Investec Treasury
Commodities

Oil Hedging Considerations for 2023

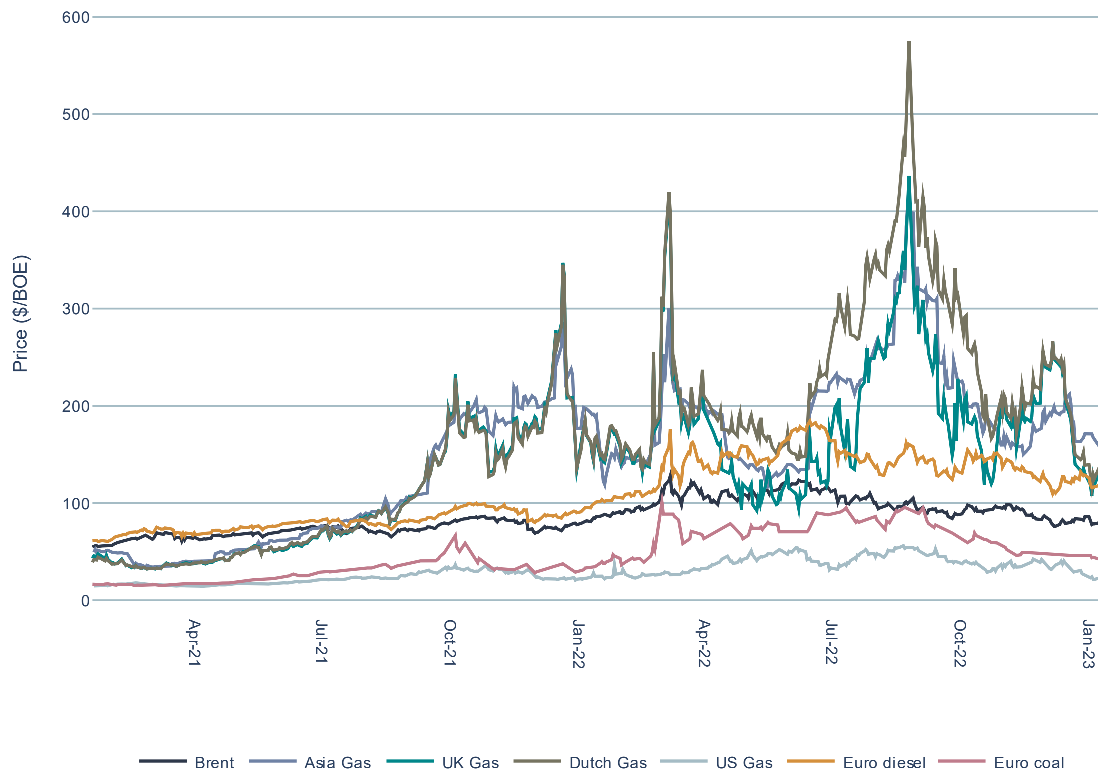
17th January 2023

A New Age for the Energy Mix

Global energy markets have experienced astonishing convulsions over the last twelve months. While dramatic increases in European and Asian gas prices are the most obvious feature of the chart below, the changing relationships between different forms of energy are really no less remarkable. Oil typically trades at a premium to gas and coal, but its price has been dramatically overtaken by gas, indeed, even coal has rallied strongly and at times traded at a similar price to oil. Meanwhile diesel, which usually trades at a modest premium to crude accelerated and became significantly more expensive.

The fallout from the war in Ukraine has thrown a hefty spanner into the workings of the global energy system that usually gets on with the business of supplying peoples energy needs with an apparent ease that bellies its huge complexity and interconnectedness.

Global energy prices (in Barrel of Oil Equivalent)



Source: Investec, Bloomberg

Such disruptions have happened before and history tells us they can herald a reshaping of the energy landscape with profound implications for the energy mix – not to mention geopolitics. The oil shocks of the 70s and early 80s led to oil being displaced from roles such as power generation and space heating in favour of alternatives including gas and nuclear. Oil demand became more focused on transportation where its high energy density and ease of handling made it harder to displace, but increased energy efficiency helped to limit that demand. Those changes unfolded over a number of years though, which suggests that today we are only in the early stages of the current shock – the technological and policy changes that are encouraged by the disrupted state of energy markets will take time to have their effect on the energy mix.

For now at least, crude oil has actually returned to its long term average (around 79 $/b for the period in the chart below) and is also at the same level it was trading at this time last year.

Source: Investec, Bloomberg

This does not mean the market is back to normal. The chart below shows the price of gasoil, a key driver of diesel and jet fuel prices, in €/MT. While Brent is back to its long term average, gasoil remains at very a considerable premium to Brent – a problem for non-USD buyers that is exacerbated by the strength of the US Dollar. The combined effect of a weak currency and an strong gasoil premium, means that the cost of diesel or jet to a European buyer, is as high now as it was in 2008 at the all time high of Brent. Though it is at least much lower than the extraordinary prices reached last summer.

