

# Energy Tidbits

Aug 11, 2024

Produced by: Dan Tsubouchi

## Did Summer Oil Demand Pick Up? Vortexa Global Oil Floating Storage Last Two Weeks are Two of Lowest since Covid

**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. Two weeks is not a trend, but Vortexa reported global floating oil storage of 60.52 mmb at Aug, the 4<sup>th</sup> lowest since Covid. [\[click here\]](#)
2. CN and CPKC warn a rail lockout will start Aug 22 unless there is a Teamsters deal or binding arbitration. [\[click here\]](#)
3. Murphy Oil *"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."* [\[click here\]](#)
4. US shale/tight oil production has now been basically flat for the past six months. [\[click here\]](#)
5. Another major natural gas pipeline player, Williams, says data centers want to get natural gas from the pipeline and not wait to compete for electricity generated from natural gas by utilities. [\[click here\]](#)
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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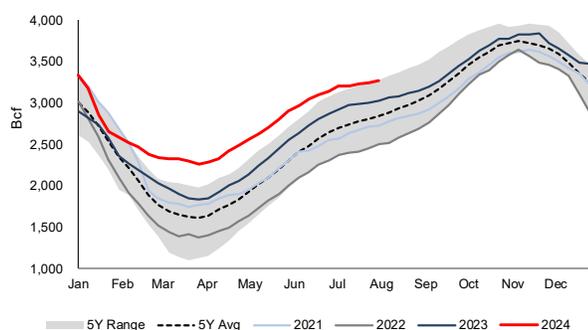
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### Natural Gas: Really hot June/July = less risk US gas storage gets filled early

HH continues to be weak with US natural gas storage above the high end of the 5-yr range. The hot June and July 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 +248 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 +248 bcf YoY, which is down small WoW from +252 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. Last Sunday morning 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: +21 bcf build in US gas storage; now +248 bcf YoY**

For the week ending August 2, the EIA reported a +21 bcf build. Total storage is now 3.270 tcf, representing a surplus of +248 bcf YoY compared to a surplus of +252 bcf last week. Since February, total storage has remained above the top end of the 5-yr range. Total storage is +424 bcf above the 5-year average, below last week's +441 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.

**+21 bcf build in US gas storage**

Figure 2: US Natural Gas Storage

Region	Stocks billion cubic feet (Bcf)				Historical Comparisons			
	08/02/24	07/26/24	net change	implied flow	Year ago (08/02/23)		5-year average (2019-23)	
					Bcf	% change	Bcf	% change
East	719	711	8	8	694	3.6	641	12.2
Midwest	854	842	12	12	788	8.4	742	15.1
Mountain	257	253	4	4	195	31.8	178	44.4
Pacific	289	286	3	3	232	24.6	262	10.3
South Central	1,152	1,157	-5	-5	1,113	3.5	1,023	12.6
Salt	300	307	-7	-7	288	4.2	258	16.3
Nonsalt	851	851	0	0	825	3.2	766	11.1
Total	3,270	3,249	21	21	3,022	8.2	2,846	14.9

Source: EIA

Figure 3: Previous US Natural Gas Storage

Previous 8 weeks (Bcf)				
Week Ended	Gas in Storage	Weekly Change	Y/Y Diff	Diff to 5 yr Avg
Jun/07	2,974	74	364	573
Jun/14	3,045	71	343	561
Jun/21	3,102	57	319	533
Jun/28	3,134	32	275	496
Jul/05	3,199	65	283	504
Jul/12	3,209	10	250	465
Jul/19	3,231	22	249	456
Jul/26	3,249	18	252	441
Aug/02	3,270	21	248	424

Source: EIA, SAF

**Natural Gas: NOAA, 11<sup>th</sup> warmest July in last 130 years in the US**

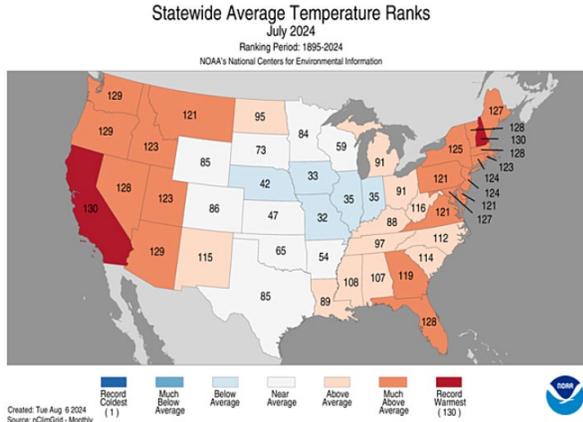
It was hot in June and July. On Thursday, the NOAA posted their July recap for assessing the U.S. Climate, which showed July 2024 was the 11<sup>th</sup> warmest the US has seen in the past 130 years. It was an above average temperature July nationally, where the states along both the west and east coasts had above average temperatures meanwhile the central states saw average or below average temperatures. In the news release [\[LINK\]](#), the NOAA wrote “*The average temperature of the contiguous U.S. in July was 75.7°F, 2.1°F above average, ranking 11th warmest in the 130-year record. The Park Fire is the fourth-largest wildfire in California history as of August 6; beginning on July 24, it burned approximately 401,000 acres and destroyed over 560 structures. On July 15, a derecho that spawned 32 tornadoes broke the Chicago-area record for most tornadoes in a day. On July 1, Beryl became the*

**11<sup>th</sup> warmest July in last 130 years**

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earliest Category 5 hurricane and the second Category 5 on record during the month of July in the Atlantic Ocean.” Below is NOAA’s Statewide Average Temperature Ranks maps for July 2024.

Figure 4: NOAA Statewide Average Temperature Ranks – July 2024



Source: NOAA

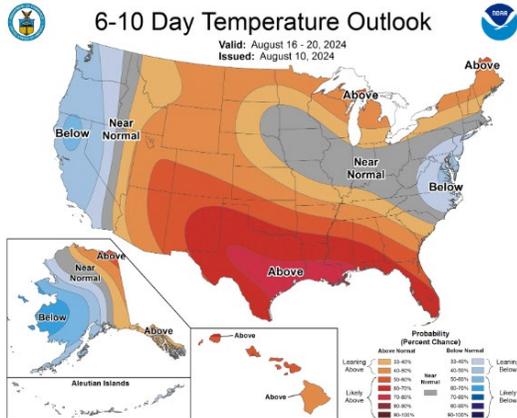
**Natural Gas: NOAA forecasts for normal type weather for Aug 16-24**

Yesterday, we tweeted [\[LINK\]](#) “Updated @NOAA 6-10 & 8-14 day temperature outlook. decent but not hot across all Lower 48 like in June & July. HH #NatGas at \$2.14 is still low. Because storage is +248 bcf YoY & above the high end of 5-yr range. Plus storage 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 keep drifting lower 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 last week before being up this week to close at \$2.17 on Friday. That’s because storage is still +248 bcf YoY and well above the high-end of the 5-yr range. And as we noted earlier, storage 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 16-24.

**NOAA temperature outlook for Aug 16-24**

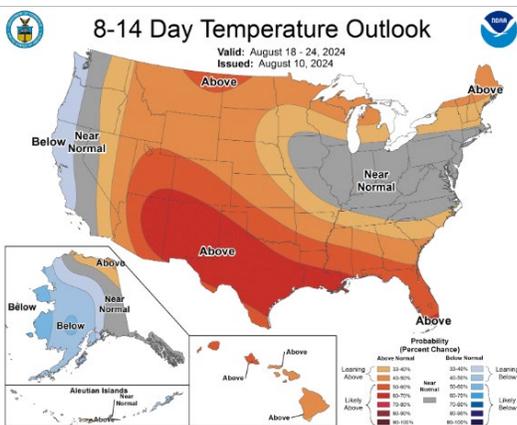
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Figure 5: NOAA 6-10 day temperature outlook for Aug 16-20



Source: NOAA

Figure 6: NOAA 8-14 day temperature outlook for Aug 18-24



Source: NOAA

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

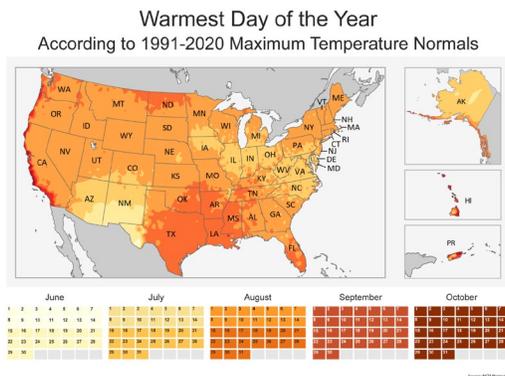
It was a hot June and start to July. But now that we are in August, most of the Lower 48 has passed their normal hottest day of the year. Here is where we wrote in our July 2, 2023 Energy Tidbits memo. “Yesterday, we tweeted [\[LINK\]](#) “Here’s why temperature watch gets important in July ie. don’t 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. #OOTT #NatGas.” On Thursday, NOAA posted “When to expect the Warmest Day of the Year” [\[LINK\]](#). Our tweet included the NOAA map, which reminds that mid-July is when we start to see the hottest day of the year in many states. It’s why the temperatures are important in July as we don’t want to see below normal temps when it is supposed to be peak heat and peak summer electricity/natural gas

**Normal warmest day of the year across the US**

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residential/commercial demand.” We checked the link and it still works.

Figure 7: NOAA Warmest Day of the Year



Source: NOAA

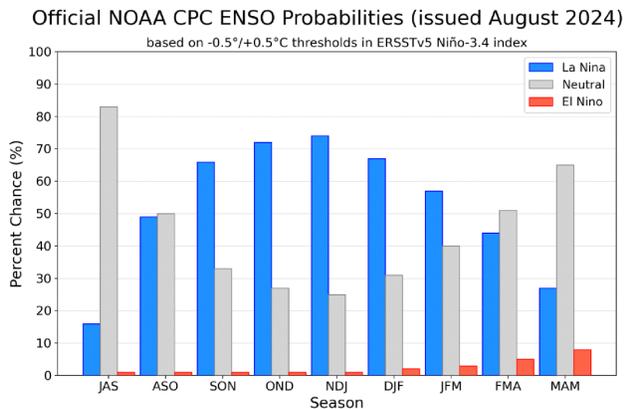
**Natural Gas: NOAA sees 50/50 La Nina/Neutral chance for ASO peak hurricane season**

On Thursday, the NOAA posted the updated monthly El Niño/La Niña outlook, which is issued on the 2nd Thurs of every month [\[LINK\]](#). Our El Niño/La Niña focus is on peak Atlantic hurricane season which is Aug/Sep/Oct. The takeaway from the Aug update is that the move to La Niña conditions is slowing vs the July forecast. The probability forecast for Aug/Sep/Oct is basically 50/50 La Niña/Neutral conditions and then the La Niña probability increases moving into the start of the winter at ~74% for La Niña in Nov/Dec/Jan. NOAA writes “Based on updated guidance and recent observations, the forecast team predicts nearly equal chances for ENSO-neutral and La Niña in August-October 2024, with higher odds for La Niña in September-November. Although the rate of SST cooling has been slower than previously anticipated, below-average subsurface temperatures and low-level easterly wind anomalies remain conducive to La Niña development in the coming months. In summary, ENSO-neutral is expected to continue for the next several months, with La Niña favored to emerge during September-November (66% chance) and persist through the Northern Hemisphere winter 2024-25 (74% chance during November-January)”. Again, weather is never 100% the same, but La Niña summers normally bring a better chance for normal hurricane activity whereas El Niño summers tend to have lesser hurricane activity. Below is the NOAA El Niño/La Niña update for the month of August.

Expecting La Niña fall

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Figure 8: NOAA El Nino/La Nina Outlook

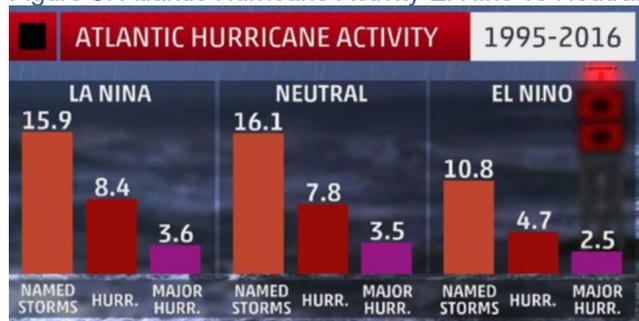


Source: NOAA CPC, IRI

**La Nina summer/fall tend to have normal to above normal hurricane seasons**

Here’s what we wrote in our June 16, 2024 Energy Tidbits Memo: “Our above tweet included the below Weather Channel graph. As noted above, the latest NOAA summer outlook for El Nino/La Nina conditions calls for La Nina conditions during the summer and the normal peak Atlantic hurricane season of Aug/Sept/Oct. Weather is never 100% accurate but, historically, Neutral and La Nina conditions tend to have normal to above normal hurricane activity, whereas El Nino years tend to have lower hurricane activity seasons. Our May 24, 2020 Energy Tidbits memo included The Weather Channel Aug 28, 2018 story that had the below graphic.”

Figure 9: Atlantic Hurricane Activity El Nino vs Neutral vs La Nina



Source: The Weather Channel

**Natural Gas: EIA, Shale/tight gas production flat MoM, down -1.3% YoY**

June marked the first month that the EIA stopped releasing its Drilling Productivity Report, and began releasing shale/tight oil and natural gas data with the monthly Short Term Energy Outlook. (i) Please note this came with some major reporting changes, namely there are no longer monthly forecasts for tight gas production by basin. Previously, the EIA would provide an estimate of the current month tight/shale production (in this case August) and then a forecast for the next month (in this case Sept). But now, the EIA only provides estimates for

**Shale/tight gas production**

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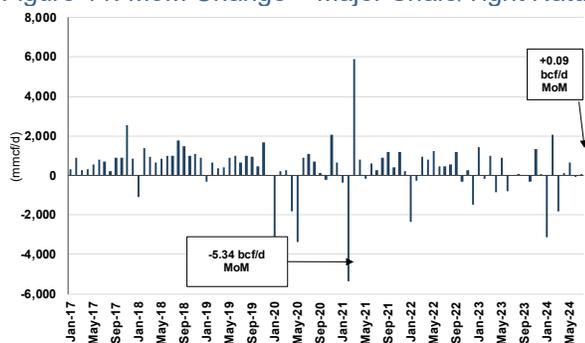
the just past month for tight/shale. So in the case of the new August report, there is only shale/tight for the just finished month ie. July. (ii) On Tuesday, the EIA released its monthly STEO for August 2024 [LINK](#). (iii) The key takeaway is that US shale/tight natural gas is roughly flat in July at ~80 bcf/d, which is the 5<sup>rd</sup> consecutive month around ~80 bcf/d. And this compares to ~82 bcf/d for Nov and Dec 2023. (iv) The key reason for the lower production has been because a number of major natural gas producers shut-in natural gas production in response to the low natural gas prices to end February, and they also cutting back on rigs/fracks. (v) Note that the EIA revised their data for shale/tight gas production back to 2020 from July's STEO, and we have adjusted our table to reflect the updated data. For the last 12 months July 2023 thru June 2024, the EIA revised up 11 of the 12 months and the average revision for the past 12 months is +0.361 bcf/d with the two areas with the most revisions being the Marcellus and Mississippian. Our Supplemental Documents package includes excerpts from the EIA STEO.

Figure 10: EIA Major Shale/Tight Natural Gas Production

mmcf/d	2023						2024						July MoM%	July YoY%	
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June			
Permian	16,272	16,615	16,778	16,770	17,100	17,411	16,636	17,310	17,615	17,614	17,675	17,687	17,721	0.2%	8.9%
Haynesville	14,661	14,656	14,574	14,436	14,306	13,764	13,565	14,036	13,433	12,845	13,302	13,091	13,314	1.7%	-9.2%
Marcellus	25,595	25,497	25,061	25,381	26,364	26,526	25,899	25,707	24,358	25,320	25,384	25,449	25,514	0.3%	-0.3%
Utica	4,885	4,859	4,804	4,514	4,545	4,463	4,134	4,255	4,099	3,819	3,885	3,949	3,718	-5.8%	-23.9%
Eagle Ford	4,514	4,448	4,558	4,488	4,471	4,421	4,320	4,376	4,326	4,327	4,328	4,328	4,329	0.0%	-4.1%
Bakken	2,440	2,462	2,555	2,528	2,571	2,613	2,221	2,493	2,513	2,575	2,590	2,598	2,609	0.4%	6.9%
Barnett	1,814	1,779	1,790	1,771	1,778	1,760	1,673	1,733	1,721	1,711	1,701	1,691	1,681	-0.6%	-7.3%
Fayetteville	890	865	894	878	872	862	774	846	844	834	825	816	811	-0.6%	-8.8%
Mississippian	2,302	2,250	2,420	2,301	2,304	2,396	2,327	2,456	2,458	2,461	2,464	2,467	2,470	0.1%	7.3%
Niobrara-Codell	2,654	2,711	2,697	2,729	2,782	2,813	2,673	2,828	2,895	2,910	2,925	2,940	2,955	0.5%	11.3%
Woodford	2,899	2,832	2,854	2,892	2,869	2,919	2,716	2,880	2,875	2,875	2,875	2,876	2,874	-0.1%	-0.9%
Rest of U.S.	2,258	2,254	2,250	2,215	2,287	2,333	2,211	2,267	2,243	2,215	2,187	2,171	2,157	-0.6%	-4.5%
Total	81,184	81,247	81,224	80,905	82,250	82,281	79,150	81,187	79,381	79,507	80,142	80,065	80,153	0.1%	-1.3%

Source: EIA, SAF

Figure 11: MoM Change – Major Shale/Tight Natural Gas Production



Source: EIA Drilling Productivity Report

Source: EIA, SAF

**Natural Gas: EIA STEO, lowers forecast for 2024 and 2025 natural gas production**

On Tuesday, the EIA released its monthly Short Term Energy Outlook for August 2024 [LINK](#). (i) The EIA decreased its 2024 US natural gas production estimate by -0.2 bcf/d to 103.3 bcf/d, which, on a full year average basis, now gives a YoY decline of -0.5 bcf/d from 2023. The key reason for the YoY decline is the decision by some major natural gas producers such as EQT to shut in natural gas due to low prices. (ii) The EIA lowered its 2024 HH price forecast -\$0.19/mcf to \$2.39/mcf (was \$2.58/mcf) and increased their 2025 forecast

**EIA US natural gas production forecast**

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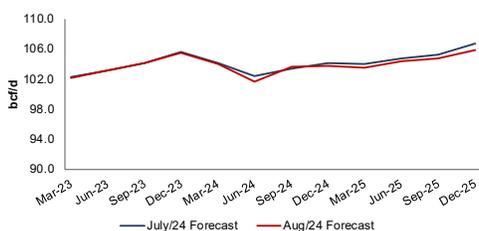
+\$0.02/mcf to \$3.39/mcf (from \$3.37/mcf). The EIA wrote “Because of falling consumption and flat production, we expect the Henry Hub price to stay relatively low, remaining below \$2.50/MMBtu through October. However, we expect seasonal increases in consumption for space heating, along with a ramp up in liquefied natural gas (LNG) exports from new facilities in Texas and Louisiana, will push the Henry Hub price to average about \$3.10/MMBtu from November through March.” (iii) The quarterly changes in Natural Gas production are as follows: Q1/24 -0.1 bcf/d to 104.0 bcf/d, Q2/24 -0.7 bcf/d to 101.7 bcf/d, Q3/24 +0.2 bcf/d to 103.6 bcf/d, and Q4/24 -0.3 bcf/d to 103.8 bcf/d. (iv) The EIA decreased its 2025 forecast -0.6 bcf/d to 104.6 bcf/d, which, on a full year average basis, would be up +1.3 bcf/d YoY. The EIA says the reasons for the YoY increase are driven by their increased HH gas price assumption. The quarterly changes to 2025 are as follows: Q1/25 -0.5 bcf/d to 103.5 bcf/d, Q2/25 -0.3 bcf/d to 104.4 bcf/d, Q3/25 -0.5 bcf/d to 104.8 bcf/d, and Q4/25 down -0.8 bcf/d to 105.9 bcf/d.

Figure 12: EIA STEO Natural Gas Production Forecasts

bcf/d	Q1/23	Q2/23	Q3/23	Q4/23	2023	Q1/24	Q2/24	Q3/24	Q4/24	2024	Q1/25	Q2/25	Q3/25	Q4/25	2025
Aug-24	102.2	103.2	104.1	105.5	103.8	104.0	101.7	103.6	103.8	103.3	103.5	104.4	104.8	105.9	104.6
July-24	102.3	103.2	104.1	105.6	103.8	104.1	102.4	103.4	104.1	103.5	104.0	104.7	105.3	106.7	105.2
June-24	102.3	103.2	104.1	105.6	103.8	103.9	100.4	101.4	102.5	102.1	102.9	104.3	104.7	105.7	104.4
May-24	102.3	103.2	104.1	105.6	103.8	104.0	102.3	102.4	103.3	103.0	103.8	104.9	105.0	105.5	104.8
Apr-24	102.3	103.2	104.1	105.6	103.8	103.9	103.0	103.4	104.0	103.6	103.9	105.0	105.0	105.7	104.9
Mar-24	102.3	103.2	104.1	105.6	103.8	103.2	103.8	103.3	103.2	103.4	103.5	104.7	104.5	104.9	104.4
Feb-24	102.3	103.2	104.1	105.4	103.8	103.5	105.0	104.4	104.7	104.4	105.5	106.7	106.5	107.2	106.5
Jan-24	102.3	103.2	104.2	104.6	103.6	105.1	105.0	104.6	105.5	105.0	106.6	106.7	106.1	106.2	106.4
Dec-23	102.3	103.2	104.0	105.1	103.7	104.8	104.8	104.7	105.3	104.9					
Nov-23	102.3	103.2	104.1	105.1	103.7	105.1	104.8	104.7	105.9	105.1					
Oct-23	102.4	103.2	104.4	104.9	103.7	104.7	104.8	104.8	106.1	105.1					
Sep-23	102.1	102.8	102.7	103.1	102.7	104.3	104.7	104.9	105.9	104.9					
Aug-23	102.1	102.8	103.4	103.6	103.0	104.0	103.9	104.0	104.6	104.1					
July-23	102.0	102.2	103.0	102.2	102.4	101.8	101.5	102.5	103.7	102.4					
June-23	102.0	103.7	103.4	101.9	102.7	102.8	102.8	103.0	103.6	103.0					
May-23	102.1	101.9	99.9	100.4	101.1	100.7	101.1	101.4	101.8	101.2					
Apr-23	101.6	100.5	100.5	100.9	100.9	101.2	101.5	101.8	101.8	101.6					
Mar-23	101.0	100.2	100.6	101.0	100.7	101.4	101.4	102.0	102.0	101.7					
Feb-23	99.9	100.0	100.3	100.9	100.3	101.2	101.6	102.0	101.9	101.7					
Jan-23	100.8	99.9	100.1	100.6	100.3	101.1	101.8	102.7	103.6	102.3					

Source: EIA, STEO

Figure 13: EIA STEO Natural Gas Production Forecasts by Month



Source: EIA, STEO

**Natural Gas: EIA STEO est storage 3.954 tcf at Nov 1/24, +145 bcf YoY**

The EIA STEO also includes its forecast for US gas storage. (i) Please note that our bias is to not pay much attention to gas storage forecasts past the start of winter 2024/25 on Nov until we get just before Nov 1, 2024 and there is some better near term certainty to the start of winter temperatures. The reason is that winter temperatures are the driving force by far on

**EIA Aug STEO storage forecast**

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natural gas demand and it's hard to have confidence on a winter 2024/25 temperature forecasts when we are still in Q2. (ii) EIA estimates US gas storage ended winter 2023/24 at 2.302 tcf at April 1, 2024, which was +0.452 tcf YoY and flat from the July STEO. (iii) As noted earlier, we remind that US gas storage would be a lot worse if producers like EQT had't shut-in natural gas production in response to low prices. The EIA forecasts gas storage to start winter 2024/25 at 3.954 tcf at Nov 1, 2024, which is +0.145 bcf YoY. The August STEO estimate is immaterially below the July STEO of 3.968 tcf at Nov 1, 2024. (iv) It's early and ultimately winter temperatures will determine if storage is high or low. But, for now, the EIA forecasts gas storage to end winter 2024/25 at 1.962 tcf, which would be -338.7 bcf lower YoY. The key reason for less storage to end winter is that the EIA is assuming this winter is colder than last year's hot winter. The EIA assumes heating degree days are 1% higher YoY, and cooling days are 7.5% higher YoY. (v) There is even more uncertainty as you look out to winter 2025/26. The August STEO forecasts winter 2025/26 storage to be 3.861 tcf at Nov 1, 2025, which would be a little better than its forecast for Nov 1, 2024 at 3.954 tcf. Below is a table tracking the working gas inventory forecasts and actuals since 2016.

