

Energy Tidbits

July 28, 2024

Produced by: Dan Tsubouchi

Netanyahu tells Congress it's not if but when Israel takes action to prevent Iran from developing nuclear weapons

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. Israel PM Netanyahu addressed congress and made it clear it's not if, but when Israel, will take action to stop Iran from developing nuclear weapons. [click here]
- 2. Will Biden have no choice but to revoke oil licenses if there is any Venezuela election manipulation or Maduro doesn't cede power if Urrutia gets more votes? [click here]
- 3. Escalation expected in Israel/Hezbollah conflict. Israel Foreign Minister "the Hezbollah attack crossed all red lines and the response will be accordingly. [click here]
- 4. Nabors survey of major oil companies representing 47% of active oil rigs at June 30 indicates this group's yr-end 2024 rig count will be modestly lower than at June 30. [click here]
- 5. Canada's mutual funds continue to be hit by net redemptions to balanced funds, less so to equity funds. [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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Table of Contents

Natural Gas: Really hot June/early July = less risk US gas storage gets filled early	7
Figure 1: US Natural Gas Storage	7
Natural Gas: +22 bcf build in US gas storage; now +249 bcf YoY	7
Figure 2: US Natural Gas Storage	7
Figure 3: Previous US Natural Gas Storage	8
Natural Gas: NOAA forecasts hot weather across Lowe 48 for Aug 2-10	8
Figure 4: NOAA 6-10 day temperature outlook for Aug 2-10	8
Figure 5: NOAA 8-14 day temperature outlook for Aug 4-10 Source: NOAA	9
Natural Gas: NOAA's normal warmest day of the year across the US	9
Figure 6: NOAA Warmest Day of the Year	9
Natural Gas: US natural gas pipeline exports to Mexico up +7.6% MoM, +9.2% YoY	10
Figure 7: US Natural Gas Pipeline Exports to Mexico	10
Natural Gas: US LNG exports +1.8 bcf/d, +17.1% MoM to 11.9 bcf/d in May	10
Figure 8: US Monthly LNG Exports	11
Natural Gas: Freeport LNG, post Beryl, ramping back to 2.1 bcfd capacity this week	11
Figure 9: Freeport LNG tanker loadings effective to July 25	11
Natural Gas: US LNG tankers increasing voyages via Suez Canal	12
Figure 10: Laden US LNG transits by route	12
Figure 11: Houthis ship attacks since Nov 2023	13
Natural Gas: Mexico's natural gas production stuck below 5 bcf/d	13
Figure 12: Mexico Natural Gas Production	13
Natural Gas: Sunday July 21st was the hottest day globally in recent history	13
Figure 13: Daily global surface air temperature	14
Natural Gas: ConocoPhillips signs 2 LT LNG supply contracts into Europe and Asia	14
Figure 14: Long-Term LNG Buyer Deals Since July 1, 2021	15
Natural Gas: Japan expects hot temperatures to continue thru at least late Aug	15
Figure 15: JMA Average Temperature Outlook for July 27 – August 26	16
Figure 16: JMA Average Temperature Outlook for Jul/Aug/Sep	16



Natural Gas: Japan LNG stocks up WoW, up YoY	16
Figure 17: Japan LNG Stocks	17
Natural Gas: Russia pipeline gas to China 3.7 bcf/d in 2025 vs 2.2 bcf/d in 2023	17
Natural Gas: China sees natural gas consumption +2.9 bcf/d YoY to 41.1 bcf/d in 2025	18
Natural Gas: Natural gas was only 8.5% of China's primary energy mix in 2023	18
Natural Gas: BloombergNEF forecast Europe gas storage full by end of Sept	18
Figure 18: Europe Gas storage forecast	19
Natural Gas: Europe storage builds WoW to 83.6%, flat YoY	19
Figure 19: European Gas Storage Level	20
Figure 20: Ukraine Gas Storage Facilities as of July 2023	20
Oil: US oil rigs up +5 rigs WoW but -47 rigs YoY to 482 rigs	20
Figure 21: Baker Hughes Total US Oil Rigs	21
Oil: Permian oil rigs to be impacted by Waha natgas prices being very low or negative	21
Figure 22: Waha Natural Gas Prices to July 25 close	22
Figure 23: Percent of responses what impact low Waha prices on rest of 2024 drilling plans	22
Oil: Nabors survey, Lower 48 rigs modestly lower from Q2 to yr-end 2024	22
Oil: Baker Hughes tempers Lower 48 H2/24 rig expectations	22
Figure 24: US frac spreads to July 19, 2024	23
Oil: Total Cdn rigs up +15 rigs WoW, consistent with seasonal ramp-up	23
Figure 25: Baker Hughes Total Cdn Oil Rigs	24
Oil: US weekly oil production flat WoW at 13.300 mmb/d	24
Figure 26: EIA's Estimated Weekly US Field Oil Production (mb/d)	25
Figure 27: EIA's Estimated Weekly US Oil Production	25
Oil: Expect additional wastewater restrictions with more Permian earthquakes	25
Oil: US SPR less commercial reserve deficit narrows, now -62.073 mmb	26
Figure 28: Strategic Petroleum Reserve Stocks and SPR WoW Change	26
Figure 29: US Oil Inventories: Commercial & SPR	26
Figure 30: US Oil Inventories: SPR Less Commercial	27
Oil: US national average gasoline price +\$0.01 WoW To \$3.51	27
Figure 31: Bloomberg's National Average Gasoline Prices Thru July 26, 2024	27



Oil: Crack spreads +\$2.48 WoW to \$24.91, WTI -\$2.97 WoW to \$77.16 on July 26	27
Figure 32: Cushing Oil 321 Crack Spread & WTI July 26, 2014 to July 26, 2024	28
Oil: Advantage of big Cdn oil plays, they are tightly spaced multi leg no frack wells	28
Oil: Looks like Jasper wildfire didn't cause interruptions to Trans Mountain pipeline	29
Figure 33: TMX expansion pipeline route right by Jasper	30
Oil: Cdn heavy oil differentials widen \$1.60 WoW to close at \$15.40 on July 25	30
Figure 34: WCS less WTI oil differentials to July 26 close	30
Oil: CER reports Cdn crude by rail exports at 89,141 b/d in May, up +13.2% YoY	31
Figure 35: Cdn Crude By Rail Exports vs WCS Differential	31
Oil: Refinery Inputs down -0.521 mmb/d WoW to 16.407 mmb/d	31
Figure 36: US Refinery Crude Oil Inputs	32
Oil: Exxon 251,800 b/d Joliet refinery still offline	32
Oil: US net oil imports down -0.388 mmb/d WoW as oil exports up +0.222 mmb/d WoW	32
Figure 37: US Weekly Preliminary Imports by Major Country	33
Figure 38: US Weekly Oil Imports from Mexico	34
Oil: Mexico oil production including partner volumes down MoM to 1.518 mmb/d	34
Figure 39: Pemex (Incl Partners) Mexico Oil Production	34
Oil: Mexico exports down -17.2% MoM to 0.754 mmb/d of oil in June	34
Figure 40: Pemex Mexico Oil Exports	35
Oil: Venezuela voting has started, will Maduro cede power if he loses?	35
Figure 41: US oil imports from Venezuela	36
Oil: Norway June oil production of 1.737 mmb/d is up MoM but down YoY	36
Figure 42: Norway June 2024 Production	37
Figure 43: Norway Monthly Oil Production 2015-2024	37
Oil: Russia's seaborne crude oil exports four-week avg hits 7-month low	39
Figure 44: Russia's Seaborne Crude Shipments	40
Figure 45: Russian Crude Exports to Asia	41
Oil: Russia confirms commitment to OPEC+ output cuts agreement	41
Oil: Ukraine reportedly hits Russia bomber parked in a northern Russia airfield	41
Figure 46: Russia's Olenya airfield in northern Russia	42



Oil: Will OPEC+ signal no production adds in Q4/24 at the JMMC Aug 1 meeting?	42
Oil: Netanyahu tells Congress it's not if but when Israel acts on Iran nuclear program	42
Oil: Will yesterday's reported Hezbollah rocket strike be a tipping point for escalation	43
Oil: Libya oil production nearing 1.3 mmb/d, reached 1.277 mmb/d on July 26	44
Oil: Mercedes, key Chinese consumers not coming back for at least 12-18 months,	44
Figure 47: China new home prices MoM % change incl June 2024	45
Figure 48: China 2 nd hand home prices MoM % change incl June 2024	45
Oil: Baidu China city-level road congestion in July is back to increasing YoY	45
Figure 49: China city-level road congestion for the week ended July 24	46
Figure 50: China city-level road congestion for the week ended July 24	46
Oil: Vortexa crude oil floating storage est 76.13 mmb at July 26, +2.09 mmb WoW	47
Figure 51: Vortexa Floating Storage Jan 1, 2000 – July 26, 2024, posted July 27 at 9am MT	48
Figure 52: Vortexa Estimates Posted 9am MT on July 27, 5am MT July 22, 9am MT 13	48
Oil: Vortexa crude oil floating storage WoW changes by regions	48
Figure 53: Vortexa crude oil floating by region	49
Oil: BNEF, global oil & product stocks surplus widens to +25.6 mmb from +19.3 mmb	49
Figure 54: Aggregate Global Oil and Product Stockpiles	49
Oil: Bloomberg Oil Demand Monitor, China's Low-Gear Economy Dims Global Outlook	49
Oil: ATA Truck tonnage index in June down -1.6% MoM, -0.4% YoY	50
Figure 55: ATA Truck Tonnage Index	50
Oil: Europe airports daily traffic 7-day moving average is -2.2% below pre-Covid	50
Figure 56: Europe Air Traffic: Daily Traffic Variation to end of July 25	51
Oil: Ryanair warns summer fairs down materially YoY, zero color on passengers PAT	51
Oil: Air Canada's post Covid travel rush seems to be normalizing	51
Oil & Natural Gas: 90% of Atlantic hurricanes come after Aug 1, peak is normally mid-Sept	52
Figure 57: Atlantic hurricane and tropical storm activity by month	52
Oil & Natural Gas: Potential storm reminds of hurricane path guide the Dominican Republic	53
Figure 58: NHC 7-day tropical weather outlook as of 5:39am MT July 28	53
Oil & Natural Gas: Hurricane track map rule of thumb – the Dominican Republic	53
Figure 59: Atlantic hurricane track map for 2021	54

Energy Tidbits



Energy Transition: KKR, Power infrastructure is THE key component for Al growth	54
Energy Transition: Virgin Atlantic & British Airways warn SAF drive up ticket prices	55
Energy Transition: Stellantis warns EV transition turmoil will last for a few years	55
Energy Transition: Stellantis CEO says blame politicians for optimistic EV forecasts	55
Energy Transition: IEA coal forecast based govt policy settings and ambitions	58
Energy Transition: GM CEO's letter reminds ICE is the driver	58
Energy Transition: Half of Teslas traded in at non-Tesla dealers switch to ICE	59
Figure 60: % of Ev owners likely to switch back to ICE	60
Energy Transition: China raises EV, ICE vehicles trade-in subsidies	60
Energy Transition: Avoiding Red Sea helps shipping emissions +6% YoY in H1/24	61
Figure 61: Shipping emissions in H2/24 are +6% YoY	62
Energy Transition: India exempts customs duties on critical minerals incl copper	63
Capital Markets: Germany manufacturing PMI down, cheap RUS NatGas a key reason	63
Figure 62: Germany HCOB Manufacturing PMI incl July & Russian natural gas events	63
Capital Markets: U.S. homebuyers backed out of deals at a record rate in June	64
Capital Markets: IFIC, mutual funds equity & balanced funds at net redemptions in Jun	64
Figure 63: Cdn Mutual Fund Net Sales/Net Redemptions (\$ Millions)	64
Figure 64: Cdn Mutual Fund Net Sales/Net Redemptions (\$ Millions)	65
Capital Markets: South Korea plans to lower inheritance tax	65
Capital Markets: USDA Consumer Price Index in June for food +0.2% MoM, +2.2% YoY	66
Twitter: Thank you for getting me to 11,000 followers	66
LinkedIn: Look for quick energy items from me on LinkedIn	67
Misc Facts and Figures	67

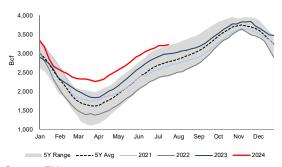


Natural Gas: Really hot June/early July = less risk US gas storage gets filled early

HH continues to be weak with US natural gas storage above the high end of the 5-yr range. The hot June and into 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 +380 bcf YoY to +249 bcf YoY over the past eight weeks. 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 +249 bcf YoY, which is down small WoW from +250 bcf YoY last week.

Less risk for US gas storage to be filled early?

Figure 1: US Natural Gas Storage



Source: EIA

Natural Gas: +22 bcf build in US gas storage; now +249 bcf YoY

For the week ending July 19, the EIA reported a +22 bcf build. Total storage is now 3.231 tcf, representing a surplus of +249 bcf YoY compared to a surplus of +250 bcf last week. Since February, total storage has remained above the top end of the 5-yr range. Total storage is +456 bcf above the 5-year average, below last week's +465 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.

Historical Comparisons

+22 bcf build in US gas storage

Figure 2: US Natural Gas Storage

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		billion	Stocks cubic feet (Bcf)		ear ago 7/19/23)	5-year average (2019-23)		
Region	07/19/24	07/12/24	net change	implied flow	Bcf	% change	Bcf	% change
East	697	686	11	11	667	4.5	607	14.8
Midwest	827	814	13	13	752	10.0	703	17.6
Mountain	251	248	3	3	188	33.5	172	45.9
Pacific	289	289	0	0	232	24.6	263	9.9
South Central	1,167	1,173	-6	-6	1,142	2.2	1,030	13.3
Salt	313	318	-5	-5	313	0.0	273	14.7
Nonsalt	854	855	-1	-1	829	3.0	757	12.8
Total	3,231	3,209	22	22	2,982	8.4	2,775	16.4

Source: EIA



Figure 3: Previous US Natural Gas Storage

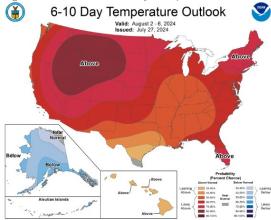
	Previou	ıs 8 weeks	(Bcf)	
Week	Gas in	Weekly	Y/Y Diff	Diff to
Ended	Storage	Change		5 yr Avg
May/31	2,900	105	380	588
Jun/07	2,974	74	364	573
Jun/14	3,045	71	343	561
Jun/21	3,102	57	319	533
Jun/28	3,134	32	275	496
Jul/05	3,199	65	283	504
Jul/12	3,209	10	250	465
Jul/19	3,231	22	249	456

Source: EIA, SAF

Natural Gas: NOAA forecasts hot weather across Lowe 48 for Aug 2-10

Yesterday, we tweeted [LINK] "HH #NatGas prices were -\$0.12 WoW to close at \$2.01. @NOAA's updated 6-10 & 8-14 day temperature outlook covers Aug 2-10 forecasts hot weather across Lower 48. BUT storage is still +249 bcf YoY & above the high end of 5-yr range. #OOTT." Despite the warm weather across a fair amount of the Lower 48, HH prices were down \$0.12 WoW to close at \$2.01 on Frida as US gas storage is still well above the high end of the 5-yr range. Our tweet included NOAA's Saturday update to its short term 6-10 day and 8-14 day temperature outlooks. Yesterday's update has NOAA forecasting hot weather across all of the Lower 48 for the Aug 2-10 period. Below are NOAA's updated, as of yesterday, 6-10 day and 8-14 day temperature outlook maps covering Aug 2-10.

Figure 4: NOAA 6-10 day temperature outlook for Aug 2-10

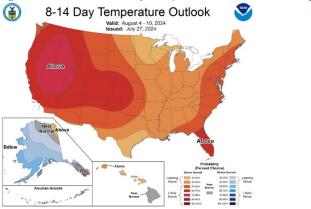


Source: NOAA

NOAA temperature outlook for aug 2-10



Figure 5: NOAA 8-14 day temperature outlook for Aug 4-10



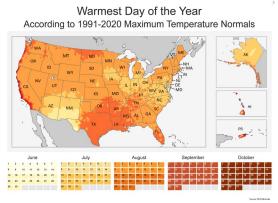
Source: NOAA

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 late July, 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 residential/commercial demand." We checked the link and it still works.

Normal warmest day of the year across the US

Figure 6: NOAA Warmest Day of the Year



Source: NOAA



Natural Gas: US natural gas pipeline exports to Mexico up +7.6% MoM, +9.2% YoY

Also included in the DOE's U.S. Natural Gas Imports and Exports Monthly was a breakout of exports by destination. Natural gas and LNG exports to Mexico were up +7.6% MoM to 6.8 bcf/d in May from 6.3 bcf/d in April and were up +9.2% YoY from 6.2 bcf/d in May 2023. This is just below the all-time high for pipeline exports of 6l.9 bcf/d in August 2023. US natural gas pipeline exports to Mexico are now in line with Q3/23 exports of ~6.8 bcf/d. The DOE doesn't provide a split but for pipeline vs LNG exports to Mexico but we believe essentially 100% of the exports are via pipeline, without any CNG/LNG in the mix. Please note that we will note if we ever believe there are any notable CNG/LNG exports to Mexico. Below is a summary of natural gas via pipeline exports to Mexico from the US. Our Supplemental Documents package includes excerpts from the DOE US Natural Gas Imports and Exports Monthly.

US to Mexico May natural gas exports

Figure 7: US Natural Gas Pipeline Exports to Mexico

(bcf/d)	2016	2017	2018	2019	2020	2021	2022	2023	2024
January	0.9	4.3	4.7	5.3	5.4	5.6	5.7	5.5	6.0
February	3.4	4.6	5.0	5.1	5.3	5.4	5.5	5.5	5.8
March	3.4	4.5	5.2	5.1	5.6	5.9	5.5	5.8	5.9
April	3.5	4.2	4.7	5.0	4.6	6.1	5.9	5.6	6.3
May	3.7	4.3	4.9	5.6	4.7	6.2	6.0	6.2	6.8
June	3.8	5.3	5.5	5.8	5.4	6.6	6.2	6.8	
July	4.0	4.8	5.6	6.2	5.8	6.4	6.1	6.8	
August	4.4	4.6	5.6	5.9	6.1	6.3	5.9	6.9	
September	4.2	4.5	5.4	5.8	6.2	6.0	5.6	6.7	
October	4.2	4.5	5.1	5.7	6.2	6.0	5.5	6.5	
November	4.4	4.8	4.9	5.4	5.6	5.5	5.4	6.0	
December	3.8	4.5	4.9	5.2	5.3	5.4	5.1	5.6	
Average	3.6	4.6	5.1	5.5	5.5	5.9	5.7	6.2	

Source: DOE. SAF

Natural Gas: US LNG exports +1.8 bcf/d, +17.1% MoM to 11.9 bcf/d in May

The restart of Freeport LNG in mid-May led to a partial recovery of US LNG exports. On Wednesday, the Department of Energy (DOE) posted its US LNG exports estimates for May 2024 [LINK]. The DOE normally posts the US LNG export data before the more commonly referenced US LNG exports from the EIA's Natural Gas Monthly, and in this case, on Wednesday whereas the EIA data is set to be released next Wednesday. The EIA is a group within the DOE so the data for LNG exports is either identical or just a rounding issue. US LNG exports were up MoM to 11.9 bcf/d in May from 10.1 bcf/d in April, and down -0.1 bcf/d YoY from May 2023. US LNG exports averaged 11.9 bcf/d per month over 2023, which is +1.3 bcf/d compared to 2022. April was the big month for maintenance at the Freeport LNG 2.1 bcf/d terminal, which returned to full production around May 14, which is reflected in the reported MoM increase. The top five countries destinations were India 1.5 bcf/d, Japan 1.3 bcf/d, Netherlands 1.2 bcf/d, South Korea 0.9 bcf/d and Germany 0.8 bcf/d. The DOE did not comment on the MoM or YoY changes. Our Supplemental Documents package includes excerpts from the U.S. Natural Gas Imports and Exports Monthly.