15yrs of Gasoil closing price history

Source: Investec, Bloomberg

Global Oil Demand

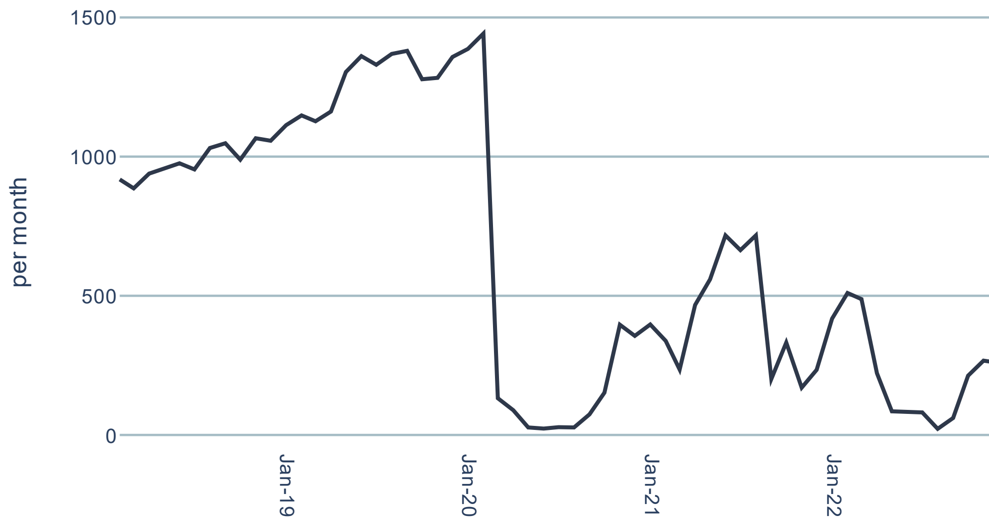
The relationship between oil demand and GDP is not a simple one, but it is clear that positive economic growth tends be associated with rising oil demand.

World GDP and oil demand trends

Consequently, the uncertainty over growth this year is an important question mark for the oil market. Investec Economists, in their 2023 outlook price: World Not in Motion, anticipated shallow recessions in some of the key developed markets. Never-the-less, they still see growth in the global economy of 2.2%. In particular they noted that fiscal support to households and firms to deal with energy prices will limit the downturns, and the financial system looks in better shape than in deeper and more prolonged recessions (e.g. GFC and euro crisis).

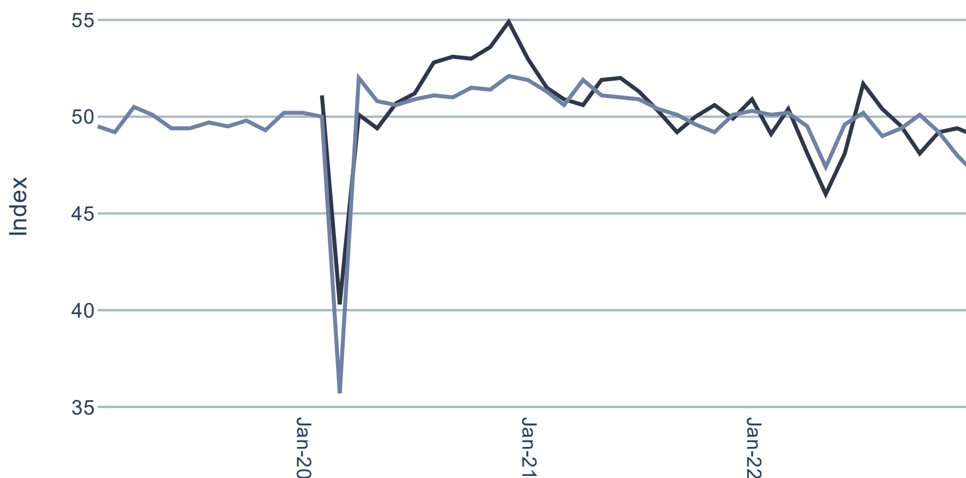
China and the end of Covid

One part of the world where the spectre of Covid has cast a particularly long shadow is of course China. The administration there has tied itself up in knots over its unachievable commitment to zero covid combined with a refusal to use effective foreign vaccines, that could have enabled a less disorderly reopening of its economy. The chart below gives a flavour of how constrained movement has been.



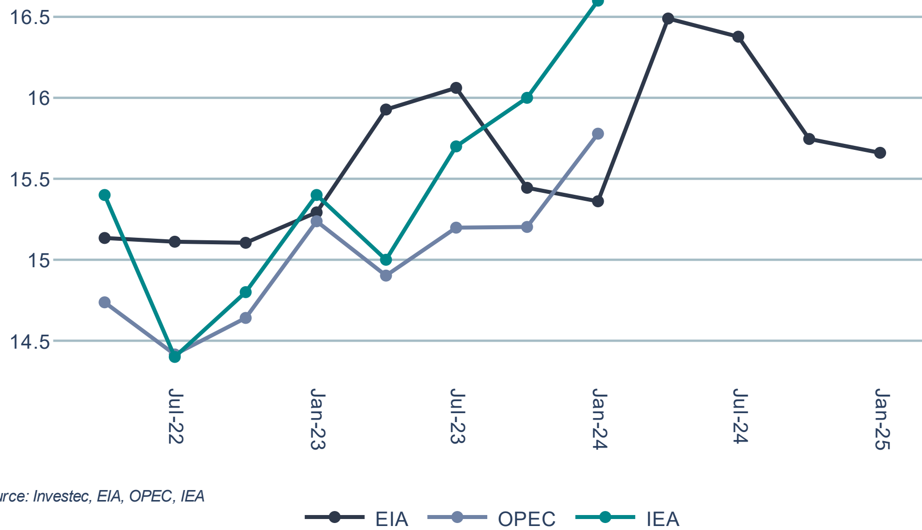
Source: Direccao dos Servicos de Estatistica e Censos

While PMI data reveals the economic scars the country has to deal with.



Whatever the lingering effects of covid and the impact of long periods of movement restrictions might be on its economy, the removal of those restriction will inevitably lead to increased movement and higher oil demand. Consequently, the US Energy Information Administration (EIA), OPEC and the International Energy Agency (IEA) are forecasting a significant increase in Chinese demand for this year over last.

