Energy Tidbits

July 21, 2024

Produced by: Dan Tsubouchi

When Will Israel Act? US says Iran is 1 or 2 Weeks from Breakout Capacity to Produce Nuclear Material for a Weapon

Welcome to new Energy Tidbits memo readers. We are continuing to add new readers to our Energy Tidbits memo, energy blogs and tweets. The focus and concept for the memo was set in 1999 with input from PMs, who were looking for research (both positive and negative items) that helped them shape their investment thesis to the energy space, and not just focusing on daily trading. My priority was and still is to not just report on events, but also try to interpret and point out implications therefrom. The best example is the review of investor days, conferences and earnings calls focusing on sector developments that are relevant to the sector. My target is to write on 50 weekends per year and to post by noon MT on Sunday. The Sunday noon timing was because PMs said they didn't have research to read on Sundays and Sundays are a day when they start to think about the investing week ahead.

This week's memo highlights:

1. Overlooked major geopolitical and oil risk. When will Israel take action as US says Iran now 1 or 2 weeks away from reaching breakout capacity to produce nuclear material for a weapon? [click here]

2. Israel hits Houthis harder in one attack than US/UK have over the past several months in retaliation for Houthis long-range drone hit on Tel Aviv. [click here]

3. Not clear, at least to us, if Houthis drone that hit Tel Aviv wasn't picked up by Israel radar or, as Israel says, it was picked up by radar but action wasn't taken. [click here]

4. Liberty Energy CEO says US frack activity continues to be too low to point to growth in US oil and natural gas production. [click here]

5. New York Comptroller slams New York's clean energy plan and its assumptions, plus reminds fossil fuels will be filling the gap for clean energy plan not working per aspirations. [click here]

6. Please follow us on Twitter at [LINK] for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.

7. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK].

Dan Tsubouchi	**Ryan Dunfield**	**Aaron Bunting**	**Ian Charles**	**Ryan Haughn**
Chief Market Strategist	CEO	COO, CFO	Managing Director	Managing Director
dtsubouchi@safgroup.ca	rdunfield@safgroup.ca	abunting@safgroup.ca	icharles@safgroup.ca	rhaughn@safgroup.ca

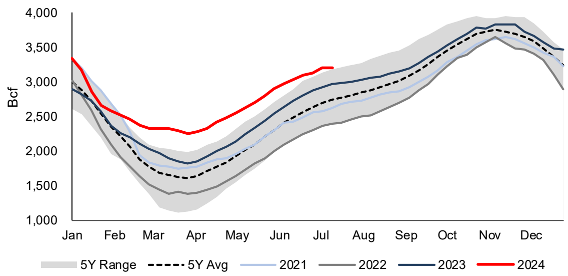
Table of Contents

Natural Gas: A really hot June means less risk US natural gas storage gets filled early

Less risk for US gas storage to be filled early?

HH continues to be weak with US natural gas storage above the high end of the 5-yr range. It was really hot June and early July in the Lower 48, which helped to narrow the YoY gas storage surplus from looking like a strong probability to storage being filled early to a lesser but still potential probability to do so. The YoY gas storage surplus has dropped from +444 bcf YoY to +250 bcf YoY over the past two months. There may very well be items such as hurricane interruptions, a big spike up in natural gas for data centers, etc. that can change the outlook either up or down but the really hot June and early July has lessened the risk to storage being filled early. As noted below, US natural gas storage is now +250 bcf YoY, which is down WoW from +283 bcf YoY last week.

Figure 1: US Natural Gas Storage



Source: EIA

Natural Gas: +10 bcf build in US gas storage; now +250 bcf YoY

+10 bcf build in US gas storage

For the week ending July 12, the EIA reported a +10 bcf build. Total storage is now 3.209 tcf, representing a surplus of +250 bcf YoY compared to a surplus of +283 bcf last week. Since February, total storage has remained above the top end of the 5-yr range. Total storage is +465 bcf above the 5-year average, below last week's +504 bcf surplus. Below is the EIA's storage table from its Weekly Natural Gas Storage report [LINK] and a table showing the US gas storage over the last 8 weeks.

Figure 2: US Natural Gas Storage

	Stocks billion cubic feet (Bcf)				Historical Comparisons: Year ago (07/12/23)		5-year average (2019-23)	
Region	07/12/24	07/05/24	net change	implied flow	Bcf	% change	Bcf	% change
East	686	682	4	4	659	4.1	592	15.9
Midwest	814	800	14	14	736	10.6	684	19.0
Mountain	248	245	3	3	184	34.8	169	46.7
Pacific	289	289	0	0	230	25.7	262	10.3
South Central	1,173	1,183	-10	-10	1,149	2.1	1,037	13.1
Salt	318	327	-9	-9	322	-1.2	283	12.4
Nonsalt	855	856	-1	-1	828	3.3	753	13.5
Total	**3,209**	**3,199**	**10**	**10**	**2,959**	**8.4**	**2,744**	**16.9**

Source: EIA

Figure 3: Previous US Natural Gas Storage

Previous 8 weeks (Bcf)				
Week Ended	Gas in Storage	Weekly Change	Y/Y Diff	Diff to 5 yr Avg
May/24	2,795	84	380	586
May/31	2,900	105	380	588
Jun/07	2,974	74	364	573
Jun/14	3,045	71	343	561
Jun/21	3,102	57	319	533
Jun/28	3,134	32	275	496
Jul/05	3,199	65	283	504
Jul/12	3,209	10	250	465

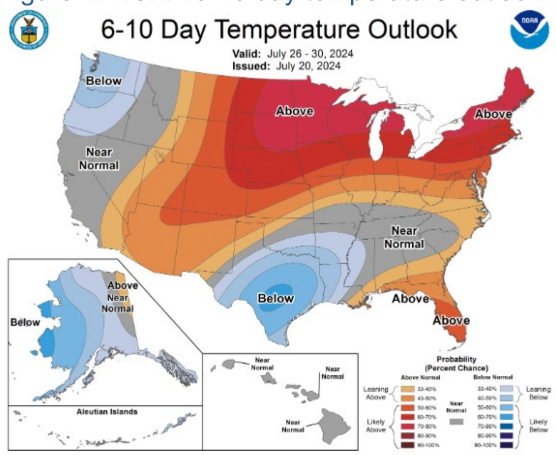
Source: EIA, SAF

NOAA temperature outlook for July 26-Aug 3

Natural Gas: NOAA warmer than normal in Great Lakes & east coast

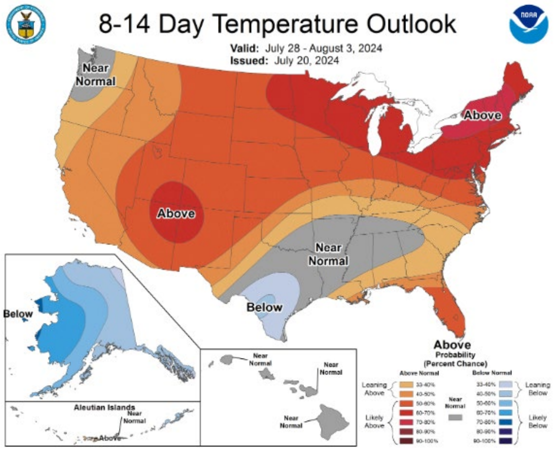
Yesterday, we tweeted [LINK] "*HH #NatGas prices were -$0.20 WoW to close at $2.13. @NOAA's updated 6-10 & 8-14 day temperature outlook covers July26-Aug 3 calls for warmer than normal temps in key Great Lakes, NE US, East Coast. But storage is still +250 bcf YoY & above the high end of 5-yr range. #OOTT.*" Despite the hot temperatures across the Lower 48 to start the past week, HH prices were down $0.20 WoW to close at $2.13 as US gas storage is still above the high end of the 5-yr range. Our tweet included NOAA's Saturday update to its short term 6-10 day and 8-14 day temperature outlooks. Yesterday's update has NOAA forecasting warmer than normal temperatures in the more populous Great Lakes and the Eastern seaboard but more normal temperatures elsewhere. Below are NOAA's updated, as of yesterday, 6-10 day and 8-14 day temperature outlook maps covering July 26-Aug 3.

Figure 4: NOAA 6-10 day temperature outlook for July 26-30



Source: NOAA

Figure 5: NOAA 8-14 day temperature outlook for July 28- Aug 3



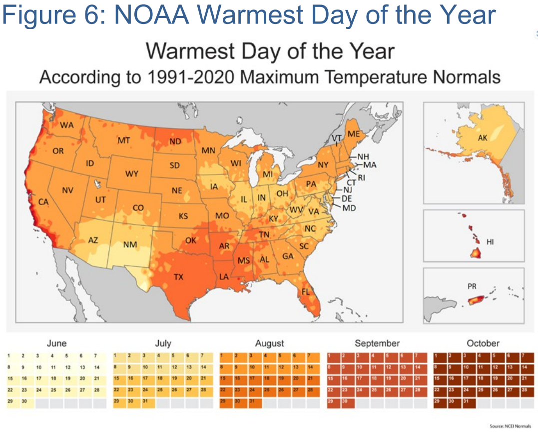
Source: NOAA

Natural Gas: NOAA's normal warmest day of the year across the US

Normal warmest day of the year across the US

It was a hot June and start to July. But we remind that the normal hottest day of the year is still to come for most of the US in August. Here is where we wrote in our July 2, 2023 Energy Tidbits memo. "*Yesterday, we tweeted [LINK] "Here's why temperature watch gets important in July ie. don't want below normal temps when it is supposed to be the hottest. @NOAA map when to expect Warmest Day of the Year. Mid July starts to see hottest day of the year in states like IL, IN, OH, WV, VA, NC. And current @NOAA 8-14 day expects below normal temps in some of these states. #OOTT #NatGas." On Thursday, NOAA posted "When to expect the Warmest Day of the Year" [LINK]. Our tweet included the NOAA map, which reminds that mid-July is when we start to see the hottest day of the year in many states. It's why the temperatures are important in July as we don't' want to see below normal temps when it is supposed to be peak heat and peak summer electricity/natural gas residential/commercial demand*." We checked the link and it still works.

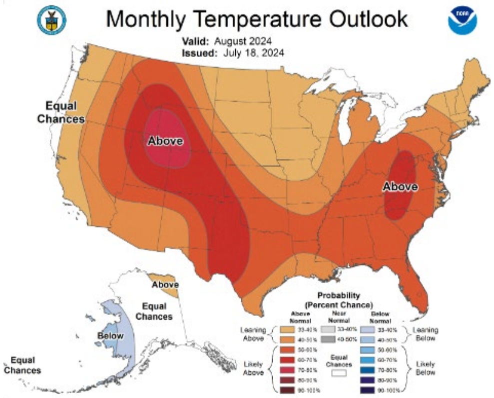
Figure 6: NOAA Warmest Day of the Year



Source: NOAA

Natural Gas: NOAA forecasts hot weather in August for all of the Lower 48
It looks like the hot weather in the US is going to continue for at least another month. On Thursday, NOAA posted its 30-day outlook, which is its Monthly Temperature Outlook for August [LINK]. NOAA's temperature forecast shows above average probability for warmer than normal temperatures for all of the Lower 48. Below is NOAA's monthly temperature outlook for August.

Figure 7: NOAA Monthly Temperature Outlook for August

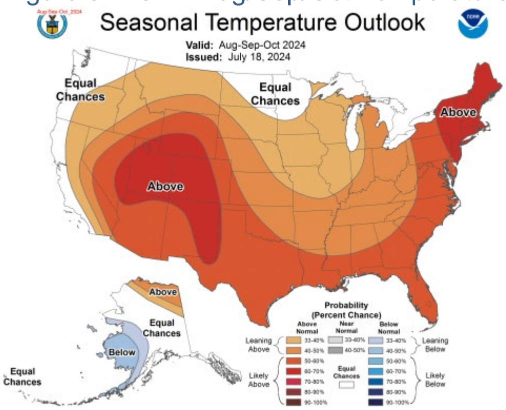


Source: NOAA

Natural Gas: NOAA's updated summer forecast is still for a hot Aug, Sept, Oct
We recognize that weather forecasts, even near term, are far from 100%, but, on Thursday, NOAA released its monthly update to its seasonal temperature forecast for the rest of summer into fall – Aug, Sept, and Oct. NOAA's updated temperature outlook for the summer ASO [LINK] still calls for warmer than normal temperatures across almost all of the US, predominantly in the south west and in a small section in north east. Below is NOAA's July 18 temperature probability map for ASO.

NOAA forecasts hot summer into fall in the US

Figure 8: NOAA Aug/Sep/Oct Temperature Probability Forecast



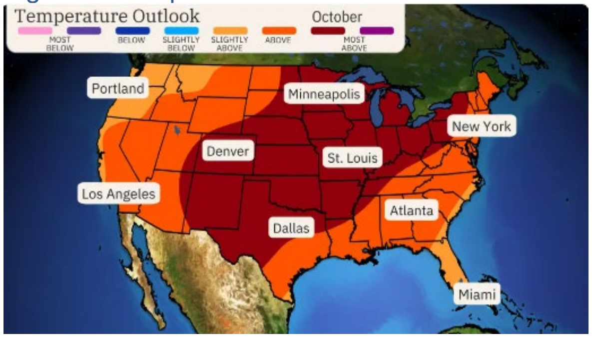
Source: NOAA

Natural Gas: The Weather channel forecasts a very warm October

A warm October

It's only July but our focus on weather for natural gas is switching to the start of winter ie. Nov/Dec. But we also look to October as it is a lead-in to Nov. Our concern is that a warm start to winter makes it difficult for natural gas prices to catch up. And a hot October likely leads to a warmer November. Last Saturday, the Weather Channel posted its "Late Summer, *Early Fall Outlook: US Warmth Could Lag Into October*" [LINK] The Weather Channel is forecasting a very warm October. The Weather Channel wrote "*October could be markedly warmer than usual in parts of the Northeast, as well." "Temperatures may not fall much in October. If you're looking forward to the arrival of crisp, cool fall air masses, you may be a bit disappointed early this autumn. October is most likely to be warmer than usual from the Great Lakes and interior Northeast through the Midwest and Plains states. In fact, the only areas of the country that may remain at least slightly above average are in the Northwest, much of California's coast and from the Florida Peninsula to the coastal Carolinas."*

Figure 9: Temperature Outlook for October



Source: The Weather Channel

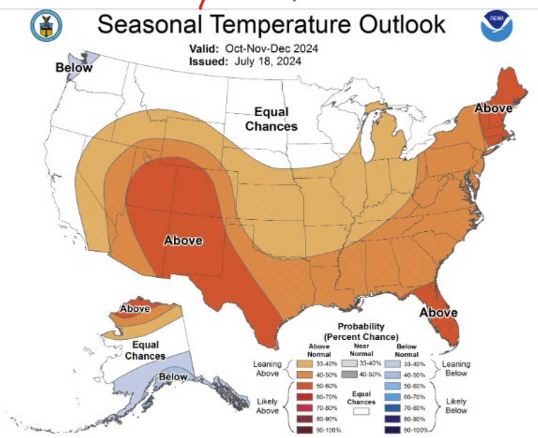
Natural Gas: NOAA forecasts warmer than normal start to winter 2024/25

NOAA Oct, Nov, Dec, Jan temp outlook

On Thursday, we tweeted [LINK] "*It's still only July but @NOAA's updated seasonal temperature outlook calls for a warm start to winter. And a warm start to winter is always a hold back on #NatGas prices. #OOTT."* It's still early but we highlighted NOAA's updated temperature outlook for Oct/Nov/Dec and Nov/Dec/Jan because it calls for a warmer than normal Oct/Nov/Dec and Nov/Dec/Jan and, as we saw for winter 2023/24, a warm start to winter normally puts pressure on natural gas prices for months. On Thursday, NOAA posted its seasonal temperature outlook for November, December, and January [LINK]. NOAA's temperature forecast for shows above average probability for above-normal monthly average temperatures for over half of the USA, with a higher probability for above average temperatures in the southern and central unites states. Below are NOAA's temperature forecast maps for Oct/Nov/Dec and Nov/Dec/Jan that were attached to our tweet.

Figure 10: NOAA Oct/Nov/Dec Temperature Probability Forecast

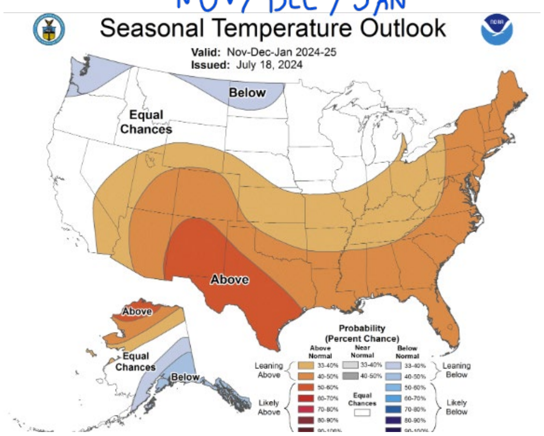
OCT / NOV / DEC



Source: NOAA

Figure 11: NOAA Nov/Dec/Jan Temperature Probability Forecast

NOV/ DEC / JAN

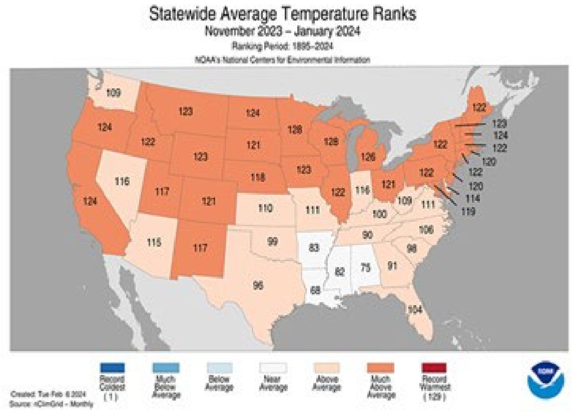


Source: NOAA

Nov/Dec/Jan 2023/24 was the 5th warmest in last 129 years

If NOAA's early look at NDJ 2024/25 is right, it will be above normal temperatures to start winter, but not as hot as NDJ 2023/24. Here is what we wrote in our Feb 18, 2024 Energy Tidbits memo. "*The winter up until this point has been very warm overall, and now with the January data the NOAA says that the period from Nov/Dec/Jan was the 5th warmest the US has seen in 129 years. We have highlighted how higher YoY US natural gas production has been a negative to HH prices, but the more significant factor is the hot winter. Below is a map of statewide average temperature ranks for Nov/Dec/Jan since 1895.*"

Figure 12: US Statewide Average Temperature Ranks Nov 1, 2023 – Jan 31, 2024



Source: NOAA

Natural Gas: Liberty CEO need higher frac levels just to keep US natgas production flat

Liberty CEO on US natural gas production

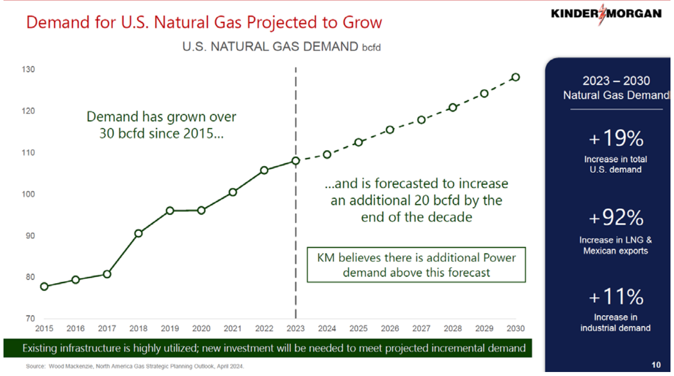
Liberty Energy CEO Wright reminded that need to have higher frac levels just to keep US natural gas production to end 2024. Liberty Energy is one of the big frac companies who are big in al the major US shale/tight oil and natural gas basins and held its Q2 call on Thursday morning. On Thursday, we tweeted [LINK] "*Flat US #Oil #NatGas production at best in H2. Major US fracker, Liberty Energy CEO says: "got to have more activity to just keep US #NatGas production flat, let alone a bit of growth" "haven't seen a production trend reflective of today's frac activity. It's probably flat at best oil production" #OOTT.*" In the Q&A, CEO Wright replied "*Yeah, look, I would say, our expectation for growth in '25 is likely modest, but the current activity today, it would not support even flat natural gas production because it overshot, it overshot. We had very robust gas activity, and through 2022, I thought that would roll down more in early '23, but it really didn't roll down till later in '23. So gas activity is very low right now, and that's not going to reverse next quarter, probably not this year, but as you look ahead, eventually you've got to have more activity just to keep US natural gas production flat, let alone a little bit of growth. We have to be careful, of course, of too much growth, which has been the mistake in the past among the natural gas operators*."

Natural Gas: Kinder Morgan bullish US natural gas demand to 2030

Kinder Morgan bullish US natural gas demand

On Thursday, Kinder Morgan posted its 2023 Sustainability Report Presentation, which included Kinder Morgan's bullish US natural gas demand forecast. Please note that Kinder Morgan has had similar bullish US natural gas demand forecasts in prior years before AI data centers became the new demand boost ie. the Ai data center only adds to Kinder Morgan's very bullish outlook for US natural gas in the years ahead. Kinder Morgan highlighted that demand for US natural gas demand has grown over 30 bcf/d since 2015 and they forecast additional natural gas demand of over 20 bcf/d by 2030. Increasing US LNG capacity is the key driver for this demand with added LNG capacity of 15 bcf/d expected to be added by 2030. And Kinder Morgan sees an additional 3 to 10 bcf/d of natural gas demand for AI data centers by 2030. Our Supplemental Documents package includes excerpts from the presentation.

Figure 13: Demand for US Natural Gas Projected to Grow



Source: Kinder Morgan

Natural Gas: Freeport LNG restart post Beryl still not a full 2.1 bcf/d capacity

Freeport LNG at reduced capacity

As of our 7am MT news cut off, we have not seen any change to the status of Freeport LNG that is it still not producing at full ~2.1 bcf/d capacity post Hurricane Beryl. Rather the latest reports and natural gas to Freeport LNG data would confirm the Monday update that they have restarted one of the three trains. Reports were the first LNG tanker had docked on Friday indicating it was about to be filled with LNG for shipping. But there is still no idea when the other two trains are starting. Freeport LNG is a 3-train total ~2.1 bcf/d LNG export project. On Monday, we tweeted [LINK] " *Freeport LNG 3-train ~2.1 bcf/d restart post Beryl will not be at full capacity. @LngPrime reports "She said that Freeport LNG is "completing initial repairs on the damage sustained to our fin fan air coolers in the hurricane and anticipate restarting the first train this week". Freeport LNG plans to restart the remaining two trains "shortly thereafter". Moreover, the spokeswoman said production levels after restart would be at "reduced rates for a period of time" as Freeport LNG continues repairs while operating the facility. "Production will steadily ramp up to full rates as these repairs are completed," she added." #NatGas #OOTT [LINK]."*

Natural Gas: India June natural gas production down small MoM, up small YoY

India natural gas production down MoM, up YoY

India domestic natural gas production peaked in 2010 at 4.6 bcf/d, and then ultimately declined to average 2.8 bcf/d in 2020-2021. India returned to modest growth in 2021/2022, which was followed by several months of basically flat production but modest production growth returned in 2023. On Tuesday, July 16th, India's Petroleum Planning and Analysis Cell released their monthly report for June's natural gas and oil statistics [LINK]. India's domestic natural gas production for June was 3.52 bcf/d, which was down -0.39% MoM from 3.54 bcf/d in May. On a YoY basis, natural gas production was up +2.85% from 3.43 bcf/d in June 2023. Our Supplemental Documents package includes excerpts from the PPAC monthly.

