair (WY) | 85 | 85 | 85 |
| DINO Cheyenne (WY) | 48 | - | - |
| Par Newcastle (WY) | 18 | 18 | 18 |
| CVX Salt Lake City (UT) | 58 | 58 | 58 |
| MPC Salt Lake City (UT) | 62 | 62 | 62 |
| DINO Woods Cross (UT) | 42 | 42 | 42 |
| Suncor Denver (CO) | 102 | 102 | 102 |
| Silver Eagle (UT) | 15 | 15 | 15 |
| | 608 | 560 | 560 |
| Utilization: | | | |
| | 90% | 90% | 90% |
| Yield: | | | |
| Gasoline | 55% | 55% | 55% |
| Diesel | 37% | 37% | 37% |
| Jet | 5% | 5% | 5% |
| Heavy Fuel Oil | 2% | 2% | 2% |
| Gasoline | 303 | 280 | 280 |
| Diesel | 204 | 188 | 188 |
| Jet | 28 | 26 | 26 |
| Heavy Fuel Oil | 11 | 10 | 10 |
| | 547 | 504 | 504 |

Source: BofA Global Research

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But notable, is the tariff from West Texas to Grand Junction, currently set at an eye-watering \$9.45/bbl. While this could simply be a price discovery exercise that leads to lower rates in practice, the \$9.45/bbl shipping fee, at face value, would have the effect of keeping the pipeline from running full at certain times of the year. But with product prices at a significant premium to Gulf Coast prices since 2021, the arb continues to look open.

Exhibit 2: Tariffs on Texas Western Pipeline from West Texas origin point

\$9.45/bbl fee to move from West Texas to Grand Junction Colorado

| Rates | | | |
|--|--|--|---|
| ITEM NO. 200 | Destinations | | |
| Origin | ERPC Jol Terminal (Lea Co., NM) (a) | ERPC Moriarty Terminal (Torrance Co., NM)(a) | ERPC Grand Junction Terminal (Grand Co., UT)(a) |
| Local Rates in Cents-per-Bbl. | | | |
| ERPC Permian Terminal at Hobbs (Guadalupe Co., TX) | 54.6 | 327.6 | 945.0 |

Source: FERC

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DOE Review

US crude inventories rose 1.4 mmbbls this week lead by PADD 2 growing at 2 mmbbls as one the largest refineries in the region, BP's Whiting refinery, has not yet come back



online but is expected to do so later this month. During this time we have also seen Cushing inventories grow counter seasonally approaching 2023 levels. Refining utilization grew 3.4% to 85%, the highest level since the end of March and compares to 2024 lows at 80%. As one would expect higher utilization risks refined product inventories higher and crude inventories lower but crude stocks are at the 5 year average not only helped by the weakness in refining utilization as stated above but also crude production holding at 13.3 – 13.2 mmbd and imports that have trended at the top or above the 5 year range.

In regards to refined products, gasoline inventories fell 4.5 mmbbl and distillate fell 4.1 mmbbl with both products largely following seasonal trends. Gasoline inventories continue to roll over as we see inventories clearing out winter grade gasoline to make room for summer grade. We also note that demand measure as product supplied has held steady around the 5 year average and is above 2023 levels despite some concerns of an economy that may see below trend growth in 1Q24.

Meanwhile, heating demand for distillate has seen a draw on inventories that are now at the bottom of the 5 year range. With spring right around the corner, we largely expect distillate to follow seasonal trends but if refinery maintenance drags on and priority moves to gasoline ahead of the summer driving season we see a scenario where distillate inventories could remain tight through summer, a similar set up we saw in 2023.

Global inventories look to be largely flat w/w as a 12 mmbbls build was met with a decline in crude of water that has seen elevated levels due to a shift away from the Suez canal to the Cape of Good Hope. We argue that a large majority of the recent draws in global onshore inventories is due to the changing in shipping routes versus a lack of supply in the market. As mentioned in last weeks weekly, OPEC extended its cuts as the was no room to add back supply with tipping balances and adding downside pressure to price. Currently, we see global markets as largely balanced and with the increase in crude on water having already occurred we expect the inventories to look flat for the near future as OPEC looks to have committed to the status quo.

Exhibit 7: Global inventories

Global inventories rise 12 mmbbls w/w

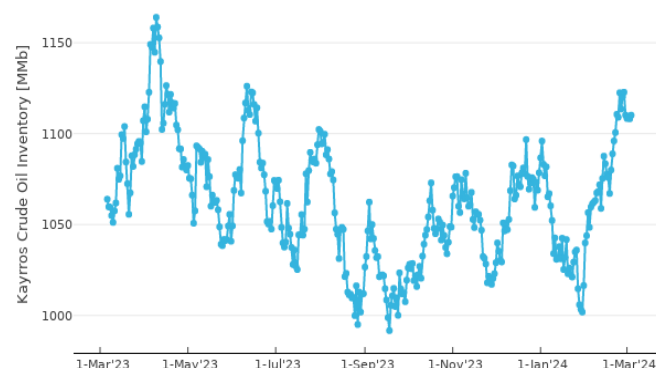


Source: Kayros

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Exhibit 8: Crude on water

Falls off recent highs



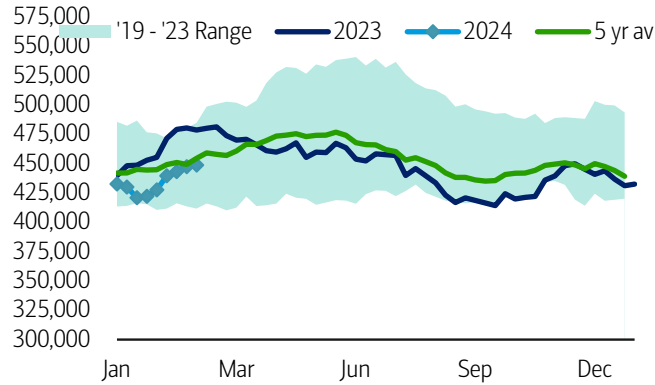
Source: Kayros

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Crude oil stocks

Exhibit 9: Crude Stocks

Crude Stocks 0.3% Higher w/w and -6.6% Lower y/y

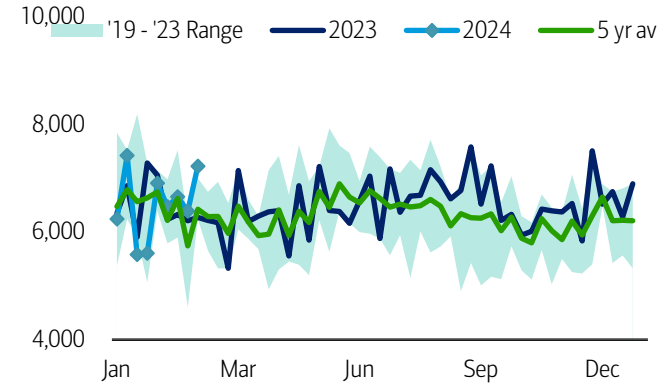


Source:DOE

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Exhibit 10: Crude Imports

Crude Imports 13.1% Higher w/w and 1.8% Higher y/y

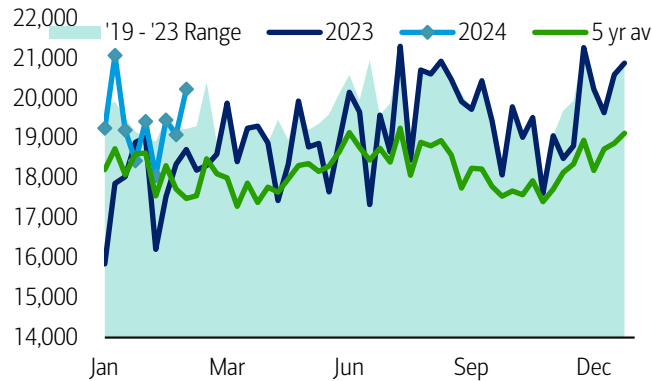


Source:DOE

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Exhibit 11: Crude Implied Demand (000 bpd)

Crude Implied Demand 6.0% Higher w/w and 2.0% Higher y/y

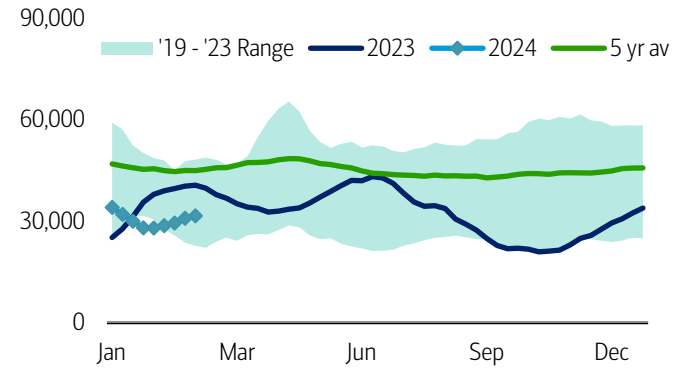


Source:DOE

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Exhibit 12: Cushing Inventory

Cushing Inventory 2.3% Higher w/w and -22.2% Lower y/y

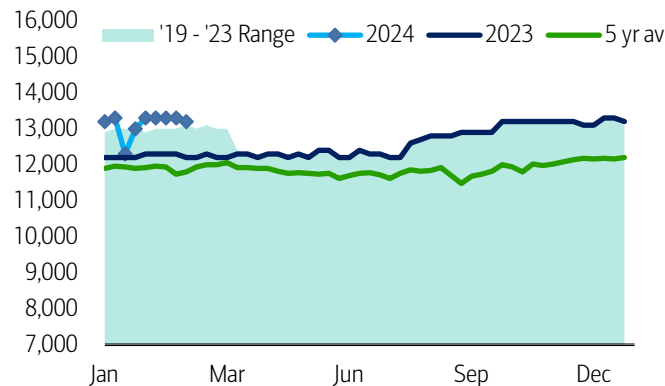


Source:DOE

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Exhibit 13: Crude Production