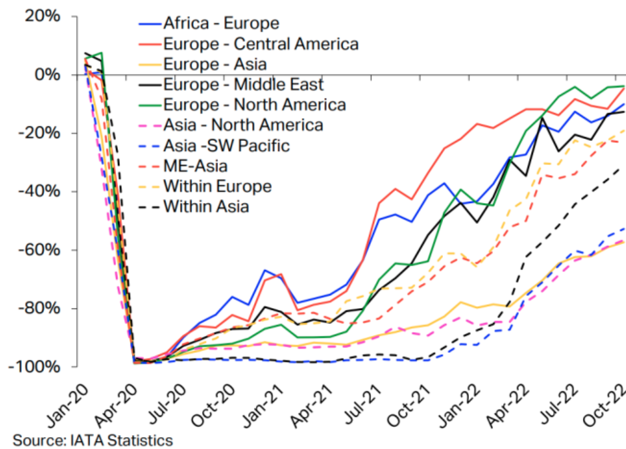
China oil demand forecasts



Agency	2022 Average	2023 Average	Change
EIA	15.2	15.6	+0.4
OPEC	14.8	15.5	+0.7
IEA	15.0	16.1	+1.1
Average	15.0	15.7	+0.8

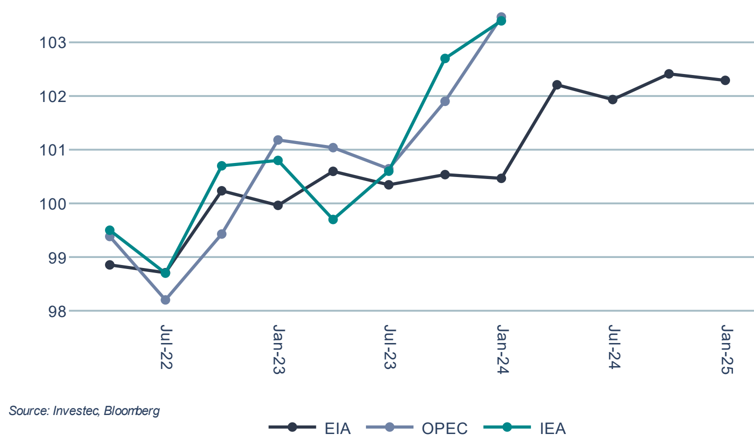
Global Oil Demand in 2023

The scope for Chinese demand and Asia more broadly, to influence global oil demand this year. is evident in IATA travel data. This shows that most routes outside of Asia, had recovered towards pre-pandemic levels by the end of 2022. Meanwhile Asian routes remained significantly depressed. Aviation typically represents around 10% of global oil demand and has been a laggard in terms of post-covid recovery.



The chart and tables below show that the EIA, OPEC and IEA all expect demand to increase relative to 2022 and pass 100 mb/d. Asian demand and a full year of post covid demand from the rest of the world, are key drivers behind this recovery.

World demand forecast



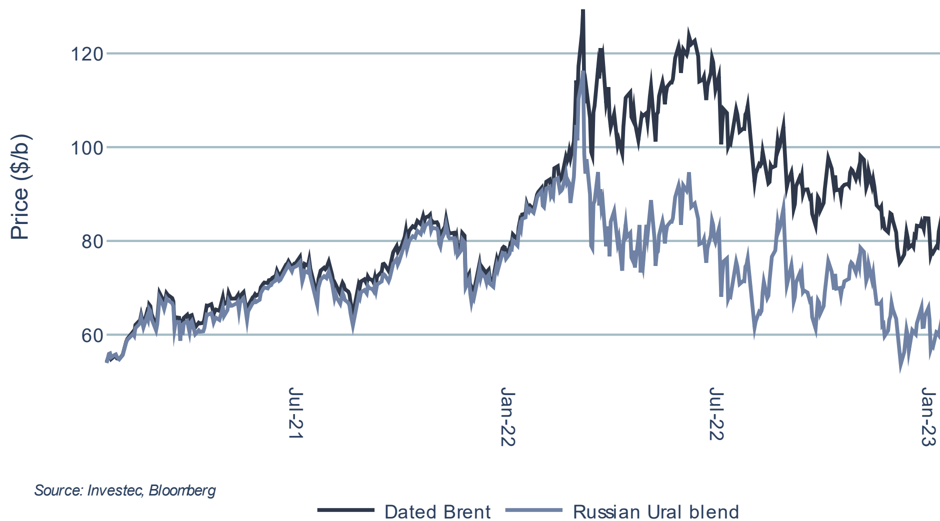
Global demand forecasts (mb/d)

Commodity	2022	2023	Change
EIA	99.4	100.4	+1.0
OPEC	99.5	102.1	+2.5
IEA	99.9	102.2	+2.3
Average	99.6	101.6	+1.9

Global Oil Supply

The supply of crude to world markets was thrown into chaos last year as output from Russia, which accounts for around 10% of world supply, was spurned by its key market in Europe. While global crude oil prices jumped, Russian crude opened up a significant discount to Brent that leaves it trading at levels last seen in early 2021, when the world was still in the midst of coping with the Covid pandemic.