US May LNG exports



Figure 8: US Monthly LNG Exports

(bcf/d)	2016	2017	2018	2019	2020	2021	2022	2023	2024
January	0.0	1.7	2.3	4.1	8.1	9.8	11.4	10.9	12.8
February	0.1	0.9	2.6	3.7	8.1	7.4	11.3	11.7	12.4
March	0.3	1.4	3.0	4.2	7.9	10.4	11.7	11.8	11.9
April	0.3	1.7	2.9	4.2	7.0	10.2	11.0	12.5	10.1
May	0.3	2.0	3.1	4.7	5.9	10.2	11.3	11.8	11.9
June	0.5	1.7	2.5	4.7	3.6	9.0	10.0	10.9	
July	0.5	1.7	3.2	5.1	3.1	9.7	9.7	11.3	
August	0.9	1.5	3.0	4.5	3.6	9.6	9.7	11.4	
September	0.6	1.8	2.7	5.3	5.0	9.5	9.8	11.6	
October	0.1	2.6	2.9	5.7	7.2	9.7	10.0	12.4	
November	1.1	2.7	3.6	6.4	9.4	10.2	10.1	12.9	
December	1.3	2.7	4.0	7.1	9.8	11.1	11.0	13.6	
Full Year	0.5	1.9	3.0	5.0	6.6	9.7	10.6	11.9	

Source: EIA, DOE

Freeport LNG 2.1 bcf/d returned from maintenance on May 14

As noted above, the reason for the MoM increase in LNG exports was the 2.1 bcf/d Freeport LNG returning from maintenance on May 14. Note that Freeport LNG subsequently had issue post Hurricane Beryl. Here is what we wrote in our May 19, 2024 Energy Tidbits memo on Freeport LNG. "On Tuesday, we tweeted [LINK] "Freeport LNG is back! #NatGas supplying Freeport LNG is back to its capacity of ~2.1 bcf/d. Thx @ruthcoversIng #OOTT. Bloomberg reported that repairs and maintenance were completed and natural gas flows had returned to full capacity of 2.1 bcf/d. Our tweet included the below Bloomberg graph of natural as flows into Freeport LNG."

Natural Gas: Freeport LNG, post Beryl, ramping back to 2.1 bcfd capacity this week Last week's (July 21, 2024) Energy Tidbits note Freeport LNG was still not producing at full ~2.1 bcf/d capacity post Hurricane Beryl. And, as of last Sunday, only one train was producing. As of our 7am MT news cut off, the reports are that Freeport started to ramp up a second train this week and the third train is ramping up and should be fully back up this week. Bloomberg reported that natural gas flows to Freeport LNG were up to 1.2 bcf/d by Friday. LNG tanker loadings started last week. Below is Bloomberg's graph of LNG tanker loadings to Thurs July 25.

Freeport LNG at reduced capacity

Figure 9: Freeport LNG tanker loadings effective to July 25



Source: Bloomberg

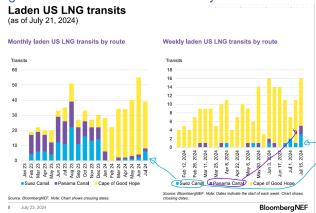


Natural Gas: US LNG tankers increasing voyages via Suez Canal

Yesterday, we tweeted [LINK] "Little surprised to see more US #LNG tankers going via Suez Canal. June was Houthis most active drone/missile attack month and July is an other active drone/missile attack month. Thx @BloombergNEF #OOTT." On Tuesday, BloombergNEF posted its LNG Trade Weekly and included the chart that we attached to our tweet. We were surprised to see more US LNG tankers going thru the Suez Canal considering the Houthis ramped up missile/drone attacks in June and July has been an active Houthis attack month. We looked but couldn't find any commentary on the increasing US LNG via Suez Canal and what is driving this. So, at least for now, our only commentary is that we are surprised given the increasing Houthi attacks.

US LNG tankers increasing via Suez Canal





Source: Bloomberg

June saw most Houthis attacks in 2024

Here is what we wrote in our July 7, 2024 Energy Tidbits memo. "In Tuesday, we tweeted [LINK] "June saw most Houthis attacks in 2024. — @alexlongley1. Prior to, it was looking like the big increase in US/UK attacks on Houthis missile & radar sites was working ie. less missile sites = Houthi attacks down. Houthis aren't going away for now. #OOTT." Our tweet included the below Bloomberg graph that showed Houthis attacks have steadily decreased in Mar, April and May but jumped up in June to the most attacks this year. The monthly declines made sense given the US/UK have cranked up their attacks on Houthi missile and radar sites. So the June increase is a surprise. Bloomberg wrote "Yemen's Houthi rebels conducted the largest number of attacks on commercial ships so far in 2024 in June, fresh proof that the group's threat to trade intensified in recent weeks. There were 16 confirmed attacks on ships in June, according to figures published by the naval forces operating in the region. That's the most for any single month in 2024, and was only eclipsed in December when more vessels were still sailing through the region. Separate figures published by the Washington Institute show a similar trend." The Houthis have somehow been able to add additional missile sites to offset the losses. And as we have been warning, we just don't see the Houthis giving up anytime soon. Our Supplemental Documents package includes the Bloomberg report."



Figure 11: Houthis ship attacks since Nov 2023 **Houthi Ship Attacks on the Rise Again** June was the busiest month of incidents this year Attacks on vessels in the Red Sea and Gulf of Aden Maγ Bloomberg

Source: Bloomberg

Natural Gas: Mexico's natural gas production stuck below 5 bcf/d

On Friday, Pemex posted its natural gas production data for June [LINK] and also held its Q2 call, which provided a little color on its natural gas production. Pemex reported June 2024 natural gas production of 4.606 bcf/d, which is down -8.5% YoY and up +2.6% MoM. Mgmt's comments on the Q2 call were more on its oil production and how their focus is on developing new fields to try to offset declines in its maturing production base. In their prepared remarks, mgmt said "As for hydrocarbon gas production in the second quarter, it decreased by 389 million cubic feet per day compared to the same period of '23, reaching a volume of 3,731 million cubic feet per day as a consequence of the causes already mentioned for liquids." Last month, May's production marked a new low since May of 2020, which we believe was due to the April 6 fire on the Akai-8 platform that impacted April and May production. The big picture story for Mexico natural gas for the past six years has been that Mexico natural gas production has been stuck at or below 5 bcf/d, and that means any increased domestic natural gas consumption has been met by US natural gas imports. . Below is our ongoing table of Pemex reported monthly natural gas production.

Figure 12: Mexico Natural Gas Production

3									
Natural Gas Production bcf/d	2017	2018	2019	2020	2021	2022	2023	2024	24/23
Jan	5.326	4.910	4.648	5.005	4.848	4.713	4.955	4.780	-3.5%
Feb	5.299	4.853	4.869	4.942	4.854	4.646	4.979	4.777	-4.1%
Mar	5.383	4.646	4.857	4.946	4.839	4.766	5.035	4.768	-5.3%
Apr	5.334	4.869	4.816	4.827	4.671	4.740	5.095	4.500	-11.7%
May	5.299	4.827	4.841	4.460	4.730	4.702	5.034	4.488	-10.8%
June	5.253	4.840	4.843	4.754	4.727	4.744	5.035	4.606	-8.5%
July	5.216	4.856	4.892	4.902	4.725	4.815	4.936		
Aug	5.035	4.898	4.939	4.920	4.656	4.796	4.947		
Sept	4.302	4.913	5.017	4.926	4.746	4.798	4.969		
Oct	4.759	4.895	4.971	4.928	4.718	4.795	4.950		
Nov	4.803	4.776	5.015	4.769	4.751	4.845	4.888		
Dec	4.811	4.881	5.024	4.846	4.697	4.845	4.786		

Source: Pemex, SAF

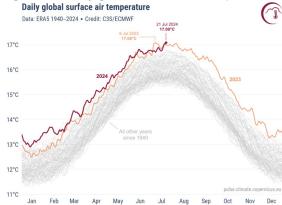
Natural Gas: Sunday July 21st was the hottest day globally in recent history It turns out that being Sunday July 21 being the hottest day in recent world history didn't last long, in fact it was topped by Monday July 22. But prior to losing the crown, the EU's

Hottest day on earth in recent history



Copernicus reported that Sunday, July 21st, was the hottest day on earth in recent history [LINK]. The earth's global temperature reached the highest since at least 1940 at 17.09°C, breaking the previous record of 17.08 Degrees, set July 6, 2023. Copernicus Director Carlo Butontempo said "On July 21st, C3S recorded a new record for the daily global mean temperature. What is truly staggering is how large the difference is between the temperature of the last 13 months and the previous temperature records. We are now in truly uncharted territory and as the climate keeps warming, we are bound to see new records being broken in future months and years." Below is a graph from the Copernicus report showing the historical daily global surface air temperature. Our Supplemental Documents Package contains the report from Copernicus.





Source: Copernicus

Natural Gas: ConocoPhillips signs 2 LT LNG supply contracts into Europe and Asia On Wednesday, ConocoPhillips announced on LinkedIn and on X that they have signed 2 new LNG supply deals into Belgium and Asia [LINK]. There was limited information on the deals and no press release. For the deal into Belgium is for the delivery of 0.75 mtpa or 0.10 bcf/d of LNG into Fluxys' terminal in Zeebrugge, Belgium, beginning in April of 2027. And we have seen separately reported the term is 18 years. There has been no reports or information on the deal into Asia other than that it will start in 2027. Our Supplemental Documents Package includes the ConocoPhillips post from LinkedIn.

There have been 24.56 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 Conoco deal into Belgium. But we have not included Conoco's deal into Asia. 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 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 24.56 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 14: Long-Term LNG Buyer Deals Since July 1, 2021

Figure	e 14: Lon	ıg- I erm I	LNG Buy	er L)eal	s Si	nce	July 1	, 2021						
Long-Term L	NG Buyer Deals Since								NG Buyer Deals Since Ju						
Date	Buyer	Seller	Country Buyer / Seller	Volume (bcf/d)	Duration Years	Start	End	Date	Buyer	Seller		Volume (bcf/d)		Start	End
Asian LNG De	eals		Buyer / Seller	(DCI/U)	rears			Non-Asian LN	G Deals		Buyer / Seller	(DCI/G)	ieais		
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	QatarEnergy	Taiwan / Qatar	0.16	15.0	2022	2037	Nov 12, 2021	Engle	Cheniere	France / US	0.11	20.0	2021	2041
Jul 9, 2021 Jul 12, 2021	Guangzhou Gas Korea Gas	BP QatarEnergy	China / US Korea / Qatar	0.13 0.25	12.0 20.0	2022 2025	2034 2045	Mar 7, 2022 Mar 16, 2022	Shell NFF	Venture Global LNG Venture Global LNG	US / US US / US	0.26	20.0	2024 2023	2044 2043
Sep 29, 2021	CNOOC	QatarEnergy	China / Qatar	0.23	15.0	2023	2045	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	Unipec	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	Sinopec Sinochem	Venture Global LNG Cheniere	China / US	0.53	20.0	2023	2043	Jun 9, 2022	Equinor	Cheniere	Norway / US	0.23	15.0	2026	2041
Nov 5, 2021 Nov 22, 2021	Sinocnem Foran	Cheniere	China / US China / US	0.12	17.5 20.0	2022	2040 2043	Jun 21, 2022 Jun 22, 2022	EnBW INEOS Energy	Venture Global LNG Sempra Infrastructure	Germany / US UK / US	0.20	20.0	2026 2027	2046 2047
Dec 6, 2021	Guangdong Energy	QatarEnergy	China / Qatar	0.13	10.0	2023	2034	Jun 22, 2022	Chevron	Venture Global LNG	US / US	0.26	20.0	n.a.	n.a.
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	2042
Dec 10, 2021	Suntien 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 OLIVER	China / US China / US	0.03	10.0 20.0	2023 2023	2033	Jul 13, 2022	Vitol Centrica	Delfin Midstream	US / US UK / US	0.07	15.0 15.0	n.a. 2026	n.a. 2041
Dec 20, 2021 Dec 29, 2021	CNOOC Gas & Power Foran	Venture Global LNG BP	China / US	0.26	10.0	2023	2043	Aug 9, 2022 Aug 24, 2022	Shell	Delfin Midstream Energy Transfer	US / US	0.13	20.0	2026	2041
Jan 11, 2022	ENN	Novatek	China / Russia	0.01	11.0	2023	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	Gazprom	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	PKN ORLEN	Sempra Infrastructure	EU//US	0.13	20.0	2027	2047
Apr 1, 2022 Apr 6, 2022	Guangzhou Gas FNN	Mexico Pacific Ltd NextDecade	China / Mexico China / US	0.26	20.0	n.a. 2026	n.a. 2026	Jan 30, 2023 Mar 27, 2023	BOTAS Shell	Oman Mexico Pacific Ltd	Turkey / Oman UK / Mexico	0.13	10.0 20.0	2025	2035 2046
Apr 22, 2022	Kogas	RP RP	Korea / US	0.20	18.0	2026	2020	Apr 24, 2023	Hartree Partners LP	Delfin Midstream	US / US	0.15	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 3, 2022	SK Gas Trading LLC	Energy Transfer LNG	Korea / US	0.05	18.0	2026	2042	Jun 22, 2023	SEFE	Venture Global LNG	EU//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
	Petronas LNG	Venture Global LNG	Malaysia / US	0.13	20.0	n.a.	n.a.	Jul 18, 2023	IOCL	Adnoc BP	India/UAE	0.16	14.0	2026	2040
	Hanwha Energy POSCO International	TotalEnergies Cheniere	Korea / France Korea / US	0.08	15.0 20.0	2024 2026	2039 2036	Jul 28, 2023 Aug 4, 2023	OMV ConocoPhillips	Mexico Pacific Ltd	Austira/UK US/Mexico	0.13	10.0 20.0	2026 2025	2036 2045
June 5, 2022		Energy Transfer	China / US	0.09	25.0	2026	2051	Aug 22, 2023	BASF	Cheniere	Germany / 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 2026	2046 2046	Oct 23, 2023 Oct 31, 2023	ENI Vitol	QatarEnergy	Italy / Qatar Sweden / US	0.13	27.0 15.0	2026 2028	2053 2043
Sep 2, 2022 Nov 21, 2022	Woodside Singapore Sinopec	Commonwealth QatarEnergy	Singapore / US China / Qatar	0.53	27.0	2026	2053	Nov 29, 2023	OMV	Chesapeake Energy Cheniere	Netherlands / US	0.13	15.0	2029	2043
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	ITOCHU	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 ADNOC	France / Oman	0.11	10.0	2025	2035
Feb 23, 2023 Mar 6, 2023	China Gas Holdings Gunvor Singapore Pte	Venture Global LNG Chesapeake Energy	China / US Singapore / US	0.26	20.0 15.0	n.a. 2027	n.a. 2042	May 8, 2024 June 13, 2024	EnBW Saudi Aramco	ADNOC NextDecade	Germany / UAE Saudi Arabia / US	0.08	15.0 20.0	2028	2043
Apr 28, 2023	JERA	Venture Global LNG	Japan / US	0.20	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	Fluxys	ConocoPhillips	Belgium / US	0.10	18.0	2027	2045
Jun 1, 2023	Bangladesh Oil	QatarEnergy	Bangladesh / Qatar	0.24	15.0	2026	2031		an LNG Buyers New Lor			9.17			
Jun 21, 2023	Petro Bangle	Oman	Bangledesh / Oman	0.20	10.0	2026	2036								
Jun 21, 2023	CNPC	QatarEnergy	China / Qatar	0.53	27.0	2027	2054								
Jun 26, 2023 Jul 5, 2023	ENN LNG Zhejiang Energy	Cheniere Mexico Pacific Ltd	Singapore / US China / Mexico	0.24	20.0	2026 2027	2046 2047		ng Term LNG Contracts an short term/spot deals	since Jul/21		24.56			
Aug 8, 2023	LNG Japan	Woodside	Japan / Australia	0.13	10.0	2027	2047		21 CNOOC agreed to buy	an additional 0.13 bcf/d fr	om Venture Global fo	r an undis	closed she	orter perio	d
Sep 7, 2023	Petrochina	ADNOC	China / UAE	n.a.	n.a.	n.a.	n.a.		berg, Company Reports						
Nov 2, 2023	Foran	Cheniere	China / US	0.12	20.0	n.a.	n.a.	Prepared by S	AF Group https://safgrou	p.ca/news-insights/					
Nov 4, 2023	Sinopec	QatarEnergy	China/Qatar	0.39	27.0	2026	2053								
Nov 27, 2023 Dec 20, 2023	Gunvor Singapore Pte	Delfin Midstream ADNOC	Singapore / US	0.10	15.0 15.0	n.a. 2028	n.a. 2043								
Jan 5, 2024	ENN GAII	ADNOC Vital	Singapore / UAE India / Singapore	0.13	15.0	2028	2043								
Jan 8, 2024	Shell	Ksi Lisims LNG	Singapore / Canada	0.13	20.0	2020	2036								
Jan 16, 2024	ExxonMobil	Mexico Pacific Ltd	Singapore / Mexico	0.16	20.0	2024	2044								
Jan 29, 2024	Excelerate	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 Feb 28, 2024	Deepak Fertilisers Kogas	Equinor Woodside	India / Norway Korea / Australia	0.09	15.0 10.5	2026	2041								
Feb 28, 2024 Feb 29, 2024	Kogas Sembcorp	TotalEnergies	Singapore / France	0.07	16.0	2026	2037								
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		Santos	Japan / Australia	0.05	10.0	2027	2037								
Jun 4, 2024 Jun 5, 2024	IOCL CPC	TotalEnergies QatarEnergy	India / France Taiwan / Qatar	0.11	10.0 27.0	2026 2025	2036 2052								
Jun 5, 2024 Jul 11, 2024	CPC	QatarEnergy Woodside	Taiwan / Qatar Taiwan / Australia	0.53	10.0	2025	2052								
	NG Buyers New Long			15.39	10.0	LULT	2004								

Source: SAF

Natural Gas: Japan expects hot temperatures to continue thru at least late Aug

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, July 27 thru Aug 26, in Japan [LINK]. There is no JMA commentary on the forecast. JMA is calling for well above normal temperatures for the rest of July and into August, with a +70% probability of above normal temperature occurrence. We checked AccuWeather and they are forecasting daily highs in of 31-36C for the next 30 days. Anyone who has been to Tokyo in

JMA temperature forecast for the next 30 days



July or 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.

Figure 15: JMA Average Temperature Outlook for July 27 – August 26



Source: Japan Meteorological Agency

In line with JMA 06/27/24 forecast for hot temperatures for Jul/Aug/Sept

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

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



Source: Japan Meteorological Agency

Natural Gas: Japan LNG stocks up WoW, up YoY

Japan's LNG stocks are up WoW, up YoY, and are up from the 5-year average. On Wednesdays, Japan's METI releases its weekly LNG stocks data [LINK]. LNG stocks on July 21 were 112.9 bcf, up +6.8% WoW from July 14 of 105.7 bcf, and up +21.1% from 93.2 bcf

Japan LNG stocks up WoW



from a year ago. Stocks are up +7.3% from the 5-year average of 105.2 bcf. Below is the Japanese LNG stocks graph from the METI weekly report.

