Oil Market Weekly Update

DOE and Global Supply / Demand Analysis **November 2, 2022**

Data

Positive DOE data. Commercial crude oil inventories fell on a pickup in refining runs, but seasonally crude inventories should be building this time of year. Production pulled back again. Crude inventories fell by 3.1mmb (excluding the 1.9mmb SPR release). Gasoline stocks drew and distillate inventories were essentially flat at very low levels. Combined oil and product exports pulled back from record highs last week to 9.4mmbpd from 11.4mmbpd. The complex fell by 0.7mmb but including the SPR it was down 2.6mmb. Total product demand fell slightly to 20.5mmbpd and remains above last year's levels. Monthly demand data continues to suggest a much stronger demand path. Cushing rose by 1.3mmb to 28.2mmb. Imports from Saudi Arabia and Mexico were higher. Imports from the KSA were the highest since July. Imports from Iraq, Ecuador and Brazil fell . Russian imports are ZERO. Total US inventories, including products, crude and the SPR continue to head lower and are at the lowest since 2009. Global inventories are higher than the start of the year but this is largely a movement of SPR barrels to commercial inventories. Global demand is good through August and SPR barrels are declining which is going to make the real situation in inventories apparent, at the same time that OPEC+ and Russian supply pulls back. Inventories are set to tighten dramatically now, despite macro factors which signals recessions in parts of the world. The Fed meeting today is in focus, but the USD has stopped rising for the time being and the market has walked back some rate hikes, leaving room for commodities to move higher.

Markets are beginning to price in obstacles to oil trade next month. The reality is that demand is still resilient this year, and PSM data earlier this week confirmed that (see below). Gas to oil switching in Europe is huge and demand growth there will be positive despite the European recession. In China we now expect a 500kbpd contraction in oil demand but in other parts of Asia such as India we expect good growth. Markets built inventories in this summer, contrary to our forecast, but are starting to draw now even before the OPEC+ cuts. We expect draws to continue in Q1 2023 on lower Russian supply, and then in Q2 on a pickup in China demand. Recession risks continue to weigh on markets but demand has been strong for the first eight months of the year and switching will keep oil demand resilient.

We consider Russia to be the "new" ESG, ie the theme that will define the energy markets for the next decade. As if the energy transition wasn't complicated enough, now a large part of the world is attempting to navigate away from Russian oil and gas at the same time that it tries to transition to cleaner energy. So far that has been a disaster, and idealism on clean energy has been thrown out the window. Every day there are more announcements in Europe of countries returning to burning coal or oil for power. There is a land grab for any and all energy, and most of it is dirty. Supply of Russian oil and products continues to fall only slowly but as December gets closer many countries, including India, are halting purchases of Russian oil as it would be delivered past the Dec 5 deadline. It is still unclear whether the decline in Russian production will be 2mmbpd or 4mmbpd to start 2023, but this will become clear very soon.

Global SPR releases have kept the market from drawing this summer. US SPR releases are slowing through year end, although there is always a potential for more releases next year. There is a limit to SPR levels and it is not zero,. The IEA mandates that countries keep 90 days of net imports available in the SPR, which would be around 270mmb. We are just below 400mmb, but after this tranche of 180mmb of sales finishes we will be at 375mmb.

Data

It is difficult to forecast what the price cap will do to volumes of Russian production because part of the uncertainty involves Russia's response. There are also questions around the level of the cap and even Europe's commitment to a cap. We believe production in Russia will be impaired forever. Russia's ability to meet their production forecasts was already in question before the invasion. Longer term it will not be able to offset declines due to limited access to equipment, talent and cash. This will lead to tight markets for the foreseeable future. We expect Russian production to fall through H1 2023 as Russian traders and producers do not renew term contracts expiring at the end of the year. Russia has found methods for avoiding sanctions (like Iran) through ship to ship transfers and moving crude to storage while looking for buyers so production has stayed higher than our forecast. But now insurance and shipping faces additional sanctions and Russia does not have enough of their own ships to move their oil. In our model Russian crude only (excluding condensate) production drops to 9.7mmbpd in 2022 from 10mmbpd in 2021, so only a small decline, but a large miss against its OPEC+ targets. It troughs at 7.5mmbpd (down 2.5mmbpd) in Q2 2023, before starting to increase again. 2023 Russian production will fall by 1.6mmbpd to 8mmbpd. Production is not likely to ever fully recover as Russia is denied access to machinery, parts and western talent. It will become the next Venezuela. **While some of Europe's crude imports have shifted to Asia, a combination of low spare storage capacity and a desire to keep a diversified supply chain means that many barrels will not find a home.**

We don't believe in a commodity super-cycle, and to most that now seems obvious. Currently demand is falling in many commodities as high prices cure high prices and a recession takes hold in parts of the world. Outside of the energy sector we expected commodity producers to lift production while consumers look for less expensive substitutes. However, a structural molecule shortage in energy means that rising energy costs will trickle down to support other commodity prices at a higher level, resulting in a higher overall commodity price index longer term. In our framework, it is important to differentiate between commodities based on their energy intensity. Sectors like metals will see supply increases over the next few years at the same time that demand is slowing, but markets like ali which are energy intensive will see production cut.

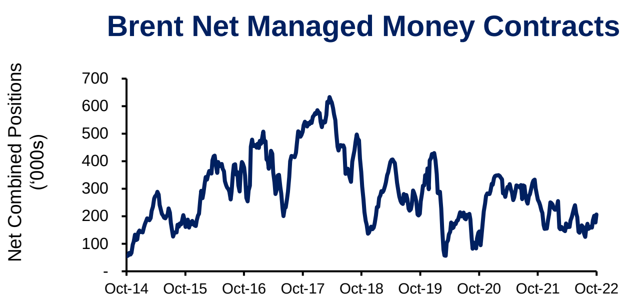
Oil supply has had a banner year this year, led by OPEC+. Last year, total oil supply grew 1.5mmbpd as producers showed restraint. This year total supply will rise by over 4.5mmbpd with OPEC+ production growing and non-OPEC gains coming from the US, South America and Canada. Our supply forecast has slightly lower supply than agency forecasts due to Russia and Kazakhstan. We are now assuming that OPEC supply rises by 650mmbpd in 2023 to 29.6mmbpd, which includes some Iranian oil production growth (around 300kbpd) late in the year. Total 2023 supply growth will only be up by around 1.0mmbpd because of Russian declines. In 2024 supply can potentially rise another 2.5mmbpd, but by 2025 supply growth slows again to 1.6mmbpd on slowing North American production growth.

US oil production continues to disappoint this year. The most recent data from the PSM (thru August) saw production rise to 11.975mmbpd, from 11.87mmbpd in July. While this is the highest level since COVID, it still leaves US production growth at around 600kbpd in 2022. We expect 2022 oil production to average 11.74mmbpd, exiting the year at 12.0mmbpd, up 580kbpd year over year.

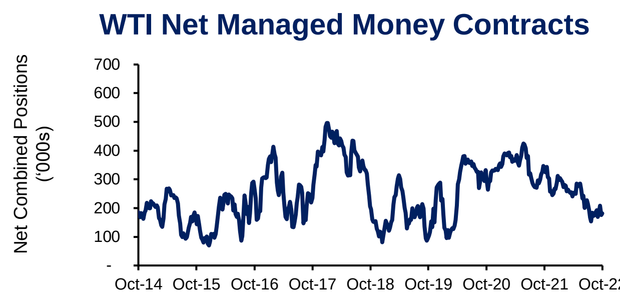
Data

The EIA in its latest STEO revised US production down again in 2022 to 11.8mmbpd and 2023 was reduced to 12.6. For 2023 our forecast assumes US production rising to 12.4mmbpd, up 670kbpd, ending the year at 12.7mmbpd, which will disappoint US administration officials looking for a 1mmbpd pickup in production. In 2024 we see US production rising to 13mmbpd, up 600kbpd.