Figure 14: EIA STEO US Natural Gas in Storage (2016-2025)

US Working Natural Gas in Storage (billion cubic feet)						
Storage	2016-2025					
	Level	Low	High	Range	Average	Deviation
Mar 2016	2,486.3	1,184.9	2,486.3	1,301.4	1,835.6	35.4%
Oct 2016	4,012.7	3,236.3	4,012.7	776.4	3,624.5	10.7%
Mar 2017	2,062.5	1,184.9	2,486.3	1,301.4	1,835.6	12.4%
Oct 2017	3,816.5	3,236.3	4,012.7	776.4	3,624.5	5.3%
Mar 2018	1,390.3	1,184.9	2,486.3	1,301.4	1,835.6	-24.3%
Oct 2018	3,236.3	3,236.3	4,012.7	776.4	3,624.5	-10.7%
Mar 2019	1,184.9	1,184.9	2,486.3	1,301.4	1,835.6	-35.4%
Oct 2019	3,762.0	3,236.3	4,012.7	776.4	3,624.5	3.8%
Mar 2020	2,029.4	1,184.9	2,486.3	1,301.4	1,835.6	10.6%
Oct 2020	3,928.5	3,236.3	4,012.7	776.4	3,624.5	8.4%
Mar 2021	1,801.2	1,184.9	2,486.3	1,301.4	1,835.6	-1.9%
Oct 2021	3,665.4	3,236.3	4,012.7	776.4	3,624.5	1.1%
Mar 2022	1,401.5	1,184.9	2,486.3	1,301.4	1,835.6	-23.7%
Oct 2022	3,569.4	3,236.3	4,012.7	776.4	3,624.5	-1.5%
Mar 2023	1,849.9	1,184.9	2,486.3	1,301.4	1,835.6	0.8%
Oct 2023	3,809.4	3,236.3	4,012.7	776.4	3,624.5	5.1%
Mar 2024	2,301.5	1,184.9	2,486.3	1,301.4	1,835.6	25.4%
Oct 2024	3,954.1	3,236.3	4,012.7	776.4	3,624.5	9.1%
Mar 2025	1,962.8	1,184.9	2,486.3	1,301.4	1,835.6	6.9%
Oct 2025	3,860.8	3,236.3	4,012.7	776.4	3,624.5	6.5%

Source: EIA, STEO

**Natural Gas: Murphy has hellacious Montney wells with lowest breakeven prices in NA**

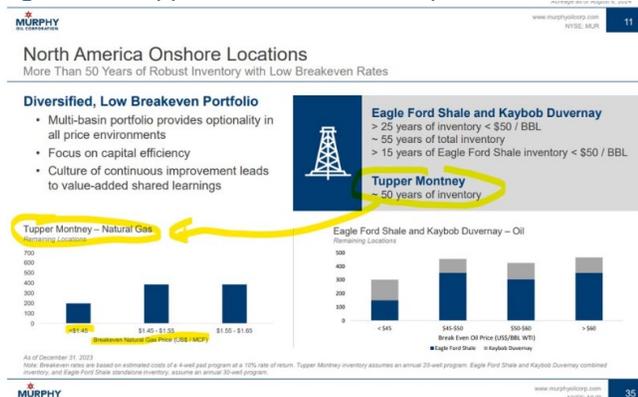
We still believe Canada's liquid rich Montney natural gas play is one of, if not, the top natural gas plays in North America and doesn't get the recognition in great part because there aren't many big US players in both the Montney and the top US shale plays. But one who is in both is Murphy Oil so their comments on the Q2 call on Thursday give a North American and not just a Canadian perspective. And it was hard to ignore their very bullish comments on their Tupper Montney and Kaybob Duvernay plays. On Thursday, we tweeted [LINK](#) "WOW! Tupper Montney are "hellacious wells" with lowest breakeven gas price in NA! Tupper Montney has "the lowest breakeven in North America adjusted for AECO and for C\$ type of exchange. So we have very extremely low breakeven prices. We have hellacious wells." Murphy Q2 call. #OOTT." Murphy noted their Tupper Montney averaged 400 mmcf/d n Q2, which beat guidance by ~20 mmcf/d "primarily due to well performance". They hit peak gross Tupper Montney of 496 mmb/d, or reached their plant capacity. And "We continue seeing

Murphy's Tupper Montney

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great well performance from our optimized completion design. In particular, our average IP30 rate in our Tupper Main area has increased approximately 120% since 2019.” But what jumped out at us was their Q&A replies such as “We have, as benchmarked by your competitors and many other Toms in the industry, the lowest breakeven in North America adjusted for AECO and for C\$ type of exchange. So we have very extremely low breakeven prices. We have hellacious wells.”

Figure 15: Tupper lowest breakeven prices in North America



Source: Murphy Oil

### Natural Gas: Is Murphy Oil hinting a LNG Canada 1.8 bcf/d Phase 2 FID is soon?

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 2<sup>nd</sup> 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

**LNG Canada 1.8 bcf/d Phase 2**

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*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: Cheniere/Galp and ADNOC/Osaka gas long term LNG deals this week**

This week, there were two new long term LNG deals signed. (i) On Monday, Cheniere Energy announced they have signed a 20 year Sales and Purchase Agreement with Portugal's Galp Energia ("Galp"), where Galp will purchase 0.5 mmtpa (0.07 bcf/d) of LNG [\[LINK\]](#). The project does not have an explicit start date, but the report notes that deliveries are expected to commence in the early 2030s. This deal is indexed to the Henry Hub price, plus a fixed liquefaction fee. Jack Fusco, Cheniere's President and CEO said *"We are pleased to enter into this long-term agreement with Galp, a leader across Iberia's energy sector, which reinforces the critical role US natural gas is expected to play in Europe's energy mix into the second half of this century. We look forward to providing our flexible, reliable and cleaner burning LNG to Galp under this new long-term agreement. This SPA is expected to provide further support for the SPL Expansion Project, and demonstrates continued momentum as we progress development of the project"*. (ii) On Tuesday, Osaka Gas and ADNOC signed a LT LNG deal for the delivery of 0.8 mmtpa (0.11 bcf/d) of LNG into Japan from the UAE beginning in 2028 [\[LINK\]](#). This deal does not have an explicit duration listed, however we are assuming a duration of 10 years. Keiji Takemori, Osaka Gas Executive Vice President, said: *"Osaka Gas is delighted to secure LNG from ADNOC, a reliable supplier in the Middle East. This contract with ADNOC will significantly enhance the stability of Osaka Gas' LNG procurement. It will also strengthen the foundation of our stable energy supply to customers, transition to lower carbon energy, and acceleration toward our net zero target. These align with our goals in the Medium-Term Management Plan 2026: Connecting Ambitious Dreams, which we announced in March. We will continue working on the stable procurement, development, and supply of natural gas as a key transition fuel to achieve a carbon neutral future."* Rashid Khalfan Al Mazrouei, ADNOC Senior Vice President, Marketing, said: *"This landmark LNG agreement, our first long-term LNG deal with Osaka Gas, underscores the strong, long-standing energy partnership between the UAE and Japan. This agreement further enhances ADNOC's position as a reliable and responsible global energy provider and reflects our commitment to help meeting Japan's growing energy needs with secure and sustainable energy solutions. The Ruwais LNG project supports our broader strategy to expand our global LNG footprint to enable the energy transition."* Our Supplemental Documents Package includes the Cheniere press release.

**2 new LT LNG deals**

### **There have been 24.74 bcf/d of long-term LNG supply deals since July 1, 2021**

We have updated our table of running long term (10 yrs or greater) LNG deals to include the above deals from this week. The abrupt big wave of LNG deals started in July 2021 and we highlighted this in our July 14, 2021 8-pg "Asian LNG Buyers

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Abruptly Change and Lock in Long Term Supply – Validates Supply Gap, Provides Support For Brownfield LNG FIDs”. We continue to update that table, which now shows 24.74 bcf/d of long-term LNG deals since July 1, 2021. 63% of the deals have been by Asian LNG buyers, but we are now seeing rest of world locking up long term supply deals post Russia/Ukraine. Note in our non-Asian LNG deals will major LNG players (ie. Chevron, Shell, etc) buying for their LNG portfolio supply. China has been particularly active in this space, accounting for 47% of all Asian LNG buyers in long term contracts since July 1, 2021. Below is our updated table of Asian and Europe LNG buyers new long-term supply deals since July 1, 2021.

Figure 16: Long-Term LNG Buyer Deals Since July 1, 2021

Long-Term LNG Buyer Deals Since July 1, 2021							Long-Term LNG Buyer Deals Since July 4, 2021								
Date	Buyer	Seller	Country	Volume (bcfd)	Duration (Years)	Start	End	Date	Buyer	Seller	Country	Volume (bcfd)	Duration (Years)	Start	End
<b>Asian LNG Deals</b>							<b>Non-Asian LNG Deals</b>								
Jul 7, 2021	CNOOC	Petronas	China / Canada	0.30	10.0	2022	2032	Jul 28, 2021	PGNIG	Venture Global LNG	Poland / US	0.26	20.0	2023	2043
Jul 9, 2021	CPC	Energy Transfer	Taiwan / Qatar	0.16	15.0	2022	2037	Nov 12, 2021	Engie	Cheniere	France / US	0.11	20.0	2021	2041
Jul 9, 2021	Guangzhou Gas	BP	China / US	0.13	12.0	2022	2034	Mar 7, 2022	Shell	Venture Global LNG	US / US	0.26	20.0	2024	2044
Jul 12, 2021	Korea Gas	QatarEnergy	Korea / Qatar	0.25	20.0	2025	2045	Mar 16, 2022	NFE	Venture Global LNG	US / US	0.13	20.0	2023	2043
Sep 29, 2021	CNOOC	QatarEnergy	China / Qatar	0.50	15.0	2022	2037	Mar 16, 2022	NFE	Venture Global LNG	US / US	0.13	20.0	2023	2043
Oct 7, 2021	Shenzhen	BP	China / US	0.04	10.0	2023	2032	May 2, 2022	Engie	NextDecade	France / US	0.23	15.0	2026	2041
Oct 11, 2021	ENN	Cheniere	China / US	0.12	13.0	2022	2035	May 17, 2022	PGNIG	Sempra Infrastructure	Poland / US	0.40	20.0	n.a.	n.a.
Nov 4, 2021	Unipac	Venture Global LNG	China / US	0.46	20.0	2023	2043	May 25, 2022	RWE Supply & Trading	Sempra Infrastructure	Germany / US	0.30	15.0	n.a.	n.a.
Nov 4, 2021	Sinocpec	Venture Global LNG	China / US	0.53	20.0	2023	2043	Jun 9, 2022	Equinor	Cheniere	Norway / US	0.23	15.0	2026	2041
Nov 5, 2021	Sinocchem	Cheniere	China / US	0.12	17.5	2022	2040	Jun 21, 2022	ENBW	Venture Global LNG	Germany / US	0.20	20.0	2026	2046
Nov 22, 2021	Foran	Cheniere	China / US	0.04	20.0	2023	2043	Jun 22, 2022	INEOS Energy	Sempra Infrastructure	UK / US	0.21	20.0	2027	2047
Dec 6, 2021	Guangdong Energy	QatarEnergy	China / Qatar	0.13	10.0	2024	2034	Jun 22, 2022	Chevron	Venture Global LNG	US / US	0.26	20.0	2027	2047
Dec 8, 2021	S&T International	QatarEnergy	China / Qatar	0.13	15.0	2022	2037	Jun 22, 2022	Chevron	Cheniere	US / US	0.26	15.0	2027	2047
Dec 10, 2021	Sunlife Green Energy	QatarEnergy	China / Qatar	0.13	15.0	2022	2037	Jul 12, 2022	Shell	Mexico Pacific Ltd	US / Mexico	0.34	20.0	2026	2046
Dec 15, 2021	SPIC Guangdong	BP	China / US	0.03	10.0	2023	2033	Jul 13, 2022	Vitol	Defin Midstream	US / US	0.07	15.0	n.a.	n.a.
Dec 20, 2021	CNOOC Gas & Power	Venture Global LNG	China / US	0.26	20.0	2023	2043	Aug 9, 2022	Centrica	Defin Midstream	UK / US	0.13	15.0	2026	2041
Dec 29, 2021	Foran	Cheniere	China / US	0.01	10.0	2023	2032	Aug 24, 2022	Shell	Energy Transfer	US / US	0.28	20.0	2026	2046
Jan 11, 2022	ENN	Novatek	China / Russia	0.08	11.0	2024	2035	Oct 6, 2022	ENBW	Venture Global LNG	Germany / US	0.26	20.0	2022	2042
Jan 11, 2022	Zhejiang Energy	Novatek	China / Russia	0.13	15.0	2024	2039	Dec 6, 2022	ENGIE	Sempra Infrastructure	France / US	0.12	15.0	n.a.	n.a.
Feb 4, 2022	CNPC	Gasprom	China / Russia	0.98	30.0	2023	2053	Dec 20, 2022	Galp	NextDecade	Portugal / US	0.13	20.0	n.a.	n.a.
Mar 24, 2022	Guangdong Energy	NextDecade	China / US	0.20	20.0	2026	2046	Dec 20, 2022	Shell	Oman LNG	UK/Oman	0.11	10.0	2025	2035
Mar 29, 2022	ENN	Energy Transfer	China / US	0.36	20.0	2026	2046	Jan 25, 2023	PNM ORLEN	Sempra Infrastructure	EU/US	0.13	20.0	2027	2047
Apr 1, 2022	Guangzhou Gas	Mexico Pacific Ltd	China / Mexico	0.26	20.0	n.a.	n.a.	Jan 30, 2023	BOTAS	Oman	Turkey / Oman	0.13	10.0	2025	2035
Apr 6, 2022	ENN	NextDecade	China / US	0.26	20.0	2026	2026	Mar 27, 2023	Shell	Mexico Pacific Ltd	UK / Mexico	0.15	20.0	2026	2046
Apr 22, 2022	Kogas	BP	Korea / US	0.20	18.0	2025	2043	Apr 24, 2023	Hartree Partners LP	Defin Midstream	US / US	0.08	20.0	n.a.	n.a.
May 2, 2022	Gunvor Singapore Pte	Energy Transfer LNG	Singapore / US	0.26	20.0	2026	2046	Jun 21, 2023	Equinor	Cheniere	Norway / US	0.23	15.0	2027	2042
May 9, 2022	SK Gas Trading LLC	Energy Transfer LNG	Korea / US	0.05	18.0	2026	2042	Jul 12, 2023	SEFE	Venture Global LNG	US / US	0.30	20.0	2026	2046
May 10, 2022	Exxon Asia Pacific	Venture Global LNG	Singapore / US	0.26	n.a.	n.a.	n.a.	Jul 14, 2023	ONEE (Morocco)	Shell	Africa/US	0.05	12.0	2024	2036
May 11, 2022	Petronas LNG	Venture Global LNG	Malaysia / US	0.13	20.0	n.a.	n.a.	Jul 18, 2023	IOCL	Adnoc	India/UAE	0.16	14.0	2026	2040
May 24, 2022	Hamwha Energy	TotalEnergies	Korea / France	0.08	15.0	2024	2039	Jul 28, 2023	OMV	BP	Austria/UK	0.13	10.0	2026	2036
May 25, 2022	POSCO International	Cheniere	Korea / US	0.05	20.0	2026	2036	Aug 4, 2023	ConocoPhillips	Mexico Pacific Ltd	US/Mexico	0.29	20.0	2025	2045
June 5, 2022	China Gas Holdings	Energy Transfer	China / US	0.09	25.0	2026	2051	Aug 22, 2023	BASF	Cheniere	EU/US	0.10	17.0	2026	2043
Jul 5, 2022	China Gas Holdings	NextDecade	China / US	0.13	20.0	2027	2047	Aug 30, 2023	Shell	Oman LNG	US / Oman	0.11	10.0	2025	2035
Jul 20, 2022	PetroChina	Cheniere	China / US	0.24	24.0	2026	2050	Oct 11, 2023	TotalEnergies	QatarEnergy	France / Qatar	0.46	27.0	2026	2053
Jul 26, 2022	PTT Global	Cheniere	Thailand / US	0.13	20.0	2026	2046	Oct 18, 2023	Shell	QatarEnergy	Netherlands / Qata	0.46	27.0	2026	2053
Jul 27, 2022	Exxon Asia Pacific	NextDecade	Singapore / US	0.13	20.0	2026	2046	Oct 23, 2023	ENI	QatarEnergy	Italy / Qatar	0.13	27.0	2026	2053
Sept 2, 2022	Woodside Singapore	Commonwealth	Singapore / US	0.33	20.0	2026	2046	Oct 31, 2023	Vitol	Chesapeake Energy	Sweden / US	0.13	15.0	2028	2043
Nov 21, 2022	Sinocpec	QatarEnergy	China / Qatar	0.53	27.0	2026	2053	Nov 29, 2023	OMV	Cheniere	Netherlands / US	0.11	15.0	2029	2044
Dec 26, 2022	INPEX	Venture Global LNG	Japan / US	0.13	20.0	n.a.	n.a.	Dec 5, 2023	Woodside Energy	Mexico Pacific Ltd	Australia / Mexico	0.17	20.0	2024	2044
Dec 27, 2022	JERA	Oman LNG	Japan / Oman	0.11	10.0	2025	2035	Mar 18, 2024	SEFE	ADNOC	Germany / UAE	0.13	20.0	2024	2044
Jan 19, 2023	TOCHU	NextDecade	Japan / US	0.13	15.0	n.a.	n.a.	Apr 17, 2024	Shell	Oman LNG	US / Oman	0.21	10.0	2025	2035
Feb 7, 2023	Exxon Asia Pacific	Mexico Pacific Ltd	Singapore / Mexico	0.26	20.0	n.a.	n.a.	Apr 22, 2024	TotalEnergies	Oman LNG	France / Oman	0.11	10.0	2025	2035
Feb 23, 2023	China Gas Holdings	Venture Global LNG	China / US	0.26	20.0	n.a.	n.a.	May 8, 2024	ENBW	ADNOC	Germany / UAE	0.08	15.0	2028	2048
Mar 6, 2023	Gunvor Singapore Pte	Chesapeake Energy	Singapore / US	0.26	15.0	2027	2042	May 13, 2024	Saudi Aramco	NextDecade	Saudi Arabia / US	0.16	20.0	2028	2048
Apr 28, 2023	JERA	Venture Global LNG	Japan / US	0.13	20.0	n.a.	n.a.	June 26, 2024	Saudi Aramco	Sempra Infrastructure	Saudi Arabia / US	0.66	20.0	2029	2049
May 16, 2023	KOSPO	Cheniere	Korea / US	0.05	19.0	2027	2046	July 23, 2024	Fluys	ConocoPhillips	Belgium / US	0.10	18.0	2027	2045
Jun 1, 2023	Bangladesh Oil	QatarEnergy	Bangladesh / Qatar	0.24	15.0	2026	2031	Aug 5, 2024	Galp	Cheniere	Portugal / US	0.07	20.0	2030	2050
Jun 21, 2023	Petro Bangle	Oman	Bangladesh / Oman	0.20	10.0	2026	2036	<b>Total Non-Asian LNG Buyers New Long Term Contracts Since Jul/21</b>							
Jun 21, 2023	CNPC	QatarEnergy	China / Qatar	0.53	27.0	2027	2054	<b>Total New Long Term LNG Contracts since Jul/21</b>							
Jul 26, 2023	ENN LNG	Cheniere	Singapore / US	0.24	20.0	2026	2046	<b>24.74</b>							
Jul 5, 2023	Zhejiang Energy	Mexico Pacific Ltd	China / Mexico	0.13	20.0	2027	2047	*on Dec 20, 2021 CNOOC agreed to buy an additional 0.13 bcf/d from Venture Global for an undisclosed shorter period							
Aug 8, 2023	LNG Japan	Woodside	Japan / Australia	0.12	10.0	2026	2036	Source: Bloomberg, Company Reports							
Sep 7, 2023	Petrochina	ADNOC	China / UAE	n.a.	n.a.	n.a.	n.a.	Prepared by SAF Group. <a href="https://safgroup.ca/news-insights/">https://safgroup.ca/news-insights/</a>							
Nov 2, 2023	Foran	Cheniere	China / US	0.12	20.0	n.a.	n.a.								
Nov 4, 2023	Sinocpec	QatarEnergy	China / Qatar	0.39	27.0	2026	2053								
Nov 27, 2023	Gunvor Singapore Pte	Defin Midstream	Singapore / US	0.10	15.0	n.a.	n.a.								
Dec 20, 2023	ENN	ADNOC	Singapore / UAE	0.13	15.0	2028	2043								
Jan 5, 2024	GAIL	Vitol	India / Singapore	0.13	10.0	2026	2036								
Jan 8, 2024	Shell	Ksi Lisims LNG	Singapore / Canada	0.26	20.0	2027	2047								
Jan 16, 2024	ExxonMobil	Mexico Pacific Ltd	Singapore / Mexico	0.16	20.0	2024	2044								
Jan 29, 2024	ExxonMobil	QatarEnergy	Bangladesh / Qatar	0.13	15.0	2026	2041								
Jan 30, 2024	ADNOC	GAIL India	UAE / India	0.07	10.0	2024	2034								
Feb 6, 2024	Petronet LNG	QatarEnergy	India / Qatar	0.99	20.0	2028	2048								
Feb 19, 2024	Deepak Fertilisers	Equinor	India / Norway	0.09	15.0	2026	2041								
Feb 28, 2024	Kogas	Woodside	Korea / Australia	0.07	10.5	2026	2037								
Feb 29, 2024	Sembcorp	TotalEnergies	Singapore / France	0.11	16.0	2027	2043								
Apr 29, 2024	Kogas	BP	Korea / Singapore	0.12	11.0	2026	2037								
May 26, 2024	AMNS	Shell	India / Canada	0.05	10.0	2027	2037								
May 28, 2024	Hokkaido	Santos	Japan / Australia	0.05	10.0	2027	2037								
Jun 4, 2024	IOCL	TotalEnergies	India / France	0.11	10.0	2026	2036								
Jun 5, 2024	CPC	QatarEnergy	Taiwan / Qatar	0.53	27.0	2025	2052								
Jul 11, 2024	CPC	Woodside	Taiwan / Australia	0.79	10.0	2024	2034								
Aug 6, 2024	Osaka Gas	ADNOC	Japan / UAE	0.11	10.0	2028	2038								
<b>Total Asian LNG Buyers New Long Term Contracts Since Jul/21</b>				<b>15.50</b>											

Source: SAF

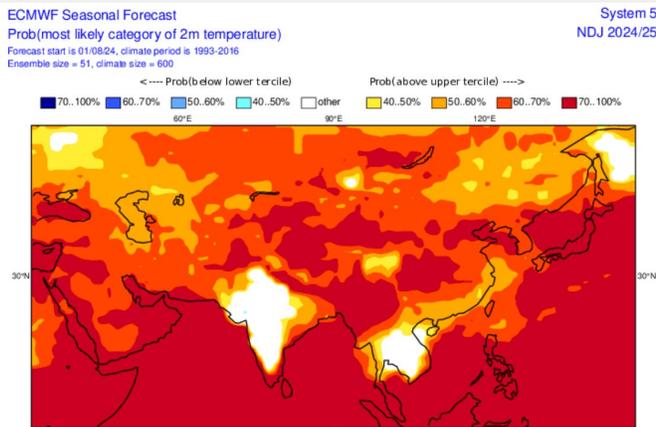
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**Natural Gas: ECMWF forecasts warmer than normal start to winter for Asia**

The European Centre for Medium-Range Weather Forecasts posted its monthly update for its seasonal forecast for Asia. The ECMWF does not provide any commentary just the seasonal temperatures map and the ECMWF is forecasting a warmer than normal start to winter in Nov/Dec/Jan. The ECMWF seasonal Asia forecast is found at [LINK](#).

