

Energy Tidbits

Aug 18, 2024

Produced by: Dan Tsubouchi

Chinese Consumers Key Asset Down Again: Home Value Down 14th Consecutive Mth For New Homes, 15th Mth for Used Homes

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. Chinese consumers continue to get hit hard in their key asset – their home values. New home values down for 14th consecutive month, 2nd hand home values down for 15th consecutive month. [\[click here\]](#)
2. Tourmaline buying Montney player Crew Energy for \$1.3b, which we believe is a sign for value uptick for natural gas is coming in 2020s. [\[click here\]](#)
3. OPEC reduced its oil demand forecast but is still considered too optimistic. [\[click here\]](#)
4. Did some summer oil demand kick in? Vortexa reports 3rd consecutive week of low global oil floating storage. [\[click here\]](#)
5. E.ON CEO warns higher Europe electricity prices are ahead as electricity transition investments need more govt subsidies to meet economic return thresholds. [\[click here\]](#)
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 [\[LINK\]](#).

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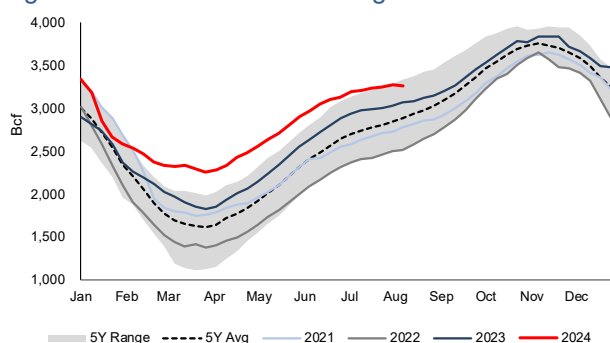
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Natural Gas: Really hot summer = less risk US gas storage gets filled early

HH continues to be weak with US natural gas storage at or near the high end of the 5-yr range. The hot June, July & start to Aug in the Lower 48 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 on May 3 to +209 bcf YoY. 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 July has lessened the risk to storage being filled early. As noted below, US natural gas storage is now +209 bcf YoY, which is down big WoW from +248 bcf YoY last week. And, as noted below, storage could be a lot worse.

Less risk for US gas storage to be filled early

Figure 1: US Natural Gas Storage



Source: EIA

Natural Gas: Storage would be way worse if EQT & others didn't curtail production

The big holdback to Henry Hub prices this summer, despite the hot June and July, was that higher YoY storage would have been way worse if producers didn't shut-in production or hold back on planned completions. On Sunday, August 4th we tweeted [\[LINK\]](#) "Holdback to HH #NatGas prices. Gas storage is +252 bcf YoY & well above high end of 5 yr range. Would be worse if key US #NatGas producers haven't shut-in production due to prices. EQT alone strategic curtailment was 82 bcfd in H1, expect another 90 in H2 for total 172 in 2024. Others are on top of that. #OOTT." We reminded that gas storage could be a lot worse than it is if key producers hadn't shut-in natural gas production due to low prices. We highlighted US natural gas production leader, EQT, and their Q2 report disclosure of continuing to shut-in production due to prices. Our tweet included an excerpt from their Q2 report. "On March 4, 2024, we announced our decision to strategically curtail approximately 1.0 Bcf per day of gross production (the Strategic Curtailment) beginning on February 24, 2024 in response to the low natural gas price environment resulting from warm winter weather and elevated storage inventories. The Strategic Curtailment resulted in total decreased sales volume of 82 Bcfe during the period beginning on February 24, 2024 through June 19, 2024, of which decreases of 54 Bcfe occurred during the second quarter of 2024. In response to market fundamentals, we may continue to strategically curtail our production. Our sales volume guidance for the second half of 2024 assumes additional strategic curtailments of approximately 90 Bcfe of net production."

Storage could be worse

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Natural Gas: Contra seasonal -6 bcf draw in US gas storage; now +209 bcf YoY

-6 bcf draw in US gas storage

There was a contra seasonal -6 bcf draw from storage this week and a big -39 bcf narrowing of the YoY surplus but it didn't really move HH prices. For the week ending August 9, the EIA reported a -6 bcf draw. Total storage is now 3.264 tcf, representing a surplus of +209 bcf YoY compared to a surplus of +248 bcf last week. Since February, total storage had remained above the top end of the 5-yr range, however, this week's data shows that storage is now -68 bcf below the 5-yr maximum of 3.332 bcf. Total storage is +375 bcf above the 5-year average, below last week's +424 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

Region	Stocks billion cubic feet (Bcf)				Historical Comparisons			
	08/09/24	08/02/24	net change	implied flow	Year ago (08/09/23)		5-year average (2019-23)	
					Bcf	% change	Bcf	% change
East	723	719	4	4	712	1.5	658	9.9
Midwest	869	854	15	15	807	7.7	765	13.6
Mountain	260	257	3	3	200	30.0	181	43.6
Pacific	287	289	-2	-2	238	20.6	263	9.1
South Central	1,125	1,152	-27	-27	1,097	2.6	1,021	10.2
Salt	286	300	-14	-14	275	4.0	252	13.5
Nonsalt	839	851	-12	-12	822	2.1	770	9.0
Total	3,264	3,270	-6	-6	3,055	6.8	2,889	13.0

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
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
Jul/19	3,231	22	249	456
Jul/26	3,249	18	252	441
Aug/02	3,270	21	248	424
Aug/09	3,264	-6	209	375

Source: EIA, SAF

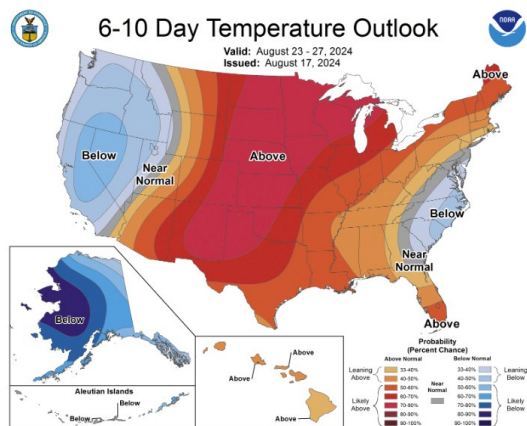
Natural Gas: NOAA forecasts for hot weather across Lower 48 to end Aug

Yesterday, we tweeted [\[LINK\]](#) "Updated @NOAA 6-10 & 8-14 day temperature outlook. Hot end to Aug across Lower 48. But if a contra seasonal -6 bcf draw from storage during refill season didn't move HH #NatGas, then warmer weather isn't likely to do so. Plus storage is +209 bcf YoY & above the high end of 5-yr range & would be way higher if producers like EQT didn't shut in production due to low prices. #OOTT." We have been highlighting how it's been hot but HH prices drifted lower this summer because it's all about storage. It was hot in June and July but HH went down from over \$3 in mid-June to close at \$1.97 two weeks ago before closing on Friday at \$2.12. This is despite having a contra seasonal draw of -6 bcf in gas storage this week, which did nothing to HH gas prices. That's because storage is

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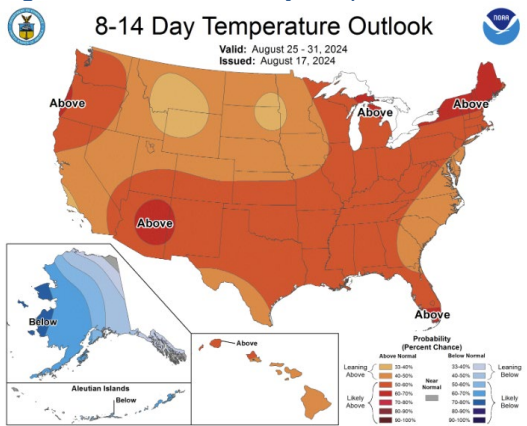
still +209 bcf YoY and above the high-end of the 5-yr range and would be way worse (higher) if producers like EQT hadn't shut-in natural gas production due to low natural gas prices. Below are NOAA's updated, as of yesterday, 6-10 day and 8-14 day temperature outlook maps covering Aug 23-31.

Figure 4: NOAA 6-10 day temperature outlook for Aug 23-27



Source: NOAA

Figure 5: NOAA 8-14 day temperature outlook for Aug 25-31



Source: NOAA

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

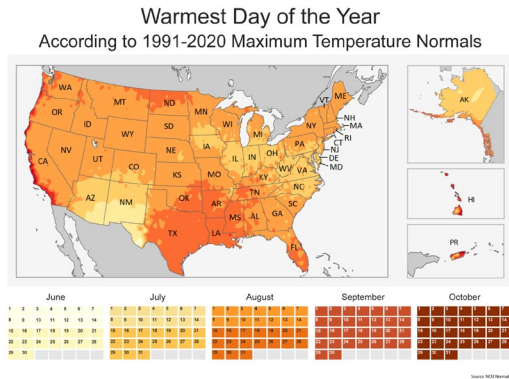
It was a hot June and start to July. But now that we are just past mid-August, most of the Lower 48 has passed their normal hottest day of the year. Here is where we wrote in our July 2, 2023 Energy Tidbits memo. "Yesterday, we tweeted [\[LINK\]](#) "Here's why temperature watch gets important in July 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. #OTT #NatGas." On Thursday,

Normal warmest day of the year across the US

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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



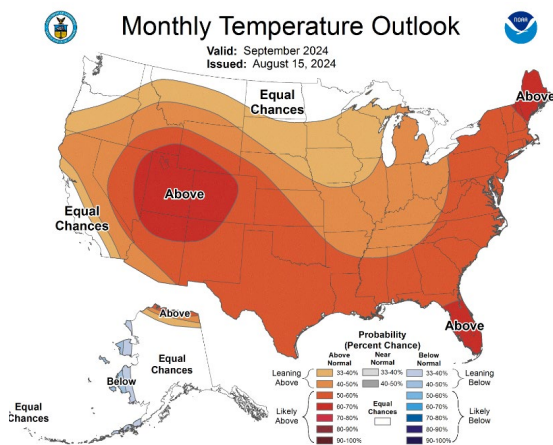
Source: NOAA

Natural Gas: NOAA forecasts hot weather in September 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 September [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 September.

NOAA forecasts a hot September

Figure 7: NOAA Monthly Temperature Outlook for September



Source: NOAA

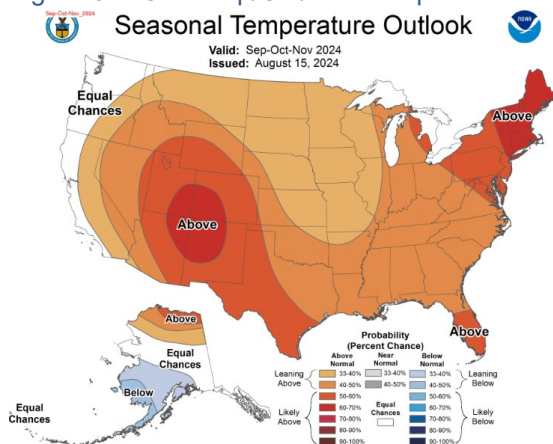
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Natural Gas: NOAA also forecasts much warmer than normal Sept, Oct, Nov

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 fall – Sept, Oct, and Nov. NOAA’s updated temperature outlook for the fall SON [\[LINK\]](#) 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 August 15 temperature probability map for SON.

NOAA forecasts a warm SON

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



Source: NOAA

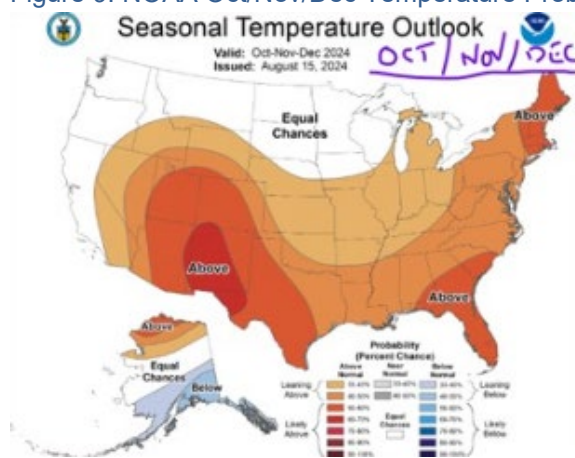
Natural Gas: NOAA forecasts warmer than normal start to winter 2024/25

Our concern is that the continued forecasts for a warm start to winter will keep a lid on HH prices until the forecasts start to turn to a normal type winter. On Thursday, we tweeted [\[LINK\]](#) “HH #NatGas prices could be stuck in show-me state for a few mths. @NOAA fcasts hot Sept across Lower 48. BUT more importantly, also fcast a warm start to winter incl in key East Coast & Great Lakes. Warm winters like in 22/23 & 23/24 keep prices low thru summer. #OOTT” On Thursday, NOAA posted its seasonal temperature outlook for October, November, and December, for November, December, and January, and for December, January, and February [\[LINK\]](#). 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. It’s still early but we highlighted NOAA’s updated temperature outlook for Oct/Nov/Dec, Nov/Dec/Jan and Dec/Jan/Feb because it calls for a warmer than normal Oct/Nov/Dec, Nov/Dec/Jan and Dec/Jan/Feb and, as we saw for winter 2023/24, a warm start to winter normally puts pressure on natural gas prices for months. Below are NOAA’s temperature forecast maps for Oct/Nov/Dec, Nov/Dec/Jan and Dec/Jan/Feb that were attached to our tweet.

NOAA Oct, Nov, Dec, Jan, Feb, temp outlook

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Figure 9: NOAA Oct/Nov/Dec Temperature Probability Forecast



Source: NOAA

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



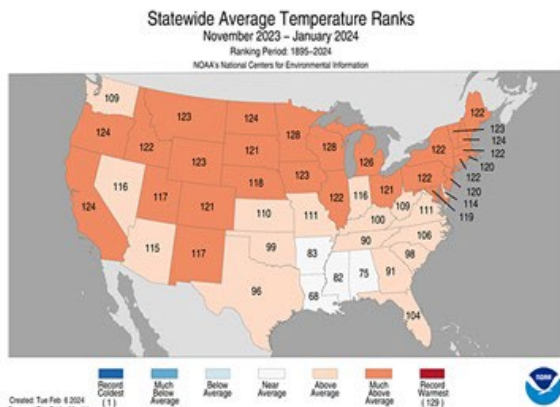
Source: NOAA

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."*

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Figure 11: US Statewide Average Temperature Ranks Nov 1, 2023 – Jan 31, 2024



Source: NOAA

Natural Gas: The Weather Channel forecasts a warmer than normal start to winter

On Thursday, we tweeted [\[LINK\]](#) “The @weatherchannel also forecasts a very warm Oct and warmer than normal Nov ie. start to winter. HH #NatGas prices could be stuck in show-me state for a few months while waiting to see if it’s a warm start to winter. #OOTT [\[LINK\]](#).” On Thursday morning, The Weather Channel posted its “Fall Outlook: Hotter Than Average For Most. Temperatures are going to be above average for most in the US this fall, especially for the Rockies”, which is their temperature outlook for Sept, Oct and Nov. Their forecast is very much similar to NOAA in that they forecast a much warmer than normal Oct and a warmer than normal Nov. Weather forecasts are not 100% but, until it is changed, a forecast for warm start to is likely to kip a lid on HH prices. Our Supplemental Documents package includes The Weather Channel forecast.

A warmer than normal November

Figure 12: Temperature Outlook for November



Source: The Weather Channel

Natural Gas: Matterhorn 2.5 bcf/d pipeline should get Waha spot prices above zero

We have been highlighting how Waha (Permian) spot natural gas prices have been negative and that is impacting Permian oil rig levels given all Permian “oil” wells produce natural gas and NGLs. It looks like the negative Waha prices should be getting some relief in a month. Yesterday, we tweeted [\[LINK\]](#) “Another week of negative Waha (Permian) spot #NatGas

A warmer than normal November

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prices. But help is on the way. EnLink CEO 2.5 bcf/d Matterhorn Express expected in-service around mid-Sept. Thx @energyintel Everett Wheeler for flagging. Hopefully gets small Permian players back to drilling. @DallasFed. #OOTT.” Waha spot natural gas prices were negative all week and closed at -\$3.55 on Friday. Our tweet noted that the 2.5 bcf/d Matterhorn Express pipeline was supposed to start up at the end of Aug is now looking like mid-September. That should provide the relief for Waha natural gas prices to get out of negative. Below is the Waha spot natural gas price as of Friday close and the Whitewater Midstream (operator) Matterhorn Express pipeline map. Our Supplemental Documents package includes the Matterhorn Express pipeline project sheet.

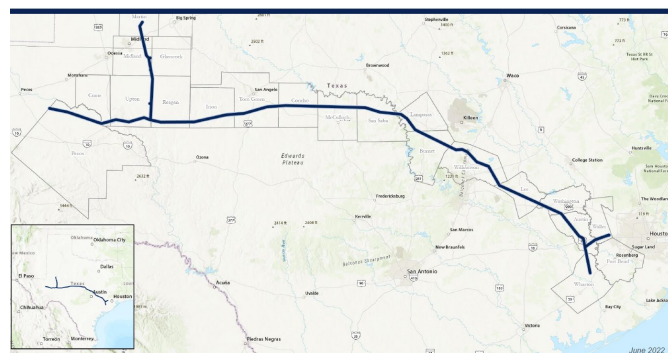
Figure 13: Waha Natural Gas Prices to Aug 16 close



Source: Bloomberg

Figure 14: Matterhorn Express Pipeline, 2.5 bcf/d

Matterhorn Express Pipeline Overview



Source: Matterhorn Express

Natural Gas: Tourmaline buying Montney player, Crew, for \$1.3b

We have been waiting for over a year to see some Montney M&A, which we thought would happen ahead of the start up of LNG Canada 1.8 bcf/d Phase 1. (i) This week started off with a bang with the announcement Tourmaline was buying Crew. Crew is a great fit and fills in another major area for Montney for Tourmaline in NE BC. Tourmaline was already the dominant player and Crew just adds to that. (ii) Early Monday morning, we tweeted [LINK](#) “\$1.3b Montney M&A deal. Tourmaline to buy Crew in share exchange, values Crew at \$6.69, 72% premium vs \$3.90 close. Crew’s quality Montney assets have always looks ideal

Tourmaline buying Crew

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in last week's Energy Tidbits memo. "We love the Q&A portions of earnings calls as it means mgmt is no longer reading from their prepared remarks and that was the case with the second last question in the Murphy Oil Q2 call. (i) Earlier this morning, we tweeted [LINK](#) "Hmmm! Murphy says its Montney has lowest breakeven gas price in North America w/ 50 yrs inventory. In Q&A, highlights Montney well performance has put its 0.5 bcf/d plant at capacity. But will wait for now before commit to an expansion. Then closes "going to watch a little bit on the sidelines of what happens with LNG capacity We also may have a possibility in the future of participating in LNG opportunity through selling our gas to some potential partners that are involved in the Phase 2 of LNG Canada, if that's something that is of interest to them." Big companies don't normally throw out specific possibilities unless they have reason to do so. Advantage of Q&A, mgmt isn't reading its prepared remarks. So is Murphy pointing to near term FID for LNG Canada 1.8 bcf/d Phase 2? #OOTT." (ii) We have said this before about politicians and big company CEOs, they like to give hints on items to come by saying something with some specifics when it is not needed. And in this case, it's Murphy on LNG Canada Phase 2. Murphy's Tupper Montney wells have been very good and it means they are at full 0.5 bcf/d plant capacity. So they have a great play but are giving no indication they are prepared to commit to a plant expansion that could take three years. So they acknowledge a great potential in the Montney with lowest breakeven gas price in North America but no plans right now to expand the plant for the lowest breakeven gas price play in North America. That in itself raises the antenna. In their first answer, they talk about how they see a future with LNG Canada over the long term, which is interesting. but then they say there are multiple LNG outlets as options. Then in the 2nd last question of the Q&A, they close with what the non-needed specific comment "We also may have a possibility in the future of participating in LNG opportunity through selling our gas to some potential partners that are involved in the Phase 2 of LNG Canada, if that's something that is of interest to them." There was no reason for management to be that specific on Phase 2. So they have a great play, aren't suggesting they will commit to a new plant but then give this hint of a specific plan for their Montney growth. It wasn't needed so raises the antenna. (iii) This is one of the reasons why we like the Q&A section as mgmt goes off script and is not reading their prepared remarks. And for some reason, Murphy mgmt wanted to close their answer with a specific that maybe Murphy's Tupper Montney gas supply might be of interest to LNG Canada partners for a Phase 2 expansion. The specific was not needed so the question is why would mgmt throw it out there as a "possibility"? Our Supplemental Documents package includes the excerpt from Murphy Q2 call transcript."