Natural Gas: India LNG imports up MoM to 3.12 bcf/d in June, up +19.23% YoY

India LNG imports up YoY

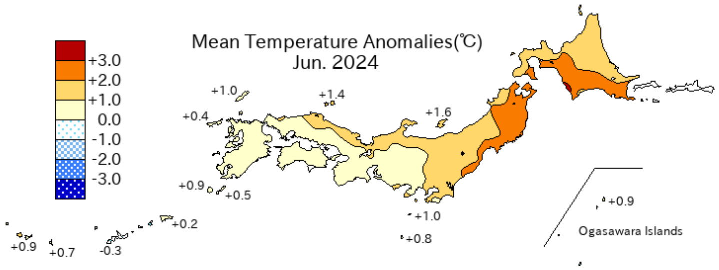
For the past several years, India has increased LNG imports whenever domestic natural gas production was flat or decreased. But the overriding factor for India tends to be price. If price is high, India pulls back on LNG imports and will normally turn to coal. If prices are low, like was seen this winter, then India tends to pick up spot cargoes. India is an opportunistic LNG spot buyer. On Tuesday, July 16th, India's Petroleum Planning and Analysis Cell released their monthly report for June's natural gas and oil statistics [LINK]. Over the past 3 years, India's LNG imports have declined from a 2020-2021 peak of 3.84 bcf/d in Oct 2020 to just 2.85 bcf/d in Jan 2021 and lower in 2022. However, June's 2024's LNG imports were 3.12 bcf/d, which is up 3.26% MoM from 3.02 bcf/d in Mayl. LNG imports are now up +19.23% YoY from 2.61 bcf/d in June 2023.

Natural Gas: Well above average temperatures for June in Japan

June's temperature recap in Japan

It was warmer than normal in Japan in June and that has helped drive electricity demand. Although with Japan's ongoing electricity conservation practices, it doesn't drive as much electricity demand as it would in the US. On Wednesday, July 10th, the Japan Meteorological Agency posted its climate recap for June [LINK]. It included the below mean temperature anomalies map. The JMA wrote "*Monthly mean temperatures were significantly above normal in northern/eastern Japan, and were above normal in western Japan and Okinawa/Amami, because warm air covered nationwide in the second and the third 10 days of the month. Monthly precipitation amounts were significantly below normal on the Pacific side of northern Japan, and monthly sunshine durations were significantly above normal on the Pacific side of northern/eastern Japan and on the Sea of Japan side of eastern Japan, and above normal on the Sea of Japan side of northern/western Japan, where high-pressure systems frequently covered in the second 10 days of the month. On the other hand, monthly precipitation amounts were significantly above normal in Okinawa/Amami, because the region was well affected by the Baiu-front in the second 10 days of the month. Monthly precipitation amounts were significantly above normal on the Pacific side of eastern Japan, and above normal on the Pacific side of western Japan, because the regions were well affected by the Baiu-front in the third 10 days of the month."* Below is a temperature map of Japan for June.

Figure 14: JMA Mean Temperature Anomalies June 2024



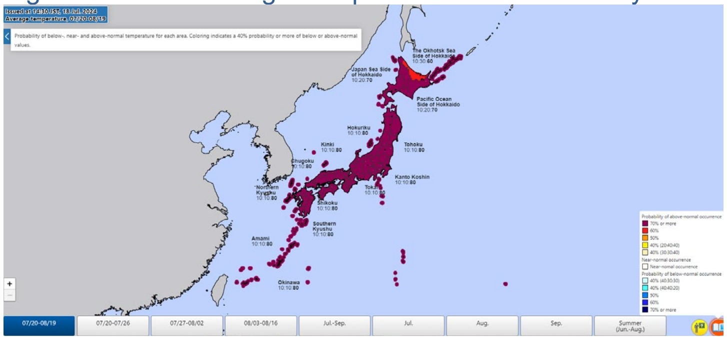
Source: Japan Meteorological Agency

Natural Gas: Japan expects hot temperatures thru July into mid Aug

JMA temperature forecast for the next 30 days

It's been hot in Japan and the hot weather is expected to continue for the next 30 days. On Thursday, the Japan Meteorological Agency updated its forecast for the next 30 days, July 20 thru Aug 19, in Japan [LINK]. There is no JMA commentary on the forecast. JMA is calling for well above normal temperatures for the rest of July and the first three weeks of August, with a +70% probability of above normal temperature occurrence. We checked AccuWeather and they are forecasting daily highs in of 31-36C for the next 30 days. Anyone who has been to Tokyo in July knows that it is humid so we should see temperature driven demand for electricity incl natural gas. Below is the JMA temperature forecast for the next 30 days.

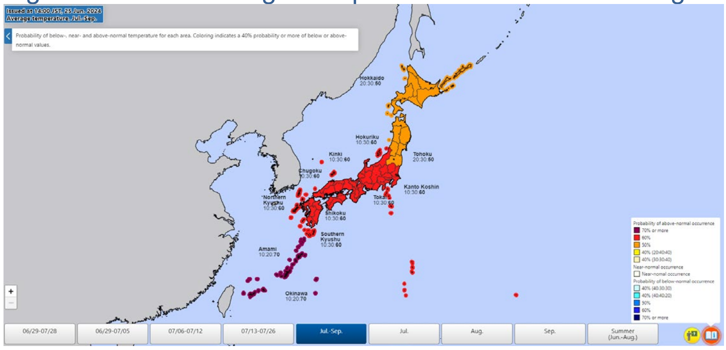
Figure 15: JMA Average Temperature Outlook for July 20 – August 19



Source: Japan Meteorological Agency

In line with JMA 06/27/24 forecast for hot temperatures for Jul/Aug/Sept
The JMA's updated 30-day temperature outlook is in line with their June 27, 2024 forecast for Jul/Aug/Sept to be hot throughout Japan. Here is what we wrote in our June 30, 2024's Energy Tidbits memo. "*On Thursday, the Japan Meteorological Agency posted its seasonal temperature outlook for Jul/Aug/Sept for Japan. We tweeted [LINK] "May not drive up #LNG prices but Japan Meteorological Agency forecasts a hot July and hot Jul/Aug/Sep so should provide near term support for prices. #OOTT #NatGas." There is no JMA commentary on the forecast but it is calling for above average temperatures throughout the summer and September. It looks to be in line with Jul/Aug/Sep 2023 that was above average temps. Below is the JMA temperature forecast for Jul/Aug/Sep.*"

Figure 16: JMA Average Temperature Outlook for Jul/Aug/Sep



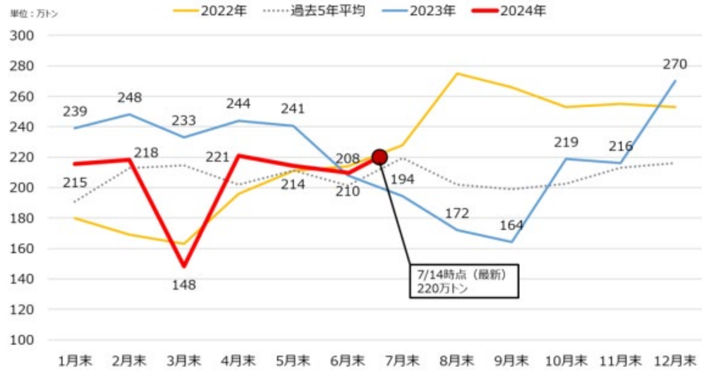
Source: Japan Meteorological Agency

Natural Gas: Japan LNG stocks up WoW, up YoY

Japan LNG stocks up WoW

Japan's LNG stocks are up WoW, up YoY, and are up small from the 5-year average. On Wednesdays, Japan's METI releases its weekly LNG stocks data [LINK]. LNG stocks on July 14 were 105.7 bcf, up +10.6% WoW from July 7 of 95.6 bcf, and up +13.4% from 93.2 bcf from a year ago. Stocks are up +0.5% from the 5-year average of 105.2 bcf. Below is the Japanese LNG stocks graph from the METI weekly report.

Figure 17: Japan LNG Stocks



Source: METI

Natural Gas: China natural gas production 23.83 bcf/d in June, up +10.8% YoY

China natural gas production

Well before Covid, our concern in 2019 was that China's LNG imports were going to change from strong YoY growth in LNG imports to a period of zero to very low growth at best in China LNG imports. The reason was primarily the startup of the big Power of Siberia natural gas pipeline from Russia but also a return in the 2020s to modest growth in China domestic natural gas production. And since LNG is the most expensive natural gas, it would be and is the marginal natural gas/LNG supply. That concern has played out over the past few years and increasing domestic natural gas production and increasing cheaper natural gas pipeline imports from Russia squeezed out LNG imports in 2022 and 2023. On Thursday, Bloomberg's CHENNGAS Index showed (using data from the National Bureau of Statistics) that China natural gas production in June was 23.83 bcf/d, up 3.0% MoM from 23.13 bcf/d in May and +10.8% YoY from 21.51 bcf/d in June 2023. Recall the Chinese government website [LINK] also noted that over 2023, China's average natural gas production was 22.3 bcf/d, up +1.0 bcf/d from 2022, which is the 7th annual YoY increase.

Natural Gas: China June LNG imports up MoM, nat gas pipeline imports up MoM

China natural gas and LNG imports

China's import data for June reinforces it favors imports of cheaper natural gas from pipelines over more expensive LNG imports. On Thursday, China's General Administration of Customs (GACC) provided the split of natural gas imports via LNG vs pipeline for June [LINK]. i) LNG imports. GACC reported that over June, China imported 9.00 bcf/d of LNG, down -11.6% MoM from 10.18 bcf/d in May and -4.6% YoY from 9.43 bcf/d in June 2023. ii) Natural Gas via pipeline imports. GACC reported that over June, China imported 7.68 bcf/d of natural gas via pipeline, which is up +4.0% MoM from 7.39 bcf/d in May and +8.4% YoY from 7.09 bcf/d in June 2023. China has been benefitting from cheap natural gas exports from Russia but have also been opportunistic in their buying of LNG given weak spot prices in recent months.

China prioritizes Russian pipeline gas imports as it is cheaper than LNG

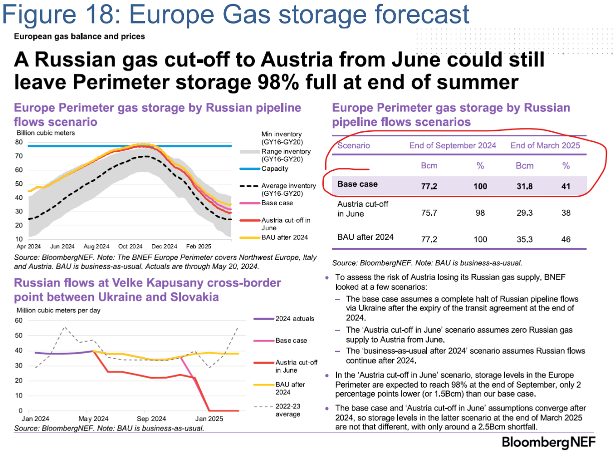
Here is what we wrote in our June 9, 2024 Energy Tidbits memo. "*For years, we have warned that how Chinese natural gas pipeline imports from Russia would be prioritized over LNG imports due to the cheap cost of Russian pipeline gas. On Monday, we tweeted [LINK] "It's way cheaper! And why China prioritizes imports of RUS #NatGas via pipeline vs #LNG imports. 2019-21: China only paid $4.40/mmbtu* *for RUS pipeline gas vs RUS charged Europe ~$10/mmbtu. See 👇 @maxseddon @NastyaStognei @HenryJFoy @leahyjoseph report. #OOTT." The FT report "Russia-China gas pipeline deal stalls over Beijing's price demands" was focused on China wanting too low a natural gas price for the next expansion of Russian pipeline natural gas to China. But what jumped out at us was the reminder that China is currently getting cheap natural gas from Russia. FT wrote "China already pays Russia less for gas than to its other suppliers, with an average price of $4.4 per million British thermal units, compared with $10 for Myanmar and $5 for Uzbekistan, the CGEP researchers calculated from 2019-21 customs data. During the same years Russia exported gas to Europe at about $10 per million Btu, according to data published by the Russian central bank." Our Supplemental Documents package includes the FT report."*

Natural Gas: BloombergNEF forecast Europe gas storage full by end of Sept

EU gas storage forecast to be full

When we look at the weekly Europe gas storage data, it continues to look like Europe gas storage is on track to be full before winter and increasingly sooner than the be full by Sept 30 as BloombergNEF forecast on May 31. We suspect it may be summer holiday related but, as our 7am MT news cut off, we haven't seen an update to BloombergNEF's European Gas Monthly report. Here is what we wrote in our June 2, 2024 Energy Tidbits on the then new BloombergNEF forecast for Europe gas storage to be full by the end of Sept. "*On Friday, we tweeted [LINK] "ICYMI. @BloombergNEF base case forecasts Europe #NatGas storage full by Sept 30! If so, it won't just hurt Europe TTF prices but also push back on US #HH prices. #OOTT." BloombergNEF's European Gas Monthly also had its base case forecsat for Europe natural gas storage and they call for storage to be full by Sept 30. BloombergNEF also highlights that Eruope natural gas storage would still be 98% by Sept 30 if there is a cut off of any Russian natural gas to Austria in June. IF Europe natural ags storage is full by Sept 30, there should be some strong downward price pressure on Europe natural gas prices in Sept and Oct. And if so, there should also be some push back on US HH natural gas prices.* "

Figure 18: Europe Gas storage forecast



Scenario	End of September 2024		End of March 2025	
	Bcm	%	Bcm	%
Base case	**77.2**	**100**	**31.8**	**41**
Austria cut-off in June	75.7	98	29.3	38
BAU after 2024	77.2	100	35.3	46

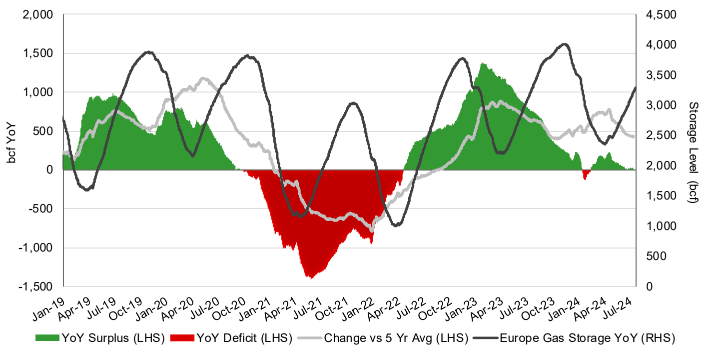
Source: BloombergNEF

Natural Gas: Europe storage builds WoW to 82.0%, flat YoY

This week, Europe storage increased by +1.7% WoW 82.0% vs 80.3% on July 11. Storage is basically flat from last year's levels of 82.3% on July 18, 2023, and up huge vs the 5-year average of 64.33%. As noted above, it looks like Europe gas storage is on track to be filled before winter and looks like pointing to it being full in line with BloombergNEF's May 31 forecast for Europe gas storage to be full by Sept 30. Note that this doesn't necessarily mean 100% but as storages gets to the low to mid 90%, injections start to slow down and LNG inbound cargoes will start to be redirected to other regions. Our fear remains that if this is likely by the end of Aug, we should see low Europe gas prices in Sept/Oct. Below is our graph of European Gas Storage Level.

Europe gas storage

Figure 19: European Gas Storage Level

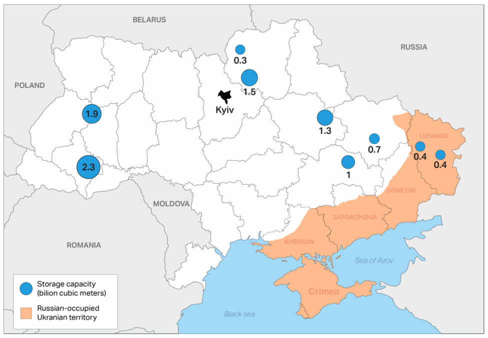


Source: Bloomberg, SAF

Ukraine storage is currently ~7% of total Europe gas storage volume

We have been breaking out Ukraine gas storage levels since the Mar/Apr Russian bombing of the Ukraine natural gas storage, which only impacted some above ground natural gas infrastructure. But it also reminded that of the risk to Europe gas storage from Russia attacks. We broke out the Ukraine storage data from the above Europe data we monitor weekly from the GIE AGSI website [LINK], and, on July 18th, natural gas in Ukraine storage was at 19.2% of its total capacity, up from 18.6% of its total capacity on July 4th. Last year, Ukraine storage started the winter on Nov 1, 2023 at 39.38%. Right now, Ukraine makes up ~7% of Europe's natural gas in storage and, at the beginning of winter 2023/24, it was ~10% of Europe's natural gas in storage. Below is a map of Ukraine's major gas storage facilities.

Figure 20: Ukraine Gas Storage Facilities as of July 2023



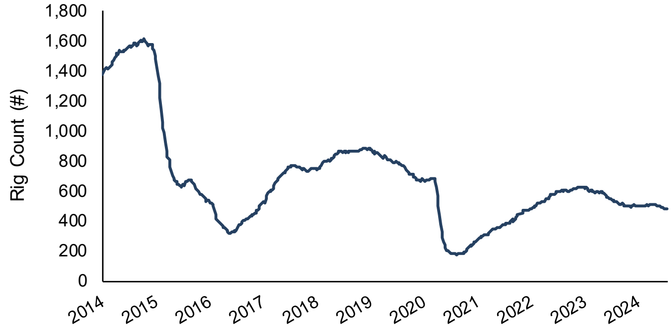
Source: Bruegel

Oil: US oil rigs down -1 rig WoW but -53 rigs YoY to 477 rigs

US oil rigs down -53 YoY

On Friday, Baker Hughes released its weekly North American drilling rig data. (i) Note Baker Hughes no longer breaks out the basin changes by oil vs gas rig type. (ii) Total US oil rigs were down -1 rig WoW to 477 oil rigs as of July 19. US oil rigs went below 520 rigs on Aug 25 and has been around 490-510 rigs for the past several months, however, this week's 477 rigs marks the lowest oil rig count since December 2021. (iii) Note we aren't able to see the basin changes but not by type of rig. The major basin changes were Ardmore Woodford -2 rigs WoW to 1 rig, Cana Woodford -1 rig WoW to 16 rigs, Eagle Ford +1 rig WoW to 49 rigs, Haynesville -1 rig WoW to 35 rigs, and Utica +1 rig WoW to 11 rigs. (iv) The overlooked US rig theme is the YoY declines. Total US rigs are -83 YoY to 584 rigs including US oil rigs -53 oil rigs YoY to 477 oil rigs. And for the key basins, the Permian is -28 rigs YoY, Haynesville is -9 rigs YoY and Marcellus -10 rigs YoY. (v) US gas rigs were up +3 rigs this week to 103 gas rigs.

Figure 21: Baker Hughes Total US Oil Rigs



Source: Baker Hughes, SAF

Oil: Permian oil rigs to be impacted by Waha natgas prices being very low or negative

Waha gas prices closed at $0.30

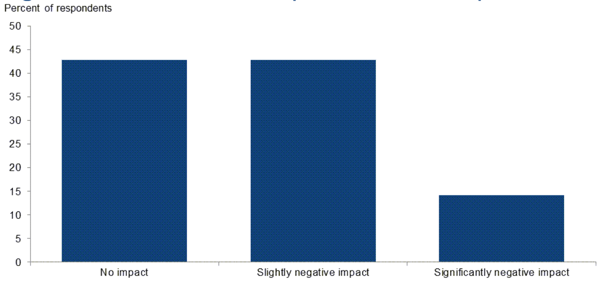
On Friday, we tweeted [LINK] "*Waha #NatGas +$0.21 WoW to $0.30 today. Better than the recent negative prices but still very low. Remember Permian #Oil wells produce associated*

#NatGas. So low or negative Waha prices may not impact big Permian players oil drilling plans but expected to cause small Permian players to cut back on Permian oil drilling plans. 👇*@DallasFed. #OOTT."* It was better week for Waha (Permian) natural gas prices that were negative two weeks ago. This week, Waha natural gas prices were +$0.21 WoW to close at $0.30. Postiive but very small. And Waha prices have been negative at times in April, May, June and July. This price volatility is also a reason why Permian oil rigs have been soft. The natural gas from the Permian is the associated natural gas that is produced from Permian oil wells. So if there is near term concerns on Waha natural gas prices, it will impact oil drilling from smaller Permian players. Our tweet included an excerpt from the Dallas Fed quarterly energy survey that was posted two weeks ago [LINK] One of their special questions was "*What impact will low Waha Hub natural gas prices likely have on your firm's drilling and completion plans in the Permian for the rest of 2024?* " Dallas Fed summarized the responses "*The Waha Hub is a gathering location for natural gas in the Permian Basin that connects to major pipelines. Of the executives surveyed, 43 percent said low Waha Hub natural gas prices won't likely affect their firm's drilling and completion plans in the Permian for the rest of 2024. Meanwhile, 43 percent expect a slightly negative impact, and an additional 14 percent said the low Waha Hub prices will have a significantly negative impact on drilling and completion plans for the rest of this year in the Permian. Small E&P firms were more likely to expect negative impacts."*

Figure 22: Waha Natural Gas Prices to July 19 close

Source: Bloomberg

Figure 23: Percent of responses what impact low Waha prices on rest of 2024 drilling plans



NOTES: Executives from 28 exploration and production firms answered this question during the survey collection period, June 12–20, 2024. This question was posed only to executives who said their firm drilled or completed a horizontal well in the Permian Basin in the past two years.
SOURCE: Federal Reserve Bank of Dallas.

Source: Dallas Fed

Oil: Halliburton too early to tell if US rigs will be flat in 2025

Haliburton's 2025 US rig outlook

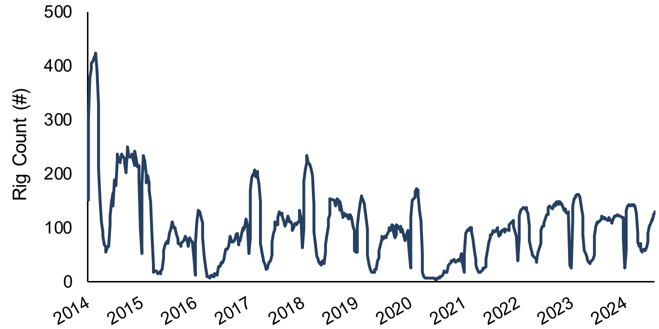
Halliburton held its Q2 call on Friday morning. In the Q&A, mgmt was asked "*I mean, is it too aggressive to think about in a flat North America rig count environment?*" CEO Miller replied "*Yeah, I mean, it could be. I mean, we need to watch it unfold next year, but look, again, I'll go back to our performance in the market is going to outperform. It's early on '25, but I've got a confidence in the technology and the solutions that we provide for our customers that are unique, and that puts us in the position to outperform."* It is important to note that Miller also said that 2025 activity should be directionally higher than H2/24 activity. But, as noted in the Q&A reply, Miller isn't yet prepared to say 2025 activity, on average, will be flat to 2024 activity, on average.