Figure 17: Japan LNG Stocks



Source: METI

Natural Gas: Russia pipeline gas to China 3.7 bcf/d in 2025 vs 2.2 bcf/d in 2023

Please keep in mind the reminder that Russia expects it will be able to increase the Power of Siberia capacity of 3.7 bcf/d. They don't specify how but the easy answer for all natural gas pipelines is add more compression. For the past few years, we have been calling for zero or very little growth in China LNG imports because of increasing cheaper Russia natural gas supplies via pipeline and modest increases to China domestic natural gas production. Both of those factors are expected to continue over the next few years. On Tuesday, we tweeted [LINK] "Holdback to 2025 #LNG China imports & LNG prices. Russia expects to increase Power of Siberia #NatGas pipeline exports to China to 3.7 bcf/d in 2025, which is +1.5 bcf/d vs 2.2 bcf/d in 2023. Cheaper priced RUS pipeline gas win the day vs more expensive LNG imports. #OOTT." Our tweet included the TASS report [LINK] TASS reported "In 2023, Russia exceeded the plan for gas supplies to China through the Power of Siberia pipeline by 800 million cubic meters, in 2025 supplies will reach 38 billion cubic meters, said Deputy Minister of Energy of the Russian Federation Sergei Mochalnikov at a meeting of the Russian-Chinese intergovernmental commission on energy. "In 2023, the plan for the supply [of gas via the Power of Siberia] was exceeded by 800 million cubic meters, they amounted to 22.7 billion cubic meters." That is increasing from 2.2 bcf/d in 2023 to 3.7 bcf/d in 2025. Plus at the end of the TASS report, they remind they can increase capacity "Later, Miller said that China is considering the possibility of increasing Russian gas supplies through the Power of Siberia in excess of the design capacity of 38 billion cubic meters." We expect this to be realistic by adding compression. Our Supplemental Documents package includes the TASS report.

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

Here is what we wrote in our June 9, 2024 Energy Tidbits memo. "For years, we have warned that how Chinese natural gas pipeline imports from Russia would be prioritized over LNG imports due to the cheap cost of Russian pipeline gas. On Monday, we tweeted [LINK] "It's way cheaper! And why China prioritizes imports of RUS #NatGas via pipeline vs #LNG imports. 2019-21: China only paid \$4.40/mmbtu

Russia to increase pipeline gas to China



for RUS pipeline gas vs RUS charged Europe ~\$10/mmbtu. See — @maxseddon @NastyaStognei @HenryJFoy @leahyjoseph report. #OOTT." The FT report "Russia-China gas pipeline deal stalls over Beijing's price demands" was focused on China wanting too low a natural gas price for the next expansion of Russian pipeline natural gas to China. But what jumped out at us was the reminder that China is currently getting cheap natural gas from Russia. FT wrote "China already pays Russia less for gas than to its other suppliers, with an average price of \$4.4 per million British thermal units, compared with \$10 for Myanmar and \$5 for Uzbekistan, the CGEP researchers calculated from 2019-21 customs data. During the same years Russia exported gas to Europe at about \$10 per million Btu, according to data published by the Russian central bank." Our Supplemental Documents package includes the FT report."

Natural Gas: China sees natural gas consumption +2.9 bcf/d YoY to 41.1 bcf/d in 2025 On Tuesday, Xinhua reported "China to consume up to 7.7 pct more natural gas in 2024: report" [LINK], China's National Energy Administration forecasts China natural gas consumption to be +2.9 bdf/d YoY to 41.1 bcf/d in 2024 vs 38.2 bcf/d in 2023. And that China's domestic natural gas production to be +1.0 bcf/d to 23.8 bcf/d. Xinhua did not provide any NEA estimate of China LNG or natural gas via pipeline imports but the pie to be divided is only 1.9 bcf/d.

China natural as consumption

China natural as consumption

Natural Gas: Natural gas was only 8.5% of China's primary energy mix in 2023

The above Xinhua referenced report also reminded "Last year, the country consumed a total of 394.5 billion cubic meters of natural gas, up 7.6 percent year on year. Natural gas accounted for 8.5 percent of China's total primary energy consumption, an increase of 0.1 percentage points from the previous year, data from the report showed." A lot has happened in the last seven years especially how the pandemic totally disrupted most countries' transition or basic energy development plans. But, the reason why we say it was "only" 8.5% is that China had target natural gas to reach 10% of its energy mix in 2000 and 15% of its energy mix in 2030. nN 2016, natural gas was 5.9% of China's energy mix, which is we wrote our Sept 20, 2017 blog "China's Plan To Increase Natural Gas To 10% Of Its Energy Mix Is A Global Game Changer Including For BC LNG" that noted "The news flow from China this summer on its increasing fight and urgency to fight pollution supports China's plan to increase natural gas to 10% of its energy mix in 2020 and 15% of its energy mix in 2030. This is a game changer to global natural gas markets and, by itself, can bring LNG to undersupply 2 to 3 years earlier than expected. China's natural gas consumption increased by ~15% per year from 2005 thru 2016 and ~1.5 bcf/d per year vs China's 8.5% growth rate in energy in total. Yet natural gas only got to 5.9% of China's energy mix. If China is to hit 10% by 2020, it will need to increase natural gas consumption by 4 to 5 bcf/d per year. Assuming China continues to grow its domestic natural gas production by 0.6 bcf/d per year (its growth rate for last five years), China will need to import an additional ∼3.5 to ∼4.5 bcf/d per year. This is "per year"! And if so, we believe BC LNG will be back and there is a higher probability than ever before for a Shell FID on its BC LNG project in 2018."

EU gas storage forecast to be full

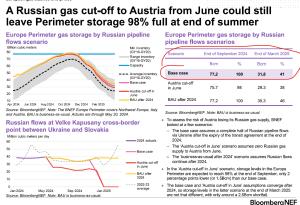
Natural Gas: BloombergNEF forecast Europe gas storage full by end of Sept

When we look at the weekly Europe gas storage data, it continues to look like Europe gas storage is on track to be full before winter and increasingly sooner than the be full by Sept 30



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

Figure 18: Europe Gas storage forecast



Source: BloombergNEF

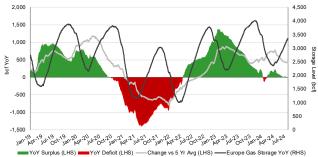
Natural Gas: Europe storage builds WoW to 83.6%, flat YoY

This week, Europe storage increased by +1.6% WoW 83.6% vs 82.0% on July 18. Storage is down -0.6% from last year's levels of 84.3% on July 25, 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 90%, injections start to slow down and LNG inbound cargoes will start to be 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.

Europe gas storage



Figure 19: European Gas Storage Level



Source: Bloomberg, SAF

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

We have been breaking out Ukraine gas storage levels since the Mar/Apr Russian bombing of the Ukraine natural gas storage, which only impacted some above ground natural gas infrastructure. But it also reminded that of the risk to Europe gas storage from Russia attacks. We broke out the Ukraine storage data from the above Europe data we monitor weekly from the GIE AGSI website [LINK], and, on July 25th, natural gas in Ukraine storage was at 19.8% of its total capacity, up from 19.2% of its total capacity on July 18th. Last year, Ukraine storage started the winter on Nov 1, 2023 at 39.38%. Right now, Ukraine makes up ~7% of Europe's natural gas in storage and, at the beginning of winter 2023/24, it was ~10% of Europe's natural gas in storage. Below is a map of Ukraine's major gas storage facilities.

Figure 20: Ukraine Gas Storage Facilities as of July 2023



Source: Bruegel

Oil: US oil rigs up +5 rigs WoW but -47 rigs YoY to 482 rigs

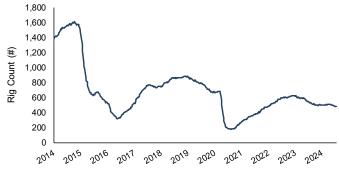
On Friday, Baker Hughes released its weekly North American drilling rig data. (i) Note Baker Hughes no longer breaks out the basin changes by oil vs gas rig type. (ii) Total US oil rigs were up +5 rigs WoW to 482 oil rigs as of July 26. US oil rigs went below 520 rigs on Aug 25 and has been around 490-510 rigs for the past several months, however, last week'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 Arkoma Woodford +1 rig WoW

US oil rigs down -47 YoY



to 2 rigs, Cana Woodford +1 rig WoW to 17 rigs, Eagle Ford +1 rig WoW to 50 rigs, Mississippian -1 rig WoW to 0 rigs, Permian -1 rig WoW to 304 rigs, and Williston +1 rig WoW to 36 rigs. (iv) The overlooked US rig theme is the YoY declines. Total US rigs are -75 YoY to 586 rigs including US oil rigs -47 oil rigs YoY to 482 oil rigs. And for the key basins, the Permian is -30 rigs YoY, Haynesville is -9 rigs YoY and Marcellus -9 rigs YoY. (v) US gas rigs were down -2 rigs this week to 101 gas rigs.

Figure 21: Baker Hughes Total US Oil Rigs



Source: Baker Hughes, SAF

Oil: Permian oil rigs to be impacted by Waha natgas prices being very low or negative Yesterday, we tweeted [LINK] "Waha #NatGas -\$0.02 WoW to \$0.28 on July 25 close. Better than recent negative prices but still very low. Permian #Oil wells produce associated #NatGas. So 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." This week, Waha natural gas prices were +\$002 WoW to close at \$0.28 on July 25, which is the latest closing price for Waha posted on Bloomberg. It's better than the recent dips into negative Waha prices at times in April, May, June and July. This price volatility is also a reason why Permian oil rigs have been soft. The natural gas from the Permian is the associated natural gas that is produced from Permian oil wells. So if there is near term concerns on Waha natural gas prices, it will impact oil drilling from smaller Permian players. Our tweet included an excerpt from the Dallas Fed quarterly energy survey that was posted two weeks ago [LINK] One of their special questions was "What impact will low Waha Hub natural gas prices likely have on your firm's drilling and completion plans in the Permian for the rest of 2024? " Dallas Fed summarized the responses "The Waha Hub is a gathering location for natural gas in the Permian Basin that connects to major pipelines. Of the executives surveyed, 43 percent said low Waha Hub natural gas prices won't likely affect their firm's drilling and completion plans in the Permian for the rest of 2024. Meanwhile, 43 percent expect a slightly negative impact, and an additional 14 percent said the low Waha Hub prices will have a significantly negative impact on drilling and completion plans for the rest of this year in the Permian. Small E&P firms were more likely to expect negative impacts."

Waha gas prices closed at \$0.28

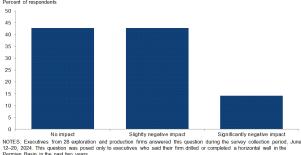


Figure 22: Waha Natural Gas Prices to July 25 close



Source: Bloomberg

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



NOTES: Executives from 28 exploration and production firms answered this question during the survey collection period 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: Nabors survey, Lower 48 rigs modestly lower from Q2 to yr-end 2024

On Wednesday, we tweeted [LINK] "Lower 48 rigs modestly lower to yr-end. "latest survey indicates this group's year-end 2024 rig count will be modestly lower than the total at the end of the second quarter" Nabors survey of 16 operators accounting for ~47% of Lower 48 working rigs at end of Q2. Supports 👇 07/18 tweet Liberty Energy (big US fracker) view why flat #Oil #NatGas production at best in H2. #OOTT." Nabors held its Q2 call on Wednesday and, as always, mgmt gives a near-term outlook for Lower 48 rig activity based on their survey of the US big oil and gas companies. These companies represent 47% of the working rigs at the end of Q2 are calling for a modest decline in rig activity to year-end. Nabors said "We surveyed the largest lower 48 clients at the end of the second quarter. Our survey covers 16 operators, which accounted for approximately 47% of the Lower 48 industry's working rigs at the end of the guarter. The latest survey indicates this group's year-end 2024 rig count will be modestly lower than the total at the end of the second quarter. Essentially, all of the projected decline relates to announced merger activity. The operators not involved in mergers project activity to remain at current levels. Aside from the mergers, we believe that clients remain cautious about their plans for 2024, particularly in gas-focused spaces."

Oil: Baker Hughes tempers Lower 48 H2/24 rig expectations

Baker Hughes held its Q2 call on Friday. Mgmt was not specific nor did analysts ask specific questions on what Baker Hughes expects for Lower 48 drilling activity in H2/24. But, mgmt's prepared remarks seemed to point to Lower 48 rigs at best flat in H2/24. In their prepared remarks, mgmt said "Our global upstream spending outlook for the year is revised slightly

Nabors: US rigs modestly lower to yr-end

Baker Hughes H2 rig expectations



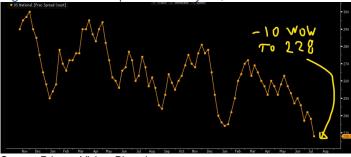
lower due to North American softness. In North America, we previously expected the market to decline in the low to mid-single-digit range compared to last year. Due to lower than-expected first-half rig activity and tempered second-half expectations, we now expect year-over-year declines in North America spending to be down in the mid single-digits."

Oil: US frac spreads -17.2% YoY, Permian frac spreads -13.8% YoY

Last week's (July 21, 2024) Energy Tidbits memo highlighted the comments from the two big US frac service companies, Liberty Energy and Haliburton, on US frac activity was down in Q2 and should hopefully bottom out in H2/24. And Liberty Energy CEO specifically said how the current frac spread levels point to US oil and natural gas production likely being flat at best. Bloomberg posts the Primary Vision US frac spreads by basin on the terminal on Monday's. And the US frac spreads continue to be much lower YoY. On Monday, we tweeted [LINK] "Frac spread count fits why Liberty Energy CEO 06/18 — sees flat US #Oil #NatGas production at best in H2. 07/19/24 frac spreads per @PrimaryVision @business. Total US: 228, -10 WoW, -46 YoY. Permian: 125, -8 WoW, -20 YoY. #OOTT." On July 19, 2024, total US frac spreads down -10 WoW to 228. Permian frac spreads down -8 WoW to 125. And vs year ago July 21, 2023, total US frac spreads down -46 (-17.2%) YoY vs 274 frac spreads at July 21, 2023. Permian frac spreads down -20 (-13.8%) YoY vs 145 Permian frac spreads at July 21, 2023.

US frac spreads -17.2% YoY

Figure 24: US frac spreads to July 19, 2024



Source: Primary Vision, Bloomberg

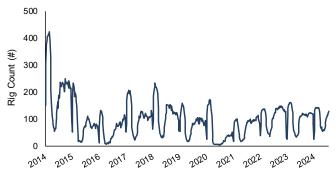
Oil: Total Cdn rigs up +15 rigs WoW, consistent with seasonal ramp-up

As happens every year in Canada, rigs start a strong seasonal ramp up after Spring breakup. Spring break up is when melting snow leads to road access being limited/restricted in many parts of Alberta and BC and rigs dramatically decrease from peak winter drilling levels. Then after spring break-up (normally in early June), Cdn rigs start their steady ramp up. Total Cdn rigs declined from 231 at the beginning of March to 114 in early June. This week's rig count was up +15 rigs WoW to 211 rigs. This week looks to continue the ramp up we saw beginning last month that follows every spring break up, despite the increasing wildfires. Cdn oil rigs were up +14 rigs WoW this week to 144 rigs and are up +23 rigs YoY. Gas rigs are up +1 rig WoW this week to 67 rigs and are down -5 rigs YoY, and miscellaneous rigs are down -1 rig WoW to 0 rigs total and flat YoY. Baker Hughes did not update their old format report, so we weren't able to see the provincial breakouts.

Cdn total rigs up WoW



Figure 25: Baker Hughes Total Cdn Oil Rigs



Source: Baker Hughes, SAF

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

The EIA's weekly oil supply estimates have been essentially unchanged for the last nine months ranging from 13.1 to 13.3 mmb/d with the weekly estimates in June all at 13.2 mmb/d, and this week's estimate is flat WoW at 13.3 mmb/d for the third consecutive week. We have to give the EIA credit for putting out weekly oil supply estimates for the prior week. That can't be easy so no one should be surprised that the EIA weekly oil supply estimates, based on the Form 914 actuals, will sometimes require re-benchmarking. And sometimes the re-benchmarking can be significant and other times, it is relatively small. Here's what the EIA wrote on their website back in April with the April STEO: "When we release the Short-Term Energy Outlook (STEO) each month, the weekly estimates of domestic crude oil production are reviewed to identify any differences between recent trends in survey-based domestic production reported in the Petroleum Supply Monthly (PSM) and other current data. If we find a large difference between the two series, we may re-benchmark the weekly production estimate on weeks when we release STEO. This week's domestic crude oil production estimate incorporates a re-benchmarking that decreased estimated volumes by 177,000 barrels per day, which is about 1.3% of this week's estimated production total". On July 9, the EIA released its July STEO. There was an upward revision to Q2/24 production estimates to 13.21 mmb/d from 13.17 mmb/d, and Q1/24 production estimates were unchanged at 12.94 mmb/d. This week, the EIA's production estimates were flat at 13.300 mmb/d for the week ended July 19. Alaska was down -0.008 mmb/d WoW to 0.414 mmb/d from 0.422 mmb/d last week. Below is a table of the EIA's weekly oil production estimates.

US oil production flat WoW

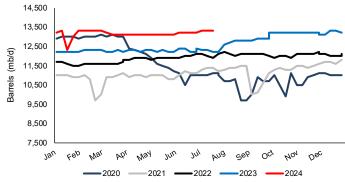


Figure 26: EIA's Estimated Weekly US Field Oil Production (mb/d)

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

Source: EIA

Figure 27: EIA's Estimated Weekly US Oil Production



Source: EIA

Oil: Expect additional wastewater restrictions with more Permian earthquakes

On Friday, we tweeted [LINK] "Worth watching! Texas RRC "will evaluate next steps that can be taken to mitigate earthquakes" reports — @DavidWethe. Pulled TexNet earthquakes >3 in last two weeks. Thx @Bureau3E. Normal remedies tend to be moving wastewater disposal further away, or deeper zones. #OOTT." Our tweet only included the 15 earthquakes above 3 in the past two weeks, there were multiple more smaller earthquakes. Our tweet forwarded the Bloomberg report that said "The Texas oil regulator said it's investigating after several earthquakes hit the Permian Basin this week. Extremely salty water that naturally comes out of oil wells is discarded by injecting the slurry back into the ground, a practice that has been known to trigger quakes. The Texas Railroad Commission is inspecting so-called disposal wells within 2 1/2 miles of the cluster of temblors in the Camp Springs area, said Patty Ramon, a spokesperson for the state agency. That region is roughly 100 miles (160 kilometers) northeast of Midland, the unofficial capital of the oil-rich Permian. "The RRC will evaluate next steps that can be taken to mitigate earthquakes," Ramon said. "We'll continue to take measures necessary to protect the environment and residents in the area." We

More Permian earthquakes



checked and there is nothing posted on the Texas RRC Seismicity Response [LINK]. In our previous comments on Permian Basin earthquakes, we said the normal Texas RRC practice is to add wastewater restrictions, which add more costs/time for Permian water disposal. This typically involves disposing of waste water further away or into deeper zones. We remind that the big difference for the US plays is that earthquakes are associated with waste water disposal and normally not fracking. This means that the drilling/fracking can continue but the producers have to find some other place to dispose of the wastewater. This is added costs/time but doesn't stop drilling/fracking. This has been the normal practice for Texas RRC response to earthquakes. However, we will want to watch to see what additional restrictions are put on by the Texas RRC. Our Supplemental Documents package includes the TexNet earthquake maps attached to our tweet.

Oil: US SPR less commercial reserve deficit narrows, now -62.073 mmb

The US Strategic Petroleum Reserves (SPR) continues to be much lower than total US commercial crude oil reserves. The SPR went back below commercial for the first time since 1983 in the Sep 16, 2022 week. This week, we saw a build on the SPR side and a draw on the commercial side. The EIA's weekly oil data for July 19 [LINK] saw the SPR reserves increased +0.690 mmb WoW to 374.412 mmb, while commercial crude oil reserves decreased -3.471 mmb to 436.485 mmb. There is now a -62.073 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.

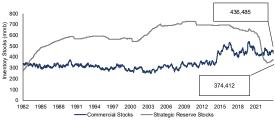
US SPR reserves

Figure 28: Strategic Petroleum Reserve Stocks and SPR WoW Change



Source: EIA

Figure 29: US Oil Inventories: Commercial & SPR



Source: EIA



Figure 30: US Oil Inventories: SPR Less Commercial



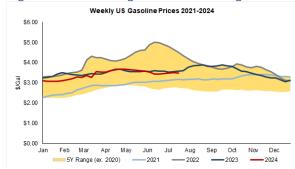
Source: EIA

Oil: US national average gasoline price +\$0.01 WoW To \$3.51

Yesterday, we tweeted [LINK] "AAA National average prices +\$0.01 WoW to \$3.51 on July 27, +\$0.01 MoM & -\$0.20 YoY. California at \$4.65 on July 27,, which was -\$0.04 WoW, -\$0.16 MoM & -\$0.29 YoY. Thx @AAAnews #OOTT." Yesterday, AAA reported that US national average prices were \$3.51 on July 27, which was +\$0.01 WoW, +\$0.01 MoM and -\$0.20 YoY. Yesterday, AAA reported California average gasoline prices were \$4.65 on July 27, which was -\$0.04 WoW, -\$0.16 MoM and -\$0.29 YoY. Below is our graph of Bloomberg's National Average Gasoline prices.