Natural Gas: NOAA, warmest July globally in the last 175 years

On Monday, the NOAA posted their July recap for the global climate, which was another month of warmest temperatures on record with July 2024 as the warmest July on record [LINK](#). The NOAA wrote "July 2024 was the warmest July on record for the globe in NOAA's 175-year record. The July global surface temperature was 1.21°C (2.18°F) above the 20th-century average of 15.8°C (60.4°F). This is 0.03°C (0.05°F) warmer than the previous July record set last year, and the 14th consecutive month of record-high global temperatures. This breaks the longest record warm global temperature streak in the modern record (since 1980) previously set from May 2015—May 2016. July 2024 marked the 48th consecutive July with

Warmest July on record globally

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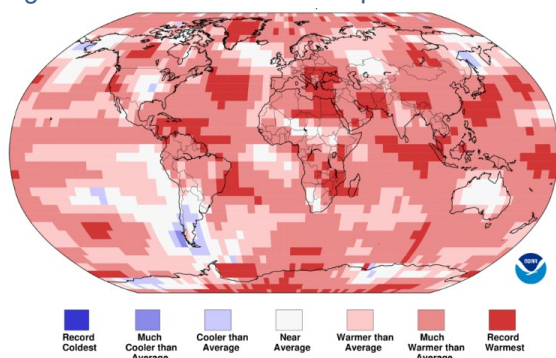
global temperatures, at least nominally, above the 20th-century average.” Below is a map of selected significant climate anomalies and events from July.

Figure 16: Selected Significant Climate Anomalies and Events for July 2024



Source: NOAA

Figure 17: Land & Ocean Temperature Percentiles for July 2024



Source: NOAA

Natural Gas: India July natural gas production down small MoM, down small 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. But it has been back to flat to modestly down in 2024. On Thursday, August 15th, India’s Petroleum Planning and Analysis Cell released their monthly report for July’s natural gas and oil statistics [\[LINK\]](#). India’s domestic natural gas production for July was 3.51 bcf/d, which was down -0.82% MoM from 3.52 bcf/d in June. On a YoY basis, natural gas production was down -1.41% from 3.56 bcf/d in July 2023. Our Supplemental Documents package includes excerpts from the PPAC monthly.

India natural gas production down MoM, down YoY

Natural Gas: India LNG imports down MoM to 3.08 bcf/d in July, up +21.04% 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

India LNG imports up YoY

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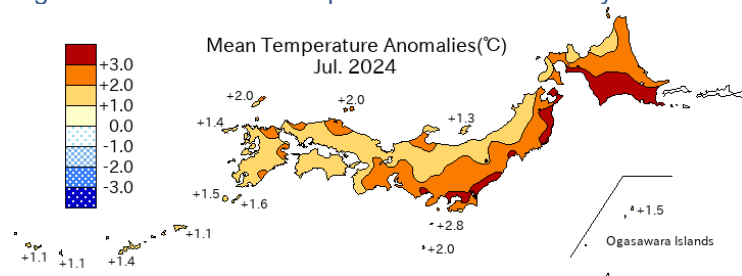
is high, India pulls back on LNG imports and will normally turn to coal. If prices are low, like was seen this winter, then India tends to pick up spot cargoes. India is an opportunistic LNG spot buyer. On Thursday, August 15th, India's Petroleum Planning and Analysis Cell released their monthly report for July'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. July's 2024's LNG imports were 3.08 bcf/d, which is down -1.18% MoM from 3.12 bcf/d in June. LNG imports are now up +21.04% YoY from 2.54 bcf/d in July 2023.

Natural Gas: Well above average temperatures for July in Japan

It was warmer than normal in Japan in July 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 Friday, August 9th, the Japan Meteorological Agency posted its climate recap for July [\[LINK\]](#). It included the below mean temperature anomalies map. The JMA wrote "*The monthly anomaly of the average temperature over Japan was +2.16 °C (the warmest for July since 1898). Monthly mean temperatures were significantly above normal nationwide, because warm air frequently flowed into northern Japan and covered eastern/western Japan and Okinawa/Amami. Monthly mean temperatures were the highest in Okinawa/Amami and tied with 2018 as the highest in eastern Japan on record for July since 1946. Monthly precipitation amounts were significantly above normal on the Sea of Japan side of northern Japan and above normal on the Sea of Japan side of eastern Japan, because the regions were well affected by low-pressure systems, the Baiu-front and moist air inflow. Monthly precipitation amounts were also above normal in Okinawa/Amami because the region was affected by Typhoon GAEMI (T2403) in the third 10 days of the month.*" Below is a temperature map of Japan for July.

July's temperature recap in Japan

Figure 18: JMA Mean Temperature Anomalies July 2024



Source: Japan Meteorological Agency

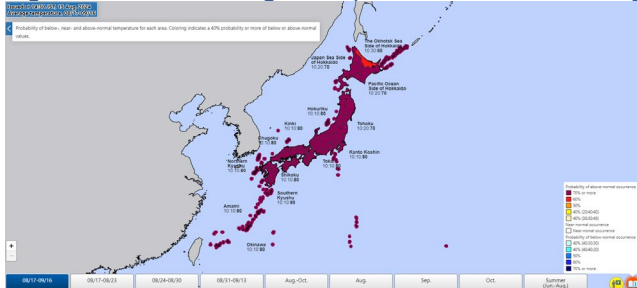
Natural Gas: Japan expects hot temperatures to continue thru at least mid Sept

It's been a hot summer 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, Aug 17 thru Sept 16, in Japan [\[LINK\]](#). There is no JMA commentary on the forecast. JMA is calling for well above normal temperatures for the rest of August and the first half of September, with a +70% probability of above normal temperature occurrence. We checked AccuWeather and they are forecasting daily highs in of 27-34C for the next 30 days. Anyone who has been to Tokyo in August 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.

JMA temperature forecast for the next 30 days

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Figure 19: JMA Average Temperature Outlook for Aug 17 – Sept 16



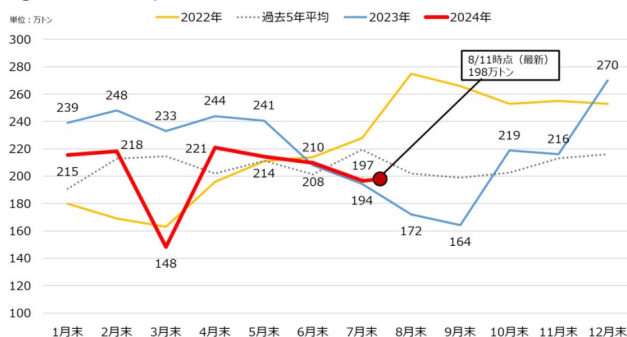
Source: Japan Meteorological Agency

Natural Gas: Japan LNG stocks up WoW, up YoY

Japan's LNG stocks are up WoW, are up YoY and are down small from the 5-year average. On Wednesdays, Japan's METI releases its weekly LNG stocks data [LINK](#). LNG stocks on August 11 were 95.1 bcf, up +3.7% WoW from August 4 of 91.7 bcf, and up +15.1% from 82.6 bcf from a year ago. Stocks are down -2.0% from the 5-year average of 97.0 bcf. Below is the Japanese LNG stocks graph from the METI weekly report.

Japan LNG stocks up WoW

Figure 20: Japan LNG Stocks



Source: METI

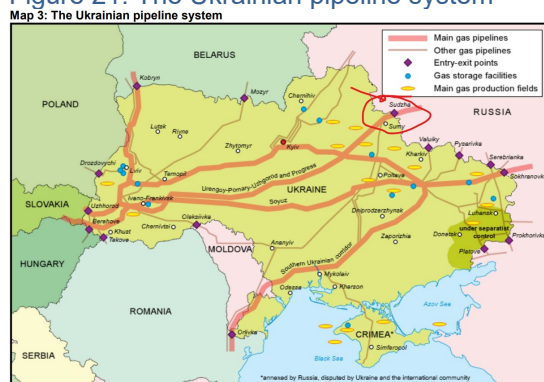
Natural Gas: Russia continues to ship NatGas despite Ukraine control of Sudzha

It's now been 11 day since Ukraine invaded the Russian region of Kursk and took over control of the Sudzha natural gas intake station in Russia for transport on the last remaining open natural gas intake station in Russia for transport on the last remaining open natural gas pipeline allowed to export Russian natural gas to central European countries. Europe TTF gas prices were up 5% when Ukraine took over Sudzha on fears of supply interruption. However, since then Gazprom has confirmed almost daily, if not daily, that there has been no interruption in natural gas supplies. That shouldn't surprise because if Gazprom stops natural gas from entering the pipeline at Sudzha, they will be forsaking any export natural gas revenues and Russia needs every dollar it can get. And, at the same time, Ukraine continues to take the transit fees revenue. So, for now at least, it looks like a reminder from Ukraine to Russia that they can cut off Russian natural gas at any time. Below is a 2018 map from Oxford Institute for Energy Studies showing Sudzha.

Ukraine captures key Russian gas infrastructure

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Figure 21: The Ukrainian pipeline system

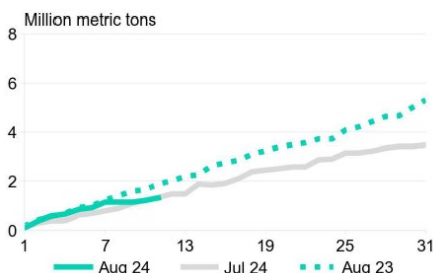


Source: OIES
Source: Oxford Institute for Energy Studies

Natural Gas: NW Europe LNG imports YTD Aug 11 are down 22% YoY to 8.3 bcf/d
 Here is what we wrote in our Aug 4, 2024 Energy Tidbits as a reminder that NW Europe is slowing down its LNG imports because storage is looking to be full before winter. *“We have been warning that Europe gas storage looking to be full before winter would start to slow down injections to gas storage. The biggest way to slow down injections to gas storage is to redirect LNG cargos away from NW Europe to other places like Asia. On Tuesday, Bloomberg reported that this happened in July with its report “Northwest Europe’s LNG Imports Fall Further in July: BNEF Chart. The Northwest Europe and Italy region imported nearly 1.8 million metric tons less liquefied natural gas over July 1-28 than a year earlier. Meanwhile, North Asia, South Asia, Southeast Asia and the Middle East took in around 1 million, 0.3 million, 0.3 million and 0.4 million tons more, respectively. Growth in the Middle East was primarily driven by deliveries to Egypt.”* This week’s BloombergNEF LNG Trade Weekly Aug 13, 2024 was titled *“Northwest Europe Imports Lowest Since 2022.”* BloombergNEF includes a detailed table estimates that LNG imports into NW Europe and Italy for the period Jan 1 to Aug 11 are approx. 8.3 bcf/d, which is down 22% YoY vs 10.7 bcf/d in the same period in 2023. And for Aug to Aug 11, LNG imports into NW Europe and Italy are down 30% YoY to 5.7 bcf/d in 2024. Below is the graph to the BloombergNEF report. Our Supplemental Documents package includes the BloombergNEF table.

NW Europe LNG imports slowed

Figure 22: Cumulative LNG imports into NW Europe as of Aug 11, 2024
Northwest Europe and Italy



Source: BloombergNEF

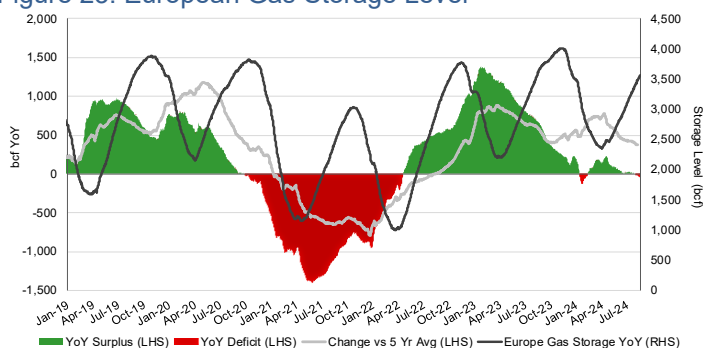
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Europe gas storage

Natural Gas: Europe storage builds WoW to 88.8%, down -1.1% YoY

As expected European natural gas storage has slowed down in filling up as LNG cargoes have been redirected for the past couple months away from NW Europe as it looked like Europe gas storage would be full early. We remind that we don't expect Europe gas to get to 100% full. It's not like going to a gas station where you fill up your car to the limit. Rather, getting to the low 90% would be considered full. This week, Europe storage increased by +1.9% WoW to 88.8% vs 86.9% on August 8. Storage is now down -1.1% from last year's levels of 89.9% on Aug 15, 2023 but up huge vs the 5-year average of 64.33%. As noted above, it looks like Europe gas storage is on track to reach the low 90%'s, which is about where most will consider full ahead of winter. Below is our graph of European Gas Storage Level.

Figure 23: European Gas Storage Level



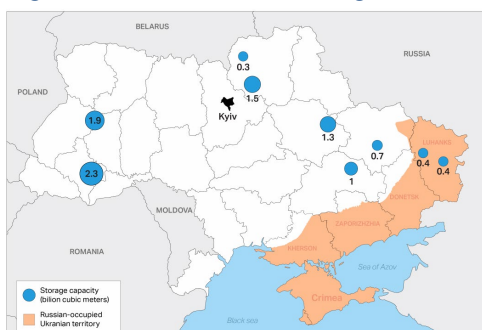
Source: Bloomberg, SAF

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 August 15th, natural gas in Ukraine storage was at 21.7% of its total capacity, up from 21.2% of its total capacity on August 8th. 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.

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Figure 24: Ukraine Gas Storage Facilities as of July 2023



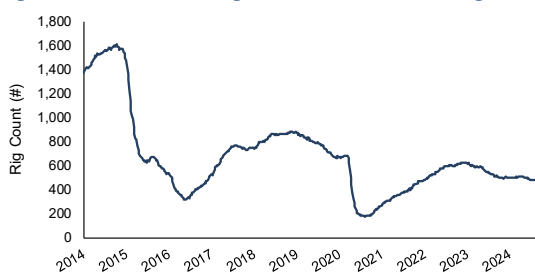
Source: Bruegel

Oil: US oil rigs down -2 rigs WoW and down -37 rigs YoY to 483 rigs

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 -2 rigs WoW to 483 oil rigs as of August 16th. US oil rigs went below 520 rigs on Aug 25, 2023 and has been around 490-510 rigs for the past several months, however, July 19th's 477 rigs marks the lowest oil rig count since December 2021. (iii) Note we are able to see the basin changes but not by type of rig. The major basin changes were Ardmore Woodford +1 rig WoW to 2 rigs, Cana Woodford -1 rig WoW to 16 rigs, Eagle Ford -2 rigs WoW to 48 rigs, Mississippian +2 rigs WoW to 2 rigs, Permian -1 rig WoW to 303 rigs, and Utica -1 rig WoW to 9 rigs. (iv) The overlooked US rig theme is the YoY declines. Total US rigs are -56 rigs YoY to 586 rigs including US oil rigs -37 oil rigs YoY to 483 oil rigs. And for the key basins, the Permian is -24 rigs YoY, Haynesville is -11 rigs YoY and Marcellus -5 rigs YoY. (v) US gas rigs were up +1 rig this week to 98 gas rigs.

US oil rigs down -37 YoY

Figure 25: Baker Hughes Total US Oil Rigs



Source: Baker Hughes, SAF

Oil: Permian oil rigs to be impacted by Waha natgas prices staying low till mid Sept

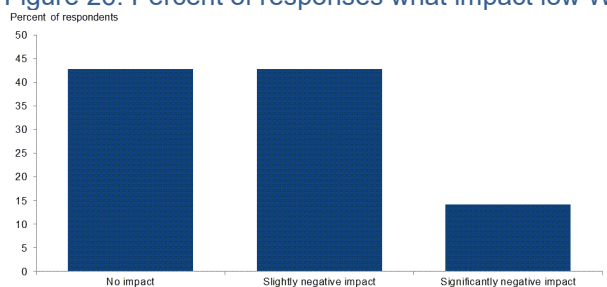
Earlier in the memo, we highlighted the how Waha spot natural gas prices were negative all week and closed at -\$3.55 on Friday. But that there is sign of a relief with the 2.5 bcf/d Matterhorn Express pipeline now expected to start up in mid-Sept instead of the end of Aug. Hopefully that bring Waha back to positive for some extended period. Waha spot can still move around big time as there will be other interruptions or hurricane impacts, but the norm should move away from negative prices. And that should be enough to get some of the

Waha gas prices closed at -\$3.55

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smaller players back to looking at drilling in the Permian. 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 yesterday on Waha prices included an excerpt from the Dallas Fed quarterly energy survey that was posted a month 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 26: 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

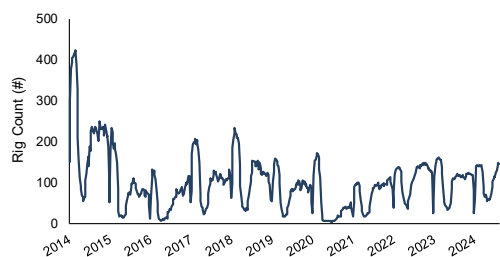
Oil: Total Cdn rigs flat WoW, likely wildfires interrupting seasonal ramp up

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 flat WoW at 217 rigs. The increasing wildfires are helping to pause some of the natural gas drilling that we expect will ramp up in H2/24. Cdn oil rigs were up +4 rigs WoW this week to 151 rigs and are up +32 rigs YoY. Gas rigs are down -3 rigs WoW this week to 66 rigs and are down -4 rigs YoY, and miscellaneous rigs are down -1 rig WoW to 0 rigs total and are flat YoY. Baker Hughes did not update their old format report, so we weren’t able to see the provincial breakouts.