Oil: Total Cdn rigs up +7 rigs WoW, consistent with seasonal ramp-up

Cdn total rigs up WoW

As happens every year in Canada, rigs start a strong seasonal ramp up after Spring breakup. Spring break up is when melting snow leads to road access being limited/restricted in many parts of Alberta and BC and rigs dramatically decrease from peak winter drilling levels. Then after spring break-up (normally in early June), Cdn rigs start their steady ramp up. Total Cdn rigs declined from 231 at the beginning of March to 114 in early June. This week's rig count was up +7 rigs WoW to 196 rigs. This week looks to continue the ramp up we saw beginning last month that follows every spring break up, despite the increasing wildfires. Cdn oil rigs were up +4 rigs WoW this week to 130 rigs and are up +14 rigs YoY. Gas rigs are up +3 rigs WoW this week to 66 rigs and are down -5 rigs YoY, and miscellaneous rigs are up +1 rig WoW to 1 rig total and up +1 rig YoY. Baker Hughes did not update their old format report, so we weren't able to see the provincial breakouts.

Figure 24: Baker Hughes Total Cdn Oil Rigs



Source: Baker Hughes, SAF

Oil: US weekly oil production flat WoW at 13.300 mmb/d

US oil production flat WoW

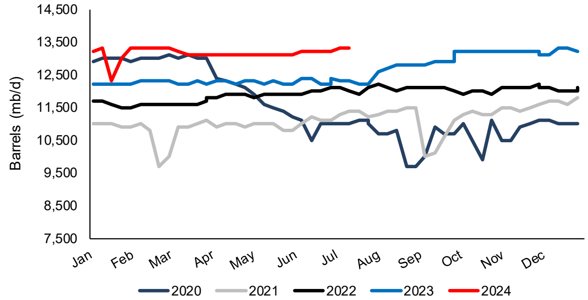
The EIA's weekly oil supply estimates have been essentially unchanged for the last nine months ranging from 13.1 to 13.3 mmb/d with the weekly estimates in June all at 13.2 mmb/d, and this week's estimate is flat WoW at 13.3 mmb/d. We have to give the EIA credit for putting out weekly oil supply estimates for the prior week. That can't be easy so no one should be surprised that the EIA weekly oil supply estimates, based on the Form 914 actuals, will sometimes require re-benchmarking. And sometimes the re-benchmarking can be significant and other times, it is relatively small. Here's what the EIA wrote on their website back in April with the April STEO: "*When we release the Short-Term Energy Outlook (STEO)* *each month, the weekly estimates of domestic crude oil production are reviewed to identify any differences between recent trends in survey-based domestic production reported in the Petroleum Supply Monthly (PSM) and other current data. If we find a large difference between the two series, we may re-benchmark the weekly production estimate on weeks when we release STEO. This week's domestic crude oil production estimate incorporates a re-benchmarking that decreased estimated volumes by 177,000 barrels per day, which is about 1.3% of this week's estimated production total".* On July 9, the EIA released its July STEO. There was an upward revision to Q2/24 production estimates to 13.21 mmb/d from 13.17 mmb/d, and Q1/24 production estimates were unchanged at 12.94 mmb/d. This week, the EIA's production estimates were flat WoW at 13.300 mmb/d for the week ended July 12. Alaska was up +0.038 mmb/d WoW to 0.422 mmb/d from 0.384 mmb/d last week. Below is a table of the EIA's weekly oil production estimates.

Figure 25: EIA's Estimated Weekly US Field Oil Production (mb/d)

	Week 1		Week 2		Week 3		Week 4		Week 5	
Year-Month	End Date	Value	End Date	Value	End Date	Value	End Date	Value	End Date	Value
2023-Jan	01/06	12,200	01/13	12,200	01/20	12,200	01/27	12,200		
2023-Feb	02/03	12,300	02/10	12,300	02/17	12,300	02/24	12,300		
2023-Mar	03/03	12,200	03/10	12,200	03/17	12,300	03/24	12,200	03/31	12,200
2023-Apr	04/07	12,300	04/14	12,300	04/21	12,200	04/28	12,300		
2023-May	05/05	12,300	05/12	12,200	05/19	12,300	05/26	12,200		
2023-Jun	06/02	12,400	06/09	12,400	06/16	12,200	06/23	12,200	06/30	12,400
2023-Jul	07/07	12,300	07/14	12,300	07/21	12,200	07/28	12,200		
2023-Aug	08/04	12,600	08/11	12,700	08/18	12,800	08/25	12,800		
2023-Sep	09/01	12,800	09/08	12,900	09/15	12,900	09/22	12,900	09/29	12,900
2023-Oct	10/06	13,200	10/13	13,200	10/20	13,200	10/27	13,200		
2023-Nov	11/03	13,200	11/10	13,200	11/17	13,200	11/24	13,200		
2023-Dec	12/01	13,100	12/08	13,100	12/15	13,300	12/22	13,300	12/29	13,200
2024-Jan	01/05	13,200	01/12	13,300	01/19	12,300	01/26	13,000		
2024-Feb	02/02	13,300	02/09	13,300	02/16	13,300	02/23	13,300		
2024-Mar	03/01	13,200	03/08	13,100	03/15	13,100	03/22	13,100	03/29	13,100
2024-Apr	04/05	13,100	04/12	13,100	04/19	13,100	04/26	13,100		
2024-May	05/03	13,100	05/10	13,100	05/17	13,100	05/24	13,100	05/31	13,100
2024-Jun	06/07	13,200	06/14	13,200	06/21	13,200	06/28	13,200		
2024-Jul	07/05	13,300	07/12	13,300						

Source: EIA

Figure 26: EIA's Estimated Weekly US Oil Production



Source: EIA

Oil: North Dakota May oil down MoM to 1.195 mmb/d due to weather issues

North Dakota May oil production down MoM

On Tuesday, the North Dakota Industrial Commission posted its monthly Director's Cut, which includes May's oil and natural gas production data as well as other data such as well completions, DUCs, number of producing wells, etc [LINK]. North Dakota's oil production in

May was down MoM -48,558 b/d from April to 1.195 mmb/d, and is up +5.3% YoY against 1.135 mmb/d in May 2023. Oil production being down MoM in May was unexpected and due to weather driven factors. Rather North Dakota expected May to be up MoM. Our April 14, 2024 Energy Tidbits highlighted the NDIC expecting higher production when NDIC's Lynn Helms said "*and as you know, in April, we were still working our way out of winter. May, we should see healthier, stronger numbers. That's what the daily gas nominations are indicating to us*." But in this week's Tuesday monthly webcast, NDIC explained why May was lower than expected. We created a transcript of their comments ""…*May production numbers. Daily production was 1.195 mmb/d. That was down approx 3.9%. That was a little surprising. But likely due to the road restrictions that were probably still in place in May and lower than expected completion numbers that we'll address on the next page*." "Gas production was up slightly at 0.5% increase. The GOR overall is still increasing." "*Wells permitted, June we saw 78. That's a little lower than we'd like. We feel we need to be in that 90 to 100 a month range to grow our production at that 1 to 2% level. The rig count has been steady, that's good news. The completions, 55 preliminarily in June. That's a little lower than we'd like to see. We feel we need to be in the 90 to 100 range to achieve that production growth."* And then later on how road limites frm Ray were a factor in May production being down. NDIC said "*I'm speculating that's one of the contributing factors as to why our production was down. There was a significant, a fair amount of rain in May also, which likely slowed things down. The road limits are, they're really impactful on the frack crews that are out there because they have to move around. It's not like a drilling rig where they can sit on a pad now and can drill multiple wells and not have to move, get out on the road or anything. So you need a lot of truck traffic to move those frack crews around."* Our Supplemental Documents package includes excerpts from the NDIC Director's Cut.

Figure 27: North Dakota Oil Production by Month

(b/d)	2018	2019	2020	2021	2022	2023	2024	24/23
Jan	1,179,564	1,403,808	1,430,511	1,147,377	1,088,613	1,060,708	1,102,976	4.0%
Feb	1,175,316	1,335,591	1,451,681	1,083,554	1,089,091	1,158,837	1,252,102	8.0%
Mar	1,162,134	1,391,760	1,430,107	1,108,906	1,122,640	1,122,693	1,229,536	9.5%
Apr	1,225,391	1,392,485	1,221,019	1,123,166	900,597	1,133,435	1,243,678	9.7%
May	1,246,355	1,394,648	859,362	1,128,042	1,059,060	1,135,009	1,195,120	5.3%
June	1,227,320	1,425,230	893,591	1,133,498	1,096,783	1,166,604		
July	1,269,290	1,445,934	1,042,081	1,076,594	1,072,632	1,180,611		
Aug	1,292,505	1,480,475	1,165,371	1,107,359	1,075,307	1,223,617		
Sept	1,359,282	1,443,980	1,223,107	1,114,020	1,121,063	1,280,052		
Oct	1,392,369	1,517,936	1,231,048	1,111,910	1,121,754	1,254,475		
Nov	1,375,803	1,519,037	1,227,138	1,158,622	1,098,389	1,278,909		
Dec	1,402,741	1,476,777	1,191,429	1,144,999	957,864	1,274,869		

Source: NDIC, NDPA

North Dakota expects relatively flat oil production for May/June/July

We always listen to the monthly NDIC Director's Cut webcast for additional insights into North Dakota oil and gas production, in particular the near term production outlook. On Wednesday, we tweeted [LINK] "*North Dakota #Oil production expected flat M/J/J before growth in Aug. 👇ND #Oil production -3.9% MoM in May to 1.195 mmb/d, June expected similar, July still up in the air and real growth not until A/S/O/N. Per M. Bohrer & J. Kringstad on NDIC Director's Cut webcast. #OOTT."* North Dakota said they don't expect oil production growth until August. We created a transcript of their comments. At 18:00 min mark, they were asked do you expect June production to recover from May? Kringstad "*I don't. The question was do we* *expect June production to recover. I am anticipating, looking at those completion numbers, I think it be very similar type of levels to the May. I am not anticipating June to be a growth month yet. July is still up in the air a little bit, there's been some maintenance things going on in the midstream side so I think the real growth is going to come in that August, September, October, November time frame up until winter starts causing some constraints*".

Oil: North Dakota crude by rail up MoM to 143,544 b/d in May

North Dakota CBR up MoM in May

On Tuesday, the North Dakota Pipeline Authority posted its Monthly Update "*July 2024 Production & Transportation"* [LINK] containing May's data. Please note that we always go to the backup excel sheets from the North Dakota Pipeline Authority that provide low and high estimates for Williston crude by rail exports. While the NDPA's chart shows a high and low estimate by month, we always take the midpoint when summarizing the update. In the backup excel, the NDPA estimates crude by rail in May from a low of 128,544 b/d and a high of 158,544 b/d for an average of 143,544 b/d. There was an upward revision to April numbers which used to have an average of 138,321 b/d, but is now 142,131 b/d. The NDPA did not comment on the MoM changes. Below is a chart showing the crude by rail volumes since 2014. Our Supplemental Documents package includes excerpts from the NDPA Monthly Update.

Figure 28: Estimated North Dakota Rail Export Volumes

Source: NDPA

Natural Gas: Liberty CEO current frac levels see US oil production "*probably flat at best*"

Liberty on US oil production

Liberty Energy CEO Wright highlighted that US frac activity is pointing to flat at best US oil and gas production in H2/24. Earlier in the memo, we highlighted Liberty Energy CEO Wright's view that need to see higher frac levels just to keep US natural gas production flat. Liberty Energy is one of the big frac companies who are big in al the major US shale/tight oil and natural gas basins and held its Q2 call on Thursday morning. On Thursday, we tweeted [LINK] "*Flat US #Oil #NatGas production at best in H2. Major US fracker, Liberty Energy CEO says: "got to have more activity to just keep US #NatGas production flat, let alone a bit of growth" "haven't seen a production trend reflective of today's frac activity. It's probably flat at best oil production" #OOTT."* Wright noted that frac activity in North American "*modestly softer*" in the H2/24. In mgmt prepared comments *"Industry conditions moderated through* *the first half of this year. We now anticipate that total North American completions activity will be modestly softer in the second half of the year due to budget front-loading by some operators."* And Wright highlighted that need higher frac levels. In mgmt prepared comments *"Frac industry trends have moderated marginally in recent periods on the heels of slightly softer drilling activity in both oil and gas basins during the first half of 2024. Industry-wide completions activity has declined to levels consistent with only roughly flat oil and gas production. For the US to deliver rising oil and gas production levels, completion activity would need to rise. Signs of tightness for quality Frac crews may emerge in 2025 on a demand-pull for energy."* Then Wright noted that US oil production would be *"probably flat at best".* Good reminder that production levels today reflect frac activity a few months ago. In the Q&A, CEO Wright replied *"And today's oil production is also pretty flat. We had a chunk of growth last year, but crude production, it's been flattish for six or eight months, and we've still seen activity decline a little bit since then. So the production trend you're seeing today, that's reflective of what frac activity was three to six months ago. We haven't seen a production trend reflective of today's frac activity. It's probably flat at best oil production. So again, I'm not predicting a big change next year, but this second half of this year is going to be a little softer than the first half, and the first half of next year will likely be back up, I would say, at least to the levels of the first half of this year. So we're not expecting a huge rebound, but from where we are today, I think you'll see increased activity in the first half of next year."*

Oil: Halliburton CEO expects H2/24 to be "*near the low point" of drilling & frac activity"*

Haliburton's H2/24 activity outlook

Halliburton didn't give any forecast for US oil and gas production but it's view on US drilling and fracking activity was in line, perhaps even a little more cautious, than Liberty Energy. Halliburton reported its Q2 and held its Q2 call on Friday morning. Halliburton is one of the major US frackers. (i) Early Friday morning, based on the release, we tweeted [LINK] *"Another major fracker, Halliburton, on decreasing US fracking. "decline was primarily driven by decreased pressure pumping services in U.S. land and lower activity across multiple product service lines in the Gulf of Mexico" Q2 call 630am MT. See Liberty Energy 👇Q2 #OOTT."* (ii) Halliburton CEO Miller's call on the Q2 call seemed marginally more cautious on when US drilling and fracking activity would pick up. (iii) Miller didn't say the industry activity bottom would be in H2/24 but rather seemed to suggest it may not be until early 2025. In the prepared remarks, Miller said "*As I look to the second half of 2024, I now expect full-year North America revenues to decline 6% to 8% versus last year, driven by lower activity. I expect that the second half of 2024 will be near the low point of activity levels this cycle."* (ii) Expects 2025 activity to be higher than H2/24, but didn't say how it 2025 would compare to full year 2024. In the prepared remarks, Miller said "*and while it's too early to give specific guidance for 2025 in North America, I expect activity to be directionally higher than the second half of 2024. Here's how I think about this. First, I expect an increase in activity after E&P companies complete their acquisitions and establish new development plans."*

Oil: Trump highlights '*Drill Baby Drill*' in his acceptance speech

Trump "drill baby drill'

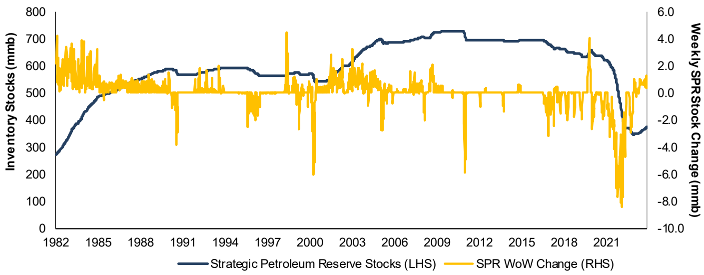
We recognize that the market is focused on Trump's big impact on oil being his "drill, baby, drill" for the US oil industry that he said twice in his acceptance speech on Thursday. And how, assuming the oil industry wants to crank up drilling, would be negative to oil with a return to growth for US oil production. It will be interesting to see the push/pull between Trump wanting the US players to drill more oil and the investors continuing to want to have the oil companies stick to a low growth, return of capital model. And what side the oil companies will take. Trump is clear that he sees this as a fundamental part of his way he will reduce inflation and the cost of living for Americans. Here is what Trump said in his acceptance speech "*So tonight, I make this pledge to the great people of America. I will end the devastating inflation crisis immediately, bring down interest rates and lower the cost of energy. We will drill, baby, drill." "Can you believe what they're doing? But by doing that, we will lead a large-scale decline in prices. Prices will start to come down. Energy raised it. They took our energy policies and destroyed them. Then they immediately went back to them. But by that time that, so much was lost. But we will do it at levels that nobody's ever seen before. And we'll end lots of different things. We'll start paying off debt and start lowering taxes even further. We gave you the largest tax cut. We'll do it more."*

Oil: US SPR less commercial reserve deficit narrows, now -66.504 mmb

The US Strategic Petroleum Reserves (SPR) continues to be much lower than total US commercial crude oil reserves. The SPR went back below commercial for the first time since 1983 in the Sep 16, 2022 week. This week, we saw a build on the SPR side and a draw on the commercial side. The EIA's weekly oil data for July 12 [LINK] saw the SPR reserves increase +0.650 mmb WoW to 373.722 mmb, while commercial crude oil reserves decreased -4.870 mmb to 440.226 mmb. There is now a -66.504 mmb difference between SPR reserves and commercial crude oil reserves. The below graphs highlight the difference between commercial and SPR stockpiles, along with the weekly changes to SPR stockpiles.

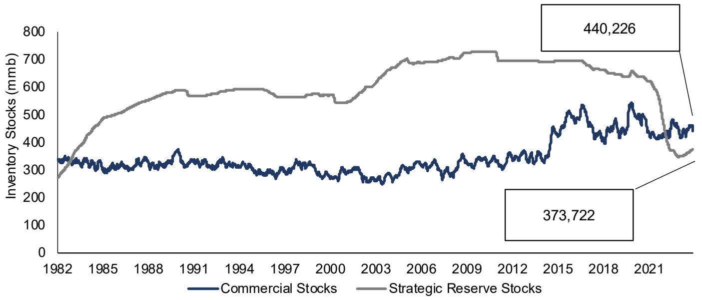
US SPR reserves

Figure 29: Strategic Petroleum Reserve Stocks and SPR WoW Change



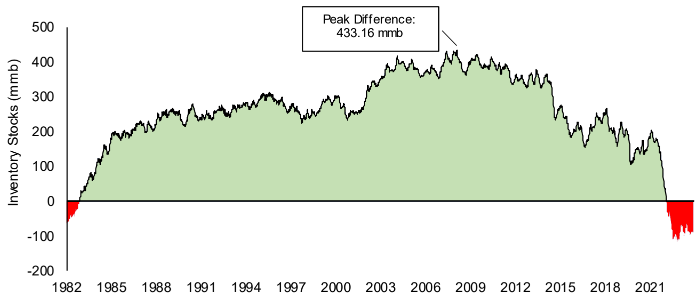
Source: EIA

Figure 30: US Oil Inventories: Commercial & SPR



Source: EIA

Figure 31: US Oil Inventories: SPR Less Commercial



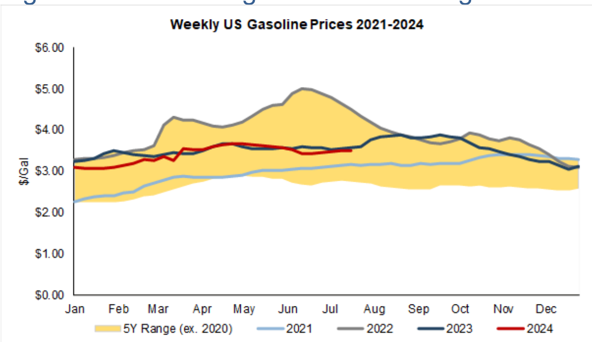
Source: EIA

Oil: US national average gasoline price -$0.03 Wow to $3.50

US gasoline prices

Yesterday, we tweeted [LINK] "*AAA National average prices -$0.03 WoW to $3.50 on July 20, +$0.04 MoM & -$0.08 YoY. Texas was -$0,07 WoW to $3.10 with no lasting gasoline supply impact from Hurricane Beryl. California at $4.69 on July 20,, which was -$0.07 WoW, -$0.13 MoM & -$0.20 YoY. Thx @AAAnews #OOTT.*" Yesterday, AAA reported that US national average prices were $3.50 on July 20, which was -$0.03 WoW, +$0.04 MoM and -$0.08 YoY. The WoW drop was led by Texas, which the AAA reported was -$0.07 WoW to $3.10. on July 20. This was a reversal of the prior week Texas being +$0.07 WoW, which we thought was a temporary spike due to the risk of Hurricane Beryl interrupting gasoline supplies. Since Beryl did not have any lasting impact, Texas gasoline prices went back down. Yesterday, AAA reported California average gasoline prices were $4.69 on July 20, which was -$0.07 WoW, -$0.13 MoM, and -$0.20 YoY. Below is our graph of Bloomberg's National Average Gasoline prices.

Figure 32: Bloomberg's National Average Gasoline Prices Thru July 19, 2024



Source: Bloomberg

Oil: Crack spreads -$0.79 WoW to $22.43, WTI -$2.08 WoW to $80.13

Crack spreads closed at $22.43

On Friday, we tweeted [LINK] "*321 crack -$0.79 WoW to $22.43 on Jul 19. WTI was -$2.08 WoW to $80.13. No surprise, cracks dropped as Beryl hit Houston on July 8 & other refinery shut ins ie. XOM Joliet has led to reduced crude input into refineries. Thx @business #OOTT.*" There was still some impact from Beryl plus other refineries like Exxon Joliet

(Illinois) was shut-in due to power outage from the derecho. We should have added our standard comment that crack spreads in the low $20s typically point to near term WTI softness. It looks like most of the Gulf Coast refinery capacity came back on this week but then we saw items like Exxon Joliet power outage from the derecho. Crack spreads were -$0.79 WoW to $22.43 on July 19 and WTI was -$2.08 WoW to close at $80.13. Crack spreads of $22.43 on July 19 followed $23.22 on July 12, $25.38 on July 5, $24.36 on June 28, $24.36 on June 21, $23.45 on June 14, $24.31 on June 7, $24.04 on May 31, $25.65 on May 24, $27.04 on May 17, $25.89 on May 10, $27.59 on May 3 and $28.96 on Apr 26. Crack spreads at $22.43 are only a little bit about above the high end of the more normal pre-Covid that was more like $15-$20.

Crack spreads point to near term oil price moves, explaining 321 crack spread
We have focused on crack spreads for since the 90s as they are an unchanged fundamental of refineries – big crack spreads provide incentives for refineries to buy more crude because there are big profit margins to be made. People often just say "cracks", which refers to the 321 crack spread. This is the spread or margin that refiners make from buying crude at a certain price and then selling the finished petroleum products at their respective prices. The 321 crack spread is meant to represent what a typical US refinery produces. It assumes that for every three barrels of crude oil, the refinery will produce two barrels of gasoline and one barrel of distillates. So the crack spread is based on that formula and worked back to a crack spread per barrel. Below is the current 321 crack spread vs WTI that we put in our tweet where we marked the gaps where the crack spread normally drags up oil prices. The crack spread was $22.43 as of the Friday July 19, 2024 close.