US gasoline prices

Figure 31: Bloomberg's National Average Gasoline Prices Thru July 26, 2024



Source: Bloomberg

Oil: Crack spreads +\$2.48 WoW to \$24.91, WTI -\$2.97 WoW to \$77.16 on July 26
On Friday, we tweeted [LINK] "321 crack \$2.48 WoW to \$24.91 on Jul 26. Yet WTI was \$2.97 WoW to \$77.16. WTI dragged down with global #Oil prices with demand concerns ie.
China, etc. Hopefully, 321 cracks at \$24.91 provide some near term downside support for
WTI. Thx @business #OOTT." It normally doesn't happen to see a good jump up in 321
crack and good drop in WTI. So there should be some near term support for WTI. Crack
spreads were +2.48 WoW to \$24.91 on July 26 and WTI was -\$2.97 WoW to \$77.16. Crack
spreads of \$24.91 on July 26, followed \$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 \$24.91 are about above the high end of the more
normal pre-Covid that was more like \$15-\$20.

Crack spreads closed at \$22.43



Crack spreads point to near term oil price moves, explaining 321 crack spread We have focused on crack spreads for since the 90s as they are an unchanged fundamental of refineries – big crack spreads provide incentives for refineries to buy more crude because there are big profit margins to be made. People often just say "cracks", which refers to the 321 crack spread. This is the spread or margin that refiners make from buying crude at a certain price and then selling the finished petroleum products at their respective prices. The 321 crack spread is meant to represent what a typical US refinery produces. It assumes that for every three barrels of crude oil, the refinery will produce two barrels of gasoline and one barrel of distillates. So the crack spread is based on that formula and worked back to a crack spread per barrel. Below is the current 321 crack spread vs WTI that we put in our tweet where we marked the gaps where the crack spread normally drags up oil prices. The crack spread was \$24.91 as of the Friday July 26, 2024 close.

CROSCHI (1975) (

Figure 32: Cushing Oil 321 Crack Spread & WTI July 26, 2014 to July 26, 2024

Source: Bloomberg

Oil: Advantage of big Cdn oil plays, they are tightly spaced multi leg no frack wells Here is what we wrote in our Jan 7, 2024 Energy Tidbits memo on the advantage of Cdn oil plays vs Permian oil plays. "Earlier we noted the added waste water restrictions for the Permian oil frack plays. Whenever we see additional restrictions on frack plays like in the Permian oil, I t always reminds us of the advantage of the hot Cdn oil plays in the last two years are plays that do not require fracking. The Clearwater is the most well known but this technique of drilling tightly spaced muilti leg no frack wells has worked in several plays. One of the first to gain prominence was back in 2022. Here is what we wrote in our Oct 30, 2022 Energy Tidbits memo. "We think its worth noting this "technology" development from that is applicable to a wide range of oil plays for a wide range of Cdn oil producers. This should provide upside to many Cdn oil and gas oil plays. On Wednesday, we tweeted [LINK] "It's Working! Upside is applicable to many Cdn #Oil plays by small/big producers. See 🦣 \$CPG tightly spaced multi-leg horizontal wells without need for fracking cost/execution. Works in Viewfield, looking at Shaunavon & "see if "can apply it throughout our other assets". #OOTT". Crescent Point held its Q3 call on Wednesday. This seems straightforward and not any proprietary technology. It's a simple drilling concept and the reality of the world is, it's the part of drilling a well (the horizontal section) that would seem difficult to not execute. Afterall, industry has been drilling horizontal wells, especially in SE Sask, since the late 80s. This can be copied easily by any company especially small ones that are disadvantaged by not being

Cdn top oil plays are no frack



able to access the frac spreads. Technology advancements are on plays that we have called for years crappy conventional oil zones that became way better with multi stage frac wells. We don't think the math will work as well for true shale plays, but, the reality is that most of the "new" oil plays over the past decade are crappy conventional oil zones in Canada and the US. This should make more of any potential recoverable oil reserves economic, extend the recovery factor of these pools by sweeping up more of the pool edges. This will add to reserve values as it makes previously uneconomic oil reserves economic. The concept is drilling multi-leg horizontal wells on a tight spacing without fracking. So it is a drilling cost play. And not a fracking play. Crescent Point is doing it in the Viewfield Bakken and say also the Shaunavon, but there is no reason why the concept shouldn't work in the other crappy conventional plays. And they also note that they are looking to apply it "throughout our other assets". Here is what CPG said in the opening statement, and then in the Q&A where they explained it. It's not huge but we suspect the payouts are very quick. And the other advantage is that it becomes impossible to screw up a well, which could happen with a bad frac job. This is drilling several legs so each leg is an independent well bore. "For example, in our Viewfield Bakken play, we drilled our first multilateral open horizontal well and are now drilling a second based on the success of the first. By adopting a new well design, we have removed the need for fracture stimulation in these multilateral horizontals, expanding the economic boundaries of the play. We also continue advancing our decline mitigation projects throughout our Saskatchewan operations to enhance secondary recoveries and moderate future capital requirements" "Yeah, thanks for the question, Michael. So this is something that our teams have been looking at. Trying to figure out how to expand the economic boundaries of the play as you step out from the core. So with this, I think drilling has -- the drilling technology has gotten so good that -- it's a little bit cheaper now to attack some of the areas in this play with just drilling instead of having to frac. So these multilaterals are obviously tighter space than our frac wells and if you look at total recovery and initial production from a section under these multilateral wells versus our conventional frac well, you get higher production and higher reserves potentially for lower capital. So we're pretty excited about it. It's early days, 125 plus boe per day per well, and if our production hangs in and it hits our UR estimates, we probably have over 100 or more locations to go and incorporate that into our five-year plan in Viewfield. And we are looking at other areas in our portfolio i.e. like Shaunavon, obviously this area and Viewfield has a little bit better porosity permeability maybe then say Shaunayon does. So early days still, but we will to see if we can apply it throughout our other assets." There was nothing specific in the slide deck."

Oil: Looks like Jasper wildfire didn't cause interruptions to Trans Mountain pipeline It was a sad week in Alberta when the wildfire hit the town of Jasper destroying ~30% of the structures in the townsite. Fortunately, some rain on Thursday helped and, as of our 7am MT news cut off, the reports are that the wildfire has to the most part being put under control. The Trans Mountain and TMX expansion pipeline run right by the Jasper townsite. On Thursday, we tweeted [LINK] "Re: Jasper wildfire. Haven't seen any Trans Mountain postings of any potential risk or shutdown of 890,000 b/d. The wildfire must be right around the TMX pipeline + original Trans Mountain line. Hope everyone can stay safe as their priority. #OOTT." On Thursday afternoon, Trans Mountain issued a press release [LINK] "We continue to work with the Town of Jasper and Jasper National Park to safely monitor the pipeline, at this time there is no indication of damage to our infrastructure, and the pipelines continue to operate safely." We haven't seen any new releases but, given the rain on Thursday and wildfire

Trans Mountain pipeline



reduction, we would expect the pipelines continue to operate safely. Our Supplemental Documents package includes the Google Maps and Trans Mountain maps in our tweet.

Figure 33: TMX expansion pipeline route right by Jasper



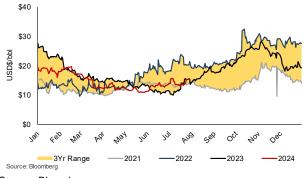
Source: Google Maps

Oil: Cdn heavy oil differentials widen \$1.60 WoW to close at \$15.40 on July 25

It looks like the help to lower WCS less WTI differentials of continued shut-in of some Cdn heavy oil with nearby wildfires was more than offset by the addition of the Exxon Joliet refinery shut-in due to power outages from the derecho last week. But as we look ahead to August, we should start to see the real test of how much the startup of the 590,000 b/d TMX expansion will impact WCS less WTI differentials. Aug is normally when we normally see a widening of the WCS less WTI differentials. And we will see if TMX will lessen that widening. But even with the TMX startup, there will always be the unexpected impact on WCS less WTI differentials from items like refineries up and downs, wildfires, etc. Below is graph showing WCS-WTI differentials that shows this normal seasonal trend of narrowing WCS-WTI differentials that normally start to widen in Aug. The WCS less WTI differential closed on July 26 at \$15.40 which was a widening of \$1.60 WoW vs \$13.80 on July 19.

WCS differential widens

Figure 34: WCS less WTI oil differentials to July 26 close



Source: Bloomberg

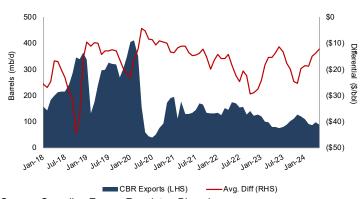


Oil: CER reports Cdn crude by rail exports at 89,141 b/d in May, up +13.2% YoY

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

Cdn crude by rail up YoY in May

Figure 35: Cdn Crude By Rail Exports vs WCS Differential



Source: Canadian Energy Regulator, Bloomberg

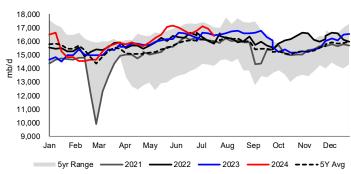
Oil: Refinery Inputs down -0.521 mmb/d WoW to 16.407 mmb/d

As expected, there was a modest WoW decrease in crude oil processing at US refineries, which was due to a number of unplanned outages including Exxon Joliet. There are always unplanned refinery items that impact crude oil inputs into refineries. And there are always different timing for refinery turnarounds. But, as a general rule, this is the normal seasonal ramp up in refinery runs for the summer that normally peaks in August. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended July 19 [LINK]. The EIA reported crude inputs to refineries were down -0.521 mmb/d this week to 16.407 mmb/d and are down -0.070 mmb/d YoY. Refinery utilization was down -2.1% WoW to 91.6%, and was down -1.8% YoY.

Refinery inputs
-0.521 mmb/d WoW



Figure 36: US Refinery Crude Oil Inputs



Source: EIA, SAF

Oil: Exxon 251,800 b/d Joliet refinery still offline

Exxon's 251,800 b/d Joliet refinery being offlilne is a big issue for Cdn oil prices as Cdn oil is the supply for the refinery. On Friday afternoon, Bloombeg reported "Exxon Mobil continues to assess damage at the Joliet refinery in Illinois after a tornado cut power to the plant 12 days ago. * Co. won't speculate on how long operations may be suspended, spokeswoman Catie Tuley said in an email * NOTE: Refinery regained power on July 23; the plant-wide emergency shutdown took place on July 15 after a tornado destroyed transmission lines that served the refinery."

Exxon 251.800 b/d Joliet refinery is offline

Oil: US net oil imports down -0.388 mmb/d WoW as oil exports up +0.222 mmb/d WoW The EIA reported US "NET" imports were down -0.388 mmb/d to 2.685 mmb/d for the July 19

week. US imports were down -0.166 mmb/d to 6.871 mmb/d, while exports were up +0.222 mmb/d to 4.186 mmb/d. Top 10 was down -0.070 mmb/d. (i) Venezuela weekly imports. We know why the EIA doesn't have any data in the row for Venezuela weekly oil imports but we still don't know if the weekly oil imports are off or if Venezuela is included in the weekly oil imports in the Others number. But we do know the EIA monthly data shows Padd 3 imports from Venezuela >150,000 b/d. Give the EIA credit for putting out weekly oil import estimates, but it's a reminder that we have to be careful about using the weekly oil import estimates. Rather we need to make sure we go to the monthly data for oil imports. (i) Canada was down -0.054 mmb/d to 4.364 mmb/d. Although this week shows a small WoW decrease, weekly imports have been higher of late with reports of increased Cdn crude coming off TMX and hitting west coast US refineries. (ii) Saudi Arabia was down -0.173 mmb/d to 0.221 mmb/d. (iii) Mexico was down -0.033 mmb/d to 0.355 mmb/d. This is significantly lower than prior year's levels with the new Olmeca (Dos Bocas) refinery ramping up and Pemex's other refineries increasing crude oil processing. Note the below comment on why oil imports from Mexico are more or less at a bottom. (iv) Colombia was up +0.235 mmb/d to 0.314 mmb/d. (v) Iraq was down -0.070 mmb/d to 0.150 mmb/d. (vi) Ecuador was up +0.052 mmb/d to 0.102 mmb/d. (vii) Nigeria was up +0.033 mmb/d to 0.197 mmb/d.

US net oil imports



Figure 37: US Weekly Preliminary Imports by Major Country

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	May 24/24 N	/lay 31/24	Jun 7/24	Jun 14/24	Jun 21/24	Jun 28/24	Jul 5/24	Jul 12/24	Jul 19/24	WoW
Canada	3,666	3,768	3,974	4,137	3,890	3,918	3,611	4,418	4,364	-54
Saudi Arabia	422	375	278	372	162	146	275	394	221	-173
Venezuela	0	0	0	0	0	0	0	0	0	0
Mexico	551	538	987	563	372	332	619	388	355	-33
Colombia	32	496	75	306	83	276	237	79	314	235
Iraq	233	126	228	164	195	191	317	220	150	-70
Ecuador	103	200	149	199	210	152	87	50	102	52
Nigeria	71	0	208	86	57	222	315	164	197	33
Brazil	127	254	134	201	341	74	251	331	271	-60
Libya	262	0	87	0	86	89	0	0	0	0
Top 10	5,467	5,757	6,120	6,028	5,396	5,400	5,712	6,044	5,974	-70
Others	1,302	1,301	2,184	1,026	1,215	1,147	1,048	993	897	-96
Total US	6,769	7,058	8,304	7,054	6,611	6,547	6,760	7,037	6,871	-166

Source: EIA, SAF

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

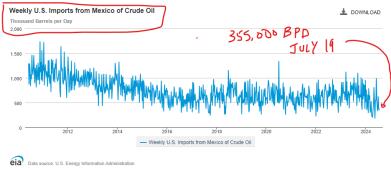
We haven't seen any updated estimates of how much oil from TMX is being shipped to US West Coast refineries. The weekly EIA oil imports from Canada do not split out how much Canadian oil is hitting each PADD district. We won't have any sense of the EIA numbers until their upcoming EIA Natural Gas Monthly, which will show US oil imports from Canada by PADD and we can get some color on how much TMX oil is being shipped to US West Coast refineries. Here is what we wrote in our June 30, 2024 Energy Tidbits memo. "But, on Monday, Bloomberg's report "Cheap Canadian Oil Displaces Iraqi Imports on US West Coast" referenced Vortexa data showing about 150,000 b/d of Cdn crude is expected to hit US West Coast refineries coming off TMX. Bloomberg wrote "US West Coast refiners are replacing their heavy Iragi 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."

US oil imports from Mexico nearing a bottom at 355,000 b/d for July 19 week

The EIA reported oil imports from Mexico were 355,000 b/d for the July 19 week, which is down huge YoY vs 830,000 b/d for the July 21, 2023 week. The driving force for the reduced oil exports has been improved performance at Pemex's refineries and now the ramp up of the new 340,000 b/d Olmeca refinery. We look at 355,000 b/d as being close to a bottom. Pemex owns the Deer Park (Texas) that has an EIA reported operating day capacity of 312,5000 b/d. Pemex reported Deer Park ran at 262,000 b/d in H1/24. We would expect that the bottom for oil imports from Mexico should be somewhere around 300,000 b/d ie. Pemex will import enough oil to run its Deer Park refinery.



Figure 38: US Weekly Oil Imports from Mexico



Source: EIA

Oil: Mexico oil production including partner volumes down MoM to 1.518 mmb/d

On Friday, Pemex posted its June 2024 oil production data [LINK] and held its Q2 call, which provided added color on Pemex's focus to try to offset declines from mature fields. Pemex reported June oil production, including partners, was 1.518 mmb/d, which was down -5.7% YoY and down -0.4% MoM from 1.524 mmb/d in May. On the Q2 call, mgmt said "In line with the '23-'27 business plan, we have maintained our focus on areas with greater productive and economic potential, prioritizing exploration on onshore and shallow water areas close to zones with production infrastructure. Accelerated development of new fields and early incorporation of production from exploratory wells was implemented, reducing the time to bring newly discovered fields into operation. Additionally, we continue with activities focused on well maintenance, provided immediate solutions to operational problems to sustain the production in fields within operation." The focus has helped but hasn't vet turned oil production to sustained growth. Rather, the big picture story remains the same - Mexico (Pemex) oil production has been stuck around 1.6 mmb/d for the last three years. Pemex has been unable to grow Mexico oil production, which means that any increase in Pemex Mexico refineries crude oil input will result in less Mexico oil for export including to the US Gulf Coast. And it also means that if Mexico has refinery issues in a month, there will be more Mexico oil for export in a month. Below is our table tracking Pemex oil production.

Figure 39: Pemex (Incl Partners) Mexico Oil Production

Oil Production (thousand b/d)	2016	2017	2018	2019	2020	2021	2022	2023	2024	24/23
Jan	2,259	2,020	1,909	1,623	1,724	1,651	1,649	1,628	1,545	-5.1%
Feb	2,214	2,016	1,876	1,701	1,729	1,669	1,619	1,619	1,538	-5.0%
Mar	2,217	2,018	1,846	1,691	1,745	1,697	1,620	1,636	1,532	-6.4%
Apr	2,177	2,012	1,868	1,675	1,703	1,693	1,586	1,656	1,485	-10.3%
May	2,174	2,020	1,850	1,663	1,633	1,688	1,588	1,661	1,524	-8.2%
June	2,178	2,008	1,828	1,671	1,605	1,698	1,570	1,610	1,518	-5.7%
July	2,157	1,986	1,823	1,671	1,595	1,701	1,583	1,550		
Aug	2,144	1,930	1,798	1,683	1,632	1,657	1,604	1,552		
Sept	2,113	1,730	1,808	1,705	1,643	1,709	1,594	1,581		
Oct	2,103	1,902	1,747	1,655	1,627	1,692	1,592	1,560		
Nov	2,072	1,867	1,697	1,696	1,633	1,691	1,582	1,558		
Dec	2,035	1,873	1,710	1,706	1,650	1,694	1,561	1,545		

Source: Pemex, SAF

Oil: Mexico exports down -17.2% MoM to 0.754 mmb/d of oil in June

The big picture theme for Pemex (Mexico) oil exports is unchanged – oil production is stuck around or below 1.6 mmb/d so any improvement in crude run rates at the existing Pemex oil

Pemex June oil exports

Pemex June oil production



refineries and the startup, albeit delayed, of the new 340,000 Olmeca (Dos Bocas) refinery means there will be less oil for export - the startup, albeit slow of the new 340,000 b/d. And Olmeca volumes are increasing, which will lead to declining Mexico oil exports in H2/24. Pemex gave added color on Olmeca, which we note below. On Friday, Pemex posted its oil exports for June [LINK]. Pemex does not provide any commentary on the data but reported June oil exports were 0.754 mmb/d, which is -17.2% MoM and -37.3% YoY vs 1.203 mmb/d in June 2023. Below is our table of the Pemex oil export data.