**A warm start to winter in Asia**

Figure 17: ECMWF seasonal forecast for NDJ for Asia



Source: ECMWF

**Natural Gas: Japan expects hot temperatures to continue thru at least early 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 10 thru Sept 9, in Japan [LINK](#). There is no JMA commentary on the forecast. JMA is calling for well above normal temperatures for the month of August and into September, with a +70% probability of above normal temperature occurrence. We checked AccuWeather and they are forecasting daily highs in of 28-34C 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**

Figure 18: JMA Average Temperature Outlook for Aug 10 – Sept 9



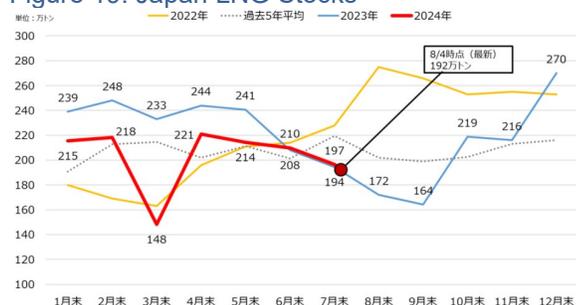
Source: Japan Meteorological Agency

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### Natural Gas: Japan LNG stocks down WoW, down YoY

Japan's LNG stocks are down WoW, are down small YoY and are down from the 5-year average. On Wednesdays, Japan's METI releases its weekly LNG stocks data [\[LINK\]](#). LNG stocks on August 4 were 92.2 bcf, down -10.3% WoW from July 28 of 102.8 bcf, and down -1.0% from 93.2 bcf from a year ago. Stocks are down -12.3% from the 5-year average of 105.2 bcf. Below is the Japanese LNG stocks graph from the METI weekly report.

Figure 19: Japan LNG Stocks



Source: METI

### Japan LNG stocks down WoW

### Natural Gas: China natural gas imports for July

On Tuesday, Bloomberg released a report with data from China's General Administration for Customs (GACC) on the summary data of China's oil and natural gas imports for July. As of Friday, the GACC had not updated their website to reflect the split between LNG vs pipeline natural gas imports for July. GACC reported that over July, China imported 16.82 bcf/d of natural gas between LNG and pipeline imports. In June, China imported 7.68 bcf/d of natural gas by pipelines and 9.00 bcf/d of LNG for a total of 16.68 bcf/d, so July's total natural gas imports are up +0.9% MoM. China has been benefitting from cheap natural gas exports from Russia but have also been opportunistic in their buying of LNG given weak spot prices in recent months. Our Supplemental Documents Package contains the report from Bloomberg.

### China natural gas imports

### Natural Gas: Ukraine takes control of intake station for Russian pipeline NatGas to EU

This happened on Wed but TASS is reporting that there has been no change to Russian natural gas flowing on the only natural gas pipeline open via Ukraine to Europe. On Wednesday, Europe natural gas prices were up 5% on the news. On Wednesday, Ukraine's attack on the Russian region of Kursk also included Ukraine taking control of the Sudzha 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. We have not seen any confirmation or denial by Gazprom nor any indication from Gazprom that natural gas is not flowing thru the pipeline. 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. Yesterday, TASS reported [\[LINK\]](#) "Gazprom supplies gas for Europe through Ukraine in the volume of 39.6 mln cubic meters (mcm) per day via the Sudzha gas pumping station in Russia's Kursk Region, a Gazprom representative told reporters, adding that the request for pumping through Sokhranovka had been rejected by the Ukrainian side. Thus, the pumping volume has increased almost by 3% versus Friday." So, for now at least, it looks like a reminder from Ukraine to Russia that they

### Ukraine captures key Russian gas infrastructure

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can cut off Russian natural gas at any time. Below is a 2018 map from Oxford Institute for Energy Studies showing Sudzha.

Figure 20: The Ukrainian pipeline system



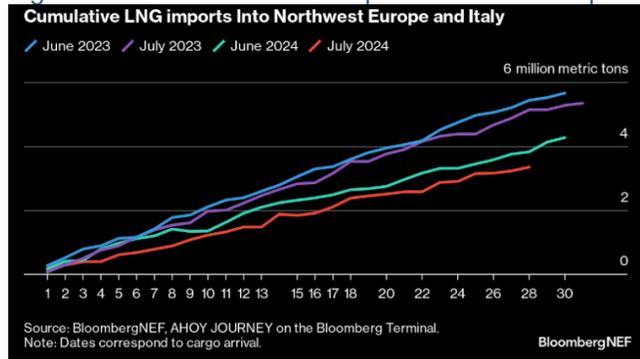
Source: OIES  
Source: Oxford Institute for Energy Studies

**Natural Gas: NW Europe LNG imports slowed in July with fears of being full early**

Here is what we wrote in last week’s (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.” Below is the graph to the Bloomberg report.”

**NW Europe LNG imports slowed**

Figure 21: Cumulative LNG imports into Northwest Europe and Italy



Source: BloombergNEF

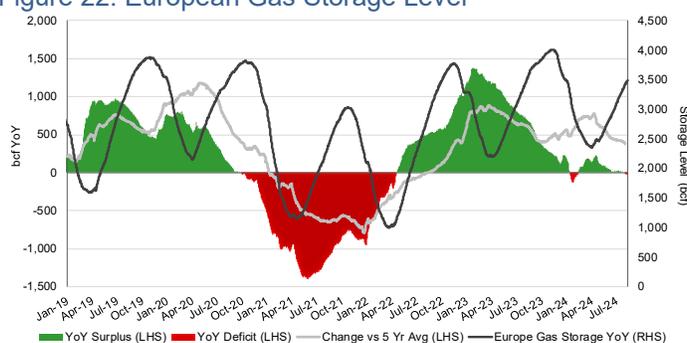
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## Europe gas storage

**Natural Gas: Europe storage builds WoW to 86.9%, down -1.1% YoY**

Europe gas storage slowed down in July with the redirecting of LNG cargoes as it looked like Europe gas storage would be full early. This week, Europe storage increased by +1.6% WoW to 86.9% vs 85.3% on August 1. Storage is down -1.1% from last year's levels of 89.0% on Aug 8, 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 be filled early and looks like pointing to it being full in line or ahead of BloombergNEF's May 31 forecast for Europe gas storage to be full by Sept 30. Note that this doesn't necessarily mean 100% but as storages gets to the low to mid 90s, injections start to slow down and, as we have previously highlighted, LNG inbound cargoes get redirected to other regions. Our fear remains that if this, reaching the low 90s, is likely by the end of Aug, we should see low Europe gas prices in Sept/Oct. Below is our graph of European Gas Storage Level.

Figure 22: European Gas Storage Level



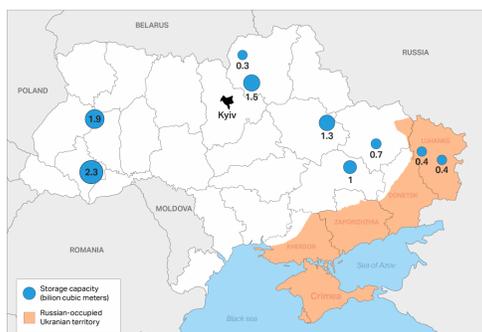
Source: Bloomberg, SAF

**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 8<sup>th</sup>, natural gas in Ukraine storage was at 21.2% of its total capacity, up from 20.5% of its total capacity on August 1<sup>st</sup>. 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 23: Ukraine Gas Storage Facilities as of July 2023



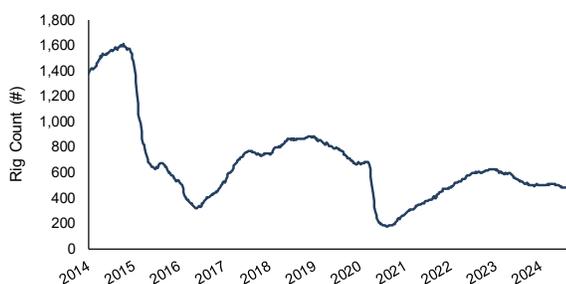
Source: Bruegel

**Oil: US oil rigs up +3 rigs WoW but down -40 rigs YoY to 485 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 up +3 rigs WoW to 485 oil rigs as of August 9. 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 19<sup>th</sup>'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 DJ-Niobrara +1 rig WoW to 10 rigs, Haynesville -2 rigs WoW to 32 rigs, Marcellus +1 rig WoW to 25 rigs, Permian +1 rig WoW to 304 rigs, and Utica -1 rig WoW to 10 rigs. (iv) The overlooked US rig theme is the YoY declines. Total US rigs are -66 rigs YoY to 588 rigs including US oil rigs -40 oil rigs YoY to 485 oil rigs. And for the key basins, the Permian is -23 rigs YoY, Haynesville is -12 rigs YoY and Marcellus -6 rigs YoY. (v) US gas rigs were down -1 rig this week to 97 gas rigs.

**US oil rigs down -40 YoY**

Figure 24: Baker Hughes Total US Oil Rigs



Source: Baker Hughes, SAF

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

Yesterday morning, we tweeted [LINK](#) "A key reason why Permian rigs stuck just over 300. Weak Waha spot #NatGas prices. -\$3.02 WoW to -\$4.12 at Aug 9 close. Wild spot price action, -\$2.68 on Friday. Problem is spot has bounced in negative at some time every mth since Apr. Permian #Oil wells produce associated #NatGas. Low or negative Waha prices may not impact big Permian players drilling plans but cause some small Permian players to cut back on Permian oil drilling. 📌 @DallasFed #OOTT." We remind that this is the spot

**Waha gas prices closed at -\$4.12**

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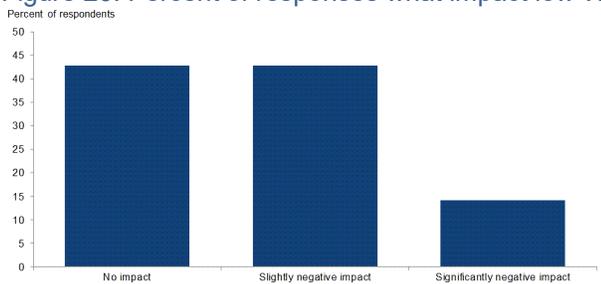
price for Waha (Permian) natural gas so it can bounce around, which is did so this week. Waha spot natural gas prices were -\$3.12 WoW to -\$4.12 on Aug 9. Waha spot was -\$2.68 on Friday. So the spot price can move around big time but the issue is that Waha spot has bounced in the negative every month since April. And this price volatility has to be a reason for why Permian oil rigs have been soft. The natural gas from the Permian is the associated natural gas that is produced from Permian oil wells. So if there is near term concerns on Waha natural gas prices, it will impact oil drilling from smaller Permian players. Our tweet included an excerpt from the Dallas Fed quarterly energy survey that was posted three weeks ago [\[LINK\]](#) One of their special questions was “What impact will low Waha Hub natural gas prices likely have on your firm’s drilling and completion plans in the Permian for the rest of 2024?” Dallas Fed summarized the responses “The Waha Hub is a gathering location for natural gas in the Permian Basin that connects to major pipelines. Of the executives surveyed, 43 percent said low Waha Hub natural gas prices won’t likely affect their firm’s drilling and completion plans in the Permian for the rest of 2024. Meanwhile, 43 percent expect a slightly negative impact, and an additional 14 percent said the low Waha Hub prices will have a significantly negative impact on drilling and completion plans for the rest of this year in the Permian. Small E&P firms were more likely to expect negative impacts.”

Figure 25: Waha Natural Gas Prices to Aug 9 close



Source: Bloomberg

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

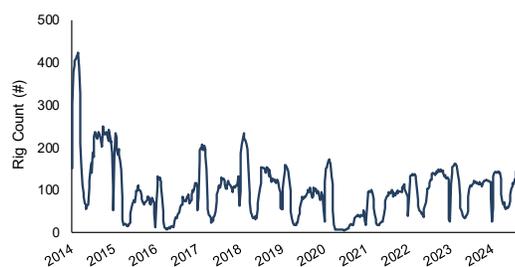
**Oil: Total Cdn rigs down -2 rigs WoW, likely wildfires interrupting seasonal ramp up**  
As happens every year in Canada, rigs start a strong seasonal ramp up after Spring breakup. Spring break up is when melting snow leads to road access being limited/restricted in many parts of Alberta and BC and rigs dramatically decrease from peak winter drilling levels. Then

**Cdn total rigs down WoW**

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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 decrease is likely impacted by wildfires moving to the North-west region of Alberta natural gas region. This week's rig count was down -2 rigs WoW to 217 rigs. Cdn oil rigs were down -3 rigs WoW this week to 147 rigs and are up +31 rigs YoY. Gas rigs are flat WoW this week at 69 rigs and are down -5 rigs YoY, and miscellaneous rigs are up +1 rig WoW to 1 rig total and up +1 rig YoY. Baker Hughes did not update their old format report, so we weren't able to see the provincial breakouts.

Figure 27: Baker Hughes Total Cdn Oil Rigs



Source: Baker Hughes, SAF

### Oil: US weekly oil production up +0.100 mmb/d WoW to record breaking 13.400 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, until this week. This week's estimate is up +0.100 mmb/d WoW to 13.4 mmb/d for the week ending Aug 2, and marks a 41-year record breaking high for a weekly supply estimate. 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. On 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 up +0.100 mmb/d to 13.400 mmb/d for the week ended August 2. Alaska was up +0.019 mmb/d WoW to 0.414 from 0.395 mmb/d last week. Below is a table of the EIA's weekly oil production estimates.

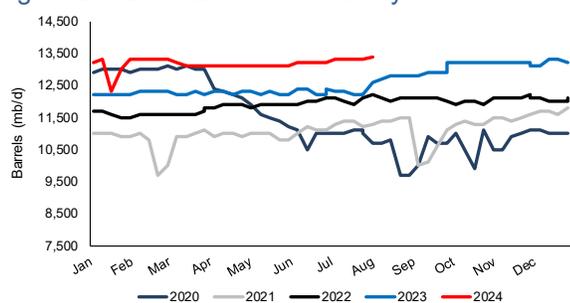
**US weekly oil production hits record high**

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	12,300	01/26	13,000		
2024-Feb	02/02	13,300	02/09	13,300	02/16	13,300	02/23	13,300		
2024-Mar	03/01	13,200	03/08	13,100	03/15	13,100	03/22	13,100	03/29	13,100
2024-Apr	04/05	13,100	04/12	13,100	04/19	13,100	04/26	13,100		
2024-May	05/03	13,100	05/10	13,100	05/17	13,100	05/24	13,100	05/31	13,100
2024-Jun	06/07	13,200	06/14	13,200	06/21	13,200	06/28	13,200		
2024-Jul	07/05	13,300	07/12	13,300	07/19	13,300	07/26	13,300		
2024-Aug	08/02	13,400								

Source: EIA

Figure 29: EIA's Estimated Weekly US Oil Production



Source: EIA

**Oil: US shale/tight oil production flat for the last 6 months**

As mentioned earlier, the EIA combined its prior shale/tight oil information with its STEO, which was released on Tuesday for August 2024 [\[LINK\]](#). (i) The EIA stopped forecasting future oil production by region and has updated their data until July for oil production from the major shale/tight oil and gas plays. (ii) Note that the EIA revised their data for shale/tight oil production back to 2020 from July's STEO, and we have adjusted our table to reflect the updated data. However, the revisions for the last 12 months were a mix of small ups and downs with the average revision for the past 12 months being up 13,000 b/d. (iii) Shale/tight oil production in July was 8.600 mmb/d, flat MoM from June and up 2% YoY. July marks the 6<sup>th</sup> consecutive month of shale/tight oil at ~8.6 mmb/d, and this is down from ~8.74 mmb/d in Nov/Dec 2023. Note that shale/tight oil is approx. ~75% of total US production, so whatever the trends are for shale/tight oil are normally the trends for US oil in total. Below is our table of running STEO estimates of shale/tight production and our graph of MoM changes in major shale/tight oil production.

**Shale/tight oil production**

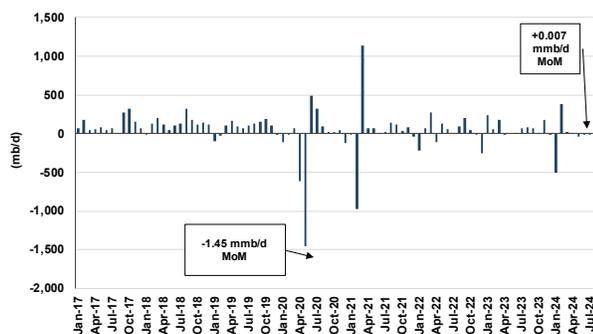
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Figure 30: US Major Shale/Tight Oil Production

Thousand b/d	2023						2024						July MoM%	July YoY%	
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June			
Austin Chalk + Eagle Ford	1,165	1,143	1,143	1,109	1,100	1,053	1,012	1,059	1,073	1,070	1,066	1,063	1,060	-0.3%	-9%
Bakken	1,145	1,180	1,260	1,227	1,253	1,247	1,079	1,226	1,201	1,212	1,176	1,174	1,173	-0.1%	2%
Mississippian + Woodford	246	236	232	230	231	230	214	224	223	221	219	218	216	-0.8%	-12%
Niobrara	453	462	456	470	481	494	450	473	480	481	482	482	483	0.1%	7%
Permian	5,114	5,172	5,175	5,231	5,387	5,428	5,207	5,362	5,392	5,407	5,413	5,417	5,420	0.0%	6%
Rest of US L48	286	293	290	294	291	285	267	267	263	255	252	252	248	-1.5%	-13%
<b>Total</b>	<b>8,409</b>	<b>8,486</b>	<b>8,556</b>	<b>8,562</b>	<b>8,743</b>	<b>8,736</b>	<b>8,228</b>	<b>8,612</b>	<b>8,633</b>	<b>8,645</b>	<b>8,608</b>	<b>8,606</b>	<b>8,600</b>	<b>-0.1%</b>	<b>2%</b>

Source: EIA, SAF

Figure 31: MoM Changes in US Major Shale/Tight Oil Production



Source: EIA Drilling Productivity Report

Source: EIA, SAF

**Oil: EIA DUCs down -1% MoM in July, DUCs down -11% YoY**

We have been warning that we see a key risk to how much US oil production can sustainably grow in 2024 and 2025 is the need to increase rig counts (not have less frac spreads) to replenish the inventory of Drilled Uncompleted wells at higher levels and the challenge for oilfield services to add capacity to increase frac spreads and completions. The EIA’s STEO [\[LINK\]](#) now contains the estimate of Drilled Uncompleted wells. (i) The EIA estimates DUCs were -1% MoM (-11% YoY) in July at 5,436 DUCs. Note that the EIA revised their data for DUC wells from July’s STEO back until 2020, and we have adjusted our table to reflect the updated data. (ii) To put in perspective, there were 9,757 DUCs in the height of the Covid slowdown in June 2020, 6,837 DUCs in July 2021, 6,004 DUCs in July 2022, 6,097 in July 2023, and now 5,436 DUCs in July 2024. (iv) We still believe there is still the need for drilling rigs to pick up to replenish the DUC inventory if the US is to have any sustained strong oil growth to end 2024 and for 2025. (v) The largest YoY June DUCs declines are the Bakken (-26% YoY), and Eagle Ford (-37% YoY). (vi) Note that shale/tight oil is approx. ~70% of total US production, so whatever the trends are for shale/tight oil are normally the trends for US oil in total. Below is our table of running DUC Wells.

**DUCs flat MoM in July**

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Figure 32: Estimated Drilled Uncomplete Wells in 2023/24

DUCs	2023			2024							July MoM%	July YoY%
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June			
Appalachia region	830	820	820	813	803	796	792	791	787	783	-1%	-6%
Bakken region	391	373	364	382	378	379	373	356	345	335	-3%	-26%
Eagle Ford region	412	393	415	392	358	337	331	327	321	316	-2%	-37%
Haynesville region	812	804	807	812	817	818	806	805	811	817	1%	3%
Permian region	925	924	917	914	896	899	901	900	895	888	-1%	-11%
Rest of Lower 48 States, excluding GOM	2441	2421	2391	2383	2372	2365	2356	2343	2320	2297	-1%	-9%
Total	5,811	5,735	5,714	5,696	5,624	5,594	5,559	5,522	5,479	5,436	-1%	-11%

Source: EIA, SAF

**Oil: EIA Aug STEO no real change to 2024, small decrease to 2025 US oil production**

On Tuesday, the EIA released its Short-Term Energy Outlook for August 2024 [LINK](#), which included a small decrease to its 2024 and 2025 oil production forecasts. (i) The August STEO forecasts for 2024 was essentially unchanged and there was a small decrease to 2025 US oil production estimates vs the July STEO, which had been bumped up from June. (ii) The lookback to 2023 was unchanged with the August STEO estimate for 2023 was kept flat at 12.93 mmb/d from the July STEO. Recall the big +140,000 b/d revision in October's STEO from the September STEO's forecast of 12.78 mmb/d, as the EIA had to play catch-up with higher oil production actuals being reported over weekly estimates. (iii) The August STEO forecast for 2024 is essentially unchanged at -0.02 mmb/d to 13.23 mmb/d from the July STEO of 13.25 mmb/d. There were some small revisions by quarter: Q1/24 flat at 12.94 mmb/d, Q2/24 down -0.01 mmb/d to 13.20 mmb/d, Q3/24 up +0.01 mmb/d to 13.33 mmb/d, and Q4/24 up +0.34 mmb/d to 13.44 mmb/d. (iv) The EIA forecasts US oil production of 13.69 mmb/d for 2025, which is down -0.08 mmb/d from the July STEO. The revisions by quarter were Q1/25 -0.06 mmb/d to 13.46 mmb/d, Q2/25 -0.06 mmb/d to 13.66 mmb/d, Q3/25 down -0.08 mmb/d to 13.76 mmb/d, and Q4/25 -0.08 mmb/d to 13.90 mmb/d. Below is our EIA STEO forecast comparison by month.