Positioning



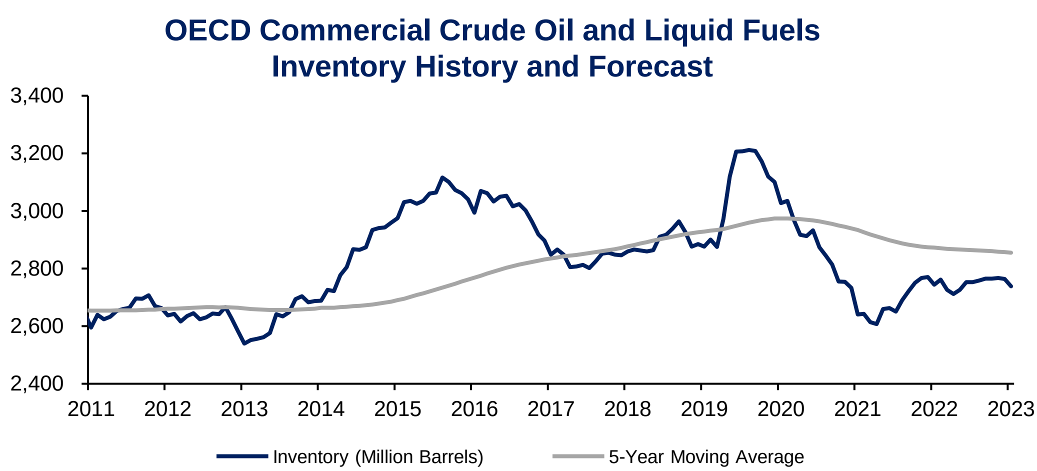
Source: Bloomberg



Source: Bloomberg

Physical Markets

- Physical talk is on distillate tightness in both Europe and the US and record front spreads in the US.

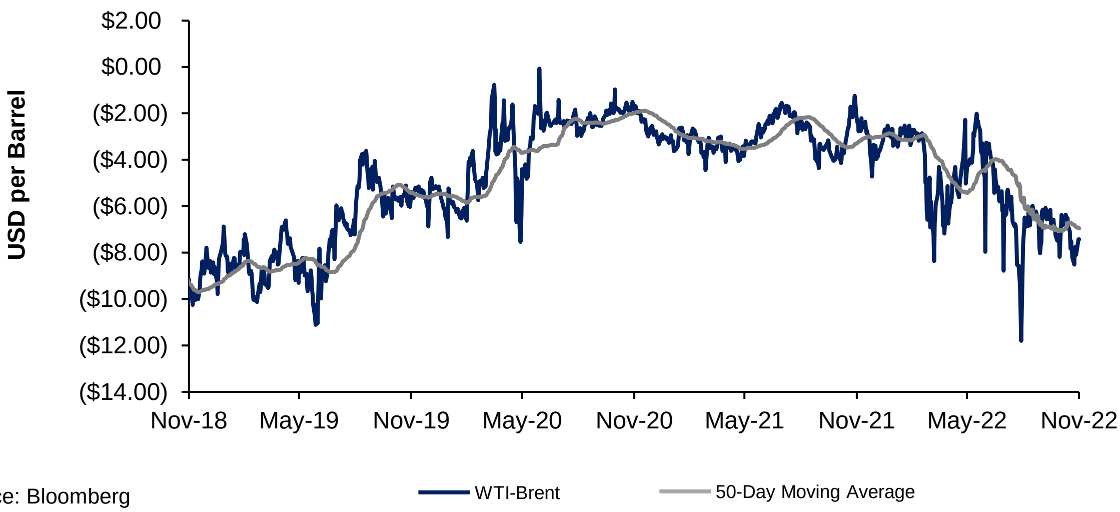


Source: Bloomberg

Forward Curves

- Front spreads in Brent and WTI are strengthening again. Front spreads in Brent are at $2.10 and WTI are $1.35 back. The arb has widened. Global crack spreads are heading higher again, led by distillate with Europe surging in advance of sanctions(see below).

Brent-WTI Spread



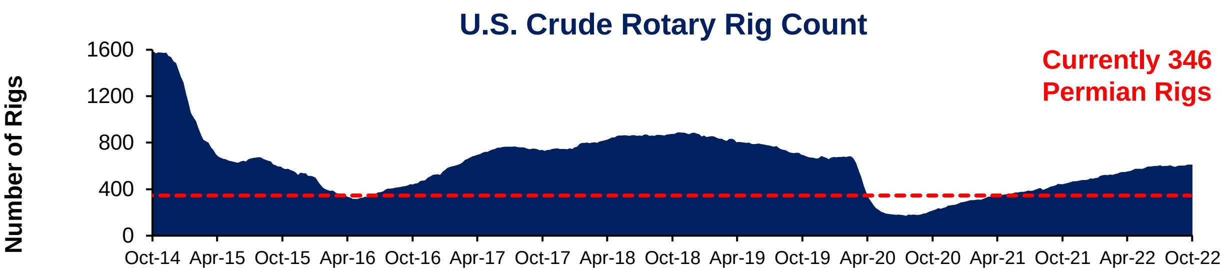
Source: Bloomberg

Balances: Slightly higher supply in 2023/2024

OPEC				**								
2022= 28.9 mmbpd			avg=	99.55			avg=	100.08			avg=	102.65
	2022				2023				2024			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Global Supply	98.7	98.9	100.8	99.8	98.4	99.5	100.8	101.6	101.9	102.3	102.9	103.5
		**										
Global Demand	99.4	98.5	100	100.3	100.3	100.3	102.3	102.8	102.6	102.9	103.5	104.0
				99.55				101.43				103.25
Inventory Build/Draw	-0.7	0.4	0.8	-0.5	-1.9	-0.8	-1.5	-1.2	-0.7	-0.6	-0.6	-0.5

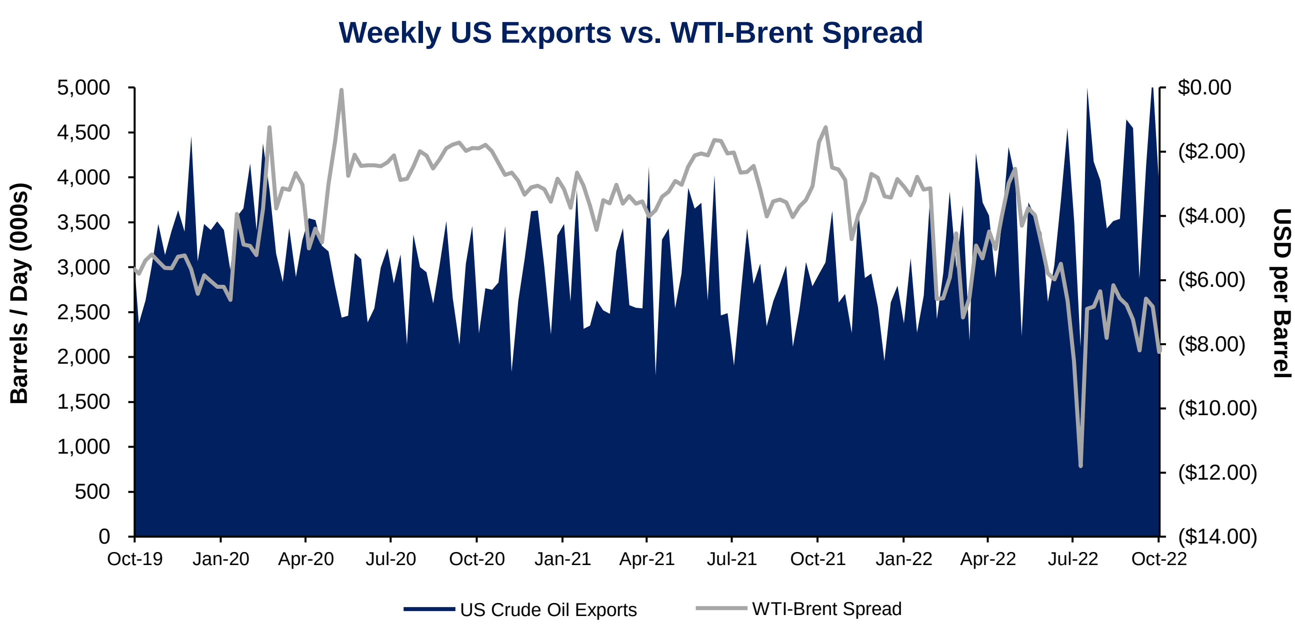
U.S. Supply

- Rigs were down 2 to 610. DUCS have drawn to a point where producers need to drill, and now our model points to rigs falling from these levels. US companies did not see large upside to 2022 domestic production, and it turns out they were right. Next year also looks to have only moderate growth on.