Figure 33: Cushing Oil 321 Crack Spread & WTI July 19, 2014 to July 19, 2024

Source: Bloomberg

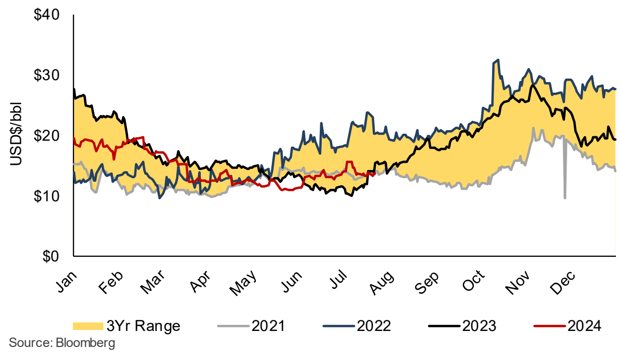
Oil: Cdn heavy oil differentials widen $0.50 WoW to close at $13.80 on July 19

WCS differential widens

It looks like the help to lower WCS less WTI differentials of continued shut-in of some Cdn heavy oil with nearby wildfires was more than offset by the addition of the Exxon Joliet refinery shut-in due to power outages from the derecho this week. But as we look ahead to August, we should start to see the real test of how much the startup of the 590,000 b/d TMX expansion will impact WCS less WTI differentials. Aug is normally when we normally see a widening of the WCS less WTI differentials. And we will see if TMX will lessen that widening.

But even with the TMX startup, there will always be the unexpected impact on WCS less WTI differentials from items like refineries up and downs, wildfires, etc. Below is graph showing WCS-WTI differentials that shows this normal seasonal trend of narrowing WCS-WTI differentials that normally start to widen in Aug. The WCS less WTI differential closed on July 19 at $13.80 which was a widening of $0.50 WoW vs $13.3 on July 12.

Figure 34: WCS less WTI oil differentials to July 19 close



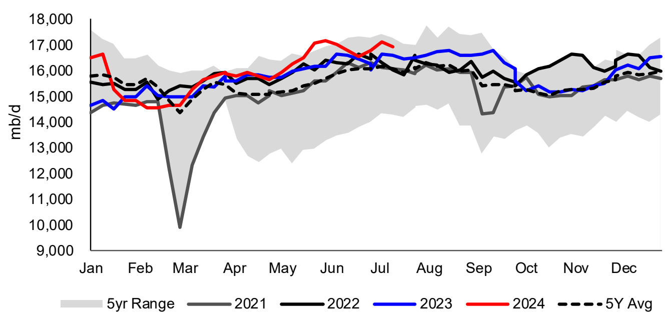
Source: Bloomberg

Oil: Refinery Inputs down -0.181 mmb/d WoW to 16.928 mmb/d

Refinery inputs -0.181 mmb/d WoW

As expected, there was a modest WoW decrease in crude oil processing at US refineries, which we expect was due to some temporary refinery shutdowns as a safety precaution with Hurricane Beryl approaching. There are always unplanned refinery items that impact crude oil inputs into refineries. And there are always different timing for refinery turnarounds. But, as a general rule, this is the normal seasonal ramp up in refinery runs for the summer that normally peaks in August. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended July 12 [LINK]. The EIA reported crude inputs to refineries were down -0.181 mmb/d this week to 16.928 mmb/d and are up +0.343 mmb/d YoY. Refinery utilization was down -1.7% WoW to 93.7%, and was down -0.6% YoY.

Figure 35: US Refinery Crude Oil Inputs



Source: EIA, SAF

Refinery inputs lower due to Hurricane Beryl

Here is what we wrote in last week (June 14, 2024's) Energy Tidbits: "*There were a number of Gulf Coast refineries that temporarily shut down some of their operations for safety reasons when Hurricane Beryl was about to hit. We are not seeing reports of any major damage but, during the temporary shut down period, this would reduce crude oil input into refineries. This should be reflected in the EIA data for the week ended July 12.*"

Oil: Exxon 251,800 b/d Joliet offline for a week due to power outage from a derecho

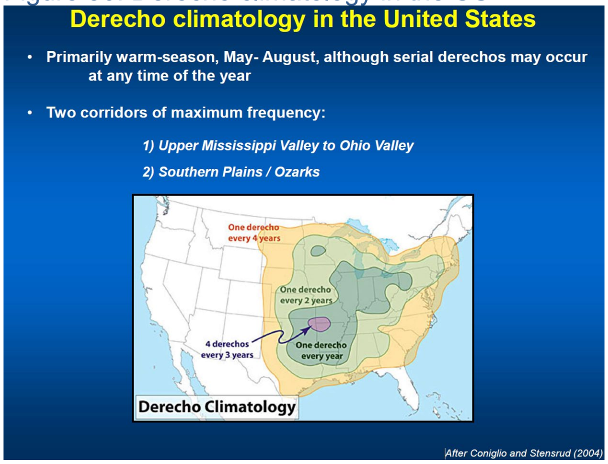
Exxon 251,800 b/d Joliet refinery is offline

On Wednesday, Reuters reported [LINK] "*Exxon's Joliet refinery units down for a week, plans for restart in late July, IIR says.*" And "*Exxon Mobil's 251,800-barrel-per-day refinery in Joliet, Illinois, is likely to have most units offline through this week, industry monitor IIR said on Wednesday. A severe storm passed through Joliet earlier this week, leaving thousands without power. The power outage took 16 units offline on Monday night, according to data from IIR. Among them are a 127,000-barrels-per-calendar-day (bcd) vacuum distillation unit and a 98,000-bcd fluid catalytic cracker unit. Four hydrotreater units and three sulfur recovery units also went down during the outage. The units are expected to be down for a week with plans to restart over the upcoming weekend, according to IIR. Exxon did not immediately respond to a request for comment.*"

Many have never heard of a deadly weather "derecho"

Note that the vast majority of comments on the big storms that went thru Chicago did not mention that it was a derecho. But we did hear a few mention derecho. We haven't mentioned derecho since our June 7, 2020 Energy Tidbits when a big derecho raced across Pennsylvania and New Jersey moving at over 80 mph. At that time, AccuWeather explained it "*A derecho is a long-lived line of severe thunderstorms that travels in a single direction for more than 250 miles, according to the NWS Storm Prediction Center's definition. The weather phenomenon must feature wind gusts of 58 mph or higher, which typically cause straight-line wind damage, to meet the SPC criteria for a derecho. However, the standards for a derecho are not uniform throughout the weather industry, which can lead to confusion. For instance, the American Meteorological Society (AMS) criteria stipulate that damage must be incurred either continuously or intermittently over a swath of at least 400 miles and a width of approximately 60 miles or more for a storm to be considered a derecho. Derechos are sometimes referred to as inland hurricanes due to the hurricanelike conditions that occur over land with this weather phenomenon. According to the AMS, the name comes from a Spanish word that translates to "straight ahead" or "direct" and the term was selected "to discriminate between wind damage caused by tornadoes, which have rotating flow, from straight-line winds."*" On Feb 9, 2024, NOAA had a presentation "*Derecho: An Introduction*". Our Supplemental Documents package includes excerpts from the NOAA Feb 9, 2024 presentation.

Figure 36: Derecho climatology in the US



Source: NOAA

Oil: US net oil imports up +0.312 mmb/d WoW as oil exports down -0.035 mmb/d WoW

US net oil imports

We don't think the weekly import/export data is clear this week given that there would have been some disruptions from Hurricane Beryl. The EIA reported US "NET" imports were up +0.312 mmb/d to 3.073 mmb/d for the July 12 week. US imports were up +0.332 mmb/d to 7.037 mmb/d, while exports were down -0.035 mmb/d to 3.964 mmb/d. Top 10 was up +0.332 mmb/d. (i) Venezuela weekly imports. We know why the EIA doesn't have any data in the row for Venezuela weekly oil imports but we still don't know if the weekly oil imports are off or if Venezuela is included in the weekly oil imports in the Others number. But we do know the EIA monthly data shows Padd 3 imports from Venezuela >150,000 b/d. Give the EIA credit for putting out weekly oil import estimates, but it's a reminder that we have to be careful about using the weekly oil import estimates. Rather we need to make sure we go to the monthly data for oil imports. (i) Canada was up +0.807 mmb/d to 4.418 mmb/d. Weekly imports have been higher of late with reports of increased Cdn crude coming off TMX and hitting west coast US refineries. (ii) Saudi Arabia was up +0.119 mmb/d to 0.394 mmb/d. (iii) Mexico was down -0.231 mmb/d to 0.388 mmb/d. This is significantly lower than prior year's levels with the new Olmeca (Dos Bocas) refinery ramping up and Pemex's other refineries increasing crude oil processing. . (iv) Colombia was down -0.158 mmb/d to 0.079 mmb/d. (v) Iraq was down -0.097 mmb/d to 0.220 mmb/d. (vi)) Ecuador was down -0.037 mmb/d to 0.050 mmb/d. (vii) Nigeria was down -0.151 mmb/d to 0.164 mmb/d.

Figure 37: US Weekly Preliminary Imports by Major Country

	May 17/24	May 24/24	May 31/24	Jun 7/24	Jun 14/24	Jun 21/24	Jun 28/24	Jul 5/24	Jul 12/24	WoW
Canada	3,495	3,666	3,768	3,974	4,137	3,890	3,918	3,611	4,418	807
Saudi Arabia	486	422	375	278	372	162	146	275	394	119
Venezuela	0	0	0	0	0	0	0	0	0	0
Mexico	184	551	538	987	563	372	332	619	388	-231
Colombia	215	32	496	75	306	83	276	237	79	-158
Iraq	239	233	126	228	164	195	191	317	220	-97
Ecuador	163	103	200	149	199	210	152	87	50	-37
Nigeria	144	71	0	208	86	57	222	315	164	-151
Brazil	315	127	254	134	201	341	74	251	331	80
Libya	0	262	0	87	0	86	89	0	0	0
Top 10	5,241	5,467	5,757	6,120	6,028	5,396	5,400	5,712	6,044	332
Others	1,422	1,302	1,301	2,184	1,026	1,215	1,147	1,048	993	-55
Total US	**6,663**	**6,769**	**7,058**	**8,304**	**7,054**	**6,611**	**6,547**	**6,760**	**7,037**	**277**

Source: EIA, SAF

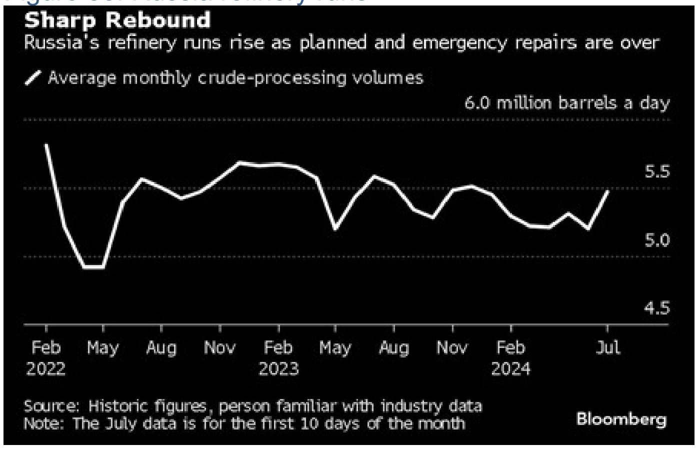
150,000 b/d Cdn crude from TMX expansion is hitting US West Coast refineries
We haven't seen any updated estimates of how much oil from TMX is being shipped to US West Coast refineries. The weekly EIA oil imports from Canada do not split out how much Canadian oil is hitting each PADD district. We won't have any sense of the EIA numbers until their upcoming EIA Natural Gas Monthly, which will show US oil imports from Canada by PADD and we can get some color on how much TMX oil is being shipped to US West Coast refineries. Here is what we wrote in our June 30, 2024 Energy Tidbits memo. "*But, on Monday, Bloomberg's report "Cheap Canadian Oil Displaces Iraqi Imports on US West Coast" referenced Vortexa data showing about 150,000 b/d of Cdn crude is expected to hit US West Coast refineries coming off TMX. Bloomberg wrote "US West Coast refiners are replacing their heavy Iraqi oil imports with cheaper crude from Canada as the newly expanded Trans Mountain pipeline reshuffles trade flows across the Pacific. California and Washington are set to import about 150,000 barrels a day of Canadian crude by tanker in June — a seven-fold increase from average volumes, according to preliminary Vortexa data. At the same time, imports of Iraq's Basrah Heavy crude are poised to plunge to just 3,587 barrels a day from 76,000 barrels in May."*

Oil: Russian refineries crude processing jumps to 6-month high

Russian oil refineries

Our last two Energy Tidbits memos (July 7 and July 14) have highlighted the reports of how some Russian refineries have been increasing oil processing rates with some repairs being completed to refineries hit by Ukrainian drones. But it has been and continues to be a black box on what level of impact of Ukrainian drones have had on Russian refineries. But we are seeing Bloomberg reports that more oil is being processed at Russian refineries. On Tuesday, Bloomberg reported "*Russia's daily crude processing rates so far this month have rebounded to the highest level since mid-January after refineries emerged from seasonal works and emergency repairs following Ukrainian drone strikes. Russia churned through an average 5.47 million barrels a day of crude on July 1-10, according to a person with knowledge of industry data. That's almost 270,000 barrels a day above the average for most of June and the highest level since the first weeks of January — just before Ukraine started targeting Russia's downstream industry in retaliation for the invasion…...Refinery runs are seeing sharp growth as the nation's seaborne crude exports in the first seven days of the month shrank by the most since before the 2022 invasion of Ukraine."* Our Supplemental Documents package includes the Bloomberg report.

Figure 38: Russia refinery runs



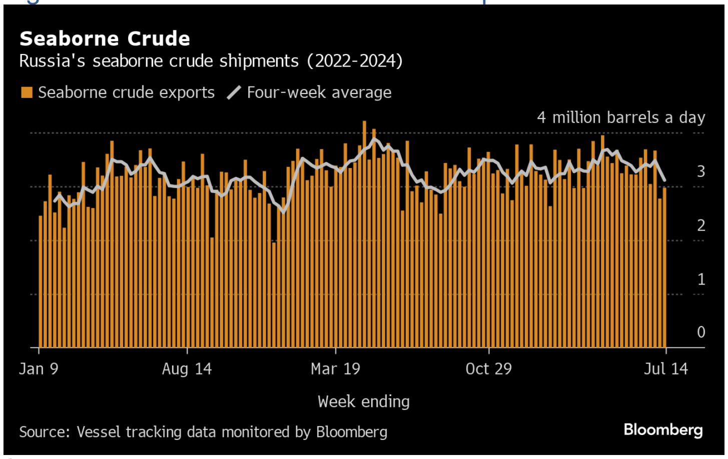
Source: Bloomberg

Oil: Russia's seaborne crude oil exports four-week avg hits 6-month low

Russia's seaborne crude exports

Our July 5, 2024 tweet [LINK] reminded "*Less Russian #Oil for export as Russia restarts refineries hit by drones.*" The simple comment is that as Russian refineries process more Russian crude, it means that there is less Russian crude oil for export, and Russian refineries are returning to operations after recovering from drone attacks. So no surprise to see Bloomberg's Tuesday report *"Russia's four-week average crude exports fell to their lowest since January, continuing a plunge that's seen them drop by about about 570,000 barrels a day from their recent peak in April. The fall continued despite a small recovery in the weekly flow…..There is no evidence of maintenance work or storms to explain the slump.*
The decline mostly came about because of a huge retreat last week. It likely stems from Russia's improving compliance with an OPEC+ output target and a recovery in domestic refining." Russia's seaborne crude exports in the week to July 14 rose by 200,000 b/d to 2.97 mmb/d, but the four-week average fell by 180,000 b/d to 3.11 mmb/d, its lowest since January. Bloomberg reported "*The only region to see an increase in shipments was the Arctic, with three Suezmax tankers leaving Murmansk. Flows out of the Baltic remained muted, with just 12 vessels loading at Primorsk and Ust-Luga. That's down from 16 or 17 ships a week in April. The Sakhalin Island terminal of Prigorodnoye saw no shipments for a third week. Crude shipments so far this year are about 10,000 barrels a day below the average for the whole of 2023."* Russia has pledged to compensate for overproduction against its April target, which was attributed to "technicalities of making significant output cuts". Russia made significant output cuts in May, however they were still above their promised target. Our Supplemental Documents package includes the Bloomberg report.

Figure 39: Russia's Seaborne Crude Shipments



Source: Bloomberg

Russia oil exports to China down vs three months ago with lesser discounts
Russia oil shipments to China averaged 1.36 mmb/d for the first half of April. But they have been down since then with the reports that Russia had cut its discounts to China and that meant China was taking less Russian oil. Bloomberg's above report this week highlighted Russia oil shipments to China were down to 0.99 mmb/d for the week ending July 14, up from last week's 0.93 mmb/d for the July 7 week and down from 1.36 for the first half of April. The last six weeks average is now 1.07 mmb/d. We were warned that China oil imports from Russia were being hit on April 22 by one of our favorite commentators on the Gulf Intelligence Daily Energy Podcasts is Victor Yang, Senior Analyst JLC Network Technology. He is based in China so we like hear his on-the-ground views on oil, natural gas and markets in China. Here is what we wrote in our April 28, 2024 Energy Tidbits memo referencing Yang's comments from our April 22, 2024 tweet [LINK] that included a transcript we made of Yang's comments. "*And for the second quarter, we see a lot of refinery maintenance, is imports will actually come down. And for now, the premium for Russian cargoes have strengthened this year, from -0.5 barrels to -0.3 barrels. And now it's flat to Brent, meaning 0 now. So this has dampened refiners, particularly independents, interest in Russian crude. Their margins for imported crude, including Russian crude, actually turned negative late last month and the beginning of this month. So it's now kind of [inaudible] slightly above the breakeven point. So the interest in this has been dampened too. So we are not expecting imports to grow much in the second quarter, yes.*" Below is the table from Bloomberg's Russia oil exports report this week.

Figure 40: Russian Crude Exports to Asia

Crude Shipments to Asia
Shipments of Russian crude to Asian buyers in million barrels a day

4 weeks ending	China	India	Other	Unknown Asia	Other Unknown	Total
June 9, 2024	1.24	1.58	0.00	0.15	0.00	2.97
June 16, 2024	1.16	1.74	0.00	0.10	0.00	3.00
June 23, 2024	1.02	1.89	0.00	0.04	0.00	2.95
June 30, 2024	1.08	1.87	0.00	0.06	0.00	3.01
July 7, 2024	0.93	1.92	0.00	0.08	0.00	2.93
July 14, 2024	0.99	1.71	0.00	0.13	0.00	2.83

Source: Vessel tracking data compiled by Bloomberg Bloomberg

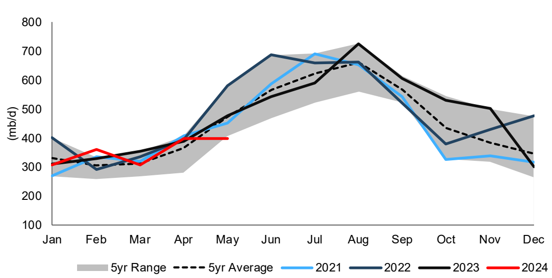
Source: Bloomberg

Oil: Saudi use of oil for electricity down small MoM in May

Saudi oil use for electricity down in May

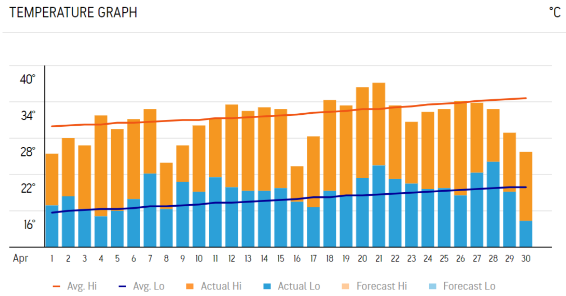
As noted earlier, we won't be surprised to see a big ramp up in Saudi's use of oil for electricity in July when that data comes out in two months as it's been really hot in the Middle East. The JODI data for Saudi Arabia oil supply and demand for May [LINK] was updated on Wednesday. Saudi Arabia is moving into its normal season increasing use of oil for electricity for air conditioning. Oil used for electricity generation (direct use) in May was 398,000 b/d (vs May 2023 of 478,000 b/d) and April was 400,000 b/d (vs April 2023 of 389,000 b/d). The AccuWeather temperature recap was that it was hot in May where there were daytime highs mostly in the 32-42 degree range, reaching a maximum high of 45 degrees, while the nighttime lows were warm as well in the low-high twenties. Direct use in May 2024 is a new 5 year low for the month of May. Another factor impacting the use of oil for electricity is that Saudi Arabia is increasing its use of natural gas for electricity. The normal trough-to-peak swing is approx 400,000 b/d. Saudi peak oil used for electricity in 2023 was 726,000 b/d in Aug 2023. Below are the AccuWeather Temp maps for Riyadh for April and March.

Figure 41: Saudi Arabia Direct Use of Crude Oil for Electricity Generation



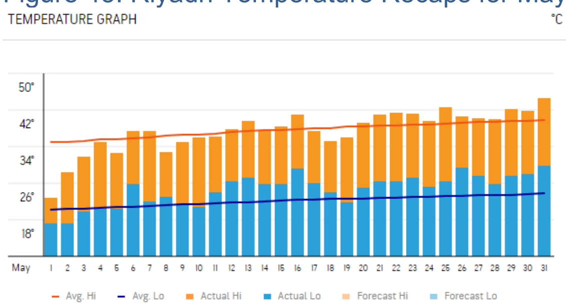
Source: JODI, SAF

Figure 42: Riyadh Temperature Recaps for April



Source: AccuWeather

Figure 43: Riyadh Temperature Recaps for May



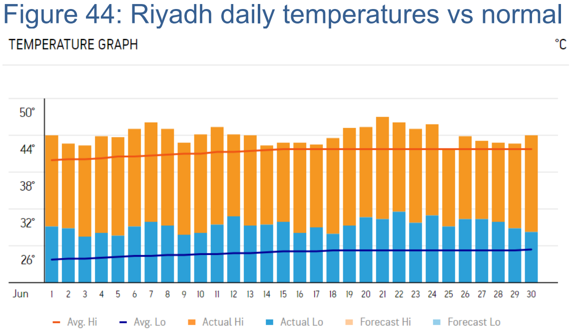
Source: AccuWeather

Oil: We should see big increases in use of oil for electricity in June and July

Record heat in the Middle East

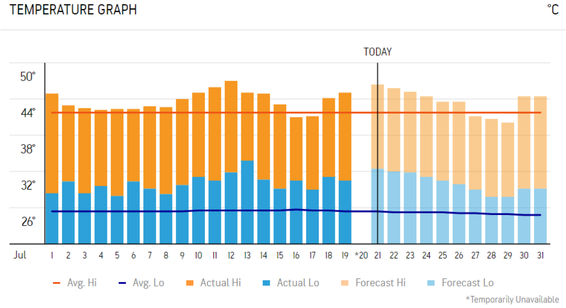
Look at any of the Middle East news and one of the non-war key stories is how hot it has been in July with daily highs in the high 40sC and nighttime lows in the 30'sC. It's been record heat in the Middle East in June and July, which means we should see big increases in Saudi use of oil for electricity in June and July in the next two months' JODI data. Below are the AccuWeather daily temperatures vs normal for Riyadh for June and July to July 19.

