Energy Tidbits

September 17, 2023

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IEA: Extension of Saudi & Russia Output Cuts Thru Yr-End "*Will Lock in a Substantial [Oil] Market Deficit Through 4Q23*"

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. Our 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 our review of investor days, conferences and earnings calls focusing on sector developments that are relevant to the sector. Our target is to write on 48 to 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. IEA's Oil Market Report warns "*The extension of output cuts by Saudi Arabia and Russia through year-end will lock in a substantial market deficit through 4Q23*." (Click Here)

2. IEA forecasts peak demand for oil, coal and natural gas by 2030 (Click Here)

3. OPEC response "*This thinking on fossil fuels is ideologically driven, rather than fact-based*" and describes as "*experimental net zero policies*" (Click Here)

4. Offshore Alliance union says Chevron's Australia LNG production has started to be impacted (Click Here)

5. Vortexa crude oil floating storage averaged 85 mmb for past four weeks, down 45 mmb vs recent June 23 peak (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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Natural Gas: +57 bcf build in US gas storage; now +445 bcf YoY surplus

US gas storage +445 bcf YoY surplus

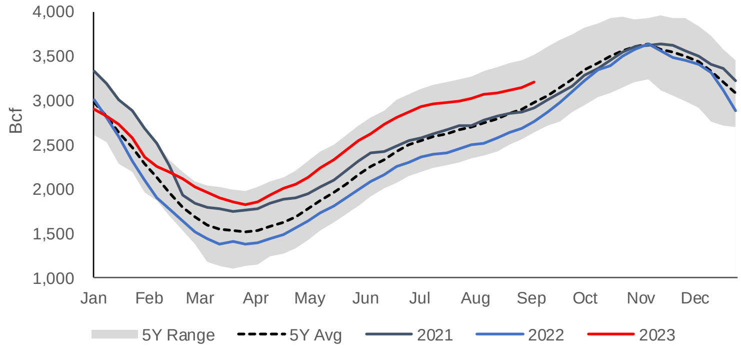
It was another week of hot weather leading to seasonally lower gas injections into storage. For the week of September 8, the EIA reported a +57 bcf build (above the expectations of a +50 bcf build), and a YoY decrease compared to the +77 bcf build reported for the week of September 8, 2022. Total storage is now 3.205 tcf, representing a surplus of +445 bcf YoY compared to a surplus of +462 bcf last week. Total storage is +203 bcf above the 5-year average, down from the +222 bcf surplus last week. Below is the EIA's storage table from its Weekly Natural Gas Storage report [LINK].

Figure 1: US Natural Gas Storage

	Stocks billion cubic feet (Bcf)				Historical Comparisons			
					Year ago (09/08/22)		5-year average (2018-22)	
Region	09/08/23	09/01/23	net change	implied flow	Bcf	% change	Bcf	% change
East	775	766	9	9	657	18.0	725	6.9
Midwest	904	877	27	27	804	12.4	851	6.2
Mountain	225	218	7	7	162	38.9	185	21.6
Pacific	260	252	8	8	235	10.6	262	-0.8
South Central	1,041	1,035	6	6	902	15.4	978	6.4
Salt	241	241	0	0	186	29.6	225	7.1
Nonsalt	801	795	6	6	715	12.0	753	6.4
Total	**3,205**	**3,148**	**57**	**57**	**2,760**	**16.1**	**3,002**	**6.8**

Source: EIA

Figure 2: US Natural Gas Storage – Historical vs Current



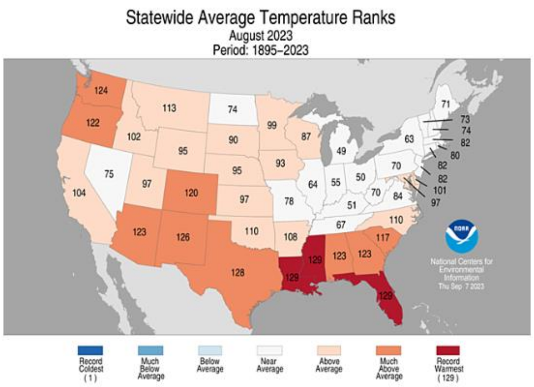
Source: EIA, SAF

Natural Gas: NOAA, August was 9th hottest in last 129 years, JJA 15th hottest

NOAA August US climate recap

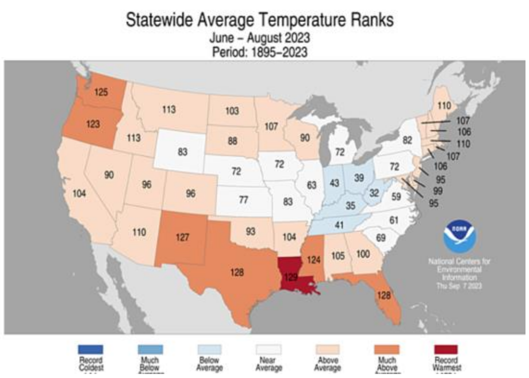
There was a good reinforcement in August that hot summer temperatures don't have anywhere near the impact on natural gas prices as cold winter temperature. It was very hot this summer and HH prices neer really took off this summer. On Monday, NOAA posted its National Climate Recap for August [LINK] with notable temperature increases in the US South and Northwest. August 2023 was the 9th hottest in the last 129 years. It was extremely hot in Florida, Louisiana and Mississippi which experienced the hottest August on record. There was above average temperatures in the rest of the US South and US Northwest which were nearly the warmest on record in August. The US East cosat experienced near average temperatures in August while the US Midwest was primarily above average over the course of the month. Looking back at the summer months, June July and August was the 15th hottest period in the last 129 years in the US. Below is NOAA's by state ranking for August temperatures.

Figure 3: NOAA Statewide Average Temperature Ranks – August 2023



Source: NOAA

Figure 4: NOAA Statewide Average Temperature Ranks – Jun/Jul/Aug 2023

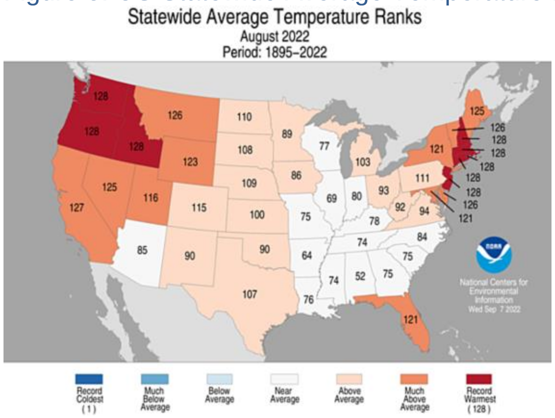


Source: NOAA

August was 8th hottest in the last 128 years in US

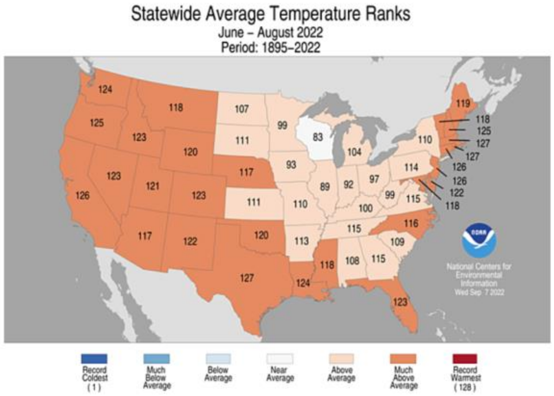
As hot as it was in August 2023, it was still, on average, not as hot as August 2022, which was the then 8th hottest in the last 128 years. Our Sep 11, 2022 Energy Tidbits wrote "*On Wednesday, NOAA posted its recap of US weather for August [LINK]. August the 8th warmest in the last 128 years, and June/July/August as the 3rd hottest summer months in the last 128 years."* Below are the temperature heat maps for the US from August 2022.

Figure 5: US Statewide Average Temperature Ranks August 2022



Source: NOAA

Figure 6: US Statewide Average Temperature Ranks Jun/Jul/Aug 2022



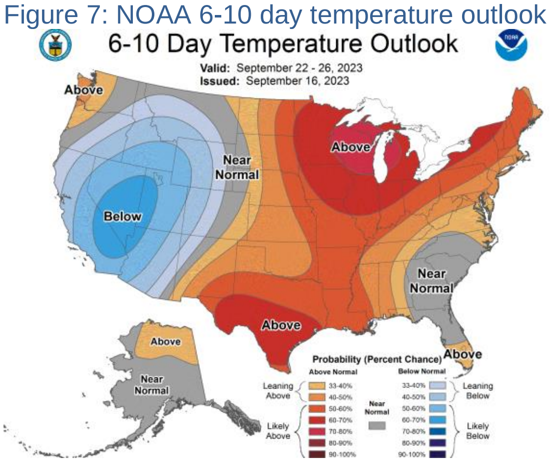
Source: NOAA

Natural Gas: NOAA 8-14 day temperature outlook moving to normal in the East

NOAA 8-14 day outlook

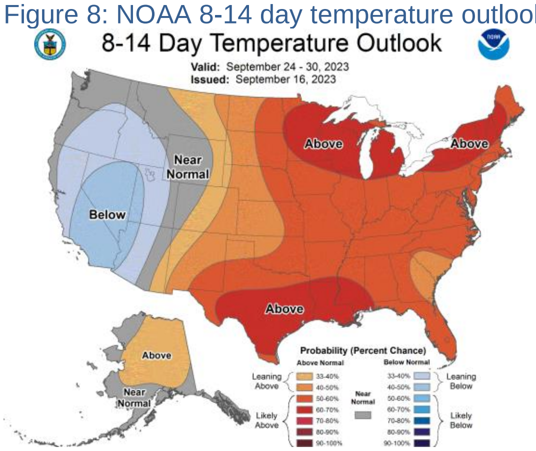
NOAA posts daily, around 1pm MT, an updated 6-10 day and 8-14 day temperature probability outlook. Yesterday, we tweeted [LINK] "*Today's @NOAA updated 6-10 & 8-14 day temperature outlook covering Sept 22-30. As move into late Sept, above normal temps aren't normally above 80F other than in the south. Shouldn't do much for #NatGas. #OOTT.*" The NOAA 6-10 day doesn't kick in until Sept 22 but we checked the Weather Channel forecasts for the next 10 days to get a sense of daily highs for hot weather at the end of September. Basically, above normal temperatures aren't normally above 80F other than in the south. We are moving into the period we call "leave your windows open". Below are yesterday's NOAA 6-10 day [LINK] and 8-14 day outlook [LINK] for the period Sept 22-30, and the Weather Channel's daily highs for Sept 25.