Source: Bloomberg, Baker Hughes U.S. Crude Rotary Rig Count Index

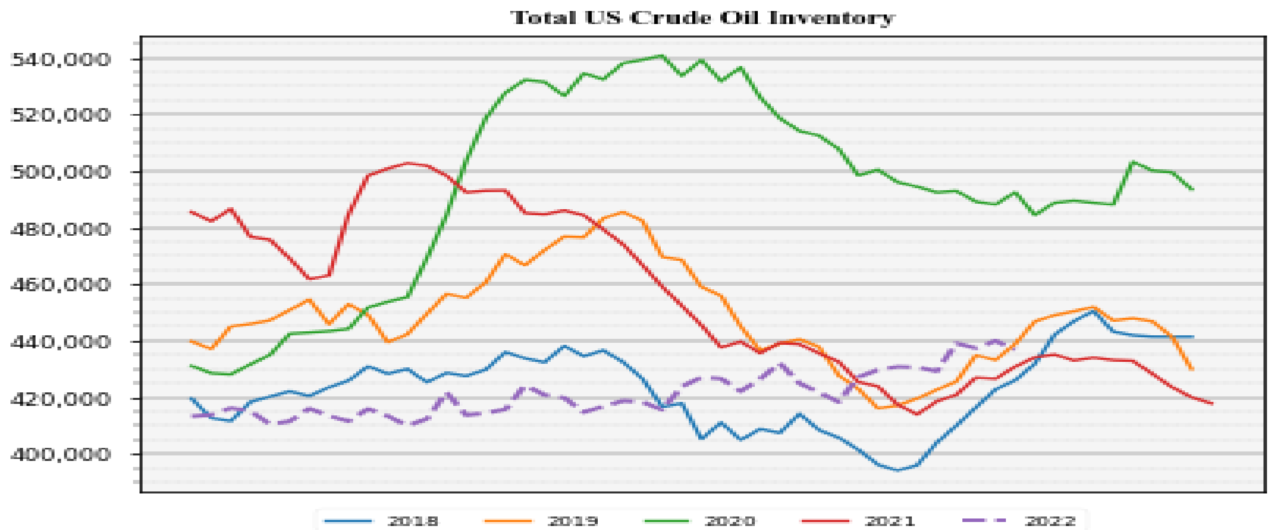
- Exports of crude fell back from record highs to 3.9mmbpd. Exports should continue to be strong through year-end and product exports are also strong.



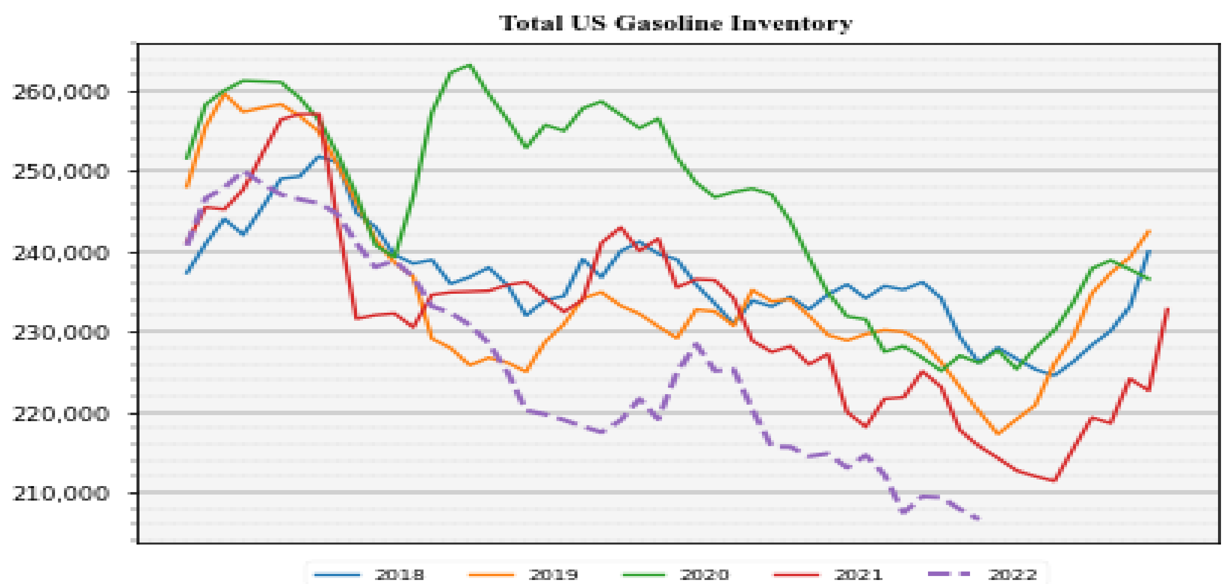
Source: Bloomberg, Department of Energy

US Supply (Continued)

- US oil inventories fell by 3.1mmb last week, as refining runs finally rose. Inventory levels look likely to continue lower as exports will likely pick back up next week and runs will stay higher due to very strong margins. This will pull US crude oil inventories back below last year's levels, and inventories have already slipped back below 2019 levels. Seasonally crude oil inventories should rise for the next few weeks before falling into year-end, but this year is likely to be different.

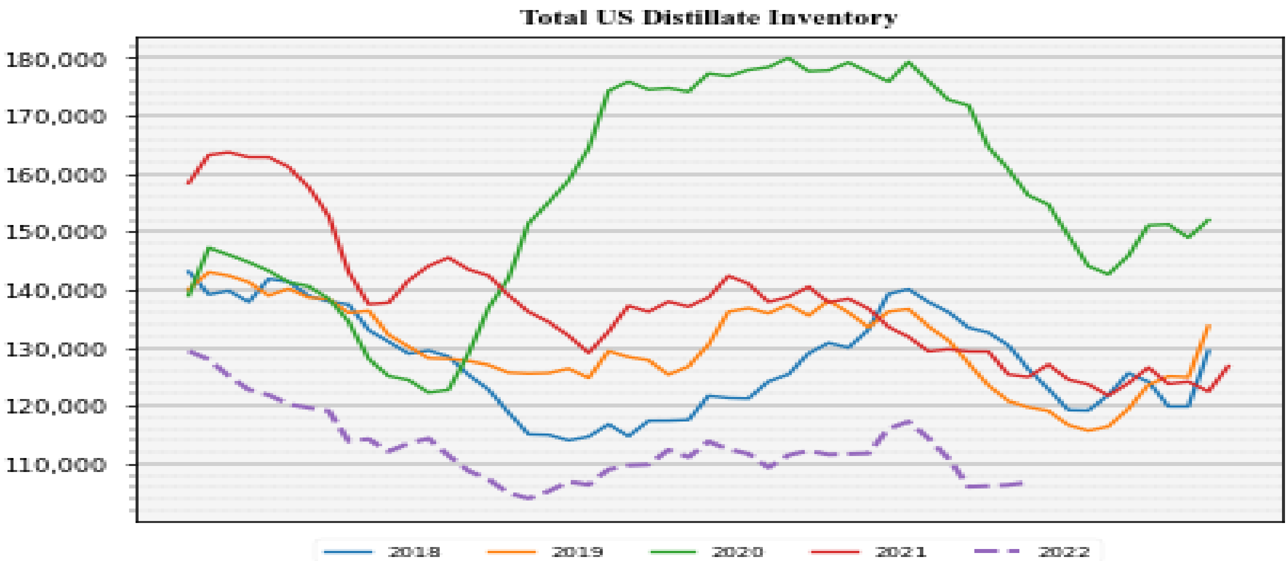


- US gasoline inventories fell again and are showing no signs of bottoming. While much hand wringing is occurring over low distillate inventories because of the time of year when distillate demand rises, gasoline inventories look set to start the summer driving season at a very low level. Yields are still incentivizing refiners to make diesel, with cracks 3X those in gasoline in the US.