Crude Production -0.8% Lower w/w and 9.0% Higher y/y

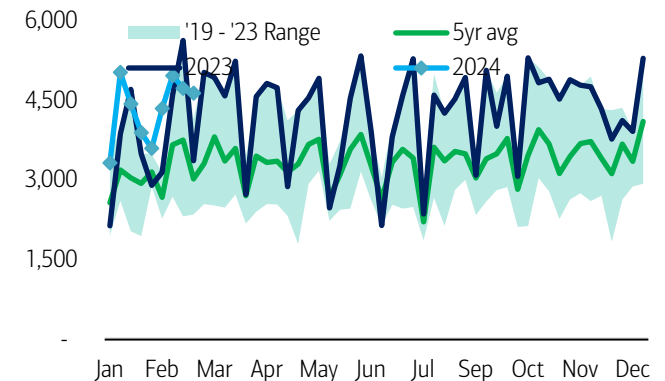


Source:DOE

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Exhibit 14: Crude Oil Exports

Crude Oil Exports -1.9% Lower w/w and 40.6% Higher y/y



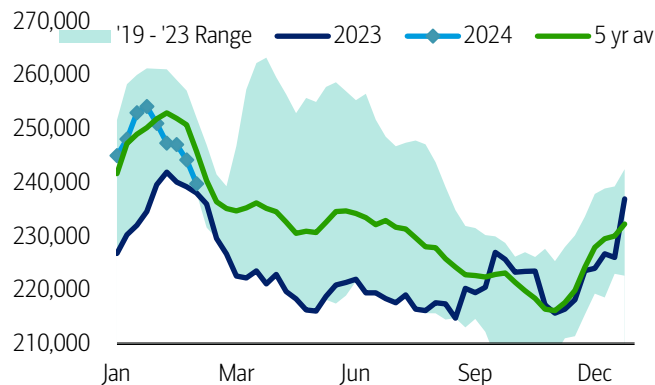
Source:DOE

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Gasline stocks

Exhibit 15: Gasline Stocks

Gasline Stocks -1.8% Lower w/w and 2.6% Higher y/y

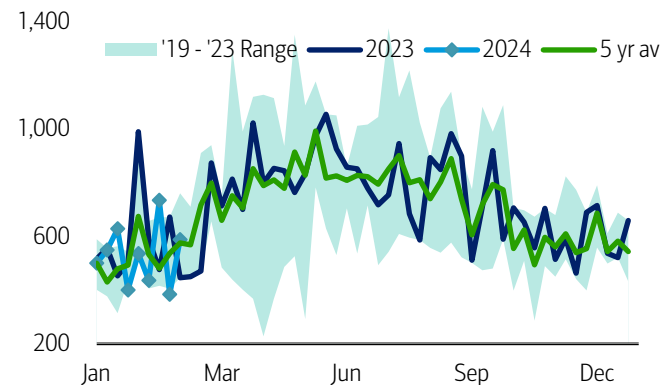


Source:DOE

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Exhibit 16: Gasline Imports

Gasline Imports 53.1% Higher w/w and -13.9% Higher y/y

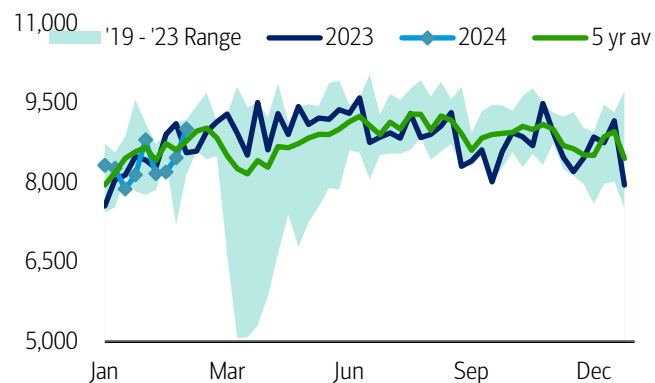


Source:DOE

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Exhibit 17: Gasline Product Supplied (000 bpd)

Gasline Product Supplied 6.4% Higher w/w and -1.1% Higher y/y

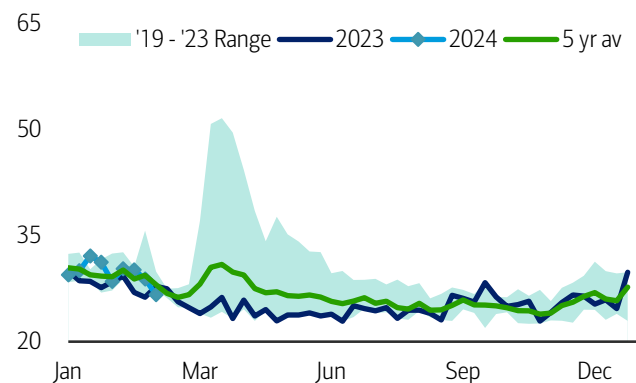


Source:DOE

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Exhibit 18: Gasline Demand Cover

Gasline Demand Cover -7.8% Lower w/w and 3.7% Lower y/y

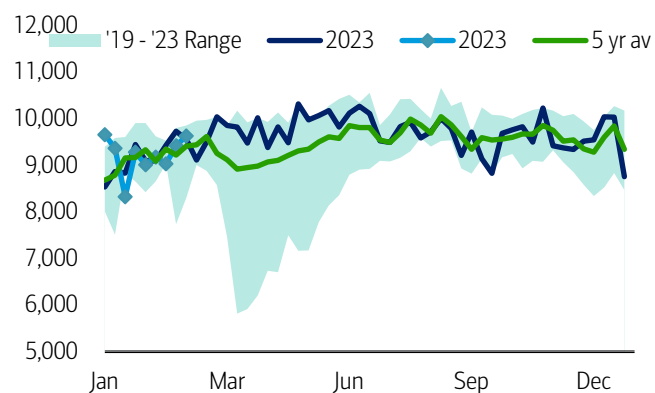


Source:DOE

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Exhibit 19: Gasline Production

Gasline Production 2.2% Higher w/w and -1.4% Higher y/y

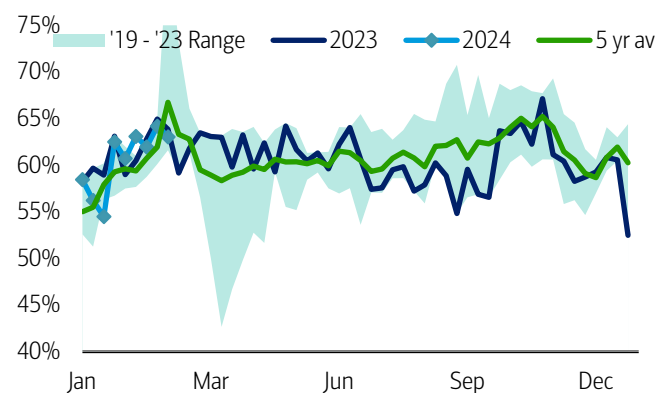


Source:DOE

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Exhibit 20: Gasline Yield

Gasline Yield -4.2% Lower w/w and 3.1% Lower y/y



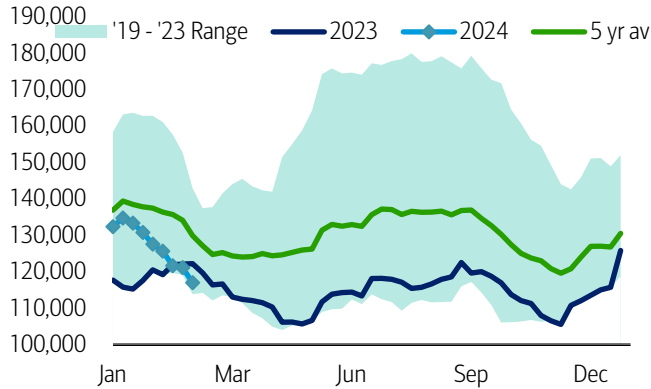
Source:DOE

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Distillate stocks

Exhibit 21: Distillate Stocks

Distillate Stocks -3.4% Lower w/w and -0.9% Lower y/y

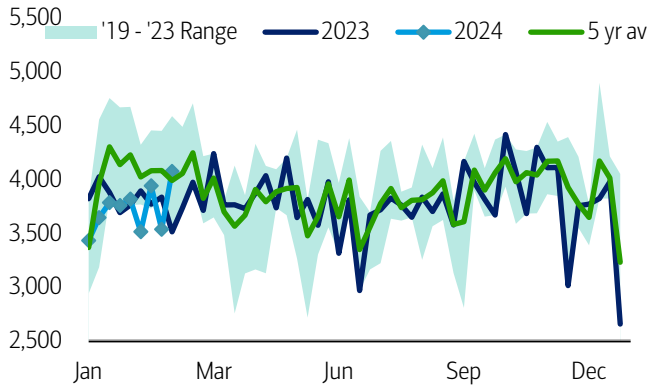


Source:DOE

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Exhibit 23: Distillate Product Supplied (000 bpd)