Figure 7: NOAA 6-10 day temperature outlook Sept 22-26



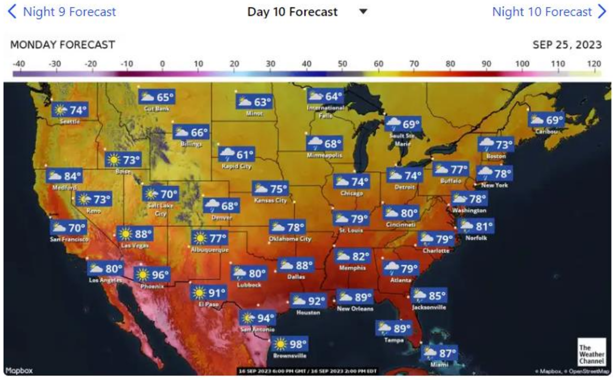
Source: NOAA

Figure 8: NOAA 8-14 day temperature outlook Sept 24-30



Source: NOAA

Figure 9: Daytime forecast for Sept 25



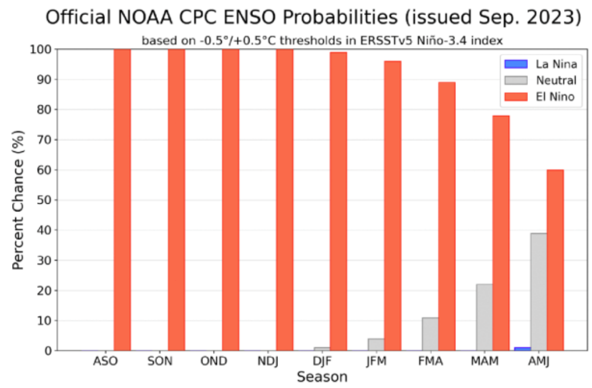
Source: The Weather Channel

Natural Gas: NOAA sees El Nino conditions for winter 2023-24

El Nino forecast for winter 2023/24

Summer is over so the focus for El Nino conditions is for the winter. On Thursday, NOAA posted the updated monthly El Nino/La Nina outlook, which is issued on the 2nd Thurs of every month [LINK]. NOAA continues to forecast El Nino conditions in the Northern Hemisphere Winter 2023-24. NOAA provided a probabilistic forecast for meeting El Nino thresholds for Dec/Jan/Feb at 99%.

Figure 10: El Nino Probability



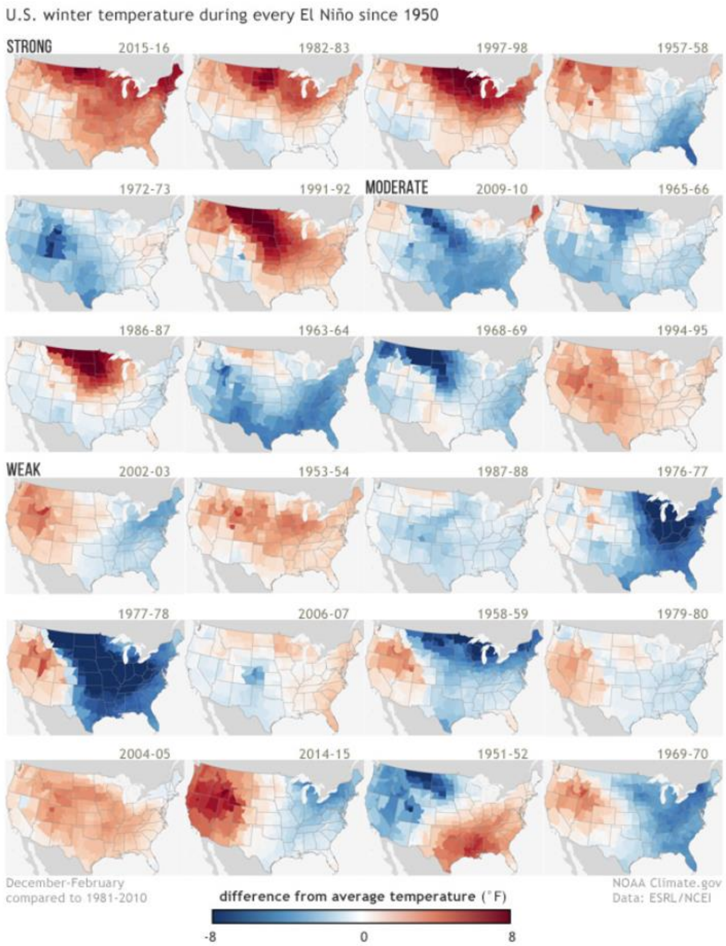
Source: NOAA

Natural Gas – But El Nino correlations to warm winters aren't perfect

El Nino can bring cold winters

El Nino winters are typically warmer than normal in the northern US. But we remind of a Oct 24, 2018 NOAA brief "*U.S. winter temperatures for every El Niño since 1950"* where NOAA looked at all El Ninos since 1950, classified them as strong, moderate or weak El Ninos and then showed the average winter (Dec thru Feb) temperature map. We checked this weekend and the link still works [LINK]. NOAA wrote *"The tropical Pacific climate pattern known as "ENSO," which is short for El Niño-Southern Oscillation, has its strongest influence on the U.S. climate during winter (December-February). El Niño in general acts to tilt the odds toward wetter- and cooler-than-average conditions across much of the South, and toward drier and warmer conditions in many of the northern regions. El Niño's influence on temperature is less reliable than its influence on precipitation. The collection of maps at right show the difference from average (1981-2010) winter temperature (December-February) in each U.S. climate division during all El Niño events since 1950. Years are ranked from strongest El Niño (top left) to weakest (bottom right), based on the December–February Oceanic Niño Index value. There is no universal way to define the strength of El Niño events, but for this graphic, events with ONI values above 1.5 are ranked as strong, events with ONI values between 1 and 1.5 are ranked as moderate, and events with ONI values between 0.5 and 1 are ranked as weak." "Four of the six strong events have a warm signal that is nearly nationwide, but even among them, the geographic details—the location of the biggest anomalies, where the few cool spots are—vary from one event to another. Looking at both strong and moderate events, the patterns become even less consistent. Eight of the twelve* *events have a warm signal in the Northern Plains (a much smaller area than is affected in the strong events), but 4 are colder than normal."* Below are the Nino maps from the NOAA brief.

Figure 11: Winter (Dec-Feb) Temp In Strong, Moderate And Weak El Ninos Since 1950



Source: NOAA

EIA US natural gas production forecast

Natural Gas: EIA decreases US gas production for 2023, increases in 2024

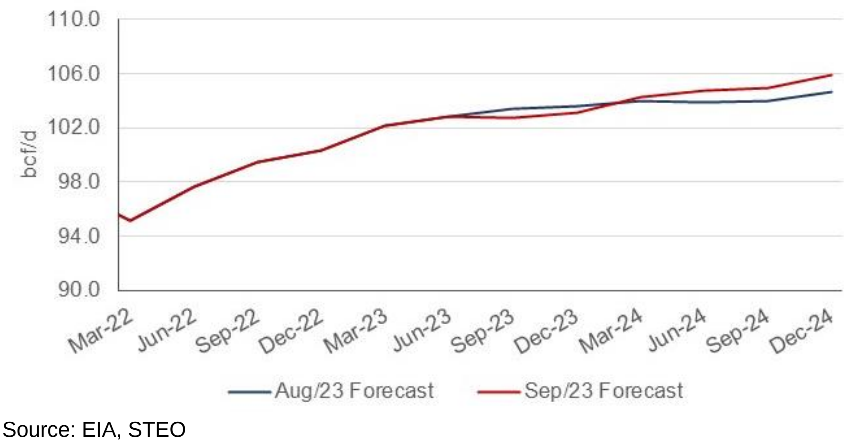
As expected, we are seeing the EIA slightly decrease its forecast for US natural gas production in 2023 while continuing to increase its 2024 forecast largely driven by the EIA increasing, as expected, its forecast for oil production. The EIA's actuals for oil production have been running ahead of the forecast and we have been expecting to see an increase to H1/23, ie. a bit of a catch-up adjustment. Given the big increases in US oil production are oil plays that produce associated natural gas and NGLs, any increase in US oil production lead to increases in associated natural gas production from these oil plays. (i) On Tuesday, the EIA released its monthly Short Term Energy Outlook for September 2023 [LINK]. The EIA decreased its 2023 US natural gas production to 102.70 bcf/d (was 103.00), which, on a full year average basis, gives still solid YoY growth of +4.60 bcf/d from 2022. The EIA's increased 2023 forecast decreases estimates for H2/23. The revisions by quarter were Q1/23 and Q2/23 flat at 102.10 bcf/d and 102.80 bcf/d, respectively, Q3/23 -0.70 bcf/d to 102.70 bcf/d, and Q4/23 exit -0.50 bcfb/d at 103.10 bcf/d. (ii) The EIA increased its 2024 forecast to 104.90 bcf/d (was 104.10), which, on a full year average basis, is only up significantly vs 2023 forecast of 102.70 bcf/d. The EIA highlighted an increase in natural gas consumption in the September release. The EIA commented *"The increase in natural gas consumption in the summer has led to a slight increase in U.S. natural gas consumption in 2023. We forecast U.S. natural gas consumption to average 89.7 Bcf/d for all of 2023, up 1% from 2022. Annual U.S. natural gas consumption set its previous record high in 2022, averaging 88.6 Bcf /d for the year."* (iii) The EIA maintained its HH natural gas price expectations to $2.58 in 2023 and increased the 2024 expectation to $3.24 (was $3.22). The EIA did not comment on the change in HH natural gas prices. (iv) Our Supplemental Documents package includes excerpts from the STEO.