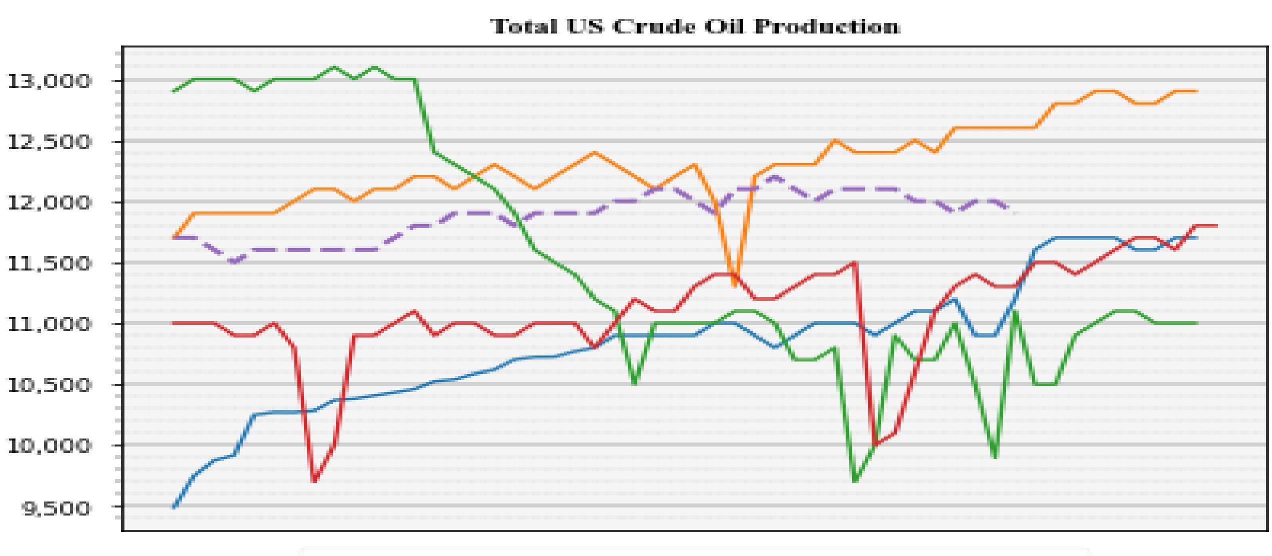


US Supply (Continued)

- US diesel inventories were up slightly by 400kb to 106.8mmb. however, distillate inventories are at very low levels, despite a very warm start to winter. Granted, most residential consumers have filled their tanks and set for winter, but once cold weather hits demand will rise and inventories could head much lower again to start 2023. Keep in mind this is with record distillate runs by refineries for this time of year.

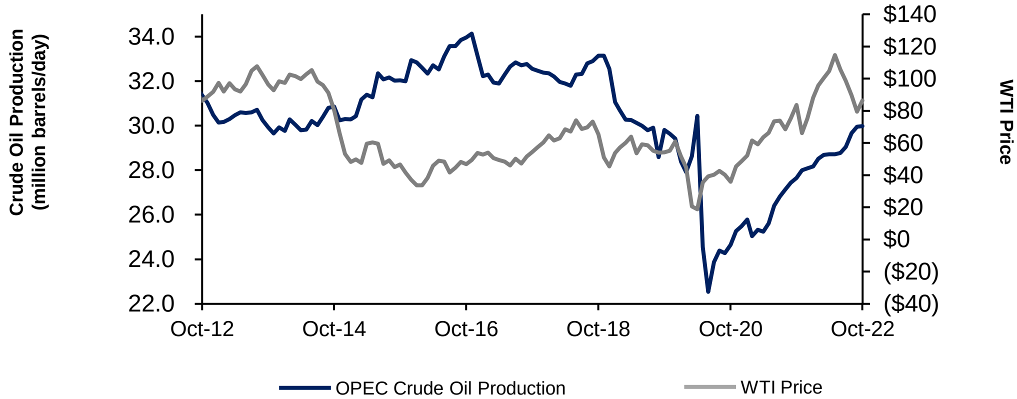


- Production dropped back again last week, and seems to be heading nowhere fast to finish off the year. Production fell back to 11.9mmbpd on a drop in L-48 production. We have a pickup in production into year-end in our forecast to 12mmbpd, and don't think we will see much more from US producers, despite strong seasonals suggesting a pickup.



Global Supply

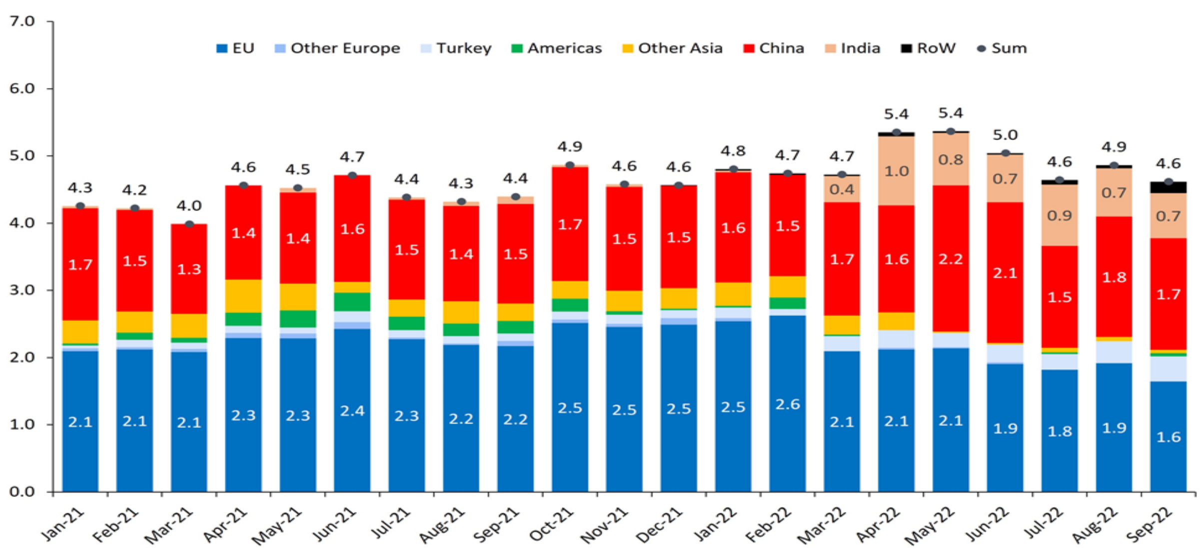
OPEC Production and Crude Oil Price



Source: Bloomberg.

- Discussions about a price cap continue but the US will not release further details until after the mid-terms. This makes it difficult for traders and consumers as they are buying oil now for Dec and Jan delivery and they have no idea what the rules will be. The average urals price at $70 right now, and it has been rumoured that the price cap would come in around $65-70. The question then becomes whether Europe will accept this level, which seems like it does nothing to choke off Russia as they are already receiving this price on much of their crude.

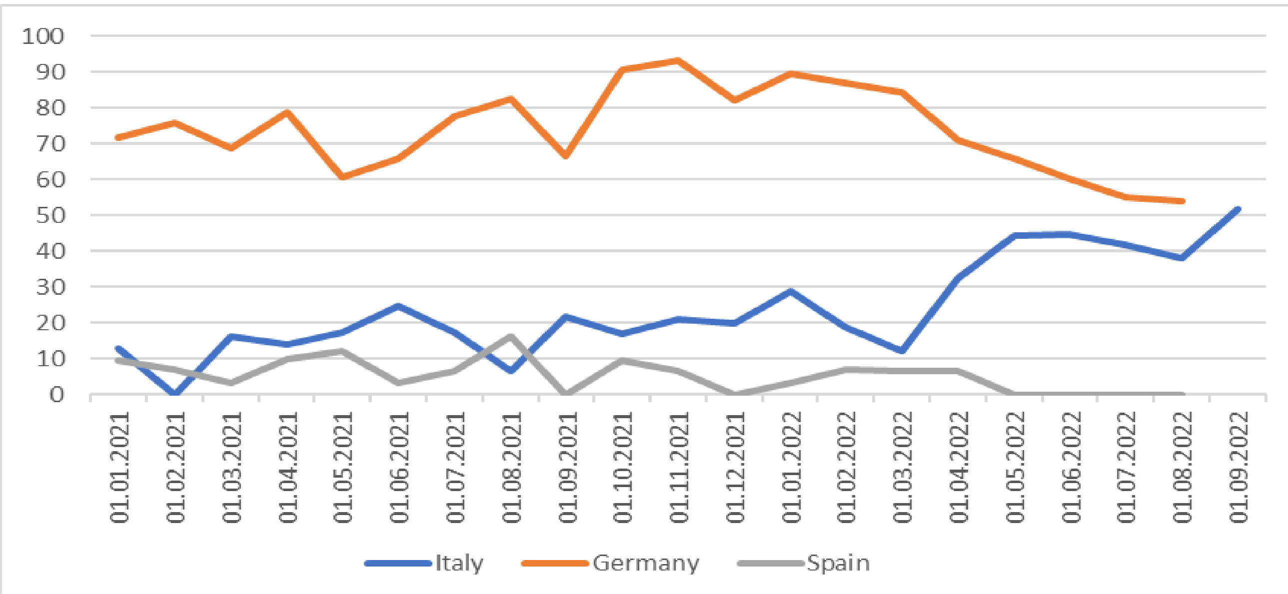
Figure 1: Russian crude oil exports split by destination region
Million barrels per day



Source: Rystad Energy research and analysis; Rystad Energy Crude Trading Signals dashboard