**Cdn total rigs flat
WoW**

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Figure 27: Baker Hughes Total Cdn Oil Rigs



Source: Baker Hughes, SAF

Oil: US weekly oil production down -0.100 mmb/d WoW to 13.300 mmb/d

The EIA’s weekly oil supply estimates had been essentially unchanged for the last nine months ranging from 13.1 to 13.3 mmb/d with the weekly estimates in July all at 13.3 mmb/d. However, last week’s estimate reached a 41-year record breaking high of 13.4 mmb/d. This week’s estimate is down -0.100 mmb/d WoW to 13.3 mmb/d for the week ending Aug 9. 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. Last Tuesday, the EIA released its August STEO and the EIA provides the backup monthly estimates for US oil production and they are more or less in line with July at 13.33 mmb/d and Aug also at 13.33 mmb/d. This week, the EIA’s production estimates were down -0.100 mmb/d to 13.300 mmb/d for the week ended August 9. Alaska was down -0.028 mmb/d WoW to 0.387 from 0.415 mmb/d last week. Below is a table of the EIA’s weekly oil production estimates.

US weekly oil production

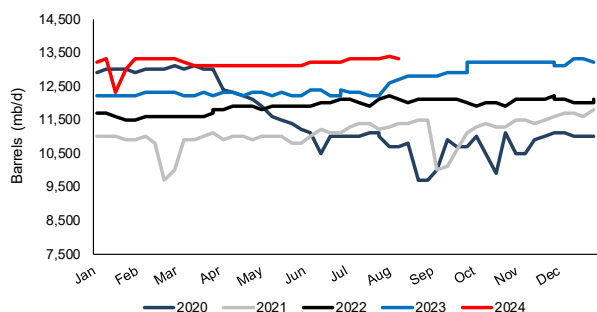
Figure 28: EIA’s Estimated Weekly US Field Oil Production (mb/d)

Year-Month	Week 1		Week 2		Week 3		Week 4		Week 5	
	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	13,300	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	07/19	13,300	07/26	13,300		
2024-Aug	08/02	13,400	08/09	13,300						

Source: EIA

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Figure 29: EIA's Estimated Weekly US Oil Production



Source: EIA

Oil: North Dakota June oil down small MoM to 1.176 mmb/d

On Wednesday, the North Dakota Industrial Commission posted its monthly Director's Cut, which includes June'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 June was down MoM -22,519 b/d to 1.176 mmb/d from 1.198 mmb/d in May, and is up +0.8% YoY against 1.166 mmb/d in June 2023. North Dakota had expected June production to be similar to May and being down 22,519 b/d would fit into that description. In the press conference, NDIC said "it was down 2%, wasn't all that surprising. Looking at the data, we had 121 less wells producing in June vs than we did in May and our completion numbers were still down a little bit." June well completions were down to 55 vs 67 wells completed in May. Here is what we wrote in our July 21, 2024 Energy Tidbits memo on North Dakota's expectation. "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". Our Supplemental Documents package includes excerpts from the NDIC Director's Cut.

North Dakota June oil production down MoM

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Figure 30: 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	1,198,086	5.6%
June	1,227,320	1,425,230	893,591	1,133,498	1,096,783	1,166,604	1,175,567	0.8%
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

Prepared by SAF Group <https://safgroup.ca/news-insights/>**North Dakota sees production up in July, not likely to hit 1.3 mmbd in Dec**

We normally get some color on the lookahead for North Dakota from their monthly press conference webcast on the just released Director's Cut. (i) Expect higher North Dakota oil production in July. NDIC said *"the good news is the July completions looks like they are going to be up so hopefully that will have a positive impact on our production numbers."* NDIC's preliminary estimate is 79 wells were completed in July so up from 55 in June and 67 in May. (ii) Think it will be tough to hit their 1.3 mmb/d exit target. In the Q&A, they were asked how they felt about their target for North Dakota to hit 1.3 mmb/d by the end of the year. NDIC replied *"I think it will be a struggle. We've had a couple of months of down production. Hopefully, the July numbers will turn that around and we'll see a little bit of an uptick. We're hopeful."*

Oil: Shale 101, Need to keep completing wells to keep production flat/up

The North Dakota monthly data and NDIC comments is a good reminder on Shale 101. The wells have high decline so need to have a steady number of wells completed every month for production to at least stay flat. Every shale/tight oil and gas play is different but they all need a certain level of completions every month if production is to at least stay flat. On Friday, we tweeted [\[LINK\]](#) *"Shale 101: Production declines so a minimum # of completions needed every month to keep production flat. Also North Dakota 08/16/23 Rule of Thumb for ND #Oil production still works. May 1.198 mmbd, 67 completions. June 1.176 mmbd, 55 completions. July 79 completions. NDIC 08/14/24 webcast "July completions looks like they are going to be up so hopefully that will have a positive impact on our production numbers." [LINK] #OOTT."* As noted above, North Dakota oil production was down small in June and the reason from the NDIC is well completions were lower. And NDIC is hopeful for a little uptick to oil production in July because well completions are up >40%. NDIC noted well completions in May were 67, down to 55 in June and their preliminary estimate is 79 well completions in July.

Need to keep completing shale wells

North Dakota Rule of Thumb: 60-70 completions/mth to hold production flat

This week's NDIC comments would seem to fit their comments from a year ago that 60-70 completions per month were needed to hold production flat. Here is what we wrote a year ago in our Aug 20, 2023 Energy Tidbits memo. *"It is important to remember that North Dakota holds a monthly press conference on the monthly oil and gas data. It seems like analysts and investors don't listen to the press"*

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conference but we always get additional insights. One example is their rule of thumb that they need 60-70 completions per month to hold North Dakota oil production flat, and since completions were high in June and July, they expect oil production up in July and Aug. On Wednesday, we tweeted [\[LINK\]](#) "Rule of Thumb for North Dakota #Oil production. May 1.14 mmbd. June 1.17 mmbd. "It takes 60 to 70 completions a mth to hold production [North Dakota] flat. We saw 83 in July & 85 in June so next month we ought to be reporting another production increase" NDIC Lynn Helms #OOTT." Here is the transcript we created of Helms' comments. [\[LINK\]](#) At 4:05 min mark, Helms "... we saw as we thought we would a rig count increase of four. It takes 60 to 70 completions a month to hold production [North Dakota] flat. We saw 83 in July and 85 in June so next month we ought to be reporting another production increase, Looking forward to that. We saw wells waiting on completion go down. So the DUC well count is coming down. And that also is reflected with 22 frack crews operating today. They're able to more than keep up with 41 drilling rigs."

Oil: North Dakota crude by rail down MoM to 125,648 b/d in June

On Wednesday, the North Dakota Pipeline Authority posted its Monthly Update "August 2024 Production & Transportation" [\[LINK\]](#) containing June'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 June from a low of 110,648 b/d and a high of 140,648 b/d for an average of 125,648 b/d. There was an upward revision to May numbers which used to have an average of 143,544 b/d, but is now 146,074 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.

North Dakota CBR down MoM in June

Figure 31: Estimated North Dakota Rail Export Volumes



Source: NDPA

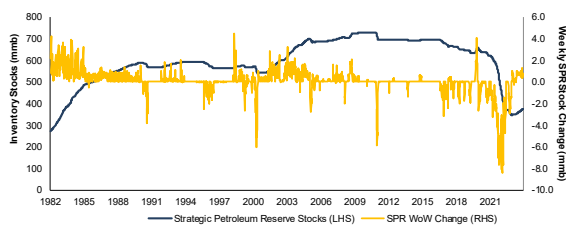
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US SPR reserves

Oil: US SPR less commercial reserve deficit widens, now -54.151 mmb

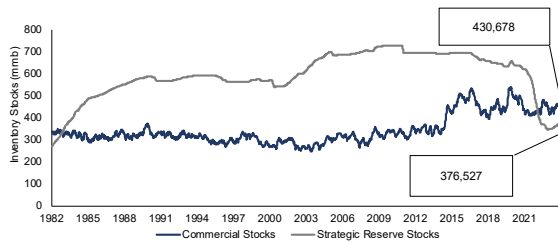
The US Strategic Petroleum Reserves (SPR) continues to be much lower than total US commercial crude oil reserves. The SPR went back below commercial for the first time since 1983 in the Sep 16, 2022 week. This week, we saw a build on the SPR side and on the commercial side. The EIA's weekly oil data for August 9 [LINK](#) saw the SPR reserves increased +0.694 mmb WoW to 376.527 mmb, while commercial crude oil reserves increased +1.357 mmb to 430.678 mmb. There is now a -54.151 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.

Figure 32: Strategic Petroleum Reserve Stocks and SPR WoW Change



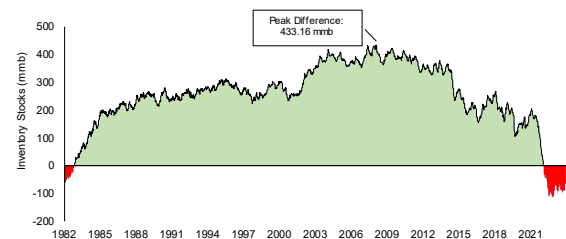
Source: EIA

Figure 33: US Oil Inventories: Commercial & SPR



Source: EIA

Figure 34: US Oil Inventories: SPR Less Commercial



Source: EIA

Oil: US national average gasoline price -\$0.03 WoW to \$3.42

Yesterday, we tweeted [LINK](#) "US gasoline prices keep drifting marginally lower during summer driving season. AAA National average prices -\$0.03 WoW to \$3.45 on Aug 10, -

US gasoline prices

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\$0.09 MoM and -\$0.38 YoY. California at \$4.60 on Aug 10, which was -\$0.03 WoW, -\$0.18 MoM & -\$0.49 YoY. Thx @AAAnews #OOTT. Yesterday, AAA reported that US national average prices were \$3.42 on Aug 17, which was -\$0.03 WoW, -\$0.09 MoM, and -\$0.46 YoY. Yesterday, AAA also reported California average gasoline prices were \$4.60 on Aug 17, which was flat WoW, -\$0.14 MoM, and -\$0.58 YoY.

Oil: Crack spreads -\$2.17 WoW to \$20.75, WTI -\$0.19 WoW to \$76.65

On Friday, we tweeted [LINK](#) “2nd reminder week that WTI is driven by much bigger factors than 321 crack spreads. 321 crack -\$2.17 WoW to \$20.75 on Aug 16. Yet WTI was only -\$0.19 WoW to \$76.65. WTI has outperformed negative 321 cracks as global markets & economies fears lessened. Thx @business #OOTT.” This was second reminder week in a row that three are much bigger factors at play for WTI than 321 crack spreads. As WTI was basically flat on the week whereas 321 cracks were down \$2.17 WoW. We believe the WTI outperformance relative to 321 cracks was more due to the strength of the broad markets and less fears for a weaker global economy. Crack spreads were -\$2.17 WoW to \$20.75, yet WTI was only -\$0.19 WoW to \$76.65. Crack spreads of \$20.75 on Aug 16 followed \$22.92 on Aug 9, \$23.77 on Aug 2, \$24.91 on July 26, \$22.43 on July 19, \$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, and \$27.04 on May 17. Crack spreads at \$20.75 are basically right in line with the high end of the more normal pre-Covid that was more like \$15-\$20. And not high enough to really impact scheduled refinery maintenance.

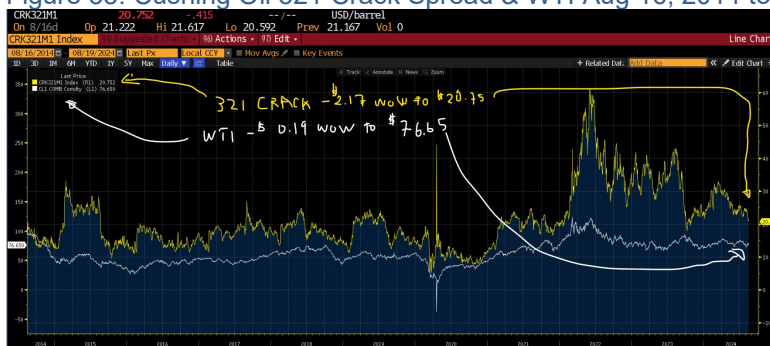
Crack spreads closed at \$20.75

Crack spreads point to near term oil price moves, explaining 321 crack spread

As we saw to close the week, it was another reminder week that WTI prices are affected by much bigger factors than 321 crack spreads. For the last two weeks, WTI oil has outperformed negative 321 cracks. There are global oil items but we think the bigger factor has been the lessening worries that global markets and economies would be weak. So the last two weeks, 321 crack spreads have not been a good indicator for WTI oil prices. Whereas 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 \$20.75 as of the Friday Aug 16, 2024 close.

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Figure 35: Cushing Oil 321 Crack Spread & WTI Aug 16, 2014 to Aug 16, 2024



Source: Bloomberg

Oil: Still seems like CN & CPKC rail lockout Aug 22 will happen

We are now less than four days away from a major hit to the Cdn economy – the planned CN and CPKC lockout for rail that will happen on Aug 22. (i) Last week's (Aug 11, 2024) Energy Tidbits memo wrote "This is big news for the Cdn economy. On Friday, we tweeted [\[LINK\]](#) "Looks like CN and CPKC to lockout starting Aug 22 absent a miracle deal with union. "follows a decision by the Canada Industrial Relations Board (CIRB) that CN Rail and CPKC will not be expected to maintain service in the event of a strike or lockout because rail service is not considered "essential" under the Canada Labour Code" reports @davidbaxter_. Latest Cdn crude #Oil by rail exports was 89,000 b/d in May, normally higher in Aug/Sep. #OTT [\[LINK\]](#) [\[LINK\]](#) [\[LINK\]](#)." This would impact a lot more than oil such as the grain shipping with the CN and CPKC press releases on Friday that they would move to a lockout on Aug 22 unless they have a deal with the Teamsters (representing conductors, locomotive engineers, and yard workers) or there was binding arbitration. The reason for the release was the Canada Industrial Relations Board ruling that rail service is not considered essential ie. it can strike and not be forced back to work. (ii) As of our 7am MT news cut off, we haven't seen any updated CN and CPKC updates that supercede the Teamsters Aug 15 tweets. "Federal Labour Minister MacKinnon today formally rejected calls from CN for binding arbitration. We agree with Minister MacKinnon - agreements are within reach at the bargaining table. #canlab 1/2" "it bears repeating that the main sticking points at the bargaining table are company demands, not union proposals. The only way forward is for rail companies to engage in genuine negotiations at the bargaining table, and to back down from demands for concessions. 2/2." (iii) There has been no indication of any reports that the lockout will be averted but there are still three days!

Rail lockout
looks likely?

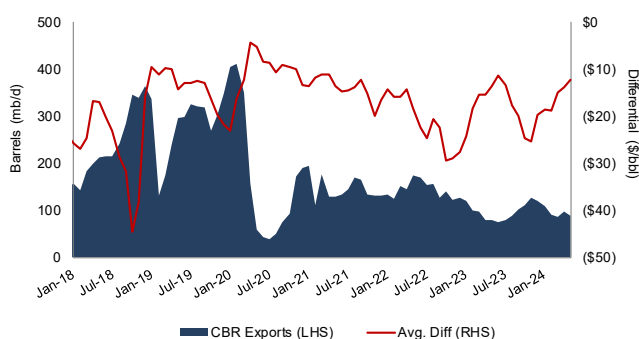
CN/CPKC lockout to hit Cdn crude by rail exports & widen differentials

It's a good thing TMX started up and crude by rail exports are down vs prior years. A CN/CPKC rail lockout would hit Cdn crude by rail exports and that should widen differentials. Our tweet noted the latest CER Cdn crude by rail exports were ~89,000 b/d in May and that normally Aug/Sept are higher months. Here is what we wrote in our July 28, 2024 Energy Tidbits memo on the latest CER crude by rail data. "CER reports Cdn crude by rail exports at 89,141 b/d in May, up +13.2% YoY. We have reached out a couple times to the EIA (but never get a response) as to why their crude by rail imports from Canada data are so much lower than the CER data for

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Cdn crude by rail exports to the US. Our assumption is that the major reason for the difference is likely that Cdn crude by rail that goes directly to the Gulf Coast and then onto tankers for export will show up in Cdn crude by rail exports but not in US crude by rail imports from Canada, ie. the oil never stay in the US. On July 24, the CER released their Canadian crude exports by rail figures for May [\[LINK\]](#). May crude exports by rail were 89,141 b/d, down -7.46% MoM from 96,323 b/d in April and up +13.2% YoY from 78,747 b/d in May 2023. The CER doesn't provide any explanation for the MoM changes.. Below is our graph of Cdn crude by rail exports compared to the WCS–WTI differential.”

Figure 36: Cdn Crude By Rail Exports vs WCS Differential



Source: Canadian Energy Regulator, Bloomberg

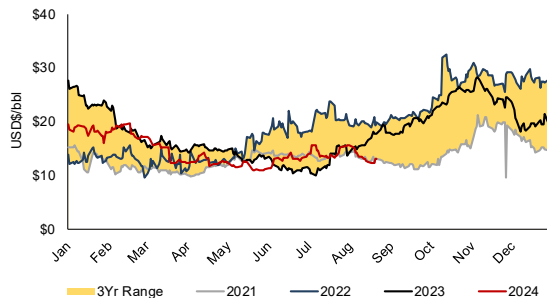
Oil: Cdn heavy oil differentials narrow \$0.10 WoW to close at \$13.10 on Aug 16

Please note the caveat above on the likely CN/CPKC rail lockout as we would expect that to cause some widening in the WCS less WTI differentials. WCS less WTI differentials have been moving up and down and this week were down \$0.10 WoW to close at \$13.10. This was despite the continued shutdown at the Exxon Joliet refinery. The WCS less WTI spread narrowed \$0.10 WoW to \$13.10 on Aug 16. As we look ahead through 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 Aug 16 at \$13.10 which was a narrowing of \$0.10 WoW vs \$13.20 on Aug 9.

WCS differential narrows

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Figure 37: WCS less WTI oil differentials to August 16 close



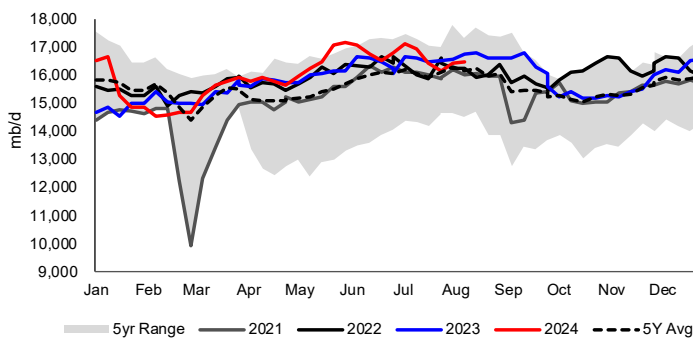
Source: Bloomberg

Oil: Refinery Inputs up +0.065 mmb/d WoW to 16.467 mmb/d

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. Although we may see some refineries advance their turnarounds from Sept to August. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended August 9 [LINK]. The EIA reported crude inputs to refineries were up +0.065 mmb/d this week to 16.467 mmb/d and are down -0.279 mmb/d YoY. There were some refineries returning to production. Refinery utilization was up +1.0% WoW to 91.5% and was down -3.2% YoY.