Distillate Product Supplied 15.2% Higher w/w and 0.6% Higher y/y

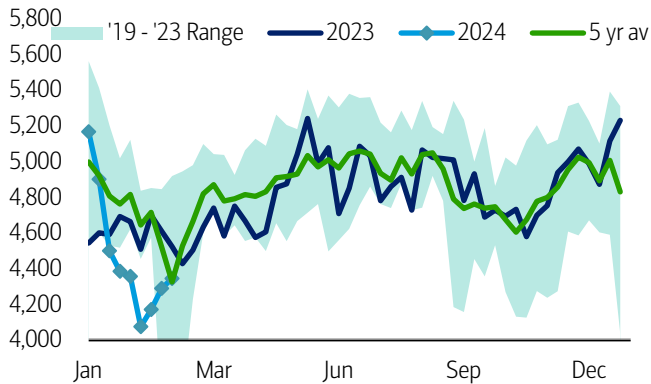


Source:DOE

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Exhibit 25: Distillate Production

Distillate Production 1.3% Higher w/w and -5.2% Lower y/y

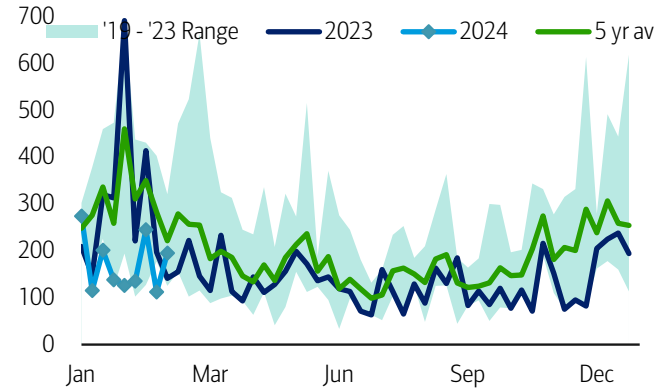


Source:DOE

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Exhibit 22: Distillate Imports

Distillate Imports 74.1% Higher w/w and -20.6% Higher y/y

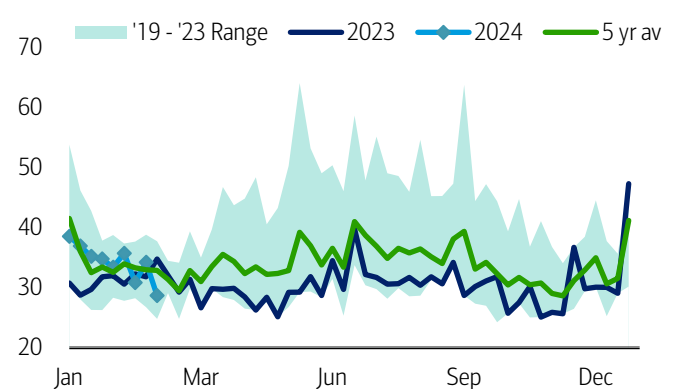


Source:DOE

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Exhibit 24: Distillate Demand Cover

Distillate Demand Cover -16.2% Lower w/w and -1.5% Lower y/y

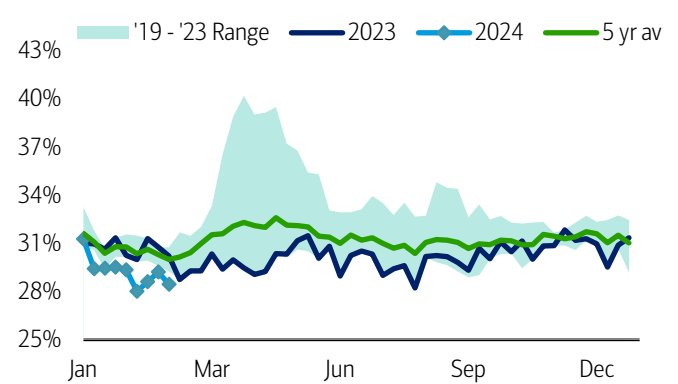


Source:DOE

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Exhibit 26: Distillate Yield

Distillate Yield -2.6% Lower w/w and -3.3% Lower y/y



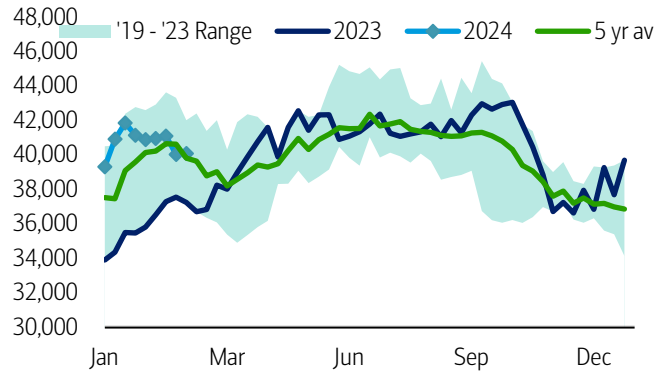
Source:DOE

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Jet stocks

Exhibit 27: Jet Stocks

Jet Stocks 0.1% Higher w/w and 7.5% Higher y/y

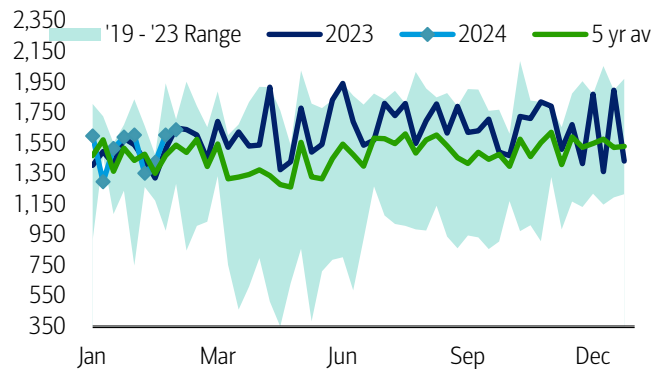


Source:DOE

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Exhibit 29: Jet Implied Demand (000 bpd)

Jet Product Supplied 2.2% Higher w/w and -2.8% Lower y/y

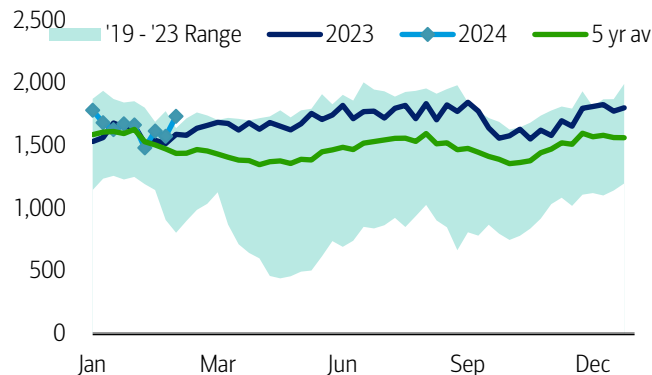


Source:DOE

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Exhibit 31: Jet Production

Jet Production 10.1% Higher w/w and -0.9% Higher y/y

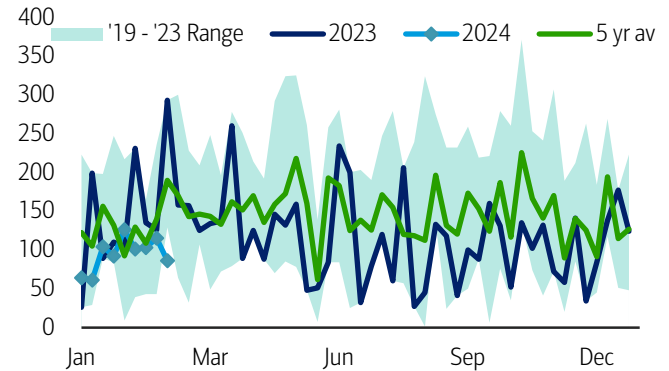


Source:DOE

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Exhibit 28: Jet Imports

Jet Imports -25.2% Lower w/w and -60.8% Lower y/y

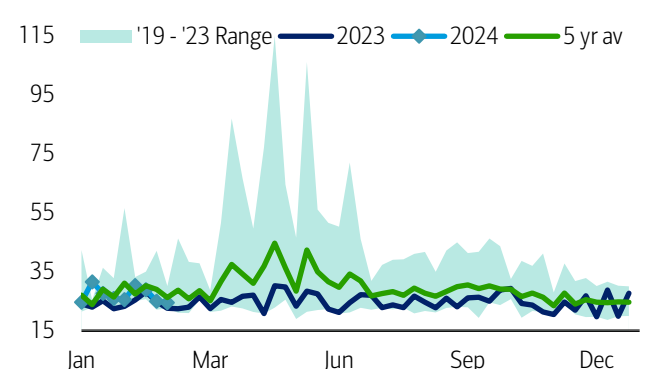


Source:DOE

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Exhibit 30: Jet Demand Cover