Figure 40: Pemex Mexico Oil Exports

9										
Oil Exports (thousand b/d)	2016	2017	2018	2019	2020	2021	2022	2023	2024	24/23
Jan	1,119	1,085	1,107	1,071	1,260	979	832	980	951	-3.0%
Feb	1,241	1,217	1,451	1,475	1,093	1,006	925	949	940	-0.9%
Mar	1,062	1,001	1,176	1,150	1,144	925	905	971	687	-29.2%
Apr	1,081	1,017	1,266	1,023	1,179	923	1,024	989	681	-31.1%
May	1,204	958	1,222	1,205	1,062	1,031	965	1,087	911	-16.2%
June	1,098	1,157	1,110	995	1,114	1,106	1,029	1,203	754	-37.3%
July	1,146	1,255	1,156	1,079	1,051	1,173	1,062	1,052		
Aug	1,261	1,114	1,181	1,082	1,190	1,099	915	1,076		
Sept	1,425	1,159	1,206	995	1,023	983	1,022	1,119		
Oct	1,312	1,342	1,027	963	908	935	971	1,053		
Nov	1,273	1,388	1,135	1,114	1,171	1,025	893	883		1
Dec	1,115	1,401	1,198	1,115	1,243	1,037	900	1,027		

Source: Pemex, SAF Prepared by SAF Group

> Pemex: 340,000 b/d Olmeca refinery now at 100,000 b/d, capacity by Sept 30 Pemex held its Q2 call on Friday and, in the Q&A, gave an update on the new 340,000 b/d Olmeca (Dos Bocas) refinery ramp up. This ramp up is a big factor that will lead to less Mexico oil for export. Earlier this morning, we tweeted [LINK] "Higher Pemex refinery runs = less #Oil for export. Pemex Q2: new 340,000 b/d Olmeca refinery processed 100,000 b/d in July, will reach optimal processing level by Sept 30 ie. some higher level so less oil for export. US #Oil imports from Mexico 355,000 b/d for July 19 wk down ~400-500,000 b/d YoY. But nearing a bottom as Pemex owns Deer Park Tx refinery with operating day capacity of 312,500 b/d. #OOTT." The ramp up at Olmeca is finally happening. In the Q&A, mgmt said "Yes. Well, as I mentioned a few minutes ago, the Olmeca Refinery began its crude oil processing in July with around 100,000 barrels per day, and we estimate that by the end of the third quarter, it will reach its optimal processing level. With this, the national refining system now with seven refineries should achieve processing levels of around 1,400,000 barrels per day. It is worth mentioning that at the end of March, the first batch of sour diesel was transported from the Madero Refinery to the Olmeca Refinery to be used as feedstock and to initiate the operation of the diesel -Hydro desulfurization unit number one." Pemex owns the Deer Park (Texas) refinery, which the EIA reports has an operating day capacity of 312,5000 b/d. We would expect Pemex will continue to supply crude oil to Deer Park, which suggests a bottom for US oil imports from Mexico is somewhere around 300,000 b/d.

Oil: Venezuela voting has started, will Maduro cede power if he loses?

The long awaited Venezuela election is today and the reports are that voting has started as expected. We have a 7am MT news cut off so only have the reports of the voting opened, which is step one. The pre-election polls had Maduro well behind opposition candidate, Edmundo Gonzalez Urrutia. But many still worry about election manipulation. Will Venezuela's National Electoral Council announce Urrutia as the winner. Kind of reminds of

Will Maduro cede power if he loses

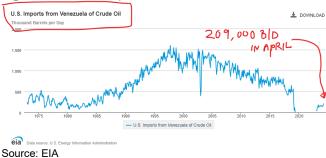


the Mike Pence dilemma in the last election. And then the other big question, what happens if Maduro loses? Will Maduro cede power?

What will Biden revoke VEN oil licenses if hint of election manipulation?

The immediate question for oil markets will be what does Biden do if there is any election manipulation or Maduro doesn't accept the results. Earlier this morning, we tweeted [LINK] "Venezuela voting has started. Biden allowed reopening as Maduro agreed to have real elections. So will Biden have now choice but to revoke #Oil licenses if there is any election manipulation or Maduro doesn't cede power if he loses? US oil imports from VEN exceeded 200,000 b/d for 1st time in yrs. #OOTT." Biden issued licences to reopen Venezuela oil because Maduro agreed to have legitimate elections. We have to believe Biden will be under big pressure to revoke any licenses if there is any hint of manipulation ie funny works by the National Electoral Council or Maduro doesn't cede power if he loses. Our tweet included the latest EIA monthly oil import data from Venezuela that showed imports exceeded 200,000 b/d for the first time in years at 209,000 in April. Note that most of these are to the Gulf Coast refineries.





Oil: Norway June oil production of 1.737 mmb/d is up MoM but down YoY

On Tuesday, the Norwegian Offshore Directorate released its June production figures [LINK]. It reported oil production of 1.737 mmb/d, up +2.3% from revised May figures of 1.698 mmb/d and down -4.5% YoY from 1.818 mmb/d in June 2023. June's production actuals came in +0.5% (+0.009 mmb/d) over the forecast volumes of 1.728 mmb/d. The NOD does not provide any explanation for any MoM changes so we don't know if the MoM declines ae temporary. But, as we have been highlighting, there will be an increasing watch on Norway oil production will intensify as Norway expects Norway oil production to reach peak oil production in 2025. Note that, prior to 2024, the Norwegian Offshore Directorate was called the Norwegian Petroleum Directorate.

Norway June oil production

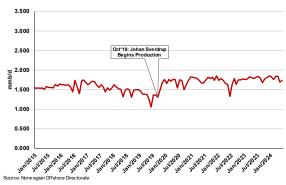


Figure 42: Norway June 2024 Production

		Oil mill bbl/day	Sum liquid mill bbl/day	Gas MSm³/day	Total MSm³ o.e/day
Production	June 2024	1.737	1.982	340.2	0.655
Forecast for	June 2024	1.728	1.967	319.3	0.632
Deviation from forecast		0.009	0.015	20.9	0.023
Deviation from forecaset in %		0.5 %	0.8 %	6.5 %	3.6 %
Production	May 2024	1.698	1.944	322.2	0.631
Deviation from	May 2024	0.039	0.038	18.1	0.024
Deviation in % from	May 2024	2.3 %	2 %	5.6 %	3.8 %
Production	June 2023	1.818	2.016	252.6	0.573
Deviation from	June 2023	-0.081	-0.034	87.6	0.082
Deviation in % from	June 2023	-4.5 %	-1.7 %	34.7 %	14.3 %

Source: Norwegian Offshore Directorate

Figure 43: Norway Monthly Oil Production 2015-2024



Source: Norwegian Offshore Directorate

Norway forecasts Norway reaching peak oil production in 2025, then to decline

As noted above, the watch on Norway monthly oil production numbers should escalate moving into Q4/24 because that is when the giant oilfield, Johan Sverdrup is expected to start to decline. Here is what we wrote in our Mar 17, 2024 Energy Tidbits memo. "No one should be surprised to see Norway forecast that Norway will hit peak oil production in 2025 and then begin to decline. That conclusion was obvious on Feb 8 when Aker BP, a partner in the giant Johan Sverdrup oilfield, told investors that Johan Sverdrup was going to reach peak production level around yearend 2024 and then begin to decline. Our thesis on Norway oil production has been that we expect Norway oil production to peak around end of 2024 or early 2025 based on the recent Aker BP comments that Norway's giant Johan Sverdrup oil field will start to decline in late 2024, which we believe would likely lead to Norway hitting peak oil production and then begin to decline. It looks like that these is supported by Norway's energy agency (the Norwegian Offshore Directorate) blog on Monday. On Tuesday we tweeted [LINK] "ICYMI. Norway forecasts it will hit peak #Oil production in 2025 & then decline therefrom. Jan 2024 was 1.8 mmb/d. See Feb 8 tweet.



Giant oil field Johan Sverdrup to hit peak & begin decline ~yr-end 2024. Start of decline in giant oilfield = decline in oil for Norway. #OOTT." On Monday, we tweeted [LINK] "Norway #Oil production peak in 2025 and in decline says @sokkeldir. Makes sense, see -Feb 8 tweet. massive Johan Sverdrup oil field led to a return to Norway oil growth. But it starts to decline in late 2024/early 2025. Positive for #Oil post 2024. #OOTT." Norway's Mar 11 blog was "High price to pay for halting exploration for oil and gas" [LINK] Their blog was a big picture warning that Norway shouldn't stop further exploration, production development activity as it will be a big hit to Norway. It's worth a read as it sounds like the Norway Climate committee is saying they want to stop all new exploration but also production, installation and operation. So that means an ever earlier end of life for oil and gas production and facilities. le. no more tie-in of smaller satellite fields to an existing platform. But included in the blog is a sente3nce that fits our Feb thesis – Norway oil production will peak in 2025 and then start to decline. They write "Production is declining on its own. The Committee presumes that activity in the oil and gas industry on the Norwegian shelf is too high leading up to 2050, which means that measures must be implemented to cut production. On the other hand, the Norwegian Offshore Directorate expects activity in the industry to naturally decline following a production peak in 2025. The production decline towards 2050 is within what the Intergovernmental Panel on Climate Change and the IEA have projected is in line with successfully following up the Paris Agreement." Norway is forecasting reaching peak oil production in 2025 and then beginning a decline therefrom. Our Supplemental Documents package includes the Norwegian Offshore Directorate blog."

07/12/24: Aker BP giant Johan Sverdrup oilfield to start decline late 24/early 25 As noted above, Norway's giant Johan Sverdrup oilfield is forecast to start to decline in late 2024 or early 2025 by the operators in the field. Here is what we we wrote in our July 14, 2024 Energy Tidbits memo. "Norway produces ~1.7 mmb/d of oil but Norway forecasts its country production will begin to decline in 2025. This is driven by the start of decline from Norway's largest oilfield, Johan Sverdrup, in late 24/early 25. It's only math. If Norway's giant oilfield starts to decline, it likely means Norway's oil production begins to decline. On Friday, we tweeted [LINK] "Positive for #Oil in 2025. Norway produces ~1.7 mmb/d, on track to hit peak oil in 2025 & then decline therefrom. Why? Giant ~750,000 b/d Johan Sverdrup Aker field. Aker BP Q2. JS continues to produce at elevated plateau, drilling "will help to maintain this level until late 24 or early 25" ie. then moves into decline. In line with -03/12 tweet on Norway forecast for country to hit peak oil production in 2025 & then decline therefrom. #OOTT." Aker BP is a non-operating partner in Johan Sverdrup and held its Q2 call on Friday. Mgmt reiterated the Johan Sverdrup partners expectation that its elevated plateau of 750,000 b/d of oil can only be maintained until late 24/early 25, which means production declines therefrom. Mamt also noted the fundamental reason for decline is no different than any other conventional oilfields – increasing water cut. Part of mgmt's comments were "At Johan Sverdrup. It's a pleasure to see just how it keeps on performing. This giant field with almost 3 billion barrels in initial reserves was originally designed for a gross oil capacity of 660,000 barrels per day. Last year this was increased to 755,000 barrels, if we also include natural gas, the field has a



capacity to deliver close to 800,000 barrels of oil equivalents per day and the performance has been nothing but remarkable with high production efficiency, very low production cost of around \$2 per barrel and with maybe the lowest emission intensity in the industry of less than I kilogram of CO2 per barrel. In the second quarter, Aker BP share of production from Johan Sverdrup increased to 241,000 barrels of oil equivalents per day. As we have previously discussed, water production has been increasing in some of the wells over the last year. This is as expected and something that the operator is managing but continuously optimizing production on a well by well basis. We are also adding new wells with four added in the first half of 2024 and the fifth well have been started up now in July. Another five wells are planned for the second half. As of today, Johan Sverdrup continues to produce at the elevated plateau and the ongoing drilling activity will help to maintain this level until late '24 or early '25":

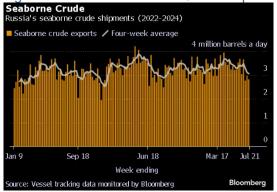
Oil: Russia's seaborne crude oil exports four-week avg hits 7-month low

Our July 5, 2024 tweet [LINK] reminded "Less Russian #Oil for export as Russia restarts refineries hit by drones." The simple comment is that as Russian refineries process more Russian crude, it means that there is less Russian crude oil for export, and Russian refineries are returning to operations after recovering from drone attacks. So no surprise to see Bloomberg's Tuesday report "Russia's four-week average crude exports fell for a third week, dropping to the lowest since December amid a plunge that cut 620,000 barrels a day from the recent peak in April. Flow are set to dip further. Weekly shipments from the country's Baltic ports of Primorsk and Ust-Luga have shrunk by 41% in the five weeks since mid-June. The decline likely stems from Russia's improving compliance with an OPEC+ output target, coupled with a recovery in domestic refining that's on course to reach a six-month high in July. A Ukrainian drone attack on Rosneft's Tuapse refinery may undermine some of that progress.....A five-day gap in the loading program for Ust-Luga, covering most of this week, suggests that maintenance will cut into flows in the seven days to July 28." Russia's seaborne crude exports in the week to July 21 fell by 150,000 b/d to 2.83 mmb/d, and the four-week average fell by 55,000 b/d to 3.06 mmb/d, its lowest since December. Crude shipments so far this year are 30,000 b/d below 2023's average. Bloomberg reported "Separately, Ukraine has toughened sanctions on Russia's Lukoil PJSC, preventing it from supplying piped crude to refineries in Central Europe across Ukrainian territory. Lukoil will divert about 90,000 barrels a day of crude that it is unable to deliver to Hungary and Slovakia to other destinations, which could, in time, raise seaborne exports." Russia has pledged to compensate for overproduction against its April target, which was attributed to "technicalities of making significant output cuts". Russia made significant output cuts in May and June, however they were still above their promised targets. Our Supplemental Documents package includes the Bloomberg report.

Russia's seaborne crude exports







Source: Bloomberg

Russia oil exports to China down vs early April driven by lesser discounts

Russia oil shipments to China averaged 1.36 mmb/d for the first half of April. But they have been down since then with the reports that Russia had cut its discounts to China and that meant China was taking less Russian oil. Bloomberg's above report this week highlighted Russia oil shipments to China were down to 1.05 mmb/d for the week ending July 21, up from last week's 0.99 mmb/d for the July 14 week and down from 1.36 for the first half of April. The last six weeks average is now 1.04 mmb/d. We were warned that China oil imports from Russia were being hit on April 22 by one of our favorite commentators on the Gulf Intelligence Daily Energy Podcasts is Victor Yang, Senior Analyst JLC Network Technology. He is based in China so we like hear his on-the-ground views on oil, natural gas and markets in China. Here is what we wrote in our April 28, 2024 Energy Tidbits memo referencing Yang's comments from our April 22, 2024 tweet [LINK] that included a transcript we made of Yang's comments. "And for the second quarter, we see a lot of refinery maintenance, is imports will actually come down. And for now, the premium for Russian cargoes have strengthened this year, from -0.5 barrels to -0.3 barrels. And now it's flat to Brent, meaning 0 now. So this has dampened refiners, particularly independents, interest in Russian crude. Their margins for imported crude, including Russian crude, actually turned negative late last month and the beginning of this month. So it's now kind of [inaudible] slightly above the breakeven point. So the interest in this has been dampened too. So we are not expecting imports to grow much in the second quarter, yes." Below is the table from Bloomberg's Russia oil exports report this week.



Figure 45: Russian Crude Exports to Asia

4 weeks ending	China	India	U Other	nknown Asia U	Other Jnknown	Tota
June 16, 2024	1.16	1.74	0.00	0.10	0.00	3.00
June 23, 2024	1.02	1.89	0.00	0.04	0.00	2.9
June 30, 2024	1.08	1.90	0.00	0.04	0.00	3.0
July 7, 2024	0.93	2.00	0.00	0.00	0.00	2.9
July 14, 2024	0.99	1.84	0.00	0.00	0.00	2.8
July 21, 2024	1.05	1.55	0.00	0.14	0.03	2.7

Source: Bloomberg

Oil: Russia confirms commitment to OPEC+ output cuts agreement

On Wednesday, the Russian Ministry of Energy reported that Russia has reaffirmed their commitment to the OPEC+ production cut agreement previously agreed upon, and has announced a plan to compensate for overproduction from earlier this year [LINK]. Russia has been decreasing production levels every month since April, although they were still above their agreed upon targets in May and June. Russia has pledged to comply with the target in July, and to compensate for April's overproduction through a period between October-November 2024, and again from March – September 2025. Our Supplemental Documents Package contains the translated Telegram post by the Russian Ministry of Energy.

Russian output cuts

Oil: Ukraine reportedly hits Russia bomber parked in a northern Russia airfield

We have to believe Ukraine's reported drone attack that hit a Russia bomber at an air base in northern Russia is going to lead to a strong Russia response but no one knows exactly what and where. Yesterday, we tweeted [LINK] "How will Putin retaliate? Ukrainian "drone hit the Tu-22M3 bomber parked at the Olenya airfield on the Kola Peninsula near the Finnish border, 1,100 miles from Ukraine..." @jkjourno. I used @googlemaps showing >1,800 km distance & zoom in on likely Olenya airfield. #OOTT [LINK]." The Telegraph reported "A Ukrainian drone struck a Russian strategic supersonic bomber parked at an airfield in Russia's Arctic region for the first time, Ukrainian military sources have said. The drone hit the Tu-22M3 bomber parked at the Olenya airfield on the Kola Peninsula near the Finnish border, 1,100 miles from Ukraine in a coordinated attack against Russian air bases." Our tweet included the below Google Maps on the Olenya airfield.

Ukraine drones hits Russia bomber



Figure 46: Russia's Olenya airfield in northern Russia



Source: GoogleMaps

Oil: Will OPEC+ signal no production adds in Q4/24 at the JMMC Aug 1 meeting? OPEC+ is holding its Joint Ministerial Monitoring Committee meeting on Aug 1. Right now, it seems like the view from OPEC watchers is that OPEC isn't likely to signal any confirmation or cancellation or delay their scheduled production additions effective Oct 1, 2024. Unless there is a big change to the oil market, we are in the camp that Saudi Oil Minister Abdulaziz wouldn't support the scheduled production additions. Abdulaziz went out to reassure the market that they wouldn't add back barrels if the market wouldn't support it.

OPEC+ JMMC
Aug 1 meeting

If OPEC+ doesn't add barrels on Oct 1, it points to no barrels until Q2/25

We believe one of the key challenges for OPEC+ is that if they don't start to add back barrels per their schedule on Oct 1, 2024, it could point to no barrels added back until Q2/25. The reason is that global oil demand always seasonally decreases in Q1 of every years relative to the preceding Q4. So it the market can't support the adding back of barrels in starting on Oct 1, 2024, it's hard to see adding barrels back on Jan 1, 2025 when the expectation will be that Q1/25 oil demand will be less than Q4/24. OPEC's current Monthly Oil Market Report July 2024 forecasts Q4/24 demand of 105.62 mmb/d and Q1/25 demand of 105.33 mmb/d. Normally the Q1 oil demand decline vs Q4 is much greater.

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

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 \(\bigcip 07/21 \) tweet. Blinken: Iran now 1 or 2 weeks from breakout capacity to produce nuclear material for a weapon. Thx \(\bigcip \) Timesoflsrael #OOTT." Netanyahu seemed clear it was a question of when they take action against Iran's nuclear program, not if. We don't

Netanyahu warns Congress on Iran nuclear



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. Our tweet posted an excerpt from the Times of Israel posted transcript of Netanyahu's speech.

07/19/24: US says Iran is 1 or 2 weeks from breakout to produce fissile material The reason why we are surprised US media and politicians didn't make more of Netanyahu's warning on Iran nuclear program is Blinken warned last week that Iran was 1 or 2 weeks from reaching breakout potential for nuclear capability. Here is what we wrote in last week's (July 21, 2024) Energy Tidbits memo. "Earlier this morning, we tweeted [LINK] "Go Time for Israel? Overlooked major geopolitical and #Oil risk factor! Blinken: Iran now 1 or 2 weeks from breakout capacity to produce nuclear material for a weapon. If Israel won't let Iran reach breakout potential, when will it take action? #OOTT." An overlooked geopolitical risk item is Iran's nuclear advancement and when will Israel do something to prevent Iran from reaching breakout. It didn't get much attention but, on Friday, Secretary Antony Blinken spoke at the Aspen Security Forum Fireside Chat and he highlighted how close Iran is to having the capacity to produce fissile material for a nuclear weapon. Blinken said "Iran, because the nuclear agreement was thrown out, instead of being at least a year away from having the breakout capacity of producing fissile material for a nuclear weapon, is now probably one or two weeks away from doing that. Now, they haven't developed a weapon itself --." We weren't surprised by the progress but surprised by how he framed it as he made it sound like the US didn't really have a good plan to stop Iran rather they had an idea and they tested it. Blinken noted the mistake of the Trump administration in throwing out the JCPOA so Biden admin had to find a way to put Iran back in a box "so we were testing the proposition about whether we could at least create something that looked like that". The reason why we were surprised by his framing is that that was 3.5 years ago and he is effectively admitting by the progress that the "test" didn't work. And then he continued the administration line that "Second, we of course have been maximizing pressure on Iran across the board. We've imposed more than 600 sanctions on Iranian persons. entities of one kind or another. We haven't lifted a single sanction." As noted earlier in the memo, there may be sanctions but Iran has cranked up its oil revenues and exports because the Biden administration hasn't really enforced sanctions ie. sanctions need to be enforced to be effective. Our Supplemental Documents package includes the Bloomberg transcript of the Blinken Iran comments."