**Refinery inputs
+0.065 mmb/d
WoW**

Figure 38: US Refinery Crude Oil Inputs



Source: EIA, SAF

Oil: US net oil imports down -0.057 mmb/d WoW as oil exports up +0.118 mmb/d WoW

The EIA reported US “NET” imports were down -0.057 mmb/d to 2.529 mmb/d for the August 9 week. US imports were up +0.061 mmb/d to 6.285 mmb/d, while exports were up +0.118 mmb/d to 3.756 mmb/d. Top 10 was up +0.423 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 were 224,000 b/d for May. Give the EIA credit for putting out weekly oil

**US net oil
imports**

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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 +0.307 mmb/d to 3.785 mmb/d, which we expect was due to the restart of refineries in Ohio and Illinois. Weekly imports have been higher of late with the increased Cdn crude coming off TMX and hitting west coast US refineries. (ii) Saudi Arabia was down -0.170 mmb/d to 0.183 mmb/d. (iii) Mexico was up +0.490 mmb/d to 0.714 mmb/d. Oil imports from Mexico lately have been 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 -0.144 mmb/d to 0.071 mmb/d. (v) Iraq was up +0.051 mmb/d to 0.194 mmb/d. (vi) Ecuador was down -0.098 mmb/d to 0.137 mmb/d. (vii) Nigeria was down -0.061 mmb/d to 0.109 mmb/d.

Figure 39: US Weekly Preliminary Imports by Major Country

	Jun 21/24	Jun 28/24	Jul 5/24	Jul 12/24	Jul 19/24	Jul 26/24	Aug 2/24	Aug 9/24	WoW
Canada	3,890	3,918	3,611	4,418	4,364	4,033	3,478	3,785	307
Saudi Arabia	162	146	275	394	221	144	353	183	-170
Venezuela	0	0	0	0	0	0	0	0	0
Mexico	372	332	619	388	355	504	224	714	490
Colombia	83	276	237	79	314	207	215	71	-144
Iraq	195	191	317	220	150	178	143	194	51
Ecuador	210	152	87	50	102	160	235	137	-98
Nigeria	57	222	315	164	197	113	170	109	-61
Brazil	341	74	251	331	271	71	267	428	161
Libya	86	89	0	0	0	144	115	2	-113
Top 10	5,396	5,400	5,712	6,044	5,974	5,554	5,200	5,623	423
Others	1,215	1,147	1,048	993	897	1,399	1,024	662	-362
Total US	6,611	6,547	6,760	7,037	6,871	6,953	6,224	6,285	61

Source: EIA, SAF

Oil: Is Ukraine positioning for a hopeful negotiation with Russia before Biden leaves?

Everyone has their views but we have to wonder if Ukraine's attacking with Russia and capturing the last Russian inlet station for natural gas to the last remaining pipeline flowing natural gas to central European countries isn't a bargaining chip in some hopeful negotiations with Russia before Biden leaves office? So the wildcard remains what will Putin do. We continue to believe Zelensky knows he has to press now or attack now inside of Russia as there is less than three months to the election so no one should be surprised to see Ukraine's recent offensive push. Ukraine has to take a "hope for the best, plan for the worst" in that there is expected to be less US support if Trump wins the presidency. For this wildcard is why no one should be surprised by the Ukraine push two weeks ago into Kursk. We expect to see Ukraine continue to be aggressive and selectively on the offensive with Biden as President. We also expect to see more Ukraine drones/missile launched offensively at targets far within Russia. And then this also brings up the big question how does Putin escalate against Ukraine? The takeaway with the US election timing is increasing risk of a something bigger happening that could impact energy and markets.

**Ukraine attack
within Russia**

Oil: Russia's seaborne crude oil slowly recovers from 11-month low

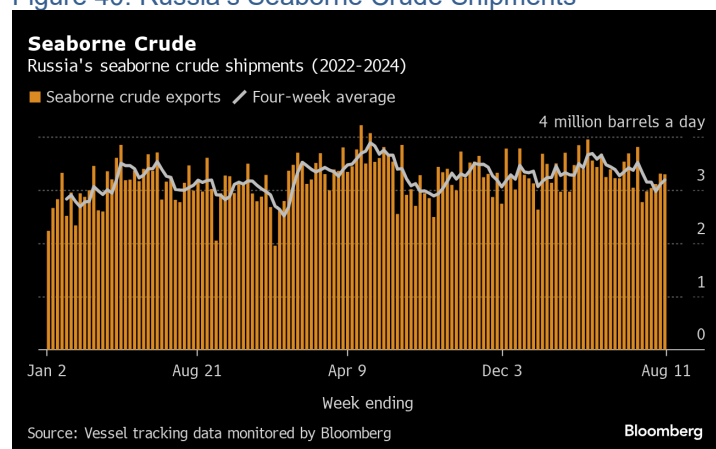
This week, the four-week average for Russia's seaborne crude exports saw its second consecutive weekly increase and is up to 3.19 mmb/d for the week to August 11. The four-week average in the week to July 28 bottomed at 2.97 mmb/d, its lowest since August 2023.

**Russia's
seaborne crude
exports**

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Bloomberg reported *“Meanwhile, refinery runs in the first week of August averaged 5.49 million barrels a day, up by almost 61,000 barrels a day compared to the average in July. If the processing rate is sustained throughout August, it will mean domestic plants used the most crude use since December.....Four-week average exports rose by 80,000 barrels a day to a five-week high of 3.19 million in the period to August 11, following a 130,000 barrel a day gain the previous week. They nevertheless remain about 500,000 barrels a day below their April high. Flows fell slightly on a weekly basis.”* Russia’s seaborne crude exports for the week to August 11 fell by 10,000 b/d to 3.29 mmb/d, after four straight weekly increases. Crude shipments so far this year are 30,000 b/d below 2023’s average. Russia has extended its gasoline export ban with the seasonal refinery turnaround, which should free up some space crude oil for exports. 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, June, and July however they were still above their promised targets. Our Supplemental Documents package includes the Bloomberg report.

Figure 40: Russia’s Seaborne Crude Shipments



Source: Bloomberg

Russia oil exports to China down vs early April driven by 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 1.16 mmb/d for the week ending August 11, down from last week’s 1.18 mmb/d for the August 4 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*

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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 41: 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
July 7, 2024	0.93	2.03	0.00	0.00	0.00	2.96
July 14, 2024	0.99	1.87	0.00	0.00	0.00	2.86
July 21, 2024	1.05	1.79	0.00	0.04	0.00	2.88
July 28, 2024	1.09	1.54	0.00	0.10	0.00	2.73
August 4, 2024	1.18	1.47	0.00	0.21	0.00	2.87
August 11, 2024	1.16	1.38	0.00	0.40	0.00	2.94

Source: Vessel tracking data compiled by Bloomberg Bloomberg

Source: Bloomberg

Oil: OPEC MOMR lowers oil demand growth forecasts for 2024 and 2025

On Monday at 4:45am MT, OPEC released its August Monthly Oil Market Report. On Monday, we tweeted [\[LINK\]](#): "As expected, OPEC lowers #Oil demand growth fcast but not as much as most thought 2024 growth reduced 135,000 b/d to +2.1 mmb/d YoY. 2025 growth reduced 65,000 b/d to ~+1.9 mmb/d YoY. Vs: Saudi Aramco: +1.6 YoY in 2024, +1.4 YoY in 2025 EIA Aug STEO: +1.14 YoY in 2024, +1.61 YoY in 2025 IEA July OMR: +0.97 YoY in 2024, +0.98 YoY in 2025. Aug OMR tomorrow. #OOTT" (i) First, on the numbers, they look slightly negative as OPEC reduced their global oil demand forecast by -0.13 mmb/d for 2024 and a further -0.06 mmb/d for 2025. A reduction was expected but this was less than most expected. OPEC made no changes to non-DOC supply growth in 2024 and 2025 but had a very small increase to the lookback at 2023. And the global oil + products stocks show a narrowing of the deficit to the 2015-2019 average. OPEC+ June production was up small MoM. (ii) Brent oil price was unchanged in the first couple hours post the lease as most had assumed OPEC was going to reduce oil demand. and, as noted in our tweet, it is still a big outlier in demand. Most will expect further demand cuts. and most still see it as an outlier for demand growth There was no real Brent oil prices reaction to the OPEC MOMR. (iii) OPEC reduced their global oil demand forecast for 2024 by -0.13 mmb/d to +2.11 mmb/d YoY and a further -0.06 mmb/d to +1.78 mmb/d in 2025. (iv) Note that MOMR no longer provides full by country data for non-OPEC supply so we can't do a full analysis on by country non-OPEC supply. They are now reporting on a non-Declaration of Cooperation ("non-DoC") country/region basis (the countries not participating in OPEC+). For example, there is no split out of Russia in the forecasts. (v) Non-DOC supply, no material changes to 2024 and 2025. For 2024, August MOMR has non-DOC at +1.23 mmb/d YoY to 53.00 mmb/d (was +1.23

OPEC Monthly
Oil Market Report

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YoY to 52.98). It is due to the higher starting point in 2023. 2022 was revised up small to 49.4 mmb/d (was 49.3) and 2023 was revised up small to 51.77 mmb/d from 51.75 mmb/d to reflect the change from 2022. For 2025, August MOMR has non-DOC at +1.10 mmb/d YoY to 54.10 mmb/d (was +1.10 mmb/d to 54.08). The difference is to 2024 starting point. (vi) Key non-DOC growth areas: 2024 are US +0.51 mmb/d YoY, Canada +0.23 mmb/d YoY and Brazil +0.11 mmb/d YoY. For 2025, US +0.50 mmb/d YoY, Brazil +0.18 mmb/d YoY, Canada +0.16 mmb/d YoY, and Norway +0.10 mmb/d YoY. (vii) Call on OPEC is now called Call on DoC oil, and is revised down by -0.1 mmb/d to 43.0 mmb/d for 2024 and by -0.2 to 43.6 mmb/d in 2025. (viii) OPEC only production. Based on secondary sources, August MOMR has +185,000 b/d MoM to 26,746 mmb/d in July. The largest MoM change was Saudi Arabia +97,000 b/d MoM to 9.015 mmb/d. Non-OPEC DOC countries: August MOMR has -68,000 b/d MoM to 14.160 mmb/d in July. The largest MoM changes were Kazakhstan -34,000 b/d MoM to 1.545 mmb/d and Russia -26,000 b/d MoM to 9.089 mmb/d. (ix) One overlooked positive in looking at global oil stocks is the comparison for oil stocks to the 2015-2019 average. Oil demand is higher than that period. OPEC's forecast for 2024 oil demand is probably 6 mmb/d higher than the 2015-2019 average oil demand. (x) Reminder "commercial oil stocks" refers to total crude oil + products stocks. Crude oil + products stocks at June 30. August MOMR has total crude oil + products stocks at -14.1 mmb MoM to 2,831 mmb, which is 116 mmb below the 2015-2019 average. Crude oil only stocks at June 30. August MOMR has crude oil only stocks at down -17.3 mmb MoM to 1,365 mmb, which is 101 mmb below the 2015-2019 average. Products only stocks at June 30. August MOMR has products only stocks +3.1 mmb MoM to 1,467 mmb, which is 15 mmb below the 2015-2019 average. (xi) Our Supplemental Documents package includes excerpts from the OPEC August MOMR.

Oil: OPEC+ will have to wait until Q2/25 if it doesn't add back barrels on Oct 1, 2024

We continue to believe the challenge for OPEC+ in adding back barrels is that, if they don't start adding back barrels on Oct 1, 2024 as per their plan, they will have to wait until at least Q2/25. After the IEA posted its OMR on Tuesday we tweeted [LINK](#) "Here's why OPEC+ will have to wait until at least Q2/25 to add back #Oil barrels if they don't start adding back on Oct 1, 2024. Oil consumption is always seasonally lower in Q1 each year vs the preceding Q4. Today's IEA OMR is -1.4 mmbd QoQ. OPEC MOMR is -0.66 mmbd QoQ #OOTT." The problem is that global oil consumption is always seasonally lower in Q1 of a year relative to Q4 of the preceding year. So the last thing we think OPEC would do is start adding back oil in a declining demand period. OPEC's MOMR Aug forecasts Q1/25 oil demand at 104.91 mmb/d, which is down -0.66 mmb/d QoQ vs Q4/2 of 105.57 mmb/d. IEA's OMR Aug forecasts Q1/25 oil demand at 102.3 mmb/d, which is down -1.4 mmb/d QoQ vs Q4/24 of 103.7 mmb/d.

Can OPEC add back oil in 2024?

Oil: IEA OMR, no change to YoY oil demand growth for 2024, slight decrease to 2025

On Tuesday, the IEA released its monthly Oil Market Report for August data at 2am MT. (i) The IEA continues to message a negative to oil demand. There is no change to YoY growth in demand for 2024, but there was a reduction by -30,000 b/d for 2025. The IEA did not revise 2023's data, unlike the last 4 months - July OMR saw an upwards revision after 3 months of downwards revisions. The IEA is forecasting demand growth of +0.97 mmb/d YoY to 103.1 mmb/d for 2024, unchanged from July's OMR. Forecasted demand growth for 2025 is +0.95 mmb/d YoY to 104.0 mmb/d, (down small from +0.98 mmb/d YoY to 104.0). There are some rounding items. (ii) We thought the takeaway from the IEA Aug OMR numbers vs

IEA Oil Market Report

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July OMR was neutral - oil demand YoY growth rates are largely unchanged. But OPEC increased OECD demand and pushed out peak global gasoline consumption to at least 2025. Non-OPEC supply is down marginally by -0.1 mmb/d, OECD June 30 oil stocks have a narrowing of the deficit to the 5-yr average. (iii) The underlying support for oil is reinforced by IEA in that oil demand is in its big seasonal demand growth period. The IEA notes preliminary OECD July 31 stocks data shows a draw instead of a build like the last four months, and IEA forecasts oil demand flat QoQ in Q2/24 vs Q1/24, and +1.0 mmb/d QoQ in Q3/24 vs Q2/24. (iv) Non-OPEC supply for 2024 is decreased -0.100 mmb/d to 70.2 mmb/d from last month's forecast, and for 2025 is unchanged at 72.0 mmb/d. The IEA forecasts non-OPEC supply growth at +1.8 mmb/d to 72.0 mmb/d, an increase from last month's at +1.7 mmb/d to 72.0 mmb/d. (v) The IEA's call on OPEC for 2024 was unchanged at 27.2 mmb/d, and for 2025 was revised down slightly to 26.3 mmb/d from 26.4 mmb/d. (vi) The IEA wrote, "*Global observed oil inventories fell by 26.2 mb in June, following four months of builds totalling 157.5 mb. OECD onshore stocks declined by 19.5 mb but were mostly offset by a 17.5 mb increase in non-OECD countries.*" Our Supplemental Documents package includes the IEA release and the Bloomberg tables and reports.

Figure 42: IEA Global Demand Forecast by OMR Report

Source: IEA, Bloomberg, SAF

Oil: IEA OMR pushes out peak global gasoline consumption again

One of the big advantages of Twitter/X is that reputable people tweet out additional information that we can't access such as detail on the IEA's full Oil Market Report that is only available by subscription. One good example is the IEA's splitting global oil and products consumption by product so we don't have the gasoline consumption split. The IEA pushed back its peak gasoline consumption. It may not have been much but it is significant because it suggests the IEA's assumption on fast EVs displace gasoline consumption is being pulled back. Our June 16, 2024 Energy Tidbits memo highlighted the IEA Oil 2024 warning that a 15% delay in EVs pace of adoption means that IEA's peak oil demand before 2030 is pushed out until after 2030. Bloomberg's Javier Blas tweeted out "*Small change in @IEA numbers, but still important: The agency no longer expects 2024 to mark the peak in global gasoline consumption, as it now forecasts a small increase in demand in 2025. At ~27.4m b/d, consumption next year would be >500,000 higher than in 2019. #OOTT.*" We then tweeted [\[LINK\]](#) "Note @JavierBlas

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mmb/d, which is up vs 27.2 mmb/d in the IEA's Oil 2024 posted in June and higher than 26.6 mmb/d in the IEA's Oil Market 2023. Below are the tables we attached to our tweet.

Figure 43: IEA World oil demand by product Oil 2024 & Oil 2023

IEA
World oil demand by product (mb/d), 2019-2030 **OIL 2024**

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2023-30 Growth Rate	2023-30 Growth
LPG/Ethane	13.1	13.3	13.7	14.1	14.6	15.0	15.4	15.8	16.2	16.5	16.8	17.1	2.3%	2.5
Naphtha	6.7	6.6	7.1	6.9	7.3	7.5	7.7	7.9	8.1	8.2	8.3	8.5	2.2%	1.2
Gasoline	26.9	23.7	25.7	26.3	27.0	27.2	27.2	27.0	26.7	26.4	26.0	25.4	-0.8%	-1.6
Jet/Kerosene	7.9	4.7	5.1	6.2	7.2	7.5	7.6	7.8	8.0	8.1	8.3	8.5	2.4%	1.3
Gasoil/Diesel	28.3	26.1	27.6	28.4	28.5	28.4	28.8	28.9	28.9	28.9	28.8	28.7	0.1%	0.2
Residual fuel oil	6.2	5.8	6.4	6.5	6.4	6.5	6.5	6.5	6.4	6.4	6.3	6.3	-0.3%	-0.1
Other products	11.5	11.6	11.8	11.3	11.0	11.1	11.1	11.1	11.1	11.1	11.1	11.0	-0.4%	-0.4
Total products	100.6	91.7	97.5	100.1	102.2	103.2	104.2	105.0	105.3	105.5	105.6	105.4	0.4%	3.2
Annual change	0.5	-8.9	5.8	2.6	2.1	1.0	1.0	0.7	0.4	0.2	0.0	-0.1		

Global oil demand by product (mb/d), 2019-2028 **OIL 2023**

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2022-28 Growth Rate	2022-28 Growth
LPG/Ethane	13.2	13.2	13.8	14.2	14.4	14.6	14.8	15.1	15.5	15.9	1.9%	1.7
Naphtha	6.6	6.4	6.9	6.8	7.0	7.4	7.8	8.0	8.2	8.3	3.4%	1.5
Gasoline	26.7	23.7	25.6	26.0	26.6	26.6	26.6	26.4	26.1	25.8	-0.2%	-0.3
Jet/Kerosene	8.0	4.7	5.2	6.2	7.3	7.5	7.6	7.9	8.0	8.2	4.7%	2.0
Gasoil/Diesel	28.3	26.1	27.5	28.3	28.4	28.5	28.7	28.7	28.8	28.9	0.4%	0.6
Residual fuel oil	6.2	5.6	6.2	6.5	6.7	6.7	6.7	6.7	6.7	6.7	0.4%	0.2
Other products	11.8	11.9	12.2	11.8	11.8	11.9	11.9	12.0	12.0	12.0	0.3%	0.2
Total products	100.7	91.7	97.5	99.8	102.3	103.1	104.1	104.8	105.3	105.7	1.0%	5.9
Annual change	0.6	-9.0	5.8	2.3	2.4	0.9	1.0	0.7	0.5	0.4		

Source: IEA, Bloomberg, SAF

IEA Oil 2024 warns a 15% delay in EVs pace means oil demand grows thru 2030

Here is what we wrote in our June 16 2024 Energy Tidbits memo on the IEA Oil 2024 warning. "We thought the IEA's comments in Oil2024 was a set up comments for when the IEA pushes back its peak oil demand ie. where they can say they warned in Oil2024. As noted above, the EVs sales and displacement of 6 mmb/d by 2030 is from GEVO2024 as noted above. Oil2024 says that if the pace of global EV adoption is 15% less than in their STEPS scenario from April 2024, that would put oil demand back into growth in 2030. This looks like the set-up comment for when the IEA pushes back peak oil demand ie. where they can say they warned readers in Oil 2024. The pace of global EVs is based on government policies AND objectives. And think about what has been happening in the EVs sales market. Surely people have knocked down their EV adoption pace by at least 15%. Whenever the IEA make a modest cut to their EV adoption pace (that was based on govt stated policies and objectives) , then it means peak oil demand is sometime in the 2030s and also that oi demand growth thru 2030 will be greater than in the Oil 2024 forecast. In Oil 2024, the EIA wrote "Moreover, oil's flattish, plateauing demand profile post-2027 means that it would only take relatively minor changes in its underlying drivers to directionally shift oil's demand trajectory. For example, either a 0.3% quickening in global GDP growth, a USD 5/bbl annual decline in real oil prices or a 15% slowdown in the pace of global EV adoption would be sufficient for oil consumption to cross the narrow dividing line back from shrinkage to growth at the end of the decade. Conversely, opposite shifts of the same magnitude would accelerate oil demand's slide into contraction."