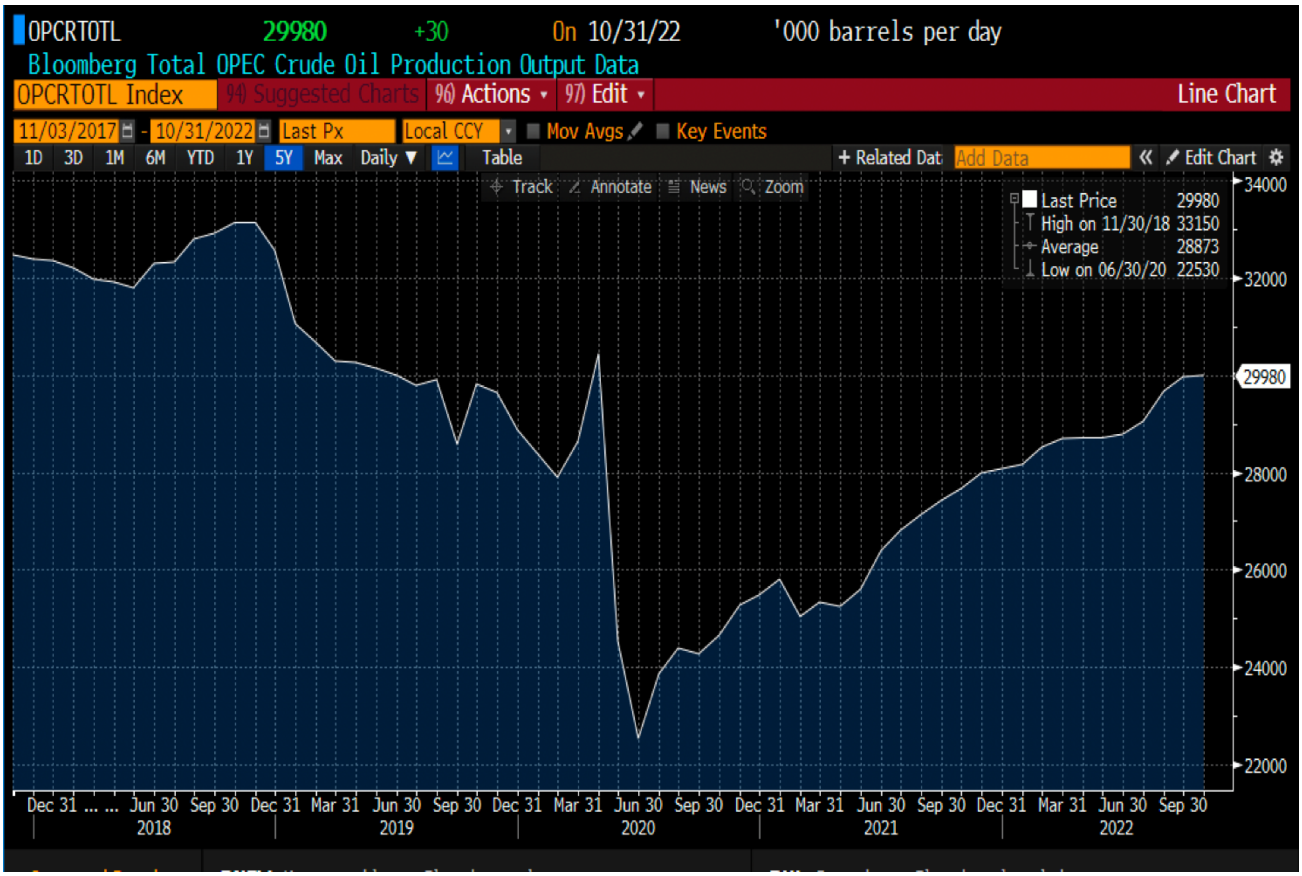
Global Supply

- European imports of Russian crude oil are diverging, as countries like Germany reduce their imports to three year lows, and Italy increases its imports to multi year highs. Imports in the chart below are in thousand tonnes per day, and show that Spain has already stopped its imports while Germany has a ways to go still. The Italians are taking advantage of their last chance for discounted Russian oil , primarily for a Russian owned refinery there, but the imports are equivalent to 12.5k barrels per day.



Global Supply

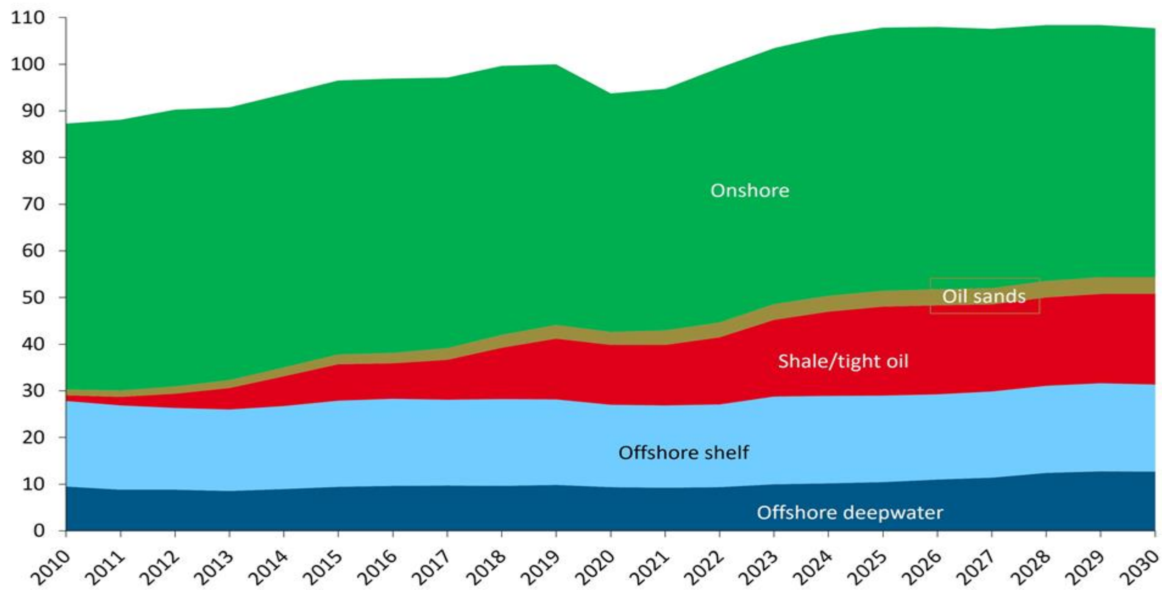
- OPEC production in October looked to be flat, according to ship-tracking data. Bloomberg estimates that production rose by 30kbpd to 29.98mmbpd, led by increases in Iraq, Nigeria and the UAE. Outside of Nigeria, Africa took a hit, with Angola, Congo and Libya all seeing declines. Nigeria and Kazakhstan are expected to see higher supply into year-end, although not by much. Both are significantly below their OPEC+ targets.



Global Supply

- Rystad sees the future of global liquids supply as being driven by the offshore sector in terms of contribution to liquids growth. They highlight opportunities in Brazil and Guyana as driving growth in liquids supply over the next decade. Still, overall supply peaks in 2025, before falling off slightly as onshore disappoints