Figure 44: Riyadh daily temperatures vs normal in June



Source: AccuWeather

Figure 45: Riyadh daily temperatures vs normal in July



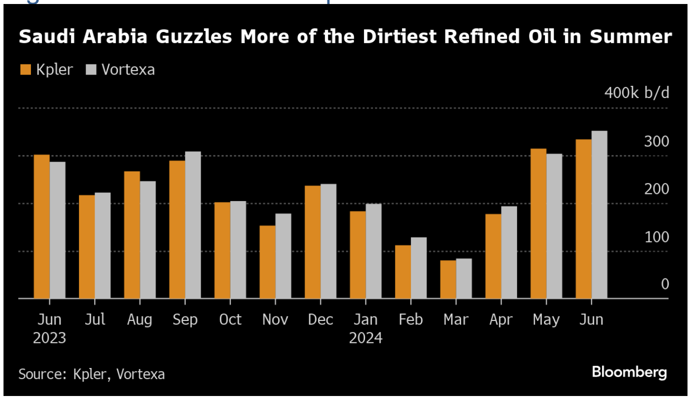
Source: AccuWeather

Oil: Saudi Arabia boosts fuel oil imports to 3-year high amid summer demand

Saudi Arabia increases fuel oil imports

Here is what we wrote in last week's (July 14, 2024) Energy Tidbits memo. "It's been hot in the Middle East in June and also in early July, even hotter than normal. So there is a big air conditioning burn. On Friday, Bloomberg reported that Saudi Arabia had increased imports of fuel oil to a 3-year high to match the demand from the hot summer and increased air conditioning. Shipments have increased to about 350,000 b/d according to Vortexa. Bloomberg reported *"Saudi Arabia is the region's biggest buyer of fuel oil, a type of dirty product that's left over after refineries produce transport fuels like gasoline and diesel. It also burns crude oil directly to produce electricity, which likely contributed to the kingdom's exports dropping to a 10-month low of about 5.6 million barrels a day in June, according to data compiled by Bloomberg. Fuel oil is mostly sold at a discount to crude since it's heavier and more polluting……..In April, the kingdom resumed purchases from Russia after a five-month pause. Supplies from there have nearly doubled since then though are still below the levels of last summer."* Below is a graph showing Saudi Arabia's fuel oil imports, and a graph showing Saudi Arabia's fuel oil imports from Russia alone. Our Supplemental Documents package contains the report from Bloomberg.

Figure 46: Saudi Arabia' imports of fuel oil

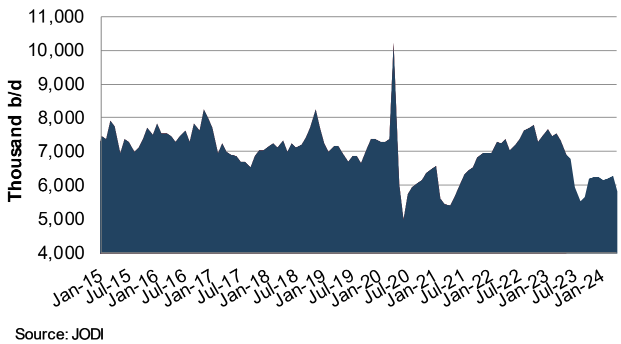


Source: Bloomberg

Oil: Saudi net oil exports up +153,000 b/d to 5.972 mmb/d in May
Note, until recently, JODI did not have access to Saudi import data. But the oil import data is available so we calculate net oil exports. In May, the JODI data showed Saudi net oil exports were up +153,000 b/d MoM to 5.972 mmb/d. This comes as imports were down -3,000 b/d and exports are up +150,000 b/d. Below is our graph of Saudi Arabia monthly net oil exports.

Saudi net oil exports up +153,000 b/d MoM

Figure 47: Saudi Arabia Net Oil Exports (mb/d)



Source: JODI, SAF

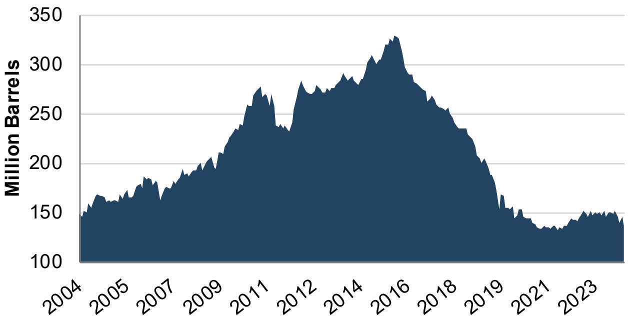
11/10/23 Saudi reminds oil exports are seasonal, less in summer/more in winter
Here is what we wrote in the Nov 12, 2023 Energy Tidbits memo. "*We probably should have called it Saudi Oil 101, but we were a little surprised that Saudi Energy Minister felt the need to explain how there is seasonality to Saudi's oil exports because Saudi domestic consumption of oil has a seasonal pattern. So seasonally, there is more Saudi oil available for export in the fall than in the summer. On Friday, we tweeted [LINK] "Agreed, he is explaining Saudi Oil 101. Summer heat = more #Oil used to generate electricity for A/C ie. less for export. Aug 2023 was 726,000 b/d, +414,000 b/d vs Jan 2023. See 👇SAF 10/22/23 Energy Tidbits graph. Thx @SVakhshouri for flagging. #OOTT." Well known oil strategist Dr. Sara Vakhshouri tweeted "Saudi Energy Minister on #oil price drop: demand is healthy & speculators are to blame for the recent drop. OPEC exports don't indicate increased production. Shipments are seasonal, dipping in summer & rebounding in Sep & Oct; not a sign of output changes." This is the theme we highlight every month when we report on the monthly Saudi oil data for oil to refineries, production, exports, oil for electricity and oil into inventories. Our tweet showed our Oct 22, 2023 Energy Tidbits graph on how Saudi used 414,000 b/d more oil for electricity in Aug than it did in Jan because of the weather. The hot summers always drive up Saudi use of oil for electricity.*"

Oil: Did Saudi make revisions to its oil inventory data the last three months?
For the past few months, we have highlighted the Saudi monthly oil consumption/production data seems to result in unexplained variances and big MoM swings in Saudi oil stocks. It's not just that we can't reconcile but that the swings in oil stocks seem way to big. We raised our wondering if Saudi Arabia made revisions to their oil stocks/inventory data for March and April. It's not just that we can't reconcile but we also note some big MoM swings ie. the JODI

Saudi oil inventory data

data shows refinery intakes were +401,000 b/d MoM in May, which was the largest MoM swing seen in years. There is likely a reason but it's a huge number. The JODI data for Saudi oil stocks is 135.945 mmb on May 31, which is down -10.003 mmb MoM from 145.948 mmb on April 30. But when we look at the components of the MoM changes for production, oil used for electricity, oil intakes into refineries and net oil exports, we would have expected to see a draw in oil stocks of -16.895 mmb in May ie. a difference of 6.892 mmb. There is always a difference between the MoM oil inventory changes and the math of the major components but not to a variance of 6.892 mmb. For the math components. Saudi production in May was 8.993 mmb/d, up +7,000 b/d MoM vs 8.986 mmb/d in April ie. this would have led to a +7,000 b/d or 0.217 mmb MoM build in inventories. MoM increase in oil inventories. Saudi direct use of oil for electricity was 398,000 b/d in May, down -2,000 b/d MoM vs 400,000 b/d in April ie. this would lead to a -2,000 b/d or -0.062 mmb MoM build in oil inventories. Refinery intake of oil was 2.946 mmb/d in May or +401,000 b/d MoM vs 2.545 mmb/d in April ie. this would have led to a -401,000 b/d or -12.431 mmb MoM decrease in oil inventories. Net oil exports were 5.972 mmb/d in May, up +153,000 b/d MoM vs 5.972 mmb/d in April ie. would lead to a -153,000 b/d or -4.473 mmb MoM draw in oil inventories. The net impact of the key components would have been a MoM draw of -16.895 mmb in oil inventories in May vs the reported MoM draw of -10.003 mmb. It's why we wonder if Saudi made a upward revision last month and reversed it this month to a downward revision in the May data.

Figure 48: Saudi Arabia Oil Inventories (million barrels)



Source: JODI, SAF

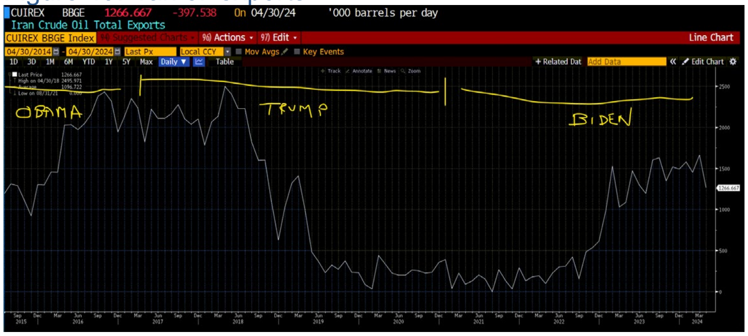
Oil: Trump's big impact on oil will be from what he does on Iran and Venezuela

Will Trump clamp down on Iran?

We recognize that the market is focused on Trump's big impact on oil being his "drill, baby, drill" for the US oil industry that he said twice in his acceptance speech on Thursday. Trump was clear that he says unleashing oil drilling in the US will lead to lower oil prices. We continue to believe that Trump's big impact on oil will be from what he does on Iran and Venezuela, and if he will go back to what he did in enforcing sanctions and bringing their oil exports down to almost nothing. Trump did not address Venezuela oil in his acceptance speech but did highlight how he was forcing Iran to run out of money by enforcing the sanctions. Here is what Trump said on Thursday night "*Iran was broke. Iran had no money. Now Iran has $250 billion. They made it over the last two-and-a-half years. They were broke.*

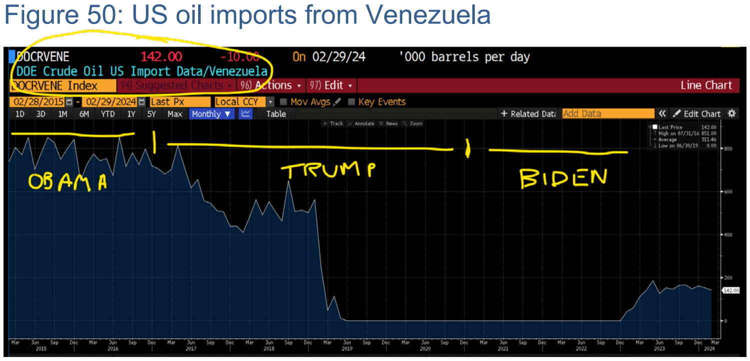
I watched the other day on a show called De-Face the Nation. Has anyone seen it? And they had a congressman who is a Democrat say, well, whether you like them or not, Iran was broke dealing with Trump. I told China and other countries, if you buy from Iran, we will not let you do any business in this country and we will put tariffs on every product you do send in or 100 percent or more. And they said to me, well, I think that's about it, they weren't going to buy any oil. And they were ready to make a deal, Iran was going to make a deal with us. And then we had that horrible, horrible result that we'll never let happen again, the election result. We're never going to let that happen again. They used COVID to cheat. We're never going to let it happen again. And they took off all the sanctions and they did everything possible for Iran. And now Iran is very close to having a nuclear weapon, which would have never happened. This is a shame what -- what this administration -- the damage that this administration has done." Whether you like Trump or not, he was responsible for cutting Iran's oil exports down to effectively zero and squeezing Iran's cash. Here is what we wrote in our May 19, 2024 Energy Tidbits memo. "*There were a number of comments on Trump reportedly promising to work with the oil industry, but we believe the bigger impact that Trump will have on oil prices is he moves back to enforcing sanctions on Iran and Venezuela sanctions If he goes back to what he did, he will be knocking a million b/d or Ifan oil exports off global oil markets and likely at least 150,000 b/d of Venezuela oil out of US oil imports."*

Figure 49: Iran oil exports



Source: Bloomberg

Figure 50: US oil imports from Venezuela



Source: Bloomberg

Oil: US says Iran is 1 or 2 weeks from breakout time to produce fissile material

Iran closer to nuclear breakout capability

Earlier this morning, we tweeted [LINK] "*Go Time for Israel? Overlooked major geopolitical and #Oil risk factor! Blinken: Iran now 1 or 2 weeks from breakout capacity to produce nuclear material for a weapon. If Israel won't let Iran reach breakout potential, when will it take action? #OOTT."* An overlooked geopolitical risk item is Iran's nuclear advancement and when will Israel do something to prevent Iran from reaching breakout. It didn't get much attention but, on Friday, Secretary Antony Blinken spoke at the Aspen Security Forum Fireside Chat and he highlighted how close Iran is to having the capacity to produce fissile material for a nuclear weapon. Blinken said "*Iran, because the nuclear agreement was thrown out, instead of being at least a year away from having the breakout capacity of producing fissile material for a nuclear weapon, is now probably one or two weeks away from doing that. Now, they haven't developed a weapon itself --."* We weren't surprised by the progress but surprised by how he framed it as he made it sound like the US didn't really have a good plan to stop Iran rather they had an idea and they tested it. Blinken noted the mistake of the Trump administration in throwing out the JCPOA so Biden admin had to find a way to put Iran back in a box "*so we were testing the proposition about whether we could at least create something that looked like that*". The reason why we were surprised by his framing is that that was 3.5 years ago and he is effectively admitting by the progress that the "test" didn't work. And then he continued the administration line that "*Second, we of course have been maximizing pressure on Iran across the board. We've imposed more than 600 sanctions on Iranian persons, entities of one kind or another. We haven't lifted a single sanction."* As noted earlier in the memo, there may be sanctions but Iran has cranked up its oil revenues and exports because the Biden administration hasn't really enforced sanctions ie. sanctions need to be enforced to be effective. Our Supplemental Documents package includes the Bloomberg transcript of the Blinken Iran comments.

When/will Israel do something to prevent Iran reaching breakout

Iran's nuclear program is a major geopolitical risk factor and not just for oil. Israel has enough going on with Hamas, Hezbollah and now the Houthis but they more closely monitor Iran's nuclear developments so we fully expect they are well aware of Iran's progress. The Biden admin has stated they won't let Iran get a nuclear weapon. Israel won't let Iran have the potential to develop a weapon. So their threshold is much lower. If Iran is within 1 or 2 weeks of reaching breakout potential, then we have to expect Israel will be doing something soon.

Oil: Iran's new President message to the new world is worth a read

Iran's new President message

We were surprised Iran's new President Pezeshkian's message to the world didn't get much coverage until early this week. Here is what we wrote in last week's (July 14, 2024) Energy Tidbits memo on new Iran President Pezeshkian's message to the world. "*Earlier this morning, we tweeted [LINK] "ICYMI. Iran President "my message to the new world". Seems no change to key foreign policy of former Pres Raeisi ie. anti-Israel. But also seems to want to accelerate ones he is onside with (ie better Saudi relations) or even start some momentum for others that should be acceptable (ie. get Europe going). Seems to infer it's up to US if it wants to correct its mistake of pulling out of JCPOA ie. Iran was onside with JCPOA. #OOTT." It didn't get much attention but new Iran President Pezeshkian posted his "My message to the new world" on Friday [LINK]. It's worth a read. It's a well-written message and he covers all the major foreign policy areas. After reading Pezeshkian's* *message to the world, it seems like he is a realist on how he has to continue the major foreign policy objectives of former President Raeisi (as the Supreme Leader recommended to Raeisi). but also start the process to either accelerate ones he is onside with or start some momentum for acceptable foreign policy. And, as we wonder if he is playing a longer game recognizing that the potential pivot point for Iran in the world won't come until the Supreme Leader is no longer the Supreme Leader. One example is Iran, under Raeisi, started the move to improve relations with Saudi Arabia and Pezeshkian highlighted the "we will prioritize strengthening relations with our neighbours". Another continuing foreign policy stance is against Israel, saying "Israel remains an apartheid regime to this day, now adding "genocide" to a record already marred by occupation, war crimes, ethnic cleansing, settlement-building, nuclear weapons possession, illegal annexation, and aggression against its neighbors.." He also continued the strength with China and Russia – "China and Russia have consistently stood by us during challenging times. We deeply value this friendship. Our 25-year roadmap with China represents a significant milestone towards establishing a mutually beneficial "comprehensive strategic partnership," and we look forward to collaborating more extensively with Beijing as we advance towards a new global order. In 2023, China played a pivotal role in facilitating the normalization of our relations with Saudi Arabia, showcasing its constructive vision and forward-thinking approach to international affairs. Russia is a valued strategic ally and neighbor to Iran and my administration will remain committed to expanding and enhancing our cooperation." It's worth reading his US and JCPOA comments as he leaves the door open for the US to return to the JCPOA by highlighting that it was the US pulled out and "The U.S. and its Western allies, not only missed a historic opportunity to reduce and manage tensions in the region and the world, but also seriously undermined the Non-Proliferation Treaty (NPT) by showing that the costs of adhering to the tenets of the non-proliferation regime could outweigh the benefits it may offer." It seemed to us like it was Pezeshkian suggesting they would go back to the JCPOA as it was. The one area that seemed to be different and starting to try to get some new momentum was to improve relations with Europe. He said "Despite these missteps, I look forward to engaging in constructive dialogue with European countries to set our relations on the right path, based on principles of mutual respect and equal footing." Our Supplemental Documents package includes the Pezeshkian message to the new world."*

Oil: US doesn't expect Iran President Pezeshkian to effect change in foreign policy

US on new Iran President

On Friday, Secretary Antony Blinken spoke at the Aspen Security Forum Fireside Chat and he said what most think – new Iran President Pezeshkian may be a moderate but won't be driving any foreign policy change vs what the Supreme Leader wants. Here the Bloomberg transcript of his comments with Mary Louise Kelly. "*Kelly: Thank you for making the case for hope. Iran, you mentioned - stay there. They just held presidential elections of their own. What opportunities do you see with this new reformist president, President Pezeshkian?" "Blinken: Well, I think we'll of course look to see what policies Iran pursues. But the reality is, the bottom line is the supreme leader continues to call the shots. So I can't say that we have any great expectations, but let's see what he and his team actually do once they're in office."*

07/06/24: Supreme Leader recommends Pezeshkian follows path of Raeisi

Here is what we wrote in our July 7, 2024 Energy Tidbits memo. *"We think the most significant news out of the election was the Supreme Leader's congratulations which we believe indicate the Supreme Leader reminding Pezeshkian to follow former*

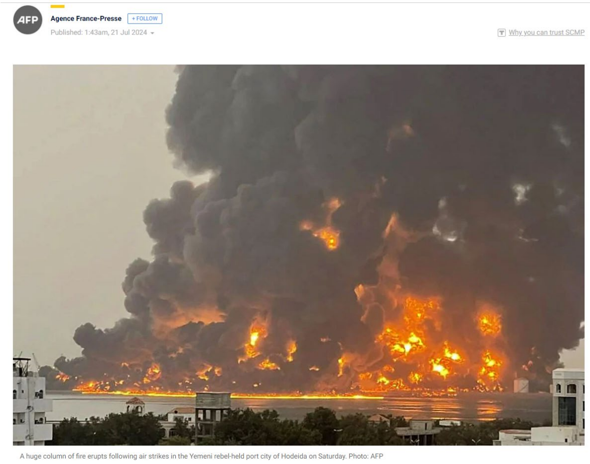
President Raeisi, a hardliner, in his policies. Pezeshkian is viewed as a reformist or moderate and won a majority in the election with support of young people. The Supreme Leader congratulated Pezeshkian and made some recommendations to him on how he should serve. Yesterday, we tweeted [LINK] "Supreme leader gives advice to new Iran President, reformist Pezeshkian. "recommend President-elect Pezeshkian trust in God the Most Merciful and look forward to long and bright horizons, and in the continuation of the path of Martyr Raeisi...." Raeisi was a hardliner! #OOTT." Our tweet included the Mehr News Agency report on the Supreme Leader's comments. We thought the key recommendation was that Pezeshkian should continue the policies of the hardliner Raeisi. Mehr wrote "I also recommend President-elect Pezeshkian trust in God the Most Merciful and look forward to long and bright horizons, and in the continuation of the path of Martyr Raeisi. He should employ the most of the ample capacities and potentials of the country, especially the young, revolutionary and faithful human resources, for the comfort of the people and the progress of the country." The Supreme Leader recognizes the role young people played in Pezeshkian's election so also said ""Now that the Iranian nation has elected its president, I congratulate the nation and the president-elect and all those working in this sensitive juncture, especially the enthusiastic youths at the election headquarters of the candidates, and recommend everyone to cooperate and think for the progress and increasing honor of the country." Seems like the Supreme Leader remembers how it was young males that drove the original Iranian revolution. But he also is reminding Pezeshkian to follow the policies."

Oil: Israel hits Houthis harder than US/UK have hit them over the last several months

Israel hits the Houthis

It's been way less than 24 hours since Israel hit the Houthis so all we have at this stage are questions. As of our 7am MT news cut off, it's way less than 24 hours so we haven't seen any Houthis missile/drone response to Israel's big attack on the Houthis major port city of Hodeida. Yesterday, we tweeted [LINK] *"Israel hits Houthis harder in one attack than US/UK have over last several months. Does this have potential to be a pivot point? Did it severely impact Houthis drone/missile capability? If not, will Houthis come back at Israel? How will Iran & others help Houthis? #OOTT."* Our tweet forwarded a report including the Agence France Presse photo of the destruction, which looked huge in part because Israel hit oil and products storage tanks. We also have no official reports of the damage to the Houthis major port for all goods, including any humanitarian relief aid. So there are many unknowns at this time. And it is impossible from the outside to determine what Houthis can and will do and what support will they get from Iran and their other allies. But this looks to be like such a major hit that we have to wonder if it becomes a game changer. These will be the questions over the coming days. How much firepower do the Houthis still have? Put aside the question on how the damage to the port impacts their ability to rearm, how does the damage to the port impact the Houthis and their people as it cuts off their import and humanitarian aid pipeline. We don't pretend to know anyone connected to the Houthis but surely their ability to function as a society has to impact their ability to fight. Was their missile, air drone, and sea drone capability hit so bad that it will cause them to regroup? Will Houthis try to hit Israel with what they have left? How will Iran and other allies help the Houthis?

Figure 51: Israel hits Houthis at Hodeida



Source: Agence France Presse

Oil: Houthis long range drone hits Tel Aviv

Houthis attack in Arabian Sea

It took four days but yesterday, we saw Israel's response to the Houthis long-range drone attack that hit Tel Aviv. And as per Israel norm, they will hit back way harder than they were hit. The Israel attack was in response to the Houthi's hit on Tel Aviv. The vast majority of the Houthis drones and missile attacks have been in the Red Sea and the Bab el Mandeb. But the Houthis leader previously warned that they would be attacking in the Arabian Sea, Mediterranean Sea and south along towards the Cape of Good Hope. On Tuesday, we tweeted [LINK] "*UKMTO, explosion in close proximity to merchant ship 180NM east of Nishtun, Yemen. Note I added approx. Oman border as this also remind Houthis launch drones at ships south of Oman in Arabian Sea. #OOTT [LINK].*" Our tweet included the UKMTO report map with our hand drawn line for Oman border. The UKMTO report didn't use Oman as a reference but when we saw the UKMTO description for distance, we realized that this attack was clearly south of Oman's borders more in the Arabian Sea. So it was a Houthi reminder they will attack almost anywhere. As noted above, the question is how much damage did Israel do to the Houthis drone/missile capability and what or can the Houthis do in response. And the biggest question (see below) is did the Houthis drone get by Israel radar?

Oil: Did Houthis new drone escape Israel radar?