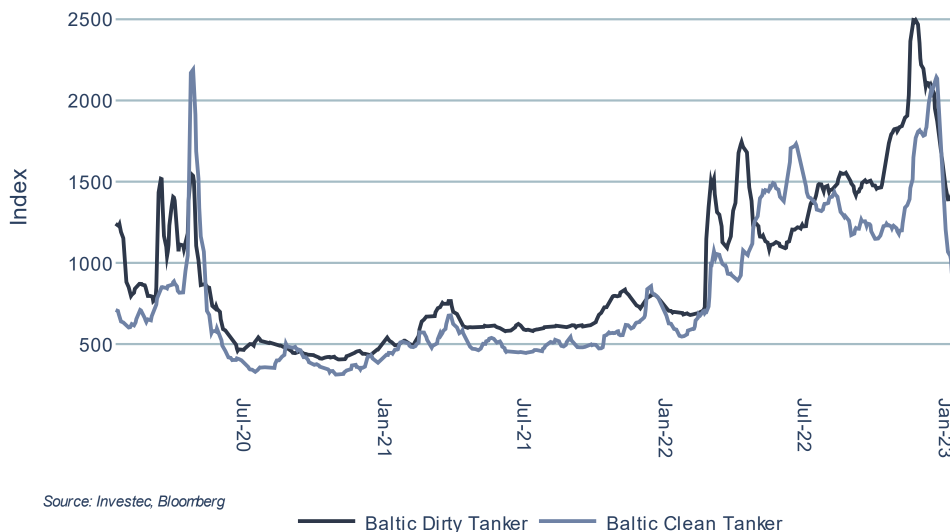
Russian crude compared to Brent



Source: Investec, Bloomberg

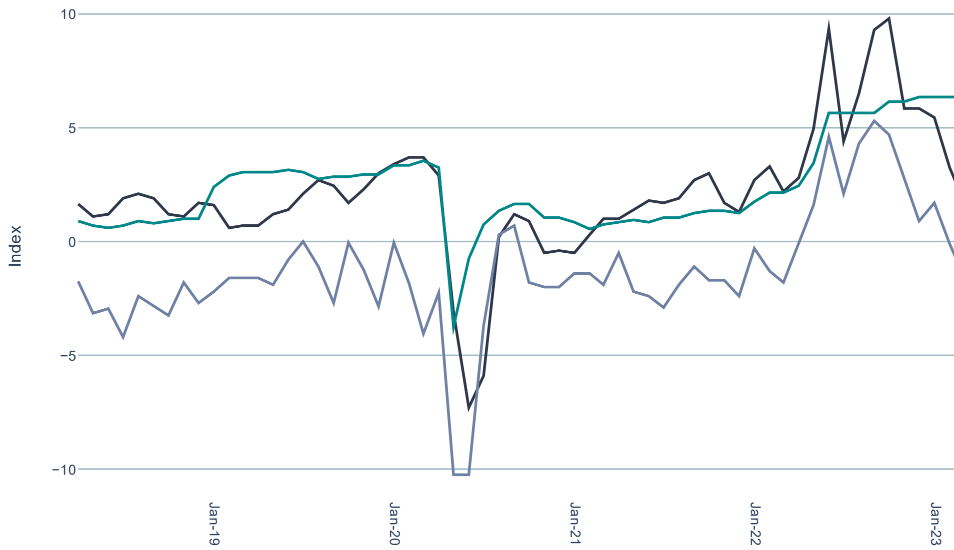
There were also tremendous gyrations in the crude oil (dirty tankers) and refined product (clean tankers) freight markets as the freight industry attempted to re-route Russian output from Europe to Asia. This does appear to have been successful judging by Russian output figures published by the IEA. In the month of January 2022, the IEA estimated Russia produced 10.0 mb/d of crude, whereas in November the figure was 9.8 mb/d – lower, but hardly the collapse that had been expected.

Freight Markers



Source: Investec, Bloomberg

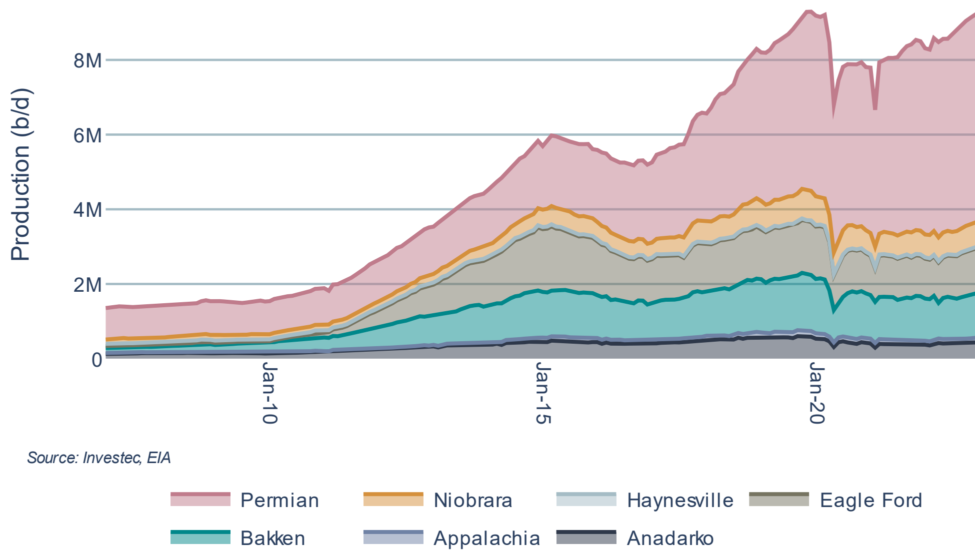
The reorientation of Russian flows is increasing competition for consumer demand in Asia, however. Saudi Arabia has had to cut its official selling price to Asia (the premium at which it sells its crude over benchmark prices) as it competes with Russian flows. The selling price to Europe has also been cut, but this is relative to a more valuable crude benchmark (Brent) than the one Asian crude is priced against (Dubai).



Non-OPEC+ Supply

Outside of OPEC+ members, the main source of supply growth and likely continued supply growth, is the US. Shale production has increased to such an extent that it is now back to pre-pandemic levels.