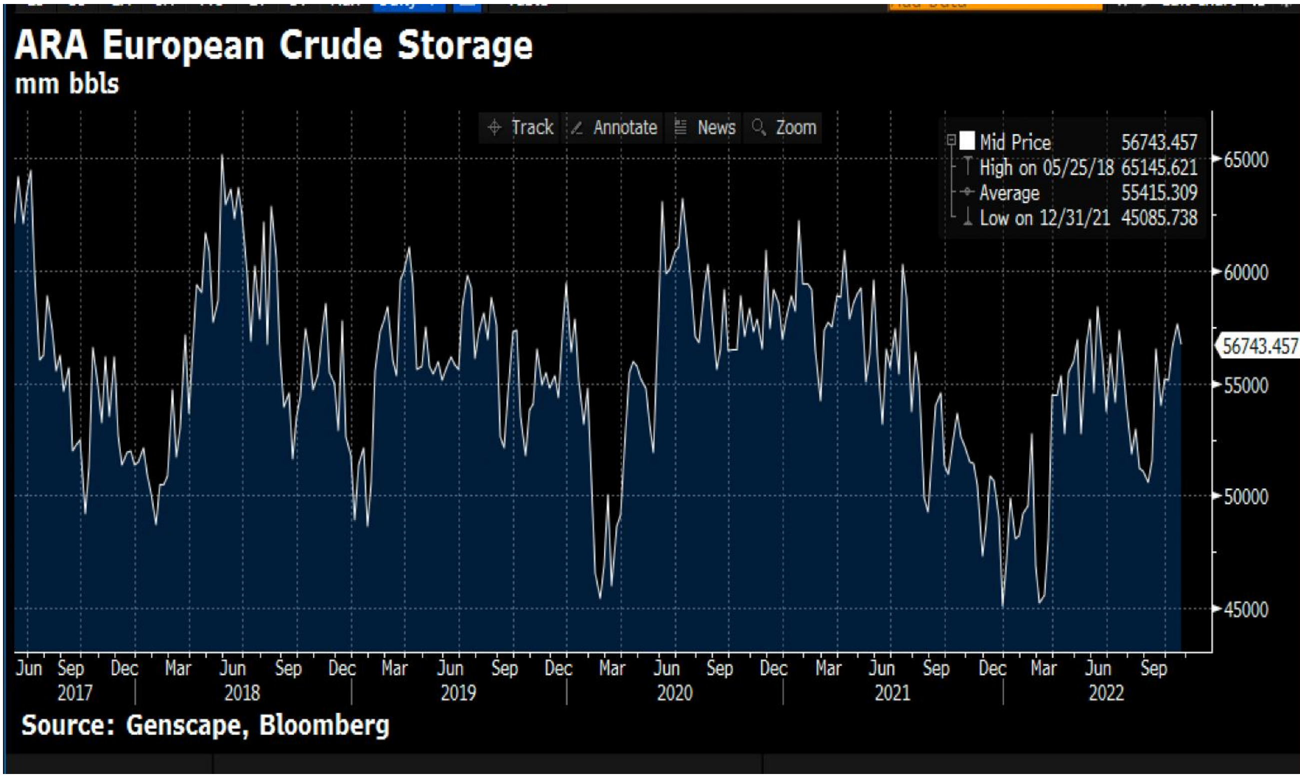
Figure 1: Global liquids supply split by supply segment
Million barrels per day



Source: Rystad Energy UCube

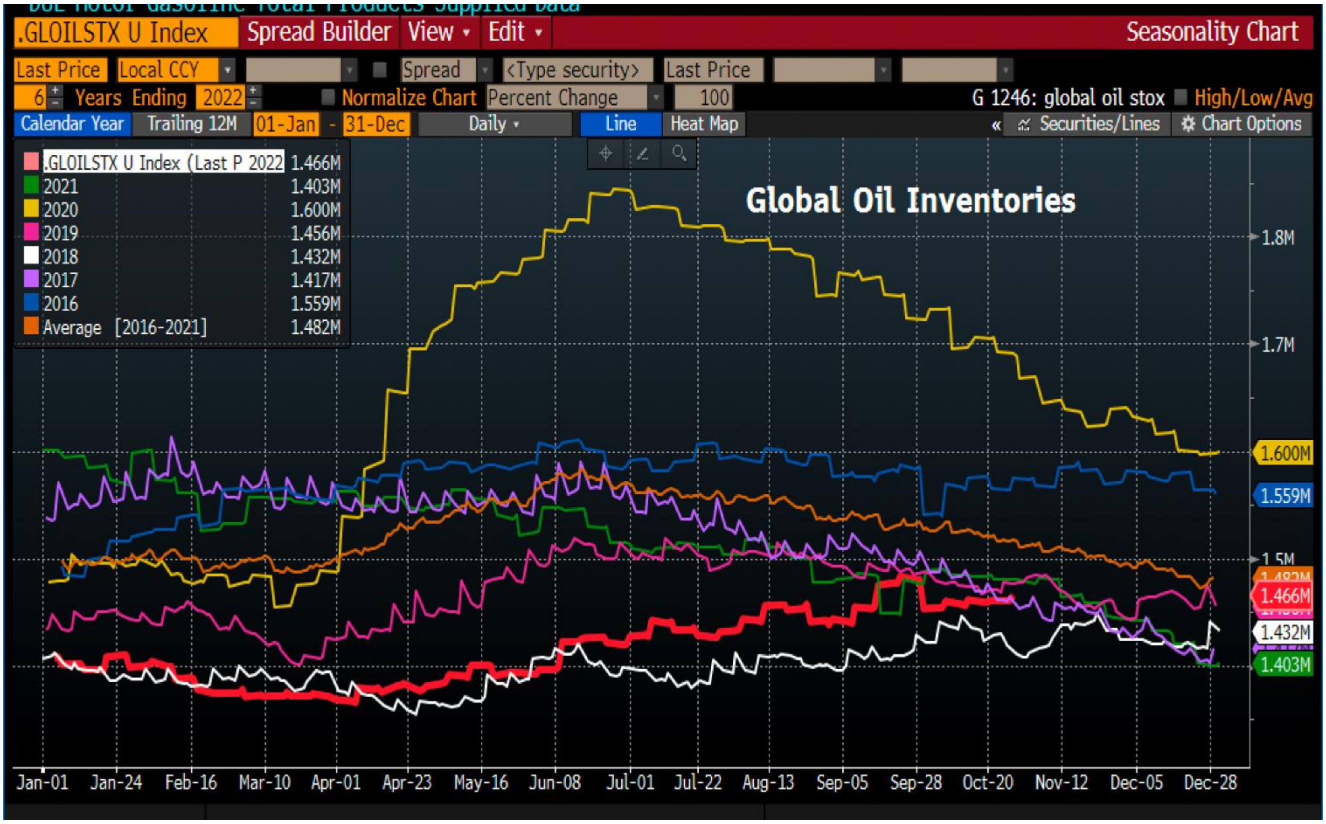
Global Supply

- ARA storage fell last week by 968kb to 56.7mmb.



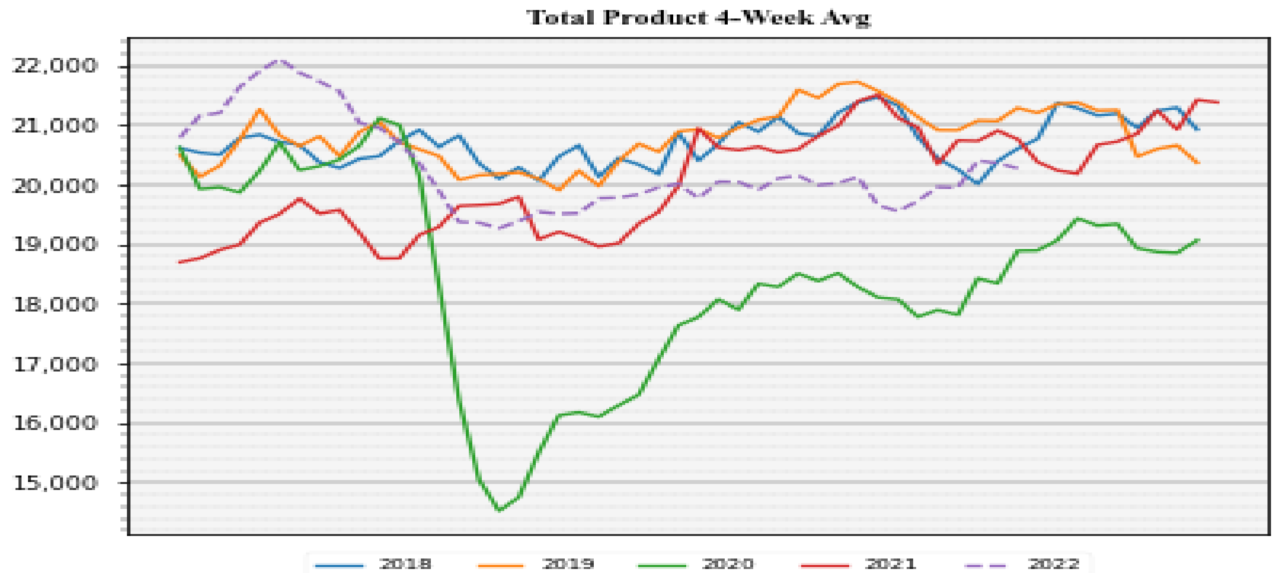
Global Supply

- Total global oil inventories have been moving sideways as the SPR releases have gotten smaller.