Jet Demand Cover -2.0% Lower w/w and 10.6% Higher y/y

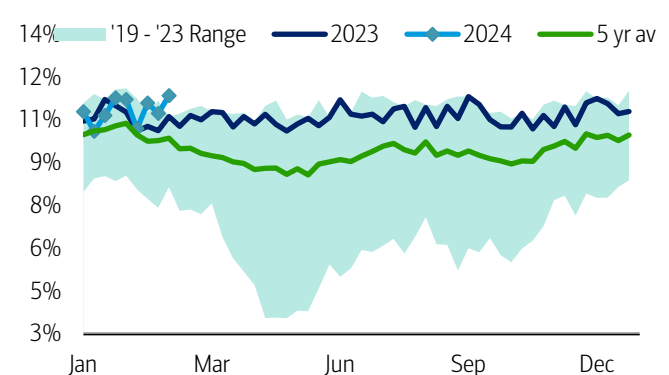


Source:DOE

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Exhibit 32: Jet Yield

Jet Yield 5.8% Higher w/w and 1.0% Higher y/y



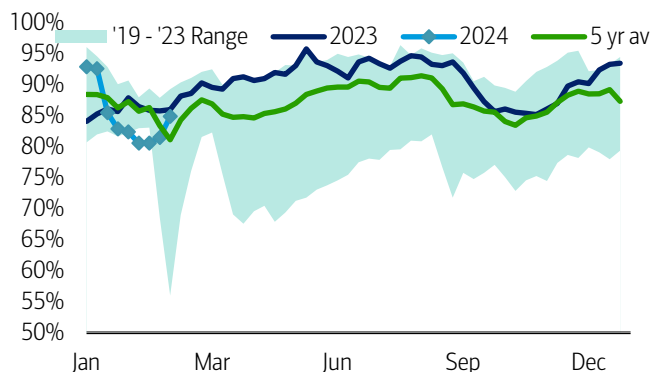
Source:DOE

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Refinery Utilization

Exhibit 33: Utilization

Refinery Utilization 4.2% Higher w/w and -5.2% Lower y/y

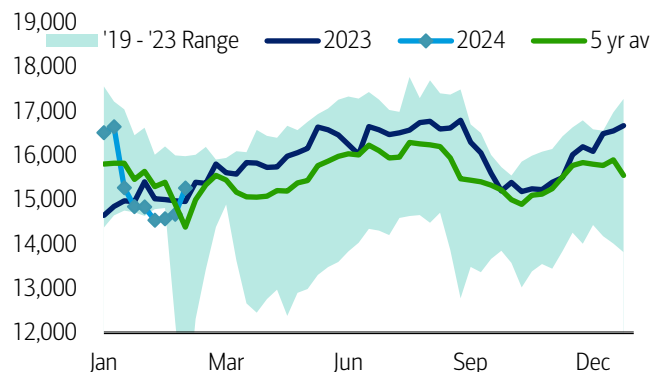


Source:DOE

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Exhibit 34: Crude Throughput

Crude Throughput 4.0% Higher w/w and -2.0% Higher y/y

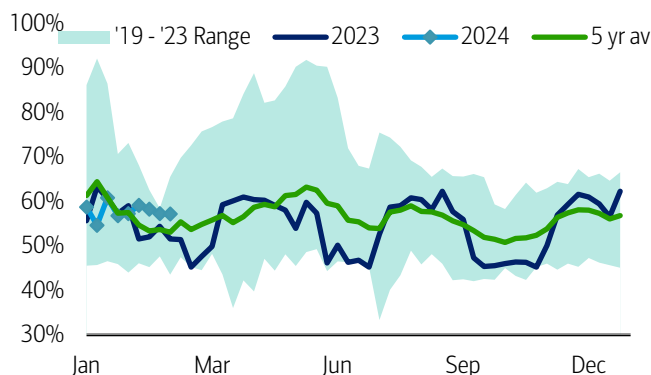


Source:DOE

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Exhibit 35: PADD I Utilization

PADD 1 Utilization Lower w/w and 1.8% Higher y/y

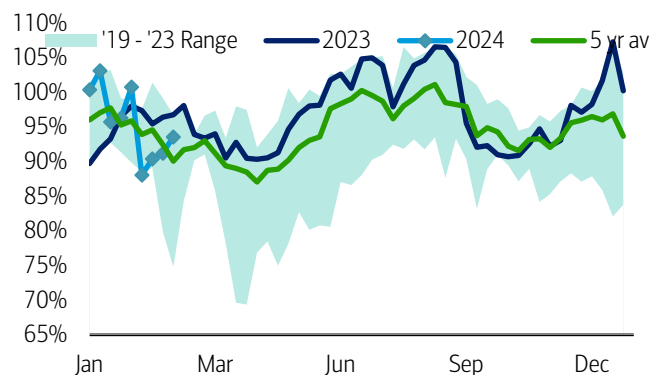


Source:DOE

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Exhibit 36: PADD II Utilization

PADD 2 Utilization 4.3% Higher w/w and -6.9% Lower y/y

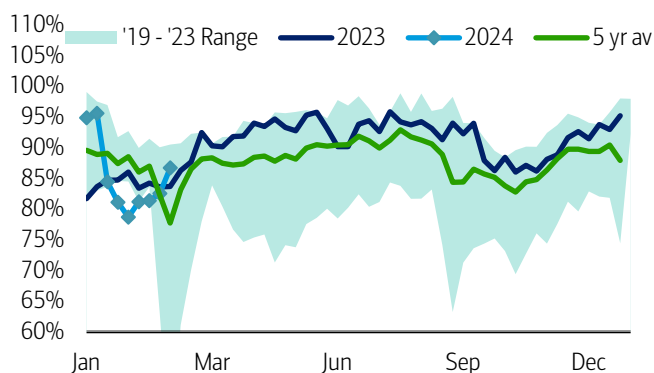


Source:DOE

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Exhibit 37: PADD III Utilization

PADD 3 Utilization 5.0% Higher w/w and -6.6% Lower y/y

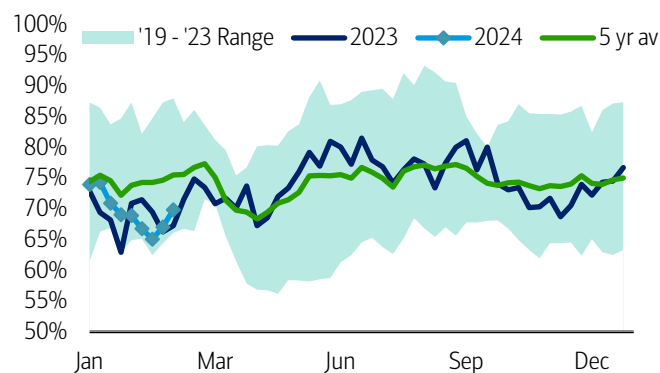


Source:DOE

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Exhibit 38: PADD V Utilization

PADD 5 Utilization 5.5% Higher w/w and -2.0% Higher y/y



Source:DOE

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Crude demand coverage

Exhibit 39: US Crude Demand Cover
US Crude Demand Cover -3.6% Lower w/w and -4.7% Lower y/y

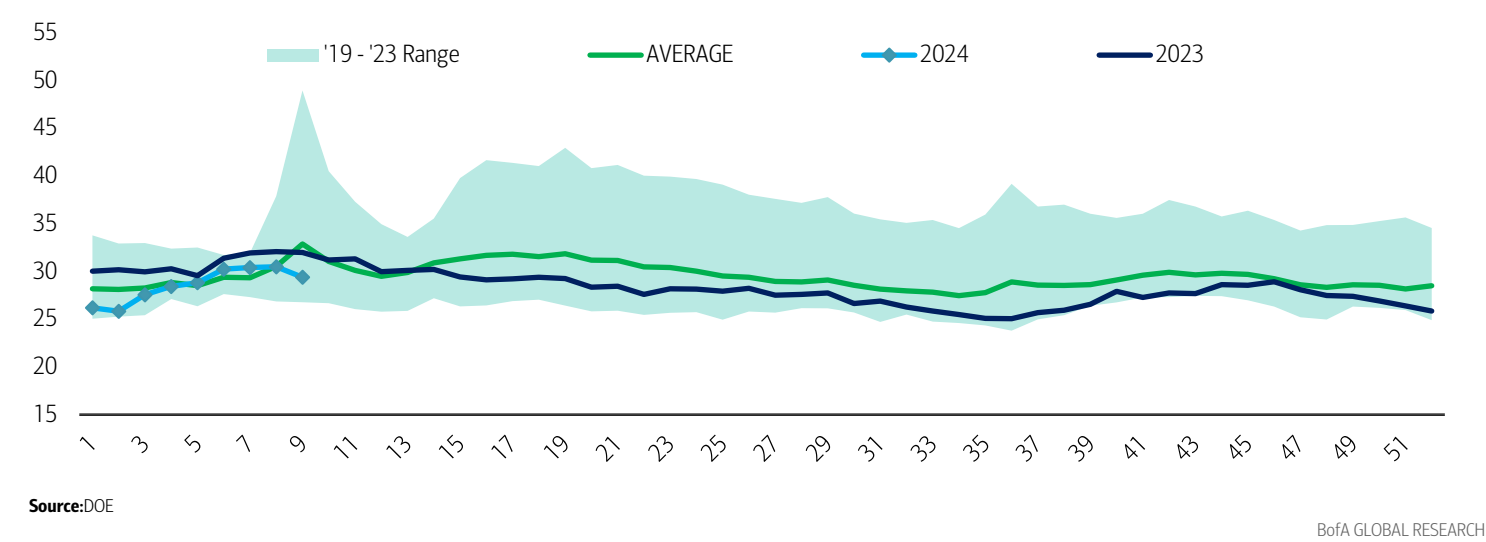
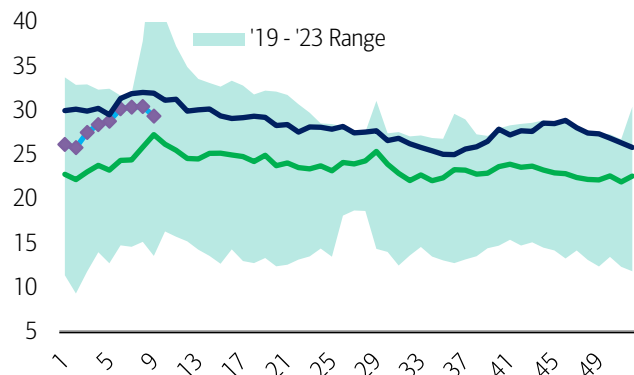