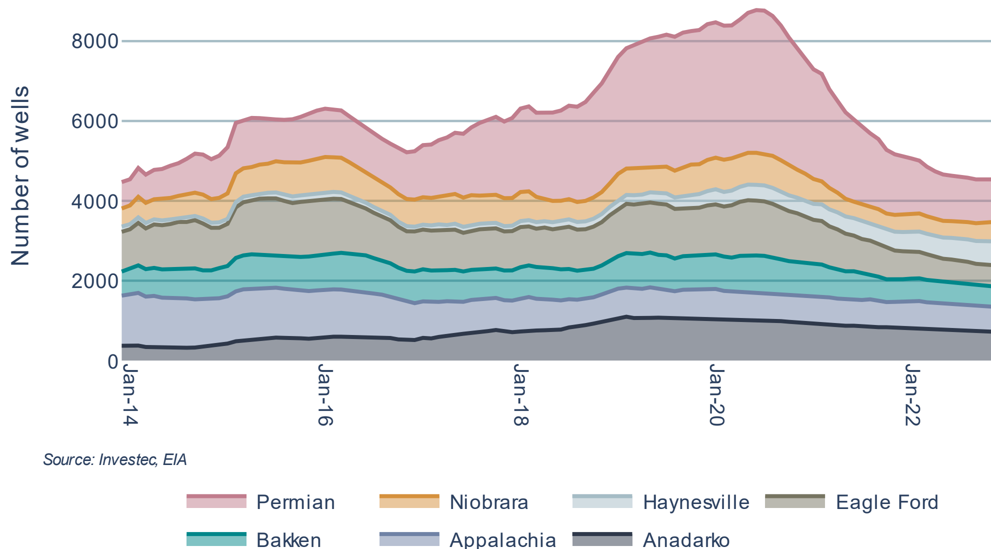
US Shale Production By Region



Source: Investec, EIA

For a long time after the shock of the infamous negative price for US crude set in April 2020, US shale production was sustained and then increased, by putting previously drilled, but not yet completed wells (DUCs), into production. A massive *stock* of these wells was built up in the frenzied drilling campaigns ahead of the pandemic, that left producers with very challenging balance sheets. In order to keep capex at a minimum and try to repair balance sheets as the oil market recovered, producers simply put DUCs into production rather than incurring the cost of fresh drilling.

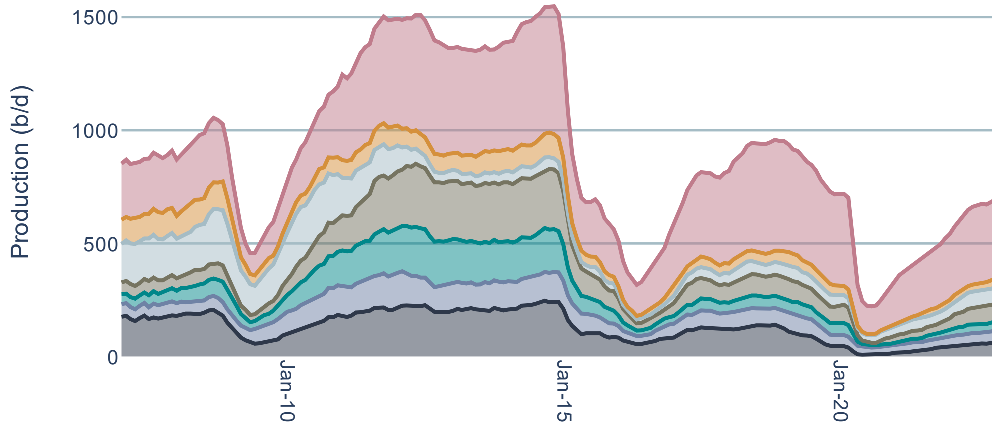
Drilled but Uncompleted Wells



Source: Investec, EIA

The drawdown in the number of DUCs has now reached at platuex, however and may be strating to increase again as drilling activity rises. Provdided oil prices remain over 70 $/b in the US, it seems likely that drilling activity in the US will continue thoughout this year and output will grow with it.

Shale Drilling Activity

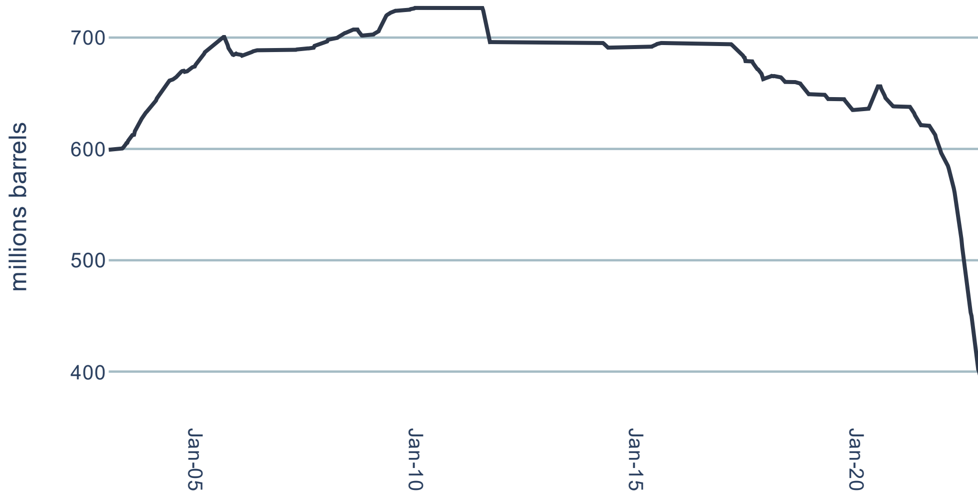


Source: Investec, EIA

Activity has not yet returned to pre-pandemic levels, but the productivity of new wells is higher than it was them.