Oil: Will yesterday's reported Hezbollah rocket strike be a tipping point for escalation It seems wrong to say this but it seems like the back and forth attacks between Israel and Hezbollah have been measured to some degree to avoid an all-out war. But yesterday, we tweeted [LINK] "Unfortunately for everyone, it looks like today may be a pivot point to escalating Israel/Hezbollah conflict. "Israeli foreign minister Israel Katz told Axios "the Hezbollah attack crossed all red lines and the response will be accordingly" reports @BarakRavid #OOTT #Oil [LINK]." The Israeli Foreign Minister's comments were in response to what Israel and the US reported as being a Hezbollah rocket attack that killed

Potential tipping point



12 including children on an football pitch in the Golan Heights. Hezbollah denied they were responsible. Newsweek wrote "The Islamic Resistance in Lebanon categorically denies allegations made by some 'Israeli' media outlets and various media platforms about its involvement in targeting Majdal Shams," a Hezbollah spokesperson said in a statement shared with Newsweek. "The Islamic Resistance has absolutely nothing to do with the incident and denies all false allegations in this regard." The IDF refuted this and tweeted ""We know exactly where the rocket was launched from today... This is a Hezbollah rocket, and whoever launches such a rocket into a built-up area wants to kill civilians, wants to kill children." Remarks from the Chief of the General Staff, LTG Herzi Halevi, on the recent Hezbollah rocket attack in Majdal Shams." As we watch comments over the day, it looks like we are far from alone in worrying that this may be the catalyst for a big escalation in the fighting. The concern shared by all is that a broad war raises so many questions/wild cards on how the fight expands and who else gets dragged in.

Oil: Libya oil production nearing 1.3 mmb/d, reached 1.277 mmb/d on July 26
It looks like Libya is finally going to get its oil production to 1.3 mmb/d after being stuck above 1.2 mmb/d for almost the last year. On Friday, the Libya National Oil Corporation tweeted [LINK] "Production rates of crude oil, condensates and natural gas during the past 24 hours." Production this week was 1.277 mmb/d, up small from last week's 1.266 mmb/d. Other than when there were temporary interruptions at the Sharara oil field, Libya oil production has been steady just over 1.2 mmb/d for almost a year.

Libya oil production 1.277 mmb/d

Oil: Mercedes, key Chinese consumers not coming back for at least 12-18 months, We track monthly China new and nd hand home prices because we see it as the big negative to the Chinese consumer, who keep losing value month after month in their homes. So their biggest asset value keeps decreasing month after month. Mercedes reported Q2 on Friday and it highlighted how they don't see the Chinese consumer coming back for at least 12 to 18 months because of the big losses in home values. On Friday, we tweeted [LINK] "Key Chinese consumers not coming back for "at least 12, 18 months". Mercedes Chairman Kaellenius. Because of importance of real estate value to Chinese upper middle class. Their savings has been the additional buy-to-let apartment that was just going up and up See

Chinese consumers on the sidelines

🧢 07/14 tweet. June new homes prices 13th straight MoM drop, June 2nd hand home prices 14th straight M/M drop. #OOTT." Our tweet include the Q2 call transcript of comments by Mercedes Chair Kaellenius saying: "Number two, the current macroeconomic environment in China is subdued. I think everybody knows that since we came out of the COVID restrictions beginning of last year, consumer sentiment, it didn't come back. It just didn't come back and you feel the pinch across the board but also in the luxury segment across industries. How long will it take for the Chinese consumer to regain confidence and start buying again? One piece of it, I am sure, is related to the real estate sector. The savings for upper-middle class people has been that additional buy-to-let apartment that was just going up and up and up and up. That whole industry has been in restructure for years now. It feels a little bit like an American customer's 401k. You look at your 401k and if you feel flush, you buy a car. If you don't, you don't. And there you have the real estate sector in China. We don't know how long it will take, what it will take for China's consumers to regain that confidence, for China's entrepreneurs to regain that confidence. It is affect inus. It is affecting others. The cautious view that we take now is that's not going to change quickly. So we have to count on this being the marketplace here maybe in the next at least 12, 18 months, we shall see."



China home prices keep losing value, 13 mths for new & 14 mths for old,

Here is what we wrote in last week's (July 21, 2024) Energy Tidbits memo on the continued loss in value for new homes and 2nd hand homes for June value. "The big negative to the Chinese consumer is that they keep losing value in their homes, their biggest asset value keeps decreasing month after month. Last Sunday night, we tweeted [LINK] "Continued big negative to getting Chinese back to spending - their home values keep going down. June new home prices: 13th straight MoM drop, -0.67% M/M (May -0.71% M/M). June 2nd hand home prices: 14th straight M/M drop. -0.85% M/M (May -1.00% M/M). Thx @business #OOTT." June MoM value declines weren't as bad as May, which was the worst month for China home values in ~10 years. But it was bad and kept the consecutive MoM home values losses streak alive, which is now 13 straight MoM declines in new home prices and is now 14 straight MoM declines in 2nd hand home prices. Below are the Bloomberg graphs with the June data."

China New Home Prices - M/M

Figure 47: China new home prices MoM % change incl June 2024



Source: Bloomberg, National Bureau of Statistics

Figure 48: China 2nd hand home prices MoM % change incl June 2024



Source: Bloomberg, National Bureau of Statistics

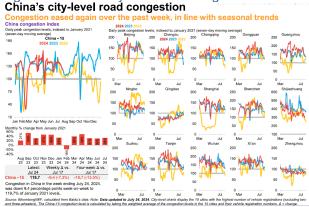
Oil: Baidu China city-level road congestion in July is back to increasing YoY

On Friday, we tweeted [LINK] "Chinese consumer still on sideline? July is holiday time. But Baidu city-level road congestion is +8.1% YoY ie. more Chinese staying in cities rather than going on holiday. Feels like staycation ie. what people do when they want to spend less. Thx @BloombergNEF #OOTT #Oil." China Baidu city-level road congestion is only an indicator but we couldn't help think that more Chinese consumers are having staycations this summer versus last summer. And one of the primary drivers for staycations in North America is to save money ie. a cheaper holiday. July in China is much like in the western world, it's holiday China city-level traffic congestion



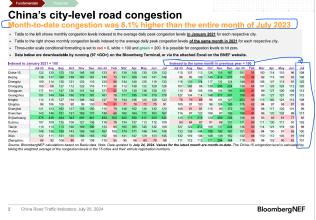
season. So, like seen in any holiday in China, it means the Chinese leave the cities for holidays and city-level road congestion should be lower. It's only an indicator but July 2024 city-level road congestion for the top 15 cities is 108% of July 2023, which suggests less people are leaving the city for holidays. On Thursday, BloombergNEF posted its China Road Traffic Indicators Weekly July 25 report, which includes the Baidu city-level road congestion for the week ended July 24. Note that this report was formerly titled Road Traffic indicators, and is now China Road Traffic Indicators, but the content of the report is unchanged. BloombergNEF's report was titled "Congestion falls on seasonal weakness". This week, BloombergNEF reported Baidu city-level road congestion was down by -7.3% WoW to 119.7% of Jan 2021 levels, but compared to July 2023, July's average daily peak congestion levels so far are up +8.1% YoY. Bloomberg noted that 4 of the top 15 cities are down YoY, 1 is flat, and 10 are up YoY. Below are the BloombergNEF key graphs.

Figure 49: China city-level road congestion for the week ended July 24



Source: Bloomberg

Figure 50: China city-level road congestion for the week ended July 24



Source: Bloomberg

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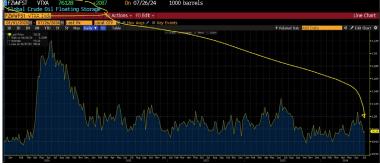
Oil: Vortexa crude oil floating storage est 76.13 mmb at July 26, +2.09 mmb WoW

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 July 22 at 5am MT. (i) Yesterday, we tweeted [LINK]"Vortexa #oil floating storage est -+2.09 mmb WoW to 74.04 mmb at Jul 26. 2 weeks don't make a trend but haven't been in mid 70's for 2 weeks since early May. Hopefully, normal summer seasonal oil demand increase is kicking in. Thx @vortexa @business #OOTT." (ii) Note we did not have a Vortexa comment last week for the July 19 floating storage as Bloomberg didn't post the July 19 data until sometime between 9pm MT July 21 to 5am MT July 22. Early Monday morning, we tweeted the July 19 data [LINK] "Too early to celebrate. Vortexa #oil floating storage est -12.82 mmb WoW to 72.96 mmb at Jul 19. BUT new Jul 12 of 85.78 mmb was revised up +14.89 mmb vs originally posted Jul 12 of 70.89 mmb. And last 7-wk average now 89.74 mmb. Thx @vortexa @business #OOTT." (iii) As of 9am MT July 27, Bloomberg posted Vortexa crude oil floating storage estimate for July 26 at 76.13 mmb, which was +2.09 mmb WoW vs slightly revised up July 19 of 74.04 mmb. Note July 19 was revised +1.08 mmb to 74.04 mmb vs 72.96 mmb originally posted at 5am MT on July 22. (iv) Revisions. There were no significant revisions to the last seven weeks. Here are the revisions for the past seven weeks compared to the estimates originally posted on Bloomberg at 5am MT on July 22. July 19 revised +1.08 mmb. July 12 revised -0.35 mmb. July 5 revised -2.75 mmb. June 28 revised -2.87 mmb. June 21 revised -1.52 mmb. June 14 revised +0.14 mmb. June 7 revised -0.21 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 87.44 mmb vs last week's then prior seven-week average of 89.74 mmb. The decline is primarily due to dropping a higher week from the last 7-week average. (vii 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. However, as noted earlier Bloomberg did not post the Vortexa data July 19 data until sometime between 9pm MT July 21 to 5am MT July 22. (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 July 26 estimate of 76.13 mmb is -52.52 mmb vs the 2023 peak on June 23, 2023 of 128.65 mmb. Recall Saudi Arabia stepped in on July 1, 2023 with its voluntary cuts. (ix) July 26 estimate of 76.13 mmb is -28.44 mmb YoY vs July 28, 2023 of 104.57 mmb. Below are the last several weeks of estimates posted on Bloomberg as of 9am MT July 27, 5am MT July 22, and 9am MT July 13.

Vortexa floating storage



Figure 51: Vortexa Floating Storage Jan 1, 2000 – July 26, 2024, posted July 27 at 9am MT



Source: Bloomberg, Vortexa

Figure 52: Vortexa Estimates Posted 9am MT on July 27, 5am MT July 22, 9am MT 13.



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 July 19, in total, was revised +1.08 mmb with the key revision being Other revised +2.80 mmb. (ii) Total floating storage at July 26 was +2.09 mmb WoW vs the revised up small July 19 of 74.04 mmb. The major WoW changes were Asia +5.82 mmb WoW, Other -5.36 mmb WoW and West Africa +2.45 mmb WoW. (iii) July 26 estimate of 76.13 mmb is -52.52 mmb vs the 2023 high on June 23, 2023 of 128.65 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 -30.06 mmb and Other -19.77 mmb. (v) 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 July 19 tthat was posted on Bloomberg at 5am MT on July 22.

Vortexa floating storage by region



Figure 53: Vortexa crude oil floating by region

				Original Posted	Recent Peak	
Region	Jul 26/24	Jul 19/24	WoW	Jul 19/24	Jun 23/23	Jul 26 vs Jun 23/23
Asia	43.20	37.38	5.82	38.02	73.26	-30.06
North Sea	2.81	1.09	1.72	1.15	5.42	-2.61
Europe	6.62	6.87	-0.25	7.78	5.75	0.87
Middle East	4.74	6.74	-2.00	5.49	6.76	-2.02
West Africa	6.39	3.94	2.45	4.86	7.62	-1.23
US Gulf Coast	3.30	3.59	-0.29	4.03	1.00	2.30
Other	9.07	14.43	-5.36	11.63	28.84	-19.77
Global Total	76.13	74.04	2.09	72.96	128.65	-52.52
Vortexa crude oil fl	oating storage posted o	on Bloomberg 9am	n MT on July 27			
Source: Vortexa, Bl	oomberg					

Source: Bloomberg, Vortexa

Oil: BNEF, global oil & product stocks surplus widens to +25.6 mmb from +19.3 mmb On Tuesday, BloombergNEF posted its "Oil Price Indicators" weekly, which provides good charts depicting near-term global oil demand and supply indicators. (i) Note BloombergNEF uses different periods to determine the surplus/deficit, sometimes using a four-year average for 2017-2019 + 2022-2023, and other times using a five-year average 2017-2019 + 2022-2023. In both cases they do not include 2020 and 2021 in the averages. (ii) The global stockpile for crude oil and products widened from a surplus of +19.3 mmb for the week ending July 5 to a surplus of +25.6 mmb for the week ended July 12. (iii) Total crude inventories (incl. floating) decreased -2.6% WoW to 641.1 mmb, while the stockpiles deficit widened from a deficit of -2.4 mmb to a deficit of -14.5 mmb. (iv) Land crude oil inventories fell -1.3% WoW to 555.3 mmb, widening their deficit from -23.9 mmb to -29.5 mmb against the five-year average (2017-2019 + 2022-23). (v) The gas, oil, and middle distillate stocks grew +2.7% WoW to 235.6 mmb, with the surplus against the four-year average widening to a surplus of 6.3 mmb from 0.1 mmb. Jet fuel consumption by international departures in the week to July 29 is set to increase by +17,100 b/d WoW, while consumption by domestic passenger departures is forecast to increase by +11,200 b/d WoW. Below is a snapshot of aggregate global stockpiles.

Global oil and products stocks

Figure 54: Aggregate Global Oil and Product Stockpiles



Source: BloombergNEF

Oil: Bloomberg Oil Demand Monitor, China's Low-Gear Economy Dims Global Outlook
The Bloomberg Oil Demand Monitor is a good recap of key oil demand indicators around the
world. This week's report discusses the decrease in oil demand in China, and the global
outlook for oil. Bloomberg reported "Overall oil-products consumption in the world's biggest

Bloomberg oil demand monitor



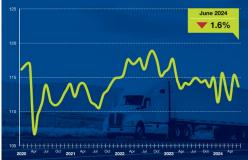
importer may decline 3.8% in the second half with gasoline and diesel demand both lower, according to China Petrochem, citing researchers from the China Petroleum Planning and Engineering Institute. The nation's apparent oil demand fell just over 8% to 13.66 million barrels a day last month, according to data compiled by Bloomberg. Those assessments echoed the most recent International Energy Agency monthly market report, which found that global oil demand growth slowed to its weakest in more than a year last quarter with the post-pandemic rebound in China fading." Bloomberg reported that diesel usage is projected to decline by 5.6% YoY for 2H 2024, dropping further than 1H's -4.2% YoY decline. Despite the decline of demand in China, the global demand for oil remains strong at 103.6 mmb/d, up +1.7 mmb/d YoY, according to JPMorgan Chase. Our Supplemental Documents package includes the Bloomberg Oil Demand Monitor.

Oil: ATA Truck tonnage index in June down -1.6% MoM, -0.4% YoY

We look to items like truck tonnage for indicators on the US economy, and the June truck tonnage is indicative of a slowing US economy. The American Trucking Association released its seasonally adjusted Truck Tonnage Index for June on Tuesday [LINK]. Truck tonnage decreased -1.6% MoM and decreased -0.4% YoY from June 2023. Chief Economist Bob Costello noted" "While giving back some of the gain from May, it appears that truck freight tonnage is slowly going in the right direction since hitting a recent low in January. Despite June's decline, the second quarter average was 0.2% above the first quarter and only 0.2% below the second quarter in 2023, which are good signs that truck freight might be finally turning the corner." The index in May was revised slightly downwards to reflect a +3% MoM increase from a +3.6% increase and +1% YoY increase from a +1.5%. Trucking serves as a barometer of the U.S. economy, representing 72.6% of tonnage carried by all modes of domestic freight transportation, including manufactured and retail goods. Trucks hauled 11.46 billion tons of freight in 2022. Motor carriers collected \$940.8 billion, or 80.7% of total revenue earned by all transport modes. Our Supplemental Documents package includes the ATA truck tonnage index report.

June Truck
Tonnage down
-1.6% MoM





Source: ATA

Oil: Europe airports daily traffic 7-day moving average is -2.2% below pre-Covid Yesterday, we tweeted [LINK] "Daily Europe air traffic still stuck below pre-Covid. 7-day moving average as of: Jul 25: -2.2% below pre-Covid. 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%. May 30: -0.8%. May 23: -1.9%. Thx @eurocontrol #OOTT #Oil." Other than over Christmas, European daily traffic at

Europe airports daily traffic



airports has been below pre-Covid. The 7-day moving average has got close a few times including at only 0.8% below pre-Covid as of May 30, but the 7-day moving average is now – -2.2% below pre-Covid as of 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 around 8am MT on Saturdays for a consistent weekly comparison. Eurocontrol updates this data daily and it is found at [LINK].

Figure 56 Europe Air Traffic: Daily Traffic Variation to end of July 25

Source: Eurocontrol

Oil: Ryanair warns summer fairs down materially YoY, zero color on passengers PAT Ryanair shares were down 15.4% on Monday following the release of their Q1/25 ending June 30, 2024. Ryanair warned that fares would be materially lower and they had no guidance on PAT. We looked at their results as another indicator that the pent up Covid travel is over where people keep paying higher prices to travel or that the European consumer is stretched or both? Early Monday morning, we tweeted [LINK] "Negative EU air travel outlook. Ryanair shares -14% on Q1/25. Headline is Jul/Aug/Sep fares materially lower YoY. Also Note:



travel is starting to normalize after a couple years of pent-up travel demand from Covid. It looks like, at least from Air Canada, that the same thing is happening in Canada. On Monday, we tweeted [LINK] "Air travel in Canada finally pulling back from post Covid travel rush? #AirCanada. Record Q2 revenues, Q2 load factor above historical average. BUT reducing 2024 guidance due to H2/24 lower yield environment (revenue) & lower than expected load factor (less passengers). #OOTT." Air Canada had just issued a release for lower full year 2024 guidance. In the release, they highlighted how Q2 revenues were the highest Q2 on record and that Q2 load factor was above the historical average. Despite the strong Q2, Air Canada lowered is full year 2024 guidance due to the less than expected outlook for H2/24 for both prices and passengers. They are coming off what they describe as a strong Q2/24 to a negative H2/24, which certainly sounds like the post Covid rush is over. Air Canada wrote "The updated 2024 adjusted EBITDA guidance range is largely driven by the lower yield environment, lower-than-expected load factors for the second half of the year and competitive pressures in international markets. It also reflects our assumptions including those relating to the price of jet fuel and a weakened Canadian dollar against the US dollar. The updated 2024 capacity guidance range accounts for sustained supply chain pressures, evolving market conditions and ongoing geopolitical issues."