Exhibit 40: PADD I Crude Demand Cover

PADD 1 Crude Demand Cover 10.5% Higher w/w and 1.9% Higher y/y

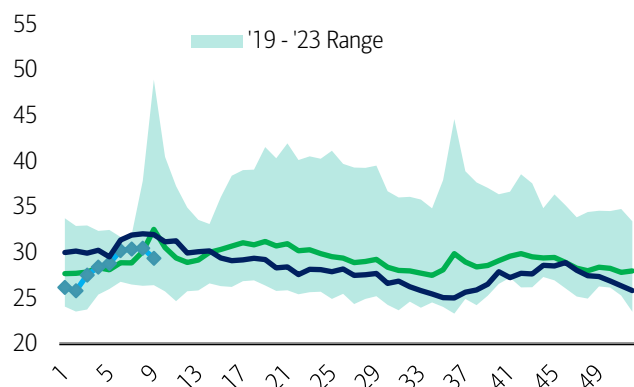


Source:DOE

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Exhibit 42: PADD III Crude Demand Cover

PADD 3 Crude Demand Cover -2.8% Lower w/w and -0.8% Lower y/y

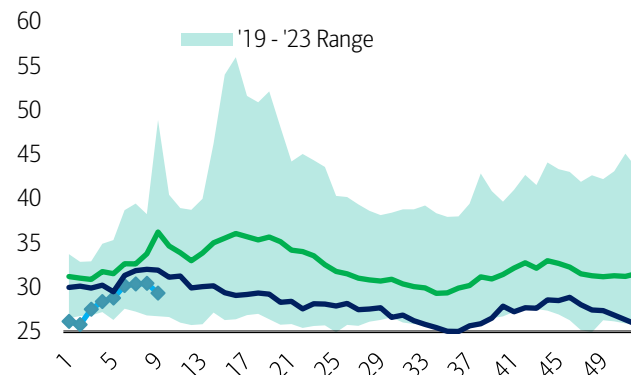


Source:DOE

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Exhibit 41: PADD II Crude Demand Cover

PADD 2 Crude Demand Cover -0.8% Lower w/w and -3.9% Lower y/y

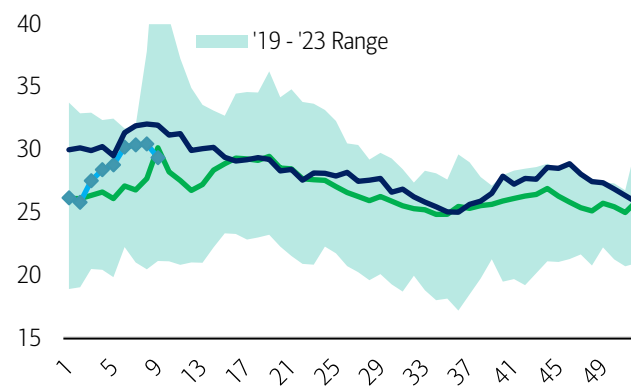


Source:DOE

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Exhibit 43: PADD V Crude Demand Cover

PADD 5 Crude Demand Cover -3.3% Lower w/w and -1.4% Lower y/y



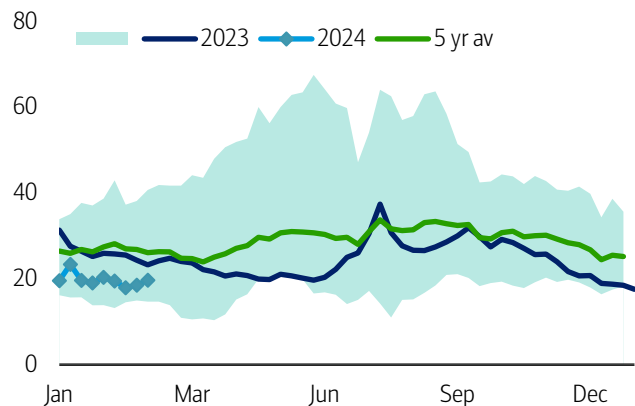
Source:DOE

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NGL pricing

Exhibit 44: Ethane

Ethane Price is 4.8% Higher w/w and -27.9% Lower y/y

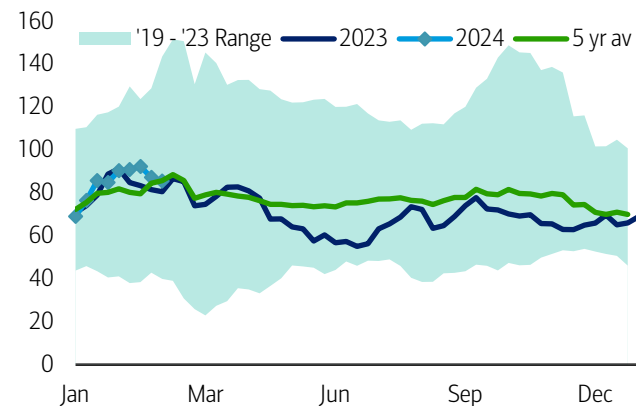


Source: Bloomberg

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Exhibit 45: Propane

Propane Price is 0.0% in line w/w and -5.0% Lower y/y

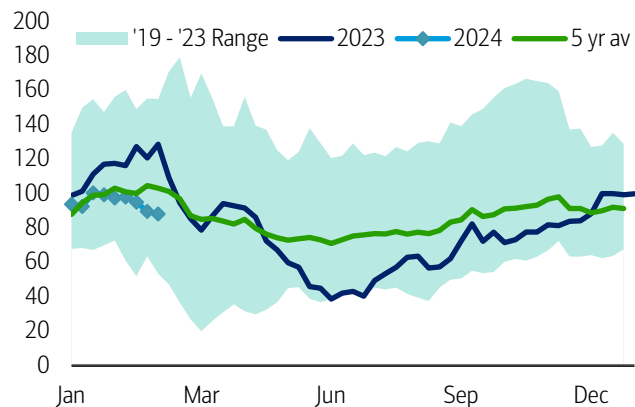


Source: Bloomberg

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Exhibit 46: Butane

Butane Price is -3.4% Lower w/w and -12.6% Lower y/y

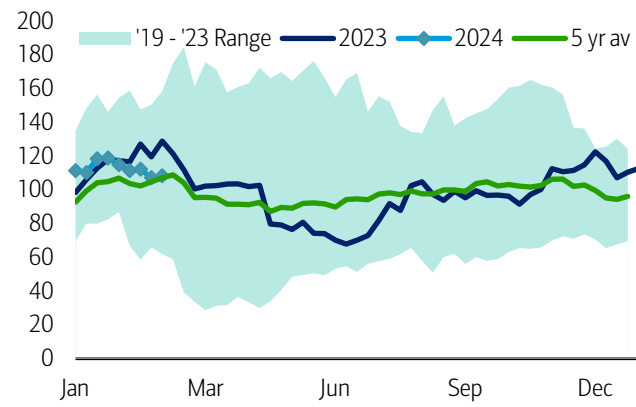


Source: Bloomberg

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Exhibit 47: Isobutane

Isobutane Price is 8.6% Higher w/w and -10.5% Lower y/y

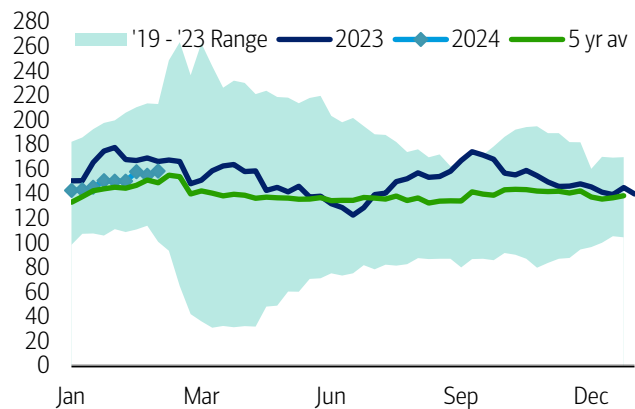


Source: Bloomberg

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Exhibit 48: Natural Gasoline

Natural Gasoline Price is 4.7% Higher w/w and -7.9% Lower y/y

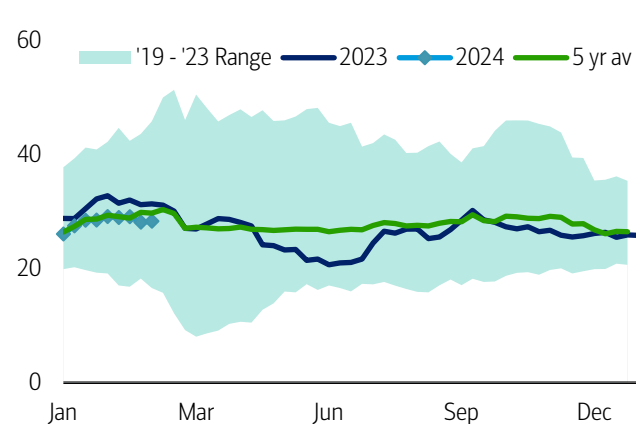


Source: Bloomberg

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Exhibit 49: NGL Composite Barrel