Did Houthis new drone escape Israel radar?

Yesterday, we tweeted [LINK] "*Only Israel knows! Was Houthis drone on Tel Aviv able to get by IDF radar as Houthis claim* ***OR*** *as Israel says "including the reason of why no alerts were sounded. This is not a stealth UAV. This is an Iranian UAV. It was detected by our systems." #OOTT [LINK].*" We don't know and only Israel knows is if the Houthis claim that their new drones can escape radar are real or not. There is no question that human error is always a risk but maybe we have grown too accustomed to the Israeli IDF not making a lot of human errors. So in listening to the IDF explanation of the Houthi drone, it wasn't the response we had expected. We hadn't expected them to effectively say that their radar picked up the drones but for some reason (ie. human error) nothing was done to stop the attack. Only Israel knows. At least until the Houthis launch more of these new drones and we see if they all get shot down.

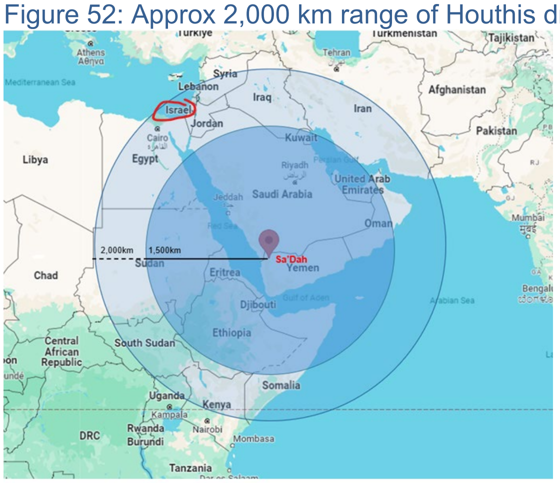
Israel intercepts Houthi ballistic missiles targeting Eliat
There has not been a question on Israel intercepting ballistic missiles as the traditional missile defense systems were all designed to defend against ballistic missiles and not cruise missiles or drones. Earlier this morning, Al Masirah (Houthi news) reported [LINK] "*The Rocketry Force of the Yemeni Armed Forces carried out a major operation targeting key objectives in Umm Al-Rashrash, south of occupied Palestine, with several ballistic missiles. The operation successfully achieved its objectives, thanks to Allah," Yemeni Armed Forces spokesman Brigadier General Yahya Sare'e said in a televised statement.*" The IDF reported intercepted the surface-to-surface missiles (ballistic) with its "Arrow-3" Aerial Defense System

Oil: Houthis hitting Tel Aviv reminds it can hit any part of Saudi Arabia and UAE

Houthis long range drones

The Houthis have been warning that their drones can hit the Mediterranean Sea but hitting Tel Aviv is approx. 2,000 km in range. That also confirms that the Houthis long range drones have the range to hit every part of Saudi Arabia and UAE and further. This is also a reminder to Saudi Arabia, in particular, and the UAE to not get involved in the wrong way. On Friday, we tweeted [LINK] "*Houthis long range drone hit on Tel Aviv also reminds that it has range to to hit any part of Saudi Arabia and UAE. #OOTT.*" Below is the Google Maps that we included with our tweet to illustrate the range.

Figure 52: Approx 2,000 km range of Houthis drones



Source: Google Maps

Oil: Houthis hit tanker in Red Sea

Houthis hit tanker in Red Sea

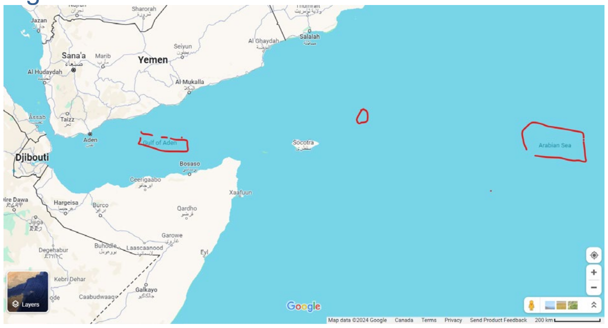
The Houthis drone hit on Tel Aviv is the big Houthis attack story this week but, prior to that, the Houthis launched a number of drones (air and sea) and missile attacks this week. Notwithstanding, how the US and UK have been hammering Houthi onshore radar and other attack infrastructure, the Houthis launched the most attacks this year in June and they continue to attack ships/tankers in the Red Sea and Arabian Sea. And they are hitting ships/tankers. On Monday, we tweeted [LINK] "*Houthis one uncrewed surface vessel (USV)* *hit & caused damage to #Oil tanker in Red Sea confirms @CENTCOM. Also Houthis launched multiple attacks against MT Bentley I, a tanker in Red Sea carrying vegetable oil from RUS to China. Used used 3 surface vessels in this attack, one USV & 2 small boats. "No damage or injuries have been reported at this time." [LINK] #OOTT."* There were multiple other Houthi attacks this week.

Oil: Seems like Houthis are advancing their drones/missile capabilities

Are Houthis advancing their capability

We wonder how much Israel has hurt the Houthis drone/missile capability. But prior to Israel's attack, we have been noting and wondering if the Houthis have been able to do what they say – advance their drone and missile capabilities. Here is what we wrote in our June 30, 2024 Energy Tidbits memo on this subject. "*We recognize that the Houthis, even with Iran support, don't have drones and missiles with anywhere the capability as US drones and missiles. However, they have already disrupted global shipping markets and our concern is that people overlook they are advancing their drones/missiles capabilities. It was another week of Houthis attacking and also hitting multiple merchant ships as well as the US hitting Houthi launch sites. One of the takeaways this week is that the Houthis seem to be advancing their drone/missile capabilities. (i) The Houthis hit their first merchant ship with a sea drone in the Red Sea. (ii) Houthis claim to have advanced their sea drones. Yesterday, Al Masirah (Houthi news) reported [LINK] "On Friday, the war media disclosed that the drone boat used in the attack was a "Tufan-1" type, noting that it is an attack boat carrying a 150-kilogram warhead, featuring high speed and great maneuverability and stealth, reaching speeds of up to 35 nautical miles per hour. The war media confirmed that the boat is used against nearby marine targets, both stationary and moving." (iii) The Houthis claim that the latest missile, Hatem-2, is a solid fuel missile. This is the first time we have seen them claim solid fuel missiles that are typical cheaper and, more importantly, launch quicker. (iv) Houthis attacking ships farther away in the Gulf of Aden and Arabian Sea. On Monday, UK MTO reported a Houthi missile landed in close proximity to a merchant ship east of the island of Socotra."*

Figure 53: Houthis missile attack east of Socotra



Source: Google Maps

Oil: Maersk CEO on continuing supply chain fall out from Houthis Red Sea attacks

Maersk on Red Sea situation

On Wednesday, Maersk posted its "*Maersk Asia Pacific Market Update – July 2024*" [LINK], which had its "*Trending Topic of the Month: The continued impact of the Red Sea situation on supply chains*" and featured comments by CEO Vincent Clerc. The headline comment was "*The fallout of the Red Sea situation is continuing to cascade across the world, creating* *challenges for supply chains and our customers. It has caused industry-wide disruptions since December 2023, forcing vessels to temporarily divert and take longer routes around the Cape of Good Hope and causing unprecedented challenges for global supply chains. Maersk CEO Vincent Clerc explained that the coming months will be challenging for carriers and businesses alike, as the Red Sea situation stretches into the third quarter of 2024*." When we read the update, it seemed very similar to his Clerc's July 1 comments to customers on an online event. It should as we wouldn't think Clerc would make any big change to his views over the past 2 ½ weeks. So, it makes us wonder if it's because it's summer so it's an easy rinse and repeat messaging just put out in a different forum. Or they see the potential impact being worse so they are warning again with the same plus some extra language. Our Supplemental Documents package includes the Maersk Asia Pacific Market Update.

07/01/24: Maersk CEO, no "crystal ball" how long Red Sea diversion will last
Here is what we wrote in our July 7, 2024 Energy Tidbits memo on Maersk CEO Clerc's comments to customers on July 1. "*On Monday, we tweeted [LINK] "Maersk CEO. No "crystal ball" how long Red Sea diversion will last. "The longer that this lasts, the more our costs will get deeply ingrained." In some regions like Europe, he said that governments need to understand the possibility that this will reignite inflation #OOTT." (i) No idea how long the Red Sea diversion will last. Earlier Monday, Maersk reported on its CEO Vincent Clerc's comments at an online event with customers [LINK] including the headline "With no 'crystal ball' to say how long the situation will last, Maersk is working to alleviate the impact of the disruptions." (ii) Risk for increased costs to be embedded. Clerc also warned "Another major challenge for carriers has been increased costs. With cargo journeys lengthened and capacity squeezed, the price per container has risen significantly. Maersk has taken on these costs knowing that many of them will remain beyond the Red Sea situation. For example, ships cannot be chartered for a few months to fill the current gaps. Instead, carriers are having to sign up to several years at the higher charter rates. Vincent Clerc said that this is one of the reasons freight rates are temporarily higher. "The longer that this lasts, the more our costs will get deeply ingrained." (iii) Risk to reignite inflation. "Maersk has asked governments internationally for a stronger presence in the Red Sea / Gulf of Aden. Vincent Clerc added that so far 'this has been unsuccessful'. He said that businesses around the world can help by ensuring their governments understand they are being crippled by increased costs. In some regions like Europe, he said that governments need to understand the possibility that this will reignite inflation." Our Supplemental Documents package includes the Maersk report."*

Oil: Libya oil production nearing 1.3 mmb/d, reached 1.276 mmb/d on July 19

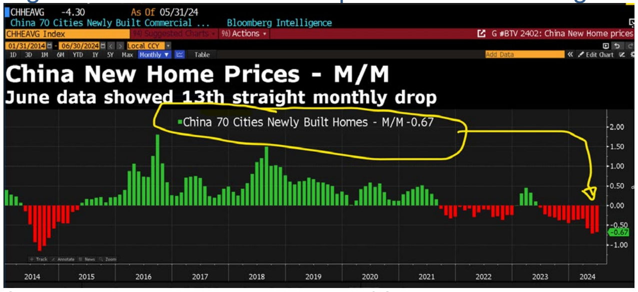
Libya oil production 1.276 mmb/d

It looks like Libya is finally going to get its oil production to 1.3 mmb/d after being stuck above 1.2 mmb/d for almost the last year. On Friday, the Libya National Oil Corporation tweeted [LINK] "*Production rates of crude oil, condensates and natural gas during the past 24 hours."* Other than when there were temporary interruptions at the Sharara oil field, Libya oil production has been steady just over 1.2 mmb/d for almost a year.

Oil: China home prices keep losing value, 13 mths for new & 14 mths for old,
The big negative to the Chinese consumer is that they keep losing value in their homes, their biggest asset value keeps decreasing month after month. Last Sunday night, we tweeted [LINK] "*Continued big negative to getting Chinese back to spending - their home values keep going down. June new home prices: 13th straight MoM drop, -0.67% M/M (May -0.71% M/M). June 2nd hand home prices: 14th straight M/M drop, -0.85% M/M (May -1.00% M/M). Thx @business #OOTT.*" June MoM value declines weren't as bad as May, which was the worst month for China home values in ~10 years. But it was bad and kept the consecutive MoM home values losses streak alive, which is now 13 straight MoM declines in new home prices and is now 14 straight MoM declines in 2nd hand home prices. Below are the Bloomberg graphs with the June data.

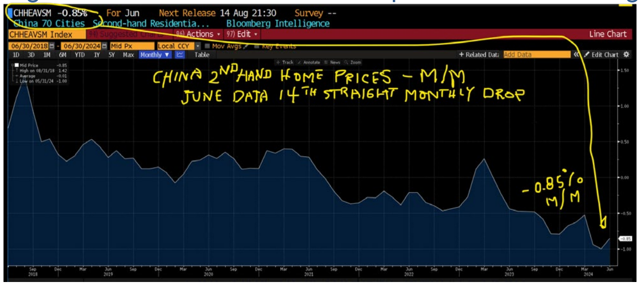
China houses keep losing value

Figure 54: China new home prices MoM % change incl June 2024



Source: Bloomberg, National Bureau of Statistics

Figure 55: China 2nd hand home prices MoM % change incl June 2024



Source: Bloomberg, National Bureau of Statistics

Oil: Is China supporting the Chinese stock market?
There was a good Bloomberg TV graph that said "*Is China supporting the market? Large-cap ETFs see surge in inflows*". The graph showed the large inflows into large cap ETFs, which Bloomberg and others have previously noted, is the vehicle of choice when China wants to try to support stocks. We added the Shanghai Shenzhen CSI 300 index to the Bloomberg graph to illustrate how the CSI 300 responds when these big inflows happen. Thee big inflows work to sop up some sellers and provide a bottom buffe\r while China keeps waiting for the consumer to jump in.

Is China supporting the stock market?

Figure 56: Is China supporting the market?

Source: Bloomberg,

Oil: 6th straight week of outflows from US ETFs tracking Chinese equities

US ETFs tracking Chinese equities

It's understandable that foreign investors have taken capital out of Chinese stock markets given Chinese stocks underperformance. The CSI 300 has had two positive weeks after seven consecutive down weeks but the CSI 300 has still vastly underperformed US equities. On Monday, we tweeted [LINK] "*Foreign investors keep leaving China. 6th straight wk of outflows from US ETFs tracking Chinese equities. Weaker economic data & implications of a Trump victory spooked investors. Net outflows of $229.4 million from this group of ETFs last wk. reports @thatsleda. #OOTT.*"

Figure 57: 6th straight week of outlows from US ETFs tracking Chinese equities

Source: Bloomberg

Figure 58 CSI 300 and S&P 500 weekly close July 19, 2019 thru July 19, 2024

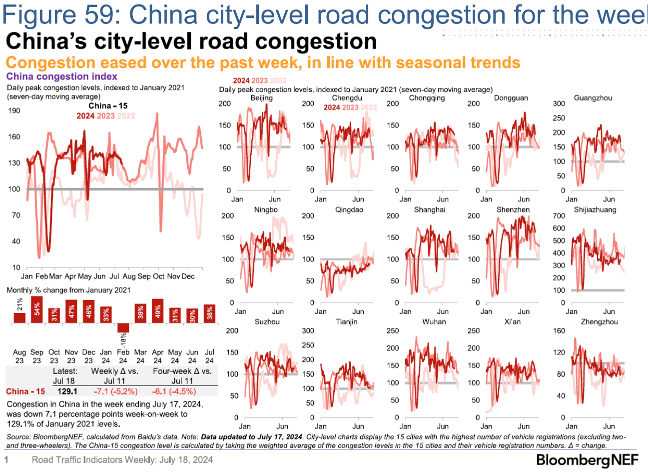
Source: Bloomberg

Oil: Baidu China city-level road congestion in July is back to increasing YoY

China city-level traffic congestion

On Thursday, BloombergNEF posted its Global Road Traffic Indicators Weekly July 18 report, which includes the Baidu city-level road congestion for the week ended July 17. BloombergNEF's report was titled "*China's congestion slips due to seasonal drivers".* We recognize summer travel has now started, and that ramp up tends to be in July more so than in June. What jumped out at us last month was that the month of June was the first month that was down YoY other than Feb 2024. But Feb 2024 being down big YoY was due to the different time of Chinese New Year that was Jan 22, 2023 vs Feb 10, 2024. Feb 2024 saw people leaving cities over Chinese New Year on Feb 10 whereas people were back to work in Feb 2023 as Chinese New Year was Jan 22, 2023. June's daily average peak congestion levels were down -4% YoY. This week, BloombergNEF reported Baidu city-level road congestion was down by -5.2% WoW to 129.1% of Jan 2021 levels, but compared to July 2023, July's average daily peak congestion levels so far are up +12% YoY. Bloomberg noted that 3 of the top 15 cities are down YoY, 3 are flat, and 9 are up YoY. Below are the BloombergNEF key graphs.

Figure 59: China city-level road congestion for the week ended July 17



Source: Bloomberg

Figure 60: China city-level road congestion for the week ended July 17

- Table to the left shows monthly congestion levels indexed to the average daily peak congestion levels **in January 2021** for each respective city.
- Table to the right shows monthly congestion levels indexed to the average daily peak congestion levels **of the same month in 2021** for each respective city.
- Three-color scale conditional formatting is set to **red** = 0, white = 100 and **green** = 200. It is possible for congestion levels to hit zero.
- **Data below are downloadable by running {97 <GO>} on the Bloomberg Terminal, or via the attached Excel on the BNEF website.**

Indexed to January 2021 = 100

	Jul 23	Aug	Sep	Oct	Nov	Dec	Jan 24	Feb	Mar	Apr	May	Jun	Jul
China-15	122	120	153	130	146	146	133	81	138	148	130	129	137
Beijing	138	137	180	159	167	161	145	73	151	169	143	141	151
Chengdu	109	114	130	121	123	116	120	68	134	140	125	119	134
Chongqing	105	88	127	112	122	116	111	80	112	138	122	129	135
Dongguan	117	101	147	130	141	144	121	52	129	138	138	138	139
Guangzhou	151	149	184	160	178	181	161	76	171	195	174	170	180
Ningbo	114	115	127	118	146	142	127	79	144	146	120	128	124
Qingdao	96	106	106	92	99	103	78	51	71	78	72	75	88
Shanghai	121	123	162	127	155	150	115	79	146	152	130	132	120
Shenzhen	143	146	181	151	169	170	149	68	160	164	172	163	177
Shijiazhuang	375	439	484	343	491	461	494	350	400	390	311	329	364
Suzhou	107	109	135	108	127	136	118	79	134	137	113	112	114
Tianjin	110	114	173	150	169	190	133	85	160	165	145	132	115
Wuhan	148	136	189	143	159	159	167	105	174	171	146	144	155
Xi'an	122	111	151	135	156	155	152	98	141	147	129	123	153
Zhengzhou	88	92	106	80	97	108	110	85	95	96	80	78	88

Indexed to the same month in previous year = 100

	Jul 23	Aug	Sep	Oct	Nov	Dec	Jan 24	Feb	Mar	Apr	May	Jun	Jul
China-15	110	107	112	126	155	187	151	55	100	114	110	96	112
Beijing	96	95	106	149	214	275	135	42	92	113	103	93	110
Chengdu	116	135	174	117	131	124	144	51	106	107	115	91	123
Chongqing	107	145	98	130	395	224	136	64	101	125	125	112	128
Dongguan	113	92	105	108	104	156	258	41	99	127	120	108	119
Guangzhou	127	104	114	146	317	307	199	45	99	127	127	107	119
Ningbo	78	79	69	95	101	127	203	59	115	140	121	112	109
Qingdao	105	97	100	96	124	195	175	62	94	97	98	87	92
Shanghai	106	81	81	115	93	172	156	54	98	117	105	101	99
Shenzhen	114	97	122	108	97	156	189	41	96	120	132	99	124
Shijiazhuang	125	173	218	120	459	258	156	69	93	85	81	77	97
Suzhou	89	84	87	91	88	157	171	60	111	130	117	97	107
Tianjin	127	122	213	109	137	244	136	60	114	121	119	100	104
Wuhan	133	138	144	199	192	187	151	55	94	100	97	85	104
Xi'an	132	119	106	149	139	152	132	66	110	112	105	91	125
Zhengzhou	111	112	112	171	294	164	119	76	98	102	90	82	100

*Source: BloombergNEF calculations based on Baidu data. Note: Data updated to **July 17, 2024. Values for the latest month are month-to-date.** The China-15 congestion level is calculated by taking the weighted average of the congestion levels in the 15 cities and their vehicle registration numbers.*

Source: Bloomberg

Oil: China oil production up +2.5% YoY in June to 4.39 mmb/d

As noted earlier, China's increasing domestic natural gas production and increasing natural gas pipeline imports has hit higher priced LNG imports. China's oil production increased by ~0.2 mm from 2021 to 2023 and that has helped reduce some of its oil import needs. What is often overlooked is the fact that China is the 7th largest oil producer just behind Iraq. The IEA's latest Oil Market Report June 2024 estimates China oil production at 4.4 mmb/d in 2024 and that should increase to 4.5 mmb/d in 2025. On Thursday, Bloomberg's CHENCOIL index (data pulled from National Bureau of Statistics) showed that China crude oil production was +2.5% YoY in June to 4.39 mmb/d, up from 4.28 mmb/d in June 2023.

China Oil Production

Oil: China oil imports 11.35 mmb/d in June, up +2.2% MoM but down -10.7% YoY

On Tuesday, China's General Administration for Customs (GACC) reported on the summary data of China's oil and natural gas imports for June [LINK]. China's imports of crude oil June were 46.45 million tons, or 11.13 mmb/d, a +2.2% increase from 11.31 mmb/d in May, but down -10.7% YoY from 12.71 mmb/d in June 2023.

China oil imports June

Oil: No Vortexa crude oil floating storage data posted as of 7am MT

This happened one tme last year but, as of our 7am MT news cut off, there was no Vortexa crude oil floating storage estimates for July 19 posted on Bloomberg terminal. The first Vortexa data as of Friday's are normally posted on the Bloomberg terminal by early Saturday mornings and we normally retrieve as of 9am MT Saturday morning's. We checked multiple times yesterday and again this morning. We will check later today and will tweet on the data when it is available.

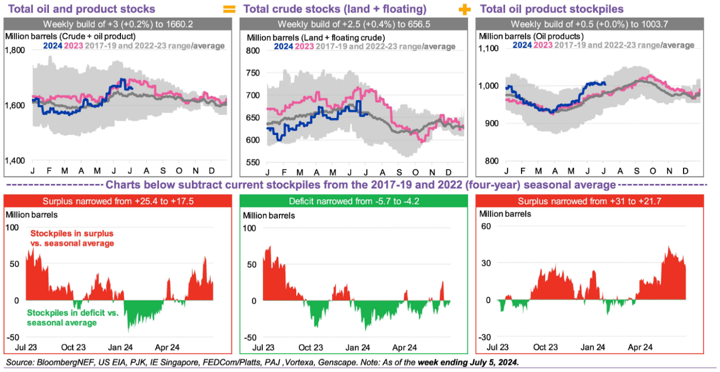
Vortexa floating storage

Oil: BNEF, global oil & product stocks surplus narrows to +17.5 mmb from +25.4 mmb

On Monday, BloombergNEF posted its "*Oil Price Indicators*" weekly, which provides good charts depicting near-term global oil demand and supply indicators. (i) Note BloombergNEF uses different periods to determine the surplus/deficit, sometimes using a four-year average for 2017-2019 + 2022-2023, and other times using a five-year average 2017-2019 + 2022-2023. In both cases they do not include 2020 and 2021 in the averages. (ii) The global stockpile for crude oil and products narrowed from a surplus of +25.4 mmb for the week ending June 28 to a surplus of +17.5 mmb for the week ended July 5. (iii) Total crude inventories (incl. floating) increased +0.4% WoW to 656.5 mmb, while the stockpiles deficit narrowed from a deficit of -5.7 mmb to a deficit of -4.2 mmb. (iv) Land crude oil inventories fell -0.4% WoW to 562.8 mmb, widening their deficit from -23.5 mmb to -23.9 mmb against the five-year average (2017-2019 + 2022-23). (v) The gas, oil, and middle distillate stocks grew +2.6% WoW to 229.3 mmb, with the surplus against the four-year average flipping to a surplus of 0.1 mmb from a deficit of -1.5 mmb. Jet fuel consumption by international departures in the week to July 22 is set to increase by +16,000 b/d WoW, while consumption by domestic passenger departures is forecast to increase by +55,000 b/d WoW. Below is a snapshot of aggregate global stockpiles.