**EIA STEO US oil production**

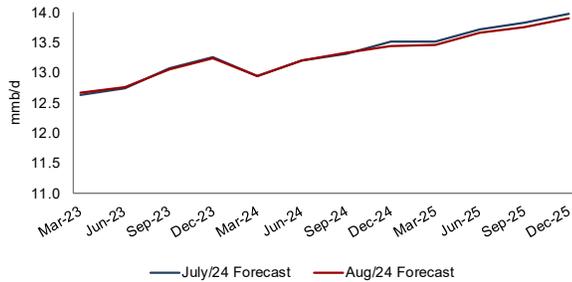
Figure 33: EIA STEO Oil Production Forecasts by Month

(million b/d)	Q1/23	Q2/23	Q3/23	Q4/23	2023	Q1/24	Q2/24	Q3/24	Q4/24	2024	Q1/25	Q2/25	Q3/25	Q4/25	2025
Aug-24	12.67	12.76	13.05	13.25	12.93	12.94	13.20	13.33	13.44	13.23	13.46	13.66	13.76	13.90	13.69
July-24	12.63	12.75	13.07	13.26	12.93	12.94	13.21	13.32	13.10	13.25	13.52	13.72	13.84	13.98	13.77
June-24	12.63	12.75	13.07	13.26	12.93	12.94	13.17	13.33	13.50	13.24	13.51	13.68	13.76	13.88	13.71
May-24	12.63	12.75	13.07	13.26	12.93	12.96	13.10	13.25	13.50	13.20	13.55	13.73	13.76	13.87	13.73
Apr-24	12.63	12.75	13.07	13.27	12.93	12.84	13.13	13.32	13.54	13.21	13.56	13.72	13.74	13.86	13.72
Mar-24	12.63	12.75	13.07	13.28	12.93	12.91	13.13	13.25	13.47	13.19	13.49	13.66	13.68	13.78	13.65
Feb-24	12.63	12.75	13.07	13.29	12.93	13.03	13.12	13.06	13.18	13.10	13.37	13.46	13.50	13.64	13.49
Jan-24	12.63	12.75	13.07	13.22	12.92	13.27	13.22	13.15	13.21	13.21	13.36	13.44	13.43	13.53	13.44
Dec-23	12.63	12.75	13.06	13.26	12.93	13.09	13.07	13.07	13.23	13.11					
Nov-23	12.63	12.75	13.07	13.17	12.90	13.06	13.08	13.11	13.35	13.15					
Oct-23	12.63	12.75	13.13	13.16	12.92	13.07	13.02	13.07	13.31	13.12					
Sep-23	12.63	12.71	12.86	12.94	12.78	13.03	13.09	13.15	13.36	13.16					
Aug-23	12.63	12.67	12.81	12.93	12.76	12.98	13.01	13.08	13.27	13.09					
Jul-23	12.61	12.55	12.48	12.63	12.56	12.67	12.71	12.88	13.13	12.85					
Jun-23	12.60	12.56	12.57	12.70	12.61	12.69	12.63	12.76	13.00	12.77					
May-23	12.54	12.51	12.46	12.61	12.53	12.63	12.58	12.68	12.85	12.69					
Apr-23	12.54	12.50	12.50	12.61	12.54	12.69	12.71	12.77	12.83	12.75					
Mar-23	12.31	12.43	12.48	12.54	12.44	12.58	12.58	12.64	12.71	12.63					
Feb-23	12.44	12.46	12.49	12.56	12.49	12.63	12.62	12.65	12.70	12.65					
Jan-23	12.37	12.34	12.40	12.51	12.41	12.63	12.72	12.86	13.03	12.81					

Source: EIA STEO

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Figure 34: Estimated US Crude Oil Productions by Forecast Month



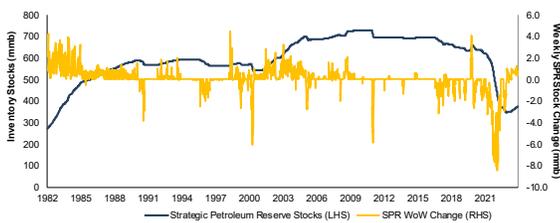
Source: EIA STEO

**Oil: US SPR less commercial reserve deficit narrows, now -53.488 mmb**

The US Strategic Petroleum Reserves (SPR) continues to be much lower than total US commercial crude oil reserves. The SPR went back below commercial for the first time since 1983 in the Sep 16, 2022 week. This week, we saw a build on the SPR side and a draw on the commercial side. The EIA’s weekly oil data for August 2 [LINK](#) saw the SPR reserves increased +0.736 mmb WoW to 375.833 mmb, while commercial crude oil reserves decreased -3.728 mmb to 429.321 mmb. There is now a -53.488 mmb difference between SPR reserves and commercial crude oil reserves. The below graphs highlight the difference between commercial and SPR stockpiles, along with the weekly changes to SPR stockpiles.

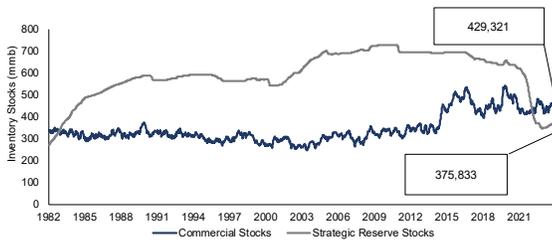
**US SPR reserves**

Figure 35: Strategic Petroleum Reserve Stocks and SPR WoW Change



Source: EIA

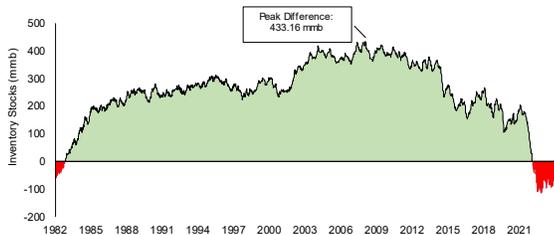
Figure 36: US Oil Inventories: Commercial & SPR



Source: EIA

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Figure 37: US Oil Inventories: SPR Less Commercial



Source: EIA

**Oil: Trump “we have to fill up the strategic reserves immediately”**

It’s now less than 3 months to the Nov 5 elections. No one knows who will win and which of their campaign promises or statements will be fulfilled. However, our Wednesday tweet [\[LINK\]](#) on Trump’s Fox News interview included the transcript we made of his comments that included his statement that the US needs to fill up the Strategic Petroleum Reserve immediately. No surprise, the statement wasn’t 100% accurate on what the SPR was meant for but he was clear when he said “We have to fill up the strategic reserve again. It’s down, the lowest number it’s every been. He’s using the strategic reserves, it’s meant for military, which is meant for war and very important things. He’s using it to try and keep gasoline prices down and we can’t allow that to happen. We have to fill up the strategic, I was filling that up at levels they have never seen before. We have to fill up the strategic reserves immediately. We can’t let people use that to fill the car.”

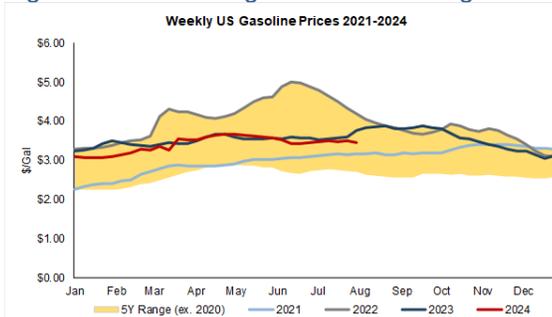
Trump on SPR

**Oil: US national average gasoline price -\$0.03 WoW to \$3.45**

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, -\$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 \$3.45 on Aug 10, which was -\$0.03 WoW, -\$0.09 MoM, and -\$0.38 YoY. Yesterday, AAA also reported California average gasoline prices were \$4.60 on Aug 10, which was -\$0.03 WoW, -\$0.18 MoM, and -\$0.49 YoY. Below is our graph of Bloomberg’s National Average Gasoline prices.

US gasoline prices

Figure 38: Bloomberg’s National Average Gasoline Prices Thru Aug 9, 2024



Source: Bloomberg

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**Oil: Crack spreads -\$0.85 WoW to \$22.92, WTI +\$3.32 WoW to \$76.84**

On Friday, we tweeted [LINK](#) “Another reminder week WTI is driven by much bigger factors than 321 crack spreads. 321 crack -\$0.85 WoW to \$22.92 on Aug 9. Yet WTI was +\$3.32 WoW to \$76.84. WTI was up with the Thurs/Fri rally in stock markets that made up big Mon losses and eased global economy fears. Thx @business #OOTT.” This was another reminder week that three are much bigger factors at play for WTI than 321 crack spreads. As WTI had a strong close to the end of the week, which we believe was more driven by the strong rally in stock markets that made up for the big Monday losses and relaxed fears of a big hit to the global economy. Crack spreads were -\$0.85 Wow to \$22.92 yet WTI was \$3.32 WoW to \$76.84. Crack spreads of \$22.92 on Aug 9 followed \$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, \$27.04 on May 17, \$25.89 on May 10, \$27.59 on May 3 and \$28.96 on Apr 26. Crack spreads at \$22.92 are just above the high end of the more normal pre-Covid that was more like \$15-\$20 but not high enough to motivate refiners to delay maintenance.

**Crack spreads closed at \$22.92**

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

As we saw to close the week, WTI prices are affected by much bigger factors than 321 crack spreads. Oil rallied strong on Thurs and Friday. Yes there were some global events this week such as Libya NOC declaring force majeure on its 260,000 b/d Sharara field. However, we believe the WTI rally from \$73.20 on Tues night to close at \$76.84 on Friday was more driven by the general market sentiment that saw the big Monday losses basically brought back to whole on Thursday and Friday. We have focused on crack spreads for since the 90s as they are an unchanged fundamental of refineries – big crack spreads provide incentives for refineries to buy more crude because there are big profit margins to be made. People often just say “cracks”, which refers to the 321 crack spread. This is the spread or margin that refiners make from buying crude at a certain price and then selling the finished petroleum products at their respective prices. The 321 crack spread is meant to represent what a typical US refinery produces. It assumes that for every three barrels of crude oil, the refinery will produce two barrels of gasoline and one barrel of distillates. So the crack spread is based on that formula and worked back to a crack spread per barrel. Below is the current 321 crack spread vs WTI that we put in our tweet where we marked the gaps where the crack spread normally drags up oil prices. The crack spread was \$22.92 as of the Friday Aug 9, 2024 close.

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Figure 39: Cushing Oil 321 Crack Spread &amp; WTI Aug 9, 2014 to Aug 9, 2024



Source: Bloomberg

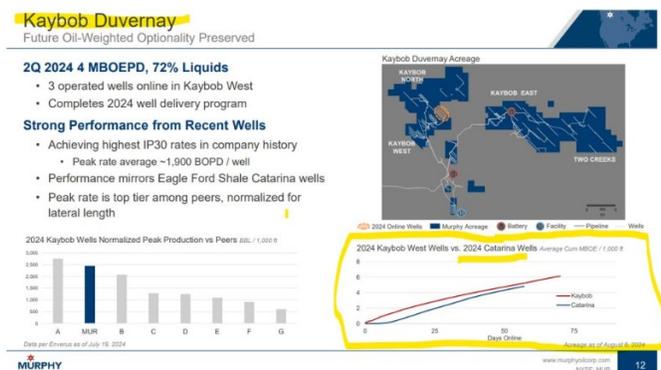
### Oil: Murphy Oil sees its Kaybob Duvernay as good as their key Eagle Ford

On Thursday, we tweeted [LINK](#) "DYK? Duvernay as good as key Eagle Ford. "our new fracking to Duvernay Shale and prove that we have another Catarina. It's exactly like the Catarina, which is a major Eagle Ford area that's drilled by many peers, many public peers, sought after acreage in the Eagle Ford. So we have another Eagle Ford business" Murphy Oil Q2 call. #OOTT." The Duvernay shale play is probably overlooked as Murphy hasn't done a lot in the play. However, they are bringing their frack expertise from all their Eagle Ford wells and it's leading to big Duvernay wells. Annd Murphy sees the Duvernay "exactly like the Catarina" in their Eagle Ford. IN the Q&A, mgmt said "Just a good run of great wells in the Montney, and Kaybob too is a place where we've been dormant. We wanted to go and drill some wells and take our new ideas and take our new fracking to Duvernay Shale and prove that we have another Catarina. It's exactly like the Catarina, which is a major Eagle Ford area that's drilled by many peers, many public peers, sought after acreage in the Eagle Ford. So we have another Eagle Ford business in Duvernay that just makes \$5 a barrel less of oil and much higher NGL. So these wells are very economic and it just proves up our long-term giant onshore business for. We're not a company run out of locations or opportunities to go along with all the opportunities we have in the ocean, and our big Vietnam future with exploration and a big project there. So just wanted to highlight that then on Slide 12 shows that we're the second best operator in Kaybob, and we haven't put wells on the ground there in three or four years, and we're one of the top operators on a productivity basis in the Montney. So that's what I was getting at there, Charles."

**Murphy Oil  
bullish on  
Duvernay**

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Figure 40: Murphy Oil's Kaybob Duvernay



Source: Murphy Oil

### Oil: CN & CPKC say will have a rail lockout Aug 22 absent a deal or binding arbitration

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. Our Supplemental Documents package includes the CBC report, the CN release, CPKC release and Teamsters release.

Rail lockout looks likely?

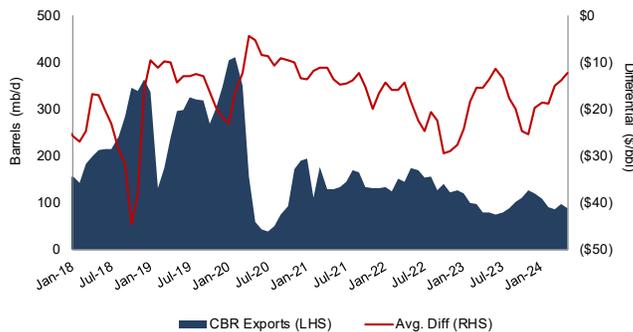
### CN/CPKC lockout to hit Cdn crude by rail exports & widen differentials

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 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

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for the MoM changes.. Below is our graph of Cdn crude by rail exports compared to the WCS–WTI differential.”

Figure 41: Cdn Crude By Rail Exports vs WCS Differential



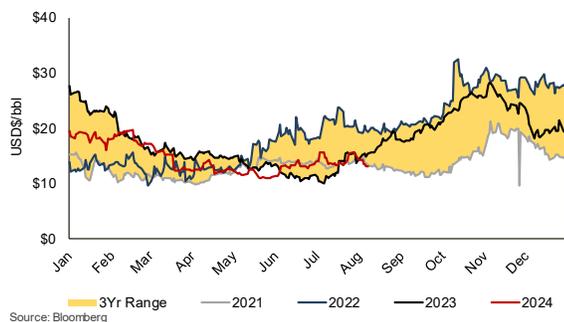
Source: Canadian Energy Regulator, Bloomberg

**Oil: Cdn heavy oil differentials narrow \$1.30 WoW to close at \$13.10 on Aug 9**

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 \$1.30 WoW to close at \$13.10. This was despite the continued shutdown at the Exxon Joliet refinery. The WCS less WTI spread narrowed \$1.30 WoW to \$13.10 on Aug 9. 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 9 at \$13.10 which was a narrowing of \$1.30 WoW vs \$14.40 on Aug 2.

**WCS differential narrows**

Figure 42: WCS less WTI oil differentials to August 9 close



Source: Bloomberg

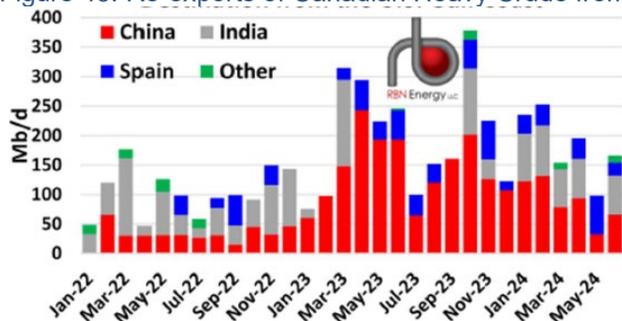
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**Oil: RBN, Gulf Coast Re-Exports of Canadian Heavy Oil**

On Thursday, we tweeted [LINK](#) “Thx for pointing out this data @RBNEnergy Marty King! Reconciles the difference between CER crude oil by rail exports to US and the EIA crude oil by rail imports from Canada.” We were replying to a good RBN blog by our friend Marty King (former FirstEnergy oil analyst) that gave the missing link to the data we report each month on how many barrels of Cdn crude by rail get shipped to the Gulf Coast and then put right onto tankers for exports. On Wednesday, RBN released a report on the re-exports of Canadian crude oil out of the Gulf Coast [LINK](#). Each month, we write on the large discrepancy between the reported crude by rail exports into the US reported by the Canadian Energy Regulator and the EIA’s reported crude by rail imports from Canada. Here is what we wrote in last week’s (August 4<sup>th</sup>, 2024) Energy Tidbits memo: *The CER reported that 89,141 b/d of crude was exported by rail out of Canada during May vs the EIA estimates of 54,000 b/d of Cdn oil imported by rail in May. There is no explanation given but we expect this the difference is due to Canada crude by rail exports that go directly to US Gulf Coast ports for exports ie. do not stay in the US.* The RBN report details the destinations for the re-exported oil and context on the increase in re-exports in June. RBN wrote “*The June rebound in re-exports overlaps with the first full month of operations of the Trans Mountain Pipeline expansion (TMX) on Canada’s West Coast and appears to be in line with expectations that there might be a year-on-year drop off in re-exports from the Gulf Coast on the view that TMX would be the preferred outlet for Canadian crude to reach Asian markets. The June rebound for re-exports possibly represents a combination of higher Canadian production, a significant drawdown of crude inventories in Alberta, May volumes that were uncharacteristically low, and relatively favorable economics for re-export from the Gulf Coast given competitive pipeline and shipping costs.*” Below is a graph from RBN showing the re-exports of Canadian heavy crude by destination. Our Supplemental Documents Package contains the RBN report.

**Gulf Coast re-exports Canadian Oil**

Figure 43: Re-exports of Canadian Heavy Crude from the Gulf Coast by Destination



Source: RBN

**Oil: Refinery Inputs up +0.252 mmb/d WoW to 16.402 mmb/d**

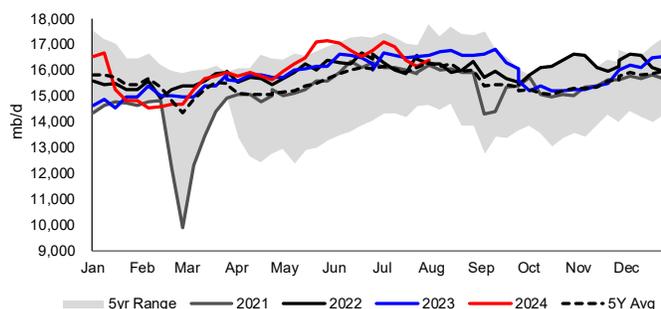
There are always unplanned refinery items that impact crude oil inputs into refineries. And there are always different timing for refinery turnarounds. But, as a general rule, this is the normal seasonal ramp up in refinery runs for the summer that normally peaks in August. Although we may see some refineries 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 2 [LINK](#). The EIA reported crude inputs to refineries were up +0.252 mmb/d

**Refinery inputs +0.252 mmb/d WoW**

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this week to 16.402 mmb/d and are down -0.177 mmb/d YoY. There were some refineries returning to production. Refinery utilization was up +0.4% WoW to 90.5% and was down -2.3% YoY.

Figure 44: US Refinery Crude Oil Inputs



Source: EIA, SAF

### Oil: US net oil imports up +0.552 mmb/d WoW as oil exports down -1.281 mmb/d WoW

The EIA reported US “NET” imports were up +0.552 mmb/d to 2.586 mmb/d for the August 2 week. US imports were down -0.729 mmb/d to 6.224 mmb/d, while exports were down -1.281 mmb/d to 3.368 mmb/d. Top 10 was down -0.354 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 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 down -0.555 mmb/d to 3.478 mmb/d, which we expect was due to some refineries being down in Illinois and Ohio. Although this week shows a small WoW decrease, 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 up +0.209 mmb/d to 0.353 mmb/d. (iii) Mexico was down -0.280 mmb/d to 0.224 mmb/d. Oil imports from Mexico 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 up +0.008 mmb/d to 0.215 mmb/d. (v) Iraq was down -0.035 mmb/d to 0.143 mmb/d. (vi) Ecuador was up +0.075 mmb/d to 0.235 mmb/d. (vii) Nigeria was up +0.057 mmb/d to 0.170 mmb/d.

### US net oil imports

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Figure 45: US Weekly Preliminary Imports by Major Country

	Jun 14/24	Jun 21/24	Jun 28/24	Jul 5/24	Jul 12/24	Jul 19/24	Jul 26/24	Aug 2/24	WoW
Canada	4,137	3,890	3,918	3,611	4,418	4,364	4,033	3,478	-556
Saudi Arabia	372	162	146	275	394	221	144	353	209
Venezuela	0	0	0	0	0	0	0	0	0
Mexico	563	372	332	619	388	355	504	224	-280
Colombia	306	83	276	237	79	314	207	215	8
Iraq	164	195	191	317	220	150	178	143	-35
Ecuador	199	210	152	87	50	102	160	235	75
Nigeria	86	57	222	315	164	197	113	170	57
Brazil	201	341	74	251	331	271	71	267	196
Libya	0	86	89	0	0	0	144	115	-29
Top 10	6,028	5,396	5,400	5,712	6,044	5,974	5,554	5,200	-354
Others	1,026	1,215	1,147	1,048	993	897	1,399	1,024	-375
<b>Total US</b>	<b>7,054</b>	<b>6,611</b>	<b>6,547</b>	<b>6,760</b>	<b>7,037</b>	<b>6,871</b>	<b>6,953</b>	<b>6,224</b>	<b>-729</b>

Source: EIA

Source: EIA, SAF

### 150,000 b/d Cdn crude from TMX expansion is hitting US West Coast refineries

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

### Oil: Maduro shows no sign of leavings with military still loyal so remains up to US

It seems far from clear what will happen in Venezuela post the election that the US says was won by the Urrutia, the opposition candidate. To no one's surprise, Maduro hasn't left, has charged and arrested various people and shows no signs of leaving. And, as previously noted, told the US to keep its nose out of Venezuela. At the same time, the US has shown no indication that it will pull oil licenses or restrict Venezuela oil. Last week's (Aug 4, 2024) Energy Tidbits memo noted our view that Maduro had tossed the ball back into Biden's court as to what the US wants to do. And that the key player and key question mark for now is the military. If they stay loyal to Maduro, then Maduro can, at least for now, hang on to power and that keeps the ball in the US court.