Figure 12: EIA STEO Natural Gas Production Forecasts

bcf/d	2021	Q1/22	Q2/22	Q3/22	Q4/22	2022	Q1/23	Q2/23	Q3/23	Q4/23	2023	Q1/24	Q2/24	Q3/24	Q4/24	2024
Sep-2023	94.6	95.1	97.6	99.5	100.3	98.1	102.1	102.8	102.7	103.1	102.7	104.3	104.7	104.9	105.9	104.9
Aug-2023	94.6	95.1	97.6	99.5	100.3	98.1	102.1	102.8	103.4	103.6	103.0	104.0	103.9	104.0	104.6	104.1
July-2023	94.6	95.1	97.6	99.5	100.3	98.1	102.0	102.2	103.0	102.2	102.4	101.8	101.5	102.5	103.7	102.4
June-2023	94.6	95.1	97.6	99.5	100.3	98.1	102.0	103.7	103.4	101.9	102.7	102.8	102.8	103.0	103.6	103.0
May-2023	94.5	95.1	97.6	99.5	100.3	98.1	102.1	101.9	99.9	100.4	101.1	100.7	101.1	101.4	101.8	101.2
Apr-2023	94.5	95.1	97.6	99.5	100.2	98.1	101.6	100.5	100.5	100.9	100.9	101.2	101.5	101.8	101.8	101.6
Mar-2023	94.5	95.1	97.6	99.5	100.2	98.1	101.0	100.2	100.6	101.0	100.7	101.4	101.4	102.0	102.0	101.7
Feb-2023	94.6	95.1	97.6	99.5	100.1	98.1	99.9	100.0	100.3	100.9	100.3	101.2	101.6	102.0	101.9	101.7
Jan-2023	94.6	95.1	97.6	99.4	99.9	98.0	100.8	99.9	100.1	100.6	100.3	101.1	101.8	102.7	103.6	102.3
Dec-2022	93.6	95.1	97.6	99.2	100.5	98.1	99.9	99.5	100.5	101.6	100.4					
Nov-2022	93.6	95.1	97.6	99.4	100.1	98.1	99.0	99.4	100.0	100.3	99.7					
Oct-2022	93.6	95.1	97.6	98.5	99.1	97.5	99.2	99.6	99.7	100.0	99.6					
Sep-2022	93.6	94.6	96.9	97.9	99.0	97.1	99.7	100.5	100.6	100.7	100.4					
Aug-2022	93.6	94.6	96.6	97.0	98.1	96.6	98.9	100.1	100.5	100.5	100.0					

Source: EIA, STEO

Figure 13: EIA STEO Natural Gas Production Forecasts by Month



Source: EIA, STEO

Natural Gas: EIA STEO forecasts Apr 1/24 storage 1.956 tcf, +0.052 tcf vs Aug STEO

EIA September STEO storage forecast

Given the continued strong YoY increase in forecast US gas production, the EIA Sep STEO increased its forecast for storage to end winter 2023/24. (i) The EIA STEO also forecasts US gas storage. Gas storage started the summer 2023 refill season at 1.849 tcf on April 1, 2023, which was +0.448 tcf YoY. For the summer 2023 refill season, the EIA forecasts storage on Nov 1, 2023 at 3.861 tcf, which is +0.291 tcf YoY but down vs Aug STEO of 3.882 tcf. The EIA's increased US natural gas production forecast but also increased it demand forecast. (ii) The increasing US natural gas production has a bigger impact on storage to end winter 2023/24. The EIA forecasts gas storage to end the winter at 1.956 bcf, which would be +0.106 tcf YoY and up vs Aug STEO of 1.904 tcf. (iii) The EIA did not comment on the increase in their working gas inventory increases for winter 23/24 this month, but we have to think that the warm outlook for the start of winter will lead to less draws on gasoline stocks for heating demand during the winter. Below is a table tracking the working gas inventory forecasts and actuals since 2016.

Figure 14: EIA STEO US Natural Gas in Storage (2016-2024)

	Storage	2016-2024				
	Level	Low	High	Range	Average	Deviation
Mar 2016	2,486.3	1,184.9	2,486.3	1,301.4	1,835.6	35.4%
Oct 2016	4,012.7	3,236.3	4,012.7	776.4	3,624.5	10.7%
Mar 2017	2,062.5	1,184.9	2,486.3	1,301.4	1,835.6	12.4%
Oct 2017	3,816.5	3,236.3	4,012.7	776.4	3,624.5	5.3%
Mar 2018	1,390.3	1,184.9	2,486.3	1,301.4	1,835.6	-24.3%
Oct 2018	3,236.3	3,236.3	4,012.7	776.4	3,624.5	-10.7%
Mar 2019	1,184.9	1,184.9	2,486.3	1,301.4	1,835.6	-35.4%
Oct 2019	3,762.0	3,236.3	4,012.7	776.4	3,624.5	3.8%
Mar 2020	2,029.4	1,184.9	2,486.3	1,301.4	1,835.6	10.6%
Oct 2020	3,928.5	3,236.3	4,012.7	776.4	3,624.5	8.4%
Mar 2021	1,801.2	1,184.9	2,486.3	1,301.4	1,835.6	-1.9%
Oct 2021	3,665.4	3,236.3	4,012.7	776.4	3,624.5	1.1%
Mar 2022	1,401.5	1,184.9	2,486.3	1,301.4	1,835.6	-23.7%
Oct 2022	3,569.4	3,236.3	4,012.7	776.4	3,624.5	-1.5%
Mar 2023	1,849.6	1,184.9	2,486.3	1,301.4	1,835.6	0.8%
Oct 2023	3,860.9	3,236.3	4,012.7	776.4	3,624.5	6.5%
Mar 2024	1,956.6	1,184.9	2,486.3	1,301.4	1,835.6	6.6%
Oct 2024	3,997.1	3,236.3	4,012.7	776.4	3,624.5	10.3%

Source: EIA, STEO

Natural Gas: US LNG exports 11.3 bcf/d in July, up MoM with less maintenance

July 2023 US LNG Exports

On Friday, the Department of Energy (DOE) posted its US LNG exports estimates for July 2023 [LINK]. This is a reminder that the US LNG export data is available about two weeks prior to the more popularly referenced US LNG exports from the EIA's Natural Gas Monthly. The EIA is a group under the Department of Energy. The data for LNG exports is either identical or just a rounding issue. On Friday, we tweeted [LINK] "*US #LNG exports July/23 up MoM w/ less maintenance to 11.3 bcfd vs Jun/23 of 10.9 bcfd. July/23 top 5 export mkts: Dutch, Japan, China, Spain, France. July/22: France, Dutch, Spain, Korea, Japan. This DOE LNG data is posted 2 wks before same data in @EIAgov #NatGas Monthly. #OOTT.*" US LNG exports were up MoM to 11.3 bcf/d in July from 10.9 bcf/d in June. The increase was due to less maintenance. US LNG exports are now averaging 11.6 bcf/d per month YTD for 2023, which is +0.7 bcf/d compared to the same period in 2022. The DOE did not comment on the MoM or YoY increases. Our Supplemental Documents package includes excerpts from the DOE LNG Monthly.

Figure 15: US Monthly LNG Exports

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

Source: EIA, DOE

Figure 16: US LNG Exports July 2023 vs July 2022

Summary

Overview of Activity for July 2023

- **Top five countries of destination, representing 53.4% of total U.S. LNG exports in July 2023**
  - Netherlands (53.3 Bcf), Japan (40.2 Bcf), China (39.0 Bcf), Spain (34.1 Bcf), and France (20.6 Bcf)
- **350.3 Bcf of exports in July 2023**
  - 6.9% increase from June 2023
  - 16.7% more than July 2022
- **115 cargos shipped in July 2023**
  - Sabine Pass (35), Cameron (28), Freeport (22), Corpus Christi (20), Cove Point (6), and Elba (4)
  - 108 cargos in June 2023
  - 100 cargos in July 2022

Summary

Overview of Activity for July 2022

- **Top five countries of destination, representing 58.4% of total U.S. LNG exports in July 2022**
  - France (53.4 Bcf), Netherlands (34.9 Bcf), Spain (34.4 Bcf), South Korea (34.3 Bcf), and Japan (18.2 Bcf)
- **300.2 Bcf of exports in July 2022**
  - 0.1% decrease from June 2022
  - 0.1% more than July 2021
- **100 cargos shipped in July 2022**
  - Sabine Pass (40), Cameron (28), Corpus Christi (19), Cove Point (10), Elba (3), and Freeport (0)
  - 96 cargos in June 2022
  - 97 cargos in July 2021

Source: DOE

Natural Gas: Sounds like LNG Canada Phase 2 FID is a 2024 not a 2023 event

LNG Canada 1.8 bcf/d Phase 2

We had some good feedback on this item from last week's (Sept 10, 2023) Energy Tidbits memo. Here is what we wrote last week. "*Going back to my years as a sellside analyst, I always got the best insights when taking an oil and gas company for a day or two of one-on-one meetings with institutional investors or when hosting a meeting with a group of institutional investors. Hearing mgmt. answer a wide range of questions and often the same question tends to reveal insights. I found it's even better than the Q&A of earnings calls as the setting tends to get more fulsome answers. That appears to be the case with RBC's Biraj Borkhataria who hosted a session with Shell last week. We have been highlighting for years the positive comments by new Shell CEO on LNG Canda including Phase 2 and our expectation for Shell to FID the browntield LNG Canada 1.8 bdf/d Phase 2 and the only question is when. Borkhataria's insights point to an FID not likely in 2023. Borkhataria wrote "As it relates to sanctioning Phase 2, Shell highlighted that while some technical de-risking still needs to be completed, the key question to answer is around the emissions profile and level of electrification required., regarding which the JV partners continues to engage with the BC government and expect to work towards a decision. Based on our understanding of the project and speaking to our local colleagues, the challenge is the significant energy requirements needed in a particularly remote area, and the choice of power source determining the emissions profile of the projectd. The second phase is likely to require new transmission infrastructure, which may take some time to come to fruition. Zoe also mentioned that the administration in the country was also looking to manage what new green/lower carbon electrons are utilized for, whether it be local development or energy* *export projects. In our eyes, the sanctioning of Phase 2 appears less straightforward than what we might have previously anticipated." So the JV partners still expect to work towards a FID decision, it sounds like BC isn't yet on side with the chatter that they would look to sign off on Phase 2 starting using natural gas for power with the commitment to switch to electricity when available."*