Global oil and products stocks

Figure 61: Aggregate Global Oil and Product Stockpiles



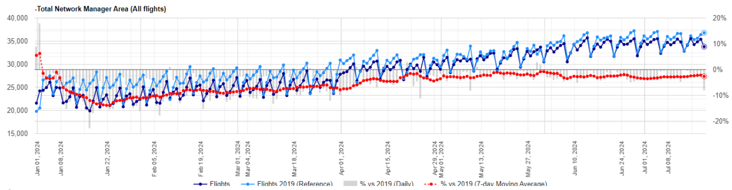
Source: BloombergNEF

Oil: Europe airports daily traffic 7-day moving average is -2.6% below pre-Covid

Europe airports daily traffic

Yesterday, we tweeted [LINK] "*Daily Europe air traffic still stuck below pre-Covid. 7-day moving average as of: Jul 18: -2.6% below pre-Covid. Jul 11: -2.9%. Jul 4: -3.3%. Jun 27: -2.9%. Jun 20: -2.5%. Jun 13: -2.6%. Jun 6: -3.2%. May 30: -0.8%. May 23: -1.9%. May 16: -1.2%. May 9: -3.2%. Thx @eurocontrol #OOTT #Oil.*" Other than over Christmas, European daily traffic at airports has been below pre-Covid. The 7-day moving average has got close a few times including at only 0.8% below pre-Covid as of May 30, but the 7-day moving average is now -2.6% below pre-Covid as of July 18, which followed -2.9% below as of July 11, -3.3% below as of July 4, and -2.9% below as of June 27. Please note that we try to pull the data around 8am MT on Saturdays for a consistent weekly comparison. Eurocontrol updates this data daily and it is found at [LINK].

Figure 62: Europe Air Traffic: Daily Traffic Variation to end of July 18



Source: Eurocontrol

Oil: Is air travel starting to normalize to the most part ie. post Covid air travel lessening

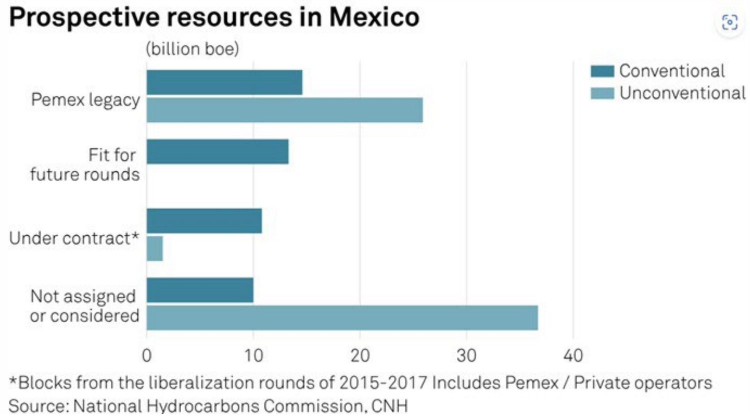
Air travel starting to normalize

This week was the first week for the start of Q2 reporting and earning calls with a number of the US airlines reporting. While we heard CNBC interviews during the week with the CEOs on the Q2 calls, we did not have time this weekend to go thru all of the airlines Q2 earnings calls. Air travel continues to be strong but it sounds like air travel growth is slowing down. So we have not gone thru the calls for specific airline CEO quotes on their outlook. However, on Thursday, Bloomberg posted its report "*Revenge Travel Runs Out of Force, Hurting Airlines' Profit Goals"* which noted how air travel is starting to normalize after a couple years of pent up travel demand from Covid. Bloomberg wrote "*Just as the annual summer vacation gets underway in Europe, airlines in the region are feeling a cold chill wafting over the Atlantic from their US counterparts. On Wednesday, United Airlines Holdings Inc. became the latest* *carrier cautioning weakening profitability, joining the likes of Alaska Airlines Group Inc. and Delta Air Lines in offering a muted outlook. Airlines have warned of falling ticket prices amid a fare war that's weighing on their profit, hurting carriers during a time of the year that normally marks an industry peak. Some of that pessimism on display in the US has already taken hold in Europe and beyond. Last week, Deutsche Lufthansa AG cut its profit outlook for the full year and warned that breaking even at its namesake German unit will be challenging. Qatar Airways has cautioned that higher capacity in the market is putting pressure on fares. It's a reversal from the post-pandemic rush, when ticket prices soared as people splurged on holidays after two years of home confinement, in what was dubbed "revenge travel." Corporate travel, which typically balances out deal-seeking holidaymakers, also hasn't rebounded properly post-pandemic, adding more uncertainty to the airlines' outlooks. As travel trends normalize, and after two years of rising cost of living, people are less willing to pay steep fares go on holiday, and airlines in turn are being forced into discounts to fill extra seat capacity. Adding to the mix in Europe are air-traffic control issues and wage disputes at airlines like Aer Lingus that are creating disruption to schedules and putting people off flying."* Our Supplemental Documents package includes the full Bloomberg report.

Mexico's shale/tight oil & gas potential

Oil & Natural Gas: Will Mexico develop its vast unconventional oil and gas potential?
No one should disagree with the Platts report that Mexico has big unconventional oil and natural gas potential. That is not new information and Mexico has long been known to have some low risk shale/tight oil and natural gas just from the continuation of the Eagle Ford across the border. But our longstanding question isn't on the potential or lack of investment, it's been on what could be the limiting factor – water availability for fracking especially if it's in the continuation of the Eagle Ford inside of Mexico. (i) Mexico has not been fracking any of its shale/tight oil and gas during Obrador's government. AMLO won the July 2018 election and part of his program was zero fracking of any oil and gas. Newly elected President Claudia Sheinbaum Pardo, who will take over as President on Oct 1, 2024. Hence the reason why people want the fracking potential discussed to see if Sheinbaum Pardo will approve a change in policy. (ii) On Tuesday Platts posted a story "*Experts call for 'serious' debate about fracking Mexico's vast unconventional oil, gas deposits" "Neglecting unconventional without debate would be a 'mistake' Country needs investment in fracking technology to exploit reserves. Natural gas industry requires long-term planning and incentives. Given the large amount of unconventional hydrocarbon resources found in Mexico and how much fracking technology has advanced, the country cannot afford to neglect their exploitation without a serious debate, experts said at an energy forum held at the Mexican Senate*." [LINK] Platts included the below graphic on the prospective unconventional oil and gas resource. (iii) Will water availability be the limiting factor. What surprised us on the Platts Tuesday story on the big shale/tight oil and gas was that there was zero mention of what could be the limiting factor – water availability. And this is especially so for the continuation of the Eagle Ford shale into Texas. Below, we note what we wrote on this water availability in our April 1, 2018 Energy Tidbits memo. Our Supplemental Documents package includes the Platts report.

Figure 63: Prospective resources in Mexico

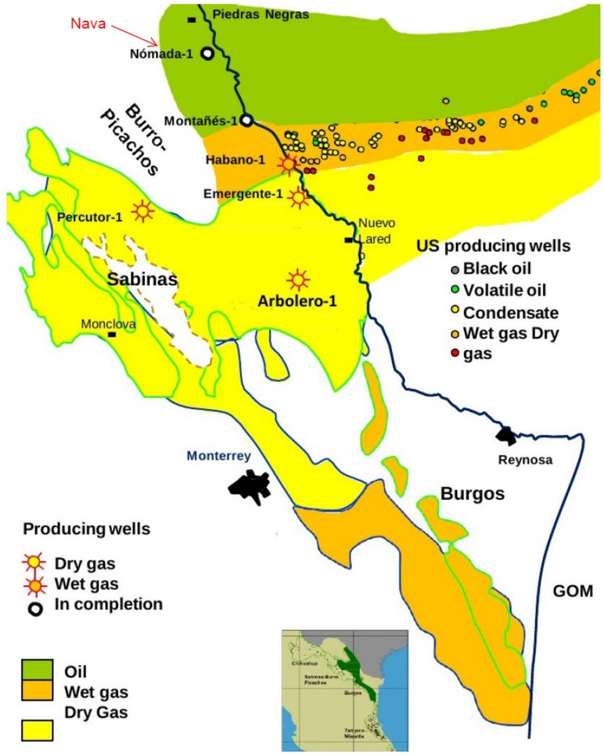


Source: Platts

Pre-AMLO, Mexico was going to open up Eagle Ford shale gas in Burgos Basin

As noted above, AMLO's election in July 2018 shut down any fracking for shale and tight oil and gas plays including the Eagle Ford extension in Mexico. Prior to AMLO, Mexico was starting to open up the Eagle Ford. Here is what we wrote in our April 1, 2018 Energy Tidbits memo. "*Natural gas – Mexico to open up Eagle Ford shale gas in Burgos Basin. Pemex announced a JV with private Lewis Energy to develop the Eagle Ford shale gas in in the Burgos basin in Coahuila State. The Burgos Basin is where the handful of shale gas wells have been drilled and Coahuila state is the border state to the Texas counties of Maverick and Webb. Lewis Energy is a private and does not disclose their land position, but it disclosed that the pipeline network for its Navarro Midstream Services affiliate is in Webb county. Pemex's limited shale gas wells were ~5 years ago and any completions would have been early first generation completions. Even still, the key Eagle Ford shale gas well was Habano-1 that had rates of 2.8 mmcf/d and 27 b/d of condensate. Below is a Gas Shale Mexico [LINK] that was included in our July 3, 2016 Energy Tidbits showing the shale gas drilling in Mexico.*"

Figure 64: Mexico Shale Gas Wells



Source: Gas Shale Mexico

Water could be a limiting factor for Mexico shale gas development

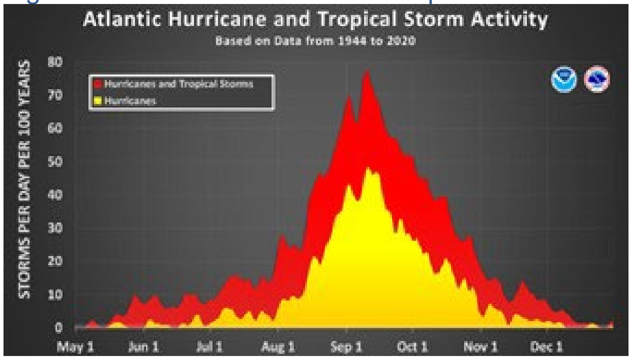
Anyone who follows Mexico news knows that this has been a brutal year for water availability in many parts of Mexico in addition to the big issue in Mexico City. The availability of water risk keeps increasing. This has been an issue for years. Our July 3, 2016 Energy Tidbits noted the water shortage issue in Mexico. We then wrote "*We believe that the issue of water consumption in fracking will be an increasing focus for politicians and regulators. A few years ago when the focus went to all the international areas for shale potential, we noted that a factor in shale development in countries like China and Mexico is availability of water as some of the best shale in these countries is in very arid areas. For Mexico, the Texas shale plays basically run across the border, but haven't been developed as of yet as there wasn't a big focus for conventional oil and gas there and these areas are arid areas. Mexico has started testing shale wells in these areas adjacent to Texas, but drilling to date has been limited. And we expect water availability will be a limiting factor to any larger scale shale development thereat. We saw an article this week that reinforced the challenge of water in these shale potential areas. We are big "football" fans so regularly look at UK websites and, in doing so, saw this article on the Guardian "Americans' taste for Mexican beer sucking up water supply, mayor says" [LINK]. The article is clearly about how increasing US consumption of Mexican beer is* *causing the Mexican beer producers to ramp up production and the related consumption of water. The Guardian noted the a brewery in the northern Mexico town of Nava, which happens to be right near the prospective Mexico shale play areas just south of Texas. The Guardian wrote "A nearby brewery run by the US firm Constellation Brands currently draws water from wells drilled to a depth of 500 metres, and Martínez said that plans to increase production at the plant would "aggravate" the current situation, especially as the federal government ramps up plans for fracking in northern Mexico."*

Oil & Natural Gas: 90% of Atlantic hurricanes come after Aug 1, peak is normally mid-Sept

90% of hurricanes are after Aug 1

It's been quiet in the Atlantic basin for hurricane activity since Hurricane Beryl, which was the earliest Category 5 hurricane on record. We check daily the National Hurricane Center's 7-day outlook to see if NHC sees any potential storm development. And there weren't any potential storm development identified this week. But it is important to remember that normally 90% of Atlantic hurricanes typically come after Aug 1. Here is what we wrote in our Aug 6, 2023 Energy Tidbits memo. "*90% of Atlantic hurricanes come after Aug 1, peak is normally mid-Sept It may already be the hottest time of the year, but we always remind that 90% of Atlantic hurricanes typically come after Aug 1. And August normally marks the start of the ramp up of hurricane season with high hurricane activity typically from mid-Aug thru mid-Oct with a normal peak in mid-Sept. Below is NOAA's graph showing the distribution of Atlantic hurricanes and tropical storms based on data from 1944 to 2020. [LINK]."*

Figure 65: Atlantic hurricane and tropical storm activity by month



Source: NOAA

Energy Transition: EU renewable hydrogen plan based on politics not robust analysis,

EU busted on its clean hydrogen plans

No one should be surprised that the European Court of Auditors scathing calling-out of the EU politicians on their renewable hydrogen plans and unrealistic targets that were set based on politics and not any robust analysis. And the problem is being unrealistic means that the costs are huge and nowhere the nirvana sold by western politicians that the transition won't lead to higher and more volatile energy prices. (i) On Tuesday, we tweeted [LINK] *"Busted! No real analysis = EU unrealistic green hydrogen targets! "EU's industrial policy on renewable hydrogen needs a reality check" "set overly ambitious targets for the production and import of renewable hydrogen.... These targets were not based on a robust analysis, but were driven by political will" "Building up an EU hydrogen industry requires massive public and private and investment" "The EU should decide on the strategic way forward towards* *decarbonisation without impairing the competitive situation of key EU industries or creating new strategic dependencies." #Oil #NatGas will be needed for longer. Thx @EUauditors #OOTT."* (ii) European Commission politicians have ignored this report. The ECA issued the report on Tuesday and EC President von der Leyen highlighted the EC's green hydrogen plans as if the plan and targets were fine in her Thursday speech on being reappointed EC President. (iii) EC needs a reality check in their renewable hydrogen targets. The ECA posted their report on the EC's renewable hydrogen plans and targets and titled their release "*Renewable hydrogen-powered EU: auditors call for a reality check."* The ECA said "*The auditors call for a reality check to ensure that the EU's targets are realistic*." (iv) The renewable hydrogen targets were politically driven, not driven by analysis. This is the big point we have highlighted for years – energy transition targets are NOT being set on analysis and reality. They are aspirational political ambitions. So they are doomed not to be met. The ECA clearly said this "*To start with, the Commission set overly ambitious targets for the production and import of renewable hydrogen, i.e. 10 million tonnes each by 2030. These targets were not based on a robust analysis, but were driven by political will."* (v) There is a massive requirement for public and private investment. This is another of our longstanding criticisms of setting energy transition targets that aren't based on analysis – there will be much higher costs. The ECA warned "*Building up an EU hydrogen industry requires massive public and private and investment.*" (vi) Plus a line that looks to be more of a general big slap down that the EU's decarbonization plans are hurting Europe competitiveness. The ECA wrote "*The EU's industrial policy on renewable hydrogen needs a reality check," said Stef Blok, the ECA Member in charge of the audit. "The EU should decide on the strategic way forward towards decarbonisation without impairing the competitive situation of key EU industries or creating new strategic dependencies*." Our Supplemental Documents package includes the ECA release and excerpts from their report.

9/18/23: Aramco CEO, green hydrogen is expensive at $200-$400/boe

We have not seen any reports in the last year of any significant advancements in producing renewable/green hydrogen on a more cost-effective manner. Industry has been warning for the last couple years that renewable/green hydrogen is nowhere near being cost competitive. One of the most vocal has been Saudi Aramco. Here is what we wrote in our Sept 24, 2023 Energy Tidbits memo. "As noted above, our tweet on the Saudi Aramco CEO Nasser speech was [LINK] *"Reality checks from @aramco CEO today. Headlines "many shortcomings in the current transition approach" "aggregation of unrealistic scenarios". #GreenHydrogen costs $200-$400/boe. "#CCS can no longer be the bridesmaid" And more! #Oil #NatGas will be needed for longer. #OOTT." (ii) No one should be surprised that Nasser highlighted that green hydrogen is expensive and no buyers have stepped up to commit to buy any commercial sized quantities of hydrogen. Nasser said "Then there is Green Hydrogen. Today, "production" costs are in the range of $200 to $400 per barrel of oil equivalent, which is why commercial offtake agreements are hard to come by. I want to stress that alternatives like wind, solar, and hydrogen are considered to be the bedrock of transition." (iii) Nasser also highlighted how CCS is a must have for the energy transition. Nasser said "I think it is time the world also gave greater attention to man-made carbon sinks, particularly CCS. It could be deployed in a variety of sectors, including hard-to-abate industries, power plants using coal and gas, biomass-based power stations, and even through Direct Air Capture. The potential* *climate gains would likewise be large. One scenario suggests that integrating CCS with cement plants might capture and store about 95% of CO2 emissions from the entire sector by 2050. But some estimates suggest that CCS capacity needs to grow 120 times by 2050 for countries to meet their net-zero commitments. CCS can no longer be the bridesmaid of transition; it is central to our industry's future, but even more importantly global climate goals. Last but not least, steel, aluminum, and cement account for about 20% of global CO2 emissions. In fact, if the cement industry were a country, it would be the third-largest emitter of CO2!".*

01/08/23, Norway minister, hydrogen light years away from being reasonable

The best line we have seen from an EC politician on hydrogen was in Jan 2023 when a Norway minister came out with very blunt comments that hydrogen is "light years away from being justifiable of reasonable". Here is what we wrote in our Jan 15, 2023 Energy Tidbits memo. "*Earlier this morning, we tweeted [LINK] on Norway cabinet minister Moe's common sense approach as to why hydrogen is "light years away from being justifiable or reasonable". Moe said "And we must have a proven relationship with simple factors such as resource efficiency and effectiveness". He just wants to go with the economics as known. We also earlier tweeted [LINK] "Inmate escaping or crazyman? See ??Norway cabinet minister Moe 01/08 posting. Hydrogen has large energy losses at both ends of the process, "in my opinion, light years away from being justifiable or reasonable". Energy will be $$$$ in the #EnergyTransition. #OOTT #NatGas ." Our tweet referenced a Facebook Jan 8 posting by Norway cabinet minister Moe. Moe is currently Minister of Research and Higher Learning, but was previously Minister of Petroleum and Energy from 2011 to 2013. Moe went thru his analysis of the energy losses in hydrogen and why he says "It is, in my opinion, light years away from being justifiable or reasonable." Here is his math on why hydrogen doesn't' make sense. This is from Google Translate "Hydrogen is certainly good for many things, but the fact is that it is a highly explosive storage medium with large energy losses at both ends of the process. If you use 100 kwh of electricity to produce hydrogen, you will be left with an amount of energy in hydrogen corresponding to 50 kwh. In other words, half of the energy is lost. If you are going to use this hydrogen in a fuel cell, you lose a further 50%. If you run it in a turbine to produce electricity, you lose 70%. In other words, you get a utilization rate in a car of about 25% or 25 kwh of the original 100 kwh due to energy loss in the processes. In a simple turbine, the loss is even greater. Alternatively, this current/energy could have been used directly all the time it is taken from the grid in Norway with a utilization rate for, for example, heating, production or transport of 90-100%! If Statkraft together with NEL succeeds in establishing 2 gw electrolysis of hydrogen in Norway, this corresponds to an energy quantity of approximately 17.5 twh, or approximately 12-13% of all power production in Norway."*

Energy Transition: EC President, EU will stay the course on renewable hydrogen goals

EC leaders ignored the ECA

It looks like the European Commission leaders are determined to not change their renewable hydrogen goals and plans even in the face of the above FCA clear report that they have an unrealistic target. EC President von der Leyen clearly stated there is no change to their renewable hydrogen 2030 goal. It looks like the European Commission leaders ignored thie ECA report. The ECA issued its report on Tuesday and EC President von der Leyen's acceptance speech on continuing as EC President spoke about renewable hydrogen as if the ECA never wrote its report. She or her staff had two days to acknowledge the report and amend what von der Leyen said about renewable hydrogen. Rather von der Leyen spoke as if the EC renewable hydrogen plans and targets were just fine and that "*we will stay the course on our new growth strategy and goals we set for 2030 and 2050*." Here is an excerpt from her Thursday acceptance speech "*Honourable Members, Let me give you some figures. To start: in the first half of this year, 50% of our electricity generation came from renewables – home-grown and clean. Investments in clean technologies in Europe have more than tripled in this mandate. We attract more investments in clean hydrogen than the US and China combined. Finally, in the last years, we have concluded with global partners 35 new agreements on clean tech, hydrogen and critical raw materials. This is the European Green Deal in action. So I want to be clear. We will stay the course on our new growth strategy and the goals we set for 2030 and 2050. Our focus now will be on implementation and investment to make it happen on the ground.*"

Hydrogen is not an energy source

Energy Transition: EIA reminds hydrogen is an energy carrier, not an energy source

Many people forget that hydrogen is an energy carrier and not an energy source. This is a Hydrogen 101 basic – Hydrogen is not an energy source. We continue to see many overlook that hydrogen is not an energy source and forget or omit that hydrogen is an energy carrier that is produced from an energy source like natural gas. Here is what we wrote in our Jan 23, 2022 Energy Tidbits memo on this Hydrogen 101 basic. "*On Friday, we tweeted [LINK] ""takes more energy to produce #hydrogen (by separating it from other elements in molecules) than hydogren provides when it is converted to useful energy" "an energy carrier that must be produced from another substance". nice to see @EIAgov give facts not fiction. #OOTT #NatGas." This follows the new Jan 20 update from the EIA "Hydrogen explained". Hydrogen is considered one of the must be a significant contributor to any and all plans to get to Net Zero. Our view is unchanged, we understand why the Net Zero side pushes it for items like heavy industry, but it seems to get overlooked that hydrogen is not an energy sources like natural gas or solar. Rather it is an energy carrier. The EIA stuck to the basics on hydrogen and didn't politicize their message in their Jan 20 update on hydrogen. The EIA explained this concept clearly. "Hydrogen is an energy carrier Energy carriers allow the transport of energy in a usable form from one place to another. Hydrogen, like electricity, is an energy carrier that must be produced from another substance. Hydrogen can be produced—separated—from a variety of sources including water, fossil fuels, or biomass and used as a source of energy or fuel. Hydrogen has the highest energy content of any common fuel by weight (about three times more than gasoline), but it has the lowest energy content by volume (about four times less than gasoline). It takes more energy to produce hydrogen (by separating it from other elements in molecules) than hydrogen provides when it is converted to useful energy. However, hydrogen is useful as an energy source/fuel because it has a high energy content per unit of weight, which is why it is used as a rocket fuel and in fuel cells to produce electricity on some spacecraft. Hydrogen is not widely used as a fuel now, but it has the potential for greater use in the future". Our Supplemental Documents package includes the EIA Jan 20 update Hydrogen explained. [LINK]"*

Comptroller calls out New York's clean energy plan

Energy Transition: Comptroller slams New York clean energy plan & its assumptions

On Wednesday, it was New York's turn to have its clean energy goals slammed by its New York State Comptroller. (i) On Wednesday, we tweeted [LINK] "*Big holes in New York clean* *energy plan = #NatGas will be needed for longer. "PSC is using outdated data for planning purposes and has not adequately addressed all current and emerging issues" "Further, PSC is relying on yet-undeveloped technology that will be required to store renewable energy long term to meet 2040 goals". "Additionally, the costs of transitioning to renewable energy are not known or have been reasonably estimated by PSC" "However, the default plan to rely on fossil fuels not only fails to address Climate Act goals, but it also means that, in addition to maintaining and growing the existing infrastructure for the transmission of renewable energy, the infrastructure for safely transporting fossil fuels must be maintained, which also may present costs to ratepayers." Lots more in @NYSComptroller report [LINK]."* (ii) It's worth a quick read as it is another report that highlights the clean energy target set by govt, in this case New York, were set on assumptions that had no way of happening. (iii) Note one of the key wrong assumptions in meeting New York meeting its clean energy goals. The Comptroller says "*PSC also did not fully account for other potential risks, and did not consider certain challenges that could delay meeting the state's clean energy targets. For example, according to the Independent System Operator, the state would need new technology not yet developed to account for the weather-related intermittency of renewables, as well as expanded transmission capability to get clean energy to consumers, to achieve the 2040 goal of 100% renewable statewide electric generation*." (iv) This comment that they just assumed new technology would be discovered and ready when needed is an obvious bust in all the clean energy and net zero and energy transition aspirations. And a basic fundamental flaw that we have highlighted for over three years. (see below excerpt from our May 16, 2021 Energy Tidbits memo on this flaw. (v) The Comptroller also highlights the obvious point that we have emphasized for years – the clean energy shortfalls means more natural gas is needed and why we have been highlighting that relatively new natural gas generation plants will have more value. The Comptroller writes "*The audit found that the PSC did not develop a back-up plan if the Climate Act's goals were not met within prescribed timeframes, except for the continued reliance on fossil fuels, including "peaker plants," which generally operate at a higher monetary and environmental cost."* (v) There is more in the release and report. Our Supplemental Documents package includes the release and excerpts from the report.