**What does US do now re Maduro?**

### Oil: Colombia oil production still well below pre-Covid, June was 0.781 mmb/d

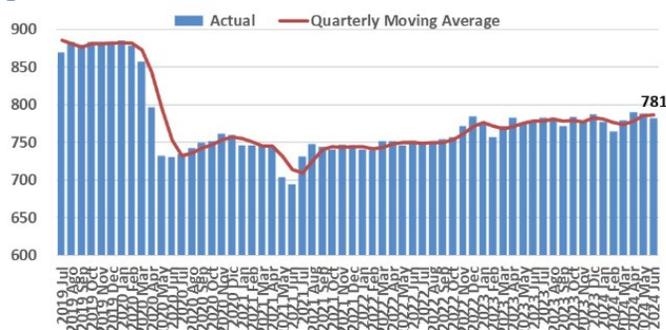
We continue to believe it's hard to see how Colombia oil production ever sustainably rallies anywhere back to 1 mmb/d or even 900,000 b/d. Despite stronger oil prices post Covid, Colombia oil production has been stuck below 800,000 b/d. On Wednesday, Hydrocarbons Colombia released production data for June. Production in June was down -0.8% MoM to 0.781 mmb/d from 0.788 mmb/d in May. This puts June's production up +0.4% YoY vs 0.778

**Colombia oil production stuck below 800,000 b/d**

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mmb/d in June 2023. Production is now -11.78% below pre-Covid levels of 0.886 mmb/d in 2019.

Figure 46: Colombia's Oil Production



Source: Hydrocarbons Colombia

Figure 47: Colombia's Oil Production by Month

mmb/d	2016	2017	2018	2019	2020	2021	2022	2023	2024	24/23
Jan	0.986	0.860	0.860	0.899	0.884	0.745	0.740	0.774	0.777	0.4%
Feb	0.955	0.864	0.823	0.893	0.878	0.746	0.740	0.759	0.764	0.7%
Mar	0.917	0.804	0.856	0.885	0.857	0.745	0.751	0.771	0.780	1.2%
Apr	0.915	0.857	0.865	0.891	0.796	0.745	0.751	0.782	0.790	1.0%
May	0.904	0.851	0.866	0.895	0.732	0.703	0.746	0.774	0.788	1.7%
June	0.888	0.857	0.864	0.892	0.730	0.694	0.752	0.778	0.781	0.4%
July	0.843	0.856	0.860	0.869	0.735	0.731	0.748	0.782		
Aug	0.827	0.858	0.866	0.883	0.742	0.748	0.749	0.782		
Sept	0.859	0.851	0.869	0.879	0.749	0.744	0.754	0.771		
Oct	0.846	0.864	0.879	0.883	0.751	0.740	0.757	0.778		
Nov	0.855	0.851	0.883	0.880	0.761	0.747	0.771	0.783		
Dec	0.837	0.870	0.889	0.882	0.759	0.745	0.784	0.787		

Source: Bloomberg, The National Hydrocarbons Agency

**Oil: Petrobras oil & NGLS Q2 production +2.6% YoY to 2.156 mmb/d**

It looks like Brazil is on track for modest YoY growth in oil production in 2024. On July 29<sup>th</sup>, Brazil's Petrobras reported their production and sales statistics for Q2/24. Note that Petrobras has an immaterial amount of oil, NGLs and natural gas production outside of Brazil but the following numbers are for its domestic Brazil production. It was a solid quarter with the lower Q2 production vs Q21 being due to "scheduled stoppages and maintenance..." Crude oil and NGLs production was 2.156 mmb/d in Q2/24, which was +2.6% YoY, and was 2.196 mmb/d for H1/24, which was +3.5% YoY. The key driver for Brazil oil production is Pre-salt, which was +6.3% YoY to 1.815 mmb/d in Q2/24 and +7.7% YoY to 1.836 mmb/d for H1/24.

**Petrobras reports production and sales for Q2/24**

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Figure 48: Petrobras' Production Volumes from Q2

	2Q24	1Q24	2Q23	1H24	1H23	Variation (%)		
						2Q24 X 1Q24	2Q24 X 2Q23	1H24 X 1H23
<b>Crude oil, NGL and natural gas production - Brazil (Mboed)</b>	2,664	2,742	2,603	2,703	2,621	(2.8)	2.3	3.1
Crude oil and NGLs (Mbpd)	2,156	2,236	2,102	2,196	2,121	(3.6)	2.6	3.5
Onshore and Shallow water	35	35	48	35	52	-	(27.1)	(32.7)
Post-salt - deep and ultra deep	306	343	346	325	364	(10.8)	(11.6)	(10.7)
Pre-salt	1,815	1,857	1,708	1,836	1,705	(2.3)	6.3	7.7
Natural gas (Mboed)	508	507	501	507	500	0.2	1.4	1.4
<b>Crude oil, NGL and natural gas production - Abroad (Mboed)</b>	34	33	35	34	35	3.0	(2.9)	(2.9)
<b>Total production (Mboed)</b>	2,699	2,776	2,637	2,737	2,657	(2.8)	2.4	3.0
<b>Total commercial production (Mboed)</b>	2,356	2,428	2,312	2,392	2,332	(3.0)	1.9	2.6
<b>Total operated production (Mboed)</b>	3,737	3,855	3,693	3,796	3,719	(3.1)	1.2	2.1

Source: Petrobras

### Oil: Ukraine hopes for the best, plans for the worst against Russia before US election

Yesterday for the first time, Zelensky confirmed a Ukraine ground attack inside of Russia. It's less than three months until the US election on Tuesday Nov 5 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 last week into Kursk noted last week and earlier. 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.

**Zelensky confirms attacks into Russia**

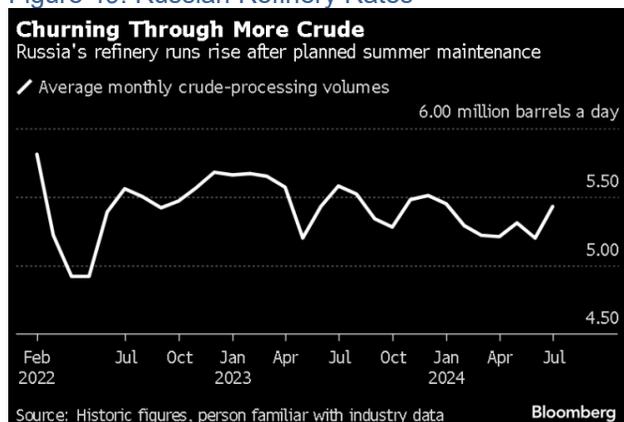
### Oil: Russia's Oil Refining Rate Nears 2024 High

On Monday, Bloomberg reported that Russia's oil refining rate in July was close to the highest of the year as seasonal maintenance was completed. Processing reached 5.43 mmb/d in July, which was just below January's rates when Ukraine started attacking Russian processing plants. Bloomberg reported *"That's more than 230,000 barrels a day above the average for most of June, and only marginally below the 5.45 million barrels a day processed in January, when Ukraine started its retaliatory drone attacks on Russia's oil industry."* The below graph from the Bloomberg Report shows Russia's refinery rates over the last two years. Our Supplemental Documents Package contains the report from Bloomberg.

**Russia's Oil Refinery runs climbed in July**

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Figure 49: Russian Refinery Rates



Source: Bloomberg

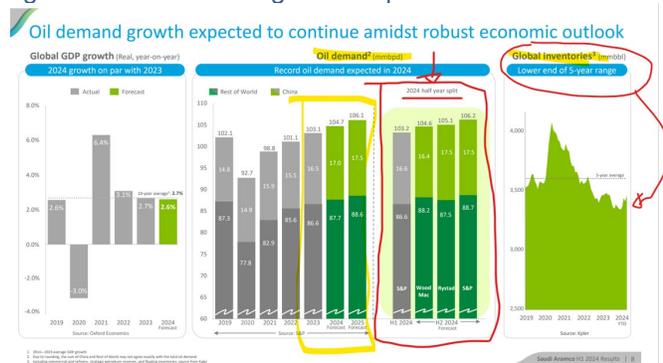
### Oil: Saudi Aramco reminds everyone forecasts big increases in H2/24 oil demand

Saudi Aramco reported its Q2 on Tuesday morning. As we saw the headlines from earnings call across the Bloomberg terminal were on its oil demand growth for 2024 and 2025 and we didn't see the key message from the posted Saudi Aramco Q2 call slide deck that major global oil agencies, including the EIA and IEA, are forecasting big increases in H2/24 oil demand vs H1/24 consumption. (i) It's why we tweeted [\[LINK\]](#) "Reminder: Oil demand is seasonally higher in H2 vs H1 every year. @saudi\_aramco critics say its too optimistic on full year 2024 oil demand as it forecasts +1.6 mmbd YoY for 2024 & +1.4 YoY for 2025 are well above EIA July STEO +1.11 YoY & +1.77 YoY, and IEA July OMR +0.97 YoY & +0.98 YoY. BUT It's August and global oil stocks are low and everyone, incl IEA and EIA, forecast strong growth in H2/24 demand vs H1/24. Aramco 📌 highlights Wood Mackenzie, Rystad and S&P H2 demand growth. EIA July STEO sees H2/24 +1.5 mmbd vs H1/24, IEA July OMR sees H2/24 +1.9 mmbd vs H1/24. May not drive up oil with overall market concerns but hopefully provides some downside support. #OOTT." (ii) The point we make is that it's August, so markets will see or are seeing the global oil stocks levels for June, which keep pointing to oil stocks at the lowest level in years. And global oil stocks at June 30 should reflect the differences in oil demand forecasts for H1/24 ie. H1/24 demand is in the books. (iii) Aramco's oil demand slide included a graph showing the strong H2/24 oil demand growth forecasts from Wood Mackenzie, Rystad and S&P. This is the theme we highlight every month – every year oil demand has its strongest seasonal increase in Q3 vs Q2. Aramco doesn't include EIA or IEA forecasts. Our tweet highlighted that Aramco's 2024 oil demand growth of +1.6 mmb/d YoY is way higher than the EIA at +1.11 mmb/d YoY for 2024 and the IEA at +0.97 mmb/d YoY for 2024. But we also reminded that embedded in those lower EIA and IEA 2024 oil demand growth forecasts are strong H2/24 oil demand growth vs H1/24. The EIA July STEO forecasts H2/24 oil demand growth is +1.5 mmb/d vs H1/24, and the IEA July OMR forecasts H2/24 oil demand growth is +1.9 mmb/d vs H1/24. (iv) Lastly, our tweet reminded that overall markets concerns are dragging down oil prices but the stronger H2/24 oil demand growth vs H1/24 should provide some downside support to oil. Below is the Saudi Aramco oil demand chart.

**Saudi Aramco  
on oil demand**

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Figure 50: Oil demand growth expected to continue amidst robust economic outlook



Source: Saudi Aramco

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

Yesterday's cable news commentary on Israel's latest bombing in Gaza wondered why would Israel escalate when they are trying to have more discussions for a ceasefire. We have a similar view on Israel that we have on Ukraine in that Israel has to be looking at the wildcard of the upcoming US Nov 5 election and wanting 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.

**Zelensky confirms attacks into Russia**

**Will Sept bring back anti Israel protests in the run up to Nov 5 election?**

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.

**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. 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 hart but not so hard that a world war started.

**Waiting for Iran's response**

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**Oil: Iran tries to get Israel spread out its defense assets**

On Monday, we tweeted [\[LINK\]](#) *“Iran military news sites posts lists of potential targets in Israel, basically includes the full gambit of potential targets. Hard for Israel to ignore this list even if it is to force Israel to spread out its defense assets. #OOTT.”* DefaPress is an Iran military news site and had posted a report *“List of Possible Targets of the Axis of Resistance in the Occupied Territories. The Israelis are concerned that the retaliatory response of the Axis of Resistance will include a wide range of strategic and sensitive targets in the occupied territories and pose a serious threat to the existence of the Zionist regime.”* They [posted a wide range of “targets” from military bases to ports to power plants to oil land gas fields to government centers and airports like Ben Gurion International Airport Haifa. It seemed like it was a way to force Israel to spread defense assets. It seems obvious but could you imagine how Israel would feel and react if one of these targets was hit? But if Iran is trying to avoid an all-out war, could you imagine how hard Israel would respond if Iran hit Ben Gurion International airport? Our Supplemental Documents package includes the DefaPress report.

**Iran’s warning to Israel**

**Oil: Houthis attack container ships & US navy, US hits back hard**

It was relatively calm for almost a couple weeks but, this week, the Houthis got back to attacking container ships and the US navy, which included hitting a container ship early in the week. And with the US acknowledging that the Houthis were firing drones at them, the US hit back hard at the Houthis on their onshore infrastructure. The point that continues to surprise is that the Houthis are still able to launch drones/missiles despite several months of US/UK hits on their drone/missile launch infrastructure. We thought the months of attacks was cutting their capacity as the Houthis attacks were declining from the start of the year thru May. But then June saw the greatest numbers of Houthi attacks. The takeaway is that the Houthis aren’t going away easily or quickly.

**Houthis & US exchange attacks**

**Oil: Maersk expects Houthi Red Sea diversion to last at least until the end of 2024**

No one should be surprised to see Maersk keep extending the time for their ships to avoid the Red Sea. After seeing the Houthi attacks on vessels decline thru May, the Houthis ramped up their attacks in June. Maersk now expects the Red Sea diversion to stay at least until the end of 2024. Maersk held its Q2 call on Wednesday and we tweeted [\[LINK\]](#) *“Houthi Red Sea impact. Maersk Q2 call “the situation on the ground is not de-escalating. Rather, we believe the situation is entrenched and expect to stay at least until the end of 2024”. #OOTT.”* Mgmt said *“We expect to see the full impact from higher rates in the third quarter. And as far as the Red Sea disruption is concerned, we are now entering the ninth month of continued threats and attacks on vessels passing through or near the Strait of Bahrain Monday. The situation on the ground is not de-escalating. Rather, we believe the situation is entrenched and expect to stay at least until the end of 2024. Market demand has so far been very strong, leading to an increase in our full-year expectation, but we are uncertain of the extent to which this strong volume we have seen thus far will hold up into 04 adjusted for normal seasonality patterns. And we have terminals, which continued its strong break.”*

**Maersk Red Sea diversion to continue**

**07/01/24: Maersk CEO, no “crystal ball” how long Red Sea diversion will last**

Here is what we wrote in our July 7, 2024 Energy Tidbits memo on Maersk CEO Clerc’s comments to customers on July 1. *“On Monday, we tweeted [\[LINK\]](#) “Maersk CEO. No “crystal ball” how long Red Sea diversion will last. “The longer that this lasts, the more our costs will get deeply ingrained.” In some regions like Europe, he*

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

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

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**

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 two weeks 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

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

#### **Oil: Is more trouble or domestic unrest about to come in Libya?**

We go thru the Libyan news sites at least a few times a week, more this week as we were following the force majeure at Sharara oilfield in SW Libya. Our primary news outlets are Libya Herald, Libya Observer and Libya Review. And starting midweek, there were a few separate reports that make us wonder if there is the risk of domestic unrest about to come. And the reason why domestic unrest is significant is that it could easily lead to Libya going back down to zero oil production. On Tuesday, reported clashes in Aljmail (west of Tripoli) injured several. On Wednesday, there were the reports that Haftar had moved more troops down into southwest Libya, ostensibly to protect Libya's southern border. On Thursday, there were the reports that forces for the Tripoli based Libya government were mobilized in what was described as a response to Haftar moving his forces into SW Libya. On Friday, Libya Observer (and the others similarly) "*Nine people were killed and 16 others injured, including a civilian, in armed clashes in Tajoura at noon on Friday, as reported by Libya's Ambulance and Emergency Service. Hostilities broke out between the Rahbat Al-Duroo Battalion and the Martyr Sabriya Battalion following an alleged assassination attempt on Rahbat Al-Duroo's commander, Bashir Khalaf Allah.*" Tajoura sits on the eastern edge of Tripoli. Yesterday, the Libya Herald reported "*UNSMIL expressed concern in a statement yesterday over the mobilisation of forces by Haftar and anti-Haftar forces. This comes as Western Libyan forces aligned with the Tripoli based Libyan government mobilised in what they said was a response to Haftar's forces expanding out of their usual southern territory and heading northwest towards Ghadames on the Libyan Algerian border. UNSMIL's statement read: "UNSMIL monitors with concern the recent mobilization of forces in various parts of Libya, particularly*

**Libya domestic unrest?**

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*in the southern and western regions. We commend ongoing efforts to de-escalate the situation and prevent further tension. UNSMIL urges all parties to exercise maximum restraint and avoid any provocative military actions that could be perceived as offensive and might jeopardize Libya's fragile stability and the safety of its people. The Mission calls for continued communication and coordination between forces affiliated to the LNA and GNU." We don't know what will evolve but it seems like the domestic tensions are rising and so the issue for Libya will be can they put a lid on the domestic tensions?*

#### **Oil: Libya NOC declares force majeure at ~260,000 b/d Sharara, no word on El Feel b/d**

As of our 7am MT news cut off, the latest was the Libya National Oil Corporation declaring force majeure at the Sharara oil field in SW Libya that was posted on Wednesday. The NOC did not say how much Sharara was producing but most are using ~260,000 b/d. We still haven't seen any force majeure impact on the nearby El Feel oil field. On Monday, 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. Our Supplemental Documents package includes the NOC force majeure.

**Sharara oil field**

#### **Oil: Libya charges of corruption against acting oil minister Sadig**

As noted above, we have to wonder if there is risk of increasing domestic turmoil and unrest within Libya. So we have to wonder if this is just another sign of this increasing domestic turmoil when we see the reports that Libya has charged its acting oil minister Sadig *"over an illegal € 457.6 million payment to a foreign company. The Attorney General's Office reported that its Deputy Public Prosecutor investigated the fact that the defendants "deviated from the requirements of the job entrusted to them" and inferred that they "had adopted behaviour incompatible with job duties". This was represented in "threatening the Corporate Accounting Officer to induce him to adopt a document authorising the disposal of € 457.6 million for the benefit of a foreign company in violation of legislation".* It just feels like it's a part of the story that is being written in Libya. Our Supplemental Documents package includes the Libya Herald reporting.

**Libya acting oil minister Sadig**

#### **Oil: Chinese household savings increase MoM in May to \$20.251T at June 30**

One of the biggest reasons for the weak China recovery is that consumers have been on the sidelines and therefore keep adding to savings instead of spending. The increasing savings fits with the commentary that Chinese consumers are not yet confident in the recovery to start to spend more. Last Sunday night, we tweeted [LINK](#) *"Chinese consumers still adding to savings. China Household Savings +\$225b MoM to \$20.251 trillion at June 30. Equivalent each of 1.425b Chinese savings \$157 in June. Increased June savings were expected as household savings were up MoM in 10 of last 11 Junes. The test to see if Chinese consumers are holding back spending is July as 8 of the last 10 July's saw Chinese household savings down MoM vs June. Thx @business #OOTT."* Chinese household savings at the end of June were \$20.251T, up \$225b MOM from \$2.030T at May 31. Our tweet reminded that June is normally a month of positive adds to household savings. And that 10 of the last 11 years saw June savings increase MoM. Whereas July is normally a

**Chinese household savings**

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month where there is a small MoM decrease in savings with 8 of the last 10 years saw July savings down MoM. So the next month's savings disclosure for July 31 should give us a better indication if Chinese consumers are staying on the sidelines. Our tweet also noted that a \$225 billion add to savings works out to \$157 added savings for each of the 1.425 billion Chinese. Below is the Bloomberg household saving graph that was attached to our tweet.

Figure 51: China Household Savings to June 30, 2024



Source: Bloomberg

Figure 52: China Household Savings

Date	Mid Px
06/30/2024	20251.04
06/31/2024	20026.40
04/30/2024	19970.95
03/31/2024	20275.14
02/29/2024	19976.41
01/31/2024	19694.68
12/31/2023	19415.95
11/30/2023	19043.85
10/31/2023	18449.07
09/30/2023	18583.24
08/31/2023	18236.42
07/31/2023	18524.71
06/30/2023	18354.27
05/31/2023	18341.89
04/30/2023	18795.57
03/31/2023	19087.32
02/28/2023	19483.77
01/31/2023	18856.79
12/31/2022	17570.38
11/30/2022	16685.56
10/31/2022	15890.69
09/30/2022	16391.48
08/31/2022	16570.79
07/31/2022	16607.90

A handwritten note '\$ U. S' is visible on the table.

Source: Bloomberg

**Oil: Chinese consumer pulled back on retail spending in Jan**

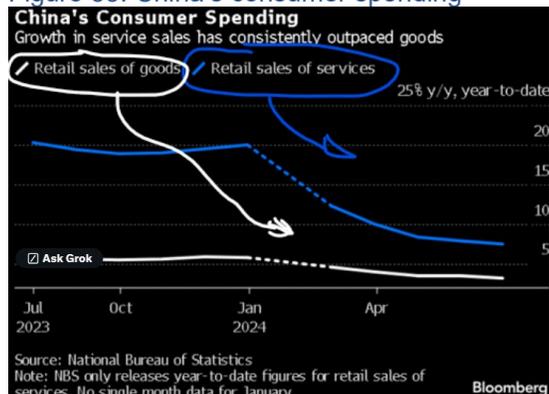
On Friday, we tweeted [\[LINK\]](#) "Good graph. Chinese consumer went to the sidelines in January 2024. Yes, Chinese consumer spending on goods and services is up YoY in H1/24. BUT Chinese consumer spending growth rate is way lower YoY for both goods & services. Thx @business team. #OOTT." Our tweet included the below Bloomberg graph that clearly and simply showed how Chinese consumer retail sales in both services and goods took a big turn down in Jan and continues to slide. There is growth but the YoY growth is down

Chinese consumer spending

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dramatically. Bloomberg noted that “retail sales of services grew 7.5% in the first half of the year compared with the same period in 2023, which goods sales rose just 3.2%”.

Figure 53: China's consumer spending

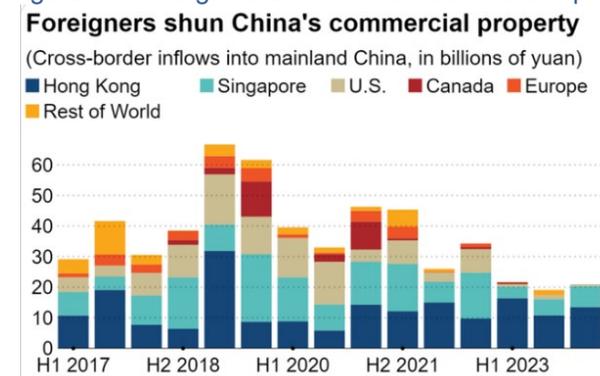


**Oil: Foreign investors avoiding China commercial property**

On Monday, Nikkei Asia tweeted [\[LINK\]](#) a good graph “*Foreigners shun China's commercial property*”. The graph shows how cross border flows into China's commercial property split by Hong Kong, Singapore, US, Canada, Europe and Rest of World. The numbers remind how foreign investment in China has gone away. Other than from Hong Kong and Singapore, the cross border flows into China's commercial property basically went to zero starting in H1/24 and continuing in H2/23 and H1/24.