Natural Gas: Industrial action impacting Chevron's Australia LNG production

Chevron LNG industrial action started

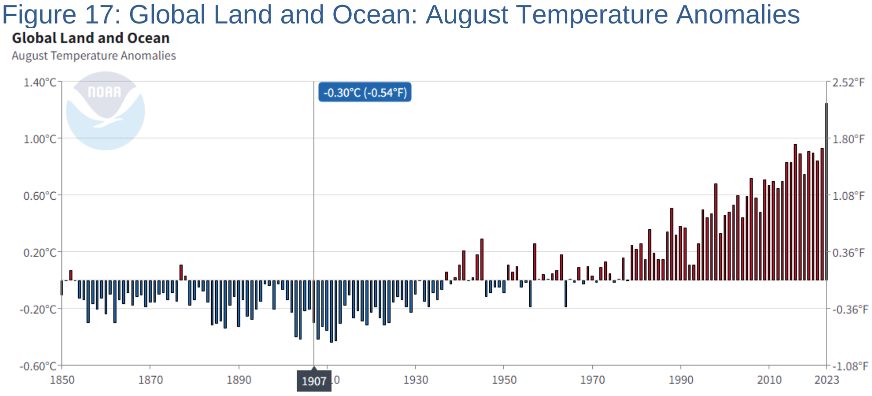
As of our 7am MT news cut off (9pm Perth time), the latest Offshore Alliance union posting was Saturday morning local time and then on Friday night advising "*Chevron's 3 West Coast facilities are descending into chaos as Offshore Alliance members lock all 3 Chevron facilities down for the next 24-hours*". Offshore Alliance also noted "*Wheatstone Downstream has lost 25% of its production since midday Thursday due to the incompetence of Chevron's BCP workforce and there is every likelihood that production on the Gorgon facility will be significantly impacted over the weekend."* There were media reports that Chevron was conducting LNG loadings as per schedule. The Offshore Alliance posting was on LNG production and not loadings. But any reduction in production will inevitably impact loadings. We recognize that Chevron had been using their ability to maintain operations at their Richmond oil refinery in the US during a strike as an example as to how they are able to maintain operations during an industrial action, but we just think it will be tough for them to maintain operations at Gorgon LNG with replacement workers and other workers within Chevron. And we always worry about increasing risk of industrial accidents with replacement workers on major operations like a Gorgon LNG. Our Supplemental Documents package includes the Offshore Alliance Facebook postings time stamped as of noon MT yesterday.

Natural Gas: NOAA says Aug and JJA were the hottest global temps on record

Warmest JJA on record

Just like last week's Copernicus (Europe) recap of global climate for Aug and Jun/Jul/Aug, NOAA also said both periods were the hottest on record. The record heat this summer reminds how the most important weather issue for natural gas and LNG is winter, not summer. A hot summer helps summer gas prices on the downside but really doesn't drive up natural gas prices. Whereas a warm winter can crash natural gas and LNG prices, as it did this year, or can drive up natural gas and LNG prices. NOAA posted its global climate report for Aug [LINK] and wrote "*The August global surface temperature was 1.25°C (2.25°F) above the 20th-century average of 15.6°C (60.1°F), making it the warmest August on record. This marked the first time an August temperature exceeded 1.0°C (1.8°F) above the long-term average. August 2023 was 0.29°C (0.52°F) warmer than the previous August record from 2016."* And "*The June–August 2023 global surface temperature was 1.15°C (2.07°F) above the 20th-century average. This ranks as the warmest June–August period in the 174-year record. The past ten June–August periods have been the warmest such periods on record*."

Figure 17: Global Land and Ocean: August Temperature Anomalies



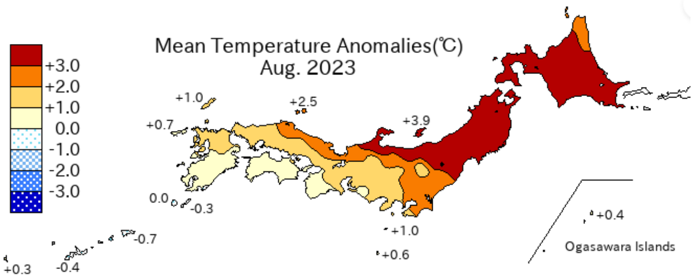
Source: NOAA

Natural Gas: A very hot August in Japan

A very hot Aug in Japan

No one should have been surprised by the Japan Meteorological Agency's recap of Aug 2023 temperatures that it was very hot. On Friday, the JMA posted its climate report over Japan for Aug [LINK]. It included the below map and the JMA said "*Monthly mean temperatures were significantly above normal in northern/eastern/western Japan because the regions were covered by warm-air and affected by southerly warm air advection. The regional average of monthly mean temperature anomalies was the highest on record for August since 1946 in northern/eastern Japan*."

Figure 18: JMA Mean Temperature Anomalies Aug 2023

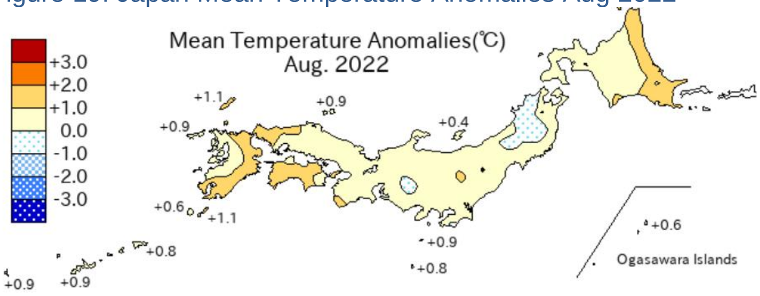


Source: Japan Meteorological Agency

Aug 2022 had above average Aug temperatures in Japan

Here is what we wrote in our Sept 18, 2022 Energy Tidbits. "*The Japan Meteorological Agency recap of Aug temperatures in Japan were that there were above normal temperatures for almost all of Japan ie. providing continuing support for weather related natural gas consumption ie. hot enough to justify air conditioning. On Wednesday, the Japan Meteorological Agency posted its recap of Aug weather [LINK] and their mean temperature anomalies map (below) shows the mean temperature breakdown for the month. Their recap noted "Monthly mean temperatures were above normal in western Japan and significantly above normal in Okinawa/Amami, because warm-air, associated with the stronger Tibetan High, covered the regions."*

Figure 19: Japan Mean Temperature Anomalies Aug 2022



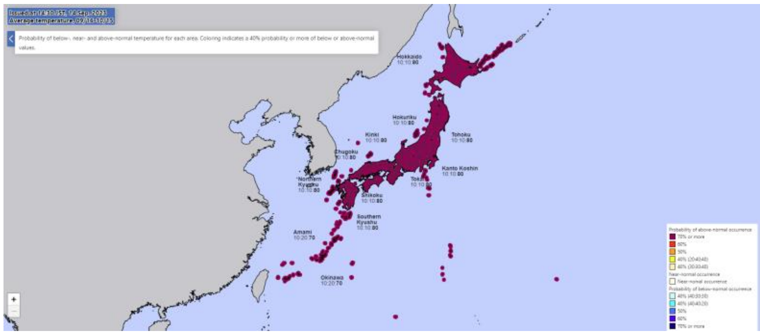
Source: Japan Meteorological Agency

Natural Gas: Forecast well above normal temperatures thru mid October in Japan

Japan's 30-day temperature forecast

It has been really hot in Japan this summer and it looks like the hot weather will continue to end September and thru mid-October. Every Thursday, the Japan Meteorological Agency updates its 30-day outlook [LINK]. The September 14 update calls for much warmer than typical temperatures for the Sep 16 – Oct 15 period. The above average temperatures are forecasted through the whole country, with the northern and central regions being most affected. Over the last few weeks we have seen the weather pulling on Japan's LNG stocks even with this summer's push to conserve natural gas. But now that it is mid Sept, hot weather in mid-Sept thru mid-Oct doesn't have the same impact as hot weather in August. Below is the JMA's 30-day temperature probability forecast for Sep 16 to Oct 15.

Figure 20: JMA Sep 16 – Oct 15 Temperature Probability Forecast



Source: Japan Meteorological Agency

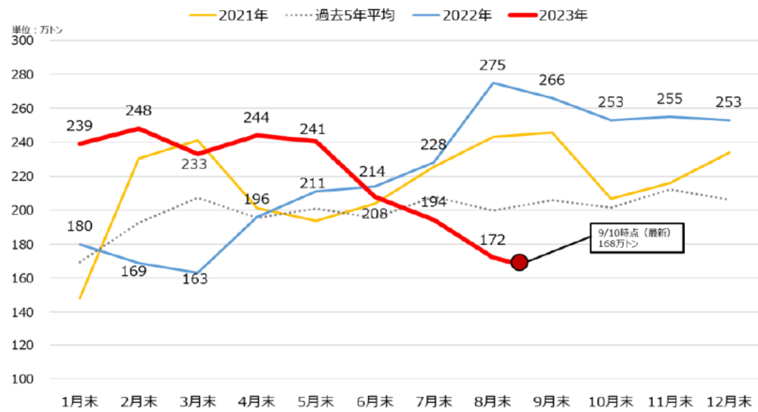
Natural Gas: Japan's LNG stocks remain below 2022 and 5-year average levels

Japan LNG stocks down -2.9% WoW

It's been hot in Japan, and Japan has been drawing on its LNG stocks for power generation for the past few weeks and have taken LNG stocks below year ago and the 5-yr average. It means that Japan will be starting to get some LNG cargos to increase LNG stocks before the winter. But that was not the case this week as we observed a large draw, keeping Japan LNG stocks well below 2022 average levels and the 5-year average. On Wednesdays, Japan's METI releases its weekly LNG stocks data [LINK]. LNG stocks on Sept 10 were 80.7 bcf and are down -2.9% WoW from Sept 3 of 83.1 bcf, and below the 5-year average of 98.9

bcf. METI did not comment on the MoM increase. Below is the Japanese LNG stocks graph from the METI weekly report.