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

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

90% of hurricanes are after Aug 1

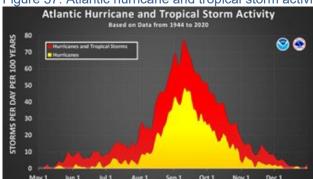


Figure 57: Atlantic hurricane and tropical storm activity by month

Source: NOAA

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Oil & Natural Gas: Potential storm reminds of hurricane path guide the Dominican Republic

It's been quiet for tropical storms or hurricanes in the Gulf Coast since Hurricane Beryl Hurricanes and storms are always unpredictable as to their speed, wind strength and path. A lot can change. However, as of our 7am MT news cut off, the latest National Hurricane Center 7-day outlook was as of 5:39am MT. The NHC wrote "For the North Atlantic ...Caribbean Sea and the Gulf of Mexico: with an approaching tropical wave during the next several days. Environmental conditions are forecast to become conducive for some development in a day or two, and a tropical depression could form around midweek while the system is near or over the northern Leeward Islands, Greater Antilles, or southwestern Atlantic Ocean. * Formation chance through 48 hours...low...near 0 percent. * Formation chance through 7 days...medium...40 percent."

Potential cyclone development





Source: National Hurricane Center

Oil & Natural Gas: Hurricane track map rule of thumb – the Dominican Republic

When we saw the NHC new forecast for the potential storm development path heading towards the Dominican Republic, earlier this morning we tweeted [LINK] "New @NHC_Atlantic 7-day outlook gives 40% chance for cyclone development. Reminds of \$\int 06/27/24\$ tweet on a decent rule-of-thumb for tropical storms/hurricanes is if path takes it south of Dominican Republic it then normally hits Yucatan, Gulf Coast or both. #OOTT." Hurricanes and tropical storms are always unpredictable in terms of speed, wind strength and path. But, based on history, there are some rules of thumb. One pretty good rule of thumb is that tropical storms or hurricanes that move south of the Dominican Republic are likely to either hit the Yucatan Peninsula or come into the Gulf of Mexico and hit the Gulf Coast. Our tweet included the last four years of NHC track maps and we maintain the track maps since 2000 and they provide support for this rule of thumb On June 27, we tweeted [LINK] "Hurricane Track Map Rule of Thumb. Hurricanes that move south of the Dominican Republic are the ones that are likely to hit Yucatan Peninsula or come into the GoM to hit Gulf Coast. Last 4 yrs of @NHC_Atlantic track maps are indicative of track maps since 2000. #OOTT #NatGas"

Hurricane track map rule of thumb



Figure 59: Atlantic hurricane track map for 2021

Source: National Hurricane Center

Energy Transition: KKR, Power infrastructure is THE key component for Al growth On Thursday, we tweeted [LINK] "Al Data Center 101. Comprehensive solution for massive Al demand".... intervention from some government policies to help facilitate buildout of some of this power infrastructure which ultimately is THE key component of this will be required". KKR's Szlezak to @annmarie. #NatGas and not phasing out #Coal are really the only baseload power for Al data center growth areas over the next 10 years. #OOTT." KKR was on Bloomberg Surveillance on Thursday morning and reiterated their very bullish view on Al. And, in doing so, highlighted that the KEY component that will be required is a buildout of power infrastructure. Our tweet included the video clip of KKR's Szlezak on Bloomberg Surveillance.

KKR: power infrastructure is key to Al

06/18/24: KKR also highlights need for 24/7 power for Al data centers

KKR's comments this week on AI and power are not new. Here is what we wrote in our June 23, 2024 Energy Tidbits memo. "On Tuesday morning, we were watching CNBC Squawk Box when Henry H. McVey (KKR CIO) was discussing KKR's "Mid-Year Outlook for 2024" and he was talking about how to play the AI push. McVey highlighted the growing realization for investors – the massive and quickly growing need for electricity to support AI. And that means the focus should be on playing the back-end infrastructure needs for AI and that means providing 24/7 power. We tweeted [LINK] "Another endorsement for #NatGas for 24/7 power for 2020s. Just now w/ @BeckyQuick, @KKR Co Henry McVey on its mid-yr outlook - a key theme is back-end of AI growth - accelerated growth in US electricity consumption. That includes @NatGas! #OOTT [LINK]." At 3:18 min mark, McVey "I think what's happening though is there is a mismatch between energy demand and energy supply. Right. A lot of the headlines today are on Nvidia, the chips. We're spending all of our time on the back end, which is electricity demand has gone from zero growth for a decade to up to almost 3%. And if you think about that, in the US, what it's doing to the grid. It's putting huge strain on it. So if we're right about our



estimates for AI and that demand for energy, that's the equivalent of adding 24 million homes to the US grid set. Think about that. That's a massive number. So what it means is if you have the infrastructure around the energy. If you can actually connect the energy to where the AI demand is, there's a huge benefit. So data centers, data, fibre, towers all of those things are going to continue to benefit. And at the same time, there's just a lot of creaky infrastructure." In their report, KKR wrote "All told, our best estimate is that power demand in the U.S. will increase at a CAGR of 2.0-2.5% over the next five years, compared to zero for the past five years. As this growth accelerates, data centers alone are expected to account for 7-10% of total energy demand by 2029, compared to two to three percent today. If we are right, then billions of dollars will be required across natural gas, renewables, transmission, and other forms of infrastructure." Our Supplemental Documents package includes excerpts from the KKR report."

Energy Transition: Virgin Atlantic & British Airways warn SAF drive up ticket prices

No one should be surprised by the comments from Virgin Atlantic and British Airways CEOs that Europe's move to increase the proportion of sustainable aviation fuel is increasing passenger air fares. (i) Virgin Atlantic. On Tuesday, we tweeted [LINK] "Reality check for EU air travel. Virgin Atlantic CEO Weiss" told The Telegraph "Prices will have to go up to account for the fact that flying with Saf [Sustainable Aviation Fuel] in greater and greater volumes is materially more expensive" reports Christopher Jasper. #OOTT." We couldn't access the full Telegraph article, but some of the reports on the story noted how Weiss. (ii) British Airways. On Tuesday, we tweeted [LINK] ""Plans to offer low-carbon flights reliant upon sustainable aviation fuel (SAF), which costs up to six times as much as traditional kerosene, will have a "big impact" on prices, said Luis Gallego. He said: "Flying is going to be more expensive." reports

Christopher Jasper. Gallego is CEO of IAG ie. British Airways, etc. #OOTT [LINK]."

SAF drives up airfares

On Thursday, we tweeted [LINK] "EV reality check "it is true that the [EV] transition we are going thru is immensely challenging. this is a bump. there will be other bumps. This will last for a few years. This is not a short term turmoil" Stellantis CEO. EVs won't displace #Oil as fast as IEA forecast. #OOTT." Stellantis CEO Carlos Tavares was on Bloomberg and his first message on the transition to EVs was that it is immensely challenging and that the

turmoil in this transition is not a short term turmoil. Our tweet includes a short video clip of

Energy Transition: Stellantis warns EV transition turmoil will last for a few years

Stellantis on EV transition

Tavares comments.

Energy Transition: Stellantis CEO says blame politicians for optimistic EV forecasts When he was on Bloomberg, Stellantis CEO Carlos Tavares made a point of making sure everyone knows that the overly optimistic forecasts for EVs adoption are politician forecasts and not industry forecasts. And the politician forecasts were based on an incorrect assumption that consumers were willing and able to pay a higher price for EVs. Bloomberg asked what was required given the EV transition wasn't happening as quickly as people had planned for. Tavares made it clear, people wasn't industry, it was politician expectations. An that EVs forecasts were really politician assumptions and not forecasts based on any rigorous analysis. We tweeted [LINK] a short video clip and wrote "Stellantis CEO makes it clear - blame politicians for EV sales expectations. The EVs ramp up "is not happening as

Stellantis says blame politicians



quickly as the political leadership had expected. what we are seeing in the western world right now is the consumers are not supporting as much the political leadership was expecting the EV ramp up" Stellantis CEO to @lisaabramowicz1 #OOTT 1/2." And our second tweet [LINK] included a second video clip "2/2. Reality of moving from higher income early EV adopters to middle/lower income. "political leadership, thru the regulations, thought consumers were able & willing to pay a higher price for EVs. And they are telling us, the consumers, that they don't agree with that". The two video clips are worth a lilsten and remind that, like other energy transition forecasts, the EVs were based on politicians assumptions or hopes on consumers were willing to pay a higher price for EVs. As we have seen over the last year, that has proven to be an incorrect assumption.

Reminds of EU renewable hydrogen plan also based on politics not analysis, Last week's (July 21, 2024) Energy Tidbits memo highlighted how Europe's renewable hydrogen plan was based on politics and not analysis. Here is what we wrote "No one should be surprised that the European Court of Auditors scathing calling-out of the EU politicians on their renewable hydrogen plans and unrealistic targets that were set based on politics and not any robust analysis. And the problem is being unrealistic means that the costs are huge and nowhere the nirvana sold by western politicians that the transition won't lead to higher and more volatile energy prices. (i) On Tuesday, we tweeted [LINK] "Busted! No real analysis = EU unrealistic green hydrogen targets! "EU's industrial policy on renewable hydrogen needs a reality check" "set overly ambitious targets for the production and import of renewable hydrogen.... These targets were not based on a robust analysis, but were driven by political will" "Building up an EU hydrogen industry requires massive public and private and investment" "The EU should decide on the strategic way forward towards decarbonisation without impairing the competitive situation of key EU industries or creating new strategic dependencies." #Oil #NatGas will be needed for longer. Thx @EUauditors #OOTT." (ii) European Commission politicians have ignored this report. The ECA issued the report on Tuesday and EC President von der Leven highlighted the EC's green hydrogen plans as if the plan and targets were fine in her Thursday speech on being reappointed EC President. (iii) EC needs a reality check in their renewable hydrogen targets. The ECA posted their report on the EC's renewable hydrogen plans and targets and titled their release "Renewable hydrogenpowered EU: auditors call for a reality check." The ECA said "The auditors call for a reality check to ensure that the EU's targets are realistic." (iv) The renewable hydrogen targets were politically driven, not driven by analysis. This is the big point we have highlighted for years – energy transition targets are NOT being set on analysis and reality. They are aspirational political ambitions. So they are doomed not to be met. The ECA clearly said this "To start with, the Commission set overly ambitious targets for the production and import of renewable hydrogen, i.e. 10 million tonnes each by 2030. These targets were not based on a robust analysis, but were driven by political will." (v) There is a massive requirement for public and private investment. This is another of our longstanding criticisms of setting energy transition targets that aren't based on analysis – there will be much higher costs. The ECA warned "Building up an EU hydrogen industry requires massive public and private and investment." (vi) Plus a line that looks to be more of a general big slap down that the EU's decarbonization plans are hurting Europe competitiveness. The ECA wrote



"The EU's industrial policy on renewable hydrogen needs a reality check," said Stef Blok, the ECA Member in charge of the audit. "The EU should decide on the strategic way forward towards decarbonisation without impairing the competitive situation of key EU industries or creating new strategic dependencies." Our Supplemental Documents package includes the ECA release and excerpts from their report."

Reminds of Comptroller slams New York clean energy plan & its assumptions

There was another overlooked but should have been high profile example of politicians using overly optimistic assumptions. Here is what we wrote in last week's (July 21, 2024) Energy Tidbits memo. "On Wednesday, it was New York's turn to have its clean energy goals slammed by its New York State Comptroller. (i) On Wednesday, we tweeted [LINK] "Big holes in New York clean energy plan = #NatGas will be needed for longer. "PSC is using outdated data for planning purposes and has not adequately addressed all current and emerging issues" "Further, PSC is relying on yet-undeveloped technology that will be required to store renewable energy long term to meet 2040 goals". "Additionally, the costs of transitioning to renewable energy are not known or have been reasonably estimated by PSC" "However, the default plan to rely on fossil fuels not only fails to address Climate Act goals, but it also means that, in addition to maintaining and growing the existing infrastructure for the transmission of renewable energy, the infrastructure for safely transporting fossil fuels must be maintained, which also may present costs to ratepayers." Lots more in @NYSComptroller report [LINK]." (ii) It's worth a quick read as it is another report that highlights the clean energy target set by govt, in this case New York, were set on assumptions that had no way of happening. (iii) Note one of the key wrong assumptions in meeting New York meeting its clean energy goals. The Comptroller says "PSC also did not fully account for other potential risks, and did not consider certain challenges that could delay meeting the state's clean energy targets. For example, according to the Independent System Operator, the state would need new technology not yet developed to account for the weather-related intermittency of renewables, as well as expanded transmission capability to get clean energy to consumers, to achieve the 2040 goal of 100% renewable statewide electric generation." (iv) This comment that they just assumed new technology would be discovered and ready when needed is an obvious bust in all the clean energy and net zero and energy transition aspirations. And a basic fundamental flaw that we have highlighted for over three years. (see below excerpt from our May 16, 2021 Energy Tidbits memo on this flaw. (v) The Comptroller also highlights the obvious point that we have emphasized for years - the clean energy shortfalls means more natural gas is needed and why we have been highlighting that relatively new natural gas generation plants will have more value. The Comptroller writes "The audit found that the PSC did not develop a back-up plan if the Climate Act's goals were not met within prescribed timeframes, except for the continued reliance on fossil fuels, including "peaker plants." which generally operate at a higher monetary and environmental cost." (v) There is more in the release and report. Our Supplemental Documents package includes the release and excerpts from the report."



Energy Transition: IEA coal forecast based govt policy settings and ambitions

On Wednesday, the IEA posted its "Coal Mid-Year Update - July 2024", which reminds coal demand was at all-time high in 2023, 21024 to be broadly flat and 2025 to remain on a plateau. There was a great Bloomberg Javier Blas blog on the new IEA report and how coal demand continues to exceed IEA forecasts and he lays out the analysis for why that should continue to do so. It is a good analysis and worth a read. However, we also remind that it's like It's like all the IEA "forecasts". They aren't forecasts. Rather the are reflection of government objectives/goals. And not just based on analysis. The IEA coal demand forecast conclusion and analysis is not governed by analysis like Javier Blas. Rather something the IEA says in their press release - it is based on 'today's policy settings...'. "Our analysis shows that global coal demand is likely to remain broadly flat through 2025, based on today's policy settings and market trends," said Keisuke Sadamori, IEA Director of Energy Markets and Security." This is the simple reason why the forecast is overly optimistic on getting rid of coal. The limited public information does not explain "today's policy settings". However, the IEA used the same words in their press release for their Global EVs Outlook and then explained it in the full report. This is a point we have highlighted for years on the IEA work. Their "forecasts" are based not just on government policies but what the government objectives ie. what they hope to accomplish. Here is what the Global EVs Outlook did in explaining today's policy settings. "The Stated Policies Scenario (STEPS) reflects existing policies and measures, as well as firm policy ambitions and objectives that have been legislated by governments around the world." So items like firm policy ambitions are included. This IEA approach or assumption is overlooked by almost everyone. Like the Global EVs Report, we would expect anh disclosure of the detail behind the coal report would explain "today's policy settings" but we can't see them changing it. It is their fundamental excuse for their forecast missing. Our Supplemental Documents packge includes the Javier Blas blog and the EIA press release and the report highlights on the IEA webisite

IEA coal forecast overlooked assumptions

Energy Transition: GM CEO's letter reminds ICE is the driver

GM reported strong Q2 numbers this week and it was due to the strong ICE sales. It was interesting to read GM CEO Mary Barra's letter to shareholders and how she has to write in an EV forward future without being blunt that it was all about ICE, the near term will be all ICE driven and EVs are small and will grow at some sort of slow measured pace. She just can't say it clearly but her letter says it without saying so. She has a paragraph that is great vehicles and better execution will be what differentiates. And in that paragraph she only mentions ICE – "Great vehicles and better execution will continue to differentiate us. In SUVs, we're in the process of launching eight all-new or redesigned compact, mid-size and full-size ICE models in North America, including high volume vehicles like the Chevrolet Equinox and our family of mid-size SUVs, which all have higher margins than the outgoing models." And when she talks about her excitement on EVs, she makes sure to let shareholders know EVs will be a measured pace – "As excited as we are about our EVs and our early success, we are committed to disciplined volume growth, which is the key to earning positive variable profits from our portfolio in the fourth quarter, which remains our goal." Our Supplemental Documents package includes the GM CEO letter.

ICE is what is driving GM

GM won't hit EVs target "because the market is not developing"

Here is what we wrote last week on GM CEO Mary Barra's comments that GM won't be hitting their EVs sales target. "The major theme in 2024 for EVs has been that



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

Energy Transition: Half of Teslas traded in at non-Tesla dealers switch to ICE

Yesterday we tweeted [LINKI] "One of my Tesla Toronto friends reminded this % is for Tesla owners who trading away from Tesla to other EVs, hybrids or ICE at other brand dealers. EV sales are growing but forecasts for EV sales growth don't specify any % of this factor where EV owners go back to ICE." In a follow up to our Thursday tweet [LINK] ""More Than Half of Teslas Are Being Traded In for Gas Cars" 👇 @edmunds Will Kaufman report. Doubt if any EVs sales forecasts build in any significant % of EV owners switching back to ICE? Another reason why EVs replacing ICE forecasts are too optimistic. #OOTT #Oil." My Tesla Toronto friend reminded the Edmunds report on over 50% of Teslas traded in for ICE was referencing the Tesla owners who trade-in at dealers outside of Tesla. So it includes these Tesla tradeins for ICE, hybrids or other EVs. The other point he reminded is that Tesla trade-ins at non-Tesla dealers is likely having a strong increase in part due to Tesla owners who now have better EV options at non-Tesla dealers. The other factor for more Tesla owners trading in away from Tesla is that Tesla doesn't offer hybrids and we are seeing Hybrids taking market share from EVs. So it makes sense that there are more Tesla owners trading in Teslas at non-Tesla dealers but also makes sense why the Edmunds % of Tesla owners trading in is seeing a declining % switching to ICE and more to other EVs and hybrids. Edmunds noted how the % of Tesla owners trading in at other dealers and trading in for ICE has declined

Teslas for ICE

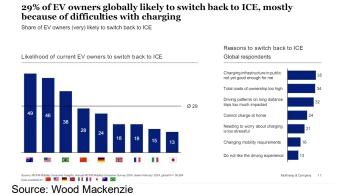


from 68% in 2022, to 55% in 2023 to 51% in year to date 2024. And Tesla's traded in at other dealers for other EVs has increased from 21% in 2022 to 29% in 2023 to 32% in year to date 2024. And Tesla's traded at other dealers for hybrids has increased from 7% in 2022 to 8% in 2023 to 10% in year to date 2024. The other key factor why this is significant is that it is a reminder that EV owners switch back to EVs and this isn't built into EV sales forecasts. Rather the EVs forecasts seem to assume once an EV, always an EV. Our Supplemental Documents package includes the Edmunds report.

McKinsey 46% of US EV owners likely to switch back to ICE

Recall the recent McKinsey report that is tied to the concept of existing Tesla or other EV owners are increasingly likely to trade in for ICE or hybrid. Here is what we wrote in our June 23, 2024 Energy Tidbits memo. "One of the key question marks that we don't see addressed in EV sales forecasts is how many EV owners switch back to ICE vehicles. It must be that they assume no EV owners switch back to ICE. At a minimum, we hope forecast for EVs sales at least note that as a qualifier to its EV forecast. It didn't get much media attention given it is a negative to EVs outlook but McKinsey's "McKinsey Mobility Consumer Pulse: Media Presentation June 2024" included a slide "29% of EV owners globally likely to switch back to ICE, mostly because of difficulties with charging". That is a global number but, for the US, it's 46% o fEV owners likely to switch back to ICE. Note that McKinsey says it's mostly because of difficulties with charging. But the reality of their numbers is that there are three major reasons. Difficulties with charging at 35%, total costs of ownership too high at 34%, and driving patterns on long distance trips too much impacted at 32%."