Cross border inflows into China commercial property

Figure 54: Foreigners shun China's commercial property



Source: Nikkei Asia

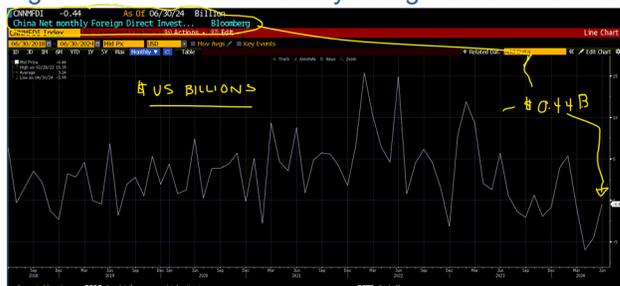
**June sees 4<sup>th</sup> Consecutive Negative Net Monthly FDI into China**

The Nikkei Asia graph reminds of a major big picture economic negative to China – Net monthly foreign direct investment has turned negative. China needs to attract

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foreign investment across the board. Here is what we wrote in last week's (Aug 4, 2024) Energy Tidbits memo. "There was another negative indicator for China's recovery this week – Net monthly foreign direct investment in China was negative for the 4<sup>th</sup> consecutive month and now for 6 of the last 8 months. On Tuesday, we tweeted [\[LINK\]](#) "Negative indicator to China recovery 4th consecutive mth of negative net monthly foreign direct investment flows. US\$b June: -0.44 May: -4.50 Apr: -5.99 Mar: -0.9 Feb: 5.3 Jan: 3.9 Dec: -0.8 Nov: -2.0 June is normally one of best mths every yr for FDI into China. Thx @business #OOTT." Foreign direct investment has been a huge driver of China over the decades and that is, at least for now, not a strength. The negative net monthly Foreign Direct Investment into China was a negative \$0.44b. Here is what we wrote in our May 12<sup>th</sup>, 2024 Energy Tidbits memo after the first negative net monthly FDI: "This was a reversal of what happened to start 2024, which saw positive inflows during January and February. However, recall before that in the months to close 2023, four of the five months saw negative net monthly direct investment in China." Our tweet included the below Bloomberg graph and we also included a table showing the actual net monthly foreign direct investment by month for the last two years. Below is the Bloomberg graph and the historical table, which we added the notation is in US\$."

Figure 55: China net monthly foreign direct investment



Source: Bloomberg

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Figure 56: Historical table of China's net monthly foreign direct investment

Date	Mid Px
06/30/2024	-0.44
05/31/2024	-4.50
04/30/2024	-5.99
03/31/2024	-9.00
02/29/2024	5.33
01/31/2024	3.89
12/31/2023	-8.81
11/30/2023	-1.96
10/31/2023	.59
09/30/2023	-2.07
08/31/2023	-1.35
07/31/2023	.51
06/30/2023	5.71
05/31/2023	1.26
04/30/2023	2.05
03/31/2023	9.25
02/28/2023	11.89
01/31/2023	7.86
12/31/2022	-3.14

Source: Bloomberg

**Oil: China oil imports 10.00 mmb/d in July, down -11.8% MoM but up +2.4% YoY**

On Tuesday, Bloomberg released a report with data from China's General Administration for Customs (GACC) on the summary data of China's oil and natural gas imports for July. China's imports of crude oil July were 42.31 million tons, or 10.00 mmb/d, a -11.8% decrease from 11.35 mmb/d in June, but up +2.4% YoY from 9.77 mmb/d in July 2023.

China oil imports  
July**Oil: EIA forecasts global oil stocks -0.8 mmb/d in H2/24 with further declines in Q1/25**

On Tuesday, the EIA STEO also included their forecast for changes in global oil stocks. (i) We believe the EIA drafting could have been clearer as it seemed to infer their forecast for global oil stocks includes the return of the voluntary OPEC+ supply cuts starting in Q4/24, but we checked their backup monthly forecast for OPEC production and that doesn't seem to be the case. The EIA forecasts OPEC production in Sept 2024 at 32.06 mmb/d and for Dec 2025 at 32.39 mmb/d. So we have to assume the EIA forecast assumes the voluntary cuts continue. (ii) The EIA forecasts global oil stocks decline by a further 0.8 mmb/d in H2/24 with further declines in Q1/25 before returning to oil stocks build thereafter. The EIA wrote "We expect the Brent crude oil spot price will increase from its current level below \$80/b to average \$85/b for the remainder of 2024 and \$89/b in the first quarter of 2025 (1Q25). The main source of this upward price pressure is falling global oil inventories resulting from OPEC+ production cuts. We expect global oil inventories will decrease by an average of 0.8 million barrels per day (b/d) in 2H24, with further declines in 1Q25. We anticipate that the market will gradually return to moderate inventory builds in mid-2025 after the expiration of voluntary OPEC+ supply cuts in 4Q24 and as forecast production growth from countries outside of OPEC+ begins to outweigh global oil demand growth. We estimate that global oil inventories will increase by an average of 0.3 million b/d in the second half of 2025."

EIA forecasts  
global oil stock  
draws

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Figure 57: EIA Aug STEO forecast OPEC production

	2024												2025											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Production (million barrels per day) (a)	100.71	101.92	102.64	102.31	102.17	101.75	102.85	102.70	102.44	102.84	103.00	102.93	102.72	102.80	103.40	103.63	104.06	104.73	105.15	105.19	105.29	105.55	105.53	105.17
Crude oil	75.91	76.63	77.09	76.45	75.92	75.93	76.64	76.58	76.63	77.08	77.18	77.29	77.45	77.50	77.93	77.89	77.84	78.39	78.75	78.75	79.09	79.26	79.26	79.17
Other liquids	24.80	25.30	25.56	25.86	26.26	25.83	26.21	26.12	25.81	25.76	25.82	25.64	25.27	25.30	25.46	25.74	26.23	26.34	26.39	26.44	26.21	26.29	26.27	26.00
World total	100.71	101.92	102.64	102.31	102.17	101.75	102.85	102.70	102.44	102.84	103.00	102.93	102.72	102.80	103.40	103.63	104.06	104.73	105.15	105.19	105.29	105.55	105.53	105.17
OPEC total (b)	31.80	32.00	32.26	32.14	31.96	31.61	31.97	32.14	32.05	32.04	31.97	32.12	32.04	32.10	32.25	32.34	32.40	32.45	32.65	32.70	32.75	32.64	32.49	32.39
Crude oil	26.34	26.63	26.92	26.87	26.69	26.24	26.68	26.53	26.77	26.78	26.64	26.71	26.76	26.61	26.96	27.06	27.11	27.17	27.36	27.42	27.47	27.36	27.21	27.11
Other liquids	5.46	5.38	5.35	5.27	5.28	5.27	5.29	5.31	5.28	5.29	5.33	5.40	5.29	5.29	5.29	5.28	5.29	5.28	5.28	5.28	5.28	5.28	5.28	5.28
Non-OPEC total	68.91	69.92	70.37	70.17	70.22	70.24	70.88	70.55	70.39	70.80	71.03	70.82	70.68	70.70	71.15	71.29	71.67	72.28	72.50	72.49	72.54	72.91	73.03	72.77
Crude oil	49.57	50.00	50.16	49.58	49.23	49.69	49.96	49.75	49.86	50.30	50.54	50.58	50.69	50.69	50.97	50.83	50.72	51.23	51.39	51.34	51.62	51.90	52.05	52.06
Other liquids	19.34	19.92	20.21	20.59	21.00	20.56	20.92	20.80	20.53	20.50	20.49	20.24	19.99	20.01	20.18	20.46	20.94	21.09	21.11	21.16	20.92	21.01	20.99	20.72

Source: EIA

Figure 58: OPEC+ scheduled phase out of voluntary cuts from Oct 2024 thru Sept 2025

Production Levels with the Phase-out of only November 2023 Voluntary cuts which will be applied starting from October 2024 until September 2025

Country	2024					2025										Required Production Levels per OPEC+
	Jun-Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct-Dec		
Algeria	908	912	917	921	925	929	934	938	942	946	951	955	959	959	1,007 <sup>(1)</sup>	
Iraq	4,000	4,018	4,037	4,055	4,073	4,092	4,110	4,128	4,147	4,165	4,183	4,202	4,220	4,220	4,431 <sup>(1)</sup>	
Kuwait	2,413	2,424	2,436	2,447	2,458	2,469	2,481	2,492	2,503	2,514	2,526	2,537	2,548	2,548	2,676 <sup>(1)</sup>	
KSA	8,978	9,061	9,145	9,228	9,311	9,395	9,478	9,561	9,645	9,728	9,811	9,895	9,978	9,978	10,478 <sup>(1)</sup>	
UAE	2,912	2,926	2,939	2,953	3,000	3,047	3,094	3,140	3,187	3,234	3,281	3,328	3,375	3,375	3,519 <sup>(1)(2)</sup>	
Kazakhstan	1,468	1,475	1,482	1,489	1,495	1,502	1,509	1,516	1,523	1,530	1,536	1,543	1,550	1,550	1,628 <sup>(1)</sup>	
Oman	759	763	766	770	773	777	780	784	787	791	794	798	801	801	841 <sup>(1)</sup>	
Russia	8,978	9,017	9,057	9,096	9,135	9,174	9,214	9,253	9,292	9,331	9,371	9,410	9,449	9,449	9,949 <sup>(1)(3)</sup>	

Source: OPEC

**Oil: Vortexa crude oil floating storage est 60.52 mmb at Aug 9, +4.35 mmb WoW**

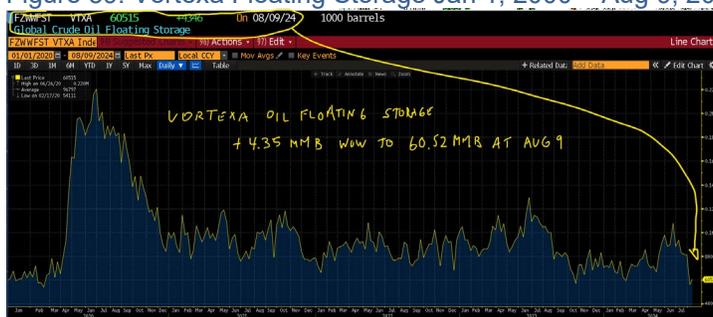
We are referencing the Vortexa crude oil floating storage data posted on the Bloomberg terminal as of 9am MT yesterday. Note that these estimates get revised over the course of the week and the revisions can go back months. We do not check daily for the revisions, so our comments on the new estimates are compared to the prior week's Vortexa estimates posted on Bloomberg on Aug 3 at 9am MT. (i) Yesterday, we tweeted [LINK](#) "Did summer #Oil demand pick up? 2nd very low floating oil storage week in a row. @Vortexa #oil floating storage est +4.35 mmb WoW to 60.52 mmb at Aug 9. 4th lowest since Covid, only been 3 wks <60 mmb, only 14 wks <70 mmb since Covid. Importantly, Aug 2 of 56.17 mmb, lowest since Covid, was barely revised -0.58 mmb vs originally est of 56.75 mmb. Thx @vortexa @business #OOTT". (ii) Perhaps the most significant number was that Aug 2 of 56.17 mmb was basically unrevised (only revised -0.58 mmb vs originally est of 56.75 mmb) so the last two weeks have been two of the lowest four weeks since Covid and two of only 14 weeks below 70 mmb since Covid. (iii) As of 9am MT Aug 10, Bloomberg posted Vortexa crude oil floating storage estimate for Aug 9 at 60.52 mmb, which was +4.35 mmb WoW vs immaterially revised down Aug 2 of 56.17 mmb. Note Aug 2 was immaterially revised down -0.58 mmb to 56.17 mmb vs 56.75 mm originally posted at 9am MT on Aug 3. (iv) Revisions. Revisions to the last seven weeks were small and the only revision >2 mmb was a -3.29 mmb to July 12. Here are the revisions for the past seven weeks compared to the estimates originally posted on Bloomberg at 9am MT on Aug 3. Aug 2 revised -0.56 mmb. July 26 revised +0.17 mmb. July 19 revised +1.64 mmb. July 12 revised -3.29 mmb. July 5 revised -0.36 mmb. June 28 revised +0.16 mmb. June 21 revised +0.43 mmb. (v) There is a wide range of floating storage estimates for the past seven weeks, but a simple average for the prior seven weeks is 77.70 mmb vs last week's then prior seven-week average of 84.69 mmb. The big decline was due to dropping the only >100 mmb week in the last year, June 21

**Vortexa floating storage**

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of 107.61 mmb from the average and replacing it in the rolling 7-wk average with the very low Aug 9 of 60.52 mmb. (vi) 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. (vii) 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. (viii) Aug 9 estimate of 60.52 mmb is -68.66 mmb vs the 2023 peak on June 23, 2023 of 129.18 mmb. Recall Saudi Arabia stepped in on July 1, 2023 with its voluntary cuts. (ix) Aug 9 estimate of 60.52 mmb is -39.39 mmb YoY vs Aug 11, 2023 of 99.91 mmb. Below are the last several weeks of estimates posted on Bloomberg as of 9am MT Aug 10, 9am MT Aug 3, and 9am MT July 27.

Figure 59: Vortexa Floating Storage Jan 1, 2000 – Aug 9, 2024, posted Aug 10 at 9am MT



Source: Bloomberg, Vortexa

Figure 60: Vortexa Estimates Posted 9amMT Aug 10, 9am MT Aug 3, 9am MT July 27

Posted Aug 10, 9am MT					Aug 3, 9am MT					July 27, 9am MT				
FZWWFST VTXA Inde					FZWWFST VTXA Inde					FZWWFST VTXA Inde				
ID	3D	1M	6M	YTD	ID	3D	1M	6M	YTD	ID	3D	1M	6M	YTD
01/01/2020				08/09/2024	01/01/2020				08/02/2024	01/01/2020				07/26/2024
				Last Px					Last Px					Last Px
				60515					56746					76128
				56169					81338					74041
				81507					79889					85434
				81530					85984					92767
				82690					93861					87318
				93498					87810					107.103k
				87968					107.182k					89273
				107.606k					89459					85814
				90036					85987					94367
				88155					94987					89447
				97667					89874					79987
				91466					80153					68037

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 US Gulf Coast. We then back into the “Other” or rest of world. (i) As noted above, last week’s Aug 2, in total, was revised -0.58 mmb with the key revisions being Asia revised -5.71 mmb, US Gulf Coast revised +2.75 mmb and Middle East revised +2.61 mmb. (ii) Total floating

Vortexa floating storage by region

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storage at Aug 9 was +4.35 mmb WoW vs the immaterially revised down Aug 2 of 56.17 mmb. Please note Aug 2 was the lowest since Covid. There have only been three weeks below 60 mmb and only 14 weeks below 70 mmb since Covid. The major WoW changes were Other +2.90 mmb WoW, US Gulf Coast -2.75 mmb WoW, North Sea +2.50 mmb WoW and Europe +2.09 mmb WoW. (iii) Aug 9 estimate of 60.52 mmb is -68.66 mmb vs the 2023 high on June 23, 2023 of 129.18 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 -43.05 mmb and Other -21.08 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 2 that was posted on Bloomberg at 9am MT on Aug 3.

Figure 61: Vortexa crude oil floating by region

Region	Original Posted		WoW	Recent Peak		
	Aug 9/24	Aug 2/24		Aug 2/24	Jun 23/23	Aug 9 vs Jun 23/23
Asia	30.21	30.01	0.20	35.72	73.26	-43.05
North Sea	4.70	2.20	2.50	2.27	5.42	-0.72
Europe	7.29	5.20	2.09	5.26	6.14	1.15
Middle East	3.78	4.66	-0.88	2.05	6.76	-2.98
West Africa	6.18	5.89	0.29	4.96	7.62	-1.44
US Gulf Coast	0.48	3.23	-2.75	0.48	1.02	-0.54
Other	7.88	4.98	2.90	6.01	28.96	-21.08
Global Total	60.52	56.17	4.35	56.75	129.18	-68.66

Vortexa crude oil floating storage posted on Bloomberg 9am MT on Aug 10  
Source: Vortexa, Bloomberg

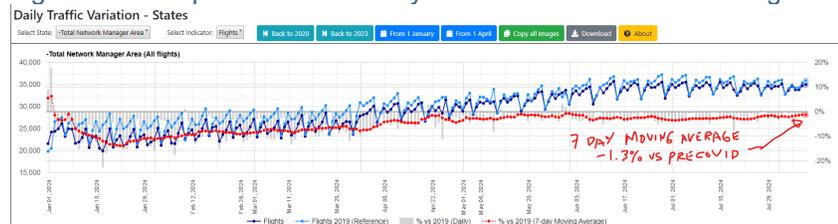
Source: Bloomberg, Vortexa

**Oil: Europe airports daily traffic 7-day moving average is -1.3% below pre-Covid**

Yesterday, we tweeted [LINK](#) "Daily Europe air traffic still stuck below pre-Covid. 7-day moving average as of: Aug 8: -1.3% below pre-Covid. 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. #OOTT #Oil." Other than over Christmas, European daily traffic at airports has been below pre-Covid. The 7-day moving average has got close a few times including at only 0.8% below pre-Covid as of May 30, but the 7-day moving average is now -1.3% below pre-Covid as of Aug 8, which followed -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, -3.3% below as of July 4, and -2.9% below as of June 27. 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 62: Europe Air Traffic: Daily Traffic Variation to end of Aug 8



Source: Eurocontrol

**Oil: Spain's Oil imports were up YoY and down MoM in June**

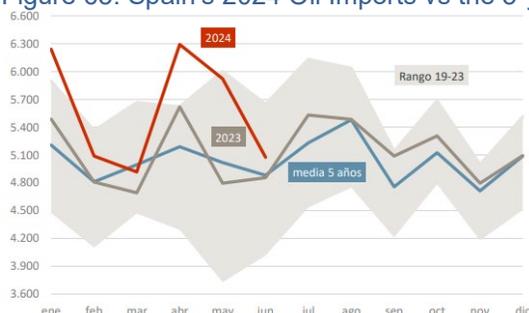
On Thursday, Cores reported Spain's oil imports for the month of June [LINK](#), showing that oil imports increased +4.5% YoY, and decreased -14.2% MoM from May. Cores reported that

Spain's Oil imports

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42.5% of imports YTD have been from OPEC (“OPEP” here) suppliers. Below is a graph showing Spain’s oil imports, and a table showing the breakdown of imports by OPEC or Non-OPEC countries. Our Supplemental Documents package contains the official report by Cores.

Figure 63: Spain’s 2024 Oil Imports vs the 5-year Range and 5-year Average (thousand mt)



Source: Cores

Figure 64: Spain’s 2024 oil imports OPEC breakdown (thousand mt)

	Junio 2024			Acumulado anual		Año móvil		
	Importaciones	TV (%)*	Estructura (%)	Importaciones	TV (%)*	Importaciones	TV (%)*	Estructura (%)
<b>Total</b>	<b>5.076</b>	<b>4,5</b>	<b>100,0</b>	<b>33.535</b>	<b>10,8</b>	<b>64.832</b>	<b>4,8</b>	<b>100,0</b>
OPEP	2.157	14,2	42,5	12.500	1,7	27.086	-1,8	41,8
No-OPEP	2.919	-1,6	57,5	21.034	17,0	37.746	10,1	58,2
OCDE	1.754	-12,0	34,6	11.648	4,5	22.261	9,9	34,3
No-OCDE	3.322	16,0	65,4	21.887	14,5	42.571	2,3	65,7
UE	-	-100,0	-	269	58,0	462	6,0	0,7

Source: Cores

**Oil & Natural Gas: Poilievre will repeal Bill C69, the Liberals no pipeline bill**

On Friday morning, we had the news on when Conservative Leaders Poilievre was speaking at an event. We tweeted [\[LINK\]](#) *“Like him or not, give @PierrePoilievre credit for giving actions and policy plans and not just pointing out shortfalls. Headline will be on tariffs on China EVs, solar cells, steel, etc, & cancellation of rebates on Chinese made EVs. BUT the big one - will repeal Bill C-69, replace with a new law ..protects the environment... consults First Nations ... but also gets projects approved so that we can .... produce the clean Cdn natural gas ...” #OOTT #NatGas #LNG.* The headlines on Poilievre’s comments were his statement that he would impose tariffs on China EVs, semiconductors, solar cells, steel, aluminum, EV batteries and other items. He also said he would cancel tax funded rebates for Chinese made vehicles. Note late in the memo, we add further comments on how this would hit the Cdn EVs space. But what caught our eye was his statement the will repeal Bill C-69, which has been often dubbed the Liberals No Pipelines bill. Poilievre said *“will also repeal C-69, the anti-resource law. And replace it with a new la. That, Yes, protects the environment and consults first nations. But also gets projects approved so that we can dig the mines, build the pipelines, produce the clean Canadian natural gas and turns dollars for dictators into paychecks for our people in this country. Bring it home.”* Bill C-69 was the Liberals bill from 2019 that effectively makes it highly unlikely, if not impossible to get a new project like a pipeline approved. That was not the messaging the Liberals used when they put the Bill in place. Rather they were pretty consistent on keeping to the company line that Bill C-69 wasn’t an anti-pipelines bill and that projects could still be approved. Our tweet included the video clip we made of Poilievre’s comments.

**Poilievre would repeal Bill C-69**

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### Environment Minister Guilbeault was 1<sup>st</sup> to say C-69 meant no new pipelines

As noted above, the Liberals were disciplined in their messaging on C-69 that it wasn't an anti-pipeline bill. That was up until Oct 19, 2019 when then high profile candidate and ultimately Liberals Environment Minister Guilbeault broke the party discipline. Here is what we wrote in our Oct 20, 2019 Energy Tidbits memo.

*"Yesterday, we tweeted [LINK](#) on how it will be critical for TMX to move into full construction immediately following tomorrow's election. The Liberals have continued to say they are committed to getting TMX done and, if it's a NDP supported minority, it sounds like the NDP wouldn't stand in the way of TMX (see later in the memo). TMX has continued to say they are moving ahead with contractors and on certain activities. But most of all, the oilpatch concern remains on Bill C-69 and how that new major project approval bill effectively stops any other new pipeline from being approved. The Liberals have been consistent in their view that that is not the case, rather Bill C-69 provides a structure for a more timely project approval process. They have been clear that Bill C-69 does not prevent future pipeline approvals. However, our tweet noted the National Post story on how a key Liberal candidate went off script saying what the oil patch has been saying – new pipelines will not be approved under Bill C-69. The story "Unlikely new pipelines will be built under Bill C-69, star Liberal candidate says, contradicting party claims" [LINK](#) notes "In an interview with the National Post, Montreal candidate Steven Guilbeault said changes under the controversial Bill C-69, which expanded the review process for major projects like hydro dams and nuclear plants, would likely bar any major new pipelines from being built due to their contribution to higher greenhouse gas emissions. Bill C-69, dubbed the "no more pipelines bill" by pro-industry groups, calls on regulators to consider the upstream emissions of a project in the context of Canada's plan to meet its 2030 Paris targets. The new Impact Assessment Act (IAA) became law in June. "I think that now that we have a real evaluation and impact assessment for projects, we will come to the conclusion that many of these projects are incompatible with the goals we have for 2030," Guilbeault said."*

### Oil & Natural Gas: Klotzbach hurricane forecast "will be extremely active"

On Tuesday, Phil Klotzbach and his team at Colorado State University posted their updated forecast for the 2024 Atlantic hurricane season [LINK](#). They have maintained their forecast for an extremely active hurricane season. They estimate there will be 23 named storms this season, with 12 having the potential to become a hurricane. The forecast commented "We have maintained our forecast for an extremely active Atlantic hurricane season in 2024. We have reduced our forecast number of named storms slightly but have maintained all other numbers from our July update. Sea surface temperatures averaged across the hurricane Main Development Region of the tropical Atlantic and Caribbean remain near record warm levels. Extremely warm sea surface temperatures provide a much more conducive dynamic and thermodynamic environment for hurricane formation and intensification. We continue to anticipate cool neutral ENSO or La Niña during the peak of the Atlantic hurricane season, resulting in reduced levels of tropical Atlantic vertical wind shear. This forecast is of above-normal confidence. We anticipate a well above-average probability for major hurricane landfalls along the continental United States coastline and in the Caribbean." Our Supplemental Documents package includes excerpts from the updated August 6 Klotzbach forecast.