Figure 21: Japan LNG Stocks



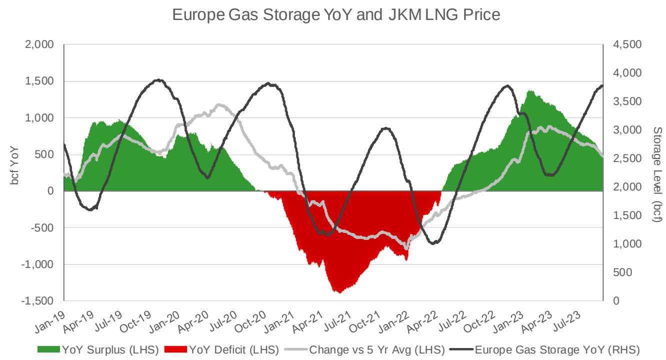
Source: METI

Natural Gas: Europe storage hits 94% full so should go into winter full or close to full

Europe gas storage

Europe storage hit the 94% full level this week so they should be able to go into winter at full or close to full levels. This week, Europe storage increased by +0.38% WoW to 93.86% on Sep 13. Storage is now +9.40% greater than last year levels of 84.46% and is +9.88% above the 5-year average of 83.98%. The current storage is within the 5-year range, albeit at the top end of the range. Below is our graph of Europe Gas Storage Level.

Figure 22: European Gas Storage Level



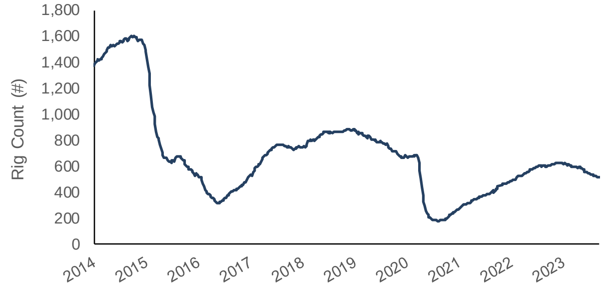
Source: Bloomberg, SAF

Oil: US oil rigs +2 WoW at 515 rigs on September 15, US gas rigs +8 WoW to 121 rigs

US oil rigs up WoW

On Friday, Baker Hughes released its weekly North American drilling rig data. (i) Total US oil rigs were +2 WoW at 515 total rigs, and are -84 rigs YoY for the week of September 15. This is up +34 rigs from the 2022 low of 481 rigs in January. On a per basin basis, there were a few changes in the major US basins for the week of September 15. The Permian was up +2 rigs WoW to 319 rigs, Cana Woodford was flat WoW at 17 rigs, and Eagle Ford decreased -3 rigs WoW to a total of 44 rigs. DJ Niobrara was flat WoW at 14 rigs. Others were flat WoW at 84 oil rigs. The Permian is near its lowest level since March 18, 2022 and is down -38 rigs from its recent high of 357 rigs on April 28, 2023. (ii) Gas rigs were up +8 rigs WoW at total of 121 rigs and have now decreased -41 rigs YoY. On a per basin basis, Eagle Ford added +3 gas rigs to a total of 5. Haynesville was flat WoW at 41 rigs. Others were up +5 gas rigs to a total of 33 rigs. Below is our graph of total US oil rigs.

Figure 23: Baker Hughes Total US Oil Rigs



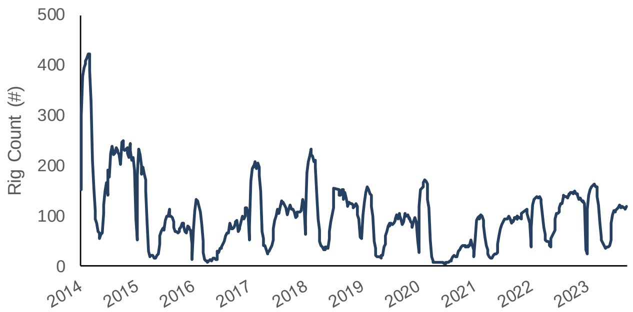
Source: Baker Hughes, SAF

Oil: Total Cdn rigs up +8 rigs WoW to 190 total rigs

Cdn total rigs WoW

For the week of September 15, total Cdn rigs were up +8 rigs WoW to 190 rigs. We expect that the increase was linked to some modest improvement in wildfires in Alberta and some rigs coming back online. BC was flat at a total of 18 rigs and Alberta was up +7 rigs to a total 132 rigs. Saskatchewan added +1 rig for a total of 36 rigs, while Newfoundland remained flat at 0 rigs. Cdn oil rigs were up +6 WoW to 119 rigs, and Cdn gas rigs increased +2 rigs to 71 rigs. Cdn oil rigs are down -27 rigs YoY, while gas rigs are up +6 rigs YoY. Below is our graph of total Cdn oil rigs.

Figure 24: Baker Hughes Total Cdn Oil Rigs



Source: Baker Hughes, SAF

Oil: US weekly oil production estimates up WoW to 12.9 mmb/d

US oil production up WoW

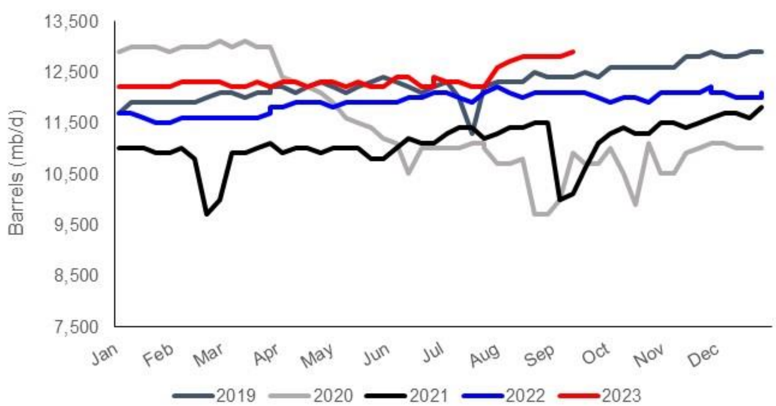
Our Aug 13, 2023 Energy Tidbits memo highlighted the EIA increased their weekly US oil production estimates by +0.4 mmb/d and how we had been expecting such a big increase to the weekly estimates. For months, we highlighted how the US weekly estimates were well below the EIA's actuals as per its monthly Form 914. As a result, the weekly estimates now seem more or less in line with the monthly actuals. The production estimates have continued to increase in September and has reached another post-pandemic high. This week, the EIA's production estimates were up 0.1 mmb/d WoW at 12.9 mmb/d for the week ended September 8 [LINK]. The Lower 48 was also up WoW at 12.5 mmb/d, and Alaska up slightly at 0.420 mmb/d. Below is a table of the EIA's weekly oil production estimates.

Figure 25: EIA's Estimated Weekly US Field Oil Production

Year-Month	Week 1		Week 2		Week 3		Week 4		Week 5	
	End Date	Value	End Date	Value	End Date	Value	End Date	Value	End Date	Value
2022-Jan	01/07	11,700	01/14	11,700	01/21	11,600	01/28	11,500		
2022-Feb	02/04	11,600	02/11	11,600	02/18	11,600	02/25	11,600		
2022-Mar	03/04	11,600	03/11	11,600	03/18	11,600	03/25	11,700		
2022-Apr	04/01	11,800	04/08	11,800	04/15	11,900	04/22	11,900	04/29	11,900
2022-May	05/06	11,800	05/13	11,900	05/20	11,900	05/27	11,900		
2022-Jun	06/03	11,900	06/10	12,000	06/17	12,000	06/24	12,100		
2022-Jul	07/01	12,100	07/08	12,000	07/15	11,900	07/22	12,100	07/29	12,100
2022-Aug	08/05	12,200	08/12	12,100	08/19	12,000	08/26	12,100		
2022-Sep	09/02	12,100	09/09	12,100	09/16	12,100	09/23	12,000	09/30	12,000
2022-Oct	10/07	11,900	10/14	12,000	10/21	12,000	10/28	11,900		
2022-Nov	11/04	12,100	11/11	12,100	11/18	12,100	11/25	12,100		
2022-Dec	12/02	12,200	12/09	12,100	12/16	12,100	12/23	12,000	12/30	12,100
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						

Source: EIA

Figure 26: EIA's Estimated Weekly US Oil Production



Source: EIA, SAF

EIA Form 914 – US June oil actuals +1.044 mmb/d YoY

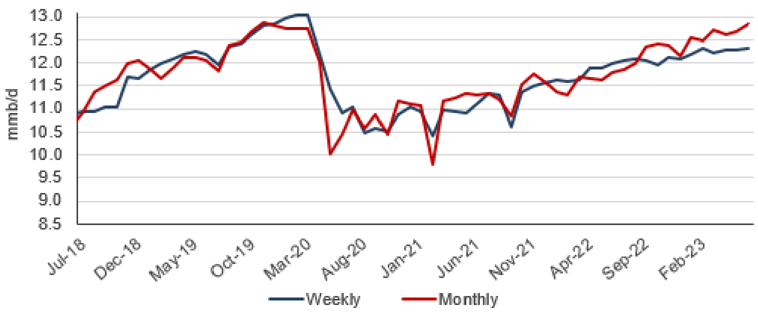
Here is what we wrote in our Sept 3, 2023 Energy Tidbits memo. "*The reason why we highlighted for months the shortfall in the EIA weekly oil production estimates vs the EIA monthly actuals is that they understated the strong YoY growth in US oil production, which is >1 mmb/d YoY. As noted above, the EIA made a big +0.4 mmb/d increase adjustment to the Aug 4 week as a catch up to what has been a big* *difference between the monthly actuals and weekly estimates. So the big shortfall of the weekly estimates vs the monthly actuals will continue for the next month. On Thursday, the EIA released its Form 914 data [LINK], which is the EIA's "actuals" for June US oil and natural gas production. The Form 914 actuals for June have production at 12.844 mmb/d, which is +524,000 b/d vs the EIA weekly estimates of 12.320 mmb/d. And because of this significant difference, the Form 914 May production is +1.044 mmb/d YoY. The actuals paint a picture of much stronger than expected YoY growth in US oil production.*