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IEA Oil 2024 back end loads the reduction in gasoline demand

Here is what we wrote in our June 16, 2024 Energy Tidbits memo on the IEA's increased gasoline consumption forecast | Oil 2024 vs Oil 2023. *"We like to compare this year vs last year to see if any items jump out at us. One I sthe gasoline assumptions. The IEA increases near term gasoline consumption so it is more back end loading its demand reduction. We compared IEA Oil 2024 vs Oil 2023. Oil 2023 assumed lower gasoline consumption of 26.6 mmb/d in 2024 and 2025 but Oil2024 increases 2024 to 27.2 mmb/d and 2025 and to 27.2 mmb/d. Oil2024 gets down to 26.4 mmb/d in 2028, which is basically where Oil2023 expected it would be in 2024. But then down to 25.4 mmb/d in 2030. So an accelerated reduction in demand. Our Supplemental Documents package includes the comparison of Oil 2023 and Oil2024."*

Oil: No breakthroughs from latest Israel/Hamas ceasefire indirect talks

As of our 7am MT news cut off, there is no indication that a ceasefire deal is happening even with Biden's bullish comments on Friday and the ceasefire discussions given Hamas feedback yesterday. As a reminder, Hamas does not participate in the discussions. (i) Biden bullish commens. Late Friday morning, we had CNN on when they had the breaking news of Biden's comments on the ceasefire talks. We tweeted [\[LINK\]](#) *"... dealing with the ceasefire effort in the Middle East and we are closer than we've ever been we may have something but we're not there yet". Biden an hour ago. #OOTT.*" Biden did qualify his comments but was clear in his saying it was closer than ever for a ceasefire deal. This would fit the reports from last week that the US was pushing the talks as there was a good chance for a deal. We thought that was hopeful thinking but, if you listen to Biden, it is getting close. This has been said many times before that the parties may be close. (ii) Netanyahu is "cautiously optimistic". Last night, Bloomberg reported *"Israel voiced cautious optimism about prospects for a cease-fire in Gaza after high-level talks with mediators over a new US proposal, placing the onus on Hamas to drop objections. A statement from Prime Minister Benjamin Netanyahu's office said he spoke to his negotiators after their return from two days of meetings with senior Qatari and Egyptian delegates who have been serving as intermediaries with the Palestinian Islamist faction. Also present at the Doha talks was CIA director William Burns, representing a US administration that is keen to wind down the more than 10-month-old Gaza war, which has spread to other Middle East fronts. The negotiators "expressed to the prime minister cautious optimism regarding the possibility of progress on the deal, in accordance with the updated American proposal," the statement said."* (iii) Hamas says no progress. Earlier this morning, we tweeted [\[LINK\]](#) *"Hamas says no progress on ceasefire despite Biden's bullish view. "mediators told us the points we disagree on haven't been solved and [Benjamin] Netanyahu has added yet more conditions and made it even more complicated." Hamas leader in Lebanon. Thx @AlexCrawfordSky #OOTT.*" Earlier this morning, Sky News reported [\[LINK\]](#) *"But in an interview with Sky News, the leader of Hamas in Lebanon told us no progress had been made so far at the talks and the two sides appear to be just as far apart as ever. Hamas is not at the negotiations but messages and updates have been passed on to them on the sidelines. US President Joe Biden told reporters on Friday he was "optimistic" and there are "just a couple more issues" that US, Qatari, and Egyptian negotiators have to resolve between the two sides. But during the interview, conducted over Skype from an undisclosed location in Beirut, Dr Ahmad Abdulhadi told us that Israel was resisting agreeing to a permanent ceasefire and the same sticking*

**No ceasefire
breakthrough**

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points existed but, according to Hamas, the Israelis had imposed yet more conditions. "Biden is just trying to give a positive impression," he said. "But the first round of talks came with no improvements. "The mediators told us the points we disagree on haven't been solved and [Benjamin] Netanyahu has added yet more conditions and made it even more complicated."

Lasting ceasefire seems impossible unless someone changes their end goal

On Thursday morning, we tweeted [\[LINK\]](#) *"Have to believe everyone, no matter what side they are on, hopes Israel/Hamas can somehow find their way to a lasting and peace. But near term keeps looking tough/impossible. Good recap by @RosMathieson to @flacqua and she didn't mention killing the leading negotiator. #OOTT."* There was a good recap by Bloomberg's Rosalind Mathieson who laid out the reality of the negatives to see how there could be success including the fundamental impossibility that Israel and Hamas have incompatible well stated end goals for a ceasefire. And we noted that her comments didn't even have to mention the fact that Israel had recently killed the Hamas lead negotiator. Our tweet included a short 1:19 min video clip of her comments.

Oil: Israel hopes for the best, plans for the worst vs all its enemies before US election

It's the end of August so students are about to return en masse to US college campuses and this will bring the wildcard back to politics and US support for Israel from social pressures that gained momentum in the spring on campuses for pro Palestine. In speaking with some of our US friends with kids in college, they reminded that kids are heading back to campus in the next couple weeks and, with the US election less than three months away and the re-energized Democrat party, they are expecting to see an escalation of anti-Israel protests on US campuses. But given the still close election, they are Republicans so worry what will Harris have to give to keep the party support strong in swing states like Michigan. No question, it is a wild card but it seems likely to expect an increase in anti-Israel protests on college campuses. And no question, Netanyahu is trying to take advantage of the known Biden support right now to do all they can. In Israel's case, the concern will be the possibility of a Democrat sweep driven by support from states like Michigan. And that the concern will be on less support and a more qualified support from a Harris government especially if the Democrats regain the House and keep the Senate. And, as noted below, we have to believe Netanyahu is expecting a rise in anti-Israel protests in the run up to the Nov 5 election. So we think Netanyahu is in a hope for the best but plan for the worst. And what he can do in the near term is keep hitting Hamas hard to try to force some sort of deal soon.

Israel keeps pushing pre US elections

Oil: Still waiting for an Iran response to Israel

As of our 7am MT news cut off, Iran has yet to make its declared revenge attack on Israel. And the daily reporting continues to be headlines like Israel waiting on edge for an Iran attacks. Recall, on Aug 31, we tweeted [\[LINK\]](#) *"Brent +\$1.62 to \$80.25. Iran Supreme Leader response to Israel air strike killing Hamas leader in Tehran. "it is our duty to take revenge" "also prepared the ground for a severe punishment". #OOTT #Oil."* Our tweet included IRNA (state media) reported on comments from the Supreme Leader where he said that it was Iran's duty to seek his blood and that they would give harsh punishments against Israel. And then by Friday, the reports were that Iran was still trying to find a way to hit Israel hard but not so hard that a world war started.

Waiting for Iran's response

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Oil: Reminder Netanyahu said it's not if but when Israel acts on Iran nuclear program

The reason we remind on Iran's advancing nuclear capability is that we worry Israel uses any subsequent attack on Iran whenever Iran retaliates as an opportunity to hit Iran's nuclear facilities. As of our 7am MT news cut off, there is still the unknown of what will Iran do in retaliation. And then it opens up another wildcard, what will Netanyahu then do. We don't know if Netanyahu will use any subsequent counter attack as an opportunity to go after Iran's nuclear program. Here is what we wrote in our July 28, 2024 Energy Tidbits memo on Netanyahu's warning to congress. *"We understand the focus was on Israel vs Hamas, but we are still surprised that Netanyahu's clear warning to Congress on Iran's nuclear program didn't get much attention. On Wednesday, we tweeted [\[LINK\]](#) "Netanyahu tells congress. it's not if but when Israel takes action vs Iran nuclear program! Overlooked geopolitical & #Oil wildcard/risk! 'And one more thing. When Israel acts to prevent Iran from developing nuclear weapons, nuclear weapons that could destroy Israel and threaten every American city, every city that you come from, we're not only protecting ourselves. We're protecting you."*

Netanyahu to congress. See 📌 07/21 tweet. Blinken: Iran now 1 or 2 weeks from breakout capacity to produce nuclear material for a weapon. Thx @TimesofIsrael #OOTT."

Netanyahu seemed clear it was a question of when they take action against Iran's nuclear program, not if. We don't think anyone knows how this would play out but it doesn't seem to be an issue on geopolitical risk or oil risk screens. As a reminder, the Biden Admin has been consistent that they won't let Iran develop a nuclear weapon. Israel's bar is lower as they won't let Iran have the potential to develop a nuclear weapon and reaching break out capability would appear to do so."

Netanyahu warned Congress on Iran nuclear

07/19/24: US says Iran is 1 or 2 weeks from breakout to produce fissile material

We continue to be surprised that Iran's reported advancing nuclear capability doesn't get more attention. The reason why we were surprised US media and politicians didn't make more of Netanyahu's warning on Iran nuclear program is Blinken warned a month ago that Iran was 1 or 2 weeks from reaching breakout potential for nuclear capability. Here is what we wrote in last week's (July 21, 2024) Energy Tidbits memo. *"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*

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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.”

Oil: No reported change at Libya shut-in ~260,000 b/d Sharara, no word on El Feel b/d

As of our 7am MT news cut off, we have not seen any Libya National Oil Corporation lifting of the force majeure at its Sharara oilfield in SW Libya or any reports that it might be lifted. So we have to assume it continue to be shut-in since Aug 5. The NOC has not said how much Sharara was producing but most are using ~260,000 b/d. Plus we still haven’t seen any force majeure impact on the nearby El Feel oil field. On Aug 5, we tweeted [\[LINK\]](#) “Too good to last. Libya #Oil supply interruption. Its biggest field, 270,000 b/d Sharara, is reported completely shut down. Thx @S_Elwardany. Also that should mean nearby ~40,000 b/d El Feel oil field will be shut down as it links thru Sharara. #OOTT.” Bloomberg had reported on Sharara being shut in on Monday. But we still haven’t seen any notice on El Feel, which produces nearly ~40,000 b/d. El Feel’s production goes thru El Sharara and, normally, every time Sharara is shut-in, it forces El Feel to be shut in.

Sharara oil field

Oil: Libya NOC restores pipeline flows back after fire on Monday

There was a good reminder this week that pipelines can be repaired fairly quickly if the pipe is available and the repair area is accessible. There have been no reports or suspicions of foul play. On Monday, a fire broke out on a Libya oil pipeline. When we saw the posted videos, it didn’t look like a massive pipeline fire. So, if so, we thought it would be a relatively quick fix. And the reports are that the repairs on the Zaggut-Sidra pipeline linking Libya’s Waha oilfield to the port of Es-Sider were completed on Friday and the pipeline was back to full volumes yesterday. During the downtime, volumes reported dropped by ~100,000 b/d and were being restored to just under 300,000 b/d yesterday.

Pipeline flows only down for five days

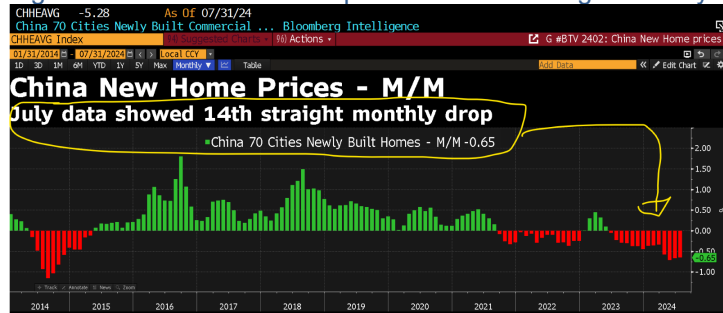
Oil: China home prices keep losing value, 14 mths for new & 15 mths for old,

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. On Wednesday, we tweeted [\[LINK\]](#): “No wonder Chinese consumer is still on sidelines. Their most important asset, home values keep going lower. July new home prices: 14th straight MoM drop, -0.65% M/M (June -0.67% M/M). July 2nd hand home prices: 15th straight M/M drop, -0.80% M/M (June -0.85% M/M). Thx @business #OOTT.” Just like in North America, the home is the most important asset for most Chinese is their home and all the Chinese have seen is the value of their homes decline month after month with no end in sight. In July, Chinese new home and 2nd hand home prices were down MoM vs June. July MoM value declines weren’t as bad as June or May, which was the worst month for China home values in ~10 years. But it was bad and kept the consecutive MoM home value losses streak alive, which is now 14 straight MoM declines in new home prices and is now 15 straight MoM declines in 2nd hand home prices. Below are the Bloomberg graphs with the July data.

China houses keep losing value

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Figure 44: China new home prices MoM % change incl July 2024



Source: Bloomberg, National Bureau of Statistics

Figure 45: China 2nd hand home prices MoM % change incl July 2024



Source: Bloomberg, National Bureau of Statistics

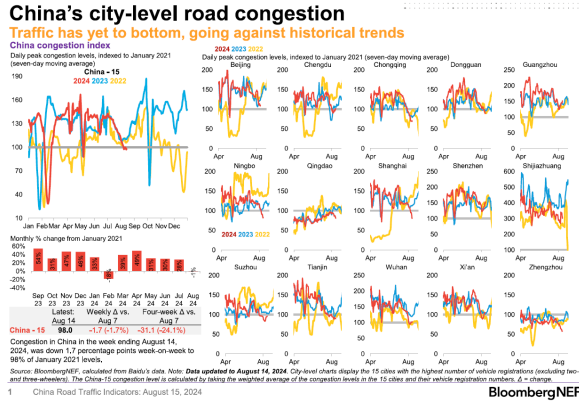
Oil: Baidu China city-level road congestion in Aug is down YoY

China Baidu city-level road congestion is an indicator of the volume of traffic in the city vs leaving the city. The July data was pointing to more Chinese staying in the city than leaving for their normal holiday. But we saw a reversal in the city -level road congestion so far in August ie. less city-level road congestion pointing to more Chinese leaving the cities for holidays. July 2024 city-level road congestion for the top 15 cities was 104% of July 2023, which suggests less people left the city for holidays this year. However, on Thursday, BloombergNEF posted its China Road Traffic Indicators Weekly August 15 report, which includes the Baidu city-level road congestion for the week ended August 14. Note that this report was formerly titled Road Traffic indicators, and is now China Road Traffic Indicators, but the content of the report is unchanged. BloombergNEF's report was titled "*Traffic has yet to bottom, going against historical trends*" This week, BloombergNEF reported Baidu city-level road congestion was down by -1.7% WoW to 98.0% of Jan 2021 levels. Month to date, August's daily congestion levels are down -18.1% from August 2023. Bloomberg noted that all 15 of the top 15 cities are down YoY. Below are the BloombergNEF key graphs.

China city-level traffic congestion

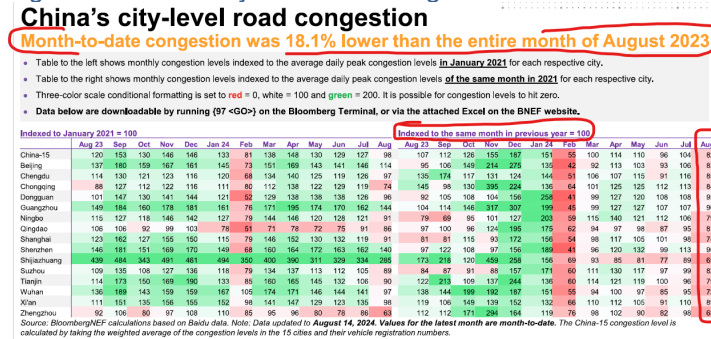
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Figure 46: China city-level road congestion for the week ended August 14



Source: Bloomberg

Figure 47: China city-level road congestion for the week ended August 14



Source: Bloomberg

Oil: Are Chinese consumers trading down for their holidays?

We have to believe that consumers around the world, including in China, are the same in how they look at spending. If they have less to spend or want to spend less for their holidays, they stay closer to home, take shorter trips and spend less. So when we saw the Thursday Global Times (state media) report on how Chinese are driving more for their holidays, it seemed to be indicator a change in Chinese holiday spending. On Thursday, we tweeted [LINK](#) "Is Chinese consumer trading down on their holidays? More are driving for holidays with shorter weekend trips. And spending less. "Luhun rest & service oasis has seen a daily average of more than 13,000 visitors and 4,000 vehicles, with passenger and car traffic up more than 30% and revenue rising 10% compared with last year," #OOTT." The Global Times report "Highway oases become new attractions as holiday-goers take to the roads" [LINK](#) highlighted "As self-driving tourism gains popularity in China" and "the growth of road trips" and "Our service oasis is near popular attractions like Baiyun Mountain and Laojun Mountain, so many visitors choose to stop here for a 'mini vacation' for one or two days." And what caught our attention on spending of visitors to these highway stops. Global Times wrote "Since the summer began, the Luhun rest and service oasis has seen a daily

Chinese taking more short driving holidays

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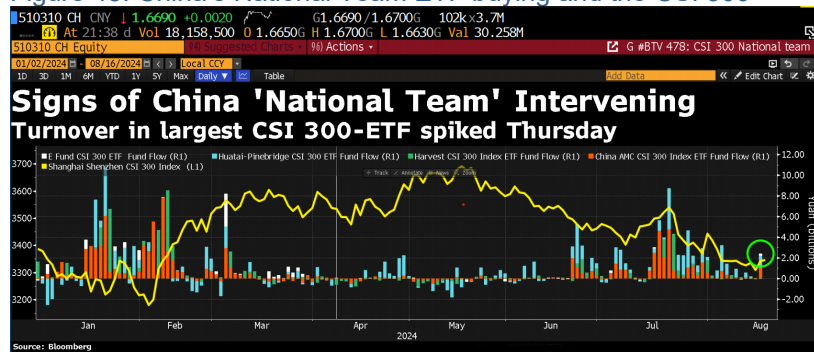
average of more than 13,000 visitors and 4,000 vehicles, with passenger and car traffic up more than 30 percent and revenue rising 10 percent compared with last year," Ge Changbo, the manager of Henan Transport Investment Expressway Service Area Management Co, Lu Hun Service Area told the Global Times on Thursday." So >30% more vehicles and passengers but only 10% more revenue. Our Supplemental Documents package includes the Global Times report.