**Above-average  
hurricane activity**

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Figure 65: Klotzbach updated 2024 Atlantic Hurricane Forecast

Forecast Parameter and 1991–2020 Average (in parentheses)	ECMWF Hybrid Forecast	Final Forecast
Named Storms (14.4)	23.6	23
Named Storm Days (69.4)	122.0	120
Hurricanes (7.2)	12.7	12
Hurricane Days (27.0)	55.7	50
Major Hurricanes (3.2)	6.5	6
Major Hurricane Days (7.4)	17.7	16
Accumulated Cyclone Energy Index (123)	248	230
Net Tropical Cyclone Activity (135%)	262	240

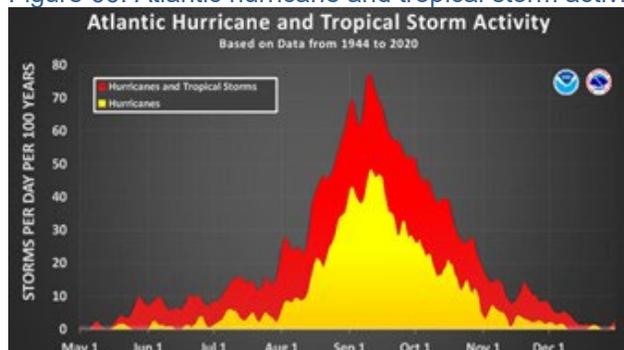
Source: Colorado State University

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

We remind that we are just now moving into 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 66: Atlantic hurricane and tropical storm activity by month



Source: NOAA

**Oil & Natural Gas: Tropical Storm Debby reminds how fast a storm moves is important**

There was a good reminder this week with Debby on the importance of how fast a storm or hurricane is moving ie. it’s not just the maximum wind speed. On Monday, we tweeted [\[LINK\]](#) “Hurricane Debby making landfall as a Cat 1 with 80 mph max wind speed. Moving at 10 mph so hopefully helps to minimize flooding. But 6-10 ft peak storm surge. Thx @NHC\_Atlantic Hope everyone can stay safe!” And then after Debby made landfall, the maximum wind speeds dropped as always happens over land and the movement speed slowed dramatically. On Wednesday, we tweeted [\[LINK\]](#) “Tropical Storm Debby reminds of the big risk for storms - how fast are the moving. Debby only moving at 3 mph so it has more time over an area for its winds to damage structures & knock down trees and, even more significantly, dump more water for flooding. #OOTT.” Despite being a category 1 and then moving quickly down to

**90% of hurricanes are after Aug 1**

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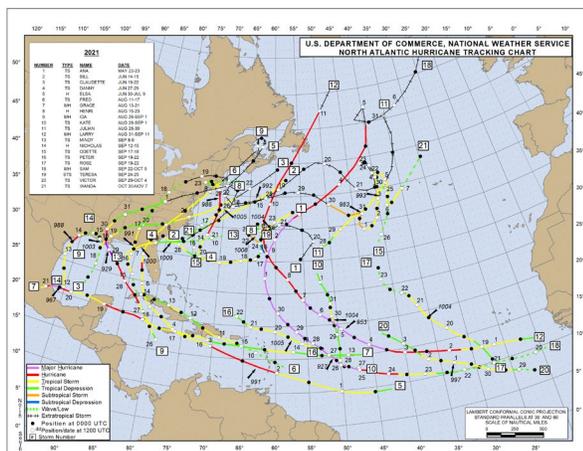
Tropical Storm maximum wind speed, media reports were that at least several people were killed from trees falling, their trucks or SUV crashing, etc. And the damage will be in the \$billions. The National Hurricane Center forecast catastrophic flooding in same areas along the Atlantic coast given the slow moving speed. The reminder that the slow the storm moves over an area, the longer the time for the storm's winds do damage and for the storm to dump more rain. And flooding is always the big issue as appears to have happened across multiple states.

**Oil & Natural Gas: NHC sees 90% for next tropical storm/hurricane over next 7 days**

Earlier this morning, we tweeted [\[LINK\]](#) "90% probability to reach cyclone status.

@NHC\_Atlantic. Projected path can still change but looking more to north of Dominican Republic. See

Figure 68: Atlantic hurricane track map for 2021



Source: National Hurricane Center

### 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. It was another busy week, but less than last week, of Q2 reporting within Canada, the US and 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 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.

Sector insights  
from Q1 calls

### Airbnb: "some signs of slowing demand from US guests"

Airbnb held its Q2 call on Tuesday and its shares were down 14% on the day of the release with the negative commentary on US guests. One of the big US themes has been a slowing US consumer across a range of services and goods. Add Airbnb to the list. On Tuesday, we tweeted [LINK](#) "Slowing demand from U.S. guests. Airbnb Q2"...some signs of slowing demand from U.S. guests..... we're watching these trends closely, along with the impact any macroeconomic pressures might be causing". #OOTT." In their outlook for Q3, mgmt said "Now, turning to Q3, we're looking forward to another record summer travel season. We've been encouraged by the excitement around the Olympics and the Euro Cup, and we're also encouraged by the relative strength of Latin America and Asia Pacific, which continue to be our fastest-growing region. However, we are seeing shorter booking lead times globally and some signs of slowing demand from U.S. guests, and our Q3 outlook incorporates these recent trends. We're watching these trends closely, along with the impact any macroeconomic pressures might be causing." Then in the Q&A, mgmt added "What we've seen more recently, and in particular in July, is a shrinking of the

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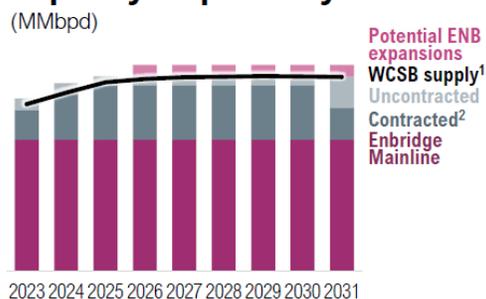
lead times. And in particular, what we've seen is that there continues to be very strong growth of the shorter lead times, so anything from same day to next week to a couple of weeks from now. But what we're not seeing the same level of strength is in those longer lead times. So two months from now, what you're booking for Thanksgiving, what you're booking for Christmas. And so it's that, I would say softness in terms of longer lead times. That is a big factor in terms of the outlook that we've provided."

**Enbridge: expanding mainline capacity by ~150,000 b/d by 2026/27**

Enbridge held its Q2 call last Friday Aug 2. The call is another reminder why look to the Q&A portion of earnings calls for the best information. In their prepared remarks and slide, mgmt only noted they were having discussions with customers for additional egress for western Canada oil. But in the Q&A, mgmt disclosed they are looking to add ~150,000 b/d for late 2026/2027. They are timing for late 2026 as this is when they see egress (ie. TMX and others) fill dup. Here is what mgmt said "And indeed, we are designing and socializing, as I mentioned, an expansion of the Mainline in that late '26-'27 period. It would be very capital efficient as our historic expansions have been. This would be in right away, very brownfield, more optimization than expansion, so to speak. But we would be looking to add circa 150,000 barrels a day. Let me say, I think it's quite executable and very economic for industry. So I think that's the next major tranche of egress expansion we have on deck there, but there's also continuing optimizations like we do every month and have for decades." Mgmt noted in their prepared remarks that the mainline volumes are strong and are the set up for the future expansion. Mgmt said 'The mainline transported record second quarter volumes of 3.1 million barrels per day and has so far been apportioned for all months in 2024. July volumes are also expected to be strong and we're expecting apportionment again in August. The utilization year to date and the great macro backdrop keeps us confident in our 3 million barrels per day estimate on the mainline for 2024 and underpins discussions with customers for expansions in 2026 and beyond."

Figure 69: Additional WCSB pipeline capacity required by 2026

**Additional WCSB pipeline capacity required by 2026**



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### Energy Transition: Hit to Canada EV sales if Poilievre cancels rebates on Chinese EVs

Earlier in the memo, we noted Poilievre's comments on repealing Bill C-69, the Liberals No Pipelines bill. But we also noted how Poilievre said will also have the "cancellation of taxpayer funded rebates for Chinese made vehicles." This would be similar to what the US announced in June, but the difference is that the US doesn't import any Chinese made EVs whereas Canada imports a lot of Chinese made EVs – Tesla's made in Shanghai. Poilievre said vehicles but we suspect his primary focus is EVs given the leadup to these comments. His comments are timely given Finance Minister Freeland should have just concluded her 30-day consultation period on "how to protect Canada's auto workers, our growing EV industry, and to prevent trade diversion". In our June 30, 2024 Energy Tidbits memo, we noted the Globe and Mail report that 44,400 Chinese made EVs were imported into Canada in 2023 and these were Tesla's made in Shanghai.

**Hit to Canada EV sales?**

### Big hit to Canada EV sales if it follow US in big tariffs on China EVs

Here is what we wrote in our June 30, 2024 Energy Tidbits memo. "This week Canada Finance Minister Chrystia Freeland announced "On July 2, we will launch a 30-day consultation on potential policy responses to protect Canada's auto workers, our growing EV industry, and to prevent trade diversion." This is to consider following the US lead in adding big surtax on EVs made in China. (i) On Monday, we tweeted [\[LINK\]](#) "Can't be good if EV price cutting leader Tesla gets hit by more tariff. Wonder if Liberals will still let point-of-sale \$5,000 rebate for Shanghai-made Teslas? One advantage for Liberals is would provide a bad guy to blame for EV sales below expectations. #OOTT [\[LINK\]](#)." (ii) Biden's added tariffs on Chinese-made EVs does not impact near term EV sales. No one has been making a big deal on Biden cranking up tariffs on Chinese EVs because everyone said the US doesn't import any Chinese made EVs so it has no impact today and is meant to prevent future Chinese made EV imports like from BYD. (iii) There was a good reminder from Globe and Mail that Canada EVs sales should be hurt if the Liberals follow the US and crank up tariffs of Chinese-made EVs. The Globe and Mail reported 44,400 Chinese made EVs landed in Vancouver in 2023. We confirmed with the Globe and Mail that they were referring to Shanghai-made Teslas. They wrote "Chinese brands aren't really a part of Canada's EV market right now. But, according to Bloomberg, Canada is seeing a significant surge in imports of Chinese-made EVs, particularly Tesla Inc. models made in Shanghai. The number of cars arriving from China at the port of Vancouver rose more than fivefold last year, to 44,400. And Canadians get a \$5,000 point-of-sale rebate on these models, to boot." (iv) We agree with the Globe and Mail that it would slow down EV adoption if Liberals add tariffs that cover any Chinese-made EVs including Teslas made in Shanghai; They noted the existing tariff is 6.1%. For round numbers, let's assume or use \$3,000 as a ballpark tariff today. If that is doubled, that adds \$3,000 to the EV price. (v) Then there is a bigger question. Why is Canada cranking up the tariffs? If its like the US on unfair trade practices, why would they leave a Shanghai-made Tesla still eligible for a point-of-sale rebate of \$5,000. Imagine if Shanghai-made Teslas are dropped from this \$5,000 rebate on top of a doubling of the tariffs. That is a huge added cost that isn't a factor in why it's a nothing event in the US. (vi) The bottom line is that if you make the price cutter leader's EVs more expensive then it has to impact overall EV sales. It's not like you making the most expensive EVs more expensive. So we agree with the Globe and

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*Mail that this should impact EV sales, especially if the point-of-sale rebate comes into play as Tesla has been the leader in cutting prices and accounted for ~25% of Canada EV sales in 2023. (vii) Driving.ca reported [LINK](#) "Tesla doesn't report market-specific, model-specific sales figures on a monthly or quarterly basis in the manner of virtually all other automobile manufacturers. But if it feels as though you're beginning to see Model 3s and Model Ys everywhere you turn, there's good reason. Automotive News estimates Tesla sold 16,000 Model 3s in Canada in 2023; 18,500 Model Ys." That is 34,500 Teslas in 2023. Bloomberg reported an estimate of 139,500 EVs sales in 2023 so Teslas were approx. 25% of total Canada EV sales. So the numbers make sense. (viii) The domestic politics reason why we think Liberals are likely to crank up tariffs on Chinese-made EVs is that we think it gives the Liberals something to blame for EVs slowdown. EVs sales are less than expected. The Liberals haven't yet come out and said slower sales make sense as Canadians don't want EVs as much as the Liberals want them to. So this would give the Liberals the Chinese to blame for the EVs shortfall. And blaming the Chinese plays well in Canada or the US. Our Supplemental Documents package includes the Globe and Mail report."*

### **Energy Transition: Williams, data centers natgas requests a little bit overwhelming**

Williams held its Q2 call on Tuesday and had a number of key data center power points. (i) We then tweeted [LINK](#) "AI Data Centers need lots of #NatGas for 24/7 reliable power! See 📌 Williams Q2 Q&A. Data center #NatGas requests are a little bit overwhelming! Reinforces time is of the essence for data centers so data centers "are looking to where the permitting regime is right, where there's access to abundant natural gas supplies, and frankly, where expansions on our systems are available". #OOTT." (ii) The headline from the call was mgmt's description of how much natural gas access is being asked by data centers. In the Q&A, mgmt had a long answer on data centers demand that included comments like "We have a very long backlog of projects. And I will tell you that, particularly in the Southeast and the mid-Atlantic, those expansion opportunities that we have, we, frankly, are kind of overwhelmed with the number of requests that we're dealing with" and "in fact, as I said, it's a little bit overwhelming." (iii) Returns are very good on projects connecting natural gas to new areas. In the Q&A mgmt was asked if their southeast connector project had a 5x EBITDA returns and mgmt replied "our return is even better than that". (iv) Time is of the essence for data centers to get power. On a couple of times in the Q&A, mgmt noted that time is of the essence for data centers to get natural gas and power. And mgmt highlighted that for natural gas, data centers "are looking to where the permitting regime is right, where there's access to abundant natural gas supplies, and frankly, where expansions on our systems are available". This fits to the chatter that data centers are moving increasingly to where there is access to natural gas. Our Supplemental Documents package includes excerpts from the Williams Q2 call transcript and slide deck.

**Data centers want lots of natural gas**

### **Game changer, data centers want NatGas direct from TC pipeline**

We continue to be surprised that there isn't a public concern about what is happening with data centers looking to avoid competing with all other electricity users for electricity from the traditional utilities. The data centers instead are moving to take the source of electricity (ie. natural gas or nuclear) before it gets to the utility. And

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the issue is that these are 24/7 electricity sources and not intermittent. The Williams comments on data centers wanting to get natural gas supply from the natural gas pipelines reminds of what we highlighted in last week's (Aug 4, 2024) Energy Tidbits memo on TC Energy saying something similar. Here is what we wrote last week "We were surprised that this game changer comment on natural gas for data centers from TC Energy Q2 call on Thursday morning didn't get attention. We suspect it was because it was a massive Q2 reporting day across all sectors and equities were crashing around the world and the comments were in the Q&A and not in the release or slides. (i) But it's why, on Friday morning, we tweeted [\[LINK\]](#) "Every man for himself. Game changer in the fast approaching fight for 24/7 reliable, affordable #NatGas power in the US. Data Centers need reliable 24/7 #NatGas so much, they will buy it from the gas pipeline before the gas gets to LDCs to generate power!! TC Energy Q2 Q&A "And as an alternative to citing these data centers behind LDCs, we're now seeing a much greater potential for data center operators to seek laterals off of our main line and to use that gas supply to fuel onsite power generation that they would build and or own themselves." Data centers will ensure their own 24/7 #NatGas power supply and let LDCs & their other customers deal the volatility from having more interruptible power supply. See 07/01/24 tweet Ford CEO warning on this concept. [\[LINK\]](#). See 07/01/24 tweet Amazon/Constellation potential nuclear power deal. [\[LINK\]](#) Bullish #NatGas for coming years. #OOTT." (ii) Data centers need reliable 24/7 power to be able to go. TC Energy noted this in the above item that having the access to 24/7 natural gas is a roadblock to timely data center growth. (iii) Data centers want to take natural gas directly from TC Energy's mainline natural gas pipeline and not get from the LDC/utility. This is the game changer. In the Q&A, mgmt said data centers are now wanting to run laterals off the main line to their own power generation! They want to do like Amazon wants to do with nuclear power (see below item). So they would get the natural gas, build or have someone build a natural gas power generation plant and get the reliable, 24/7 power source before it gets to a utility/LDC! So for anyone who doesn't believe data centers worry about securing reliable 24/7 natural gas power, think again. (iv) The TC Energy comments support our view that natural gas is the critical fuel for data center growth for the next decade. But the movement by data centers to take natural gas or nuclear before it can go on the grid sets up another of questions like the Ford CEO tweet noted below. Our Supplemental Documents package includes excerpts from the TC Energy Q2 call transcript and slides."

#### **06/01/24: Will Amazon tie up 100% of 24/7 power from CEG's nuclear plant**

Our TC Energy Aug 2 tweet linked our June 1, 2024 tweet on Amazon trying to tie up 100 of the power from a Constellation nuclear power, which would take that nuclear power from providing to the grid as it is now. Here is what we wrote in our June 7, 2024 Energy Tidbits memo. "On Monday, we tweeted [\[LINK\]](#) "Game Changer! Smart move by Amazon IF can directly get 100% of clean 24/7 power from Constellation's nuclear power plant for AI data center. ie. get the 24/7 power before it goes into grid baseload power. What else but #NatGas #Coal if grid needs to replace 24/7 baseload power. Thx @Jennifer\_Hiller @SebasAHerrera #OOTT." WSJ reported that Amazon was working to tie up 100% of the power generation from a Constellation nuclear power plant, which would mean that nuclear power generation

won't be going into the grid for all customers, including Amazon. This fits with our views that the most profitable companies in the world, big tech players like Amazon, Microsoft, etc, will pay a premium to tie up clean energy and the result being higher costs to regular consumers and increasing grid stability risks. We continue to believe that they will push for mini nukes whenever they can come on for their AI data centers. That is assuming mini nukes can get over NIMBY resistance because they can be placed relatively close to where the tech companies want to put AI data centers. But that is a decade or more away. However, we hadn't played out this type of scenario that Amazon will go pay a premium to tie up existing nuclear power instead of the nuclear power going to the grid. What a smart move for Amazon. Get all the existing 24/7 nuclear power for themselves by paying a premium. The concern for the grid is that this would take away 24/7 power from the grid and leave the grid with a big hole in the grid's baseload 24/7 power, let alone 24/7 clean power. And this also fits our view that big winners for needing to replace 24/7 power for the grid will be natural gas and coal as 24/7 power can't be done with wind and solar. The question will be if big tech players will be allowed to cut out existing base load power generation from the grid by paying a premium. We still believe big tech will be looking to tie up or even possibly buy 24/7 power supply with the preference being tie-up instead of buy the fuel source. Our Supplemental Documents package includes the WSJ report."

#### **06/01/24: Ford CEO, will society accept Amazon type deals on 24/7 power**

Our TC Energy Aug 2 tweet also linked to our June 1, 2024 tweet on Ford CEO raising some key questions on data center energy growth including will society accept deals where data centers take reliable power like nuclear way from the grid. Here is what we wrote in our June 7, 2024 Energy Tidbits memo. "*Ford CEO Jim Farley had some great comments and key questions on the huge and rapid growth in AI data center electricity consumption in the US. (i) On Monday, we tweeted [LINK](#) "Lot to unpack here. "Our grid can't handle what we have today. Are we going to build 20% more power plants to handle all these AI data centers? Or are the companies going to start to create their own power centers? What do we feel as a society when a private company operates a private power plant?" Ford CEO Farley to @JBoorstin. Bottom line: 24/7 power becomes a critical resource, especially if its nuclear or hydro, that big tech will pay up to control/acquire ie. Amazon below. Big need for 24/7 also means more #NatGas #Coal #OOTT.*" (ii) "Are we going to build 20% more power plants to handle all these AI data centers?" Farley started with the big picture concern on AI data centers – the growth is huge. We don't think 20% more power plants is the number but his point is valid, the US will need way more power plants than expected if its to handle the growth in consumption. (iii) What happens if there are Amazon type deals that take 24/7 power off the grid? Farley didn't note Amazon's name as his comments were on Friday and the WSJ Amazon report was on Sunday. But his comments address the similar situation on how will society react if big tech companies create their own power centers and take power away from going into the grid. If we use the above Amazon example, how will people feel if Amazon takes 24/7 nuclear power from the grid for its AI data centers and that means the grid operators have to find replacement 24/7 power to maintain grid stability? This is why we think this Amazon situation is a big test. (iv) Our tweet

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*included the transcript we made of comments by Ford CEO Jim Farley with CNBC's Julia Boorstin at the Aspen Ideas Festival on June 28, 2024. [\[LINK\]](#). Items in "italics" are SAF Group created transcript. At 26:14 min mark, Farley "The other part of AI that we have to think about as a society is what are we going to do with all the data centers that process all this data. Our grid can't handle what we have today. Are we going to build 20% more power plants to handle all these AI data centers? Or are the companies going to start to create their own power centers? What do we feel as a society when a private company operates a private power plant? Can the electrons in the batteries of these vehicles be used to offset some of the future power train, power plant build-out requirements. I think so. Normally our customers charge at night, late at night. And I think the grid will hopefully get more intelligent where they will charge at 2 or 3 in the morning where the electrons are cheapest. And then they're going to have a lot of electrons when there's peak. And will we be able to sell those electrons back to the grid to reduce the requirement. I think we're going to have to struggle with problems like that with this AI explosion."*

### **Energy Transition: Maersk backs off its green fuels bet, buying LNG fueled tanker**

**Maersk buying  
LNG fueled  
tankers**

Maersk gave in this week and announced it was ordering an undisclosed number of LNG fueled tankers and ships. This was a big change from their original plans to jump to the fuel of the future – green hydrogen/ammonia. And it is a confirmation of a reality check for green fuels like green methanol/ammonia to power tankers/ships isn't going to happen anywhere near fast enough or cheap enough. Maersk's original 2020 view was not going to go to LNG fueled tankers because they were fossil fuels. Then later they announced their first orders for green methanol and they would rather just skip LNG and they didn't see that playing a big role as a transition fuel. But at that time, we highlighted that these were dual fuel ie. also run on Low sulfur fuel oil. And we said that was what they would do. This week, Maersk confirmed they are ordering more of the dual fuel ships that can be run on methanol and LSFO. But the big change is that they also confirmed they are ordering LNG fueled ships. IN their Q2 call Q&A, mgmt noted the high cost of green fuels and the lack of availability as the reason for this shift away from a single bet for the future in green fuels. Mgmt said "So we've been clear for a while that I think the future in shipping is going to be with a lot of different technologies living side by side at the same time. We will, of course, continue to have bunker fuel for the next many years being part of the mix. We will have methanol. We have started to have methanol. And this will grow. We have already in the market a lot of LNG And this will also continue to grow if you look also at the order book. And I'm sure that at some time soon, we will see also ammonia coming online as a new propulsion technology that will enable the decarbonization. For us, the assessment has been the following. There is high level of uncertainty about both availability of fuel and price of fuel in the future, price of green fuels in the future. And there is a high level of uncertainty on how the regulatory and how the regulatory regime is going to shape up. And therefore, there is a necessity for us in order to be able to reach the decarbonization agenda that we have in a way that is economically competitive. There is a need for us to hedge some of the bets that we're making on technology and not taking only one way or only one bet and then depend on assumptions that we have very little influence into making happen. So our view was that this was the opportunity for us to balance the bets. We are very happy that thanks to the work that we have done with methanol today, this is a viable and scaling technology across the segment and has a lot of momentum, but we also need to make sure we are exposed to some of the

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other propulsion technologies so that we don't have all of a sudden risk to have a significant disadvantage for a reason or another." Our Supplemental Documents package includes excerpts from the Maersk call transcript.