Figure 27: EIA Form 914 US Oil Production (thousands b/d)

(thousands b/d)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2023	12,568	12,532	12,770	12,650	12,637	12,844						
2022	11,480	11,258	11,806	11,770	11,734	11,800	11,834	11,985	12,325	12,378	12,376	12,138
2021	11,137	9,916	11,351	11,318	11,390	11,366	11,392	11,276	10,921	11,564	11,782	11,678
2020	12,850	12,844	12,795	11,911	9,714	10,446	11,004	10,579	10,926	10,456	11,196	11,172
2019	11,871	11,652	11,911	12,145	12,153	12,216	11,896	12,479	12,584	12,805	13,000	12,980
2018	10,000	10,262	10,466	10,499	10,434	10,640	10,896	11,391	11,443	11,508	11,885	11,944
2017	8,874	9,094	9,164	9,101	9,185	9,110	9,246	9,250	9,516	9,668	10,085	9,983

Source: EIA

Figure 28: EIA Form 914 US Oil Production vs Weekly Estimates1



Source: EIA, SAF

North Dakota oil production

Oil: North Dakota July oil production increases +0.032 mmb/d MoM to 1.181 mmb/d

On Thursday, the North Dakota Industrial Commission posted its Director's Cut, which includes July's oil and natural gas production data [LINK]. North Dakota oil production in JuLY was up +0.014 mmb/d MoM to 1.181 mmb/d, which is up +10.1% YoY from 1.073 mmb/d in July 2022. The MoM increase was expected. Our Aug 20, 2023 Energy Tidbits memo noted the comments from NDIC Director Lynn Helms referring to July data saying "*so next month we ought to be reporting another production increase, Looking forward to that*." The Bismarck Tribune [LINK] highlighted that the July's oil production had not been seen at that level in nearly two years. The release noted "*the state's drilling rig count as of Thursday was 33, down from 37 in August. Rig count statewide is expected to gradually rise to the mid-forties over the next two years, according to Mineral Resources. Helms attributed the low rig count to workforce shortages. Oil and gas companies in North Dakota are expected to see a boost in employment numbers as the state continues to receive Ukrainian citizens who will fill oilfield positions as part of the Bakken Global Recruitment of Oilfield Workers program.*" . Our supplemental Documents package includes both the Director's cut and Bismarck Tribune releases.

Figure 29: North Dakota Oil Production by Month

(b/d)	2017	2018	2019	2020	2021	2022	2022/21	2023	2023/22
Jan	981,380	1,179,564	1,403,808	1,430,511	1,147,377	1,088,613	-5.1%	1,060,708	-2.6%
Feb	1,034,248	1,175,316	1,335,591	1,451,681	1,083,554	1,089,091	0.5%	1,158,837	6.4%
Mar	1,025,690	1,162,134	1,391,760	1,430,107	1,108,906	1,122,640	1.2%	1,122,693	0.0%
Apr	1,050,476	1,225,391	1,392,485	1,221,019	1,123,166	900,597	-19.8%	1,133,435	25.9%
May	1,040,995	1,246,355	1,394,648	859,362	1,128,042	1,059,060	-6.1%	1,135,009	7.2%
June	1,032,873	1,227,320	1,425,230	893,591	1,133,498	1,096,783	-3.2%	1,166,604	6.4%
July	1,048,099	1,269,290	1,445,934	1,042,081	1,076,594	1,072,632	-0.4%	1,180,611	10.1%
Aug	1,089,318	1,292,505	1,480,475	1,165,371	1,107,359	1,075,307	-2.9%		
Sept	1,107,345	1,359,282	1,443,980	1,223,107	1,114,020	1,121,063	0.6%		
Oct	1,183,810	1,392,369	1,517,936	1,231,048	1,111,910	1,121,754	0.9%		
Nov	1,194,920	1,375,803	1,519,037	1,227,138	1,158,622	1,098,389	-5.2%		
Dec	1,182,836	1,402,741	1,476,777	1,191,429	1,144,999	957,864	-16.3%		

Source: NDIC, NDPA

North Dakota 1.2 mmb/d in sight thanks to completions of DUCs

Yesterday, we tweeted [LINK] "*North Dakota #Bakken insights from NDIC Lynn Helms podcast. See 👇SAF transcript. 2.5 yrs since hit 1.18 mmbd in July, 1.2 mmbd is in sight. 33 rigs is enough to keep production flat but not to create 1-2%/yr growth. Completions of DUCs drove the production increase. #OOTT."* It is important to remember that North Dakota holds a monthly press conference on the monthly oil and gas data. It seems like analysts and investors don't listen to the press conference, but we always get additional insights. A few items to note from NDIC director Lynn Helms on the the Sept 14 podcast. [LINK]. (i) 1.2 mmb/d is in sight. Helms "*we talked about we think we'll get to 1.2 mmb/d by the end of the year, it looks like it's really in sight*." "*it has been more than 2.5 years since we hit 1.18 mmb/d*". (ii) Enough rigs to keep production flat. Helms "*Those 33 rigs working today are still capable of punching out 65-70 wells in a month. So that's enough to maintain production but it isn't enough to create strong growth, more than 1 or 2% annual. So still a little on the low side*." (iii) Completion of DUCs has driving the production increase. Helms ""*On the wells permitted, the 87 wells that we issued permits for in August, that would represent 2.64 wells per rig per month so that's more than they can drill. So they are building an inventory towards the winter. And on the completions side, as you see. That's increasing with 91 completions and that brought our waiting on completion list down and we've been seeing that trend all summer longa s the people that had a lot of DUC wells are getting those wells put on production. That's really what's driving the production increase."*

Oil: North Dakota crude by rail down MoM to 65,021 b/d in July

North Dakota CBR down MoM in July

On Thursday, the North Dakota Pipeline Authority posted its monthly update "*September 2023 Production & Transportation"* [LINK]. Please note that we always go to the backup excel sheets from the North Dakota Pipeline Authority that provide low and high estimates for Williston crude by rail exports. The NDPA Monthly Update (graph below) report has a thick line that represents the low and high range. In the backup excel, the NDPA estimates crude by rail in July from a low of 50,021 b/d and a high of 80,021 b/d for an average of 65,021 b/d. A moderate decrease from the June average of 66,858 b/d. The NDPA did not comment on the MoM changes. Below is a chart from the NDPA monthly update showing the crude by rail volumes since 2013. Our Supplemental Documents package includes excerpts from the NDPA monthly update.

Figure 30: Estimated North Dakota Rail Export Volumes

Source: NDPA

Oil: EIA Sep STEO increases 2023 and 2024 US oil production

EIA STEO US oil production

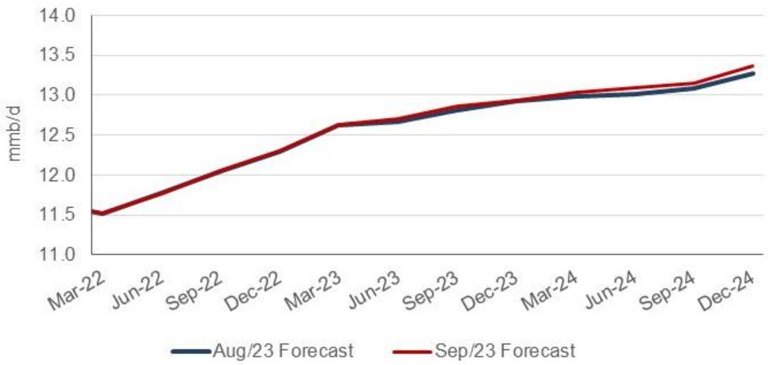
As noted earlier, we have been expecting, based on the US actuals being higher than the weekly supply estimates and stronger oil prices, the EIA to increase its forecasts for US oil supply and its 2023 supply forecast. On Tuesday, the EIA released its Short-Term Energy Outlook for September 2023 [LINK] and increased its oil production forecasts for 2023 and 2024. (i) The Sep STEO forecasts for 2023 US oil production estimated have increased vs the last STEO in August. The September STEO forecast for 2023 is up +20,000 b/d to 12.78 mmb/d from the August STEO of 12.76 mmb/d. The revisions by quarter were Q1/23 +0.00 mmb/d, Q2/23 +0.04 mmb/d, Q3/23 +0.05 mmb/d, and Q4/23 exit +0.01 mmb/d. (ii) The EIA increased its 2024 oil production forecast by +70,000 b/d to 13.16 mmb/d compared to 13.09 mmb/d in the August STEO, which is a YoY increase of +0.38 mmb/d. The revisions by quarter were Q1/24 +0.05 mmb/d, Q2/24 +0.08 mmb/d, Q3/24 +0.07 mmb/d and Q4/23 exit at +0.09 mmb/d from the August forecast to 13.36 mmb/d (was 13.27 mmb/d). Below is our EIA STEO forecast comparison by month.