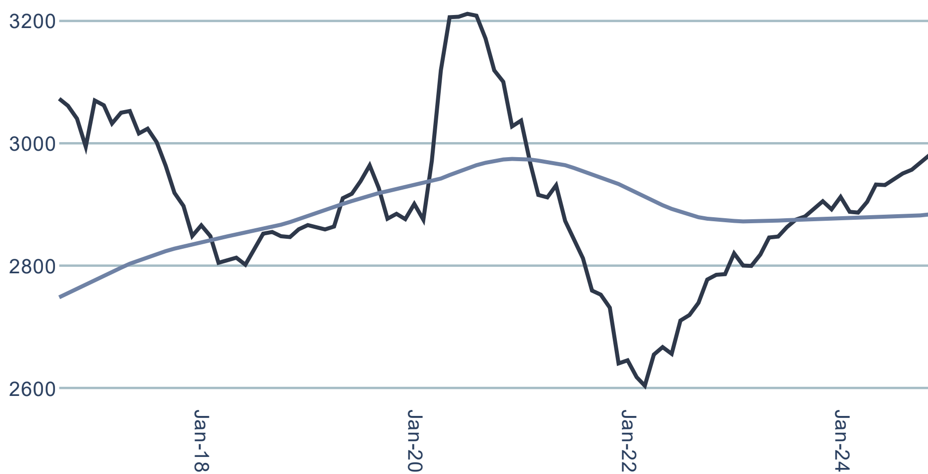
Inventory to the Rescue?

The chart below makes clear the unprecedented nature of the US Strategic Reserve release that helped to ease market tightness throughout the second half of last year. This amounted to 1m b/d over a 6 month period.



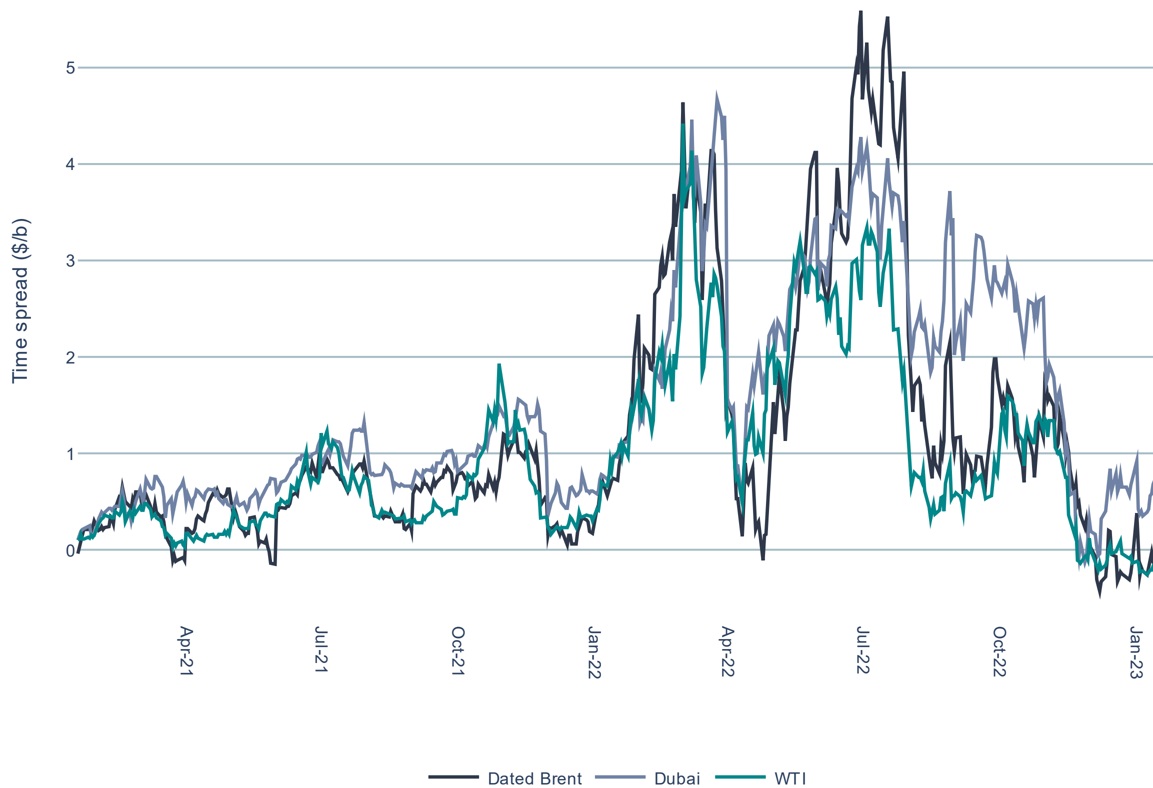
Source: Investec, Bloomberg

Interestingly, over that same period OECD commercial inventories rose by a not dissimilar amount, suggesting that the extra *supply* provided by the US reserve release, particularly at a time when Chinese demand was impacted by covid restrictions, acting to relive the tightness in commercial inventories.



Source: Investec, Bloomberg

The changing shape of the crude oil forward also suggests the market has become less tight. The chart below shows the difference in price between the front and second month forwards. A positive spread suggests the market is paying a premium for immediate supply in a tight market, whereas a negative number suggest the market is paying for storage in an over supplied market. Clearly the spread has fallen and even become slightly negative for some grades.



Source: Investec, Bloomberg

OPEC+ limitations

OPEC+ played a key role in re-balancing the oil market during the pandemic, but over the course of last year as the group continued to lift its output targets, problems emerged. Most members were not able to fulfil their targets and the gap between targeted and actual output grew as targets increased each month. This meant that when OPEC+ agreed at its October 22 meeting to *cut* its targets by a seemingly large 2 mb/d, production only fell by 500 kb/d in practice. As most members were below their targets, there was no need for them to cut, while some members that should have cut, didn't (most notably the UAE). Perhaps the main consequence of the cut in targets was to make the gap between production and targets, less embarrassingly large.