NGL Composite Barrel is -70.2% Lower w/w and -12.0% Lower y/y



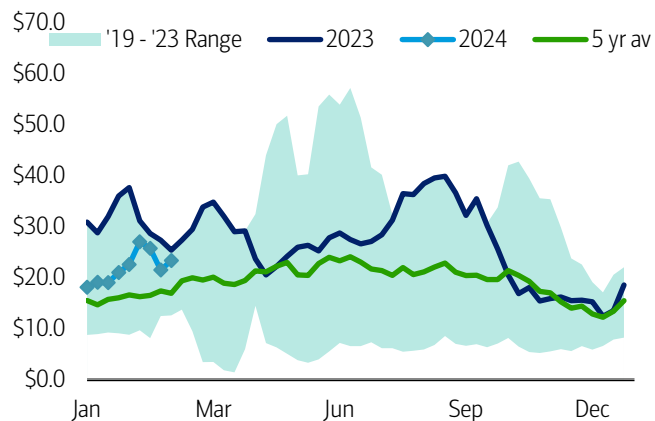
Source: Bloomberg

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Crack spreads

Exhibit 50: Gulf Coast 321

Gulf Coast 321 LLS 7.9% Higher w/w and -34.5% Lower y/y

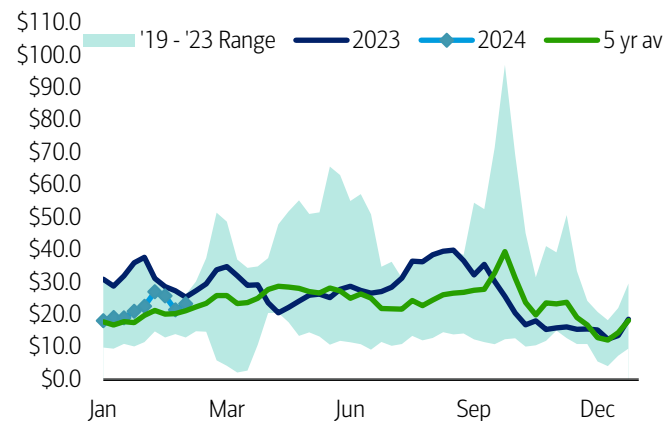


Source: Bloomberg

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Exhibit 51: West Coast 321

West Coast 321 ANS -38.7% Lower w/w and -22.7% Lower y/y

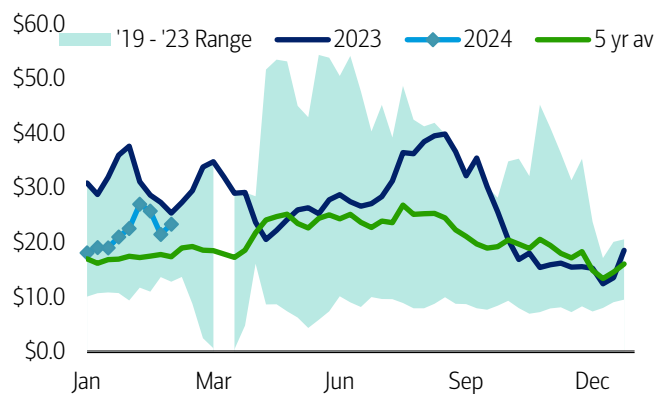


Source: Bloomberg

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Exhibit 52: Northeast 321

New York 321 Brent -4.5% Lower w/w and -14.3% Lower y/y

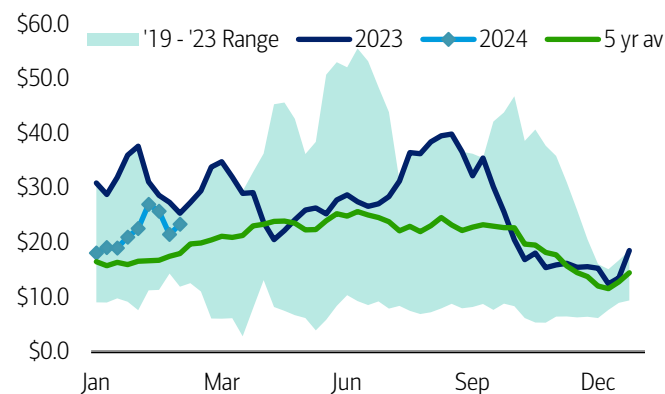


Source: Bloomberg

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Exhibit 53: Midcont 321

Mid Cont 321 WTI 27.4% Higher w/w and -28.7% Lower y/y

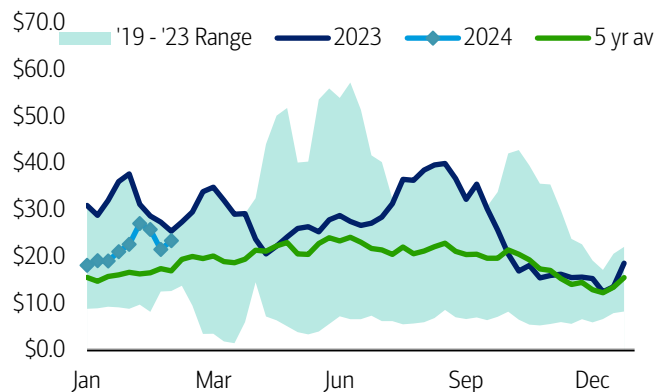


Source: Bloomberg

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Exhibit 54: NWE 321

Northwest Europe 321 Brent -25.9% Lower w/w and -31.6% Lower y/y

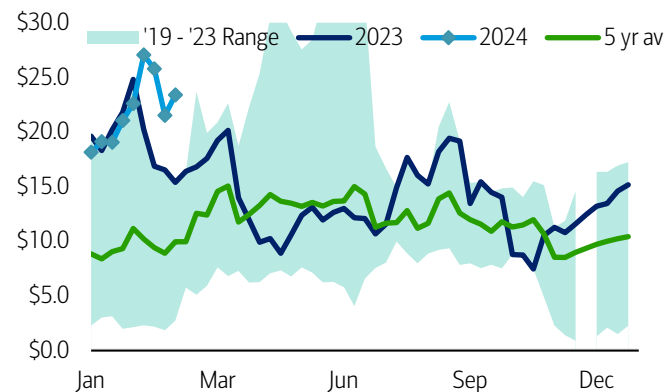


Source: Bloomberg

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Exhibit 55: Dubai 321

Dubai 321 -5.2% Lower w/w and 0.9% Lower y/y



Source: Bloomberg

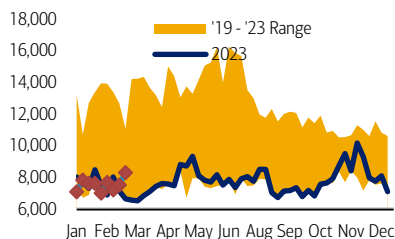
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Regional Breakdown

Exhibit 56: PADD 1 Crude Stock

PADD 1 Crude Stock -12.1% Lower w/w and -17.8% y/y

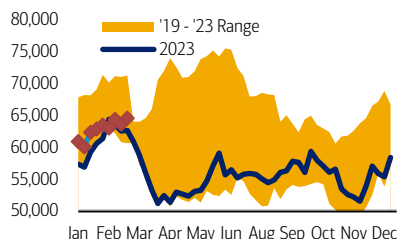


Source: EIA

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Exhibit 57: PADD 1 Gasoline Stock

PADD 1 Gasoline Stock 1.2% Higher w/w and -7.3% y/y

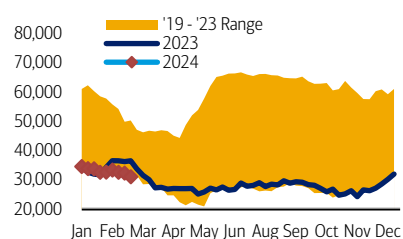


Source: EIA

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Exhibit 58: PADD 1 Distillate Stock

PADD 1 Distillate Stock -0.3% Lower w/w and -32.7% y/y

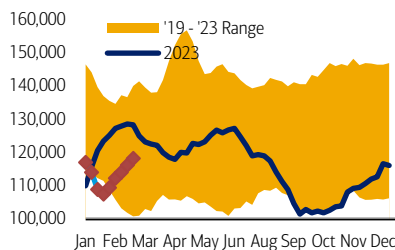


Source: EIA

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Exhibit 59: PADD 2 Crude Stock

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

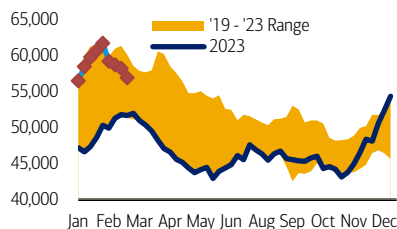


Source: EIA

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Exhibit 60: PADD 2 Gasoline Stock

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

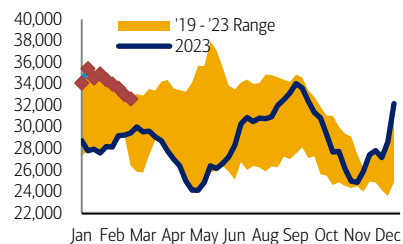


Source: EIA

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Exhibit 61: PADD 2 Distillate Stock

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

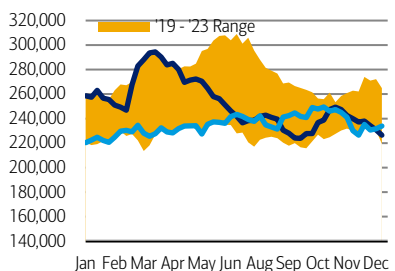


Source: EIA

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Exhibit 62: PADD 3 Crude Stock

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

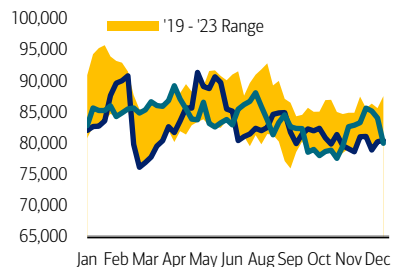


Source: EIA

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Exhibit 63: PADD 3 Gasoline Stocks

PADD 3 Gasoline Stock 2% Higher w/w and -14.5% y/y

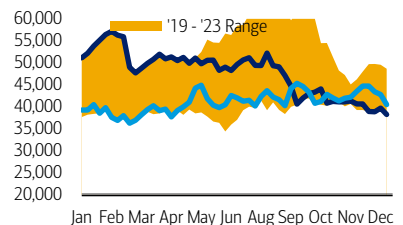


Source: EIA

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Exhibit 64: PADD 3 Distillate Stocks