Figure 31: EIA STEO Oil Production Forecasts by Month

(million b/d)	2021	Q1/22	Q2/22	Q3/22	Q4/22	2022	Q1/23	Q2/23	Q3/23	Q4/23	2023	Q1/24	Q2/24	Q3/24	Q4/24	2024
Sep-23	11.27	11.52	11.77	12.05	12.30	11.91	12.63	12.71	12.86	12.94	12.78	13.03	13.09	13.15	13.36	13.16
Aug-23	11.27	11.52	11.77	12.05	12.30	11.91	12.63	12.67	12.81	12.93	12.76	12.98	13.01	13.08	13.27	13.09
Jul-23	11.25	11.47	11.70	12.06	12.31	11.89	12.61	12.55	12.48	12.63	12.56	12.67	12.71	12.88	13.13	12.85
Jun-23	11.25	11.47	11.70	12.06	12.31	11.89	12.60	12.56	12.57	12.70	12.61	12.69	12.63	12.76	13.00	12.77
May-23	11.25	11.47	11.70	12.06	12.31	11.89	12.54	12.51	12.46	12.61	12.53	12.63	12.58	12.68	12.85	12.69
Apr-2023	11.24	11.47	11.70	12.06	12.30	11.88	12.54	12.50	12.50	12.61	12.54	12.69	12.71	12.77	12.83	12.75
Mar-2023	11.24	11.47	11.70	12.06	12.30	11.88	12.31	12.43	12.48	12.54	12.44	12.58	12.58	12.64	12.71	12.63
Feb-2023	11.25	11.47	11.70	12.06	12.36	11.90	12.44	12.46	12.49	12.56	12.49	12.63	12.62	12.65	12.70	12.65
Jan-2023	11.25	11.47	11.70	12.05	12.23	11.86	12.37	12.34	12.40	12.51	12.41	12.63	12.72	12.86	13.03	12.81
Dec-2022	11.25	11.46	11.70	12.03	12.29	11.87	12.24	12.24	12.34	12.51	12.33					
Nov-2022	11.25	11.46	11.70	11.99	12.15	11.82	12.22	12.24	12.32	12.48	12.31					
Oct-2022	11.25	11.46	11.70	11.83	11.99	11.74	12.27	12.29	12.36	12.50	12.35					
Sep-2022	11.25	11.47	11.70	11.81	12.16	11.79	12.42	12.55	12.70	12.87	12.63					
Aug-2022	11.25	11.46	11.69	12.01	12.28	11.86	12.39	12.50	12.82	13.10	12.70					

Source: EIA STEO

Figure 32: Estimated US Crude Oil Productions by Forecast Month



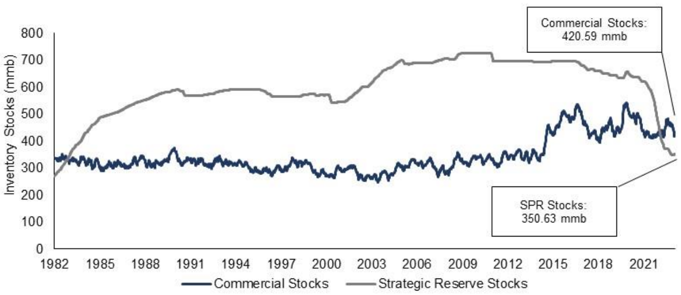
Source: EIA, STEO

Oil: US SPR reserves now -69.962 mmb lower than commercial crude oil reserves

US SPR reserves

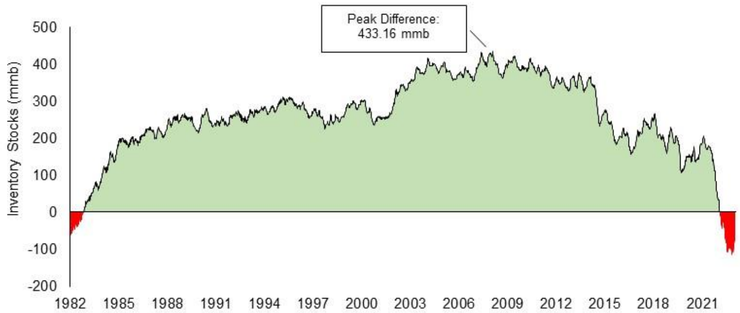
Oil in the US Strategic Petroleum Reserves (SPR) continues to be much lower than total US commercial crude oil reserves. The SPR went back below commercial for the first time since 1983 in the Sept 16, 2022 week. This deficit narrowed this week after a big draw in commercial oil stocks of -6.307 mmb, which puts commercial stocks at their lowest level since January. The EIA's weekly oil data for September 8 [LINK] saw the SPR reserves up +0.290 mmb WoW with the US DOE repurchases increasing SPR reserves to 350.630 mmb, while commercial crude oil reserves increased +3.955mmb to 420.592 mmb. There is now a -66.962 mmb difference between SPR reserves and commercial crude oil reserves. The below graphs highlight the difference between commercial and SPR stockpiles.

Figure 33: US Oil Inventories: Commercial & SPR



Source: EIA, SAF

Figure 34: US Oil Inventories: SPR Less Commercial



Source: EIA, SAF

Oil: US gasoline prices +0.05 this week to $3.87

US gasoline prices

US gasoline prices are getting more attention as they continue to slowly creep to $4 and have moved higher YoY. Plus, it doesn't hurt for media attention that California gasoline prices keep moving higher and are now $5.58. Yesterday, AAA reported that US national average gasoline prices were $3.87, which was +$0.05 WoW vs $3.82, but is now +$0.18 higher YoY vs $3.69 on Sept 16, 2022. Remember US gasoline prices started to ease below $4 in August 2022 and were declining in Sept helped by the SPR releases. AAA reported California gasoline price are $5.58 vs year ago $5.44 on Sept 16, 2022.

Oil: CNQ sees TMX start "delayed into Q2 or later in 2024"

CNQ sees TMX delays

One of the Cdn energy stories to get attention was the CNQ filing with the CER on Trans Mountain's TMX expansion. The filing was last Thursday. Here is what we wrote in last week's (Sept 10, 2023) Energy Tidbits memo. "*No one should have been surprised to see Canadian Natural Resources filing with the CER on the Trans Mountain TMX expansion include CNQ's view that there the TMX startup will be delayed. On Thursday, we tweeted [LINK] "CNQ expects #TMX delay. CER filing "Although $CNQ hopes for an earlier Commencement Date, unfortunately, it is probable that the Commencement Date will be delayed into Q2 or later in 2024". Fits 👇 08/30/23 tweet on Trans Mountain changed language on TMX start. #OOTT." CNQ's CER filing had a clear statement "Although Canadian Natural hopes for an earlier Commencement Date, unfortunately, it is probable that the Commencement Date will be delayed into Q2 or later in 2024." The part that is a little worrisome is the "or later in 2024" if it doesn't start in Q2.Our Supplemental Documents package includes an excerpt from the CNQ CER filling."*

Fits that Trans Mountain seemed to signal to a delay in its TMX expansion

Here is what we wrote in our Sept 3, 2023 Energy Tidbits memo. "*Trans Mountain hasn't advised of any delay in the TMX expansion but, we believe they pointed to a delay after reading their Q2 release on Aug 30. Our Thursday tweet on CNQ linked to our Aug 30 tweet [LINK] "Hmmm! Note 👇 Trans Mountain's new Q2 language on #TMX start vs Q1 & Q4. Q2. "We are currently planning and targeting the commencement ....." Q1 & Q4, didn't use "currently", just "expected to ..." Hinting a new start date is coming given 👇 08/23 tweet challenge? #OOTT." Trans Mountain* *released its Q2 on Aug 29 and it included an update on its TMX expansion project. Given the sensitivity on TMX cost and timing, we like to check to see if Trans Mountain is changing what they said. And, as noted in our tweet, they did change their description. And that makes it seem that there is a change in timing that is coming. Trans Mountain used the exact same language in its Q4 and Q1 releases. In the Q1/23, Trans Mountain said "Trans Mountain anticipates mechanical completion of the Project to occur at the end of 2023 with commercial service expected to occur in the first quarter of 2024." In the Q4/22 release, Trans Mountain said "Trans Mountain anticipates mechanical completion of the Project to occur at the end of 2023 with commercial service expected to occur in the first quarter of 2024." It's not just the timing is the same, its also the wording doesn't include any caveats. Whereas the Q2/23 used different words and added the key caveat "currently" and introduces the concept that the startup date is their "target" date. Trans Mountain wrote "We are currently planning and targeting the commencement of service on the expanded pipeline system near the end of the first quarter of 2024." When see "currently" and "target" as opposed to expected to, it seems like Trans Mountain is setting the stage for a delay. Our Supplemental Documents package includes the Trans Mountain comments on the TMX expansion from the Q2/23, Q1/23 and Q4/22 releases."*

Oil: Cdn WCS less WTI differentials narrowed $0.05 to close at $18.00 on Sept 15

WCS less WTI differentials

It was a great May thru mid Aug for WCS less WTI differentials that were much narrower than normal. Normally WCS less WTI differentials start to seasonally widen in mid-May. But that didn't happen this year. WCS less WTI differentials were $14.15 on March 31, which was the Friday before the Sun Apr 2 reports that OPEC+ was going to cut production effective May 1. The WCS less WTI differential was up and down but closed at $14.65 on Apr 28, then narrowed in May to 13.50 on May 31, narrowed in June to $11.25 on June 30, widened in July to $13.75 on July 31, and then widened to close at $17.75 on Aug 31. This week, WCS less WTI differentials were mostly unchanged, narrowing $0.05 to close at $18.00 on Sept 15. This is not the norm and is linked to the global medium sour tightness and, in the US, the reducing Saudi oil exports to the Gulf Coast. The normal seasonal trend for WCS less WTI differentials that normally widen starting in mid-May. For perspective, a year ago, the WCS-WTI differentials last year were $21.40 on Sept 15, 2022. Below is Bloomberg's current WCS–WTI differential as of Sept 15, 2023 close.

Figure 35: WCS less WTI oil differentials including Sept 15 close

Source: Bloomberg

Oil: Crack spreads decreased to $32.48, expect to weaken with turnarounds to start

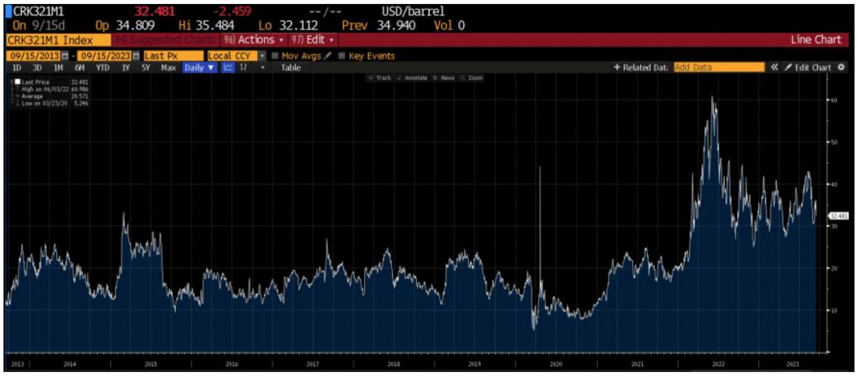
Crack spreads down this week

We remind that oil demand is driven by refiners and their ability to make money by processing oil and selling petroleum products. So crack spreads are a good indicator if refiners will be looking to buy more or less oil. This week, there was a decrease in US 321 crack spreads to $32.48 to close on Sept 15, which was down from $33.05 on Sept 8. Crack spreads at ~$32.50 are higher than more normal pre-Covid that was more like $15-$20. There is still money to made by refiners but we expect to see spreads narrow as industry moves into turnaround season for winter fuels.