	Oct 2022 Supply	Nov 2022 Supply	Nov 2022 Target	Nov Supply vs Target
Algeria	1.04	1.02	1.01	0.01
Angola	1.05	1.09	1.46	-0.36
Congo	0.25	0.25	0.31	-0.06
Equatorial Guinea	0.06	0.06	0.12	-0.06
Gabon	0.22	0.2	0.18	0.02
Iraq	4.6	4.45	4.43	0.02
Kuwait	2.8	2.68	2.68	0
Nigeria	1.01	1.13	1.74	-0.61
Saudi Arabia	10.9	10.48	10.48	0
UAE	3.46	3.29	3.02	0.27
Total OPEC-10	25.39	24.65	25.42	-0.77
Azerbaijan	0.55	0.55	0.68	-0.13
Kazakhstan	1.45	1.68	1.63	0.05
Mexico[1]	1.62	1.64	1.75	
Oman	0.88	0.84	0.84	0
Russia	9.72	9.81	10.48	-0.67
Others[2]	0.87	0.85	1.06	-0.21
Total Non-OPEC	15.1	15.37	16.44	-0.96
Total OPEC+	40.49	40.02	41.86	-1.84

Source: EIA

This raises the perennial question as to OPEC+ effectiveness as a means of balancing the oil market. The purpose of OPEC+ was to confront the growth of US shale as it was clear that OPEC members alone did not command a sufficient proportion of global supply to manage the situation. If a supply deficit does open up over the course of this year, the only way OPEC+ could meet the shortfall would be by Saudi Arabia and the UAE increasing output. Of the 3.45m b/d of spare capacity the IEA estimates OPEC+ members to have had as of November 2022, 2.57 mb/d rests with those two countries and there is limit to how much the other OPEC+ members will allow Saudi Arabia and the UAE to increase output when they cannot participate. The debate would likely be particularly difficult between Saudi Arabia and Russia. In view of the discounted pricing Russia is experiencing, it is unlikely to be keen on Saudi Arabia acting to deflate price bubbles.

Iran

Twelve months ago a deal to reinstate the nuclear deal with Iran look very promising. Now, there is a wide array of reasons why Europe and the US would not contemplate reengaging with Iran. These range from its suppression of protestors to providing drones to Russia. If Iran is supplying the Russian war effort against Ukraine, why help it by lifting sanctions on its oil?

[1] Mexico excluded from OPEC+ compliance. Only cut in May, June 2020. 6. Bahrain, Brunei, Malaysia, Sudan and South Sudan
[2] Bahrain, Brunei, Malaysia, Sudan and South Sudan

Oil and Refined Products

The chart below highlights the disruption to refined products resulting from the fallout from the war in Ukraine. Diesel and jet fuel prices have been particularly badly affected as Russian refined product output has been off limits to many buyers and European refiners have been unable to use Russian crude. This problem has been exacerbated by the high cost of hydrogen produced form by steam reforming of natural gas which is essential to processes such as desulphurisation in refineries. Hydrogen has become very expensive because of the high price of the gas from which it is produced and refineries must inevitably pass that cost on into the refined products they sell. Meanwhile, an increase in output to meet the demands of a tight diesel and jet fuel market, have led to a relative over-supply of fuel oil which comes out of the refinery, to an extent, as a by-product. This has led to very weak spreads for fuel oil.

European Crack Spreads

Source: Investec, Bloomberg

It could be well into this year before there is a chance of the situation normalising to any significant degree. Firstly, there is further uncertainty on the horizon for product markets when the additional measures brought in by European countries to prohibit dealing in Russian crude oil are applied to Russian refined products. From the 5th of February European countries will not be able to import seaborne products from Russian refineries, but nor will they be able to ship, finance or insure such cargoes going elsewhere – unless they comply with a price cap. Russia will need an alternative outlet for this supply which is mostly likely to be countries with limited domestic refinery capacity such as in Africa and Latin America. The sharp fall in the price of freight rates for the clean tankers that would be needed to ship Russian refined products extended distances away from Europe suggests the market may be able to accommodate this.

There is also a more fundamental problem though. Some older refineries were never brought back on stream after being shut down in covid, leading to a lack of refinery capacity that no amount of increased crude production can overcome. Additional new capacity will come on stream later this year, probably in the second half. The IEA estimates these additions will be sufficient to meet expected demand[3] offering hope for hard pressed consumers.

[3] IEA, Oil Market Report, June-22: https://www.iea.org/reports/oil-market-report-june-2022

Scenario Analysis

Most agencies forecasting oil demand continue to estimate how much crude OPEC needs to produce to balance the market rather than OPEC+, even through three members of OPEC are not even subject to limits. The forecasts for the *call on OPEC* from the EIA, IEA and OPEC itself are:

Agency	Q1-23	Q2-23	Q3-23	Q4-23
EIA	28.4	28.7	28.2	27.7
OPEC	28.8	28.3	29.3	30.2
IEA	28.6	29.2	30.7	31.2

These deviation from the estimates of recent OPEC production as follows:

Agency	Q1-23	Q2-23	Q3-23	Q4-23
EIA[4]	-0.4	-0.1	-0.5	-1.0
OPEC[5]	+0.1	-0.4	+0.5	+1.5
IEA[6]	-0.4	0.2	+1.7	+2.2

These forecasts represent a bearish case from the EIA as a result of its relatively conservative demand estimate, driven partly by its weak estimate for Chinese demand growth. On the other hand, both OPEC and the IEA anticipate a tight market that would require OPEC to increase output significantly. Indeed, the IEA's estimate of OPEC spare capacity of 3.42 mb/d mean that the bulk of that capacity would need to be utilised by the end of this year to balance the market based the IEA scenario above, which requires OPEC to increase output by 2.2 mb/d – a very bullish scenario.