Figure 60: % of Ev owners likely to switch back to ICE



Energy Transition: China raises EV, ICE vehicles trade-in subsidies

We have to give China credit as they keep doing more to try to keep increasing EV sales and for what they have done to build out EV charging in both cities and outside of cities. On Friday, Argus Media reported that the Chinese government has raised its previously announced subsidy to boost trade-in of ICE vehicles with new energy vehicles ("NEV") [LINK]. The subsidy is now at 20,000 yuan for the trade in of a NEV registered before 2018 or vehicle below China's national 3 emission standard for a new NEV, double the previously announced subsidy from May. Here's what we wrote in our May 5th, 2024 Energy Tidbits

China increased incentives for EV purchases



Memo: "Xinhua wrote "The [Politburo] meeting stressed the need to assess the consistency of macro policy orientation, advance large-scale equipment renewals and trade-ins of consumer goods, introduce more consumption scenarios, promote people-centered new urbanization". China introduced incentives to trade-in cars. Last Sunday night, we tweeted [LINK] "ICYMI. China auto stocks up today. China to give one-time subsidy of as much as 10,000 yuan (\$1,380) to consumers who trade in their old vehicles and buy a newer model, and a 7,000 yuan who trade in new vehicles. See — @Lindadalew report. #OOTT." The interesting part of this trade-in incentive is that it also includes EVs and Hybrids sold before 2018 so these aren't really old cars. The incentive lasts thru 2024. Bloomberg wrote "Drivers who trade in electric vehicles or hybrids registered before 2018, or gasoline cars that don't comply with China's 2007 emissions standards, and purchase a new qualifying vehicle will get 10,000 yuan, the Ministry of Commerce said in a statement Friday. Customers who trade in newer vehicles will receive 7,000 yuan, it said. The program, which runs until the end of 2024, is part of Beijing's latest effort to boost consumption to accelerate economic growth that's been hurt by a property crisis and weak consumer sentiment."".

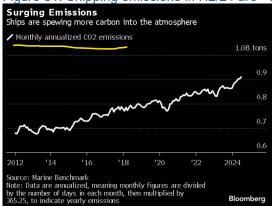
Energy Transition: Avoiding Red Sea helps shipping emissions +6% YoY in H1/24

No one should be surprised to see Bloomberg's Monday report "Shipping Gets Even Dirtier as Houthi Attacks Fuel Longer Voyages." Ships avoiding the Red Sea have had to have longer voyages and longer voyages means more emissions. Bloomberg wrote "Shipping's carbon emissions climbed by 23 million tons in the first half of this year, partly as vessels took longer routes to avoid attacks in the Red Sea. The 6% increase from a year earlier — equal to the annual amount spewed out by six coal-fired power plants — pushed the industry's emissions to about 450 million tons, according to data from Marine Benchmark, which uses ship-tracking data to calculate the figures. The jump was biggest among container vessels, which emitted roughly 15% more over the period." On Monday, we tweeted [LINK] "Blame the Houthis. Shipping emissions +6% YoY in H1/24 partly by ships/tankers having to make longer voyages to avoid Red Sea. by @JWittels. Don't forget longer voyages means less will take more time to slow steam and slow steaming significantly reduces emissions. #OOTT." One item that wasn't in the Bloomberg report was slow steaming and how that saves fuel consumption and cuts emissions although it means an already longer voyage will take longer. Our Supplemental Documents package includes the Bloomberg report.

Shipping emissions up







Source: Bloomberg

Slow ship steaming = less fuel consumption = less emissions

On Monday, we also tweeted [LINK] "Slow ship steaming = less fuel consumption = less emissions. But with avoiding Red Sea making longer voyages, ships/tankers don't want to make a longer trip take even longer by slow steaming. See 🔷 excerpt SAF Group Aug 6, 2023 Energy Tidbits memo. #OOTT." Our tweet included what we wrote in our Aug 6, 2023 Energy Tidbits memo. "Back prior to IMO 2020, it seemed like a regular update item was on how shipping companes were going to deal with IMO 2020 – with the two primary discussion actions were they going to install scrubbers or switch from HSFO to LSFO. And there was always the fallback option to go to slower steaming. We were reminded of slower steaming in Maersk Q2 report, although they were referencing it for the purpose reducing emissions. Rather it was used in the context of not seeing any significant recovery in container volumes. Maersk wrote "Seaintel data shows that the share of the Global container fleet absorbed by delays decreased from a peak in January 2022 of almost 14% to a postpandemic low of 3.6% in May 2023. Some of the available capacity is being absorbed by slower steaming and cancelled sailings." But going back to the IMO writeups, the advantage of slower steaming is a significant reduction in fuel consumption and also emissions. Here is what we wrote inour October 28, 2018 Energy Tidbits memo on fuel savings. "Slow steaming can reduce fuel consumption by over 50%. Here is what Wikipedia wrote about the fuel saving from slow steaming [LINK]. ""Rationale & History. Slow steaming was adopted in 2007 in the face of rapidly rising fuel oil costs (July 2007 to July 2008: 350 to 700 USD/tonne).[4] According to Maersk Line, who introduced the practice in 2009-2010,[5][6] slow steaming is conducted at 18 knots (33 km/h; 21 mph).[1][not in citation given] Speeds of 14 to 16 kn (26 to 30 km/h; 16 to 18 mph) were used on Asia-Europe backhaul routes in 2010.[7] Speeds under 18 kn (33 km/h; 21 mph) are called super slow steaming.[1][not in citation given] Marine engine manufacturer Wärtsilä calculates that fuel consumption can be reduced by 59% by reducing cargo ship speed from 27 knots to 18 kn (33 km/h; 21 mph), at the cost of an additional week's sailing time on Asia-Europe routes.[8] It adds a comparable 4-7 days to trans-Pacific voyages.[7] The large container ship Emma Maersk can save 4,000 metric tons of fuel oil on a



Europe-Singapore voyage by slow steaming.[5] At a typical 2008 price of USD 600-700 per tonne,[4] this works out to USD 2.4-2.8 million fuel savings on a typical one-way voyage. Maersk's Triple E class of ships was designed for slow steaming, with hulls optimized for lower speeds. Because of this, it has less powerful engines than its predecessors.[5]"

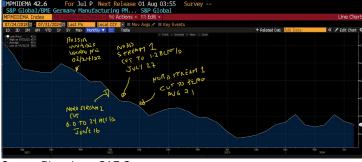
Energy Transition: India exempts customs duties on critical minerals incl copper As usual, India is looking ahead and this time on critical minerals. On Tuesday, the Hindu reported Finance Minister Nirmala Sitharaman announced the exemption of 25 critical minerals from custom duties, and reduced basic custom duties on 2 critical minerals [LINK]. Hindu reported "These critical minerals include antimony, beryllium, bismuth, cobalt, copper, gallium, germanium, hafnium, indium, lithium, molybdenum, niobium, nickel, potash, rare earth elements, rhenium, strontium, tantalum, tellurium, tin, tungsten, vanadium, zirconium, selenium, cadmium, and silicon (other than quartz and silicon dioxide). The custom duty on these minerals was previously in the range of 2.5% and 10%." The custom duty for graphite and silicon quartz and dioxide was reduced to 2.5% from 5%-7.5%. The government intends to set up a Critical Mineral mission for domestic production, recycling of critical minerals, and

India exempts critical minerals from customs duties

Capital Markets: Germany manufacturing PMI down, cheap RUS NatGas a key reason Germany manufacturing/industry started its big slide before Russia invaded Ukraine when Europe natural gas prices spiked and went into a steady big decline as cheap Russian natural gas via pipeline was cut to zero in Aug 2022. Cutting off cheap Russian natural gas has been the big hit to Germany's heavy industry. On Wednesday, we tweeted [LINK] "There are other factors but the big one that has hurt Germany manufacturing/industrial base and competitiveness was the cutting off of cheap Russian #NatGas via Nord Stream 1 post Russia invasion of Ukraine. #OOTT." On Wednesday, the HCOB Manufacturing PMI for Germany showed an unexpected contraction in July from an already low number. It came in at 42.6 for July, down from 43.5 in June and below estimates of 44.0. It was the lowest leel in three months. Our tweet included the below Bloomberg graph of HCOB Manufacturing PMI for Germany and we noted the key cut off of Russian cheap pipeline natural gas and there is a clear correlation to lower Manufacturing PMI numbers.

Germany manufacturing PMI down





overseas acquisition of critical mineral assets.

Source: Bloomberg, SAF Group



Capital Markets: U.S. homebuyers backed out of deals at a record rate in June

On Tuesday, Redfin reported that deals to purchase homes fell through at a monthly record rate across the U.S. in June [LINK]. 15% of home purchases that went under contract were cancelled through the month of June, and 20% of homes for sale had a price cut – the highest cancellation rate and price cut rate for June on record. Redfin reported, "House hunters are having trouble committing because buying a home is more expensive than ever. The median home sale price rose 4% year over year to a record \$442,525 in June, and the average interest rate on a 30-year mortgage was 6.92%. While that's down slightly from 7.06% the prior month, it's still more than double the all-time low hit during the pandemic.... Home sales fell 0.5% month over month in June on a seasonally adjusted basis. While that may seem like a small decline, it's the biggest since October 2023. Home sales dropped 1.1% from a year earlier, and were 21.5% below pre-pandemic (June 2019) levels." Our Supplemental Documents Package contains the report from Redfin.

U.S. housing market signals

We have been highlighting the big change to Cdn mutual funds that started in Q2/22 – when there started a shift from net sales to massive net redemptions in balanced and equity funds. What started in H2/22 played out even bigger in 2023 and is continuing, but on a lesser scale, in 2024 to date. On Tuesday, IFIC (Investment Funds Institute of Canada) reported mutual funds and ETF sales for June [LINK]. IFIC reported net redemptions (sale of positions) for balanced funds to be -\$4.045b in June vs net redemptions of -\$3.334b in May. This brings the YTD figure for balanced funds net redemptions to -\$18.955b, less than year ago -\$21.680b in YTD 2023. Equity funds saw net redemptions of -\$2.614b in June, after net redemptions of -\$0.881b in May and -\$0.014b of net redemptions in April. Equity fund net redemptions are down -\$1.733b MoM from May. Recall February was the first net sales in equity funds in 12 months and March followed with small net sales in equity funds. But the inflows didn't last. April was a return to net redemptions, and we have been consistently at

net redemptions since. Our Supplemental Documents package includes the IFIC release.

Capital Markets: IFIC, mutual funds equity & balanced funds at net redemptions in Jun

IFIC Cdn mutual fund data

Figure 63: Cdn Mutual Fund Net Sales/Net Redemptions (\$ Millions)

Mutual fund net sales net redemptions \$ millions)*

Asset class	Jun 2024	May 2024	Jun 2023	YTD 2024	YTD 2023
Long-term funds					
Balanced	(4,045)	(3,334)	(4,421)	(18,955)	(21,680)
Equity	(2,614)	(881)	(2,339)	(1,606)	(9,584)
Bond	1,197	1,346	795	10,107	8,604
Specialty	473	623	264	3,783	2,014
Total long-term funds	(4,990)	(2,246)	(5,702)	(6,672)	(20,646)
Total money market funds	3,070	464	1,524	3,594	7,882
Total	(1,920)	(1,782)	(4,178)	(3,078)	(12,764)

Source: IFIC

There were massive redemptions in Cdn active equity/balanced funds in 2023 2023 was a brutal year for net redemptions for Cdn balanced and equity funds and even more than in 2022. Here is what we wrote in our Jan 28, 2024 Energy Tidbits memo. On Friday, we tweeted [LINK] "Brutal year for net redemptions in balanced



and equity mutual funds in Canada. @ific reflects \$82.5 billion net redemptions including \$56.9b from balanced mutual funds and \$25.6b from equity mutual funds. #OOTT." One of the big Cdn equity stories in 2022 continued to play out in an even bigger way in 2023 – the continued net redemptions from active managed Cdn equity and balanced mutual funds. This flipped in Q2/22 from massive net sales into balanced and equity mutual funds to massive net redemptions in equity and balanced mutual funds. This year, the 2023 net redemption total dwarfed those in 2022. On Wednesday, IFIC (Investment Funds Institute of Canada) reported [LINK] mutual funds and ETF sales for November. IFIC reported net redemptions for balanced mutual funds were \$4.612b in December vs \$6.510b in November and \$8.569b in October. IFIC also reported net redemptions for equity mutual funds were \$2.514b vs net redemptions of \$3.178b in November and \$4.142b in October. This means, barring any major revisions, that in 2023 there were \$82.5b of net redemptions in balanced and equity mutual funds! This is more than double the net redemptions of 2022.

Figure 64: Cdn Mutual Fund Net Sales/Net Redemptions (\$ Millions)

/lutual fund net sales/net re					
Asset class	Dec 2023	Nov 2023	Dec 2022	2023	2022
Long-term funds					
Balanced	(4,612)	(6,510)	(4,935)	(56,866)	(29,959)
Equity	(2,514)	(3,178)	(3,069)	(25,568)	(8,461)
Bond	845	(435)	(2,187)	6,986	(13,811)
Specialty	176	391	102	3,538	1,306
Total long-term funds	(6,105)	(9,732)	(10,088)	(71,909)	(50,925)
Total money market funds	790	1,227	1,802	14,825	7,196
Total	(5,315)	(8,506)	(8,286)	(57,084)	(43,729)

Source: IFIC

Capital Markets: South Korea plans to lower inheritance tax

On Thursday, Bloomberg reported that South Korea's President Yoon Suk Yeol plans to lower the ceiling on the inheritance tax to 40% from 50%, and eliminate the additional fees required by owners. If the proposal is approved, this would mark the first inheritance tax reduction since 1995. Bloomberg reported "For decades, South Korea has levied an inheritance tax of as much as 60% on the controlling shareholders of firms like Samsung Electronics Co., forcing billionaire families to perform financial contortions in order to pay up...The idea behind the tax was to stop rich families that run the nation's sprawling conglomerates, known as chaebols, from passing down their wealth and maintaining what critics say is a disproportionate influence over the economy.... "The immediate beneficiaries are the controlling shareholders of large conglomerates like Samsung and Hyundai, who will see a significant reduction in their inheritance tax burden," said Vikas Pershad, Asian equities portfolio manager at M&G Investments in Singapore. Still, the tax cuts "are expected to stimulate investment in the stock market, potentially leading to increased liquidity and higher valuations for Korean companies."" The report noted the backlash from the opposing democratic party regarding the tax cut due to the president "representing the interests of the ultra-rich and trying to fool ordinary citizens", however also noted that an analyst at Douglas Research Advisory wrote they believe there is an increasing probability this law materializes

South Korea plans to lower inheritance tax



in Q4 of this year. Our Supplemental Documents Package contains the report from Bloomberg.

Capital Markets: USDA Consumer Price Index in June for food +0.2% MoM, +2.2% YoY We recognize that the USDA consumer food price index is a much better indicator for grocery store prices than the UN's food commodity price index. But we still continue to believe the actual prices at the grocery stores are way higher than indicated by the USDA inflation, or at least that is the view of consumers. And we highly doubt anyone who buys groceries would think grocery prices are only up 2.2% YoY. On Thursday, the USDA posted its June Consumer Price Index for food [LINK], which reported the Consumer Price Index for all food (CPI) was +0.2% MoM and +2.2% YoY in June. The +2.2% YoY increase in the Consumer Price Index has a relative weighting for the various food categories. Beef and veal were up +0.5% MoM, +5.1% YoY, and are expected to increase +4.4% over 2024, fresh vegetables are down -0.3% MoM, -0.3% YoY, and expected to increase +0.8% in 2024, retail eggs are down -0.8% MoM and +10.2% YoY, and expected to decrease -0.3% in 2024, and wholesale pork prices are +0.4% MoM, +3.8% YoY and are expected to increase +1.0% over 2024. It is important to note the USDA said that the "Food prices are expected to continue to decelerate in 2024 compared to recent years. In 2024, prices for all food are predicted to increase 2.2 percent, with a prediction interval of 1.5 to 2.9 percent. Food-at-home prices are predicted to increase 1.0 percent, with a prediction interval of -0.1 to 2.1 percent, and food-away-fromhome prices are predicted to increase 4.3 percent, with a prediction interval of 3.8 to 4.7 percent."

USDA CPI for food +2.2% YoY

Loblaw says its "internal inflaton" declined for 6th consecutive quarter
Loblaw held its Q2 call on Thursday and management stressed that its "internal inflation" is "much lower than CPI" and "We are pleased to see our internal inflation decline for the sixth consecutive quarter. This is helping lower food inflation for Canadians." It is important to note this is for Loblaw's "internal inflation" and this does not included any inflation being passed along the supply chain from food commodity prices to transportation etc. So Loblaw is not saying their grocery prices are lower. What they say their internal inflation success is "helping lower food inflation for Canadians".

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

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

@Energy_Tidbits
on Twitter



LinkedIn: Look for quick energy items from me on LinkedIn

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

Look for energy items on LinkedIn

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.

Athlete's dilemma, participate in Olympics opening ceremony or rest

We watched a good chunk of the Paris opening ceremonies especially the start with the athletes on River Seine. We had seen reports prior to Friday on how some athletes competing on Saturday wouldn't be attending to rest up for their competitions on Saturday whereas wouldn't pass up the once in a lifetime opportunity to be participate in the opening ceremonies. The athletes would have had to leave a couple hours before the start of the sail down the Seine and it rained the entire time and then do the march and sit thru the opening ceremonies. We suspect it was at least five or six hours. Our news cut off is 7am MT so we haven't seen any comments by athletes who attended if there was any impact. NBC is the TV broadcaster for the Olympics. Steve Kornacki has been doing his analysis on the Olympics, maybe he could do a correlation of performance vs attending/vs rest.

It was also really hot in western Canada this week, Calgary hit 39C or 102F It looks like my Audi car temperature is showing at least 3C higher than official measurements. Regardless, it was really hot in Calgary. All the major weather forecasters warned it was going to be really hot in the western US this week. It was also really hot in western Canada. On Tuesday, we tweeted [LINK] "The heat wave is also hitting Calgary. Car just ticked to 39C or 102F. Can't ever remember temperatures anywhere near this high. And of course, it's Calgary so it's a sunny day. Hope people can escape the sun and heat." We had a shotrt 10 min drive home and couldn't help take a picture of the car thermometer as it was at 39C or 102F for most of the short 10-min drive home. Been in Calgary for 43 years and can't remember ever seeing anything this hot before.



Figure 65: Calgary at 4:28pm MT on July 23, 2024

Source: SAF Group

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Will be watching if Cdn golfers Svensson & Pendrith can go low at 3M Open

It's a long shot but will be watching Cdn golfer Adam Svensson and Taylor Pendrith to see if they can go low and have a chance at wining the 3M Open. Early in round 3, we flipped over from the Olympics when Pendrith was in the lead and Svensson tied for 2^{nd.} But unfortunately, they couldn't hold those positions. Svensson was -5 yesterday to sit T6 at -11 but five shots off the lead. Pendrith was +2 to sit T9 at -10 and six shots off the lead. Both Svensson and Pendrith have won before on the PGA Tour so they know they can do it.

Slocan (BC) evacuated due to nearby wildfires

Japanese Canadians will pay attention to the report that a small town n the interior of BC was evacuated due to wildfire risk. This morning, I had CTV News on in the background this morning while finishing up the memo and they had a small item on wildfires forcing the evacuation of Slocan, which is a small town in the interior BC. The only reason why it jumped out at me is that Slocan was the one of the internment camps for Japanese Canadians to be moved from the west coast during WWII. So every baby boomer Japanese Canadian will have known someone who was in the Slocan internment camp. My mother's and father's family were almost all in the Lemon Creek (interior BC) internment camp.

Duke Fakir, last of the original Four Tops passed away

One of the advantages of living in the US in the early 70s was there was way broader exposure to music than in Toronto. There was country, southern Rock and way more Motown exposure depending on who you were hanging out with that day or night. One of the big Motown groups was the Four Tops so it was sad to see that Duke Fakir passed away this week. Fakir was the last surviving member of the original Four Tops and was well recognized for his glasses. We aren't sure when he started wearing glasses but we think it was in the early 70s. Some of the Four Tops most well known songs were "when She was my girl", "baby I need your loving", "I can't help myself (sugar pie honey bunch), and reach out (I'll be there). Perhaps the best video of the Four Tops was their classic Four Tops vs Temptations at the Motown Live show. If you haven't seen it, here is the link [LINK]