PADD 3 Distillate Stock 1% Higher w/w and -1.3% y/y

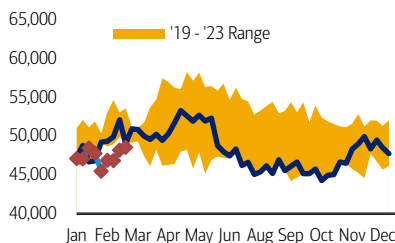


Source: EIA

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Exhibit 65: PADD 5 Crude Stock

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

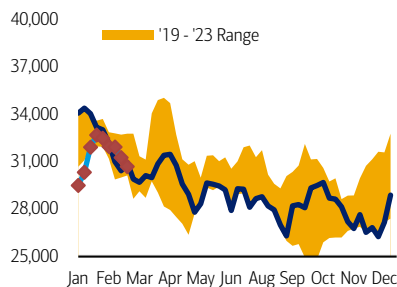


Source: EIA

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Exhibit 66: PADD 5 Gasoline Stock

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

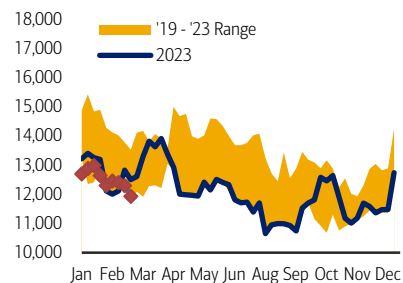


Source: EIA

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Exhibit 67: PADD 5 Distillate Stock

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



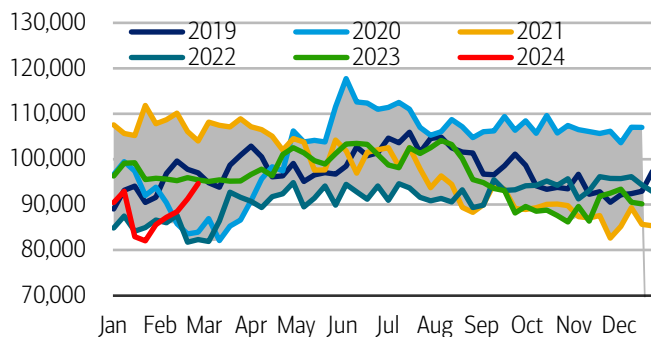
Source: EIA

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Amsterdam, Rotterdam, Antwerp

Exhibit 68: Total ARA Petroleum Stocks (thousand barrels)

Inventories -1% lower w/w

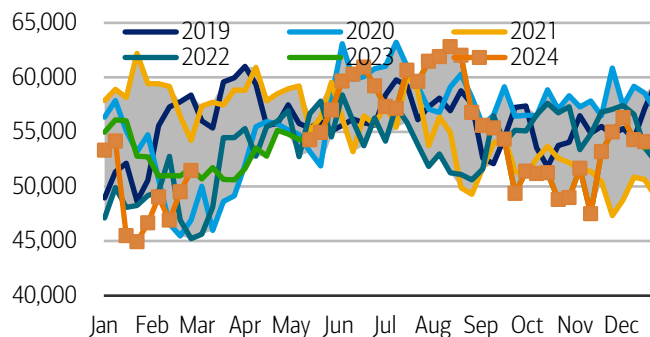


Source: Genscape, PJK

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Exhibit 69: Genscape ARA Crude Stocks (thousand barrels)

Inventories 4% higher w/w

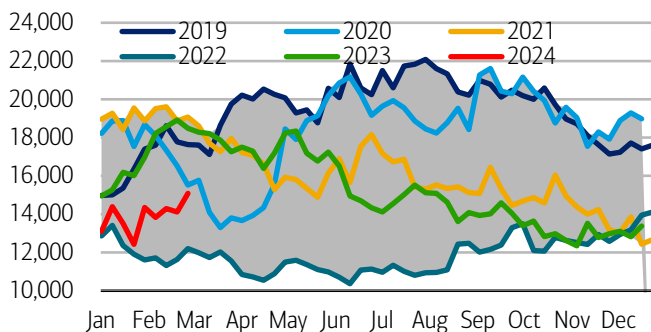


Source: Genscape, PJK

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Exhibit 70: ARA Gasoil Stocks (thousand barrels)

Inventories 7% higher w/w

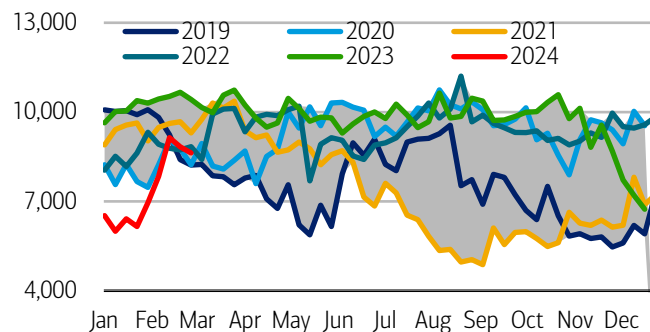


Source: Genscape, PJK

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Exhibit 71: ARA Gasoline Stocks (thousand barrels)

Inventories -2% lower w/w

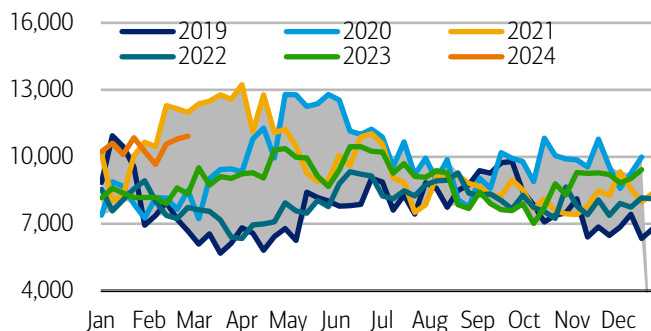


Source: Genscape, PJK

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Exhibit 72: ARA Fuel Oil Stocks (thousand barrels)

Inventories 1% higher w/w

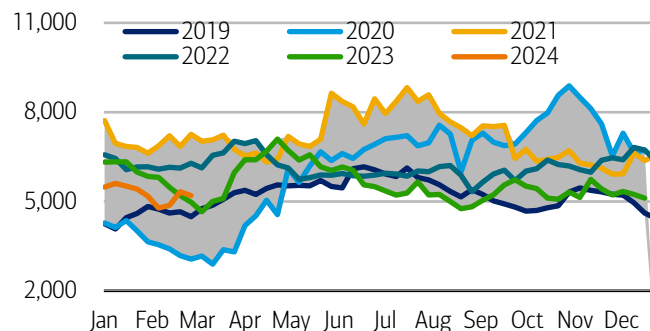


Source: Genscape, PJK

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Exhibit 73: ARA Jet Stocks (thousand barrels)

Inventories -2% lower w/w



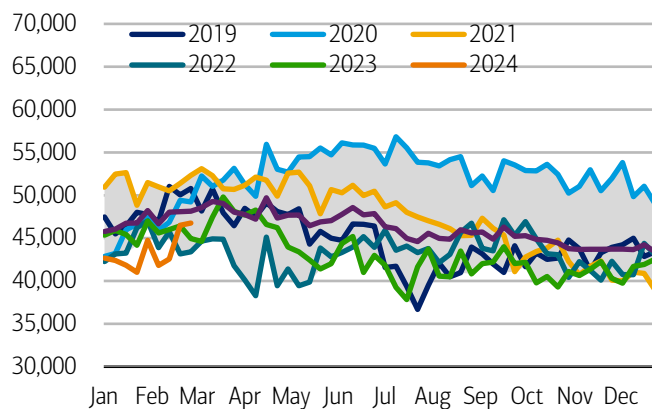
Source: Genscape, PJK

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Singapore

Exhibit 74: Total Singapore Light Distillate, Middle Distillate and Residue Stocks (thousand barrels)

Inventories 1% higher w/w

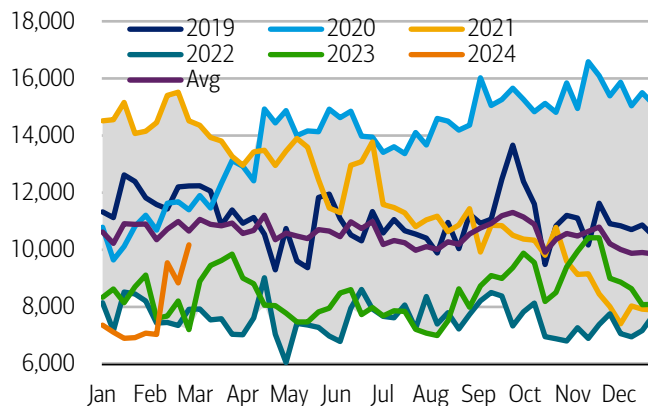


Source: International Enterprise

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Exhibit 75: Singapore Middle Distillate Stocks (thousand barrels)

Inventories 15% higher w/w

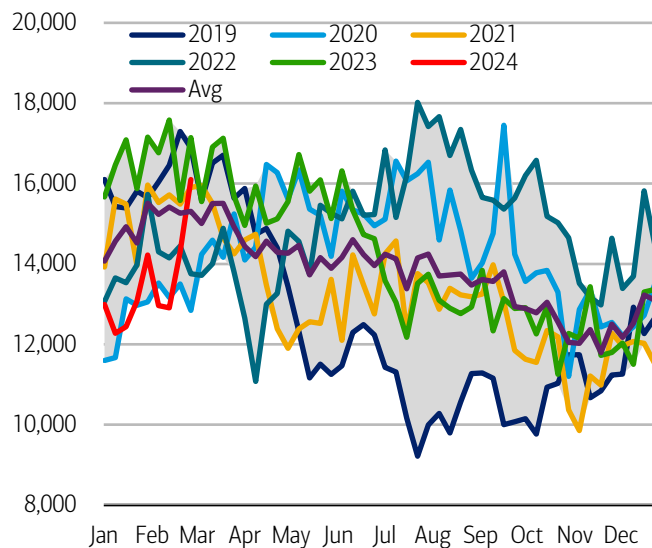


Source: International Enterprise

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Exhibit 76: Singapore Light Distillate Stocks (thousand barrels)