[4] Source: OPEC output data from EIA Short Term Energy Outlook data browser for Dec-22

[5] Source: OPEC output data from OPEC January 23 Oil Market Report

[6] Source: OPEC output data from IEA December 22 Oil Market Report

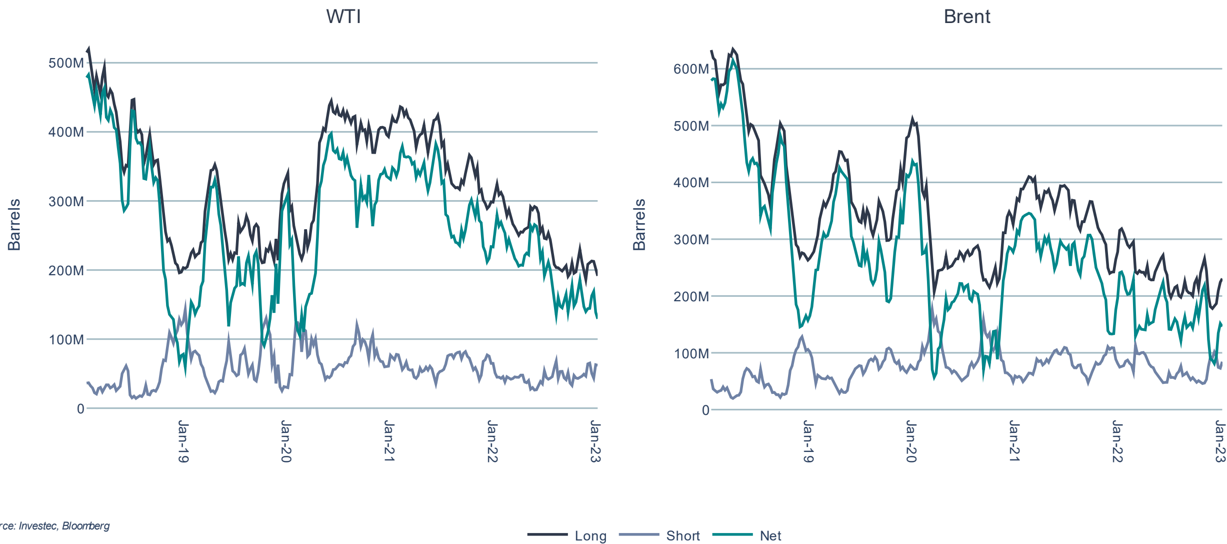
The Market

For much of 2022, Brent decoupled from equity markets. The markets usually tend to be correlated as they react to the same macro drivers. In an environment of very high energy prices, however, the cost of energy becomes so damaging to the economy that the correlation becomes negative. This is especially the case if the high prices are driven by supply side issues, rather than demand, as was the case last year.

Now that Brent has fallen back from its highs, the positive relationship has re-emerged. As we begin 2023, both oil markets and equites are looking forward to the Chinese economy reopening and the rest of the world not doing as badly as had been feared. Brent and equities are rising in unison.

Speculative positions remain remarkably light however. After riding the market higher early last year investors seem to have found oil simply too hard to call and have stayed away. This means we start 2023 with the lowest net long position since the covid pandemic, creating room for considerable position upside if investors do decide to get back into oil.

Managed Money Positioning



There have been some significant technical developments in the long term history of Brent over the last couple of years. Firstly, Brent broke up through the down-trend from the all-time high in 2008. Then, last year, in the sell-off from the Ukraine war high, Brent broke down through the uptrend from the covid low in 2020.

Long Term Brent History

At the end of last year, Brent showed signs of reaching a base as its pushed it below 80 $/b, but not down to trend-line support shown in red at the bottom of the chart below. Recently, it looks to be building from that and testing higher.

Brent Front Contract

Source: Investec, Bloomberg

50-Day Average   100-Day Average   200-Day Average

Summary

At the start of last year, markets were looking forward to the world coming out of covid during the course of the year and returning to something like normal. But 2022 could not have been more different. China, which accounts for around 15% of world oil demand is, at best, 12months behind the rest of the world. Still, however rocky the road, it seems likely that China will continue to reopen this year and its oil consumption increase.

The other key uncertainty is Russia. The market has so far coped reasonably well with the restrictions on crude in terms of redirecting it away from Europe. Meanwhile, the significant discount imposed on Russian crude, means the "West" can claim that sanctions are having a desirable outcome. There is further tightening ahead though in terms of restrictions on refined products and it remains to be seen whether the sharp fall in freight rates for clean tankers does imply that the market is ready to deal with them without any hiccups.

There does not appear to be any immediate prospect of the war coming to a conclusion. Even if it did end soon, with a Ukrainian victory and the Russians expelled from the country, or a negotiated settlement, it is highly unlikely that the oil embargoes could be lifted without significant reparations and other measures. Consequently, the underlying disruption looks set to continue.

While Russian production has held up in spite of the embargoes, it is certainly not growing. So, the question is, where will the supply come from to meet rising demand, particularly from Asia? Outside of OPEC+ the only significant potential in the short term seems to be the US, but this may well not be enough. Meanwhile the potential for OPEC+ to help is stymied by two problems. A political one arising from Russia's membership and a practical one in that most of its members simply can't produce much more than they already are doing.

Another possibility is strategic reserves releases, but after the vast drawdown in US strategic reserves that took place last year, it will be very hard for the US to risk another release of the same magnitude. Indeed, the Biden administration has already signalled that it is keen to fill up again meaning that the US reserves might be more effective as a floor for the price this year, than as a cap.

If the EIA is right and demand growth is on the low side, the market may avoid these challenges and the price remain more subdued than last year. But if demand does pick up strongly as others expect, there is limited flexibility on the supply side to meet it. Brent could then continue to break out of the down-trend it has followed over the second half of last year.

Appendix A – Reporting Schedules and Key Dates

IEA Oil Market Report

Publication dates in 2023 are as follows:

- 18 January
- 15 February
- 15 March
- 14 April
- 16 May
- 14 June (forecasts extended to 2024)
- 13 July
- 11 August
- 13 September
- 12 October
- 14 November
- 14 December

The report is published at 09:00 London time

OPEC 2022 Meetings

4th June and early December

US Inventory Numbers

15:30 each London time Wednesday
(Except in weeks with a US public holidays when the release is at 4:00pm on Thursday)

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