Oil: China has already spent \$66b in 2024 buying ETFs to support CSI 300

On Thursday night we were watching Bloomberg The China Show and tweeted [\[LINK\]](#) "Worth a listen. China's "national team" has spent \$66b buying China ETFs so far in 2024. Hasn't driven investor confidence but has helped support a floor on CSI 300. And still more buying to come. Great recap @RebeccaSin_SK with @DavidInglesTV & @YvonneManTV #OOTT." Our tweet included a video clip recap by Bloomberg's Rebecca Sin on how China's "National Team" had already spent \$66b so far in 2024 in buying ETFs to support the CSI 300. Sin noted how they are expected to spend \$100b in 2024 so another \$34b to come. China's "National Team" is "Sovereign wealth fund Central Huijin Investment Ltd. And other state-backed investors." Sin highlighted how the ETF buying really hasn't instilled any big change in investor sentiment but it has helped support a downside for the CSI 300. And that they tend to buy when the CSI 300 goes below 3,300. Bloomberg estimates the national team could hold 25-30% of the entire China mainland ETF market by year end. Below, is the graph in Sin's recap but we added in the CSI 300 to show her point.

China \$66b so far buying ETFs

Figure 48: China's National Team ETF buying and the CSI 300



Source: Bloomberg

Oil: Foreigners pull record funds from China in Q2/24

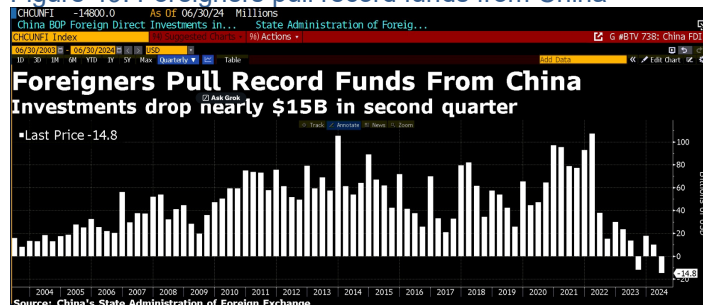
No wonder, China's economy is stalled given foreign capital is leaving China after foreigners poured huge amounts of capital only a few years ago. On Monday, we tweeted [\[LINK\]](#) "Negative for China economy! Foreign investors head for the exit door from China. Foreign investors pulled record amount of money from China in Q2. Only 2nd time been negative in a quarter. Thx @JDMayger #OOTT #Oil." Our tweet included the below Bloomberg graph. Bloomberg wrote "Foreign investors pulled a record amount of money from China last quarter, likely reflecting deep pessimism about the world's second-largest economy. China's direct investment liabilities in its balance of payments dropped almost \$15 billion in the April-June period, marking only the second time this figure has turned negative, according to data from the State Administration of Foreign Exchange released Friday. It was down about \$5

Foreigners pull record funds from China

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billions for the first six months. Should the decline continue for the rest of the year, it would be the first annual net outflow since at least 1990, when comparable data begins. Foreign investment into China has slumped in recent years after hitting a record \$344 billion in 2021.”

Figure 49: Foreigners pull record funds from China



Oil: World's biggest steel producer warns China economy is like a "harsh winter"

There was a big warning on the China economy from the Chairman on China Baowu Steel that caught the attention of global markets. Baowu is the biggest steel producer in the world. On Wednesday, we tweeted [\[LINK\]](#) "Big warning on China economy from world's biggest steel producer. "Conditions in China are like a "harsh winter" that will be "longer, colder and more difficult to endure than we expected," China Baowu Steel Group Corp. chairman Hu Wangming told staff at company's half-year meeting." Reports @business Martin Ritchie #OOT. [\[LINK\]](#)." Bloomberg wrote "The world's biggest steel producer sounded the alarm about a crisis in China that carries the potential to send global shock waves, warning of a deeper industry downturn than major traumas in 2008 and 2015. Conditions in China are like a "harsh winter" that will be "longer, colder and more difficult to endure than we expected," China Baowu Steel Group Corp. chairman Hu Wangming told staff at company's half-year meeting. Global investors are lasered onto China's struggling economy, even as they also contemplate the possibility of a recession in the US, with the Federal Reserve moving toward interest rate cuts. For commodities including steel, the warning from Baowu underscores risks to demand and prices, as well as what ArcelorMittal SA, the industry No. 2, called an "aggressive" surge of exports from China. China's steel market — by far the world's largest — is flashing multiple warning signs as the protracted property downturn shows no signs of ending, while factory activity remains subdued. Baowu alone produces about 7% of the world's steel, and its commentary is closely tracked to gauge the market mood in the Asian nation."

China economy warning

Oil: China visitors to Hong Kong up YoY in July, but still nowhere near pre-covid levels

On Thursday, the Hong Kong Tourism Board released their July statistics for total arrivals and visitors from mainland China. We are looking specifically at visitors from mainland China to gauge how much appetite there is to travel and spend money from the Chinese consumer (and businessman). In July, there were 3.141 million mainland Chinese visitors to Hong Kong, which is up +34.1% MoM. There were 2.342 million visitors from mainland China in June, and 2.627 million visitors from mainland China in May. On a YoY basis, July's figures are +5.5% higher than July 2023. This is still nowhere near pre-Covid April 2019 of 5.577

Chinese visitors to Hong Kong

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million visitors. Our Supplemental Documents package contains the press release from the Hong Kong Tourism Board.

Oil: Trafigura estimates additional 500,000 b/d of fuel demand from Red Sea diversion

One of the reasons why we wish we had access to the full IEA Oil Market report is to see what they are saying about their numbers. And, in particular, what they may not be saying about their numbers. A good example is what does the IEA say about how much incremental fuel oil demand is incorporated into their demand forecasts for shipping industry avoiding the Red Sea due to Houthi attacks. On Wednesday, Trafigura posted its blog “Five things we can do today to decarbonise shipping” [\[LINK\]](#), which included their estimate that there was an additional 500,000 b/d of fuel oil demand by tankers and ships having to avoid the Red Sea because of Houthi attack risk. Trafigura wrote “We estimate an extra 200,000 barrels per day of fuel oil will be consumed by oil tankers alone this year as they are diverted around the Cape of Good Hope..... When container ships and other vessels are considered we think an additional 500,000 barrels per day of fuel will be consumed by the shipping industry this year because of the disruptions.” Our supplemental Documents package includes the Trafigura blog.

Red Sea diversion

Figure 50: Additional fuel oil consumption from shipping avoiding Red Sea



Source: Trafigura

Oil: Vortexa crude oil floating storage est 61.82 mmb at Aug 16, -3.75 mmb WoW

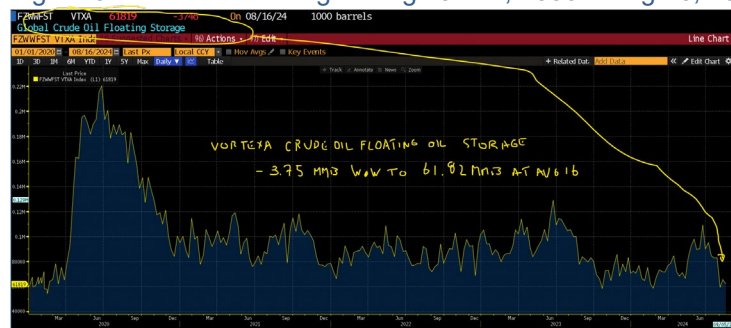
We are referencing the Vortexa crude oil floating storage data posted on the Bloomberg terminal as of 9am MT yesterday. Note that these estimates get revised over the course of the week and the revisions can go back months. We do not check daily for the revisions, so our comments on the new estimates are compared to the prior week's Vortexa estimates posted on Bloomberg on Aug 10 at 9am MT. (i) *Did summer #Oil demand pick up? @Vortexa crude #Oil floating storage est -3.75 mmb WoW to 61.82 mmb at Aug 16. 3rd low week in a row. Post revisions up Aug 9 @ 65.57, Aug 2 @ 59.37 are still low. Only been 17 weeks <70 mb since Covid. Thx @vortexa @business. #OOTT.* (ii) As of 9am MT Aug 17, Bloomberg posted Vortexa crude oil floating storage estimate for Aug 16 at 61.82 mmb, which was -3.75 mmb WoW vs upwardly revised Aug 9 of 65.57. Note Aug 9 was revised +5.05 mmb vs 60.52 mmb originally posted at 9am MT on Aug 10. (iii) Revisions. All of the revisions to the prior seven weeks were upward revisions with the largest being to last two weeks but then rest below +2 mmb. Here are the revisions for the past seven weeks compared to the estimates originally posted on Bloomberg at 9am MT on Aug 10. Aug 9 revised +5.05 mmb. Aug 2 revised +3.20 mmb. July 26 revised +1.63 mmb. July 19 revised +1.14 mmb. July 12 revised +1.53 mmb. July 5 revised +1.50 mmb. June 28 revised +1.90 mmb. (iv) There is a

Vortexa floating storage

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wide range of floating storage estimates for the past seven weeks, but a simple average for the prior seven weeks is 75.97 mmb vs last week's then prior seven-week average of 77.70 mmb. The decline was despite the all prior weeks upwardly revised because we dropped a higher week from the rolling last 7-week average. (v) Also remember Vortexa revises these weekly storage estimates on a regular basis. We do not track the revisions through the week. Rather we try to compare the first posted storage estimates on a consistent week over week timing comparison. Normally we download the Vortexa data as of Saturday mornings around 9am MT. (vi) Note the below graph goes back to Jan 1, 2020 to show the run up to Covid and then how Covid started to impact Covid in March/April 2020. (vii) Aug 16 estimate of 61.82 mmb is -67.05 mmb vs the 2023 peak on June 25, 2023 of 128.87 mmb. Recall Saudi Arabia stepped in on July 1, 2023 with its voluntary cuts. (viii) Aug 16 estimate of 61.82 mmb is -37.99 mmb YoY vs Aug 20, 2023 of 99.81 mmb. Below are the last several weeks of estimates posted on Bloomberg as of 9am MT Aug 17, 9am MT Aug 10, and 9am MT Aug 3.

Figure 51: Vortexa Floating Storage Jan 1, 2000 – Aug 16, 2024, posted Aug 17 at 9am MT



Source: Bloomberg, Vortexa

Figure 52: Vortexa Estimates Posted 9am MT Aug 17, 9am MT Aug 10, 9am MT Aug 3

FZWWFST VTXA Inde 08/16/2024					FZWWFST VTXA Inde 08/09/2024					FZWWFST VTXA Inde 08/02/2024				
ID	3D	1M	6M	YTD	ID	3D	1M	6M	YTD	ID	3D	1M	6M	YTD
Fr	08/16/2024				Fr	08/09/2024				Fr	08/02/2024			
	Last Px					Last Px					Last Px			
	61819					60515					56746			
Fr	08/09/2024				Fr	08/02/2024				Fr	07/26/2024			
	65565					56169					81338			
Fr	08/02/2024				Fr	07/26/2024				Fr	07/19/2024			
	59366					81507					79889			
Fr	07/26/2024				Fr	07/19/2024				Fr	07/12/2024			
	83139					81530					85984			
Fr	07/19/2024				Fr	07/12/2024				Fr	07/05/2024			
	82674					82690					93861			
Fr	07/12/2024				Fr	07/05/2024				Fr	06/28/2024			
	84224					93498					87810			
Fr	07/05/2024				Fr	06/28/2024				Fr	06/21/2024			
	94995					87968					107.182k			
Fr	06/28/2024				Fr	06/21/2024				Fr	06/14/2024			
	89871					107.606k					89459			
Fr	06/21/2024				Fr	06/14/2024				Fr	06/07/2024			
	108.902k					90036					85987			
Fr	06/14/2024				Fr	06/07/2024				Fr	05/31/2024			
	90174					88155					94987			
Fr	06/07/2024				Fr	05/31/2024				Fr	05/24/2024			
	89484					97667					89874			
Fr	05/31/2024				Fr	05/24/2024				Fr	05/17/2024			
	97889					91466					80153			

Source: Bloomberg, Vortexa

Oil: Vortexa crude oil floating storage WoW changes by regions

Bloomberg also posts the Vortexa crude oil floating storage in key regions, but not all regions of the world. The regions covered are Asia, North Sea, Europe, Middle East, West Africa and

Vortexa floating storage by region

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US Gulf Coast. We then back into the “Other” or rest of world. (i) As noted above, last week’s Aug 9, in total, was revised +5.05 mmb with the key revisions being Asia revised +3.03 mmb and Middle East revised +2.50 mmb. (ii) Total floating storage at Aug 16 was +3.75 mmb WoW vs the revised up Aug 9 of 65.57 mmb. The major WoW changes were Other +5.31 mmb WoW, Asia -4.45 mmb WoW, North Sea -2.91 mmb WoW and Middle East -2.83 mmb WoW. (iii) Aug 16 estimate of 61.82 mmb is -67.05 mmb vs the 2023 high on June 23, 2023 of 128.7 mmb. Recall Saudi Arabia started its voluntary 1 mmb/d production cuts on July 1, 2023. The major changes by region vs the last year June 23, 2023 peak are Asia -444.47 mmb and Other -16.13 mmb. (iv) Below is the table we created of the WoW changes by region posted on Bloomberg at of 9am MT yesterday. Our table also includes the “Original Posted” regional data for Aug 9 that was posted on Bloomberg at 9am MT on Aug 10.

Figure 53: Vortexa crude oil floating by region

Region				Original Posted	Recent Peak	
	Aug 16/24	Aug 9/24	WoW	Aug 9/24	Jun 23/23	Aug 16 vs Jun 23/23
Asia	28.79	33.24	-4.45	30.21	73.26	-44.47
North Sea	1.80	4.71	-2.91	4.70	5.42	-3.62
Europe	5.63	7.44	-1.81	7.29	5.75	-0.12
Middle East	3.45	6.28	-2.83	3.78	6.76	-3.31
West Africa	8.02	6.18	1.84	6.18	7.62	0.40
US Gulf Coast	1.22	0.12	1.10	0.48	1.02	0.20
Other	12.91	7.60	5.31	7.88	29.04	-16.13
Global Total	61.82	65.57	-3.75	60.52	128.87	-67.05

Vortexa crude oil floating storage posted on Bloomberg 9am MT on Aug 17
Source: Vortexa, Bloomberg

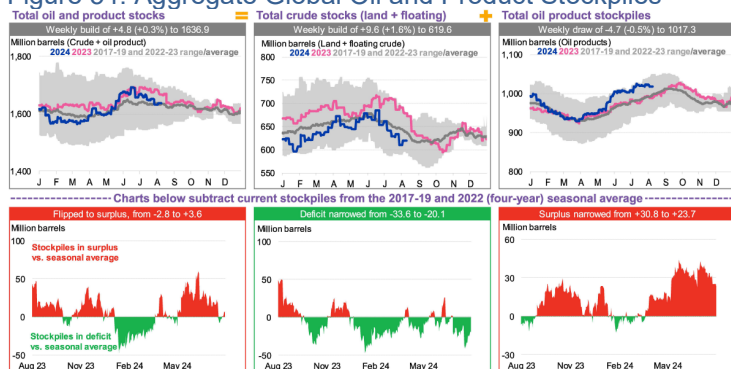
Source: Bloomberg, Vortexa

Oil: BNEF, global oil & product stocks flip to surplus of +3.6 mmb from deficit

On Thursday, 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 flipped to a surplus of +3.6 mmb for the week ending August 9 from a deficit of -2.8 mmb for the week ended August 1. (iii) Total crude inventories (incl. floating) increased +1.6% WoW to 619.6 mmb, while the stockpiles deficit narrowed from a deficit of -33.6 mmb to a deficit of -20.1 mmb. (iv) Land crude oil inventories increased +0.3% WoW to 549.5 mmb, narrowing their deficit from -28.9 mmb to -20.9 mmb against the five-year average (2017-2019 + 2022-23). (v) The gas, oil, and middle distillate stocks fell -0.6% WoW to 232 mmb, with the surplus against the four-year average narrowing to a surplus of +1.5 mmb from +4 mmb. Jet fuel consumption by international departures in the week to August 19 is set to decrease by -20,900 b/d WoW, while consumption by domestic passenger departures is forecast to decrease by -30,600 b/d WoW. Below is a snapshot of aggregate global stockpiles.

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Figure 54: Aggregate Global Oil and Product Stockpiles



Source: BloombergNEF, US EIA, PJIK, IE Singapore, FEDCom/Platts, PAJ, Vortexa, Genescope. Note: As of the week ending August 9, 2024.

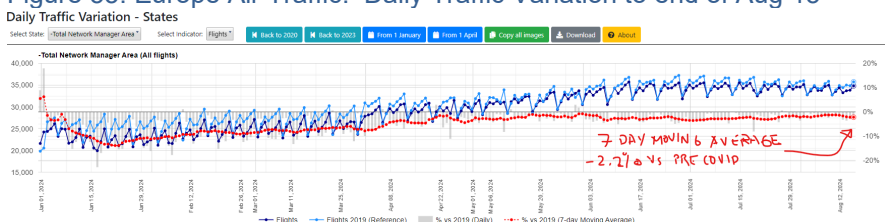
Source: BloombergNEF

Oil: Europe airports daily traffic 7-day moving average is -2.2% below pre-Covid

Yesterday, we tweeted [LINK](#) "Daily Europe air traffic still stuck below pre-Covid. 7-day moving average as of: Aug 15: -2.2% below pre-Covid. Aug 8: -1.3%. Aug 1: -1.9%. Jul 25: -2.2%. Jul 18: -2.6%. Jul 11: -2.9%. Jul 4: -3.3%. Jun 27: -2.9%. Jun 20: -2.5%. Jun 13: -2.6%. Jun 6: -3.2%. Thx @eurocontrol #OTT #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 -2.2% below pre-Covid as of Aug 15, which followed -1.3% as of Aug 8, -1.9% as of Aug 1, -2.2% below as of July 25, which followed -2.6% below as of July 18, -2.9% below as of July 11, and -3.3% below as of July 4. Please note that we try to pull the data on Saturday mornings for a consistent weekly comparison. Eurocontrol updates this data daily and it is found at [LINK](#).

Europe airports daily traffic

Figure 55: Europe Air Traffic: Daily Traffic Variation to end of Aug 15



Source: Eurocontrol

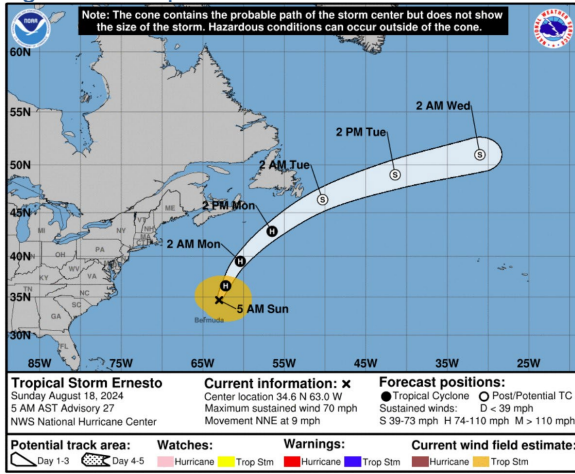
Oil & Natural Gas: Ernesto to miss Nova Scotia, hopefully also Newfoundland

Earlier this morning, we tweeted [LINK](#) "Good news for Nova Scotia and Newfoundland. Ernesto forecast back to hurricane strength today BUT @NHC_Atlantic projected path has shifted east so the left side of its cone is well east of Nova Scotia and may just include Newfoundland. Fingers crossed for our friends in St. John's." Hurricane Ernest just finished going thru Bermuda as a Cat 1. And there has been a big shift in its projected path in the last few days such that it's cone is far east of Nova Scotia and the cone has shifted such that it's left side of the project cone may only just touch Newfoundland.. And the other big benefit is that any impact should be from the less dangerous left side of the tropical storm.