Energy Transition: EU June car sales, HEVs up YoY EV, PHEV, Petro, Diesel down YoY

EU June new car sales

On Thursday, ACEA posted its Europe new car registrations for June [LINK]. The June EU new car sales reinforce that hybrids continue to win the day. Hybrids are taking market share from EVs and petrol cars. Battery-electric vehicles are now 12.5% of the total market share, hybrid-electric cars are up to 29.5% of total market share, and plug in hybrids are 6.1% of the total car market. Petrol and diesel cars fell to 47.1% of total Europe car sales and remain below 50%. Our Supplemental Documents package includes the ACEA press release.

Figure 66: EU New Car Registrations in June 2024

	BATTERY ELECTRIC			PLUG-IN HYBRID			HYBRID ELECTRIC[1]			OTHERS[2]			PETROL			DIESEL			TOTAL		
	June 2024	June 2023	% change 24/23	June 2024	June 2023	% change 24/23	June 2024	June 2023	% change 24/23	June 2024	June 2023	% change 24/23	June 2024	June 2023	% change 24/23	June 2024	June 2023	% change 24/23	June 2024	June 2023	% change 24/23
Austria	4,696	4,612	+1.8	1,807	1,799	+0.4	7,267	5,003	+45.3	0	7	-100.0	11,017	7,989	+37.9	5,906	5,101	+15.8	30,693	24,511	+25.2
Belgium	13,714	9,119	+50.4	5,950	11,716	-49.2	4,802	4,197	+14.4	310	490	-36.7	22,603	21,877	+3.3	2,283	4,361	-47.6	49,662	51,760	-4.1
Bulgaria	162	159	+1.9	33	24	+37.5	104	95	+9.5	0	0	#DIV/0!	3,104	2,771	+12.0	707	742	-4.7	4,110	3,791	+8.4
Croatia	298	114	+161.4	128	88	+45.5	1,725	1,396	+23.6	87	192	-54.7	4,385	4,166	+5.3	1,749	1,499	+16.7	8,372	7,455	+12.3
Cyprus	62	72	-13.9	49	25	+96.0	636	538	+18.2	0	0	#DIV/0!	630	429	+46.9	40	46	-13.0	1,417	1,110	+27.7
Czechia	1,524	633	+140.8	531	525	+1.1	4,156	3,240	+28.3	371	471	-21.2	10,473	10,727	-2.4	5,279	4,884	+8.1	22,334	20,480	+9.1
Denmark	9,941	6,350	+56.6	618	2,266	-72.7	3,619	3,359	+7.7	0	1	-100.0	4,267	5,343	-20.1	1,086	983	+10.5	19,531	18,302	+6.7
Estonia	120	138	-13.0	61	61	+0.0	889	809	+9.9	5	10	-50.0	498	979	-49.1	239	264	-9.5	1,812	2,261	-19.9
Finland	1,902	3,092	-38.5	1,067	1,723	-38.1	2,189	2,345	-6.7	26	54	-51.9	1,163	1,468	-20.8	418	482	-13.3	6,765	9,164	-26.2
France	29,837	33,280	-10.3	14,044	17,935	-21.7	62,204	46,098	+34.9	4,913	7,551	-34.9	54,480	68,275	-20.2	16,231	17,708	-8.3	181,709	190,847	-4.8
Germany	43,412	52,988	-18.1	15,391	15,930	-3.4	72,579	62,319	+16.5	1,491	2,360	-36.8	111,768	99,682	+12.1	52,688	46,860	+12.4	297,329	280,139	+6.1
Greece	752	637	+18.1	590	695	-15.1	6,445	4,065	+58.5	103	319	-67.7	5,227	5,874	-11.0	1,030	1,803	-42.9	14,147	13,393	+5.6
Hungary	864	386	+123.8	431	502	-14.1	4,676	3,340	+40.0	9	50	-82.0	4,144	3,873	+7.0	1,600	1,314	+21.8	11,724	9,465	+23.9
Ireland	685	1,432	-52.2	110	114	-3.5	250	435	-42.5	0	0	#DIV/0!	230	556	-58.6	213	453	-53.0	1,488	2,990	-50.2
Italy	13,365	6,148	+117.4	5,592	7,404	-24.5	61,358	48,244	+27.2	16,261	11,916	+36.5	42,630	39,886	+6.9	20,776	25,431	-18.3	159,982	139,029	+15.1
Latvia	111	193	-42.5	59	44	+34.1	615	570	+7.9	26	51	-49.0	555	772	-28.1	250	303	-17.5	1,616	1,933	-16.4
Lithuania	112	193	-42.0	127	93	+36.6	1,223	1,240	-1.4	30	40	-25.0	1,012	1,037	-2.4	299	463	-35.4	2,803	3,066	-8.6
Luxembourg	1,227	1,095	+12.1	307	514	-40.3	900	829	+8.6	0	0	#DIV/0!	1,350	1,638	-17.6	540	691	-21.9	4,324	4,767	-9.3
Malta	202	110	+83.6	45	60	-25.0	156	163	-4.3	0	0	#DIV/0!	292	252	+15.9	64	79	-19.0	759	664	+14.3
Netherlands	11,537	13,566	-15.0	5,268	4,974	+5.9	10,330	9,343	+10.6	206	303	-32.0	7,677	11,609	-33.9	368	392	-6.1	35,386	40,187	-11.9
Poland	2,115	1,809	+16.9	1,252	1,275	-1.8	22,164	15,082	+47.0	773	1,177	-34.3	18,954	17,614	+7.6	4,963	4,624	+7.3	50,221	41,581	+20.8
Portugal	3,820	3,291	+16.1	2,316	2,542	-8.9	2,735	2,814	-2.8	1,124	1,030	+9.1	8,093	9,880	-18.1	2,105	2,484	-15.3	20,193	22,041	-8.4
Romania	861	1,575	-45.3	0	0	#DIV/0!	7,696	4,098	+87.8	2,482	1,542	+61.0	7,371	4,402	+67.4	2,948	1,556	+89.5	21,358	13,173	+62.1
Slovakia	215	230	-6.5	182	268	-32.1	2,651	2,059	+28.8	141	209	-32.5	4,020	4,025	-0.1	1,440	1,580	-8.9	8,649	8,371	+3.3
Slovenia	225	328	-31.4	80	135	-40.7	490	588	-16.7	42	39	+7.7	2,785	2,733	+1.9	1,161	846	+37.2	4,783	4,669	+2.4
Spain	5,531	5,474	+1.0	5,204	6,439	-19.2	37,520	30,499	+23.0	2,633	2,657	-0.9	40,440	43,734	-7.5	12,029	12,282	-2.1	103,357	101,085	+2.2
Sweden	9,118	10,958	-16.8	5,240	5,796	-9.6	2,580	2,025	+27.4	386	632	-38.9	6,225	6,592	-5.6	1,852	2,282	-18.8	25,401	28,285	-10.2
EUROPEAN UNION	156,408	157,982	-1.0	66,482	82,947	-19.9	321,959	254,793	+26.4	31,419	31,101	+1.0	375,393	378,183	-0.7	138,264	139,513	-0.9	1,089,925	1,044,519	+4.3
Iceland	213	904	-76.4	275	227	+21.1	384	488	-21.3	0	0	#DIV/0!	439	308	+42.5	289	641	-54.9	1,600	2,568	-37.7
Norway	14,001	12,800	+9.4	931	1,354	-31.2	2,050	823	+149.1	8	1	+700.0	172	231	-25.5	350	357	-2.0	17,512	15,566	+12.5
Switzerland	4,216	5,226	-19.3	1,802	2,302	-21.7	7,921	6,748	+17.4	1	5	-80.0	6,497	8,476	-23.3	2,252	2,457	-8.3	22,689	25,214	-10.0
EFTA	18,430	18,930	-2.6	3,008	3,883	-22.5	10,355	8,059	+28.5	9	6	+50.0	7,108	9,015	-21.2	2,891	3,455	-16.3	41,801	43,348	-3.6
United Kingdom	34,034	31,700	+7.4	16,604	12,770	+30.0	63,980	56,208	+13.8	0	0	#DIV/0!	59,942	70,367	-14.8	4,703	6,221	-24.4	179,263	177,266	+1.1
EU + EFTA + UK	208,872	208,612	+0.1	86,094	99,600	-13.6	396,294	319,060	+24.2	31,428	31,107	+1.0	442,443	457,565	-3.3	145,858	149,189	-2.2	1,310,989	1,265,133	+3.6

Source: ACEA

GM to miss EVs target

Energy Transition: GM CEO won't EVs target "*because the market is not developing*"

The major theme in 2024 for EVs has been that EVs sales have slowed down to well less than expectations and plans. And this is the issue everywhere except China. So no one should have been surprised to see GM CEO Mary Barra's comments that they weren't going to hit their EV sales targets because the market wasn't developing and that is what the customer is deciding. On Monday, we tweeted [LINK] "*Less EV buyers than expected. "we are seeing a little bit of a slowdown right now, we won't get to a million [GM EVs target in 2025] just because the market is not developing but it will get there. And so, we're going to be guided by the customer" GM CEO Barra to @LesliePicker #OOTT."* Our tweet included the transcript our transcript of GM CEO Mary Barra speaking CNBC's Leslie Picker at the CNBC CEO Council event on July 15, 2024. [LINK]. Items in *"italics"* are SAF Group created transcript. Picker: ".. *and now Mary, you have these very ambitious goals toward electric vehicles, one million produced by next year and then a full electric fleet in I believe it's 2036?* Barra "*2035*".. Picker "*So how do you analogize kind of what you are overseeing to what Jenny talked about in the book in terms of taking these, I mean I think you have 229 years between IBM and GM as companies, you've got these old companies, these old giant companies that you are pivoting, how do you think about leading through change, especially compared to what Jenny went through with AI and cloud?*" Barra: "*I think almost every industry, every company is going through some type of transformation because of technology, and now AI is accelerating for everyone. You know at General Motors moving to an all-electric future and almost what's more important is that the vehicle really is a software platform. And so we are seeing a little bit of a slowdown right now, we won't get to a million just because the market is not developing but it will get there. And so, we're going to be guided by the customer, but what I like to tell people is get in an electric vehicle and drive it. It is a lot of fun it is instant torque it opens up new design language for the vehicle so as the charging infrastructure gets more robust, as EVs become more affordable, I definitely think we are going to see that growth, in the next 10, 11, 12 years is going to be pretty transformative in the way people move.*"

Geopolitical risk now if Biden forced not to run

Capital Markets: Geopolitical risk is before election if Biden is forced out

It's been another crazy week for Biden with increasing calls from senior Democrats to step aside. But, even still, the polls aren't showing any significant negative impact from the increasing Democrat calls for him to leave post his brutal debate performance. Here is what we wrote in last week's (July 14, 2024) Energy Tidbits memo this geopolitical risk if Biden is forced out. "*It seems like people are positioning focused on who will win the election but, on Monday, we were reminded that the big geopolitical risk is before the election if Biden is forced to not run. Because if Biden is forced to not run, the question becomes can he stay on and be a lame duck President for the last of his term? Or for that mater would he want to do so? But the question was raised would world leaders try to take advantage of Harris if she took over right away? The answer is of course. At least we think some would and we used the sports example if a starting CB got injured and the first thing Brady would do is attack the backup. On Tuesday, we tweeted [LINK] "Geopolitical risk to #Oil if Biden forced out? Can Biden stay on as lame duck President if says he won't run? @BBEnergyGroup Omar Najia wonders what if Biden has to give way to Harris right away? ie. would Netanyahu invade southern Lebanon? What other leaders would want Trial by Fire for Harris? Be like a starting CB getting hurt, Brady would go and test the backup! See 👇10:25 min mark. #OOTT @gulf_intel @sean_evers." What made us think this was Omar Najia saying if Harris was suddenly in the seat, why wouldn't Netanyahu invade southern Lebanon? We don't know if that is the scenario but the point is that if Biden is forced not to run, it brings the geopolitical risk to before the election and not after. Food for thought*."

Late Q2/early Q3 is when we wondered if Biden might step down

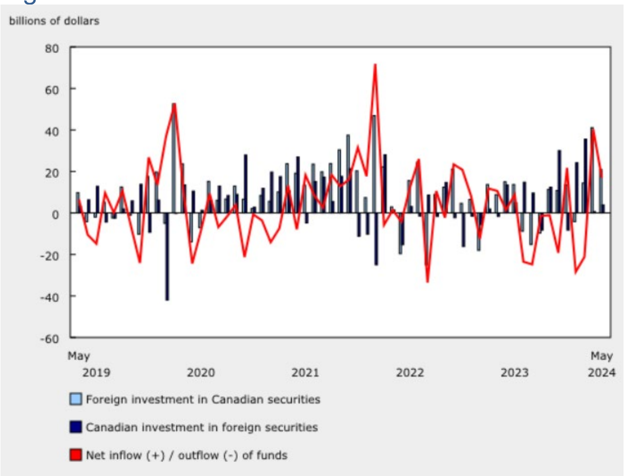
We were surprised that it has taken this long for more talk about Biden stepping down. Our view has been that Biden has a great chance to preserve his legacy by standing down and making Kamala Harris as the first woman President of the US. But we had always thought late Q2/early Q3 was when Biden might choose to step down. Here is what we wrote in our June 9, 2024 Energy Tidbits memo, when we learned of Biden agreeing to debate Trump. "*We are surprised that Biden agreed to the June 27 debate with Trump instead of the normal debate in late Sept and Oct in the closing last several weeks of the election. But assuming the rules allow for an actual debate, this debate could bring a key decision for Biden. If Biden does okay, we this will put to bed concerns on his age and mental acuity. However, it he does poorly, we think it could force him to change his mind about running and rather get the party behind who he would support to continue is legacy. We had actually thought late Q2 or early Q3 is when we might see a surprise announcement Biden wouldn't run. Here is what we wrote in our Nov 19, 2023 Energy Tidbits memo. "Capital Markets: Can Biden orchestrate a passing of the torch to who he anoints?It's a few weeks early for 2024 predictions but one of my top predictions for 2024 will be that Biden tries to orchestrate a passing of the torch to who he anoints. Just not clear if its Newsom or Harris or someone else, but right now I favor Newsom. Biden turns 81 tomorrow so his age will keep raising as a question mark for him and the Democrats in the 2024 elections. Everyone has their view if Biden will or will not run even though he is saying over and over he is running. I am just surprised that I don't see the political pundits with my view of Biden. With all the political pundits in the world, it must be that I am out in left field. So that is why I thought I would put it out there as one of my top prediction. Maybe it's because I believe he is fundamentally a decent guy is why I don't think he will do something really stupid. But I also believe he is underrated for his wanting to control politics. He is a President and, perhaps other than Jimmy Carter, all Presidents want to control politics. So my prediction is Biden wants to orchestrate who will be the next Democratic nominee. He doesn't want chaos and an unpredictable Democratic nominee, which is why he isn't going to* *say he isn't running. Rather he keeps running in the primaries, gets the nomination effectively locked up in March given the primary schedule. And sometime in late Q2 or early Q3. I think the timing will depend upon Trump's legal situation. But sometime ahead of the convention in late Aug. he announces he isn't going to run and is throwing his support behind someone who is his anointed candidate asking the Biden delegates to switch to his anointed one. This is as opposed to him saying he won't run soon and therefore taking control away from him as to who is his successor. If Biden runs, gets all the delegates, he more or less controls who will be the nominee even if the delegates won't be bound to vote for his anointed one. Maybe Prediction isn't the right word, but I just think Biden knows he runs a big risk of losing so the best thing for him in controlling politics is to set it up so the Democrats effectively have to go with his anointed pick. If so, will it be Newsom? Or Harris? Or someone else."*

Capital Markets: Canada's international transactions in securities, May 2024

Canadian investment in foreign securities

On Wednesday, Statistics Canada released their monthly report on Canada's international transactions in securities with the latest data which was for the month of May [LINK]. Statistics Canada reported that foreign investment in Canadian securities reached $20.9b in May surpassing Canadian investment in foreign securities at $3.9b, resulting in a net inflow of funds of $17.0b in the Canadian economy, the second consecutive month of net monthly inflows. This comes after a net inflow of $40.4b recorded in April. Statistics Canada reported *"The* [foreign investment] *activity in May was mainly in Canadian government bonds and private corporate paper, and it was moderated by a divestment in Canadian equity securities…..Overall, non-resident investors have acquired $110.0 billion of Canadian bonds so far in 2024, compared with an amount of $57.6 billion over the same period in 2023……. Canadian investors acquired $3.9 billion of foreign securities in May, targeting foreign bonds. The overall investment was moderate for a second consecutive month, following a record investment of $51.5 billion in the first quarter of 2024. Canadian investment in foreign debt securities slowed to $3.1 billion in May, following significant acquisitions in the previous four months. Investment in US government bonds was down from $7.1 billion in April to $0.8 billion in May, while investment in non-US foreign bonds was on par with the level recorded in April (+$2.1 billion). On a year-to-date basis, Canadian investors have acquired $52.3 billion of foreign bonds in 2024, compared with a marginal $28.3 million over the same period in 2023."* Below is a graph from the Statistics Canada report.

Figure 67: Canada's international transactions in securities



Source: Statistics Canada

Demographics: "Coffee badging" driving minimum hrs in the office at Amazon

We hadn't heard the term "coffee badging" before seeing the Seattle Times report on Friday "*Amazon cracks down on 'coffee badging', amid return-to-office push*". [LINK] The Seattle Times wrote ""*coffee badging" refers to workers who pop unto the office to grab and coffee and then head home, allowing them to skirt in-office requirements but still clock the appropriate number of badge swipes*." As a result of this at Amazon, the Seattle Times reported "*after more than a year of requiring employees to work from the office at least three days a week, Amazon is now considering a minimum number of hours per day to meet that mandate, according to screenshots from the internal messaging app Slack shared with the Seattle Times."*

"Coffee badging"

Twitter: Thank you for getting me to 11,000 followers

Earlier this month, I went over 11,000 followers on Twitter/X. I really appreciate the support and, more importantly, some excellent insights and items to look at from Twitter followers. It helps me do a better job. For new followers to our Twitter, we are trying to tweet on breaking news or early views on energy items, most of which are followed up in detail in the Energy Tidbits memo or in separate blogs. Our Twitter handle is @Energy_Tidbits and can be followed at [LINK]. We wanted to use Energy Tidbits in our name since I have been writing Energy Tidbits memos for over 20 consecutive years. Please take a look thru our tweets and you can see we aren't just retweeting other tweets. Rather we are trying to use Twitter for early views on energy items. Our Supplemental Documents package includes our tweets this week.

@Energy_Tidbits on Twitter

LinkedIn: Look for quick energy items from me on LinkedIn

I can also be reached on Linkedin and plan to use it as another forum to pass on energy items in addition to our weekly Energy Tidbits memo and our blogs that are posted on the SAF Energy website [LINK].

Look for energy items on LinkedIn

SAF GROUP

Misc Facts and Figures.

During our weekly review of items for Energy Tidbits, we come across a number of miscellaneous facts and figures that are more general in nature and often comment on sports and food.

Missing Ivor Robson at The Open

As of our 7am MT news cut off, the leaders are still 45 minutes away from teeing off for the final round of The Open or what some still call the British Open. One of the advantages of starting early on Sunday morning is the TV coverage is on those off the lead so we saw a handful of Canadian Mackenzie Hughes shots who, so far, has the low round of the day as he was -4 today after 16 to sit at +1. Even with no Canadians in contention, there are a number of good stories in particular with Billy Horschel holding the lead going for his first major and Justin Rose sitting second trying for his second major, his first was the 2013 US Open. One of the stories at The Open was the missing of Ivor Robson, who introduced the players at the first tee for oer 40 years. Robson passed away on Oct 17, 2023 so many players spoke about missing Robson. Here is what we wrote about Robson at the time of last year's Open in our July 23, 2023 Energy Tidbits memo "*One of the advantages for golf fans is that there was huge live TV coverage of the golf including at the first tee. Hadn't thought about until hearing the players called at the first tee and remembered how Ivor Robson was no longer the voice for announcing the players on the first tee. He did it for over 40 years and last did it at The Open in 2015 at St. Andrews. There was a good story on Ivor Robson earlier this week "Ivor Robson: I miss The Open enormously". [LINK]*"

Paris Olympics opening ceremony is Friday July 26

It's hard to believe that the Paris Olympics opening ceremony is on Friday and the advertising is that it will be along the Seine River. When we say it's hard to believe, it's because it seems like this has been the least amount of advertising, promotion and pre games features that we can recall. Of course this is referring to in North America and not other parts of the world. Regardless, we plan to watch as much as we can when our Canadian athletes are competing.

Will office key cards be swiped on the way out like time cards in the 60s

We have to believe that the Amazons of the world who are concerned about the hours in the office will be moving to a simple system of badge swipe in and badge swipe out instead of just badge swipe in. It will be like back to the future. Anyone who worked in an industrial setting of any sort in the 60s would have had to punch in their time card to start the day and punch out their time clock to end the day. It was standard practice and the say the employer knew you had clocked the appropriate number of hours. Of course in those days, all the bosses were in the industrial setting (in our case, a lumberyard) everyday and knew who was in. And workers couldn't get away with punching someone's time card for them. Punching the clock was more of a formality.