Inventories 13% higher w/w

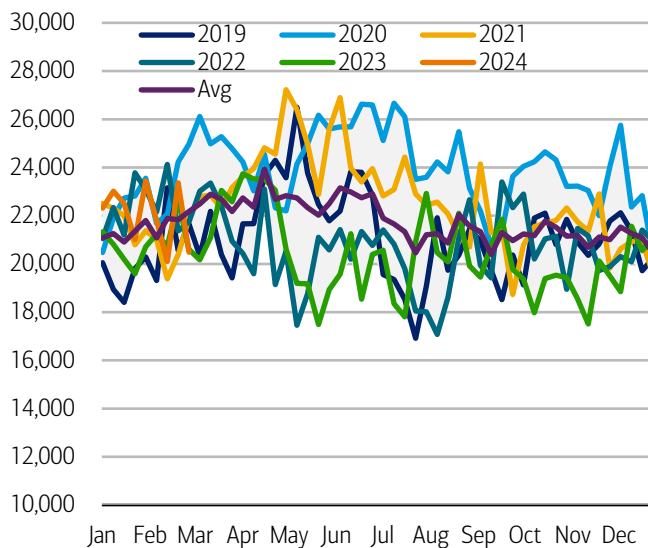


Source: International Enterprise

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Exhibit 77: Singapore Residue Stocks (thousand barrels)

Inventories -12% lower w/w



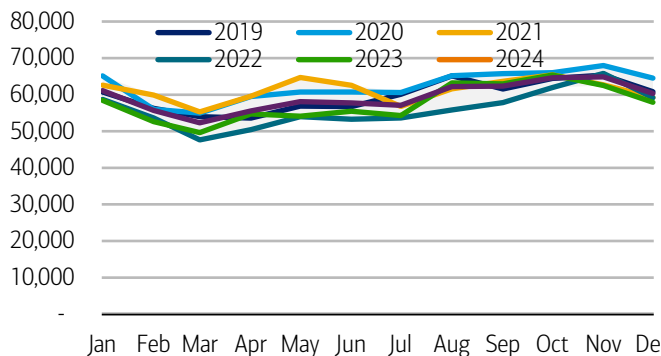
Source: International Enterprise

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Japan

Exhibit 78: Japan Total Fuel Oil Stock (thousand barrels)

Inventories 1% higher w/w

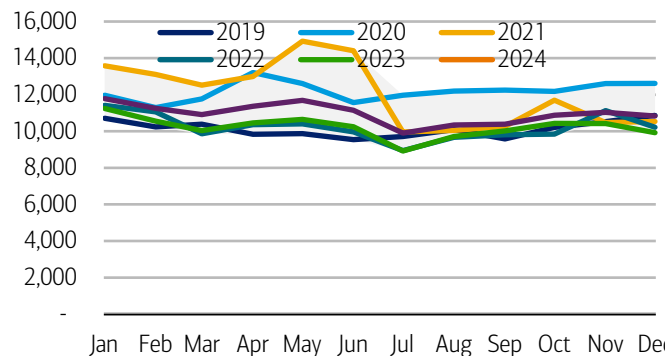


Source: Ministry of Economy Trade and Industry of Japan

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Exhibit 79: Japan Gasoline Stock (thousand barrels)

Inventories 13% higher w/w

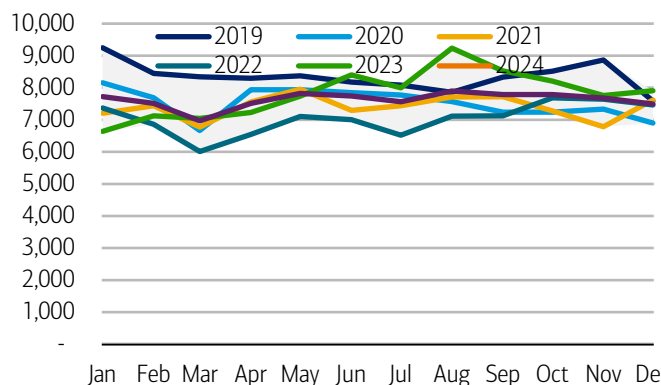


Source: Ministry of Economy Trade and Industry of Japan

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Exhibit 80: Japan Fuel Oil Stock (thousand barrels)

Inventories 1% higher w/w

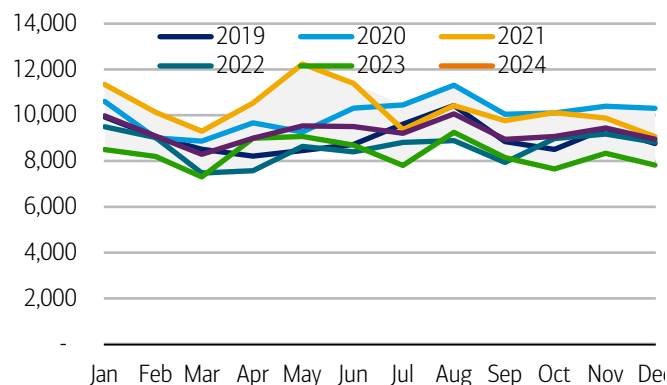


Source: Ministry of Economy Trade and Industry of Japan

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Exhibit 81: Japan Gas Oil Stock (thousand barrels)

Inventories 23% higher w/w

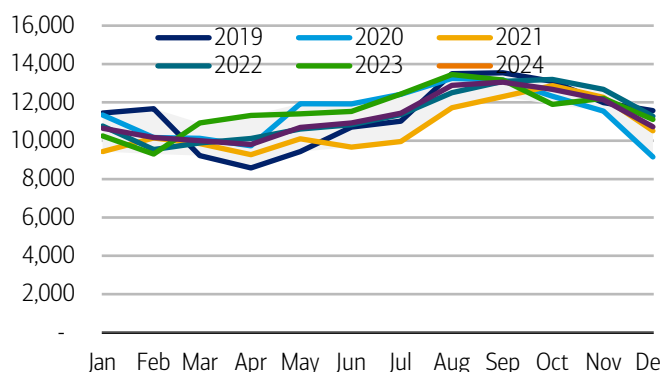


Source: Ministry of Economy Trade and Industry of Japan

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Exhibit 82: Japan LPG Stock (thousand barrels)

Inventories 9% higher w/w

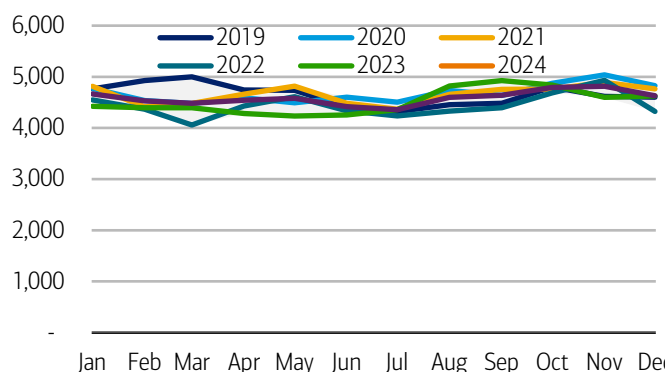


Source: Ministry of Economy Trade and Industry of Japan

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Exhibit 83: Japan Heavy Fuel Oil Stock (thousand barrels)

Inventories -3% lower w/w



Source: Ministry of Economy Trade and Industry of Japan

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Exhibit 84: Reported Global Oil and Product Stocks

Crude oil Increased 5,963 thousand barrels and Products Decreased -6,732 thousand barrels

Current

| | Crude | Products | Light Distillates | Middle Distillates | Heavy Distillates / Residue | For Week Ended |
|-----------|---------|----------|-------------------|--------------------|-----------------------------|----------------|
| US | 809,490 | 426,421 | 239,745 | 157,100 | 29,576 | 3/1/2024 |
| Japan | 70,290 | 82,069 | 33,044 | 30,882 | 18,143 | 3/2/2024 |
| ARA | | 39,839 | 8,627 | 20,282 | 10,929 | 2/29/2024 |
| Singapore | | 46,762 | 16,100 | 10,175 | 20,487 | 2/28/2024 |
| Fujairah | | 18,806 | 8,290 | 1,543 | 8,973 | 3/4/2024 |

Previous

| | Crude | Products | Light Distillates | Middle Distillates | Heavy Distillates / Residue |
|-----------|---------|----------|-------------------|--------------------|-----------------------------|
| US | 807,417 | 434,832 | 244,205 | 161,172 | 29,455 |
| Japan | 66,400 | 83,574 | 32,199 | 32,178 | 19,196 |
| ARA | | 39,069 | 8,833 | 19,446 | 10,790 |
| Singapore | | 46,506 | 14,302 | 8,845 | 23,359 |
| Fujairah | | 16,648 | 6,293 | 2,050 | 8,305 |

Stock Change

| | Crude | Products | Light Distillates | Middle Distillates | Heavy Distillates / Residue |
|--------------|-------|----------|-------------------|--------------------|-----------------------------|
| US | 2,073 | (8,411) | (4,460) | (4,072) | 121 |
| Japan | 3,890 | (1,504) | 845 | (1,296) | (1,053) |
| ARA | | 770 | (205) | 836 | 139 |
| Singapore | | 256 | 1,798 | 1,330 | (2,872) |
| Fujairah | | 2,158 | 1,997 | (507) | 668 |
| Plus / Minus | 5,963 | (6,732) | (25) | (3,710) | (2,997) |

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

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