Hurricane Ernesto

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Figure 56: Tropical Storm Ernesto



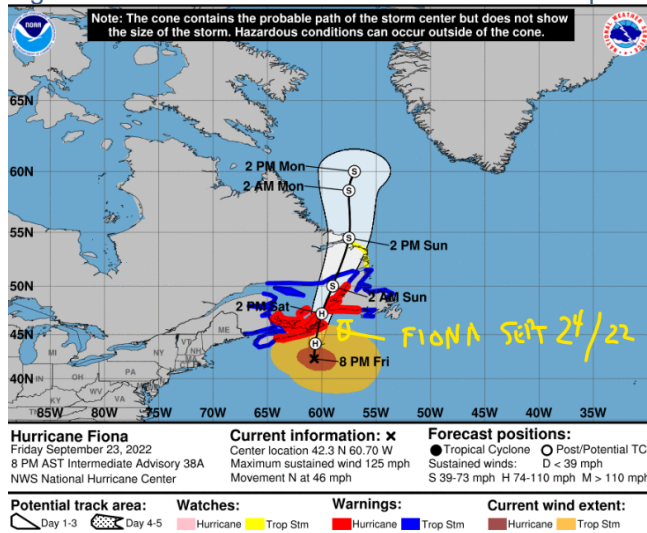
Source: National Hurricane Center

Hurricane Fiona made a direct hit on Nova Scotia on Sept 24, 2022

The good news for Nova Scotia has been how the projected path of Hurricane Ernesto shifted east this week so the cone should miss Nova Scotia by a good margin. That wasn't the case early this week and, on Wednesday, we were looking at the then 5-day project path for then Tropical Storm Ernesto and remembered it looked like Hurricane Fiona from Sept 2022. On Wednesday, we tweeted [\[LINK\]](#) "It's still early but Canada watch will be on Tropical Storm Ernesto as @NHC_Atlantic forecast path is tracking similar to Fiona that hit Nova Scotia in Sept 2022 with hurricane strength winds. We were enjoying the great food scene in Halifax but cut our trip short a day to make sure we got out ahead of Fiona." The reason we remember Fiona is that we just made it out a couple days before Fiona hit by being early to cut our trip short and still get a flight. As noted above Ernesto's track has moved it east and all parts of the cone are projected well east of Nova Scotia. The eastern shift of Ernesto's projected cone now only has the left edge of the cone potentially hitting St. John's on early Tuesday morning. Here is the NHC's Fiona path map just before it hit Nova Scotia on Sept 24, 2022..

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Figure 57: Hurricane Fiona hit Nova Scotia on Sept 24, 2022



Source: Cores

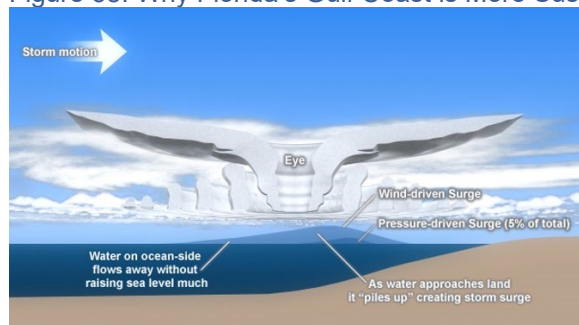
Oil & Natural Gas: Right side of the Atlantic hurricane is the worst

Anyone who has ever been in a hurricane or tropical storm knows it is scary and you really aren't as worried if you are being hit by the right or left side of the hurricane. But in looking at the big shift in Hurricane Ernesto's path in the last couple days to the east, one benefit is that it means any impact on St. John's, Newfoundland should be from the less dangerous left side. We checked the link and it still works to a good Fox News Aug 28, 2023 report "Why is the right side of a hurricane more dangerous?" [\[LINK\]](#) It's a good quick read on why the right side of an Atlantic hurricane or tropical storm has more intense winds and storm surge, and also why the impacts of hurricanes or tropical storms is worse on Florida's Gulf Coast vs its Atlantic coast. Here is one of the hurricane 101 points "How the right-front quadrant generates faster wind speed. Steering currents, driven by atmospheric airflow in the upper levels, add to the strength of the maximum sustained winds in that quadrant. For example, if a hurricane's steering currents were moving at 30 mph and the sustained winds of the hurricane were 80 to 100 mph, the combination generates a wind speed of 130 to 150 mph at 3 o'clock on the clock face. On the left side of the hurricane (9 o'clock on our imaginary clock face), the maximum sustained winds flow against the steering currents. So, in the example above, the steering current of 30 mph would reduce the 100 mph hurricane wind speed to 70 mph, according to UCAR. The National Hurricane Center takes this into account when issuing official wind estimates." There is more in the Fox News report. Our Supplemental Documents package includes the Fox News report.

Right side of a hurricane is the worst

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Figure 58: Why Florida's Gulf Coast is More Susceptible to Storm Surge



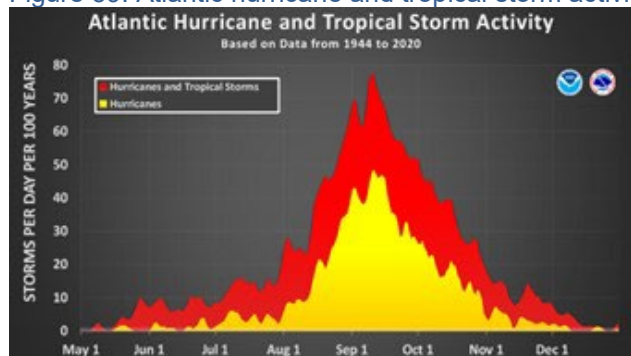
Source: Fox News

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

We remind that we are now in the normal peak Atlantic hurricane season of Aug/Sep/Oct. And that it is important to remember that normally 90% of Atlantic hurricanes typically come after Aug 1 and the peak for Atlantic hurricane season is normally mid Sept. 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. [\[LINK\]](#)."

90% of hurricanes are after Aug 1

Figure 59: Atlantic hurricane and tropical storm activity by month



Source: NOAA

Oil & Natural Gas: TIPRO Texas oil & gas jobs down MoM in June and up MoM July

The Texas Independent Producers and Royalty Owners Association (TIPRO) posted its recaps for June and July this week, which included their updated their employment figures for the Texas upstream sector [\[LINK\]](#). TIPRO reported MoM a drop in jobs for the 3rd consecutive month in June, and then an increase in jobs in July. June jobs were -2,500 jobs MoM vs May and now, July jobs are now +1,600 jobs MoM vs June. Direct Texas upstream employment totaled 194,100 in July, down -2,600 from the recent high in March. TIPRO wrote "TIPRO's new workforce data yet again indicated strong job postings for the Texas oil

TIPRO June and July jobs update

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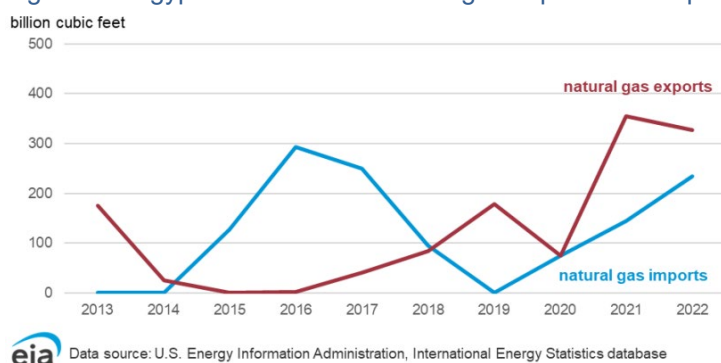
and natural gas industry. According to the association, there were 11,524 active unique jobs postings for the Texas oil and natural gas industry last month, including 3,641 new job postings added during the month by companies. In comparison, the state of California had 4,453 unique job postings last month, followed by Florida (2,471), New York (1,662), Pennsylvania (1,606) and Louisiana (1,593). TIPRO reported a total of 59,766 unique job postings nationwide last month within the oil and natural gas sector.” Our Supplemental Documents package includes excerpts from the TIPRO recaps for June and July.

Oil & Natural Gas: EIA’s updated Egypt Country Brief

We continue to recommend adding the EIA’s country analysis briefs to reference libraries as good quick references, in this case its updated EIA country executive summary [\[LINK\]](#) on Egypt. EIA reminds us that Egypt went from a natural gas importer to a natural gas exporter with the development of the Zohr gas field in the mid-2010s. Zohr was a game changer for Egypt. However Zohr is maturing and Egypt production has stalled in recent years as the fields are producing out and project development has declined. The EIA wrote “The fast-track development of a number of offshore natural gas fields, particularly Egypt’s Zohr field—which is considered one of the Eastern Mediterranean’s largest natural gas fields— provided a significant boost to the country’s natural gas production in the latter half of the 2010s. However, natural gas production growth has stalled in the 2020s as a result of a lack of new fields under development, production declines at maturing fields, and persistent technical issues that have limited natural gas output at the Zohr field. The Egyptian government is seeking to develop new natural gas projects to revitalize production growth. However, until new natural gas projects are approved and brought online, the country’s growing natural gas consumption will require natural gas imports to meet domestic demand, particularly during the summer when high temperatures increase electricity demand.” Below is a graph from the report that shows Egypt’s natural gas imports and exports. Our Supplemental Documents Package contains the EIA report.

Egypt’s Updated Country Brief

Figure 60: Egypt’s total annual natural gas imports and exports, 2013-2022



Source: EIA

Oil & Natural Gas: sector/play/market/global insights from Q2 calls

Please note that this is under Oil & Natural Gas but we include other sectors in our recap of earnings calls. Q2 reporting is basically over around the world. One of our focus areas for reporting are the non oil and gas producers as we typically get some of the best macro

Sector insights from Q2 calls

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insights from the services, pipelines, refineries, commodities traders, and utilities. We find we get the best insights into a range of oil and gas themes/trends, sectors and plays from the conference calls. As a reminder, our Energy Tidbits memo does not get into the quarterly results, forecasts, or valuation. Rather the purpose of highlighting a company is to note themes/trends and plays that will help shape a reader's investment thesis to the energy sector. In the conference calls, we also tend to find the best insights from the Q&A portion as opposed to the prepared remarks.

Carlsberg: “Not seeing an improvement in the Chinese consumer”

On Wednesday, Carlsberg released its Q2 and its CEO Jacob Aarup-Andersen was on Bloomberg TV. Bloomberg asked if they had any clarify on when the subdued Chinese consumer might change. No surprise, the CEO said no. We tweeted [LINK](#) *“not seeing an improvement in the Chinese consumer” “don’t see the Chinese consumer turning just around the corner” “not hoping for a Hail Mary from consumer improvement” Carlsberg CEO to @TomMackenzieTV #OOTT.”* The CEO highlighted that Carlsberg is taking market share in China, but then noted the above quotes on not seeing an improvement in the Chinese consumer. The CEO also said *“it’s been relatively stable for quite awhile, but it’s stable at a low level.”*

EnLink: 2.5 bcf/d Matterhorn Express pipeline from Permian to start mid-Sept

EnLink Midstream held its Q2 call on Aug 7. Earlier in the memo, we noted the reports that EnLink, in its Q2 call, said the 2.5 bcf/d Matterhorn Express pipeline should start around mid-Sept. Here is the exchange from the Q&A of the EnLink Q2 call when mgmt replied *“First let me say how happy we are with our Matterhorn investment. The White Water team runs an excellent project. They do a great job commercially. We couldn’t be happier with the investment in Matterhorn. As far as timing we expect the pipeline to be in service in the month of September. That’s maybe a two week difference to what the original plan was for the very end of August but a very minor delay in the grand scheme of things. Some of that weather related with Hurricane Beryl in fact. So that’s our current expectation. And so, we’ll expect to begin seeing some contribution to the financials in the in the fourth quarter.”*

Energy Transition: E.ON multiple warnings EU is not ready for electricity transition

We have highlighted E.ON CEO Leonhard Birnbaum’s comments on the energy transition from his business tv interviews. He answer questions directly and just doesn’t respond with his talking points like most big company CEOs. Brinbaum was on Bloomberg to answer questions post his Q2 release. And he raised multiple problems with the EU Energy Transition and how it can cope with electricity. E.ON describes itself *“The E.ON Group is one of Europe’s largest operators of energy networks and energy infrastructure and a provider of innovative customer solutions for approx. 47 million customers”*. Here are three key warnings we noted.

E.ON warnings on EU electricity risk

Higher EU electricity prices ahead in Europe but higher income can offset

Birnbaum didn’t come out and make a point that Europe electricity prices were going higher, rather he just threw out in his comments that there would be *“some higher electricity cost.”* Bloomberg asked *“as you kind of project out to the quarters and the*

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years ahead does the power prices in Europe edge lower?" We put Birnbaum's reply in a tweet. I On Wednesday, we tweeted [LINK](#) "Higher EU electricity prices ahead. But higher income can offset. "consumers that have the ability [cash] to invest in PV [solar] and batteries might actually come out with lower energy prices, I would say. You have to take the total bill. Obviously they would be in a position to use their heating costs maybe also their mobility costs and could then cope with some higher electricity cost. Customers which can't invest are in a tougher position" E.ON CEO to @TomMackenzieTV @GuyJohnsonTV #OOTT #NatGas."

Need more subsidies for electricity transition projects to attract enough capital

Birnbaum didn't come out directly and say many/most electricity transition projects in EU are just not economic. Rather he did come out and say EU governments need to regulate increased returns for them to attract capital for transition investments, which is really the same thing. Birnbaum was asked if the limiting factor to increasing investment capital for electricity transition projects were supply chain items like people. The answer was no, rather it's the need for regulators to give them higher returns or else they can't attract capital for electricity transition projects. On Wednesday, we tweeted [LINK](#) "Insufficient returns in EU energy transition projects to attract capital. See 🗨️ transcript. E.ON CEO's polite way of saying need more govt subsidies for many EU clean energy transition investments to give enough return to attract capital. #OOTT @GuyJohnsonTV @TomMackenzieTV." Here is the transcript we created and attached to our tweet. Bloomberg "The restrictions on your ability to invest though are not financial. It is the people, the kits [?], the stuff you need to make these investments." Birnbaum: "These are also relevant kinda like boundary restrictions. Currently we have them under control. Currently clearly the restriction is the amount of capital we can deploy and so with that and that is mainly limited by the regulation. I remind the listeners that we are in a regulated business and the amount of returns that we can achieve on infrastructure investment depends on regulation, and regulation needs to allow us to get competitive returns to attract private capital internationally and we don't have that to sufficient degrees in our markets yet and that is the limiting factor. If regulation would improve, we could increase our investments even further and to be clear, the targets which are out there would require actually a further increase of investments." Bloomberg "Interesting on the need to attract that private capital. Specifically, what would need to change on the regulatory front to get to that point that you want it?" Birnbaum: Yeah, good morning. We have been clear and vocal that we need the ability to outperform our cost of capital by 150-200 basis points and that is a pre-requisite that we have heard from our investors which we need and this we can't under the current environment under the current kinda like investment levels. If we need to increase them further, we need more op-ex because we need more people to deploy that and then actually additional incremental investment dilutes our profitability. And so what we need is a higher return especially on the existing asset base. If you compare that, it is different obviously by markets, we are not only a German company, we are actually active in 11 countries, not in all in infrastructure but its different market by market but we would need indeed a higher capex return so that means on each billion that we invest we need to have a higher regulated return".

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Grid maxed out, so no data centers in UK, Netherlands, Germany

Birnbaum also made a point of highlighting the grid was maxed out in various major EU areas like the UK, Netherlands and parts of Germany, which means there isn't a grid connection potential for any major electricity user ie. data centers. There is a power problem in Europe that is only going to get worse. Luckily, they have had very warm winter the last 2 years or else we would see this. But one example is that major users like data centers are not going to happen in UK, Netherlands and parts of German. What we don't know is if there is opportunity for data centers in those jurisdictions to do some one-off separate power deal that avoids utilities like is being tried in US and Canada. On Wednesday, we tweeted [\[LINK\]](#) "Data centers won't be happening in UK, NLD, DEU. "markets like the UK and the Netherlands where clearly the grid is maxed out and any connection of large consumers takes 7 to 8 to 9 years....." E.ON CEO Birnbaum. Maxed out grid = higher power prices ahead! Bad timing for declining domestic #NatGas supply. #OOTT @TomMackenzieTV @GuyJohnsonTV." Here is the transcript we created and attached to our tweet. "Johnson: "When it comes to connecting some of the green technology that we are beginning to deploy here in Europe to the grid, how big is that backlog currently? How quickly do you think it is going to be possible to clear it?" Birnbaum: "That is depending country by country. There are countries, markets like the UK and the Netherlands where clearly the grid is maxed out, and any connection of large consumers takes 7 to 8 to 9 years so if you don't have a grid connection you are in a bad place. The other market for this situation is slightly better for example in Germany, but we have to say that more and more areas are subject to clear restrictions to grid connections. If you want to erect a data centre around Frankfurt, I can tell you already today it is out of question before the next decade that you even get a grid connection. Every possible grid connection that we have is already booked kinda like a decade in advance. This situation is similar in other regions, and so I would indeed say that the real bottleneck for speed for the energy transition right now is absolutely the infrastructure, which is obviously great news for E.ON because we are providing those infrastructure but it is actually a challenge for the energy transition."

Energy Transition: NatGas allows Dominion to add big Virginia offshore wind potential

Dominion Energy is the world leader in providing electricity to data center and Virginia is the leading area for data centers in the world. Clearly, Dominion has been able to execute on an electricity supply program to support this massive and rapid electricity demand. On Wednesday, we tweeted [\[LINK\]](#) "Here's why Dominion is able to add Virginia big potential offshore wind for its future data center growth. Have #NatGas for baseload so can add renewables. See 📌 07/11 video. "we've built a substantial amount of highly efficient #NatGas generation in the last decade. That has allowed us to add in quite a few renewables" "we're going to need to add some more #NatGas and we have plans to do that" CEO Blue to @davidfaber #OOTT [\[LINK\]](#) ." Earlier, Dominion announced "Virginia Electric and Power Company, a wholly owned subsidiary of Dominion Energy, Inc. (NYSE: D), today secured the rights for a 176,505-acre lease area off the coast of Virginia Beach, adjacent and to the East of where the company's 2.6-gigawatt Coastal Virginia Offshore Wind is currently under construction. Winning the lease provides Dominion Energy with the option to pursue additional offshore wind development in the mid-Atlantic. The Bureau of Ocean Energy

E.ON warnings on EU electricity risk

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Management indicates the lease area could support between 2.1 gigawatts and 4.0 gigawatts of offshore wind energy generation. The lease area is located approximately 35 nautical miles from the mouth of the Chesapeake Bay.” It looks like a big potential offshore wind generation down the road for Dominion to add to its leading electricity provider to data centers. Dominion did not specifically mention natural gas in the release. However, a month ago, our tweet linked to our June 11 tweet noted Dominion Energy CEO’s comments on CNBC on how Dominion’s building substantial amount of natural gas generation was what allowed it to add the intermittent renewables to contribute to the electricity for data centers. Our Supplemental Documents package includes the Dominion release.