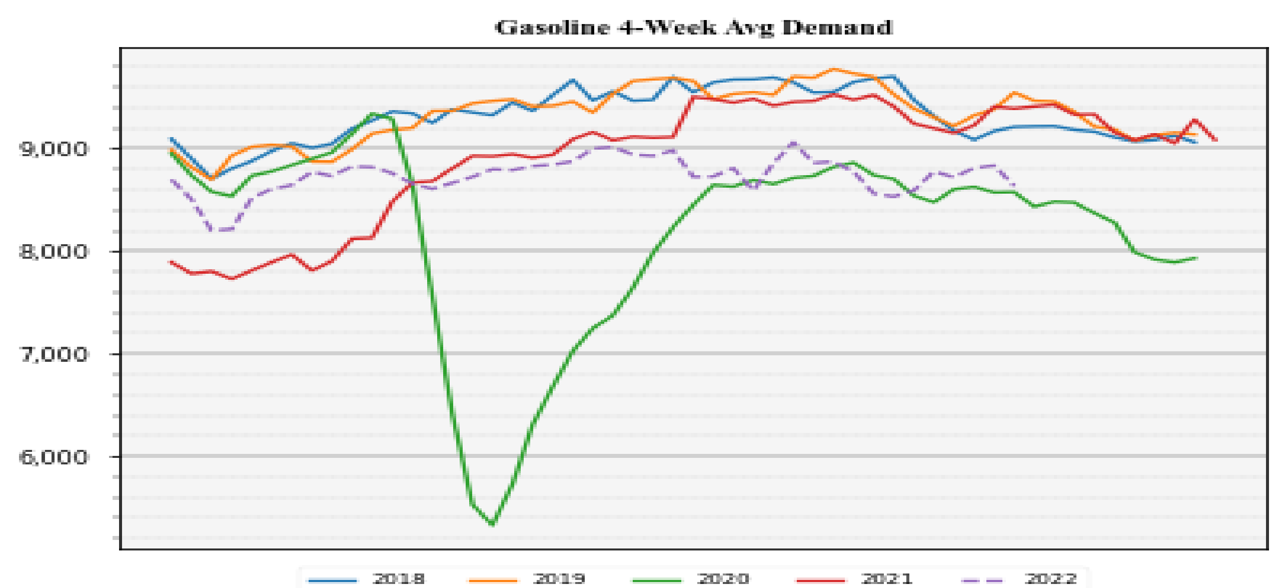


U.S. Demand

- US total product demand fell slightly last week with declines in gasoline and distillate demand, but a rise in jet fuel demand. Demand at 20.48mmbpd was above last year's level of 20.0mmbpd. on a four week average basis, demand was still lower than last year, but only slightly. On a YTD basis, demand is running up 1.4% or 280kbpd. We have a larger estimate for US demand this year, and expect demand to strengthen into year-end.

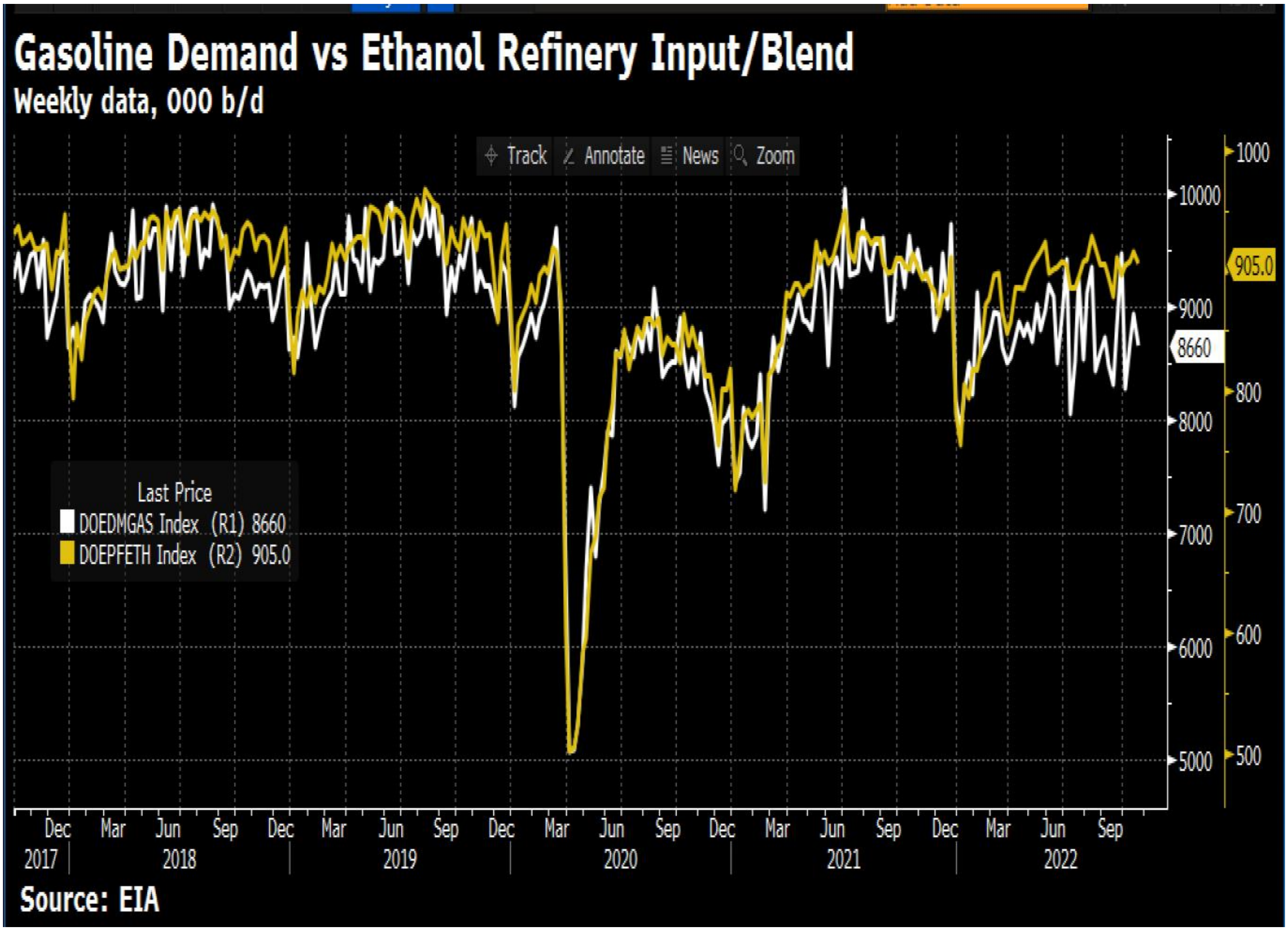


- US gasoline demand fell by 271kbpd to 8.66mmbpd. demand in the weekly data has appeared weak, but continues to be revised higher in the monthly data (see below). Weekly ethanol data also indicates that demand is being underestimated in the weekly data for gasoline. Monthly data shows demand levels hugging the 2021 level of demand through August, dramatically different than the weekly chart below.



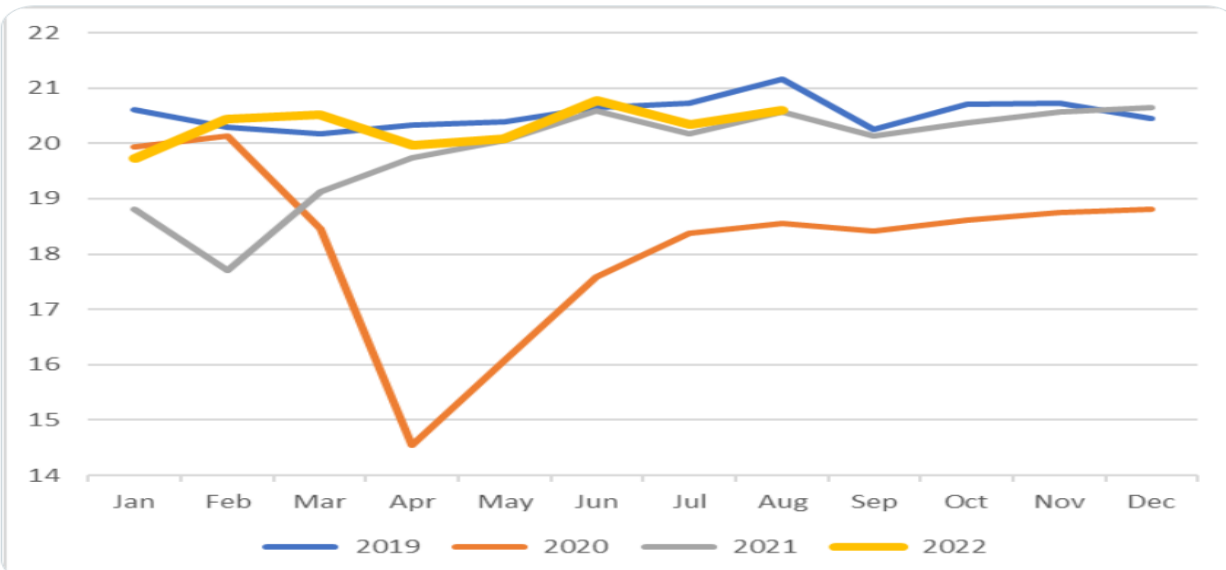
U.S. Demand

- Ethanol data has remained strong in the DOE data, while gasoline data has been more volatile and at a lower level.