#### **11/20/20: Maersk ruling out LNG as transition fuel**

Here is what we wrote in our Nov 20, 2020 Energy Tidbits memo on Maersk ruling out LNG as a transition fuel for its ships. *"This week, Maersk stated in their Q3 call that they will be skipping the use of LNG as a transition fuel. In the Bloomberg transcripts in the Q&A, analysts asked "so what is your preference in terms of vessel type like LNG versus dual-fuel or go with the scrubber fitted vessels?" Mgmt replied "In terms of vessel types, we -- as I said, we are very much aware of the technology risks for ordering ships at this point. We would ideally like to figure out, and that's what we are working very hard on, what the future fuel should be and then start building ships that will fit or fit that type of fuel when we need them. We are not -- we don't believe that LNG is going to play a big role for us as a transition fuel, because it is still a fossil fuel and we would rather go from what we do today, straight to a CO2-neutral type of fuel, but that will be years out in the future, I suspect." Mgmt was then asked if that meant they were going with dual fuel vessels, and replied "Since we're not really planning to order any ships anytime soon, frankly, we haven't really made up our minds on that question." When we see this, it feels like another indication to phasing out oil in the energy transition won't happen as quickly as expected. At least certainly for the shipping industry."*

#### **11/11/20: There are big challenges for shipping to get to Net Zero emissions**

Here is another item from our Nov 22, 2020 Energy Tidbits memo on the challenge to move to green fuels for shipping. We wrote *"The Maersk comments really highlight the challenge for shippers – how to get to net zero. We highlighted this net zero challenge last week (see our Nov 15, 2020 Energy Tidbits) in our writing on the new report from the International Chamber of Shipping report "Catalysing the fourth propulsion revolution". [LINK](#) The report is a quick read. The first two pages of the report (executive summary and six takeaways) explain the ICS view of how shipping is positioned to achieve the net zero carbon aspirations. The ICS wrote "The challenge is enormous: to move cargo across the oceans, ships require huge amounts of energy and an entirely new generation of fuels and propulsion systems will need to be developed. However, many of the potential zero-carbon fuels such as ammonia and hydrogen present serious operational challenges. In addition to the safety issues that will need to be addressed, they also have low energy density meaning that ships will have to carry much more fuel. The global shipping fleet will need to be modernised and new fuel supply networks developed. More immediately, zero-carbon technologies can only be introduced if there is a huge increase in global research and development (R&D) spending." Also have to love the writing and the way they describe some of the challenges ie. "If the global fleet all adopted green ammonia fuel, ammonia production would have to rise by 440 million tonnes – more than treble current production – requiring 750 gigawatts of renewable energy. This means that shipping alone would consume 60% of the world's current renewable energy production of 2,537 gigawatts." It also reminded us that natural gas can play the role of a transition fuel. Or in the case of shipping, its not "can" but needed to play a role if the world wants to at least lower emissions from shipping ie. LNG for*

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*shipping may be more than expected. One other reminder from the ICS report. They may not say it directly, but it fits in with our concern that there will be overlapping infrastructure needed to provide for support for multiple fuels, that is until the world moves to one standard future fuel. The ICS says “New fuels will need to be developed along with novel propulsion systems, upgraded vessels and an entirely new global refuelling network.” An entirely new global refuelling network isn’t just swapped out one night.”*

### **Energy Transition – Drax (UK) biomass plant has 4x emissions of UK’s coal plant**

The Drax (UK) biomass plant that burns wood pellets was back in the news this week with On Friday, The Guardian posted its report “Biomass power station produced four times emissions of UK coal plant, says report Drax received £22bn in subsidies despite being UK’s largest emitter in 2023, though company rejects ‘flawed’ research”. [\[LINK\]](#) (i) When we saw the report, we tweeted [\[LINK\]](#) “Not all renewable energy is clean energy. “Drax power station was responsible for four times more carbon emissions than the UK’s last remaining coal-fired plant last year...” reports @guardiannews Jillian Ambrose. Link below. No surprise that emissions are big as the Drax biomass project burns wood pellets. But gets a green seal of approval as trees can be regrown over time. It’s like a dirty little secret that govts want to sweep under the carpet. See 🗨️ 10/03/22 tweet on @BBC then Drax expose that didn’t get traction. Thought the Kyoto/Paris climate change overriding goal was to reduce emissions? #OOTT.” (ii) The Guardian report title says it all. The Drax biomass plant that burns wood pellets from Canada has received huge UK subsidies and is the worst emitter. (iii) We are surprised that the new UK Labour govt didn’t have this on this immediate to-do list. This has been in new news before so everyone knows it is there, producing electricity with extremely but there hasn’t been traction against the wood pellet burning power plant. We first highlighted this plant in our Oct 9, 2022 Energy Tidbits below. (iv) Our tweet also reminded of the basic question on why isn’t the UK against burning wood pellets and why do they give billion s to them to do so given the overriding goal of Kyoto and Paris is to reduce emissions. It’s projects like this that fit under climate change acceptance and subsidies that make the oil and gas industry believe the climate change side has changed their priority from reducing emissions to eliminating oil and gas. Our Supplemental Documents package includes The Guardian report.

**UK Drax wood pellet burning plant**

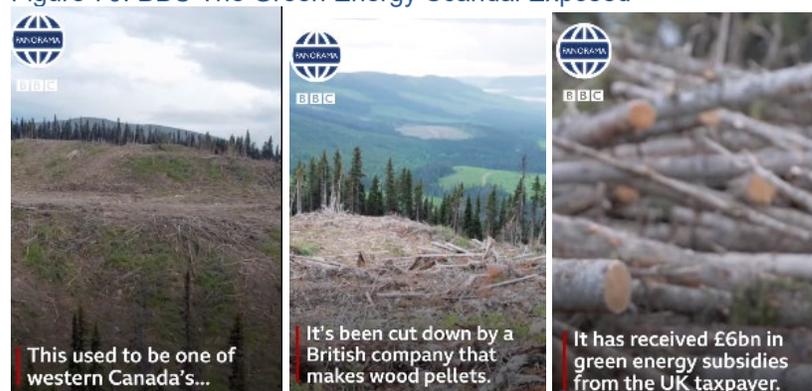
### **BBC expose UK firm clearing Cdn our forest for wood pellets**

Here is what we first wrote on the Drax biomass report in our Oct 9, 2022 Energy Tidbits memo. “BBC expose UK firm clearing Cdn forest for wood pellets. On Monday, we tweeted [\[LINK\]](#) “Inconvenient Truth! Burning wood pellets fits into a clean energy plan, gets UK green subsidies to add higher emissions power. No wonder companies don’t want to talk about it, especially if wood pellets come from clearing Cdn forest. Thx @joe\_crowley @TimRobinsonTV #OOTT,” We are surprised that the BBC’s Oct 3 report didn’t raise outrage from the Liberals in Canada. We didn’t see any coverage of the Liberals saying they would get to the bottom of this BBC expose. BBC Panorama posted a video report [\[LINK\]](#) “Drax is chopping down trees and taking logs from some of the world’s most precious forests to burn at its Yorkshire power station, which provides 12% of the UK’s renewable energy The Green Energy Scandal Exposed is on @BBCOne at 8pm and on @BBCiPlayer [\[LINK\]](#)” Perhaps the tweet headline didn’t say Canada, but the BBC’s

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posted report [\[LINK\]](#) “Drax: UK power station owner cuts down primary forests in Canada. Drax, Britain's biggest power station, generates electricity by burning millions of tonnes of imported wood pellets. A company that has received billions of pounds in green energy subsidies from UK taxpayers is cutting down environmentally-important forests, a BBC Panorama investigation has found. Drax runs Britain's biggest power station, which burns millions of tonnes of imported wood pellets - which is classed as renewable energy. The BBC has discovered some of the wood comes from primary forests in Canada. The company says it only uses sawdust and waste wood.” Our Supplemental Documents includes the BBC report.”

Figure 70: BBC The Green Energy Scandal Exposed



Source: BBC

### BBC reminds cutting primary forests is not good

Our Oct 9, 2022 Energy Tidbits memo also wrote. “the BBC investigation said this was a primary forest. The BBC report also noted why primary forests shouldn't be cut. The BBC wrote “How green is burning wood? Burning wood produces more greenhouse gases than burning coal. The electricity is classed as renewable because new trees are planted to replace the old ones and these new trees should recapture the carbon emitted by burning wood pellets. But recapturing the carbon takes decades and the off-setting can only work if the pellets are made with wood from sustainable sources. Primary forests, which have never been logged before and store vast quantities of carbon, are not considered a sustainable source. It is highly unlikely that replanted trees will ever hold as much carbon as the old forest.”

### Energy Transition: US consumes more energy from burning wood than wind & solar

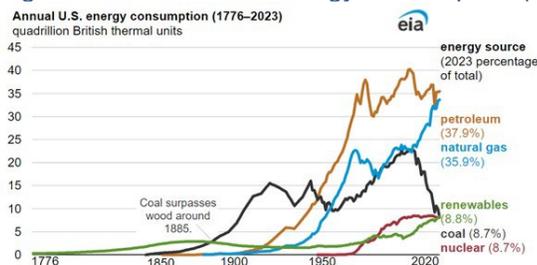
It's not just the UK that burns a lot of wood as The Guardian reported above. Yesterday, we tweeted [\[LINK\]](#) “DYK? Not just UK that subsidizes the burning of wood despite the huge emissions. [\[LINK\]](#) US consumes more energy from burning wood than it consumers from wind and solar - @EIAgov July 3 blog. See 🗨️ July 7 tweet. Isn't Prime Directive of Kyoto/Paris to reduce emissions? #OOTT.” Here is what we wrote in our July 14, 2024 Energy Tidbits memo on the EIA July 3 blog. “One of the overlooked aspects of Renewable Energy is that it isn't just wind and solar, it includes other renewable energy such as burning wood. On Friday, we tweeted [\[LINK\]](#) “Burning Wood for energy is included in

**US consumes big energy from burning wood**

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*#RenewableEnergy. Recognize this is total energy use by US ie. not just electricity. But US uses more energy from Wood than it gets from either #Solar or #Wind. Thx @EIAgov #NatGas #OOTT.” We, and it appears others, were surprised to see the EIA graphs that showed how US energy use of wood is more than from solar or wind. This is for total energy use and not just electricity consumption but we were still surprised. On July 3, 2024, the EIA posted a blog “How has energy use changed throughout U.S. history?” [LINK](#) It goes back to 1776 and shows how energy use in total from the various energy sources changes over time. It shows how energy use moved from the Wood age to the coal age to the oil age and now the natural gas age, and also how renewable energy has started to grow. We didn’t think much of it until we saw the second graph that split out energy use from renewable energy sources and we were surprised to see there is more energy use from wood than from either solar or wind. And of course, we were reminded that in the case of wood, renewable energy doesn’t mean clean energy. Below are the two key graphs. Our Supplemental Documents package includes the EIA blog.”*

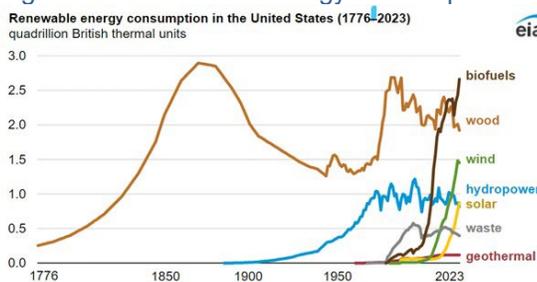
Figure 71: Annual U.S. energy consumption (1776-2023)



Data source: U.S. Energy Information Administration, Monthly Energy Review, Pre-1949 data based on Energy in the American Economy, 1850-1975: Its History and Prospects and U.S. Department of Agriculture Circular No. 641, Fuel Wood Used in the United States 1630-1930  
Note: Data use captured energy approach to account for wind, hydro, solar, and geothermal

Source: EIA

Figure 72: Renewable energy consumption in the U.S. (1776-2023)



Data source: U.S. Energy Information Administration, Monthly Energy Review, Pre-1949 data based on Energy in the American Economy, 1850-1975: Its History and Prospects and U.S. Department of Agriculture Circular No. 641, Fuel Wood Used in the United States 1630-1930  
Note: Data use captured energy approach to account for wind, hydro, solar, and geothermal

Source: EIA

**Energy Transition: Trump reminds cost of energy flows thru to the cost of everything**

On Wednesday, we tweeted [LINK](#) “Like him or not, Trump’s concept is right but would have said energy is an input cost to everything so the cost of energy flows thru to impact everything in our lives. #Diesel #Gasoline move products & people, #NatGas power businesses. #Petrochemical products are everywhere in our lives. etc. #OOTT.” Trump didn’t

**Trump on energy costs**

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quite say it that way, and maybe we are giving him too much credit but we inferred that was what he was trying to say. Because it is true that energy prices flow thru to everything in one way or another. If gasoline and diesel costs more, then that is a direct add on to the cost of any product being moved. If energy costs for business to run, heat or cool their place, the indirect cost gets passed on. And don't forget petrochemicals are in most of the everyday products in our lives. Our tweet included a transcript we made of Trump's comments that included *"We are going to bring the energy costs down. Everything else is going to be tumbling and we don't need energy from any other country. We have to fill up the strategic reserve again. It's down, the lowest number it's every been. He's using the strategic reserves, it's meant for military, which is meant for war and very important things. He's using it to try and keep gasoline prices down and we can't allow that to happen. We have to fill up the strategic, I was filling that up at levels they have never seen before. We have to fill up the strategic reserves immediately. We can't let people use that to fill the car. We will have the energy prices to a point where they're as low or lower than they were four years ago. But remember I had you down to a \$1.87 a gallon and that was beautiful. They were good times."*

### Capital Markets: what is the yen carry trade?

What a crazy week in the markets from the weak close to markets last Thurs/Friday, then the big crash on Monday when the panic was huge on Monday morning, and then recovery over the rest of the week. As a recap, the S&P 500 went from down 3.0% to 5,186.33x on Monday and then closed on Friday at 5,344.16, which was basically flat WoW vs 5,346.56 on Friday Oct 2. The big factor was Japan and the "yen carry trade". On Tuesday, we tweeted [LINK](#) *"WSJ explains what is the yen carry trade. Investor borrowing in Yen where interest rates are low & using it to invest in a currency where interest rates are higher. "The carry trade depends on the borrowing currency remaining cheap—and market volatility remaining low. Both of those factors have turned against investors in recent weeks as the yen surged and markets were swept by instability." explains @chelseydulaney. #OOTT."* No one knows how much more there is to go in the yen carry trade unwind but we saw a range of estimates that 35 to 60% of the yen carry trade had been unwound. But no one knows. Our Supplemental Documents package includes the WSJ report.

Yen carry trade.

### Capital Markets: UN FAO Food Price Index down MoM in July, -3.1% YoY

The UN Food Price Index is a monthly food commodities measure and not an index of consumer food prices or food prices in grocery stores. However, increases or decreases in food commodity prices should, in theory, eventually work their way into grocery prices. The UN Food Price index has been gradually decreasing since the middle of 2023, and is down MoM in July. On Friday, August 2<sup>nd</sup>, the UN posted its monthly update of its FAO Food Price Index [LINK](#) titled *"FAO Food Price Index marginally declines in July: lower cereal quotations offset higher vegetable oil, meat and sugar prices"*. Note that the index is calculated on a Real Price basis. The FFPI averaged 120.8 points in July, down from 121.0 in June (revised), and is down -3.1% YoY. The FFPI reported categories were mixed in their index movements over June. The Vegetable Oil Index was up +2.4% MoM from June, up +4.0% YoY, and marks the highest level since March 2023. The increase was driven by increasing quotations for palm, soy, and sunflower oils. The Dairy Price Index was flat MoM and up +7.2% YoY. The Cereal Price Index was down -3.8% MoM which is -12.0% YoY. The Meat Price Index was up +1.2% MoM and +1.0% YoY. The Sugar Price Index was up +0.7% MoM and down -17.9% YoY.

UN food price index down MoM

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Figure 73: UN FAO Food Price Index



Source: UN Food and Agricultural Organization

### Capital Markets: Chipotle said short pouring on meat portion, not shrinkflation

One of the big consumer stories for the past 2 years has been shrinkflation but it looks like Chipotle doesn't have a shrinkflation issue. Rather Chipotle mgmt acknowledges that 10% or more of the restaurants are doing the equivalent of short pouring in a bar – they aren't scooping up the standard portion of meat. On Monday, we tweeted [\[LINK\]](#) "Impressed the Chipotle customer bought a digital scale to calculate the "in-person orders were 16.48% bigger [vs on-line]". Chipotle trying to shed view stores not dishing out full 4 ounces of meat but, in Q2 call Q&A, admits ~10% or more of restaurants need to be retrained to execute on right standard. Couldn't help think of Clare Peller from Wendy's 80's classic ad "where's the beef?" See 🗨️ @heatherhaddon report." We forwarded a WSJ report that some customers had measured the portions and found that Chipotle was including less meat than standard in on-line orders. Our tweet included an excerpt of the Chipotle Q2 call where mgmt admitted there was an issue "So, look, your first question, part of the reason why we went and looked across the system was when we got the feedback on the portion sizes, we've always felt the key equity at Chipotle is these generous portion sizes. So we wanted to make sure we were executing consistently across the system. Now, we probably found about 10% or more of restaurants that we really view as outliers that needed to be retrained, re-coached, to be executing against what we believe are the right standards. At the same time, we collectively said, look, we do not want to go back one inch on our -- on that equity of generous portion sizes. So we recommunicated the entire system. And look, I'm already seeing it in social media. People commenting on the burritos, the bowls that they're getting. And I think that is the best source of marketing is the word of mouth as people have these experiences with Chipotle. But the thing I want to emphasize is for 90% of our restaurants, they're doing business as usual. So I just -- I don't want it to be lost on the fact that this really was something where we doubled down as a system, but we really needed to kind of train up roughly 10% of the system." Our Supplemental Documents package includes the WSJ report.

Chipotle on its meat portions

### Demographics: Reminder Sept brings the back to office requirements for many co's

We are fortunate to have a lot of local readers of Energy Tidbits memos and thank them for their long standing support for the memo. So inevitably when we have a coffee with someone, something from the memo will come up in conversation. Normally, its someone asking for more color on an item to make sure they know where we are coming. Those interactions are great as they inevitably lead to new items/angles to our thoughts. So big

Back to office in Sept for many

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thank you for that. But we also get a lot of items where readers laugh and say really. One example was our July 21, 2024 Energy Tidbits memo noting a Seattle Times report We hadn't heard the term "coffee badging" before seeing the Seattle Times report on Friday "Amazon cracks down on 'coffee badging', amid return-to-office push". [\[LINK\]](#) The Seattle Times wrote "'coffee badging' refers to workers who pop unto the office to grab and coffee and then head home, allowing them to skirt in-office requirements but still clock the appropriate number of badge swipes." They laugh at how people will work to figure out how not to work. And that will only increase as they remind that many companies, months ago, set new return to office standards starting in September after the Labour Day weekend. And to be fair, they see an issue for both bosses and workers as many companies will have requirements for bosses to be in four days a week. It will be interesting to watch.

#### **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.

#### **US nuclear bombs were on Aug 6 Hiroshima and Aug 9 Nagasaki**

Everyone has their own views on war and who is in the wrong. who is in the right. But one part of a potential war that always worries us is the use of nuclear bombs and who has the bomb. It's been 79 years since the last, and only, nuclear bombs were used as a weapon. The only two nuclear bombs used as weapons were the nuclear bombs the US dropped on Hiroshima on August 6, 1945 and on Nagasaki on August 9, 1945. The death toll wasn't all immediate, but general estimates were over 125,000 killed in Hiroshima and over 225,000 in Nagasaki. As a result, there was a real fear of nuclear bombs certainly thru the 60s. Baby boomers can recall having nuclear bomb drills in grade schools in the early 60s. And in hindsight, it was kind of silly for the teacher to tell first graders to hide under their desk.

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### Hiroshima's Genbaku Dome is a must visit

It's been 79 years since Hiroshima so the number of survivors continues to decline, which is unfortunate because there is nothing more moving than to hear from people who survived the atomic bomb. It's like going to New York and hearing what happened in the words of 9/11 survivors and first responders. I had the opportunity decades ago to be in a very small group with a Japanese businessman who grew up 50 km from Hiroshima and go see the Hiroshima Prefectural Industrial Promotion Hall. The hall is now referred to as the Genbaku Dome. Google Translate is the Atomic Bomb Dome. It brought a moving personal perspective to what happened in the aftermath of the bomb and Japan's surrender. The dome was the only surviving structure around the bomb. It was a moving experience to see the dome and museum in and realize it was right on the site of the nuclear bomb. The Hiroshima Peace Memorial Park has been built around the Genbaku Dome. Google Translate is Atomic Bomb Dome. The dome was the only surviving structure around the bomb.

Figure 74: Genbaku Dome in Hiroshima

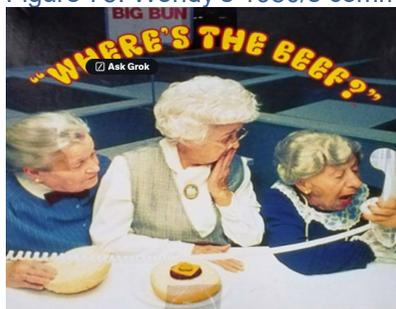


Source: New York Times, RTF

### Wendy's 80's classic commercial "where's the beef?"

Our Chipotle tweet also included "Couldn't help think of Clare Peller from Wendy's 80's classic ad "where's the beef?" This was the classic and seemed to be successful Wendy's commercial on how competitors weren't including much beef in their hamburgers. And what made it was Clare Peller who delivered the line "where's the beef?" Peller would have been in her early 80s when she did the commercials.

Figure 75: Wendy's 1980/s commercial "where's the beef?"



Source: Reddit

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