07/11/24: Dominion CEO says need #NatGas baseload to add renewables

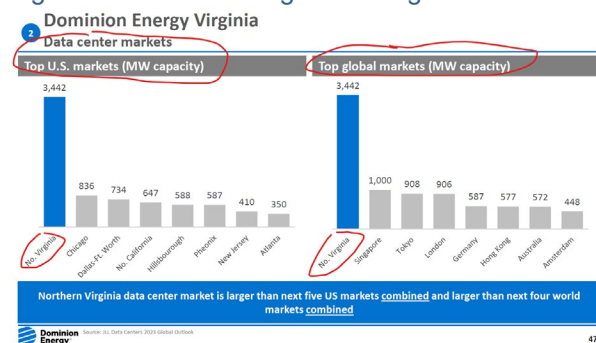
Here is what we wrote in our July 14, 2024 Energy Tidbits memo on Dominion CEO’s comments on the need for natural gas baseload generation for data centers. “We still can’t believe that many don’t accept that renewable power isn’t baseload power especially for electricity users like AI data centers that need 24/7 reliable, available, affordable power. We have been highlighting Dominion Energy AI data centers actions and views because Dominion is the world’s largest provider of electricity to AI data centers and it’s key operating state, Virginia, has the world’s most data center electricity consumption. On Thursday, Dominion CEO Robert Blue was on CNBC and we tweeted [\[LINK\]](#) “AI Data Center 101. Need #NatGas baseload if want to add renewables. “we’ve built a substantial amount of highly efficient #NatGas generation in the last decade. That has allowed us to add in quite a few renewables” \$D CEO, #1 power to data centers in the world. Also “we’re going to need to add some more #NatGas and we have plans to do that”. Reminds #NatGas is not a transition fuel for power generation. Thx @DavidFaber #OOTT.” CNBC’s David Faber asked about increasing the renewable % of the power generation to meet the unprecedented demand in electricity driven by data centers. Blue didn’t go into the numbers of how much renewable was being used but his answer was straightforward – Dominion’s early buildout of efficient natural gas generation was what allowed them to add in some renewable. Note that renewables are a very small part of the actual generation for Dominion. But it was having baseload natural gas that let them add in some renewable. We created a transcript of Blue’s response ““It’s a really important question. ... we’re very fortunate to have a Governor who is focused on reliable, affordable and increasingly clean energy, which is the mission of our company. So, we’ve built a substantial amount of highly efficient natural gas generation in the last decade. That has allowed us to add in quite a few renewables. We’re building a substantial amount of solar. We’re building the largest offshore farm in the US. We’re going to need to add some more natural gas as well and we have plans to do that. There is no silver bullet. And I think that’s a mistake that some people make in addressing energy challenges is that there is one approach that is going to solve all of the challenges. That’s just not true. It requires some of everything. It requires renewables. It requires continuing to operate our existing nuclear fleet, they are the workhorses of our fleet today. They are carbon-free. It requires adding more natural gas. And it requires investments in transmission, the big wires that are moving electricity around our area.” Our tweet included the video clip we made of this Q&A.”

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Dominion Energy: renewables 14% of capacity but only 5% of actual power

Dominion Energy is the #1 power provider for data centers in the world so provide a good reminder of why renewables can't be the key power provider for data centers. Renewables are 14% of Dominion's electricity capacity but only provide 5% of the actual power. Here is what we wrote in our Mar 10, 2024 Energy Tidbits memo. "We were watching CNBC Squawk on the Street on Monday morning and the hosts opening banter highlighted how data centers were the hot discussion point among their contacts and how the huge ramp up in their electricity requirements would be driven by solar power. They highlighted how the data center owners were only going to go solar due to their environmental views. We were surprised that there was zero discussion on the fundamental need for 24/7 reliable, affordable power. We just don't see the solar power call. Yes solar will be used as much as possible but there is no solar power at night. So we tweeted [\[LINK\]](#) "Data Centers 101; Need 24/7 available, affordable power, not intermittent solar/wind. \$D: Northern Virginia is #1 for data centers in US & the world. Why? Affordable energy from #NatGas, #Nuclear & #Coal. Vs Clean energy is 14% of capacity but 5% of actual energy. #OOTT." We have been highlighting the recent Dominion Energy investor day and how northern Virginia is the global leader in data centers. And how Dominion's Virginia power generation is basically driven by natural gas, nuclear and coal. Whereas renewable energy was 14% of capacity but only provided 5% of actual power. The Dominion Energy data on power for data centers is the Data Center 101 – they need 24/7 reliable affordable power. Below are the Dominion Energy slides/data from our tweet."

Figure 61: Northern Virginia is #1 global data center market



Source: Dominion Energy

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Figure 62: Benefits for data centers in Virginia

2 Dominion Energy Virginia
Benefits for data centers in Virginia

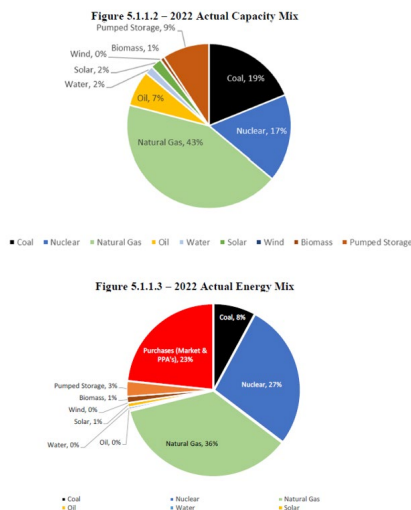
Lower ◯ → ◐ → ◑ Higher

Benefits	Description	Impact
Fiber backbone	Northern Virginia has densely packed fiber backbones and access to 4 subsea fiber cables near Virginia Beach (MAREA, BRUSA, SAFE, Dunant)	◑
Affordable energy	Data center electricity costs are ~30% cheaper than the U.S. average in Northern Virginia, driving data center providers to Virginia due to significant cost savings	◑
Attractive business climate	Virginia enacted tax subsidies and fast track approval processes for data center business	◑
Ideal location	Proximity to economic centers on East Coast and Federal government; located near water sources plus limited risk of natural disasters	◐
Technical workforce	Around 25% of jobs in Northern Virginia's largest county are tech related	◐
Network effects	Loudoun County hosts more than 3,500 companies in their data centers. Others likely to follow due to the benefit of network effects	◐

Source: Data Center Market Assessment conducted by a third party consulting firm on behalf of Dominion Energy, dated November 9, 2022

Source: Dominion Energy

Figure 63: Dominion Virginia 2022 actual energy capacity mix and actual energy mix



Source: Dominion Energy

Energy Transition: Trafigura’s 5 ways to decarbonize shipping

Earlier in the memo, we highlighted Trafigura’s estimate that the shipping industry including oil tankers would burn an additional 500,000 b/d of fuel oil from having to divert away from the Red Sea due to Houthis attack risk. This was part of Trafigura’s blog on Wednesday “Five things we can do today to decarbonise shipping” [\[LINK\]](#). The focus of their blog is on five things they can do to decarbonize shipping and not the additional fuel oil demand. (i) The biggest potential saving to emissions is biofuels which can save up to 25% of emissions. Trafigura highlights no changes to equipment are needed. But the reality is that until buyers will step up to commit to pay way more for biofuels, any impact is immaterial to total fuels consumption. However, as we have seen in the market, the issue for biofuels is they cost way way more and aren’t available. That’s a bit of a chicken and egg because one thing we know about fuels market is that if buyers will step up to buy in volume at the desired price, fuel suppliers will supply the fuel. Trafigura describes this chicken and egg as feedstock

Trafigura’s 5 ways to decarbonize shipping

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constraints. *“Although there are feedstock constraints, biofuels are attractive because they can be used with virtually no retrofitting to vessels and infrastructure.”* (ii) Slow steaming. When we read it, it seems like the only one of the five actions that can have any realistic significant impact on reducing emissions has nothing to do with any new Net Zero or Energy Transition development. Rather it is what has been known for decades that the way to reduce fuel oil consumption and emissions is slow steaming. It is proven to work, it is available to every ship/tanker in the world, it requires no equipment changes, it just requires more time for ships/tankers to take longer to get somewhere. Trafigura estimates that it can save up to 19% of emissions. (iii) Efficiency. This is another play from the past but, to the most part, require capital costs to modify ships. Trafigura estimates that it can save up to 10% of emissions by *“technical measures such as silicone hull coatings, wake equalising ducts (WED), ultrasonic propeller antifouling technology, and continuous underwater hull cleaning and propeller polishing are another way to quickly reduce emissions.”* (iv) Data and digitization could save up to 10% in emissions. This makes sense if the shipping industry can measure emissions on a vessel-by-vessel basis. (v) Another one that should work but cost money is capturing emissions on each ship. This could save 10-20% of emissions. Trafigura writes *“The use of on-board emission capture to sequester CO₂ and other GHGs such as methane, is another step that can be taken to reduce the environmental impact of shipping. Daphne Technology is developing a cleaning system that targets specifically “methane slip” from engine exhausts. This is particularly relevant as many shipowners and operators have placed orders for LNG-fuelled vessels – from containerships and cruise liners, to LNG carriers themselves.”*

Slow ship steaming = less fuel consumption = less emissions

Here is an item from our July 28, 2024 Energy Tidbits memo on slow steaming. *“On Monday, we also tweeted [LINK](#) “Slow ship steaming = less fuel consumption = less emissions. But with avoiding Red Sea making longer voyages, ships/tankers don’t want to make a longer trip take even longer by slow steaming. See 📌 excerpt SAF Group Aug 6, 2023 Energy Tidbits memo. #OOTT.” Our tweet included what we wrote in our Aug 6, 2023 Energy Tidbits memo. “Back prior to IMO 2020, it seemed like a regular update item was on how shipping companies were going to deal with IMO 2020 – with the two primary discussion actions were they going to install scrubbers or switch from HSFO to LSFO. And there was always the fallback option to go to slower steaming. We were reminded of slower steaming in Maersk Q2 report, although they were referencing it for the purpose reducing emissions. Rather it was used in the context of not seeing any significant recovery in container volumes. Maersk wrote “Seaintel data shows that the share of the Global container fleet absorbed by delays decreased from a peak in January 2022 of almost 14% to a post-pandemic low of 3.6% in May 2023. Some of the available capacity is being absorbed by slower steaming and cancelled sailings.” But going back to the IMO writeups, the advantage of slower steaming is a significant reduction in fuel consumption and also emissions. Here is what we wrote in our October 28, 2018 Energy Tidbits memo on fuel savings. “Slow steaming can reduce fuel consumption by over 50%. Here is what Wikipedia wrote about the fuel saving from slow steaming [LINK](#). ““Rationale & History. Slow steaming was adopted in 2007 in the face of rapidly rising fuel oil costs (July 2007 to July 2008: 350 to 700 USD/tonne).[4] According to Maersk Line, who introduced the practice in 2009–2010,[5][6] slow*

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steaming is conducted at 18 knots (33 km/h; 21 mph).[1][not in citation given] Speeds of 14 to 16 kn (26 to 30 km/h; 16 to 18 mph) were used on Asia-Europe backhaul routes in 2010.[7] Speeds under 18 kn (33 km/h; 21 mph) are called super slow steaming.[1][not in citation given] Marine engine manufacturer Wärtsilä calculates that fuel consumption can be reduced by 59% by reducing cargo ship speed from 27 knots to 18 kn (33 km/h; 21 mph), at the cost of an additional week's sailing time on Asia-Europe routes.[8] It adds a comparable 4-7 days to trans-Pacific voyages.[7] The large container ship Emma Maersk can save 4,000 metric tons of fuel oil on a Europe-Singapore voyage by slow steaming.[5] At a typical 2008 price of USD 600-700 per tonne,[4] this works out to USD 2.4-2.8 million fuel savings on a typical one-way voyage. Maersk's Triple E class of ships was designed for slow steaming, with hulls optimized for lower speeds. Because of this, it has less powerful engines than its predecessors.[5]"

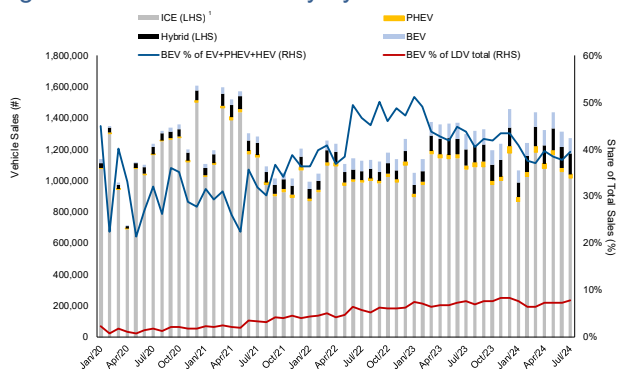
Energy Transition: Better month for US BEV sales, but still at low % penetration

Argonne National Laboratory posted its monthly US sales data for Light Duty Vehicles (LDVs) broken out into Battery Electric Vehicles (BEVs), Plug-in Electric Hybrids (PHEVs) and Hybrid Electric Vehicles (HEVs) for July, which then allows us to back into ICE sales [\[LINK\]](#). On Monday, we tweeted [\[LINK\]](#): "Total US car sales seasonally down MoM in July. But better month for EVs. Total US LDV sales -39,048, -3.0% MoM to 1,273,115 in July BEVs: +3,738, +3.9% to 100,677. 7.9% share PHEVs: -1,690, -7.0% MoM to 22,320. 1.8% share HEVs: -3,497, -2.6% MoM to 132,144. 10.4% share. ICE: -37,601, -3.6% MoM to 1,018,004. 80.0% share. Peak BEVs was 121,647 in Dec 2023, 8.3% share. Thx @argonne #OTT" (i) For EVs and hybrids, two recent trends have been the slowing growth rate in EVs and Hybrids taking more share from EVs. (ii) Hybrids are still showing the strongest growth and taking share from EVs. Hybrids are now 51.79% of total EV + PHEV + Hybrid, whereas it was ~60% in Jan 2023. July was a better month for BEVs, and they are up MoM in terms of % of total BEV + PHEV, and also in terms of % of total US LDV sales. (iii) Total US LDV car sales in July were down -39,048 cars or -2.98% MoM to 1,273,115 total car sales in July vs 1,312,163 in June. BEV: +3,738 or +3.86% MoM to 100,677 and 7.91% of total US. PHEV: -1,690 or -7.04% MoM to 22,320 and 1.75% of total US. HEV: -3,497 or -2.58% MoM to 132,144 and total 10.38% of total US. ICE: -37,601 or -3.56% MoM to 1,018,004 and 79.96% of total US. (iv) It was a better month for BEVs that have been underperforming HEVs. PHEVs look to be losing appeal. BEVs were back up to 7.91% of total US LDV sales from 7.39% in June. The high for BEVs was in Nov and Dec 2023, when BEVs were 8.3% of total US LDV sales. It was a MoM decrease in ICE and the remainder is ICE are still 79.96% of total US car sales. Our Supplemental Documents package includes the data from Argonne.

**US car sales
down MoM in July**

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Figure 64: US total monthly hybrid and electric vehicle sales vs LDV total



¹ICE is total LDV - (BEV+PHEV+HEV)
Source: Argonne National Laboratory

Source: Argonne National Laboratory

Capital Markets: Straight talk on the challenge to manage rising food & Labor costs

It was refreshing to hear some straight talk on the challenge for restaurants in how to deal with the rising food and labor costs. We recognize people like to complain about restaurants but we in the camp that gives them kudos for dealing with the big food and labor costs over the past few years. And if you know anyone in the restaurant ownership business, you know it's far from a big money maker investment. On Friday, CNBC's Kelly Evans interviewed Brian Will (Founder & CEO of Will Restaurants Investment Group). Will noted what we always say when we hear food inflation is only up a few percent, where is that in the real world. Will noted the below price increases since Feb. And he gave some straight talk on what that means for restaurants on how to manage high food and labor costs – they have to cut meat portion sizes (shrinkflation) and work with less labor. The interview was still posted as of this morning and is a good listen. [\[LINK\]](#) Here is the transcript we made of some of his comments. *“I think you hit the nail on the head in an earlier segment too, even we are experiencing what we call shrinkflation by adjusting the ingredients in each one of our hamburgers. They can do it by instead of 8 ounces in a hamburger they go to 7. Instead of 6 ounces of chicken they go to 5. So they can dress it up and make it look the same but the reality is the core ingredients are shrinking the amount that we are putting in there which lowers our costs which allows us to lower the menu prices.”* *“Yeah our food costs runs about 32%, right now our labour costs is running about 30% so those are the biggest two items in there. In our case, we are having to cut labour across the board to stay within our 30% labour costs but have less people doing the same amount of work. So in order to combat the increased price in the food so we have got to cut back on the number of people we are actually hiring in order to serve that food to try to keep those costs in line to keep our profits where they need to be.”*

**Straight talk on
restaurants**

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Figure 65: Will Restaurants Food Inflation Feb to Aug 2024



Source: Will Restaurants Investment Group

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

Last 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**

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.

Big day for Cdn PGA golfers to get to Top 50

There should be some TV coverage of our Cdn PGA stars in today's final round of the FedEx St. Jude Championship but not for the reason that one our Cdn stars is likely to win. Rather because the TV coverage will tend to also cover the fight for the top 50 in the FedEx season points coming out of the St. Jude Championship. The Top 50 keep playing for a chance to win the FedEx Cup but the big win is that the Top 50 get into next season's signature events that have small fields and big purses. Going into today's final round, Taylor Pendrith is projected at 32, Corey Conners at 38, Adam Hadwin at 42, but then it gets really dicey with Nick Taylor currently projected at 50 and Mackenzie Hughes at 54.

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Wine of the week: 2008 Nicholas Catena Zapata Malbec

One of the negatives of the change in life from Covid was a huge absence of entertaining at home, which means there has been a big shortfall in wine drinking at our home. And because I was fortunate to have had great buyside and company clients for our energy success at Griffiths & McBurney/GMP Securities in 1998 to 2013, it means there are some great older bottles of red wine downstairs. So am now making sure some good wine of the week bottles get opened especially as many are 20 to 40 years old. And a good time is always after I put Energy Tidbits memo to bed by 10pm MT. Last Sunday, I tweeted out the wine of the week, which was the 2008 Nicholas Catena Zapata Malbec from Argentina. It's another wine that I haven't had since before Covid. My comment was that it was still really good but feels like I should drink the last few bottles sooner than later.

Figure 66: 2008 Nicholas Catena Zapata Malbec



Source: SAF Group

Kudos to NASA astronauts Williams and Wilmore who are stuck in space

We have to give big kudos to the NASA astronauts, Suni Williams and Butch Wilmore, who are still stuck in the International Space Station increasing looking like till sometime in 2025. They were the first pilots on Boeing's new Starliner capsule, which launched on June 5 on an expected two-week mission, but safety concerns have led NASA to delay a return trip. It's hard to believe we would be stuck at the space station still without any firm plan on how and when to get back to earth. A two-week mission is turning into something close to a one-year missions. The impressive news is that Williams and Wilmore are handling this as only could be handled by people with exceptionally strong capabilities. So big kudos to them as it reinforces the mental and physical strength that NASA astronauts have to deal with the uncertainties of space.

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