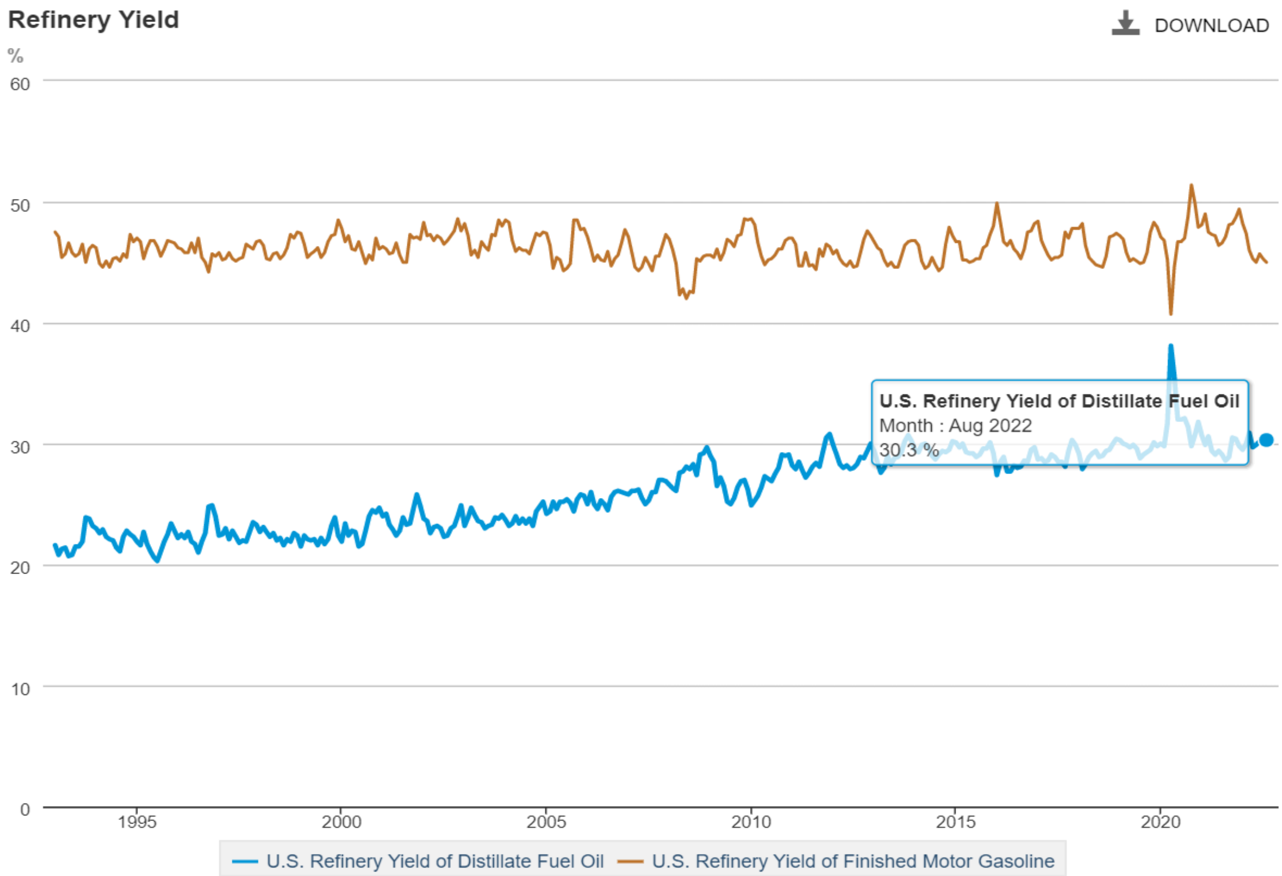
U.S. Demand

- The EIA released its Petroleum Supply Monthly (PSM) with data for August and sees US oil demand up 28kbpd versus 2021 to 20.6mmbpd. Demand also rose month on month. Demand remained 557kbpd or 2.6% below 2019 levels. This is much stronger than the 20.0mmbpd estimated by weekly data, which had been indicating very weak data (see charts on p. 2 with monthly on top and weekly on bottom). On a product basis, gasoline demand was lower yoy at 9.1mmbpd, and distillate demand was down113kbpd to 3.9mmbpd. Jet fuel and other oils demand rose yoy. Monthly data (below) looks very different than weekly data (above).



U.S. Demand

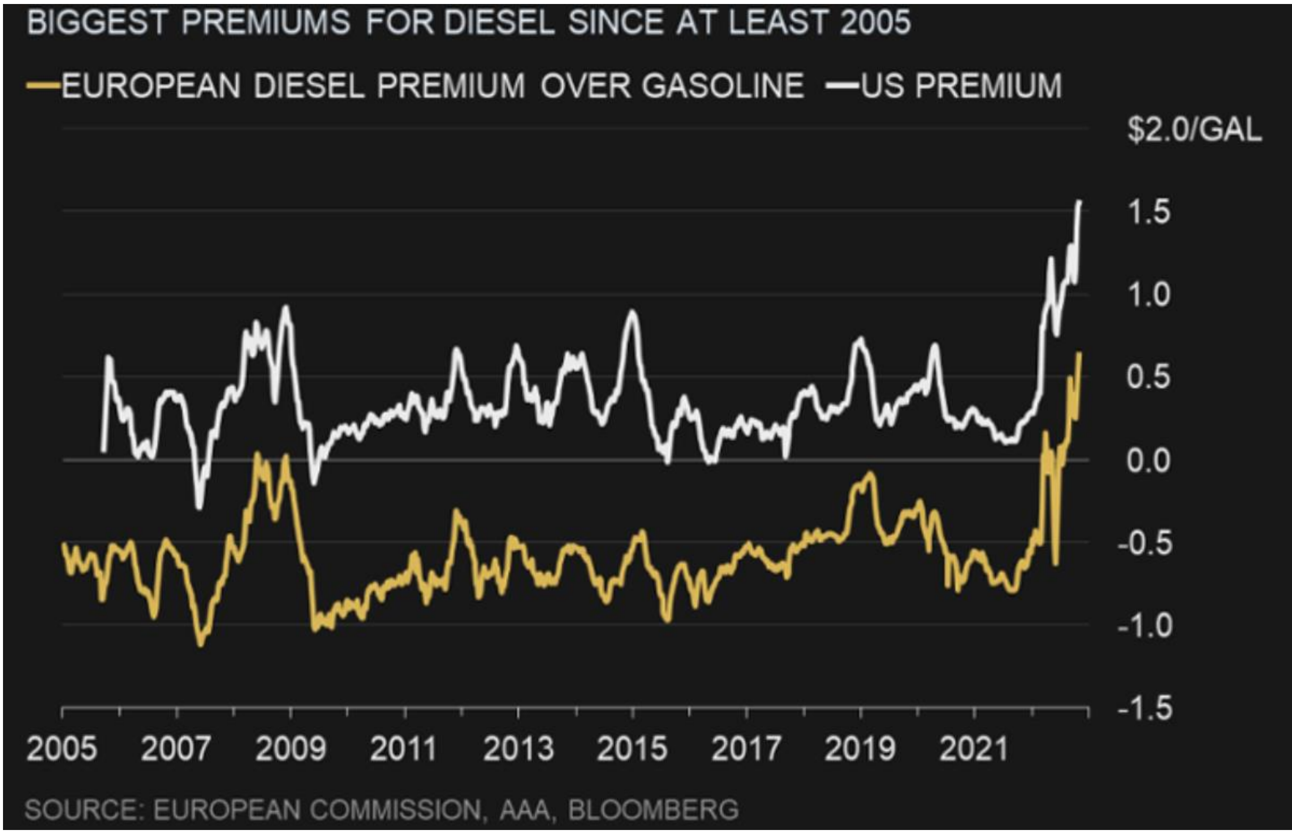
- The October PSM also gave us updated yields for US refineries in August, and not surprisingly they were trying to make more distillate.



Source: U.S. Energy Information Administration

Global Demand

- Distillate premiums are not only moving higher in the US, they're also surging in Europe.



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