Explaining 321 crack spread

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, which was $32.48 as of the Friday Sept 15, 2023 close.

Figure 36: Cushing Crude Oil 321 Crack Spread Sept 15, 2013 to Sept 15, 2023



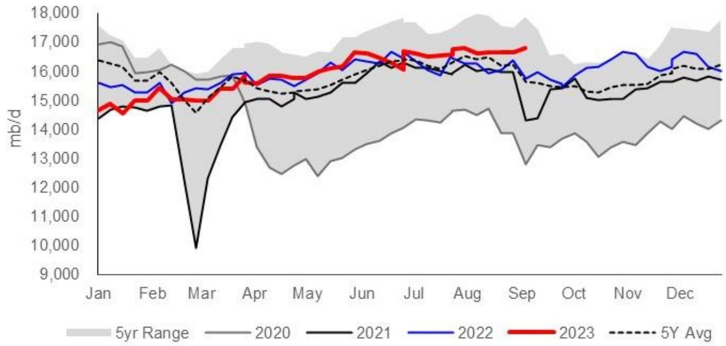
Source: Bloomberg

Oil: Refinery inputs up +0.177 mmb/d WoW to 16.800 mmb/d

Refinery inputs +0.02 mmb/d WoW

There are always unplanned issues that impact crude oil inputs into refineries, but refineries around the world follow seasonal patterns for their maintenance. We'll normally see refineries come out of turnarounds in late March/early April to start their ramp up in refining of summer blend fuels, which typically peaks in Aug/early Sept. So we should be starting to see a seasonal decline in crude oil inputs into refineries as refiners turnaround to prepare to shift to more winter fuel blends. But at least so far, continued strong crack spreads and demand for diesel is keeping refineries operating at high levels. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended September 8 [LINK]. The EIA reported crude inputs to refineries were up +0.177 mmb/d this week to 16.800 mmb/d and are up +0.778 mmb/d YoY. Refinery utilization was up +0.6% WoW to 93.7%, which is +2.2% YoY. We are likely hitting the seasonal peak in refining in the next few weeks.

Figure 37: US Refinery Crude Oil Inputs



Source: EIA, SAF

Oil: Something still isn't right in the EIA weekly oil imports by country data

US net oil imports

We now have an answer as to why the EIA doesn't include weekly oil imports from Venezuela in its weekly oil import data thanks to Reese Mitchell, who asked and received an answer from the EIA. The EIA weekly table doesn't show imports from Venezuela. The EIA knows this and explains why they don't include in the weekly table. The EIA wrote *"Venezuela has not been in the top ten recently but once a year after the release of our finalized annual data we reassess the top ten rankings on the weekly. We are working on updating the list now but since it is based on the 2022 finalized annual numbers Venezuela will still not be included in the list. However, the monthly series shows full break out of country of origin for imports for crude and product and offers a company listing of imports for crude and product*." So instead of taking Venezuela name off the table, the EIA weekly oil import table just shows zero imports. So we now know why there is a zero, but it still isn't clear if the weekly oil imports are off or if Venezuela is included in the weekly oil imports in an Other number. 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. The EIA reported US "NET" imports were up +2.654 mmb/d to 4.492 mmb/d for the September 8 week. US imports were up +0.812 mmb/d to 7.582 mmb/d. US exports were down -0.1842 mmb/d to 3.090 mmb/d. The

WoW increase in US net imports was driven mostly by "Top 10". The Top 10 was up +0.137 mmb/d. Some items to note on the country data: (i) Canada was down -0.034 mmb/d to 3.645 mmb/d. (ii) Saudi Arabia was down -0.184 mmb/d to 0.383 mmb/d. (iii) Mexico was up +0.396 mmb/d to 1.095 mmb/d. (iv) Colombia was down -0.089 mmb/d to 0.211 mmb/d. (v) Iraq was up +0.148 mmb/d to 0.248 mmb/d. (vi) Ecuador was down -0.099 mmb/d to 0.000 mmb/d. (vii) Nigeria was down -0.001 mmb/d to 0.219 mmb/d.

Figure 38: US Weekly Preliminary Imports by Major Country

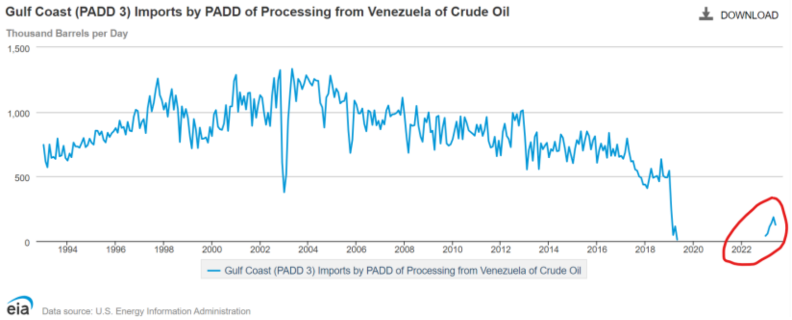
(thousand b/d)	Jun 30/23	Jul 7/23	Jul 14/23	Jul 21/23	Jul 28/23	Aug 4/23	Aug 11/23	Aug 18/23	Aug 25/23	Sep 1/23	Sep 8/23
Canada	3,611	3,385	3,698	3,203	3,691	3,466	3,505	3,832	3,405	3,679	3,645
Saudi Arabia	313	444	426	242	427	330	285	221	462	567	383
Venezuela	0	0	0	0	0	0	0	0	0	0	0
Mexico	882	526	1,004	830	760	667	901	780	437	699	1,095
Colombia	287	153	215	287	290	296	75	290	295	300	211
Iraq	122	134	259	273	235	305	304	283	232	100	248
Ecuador	157	144	207	216	175	142	363	192	328	99	0
Nigeria	192	189	91	229	94	237	307	89	144	220	219
Kuwait	0	0	0	0	0	0	0	0	0	0	0
Angola	0	0	0	0	0	0	0	0	0	0	0
Top 10	5,564	4,975	5,900	5,280	5,672	5,443	5,740	5,687	5,303	5,664	5,801
Others	1,474	905	1,274	1,087	996	1,239	1,418	1,246	1,314	1,106	1,781
Total US	7,038	5,880	7,174	6,367	6,668	6,682	7,158	6,933	6,617	6,770	7,582

Source: EIA, SAF

EIA shows imports from Venezuela in its monthly import data.

The reason why we have been highlighting the EIA weekly estimates of oil import data by country is that they haven't shown oil imports from Venezuela despite knowing that Chevron has been importing oil from Venezuela starting in Jan. In our May 7, 2023 Energy Tidbits memo, we started to highlight the EIA's monthly actuals starting to show oil imports from Venezuela at then end of April. The EIA posted its monthly actuals for June that continue to show PADD 3 (Gulf Coast) oil imports from Venezuela were 126,000 b/d vs 185,000 b/d in May, 140,000 b/d in April, 109,000 b/d in March, 58,000 b/d in February and 40,000 b/d in Jan.

Figure 39: Gulf Coast PADD 3 Crude Oil Imports From Venezuela to June 30, 2023



Source: EIA, SAF

Oil: OPEC MOMR: increasing deficit of crude oil stocks to 2015-2019 average

OPEC Monthly Oil Market Report

On Tuesday, OPEC released its Monthly Oil Market Report. (i) Early Tuesday morning, we tweeted [LINK] *"#OPEC Sept MOMR. No change in #Oil demand YoY growth. Minor increase in non-OPEC supply YoY growth. Saudi 1 mmb/d July cuts working. July 31 oil stocks -190 mb vs 2015-19 ave. Aug MOMR had June 30 at -119 mmb vs 2015-19. Products stocks -77 mb vs 2015-19 (was -49mb). #OOTT."* We thought the overall takeaway from the data and forecasts was neutral to positive as there was no real change to demand or non-OPEC supply. However, the positive takeaway is that the stocks estimates at July 31 show the Saudi voluntary cuts on July 1 are working as there is an increasing deficit of both crude oil and product stocks to the 2015-2019 average. (ii) 2023 average demand slightly increased to 102.06 mmb/d (was 102.01), but growth remained unchanged at +2.44 mmb/d YoY ie. the increase was driven by a higher 2022 demand starting point. Oil demand for 2023 at 102.,6 mmb/d is now 1.72 mmb/d over the pre covid-19 2019 of 100.34 mmb/d. (ii) Quarterly demand changes for 2023. Q1/23 increased to 101.74 mmb/d (was 101.65), which is likely +0.65 mmb/d QoQ assuming the last published Q4/22 of 101.00 mmb/d was increased in line with the increase to 2022. Q2/23 increased to 101.26 mmb/d (was 101.18). Q3/23 increased to 102.06 mmb/d (was 101.96 mmb/d). Q4/23 decreased slightly to 103.18 mmb/d (was 103.21). (iv) There was no change to OPEC's 2024 growth forecast of +2.25 mmb/d YoY but 2024 demand Is increased to 104.31 mmb/d (was 104.25 mmb/d) with the higher 2023 starting point. (v) OPEC still forecasts increasing oil demand for OECD countries at +0.26 mmb/d YoY to 46.38 mmb/d. Note IEA continues to forecast peak oil demand for OECD countries is 2023 and declines in 2024. Non-OECD is forecast +1.99 mmb/d YoY to 57.93 mmb/d (was +1.98 mmb/d YoY to 57.97 mmb/d) with the largest growth being China +0.58 mmb/d YoY to 16.40 mmb/d and the Middle East +0.38 mmb/d YoY to 9.02 mmb/d. Other Asia non-OECD +0.31 mmb/d YoY to 9.55 mmb/d. India +0.22 mmb/d YoY to 5.60 mmb. (vi) Non-OPEC supply was slightly increased for 2023 to +1.58 mmb/d YoY (was +1.51 mmb/d) and full year average of 67.39 mmb/d (was 67.27 mmb/d). For 2024, OPEC forecasts non-OPEC supply at +1.39 mmb/d YoY to 68.78 mmb/d (was +1.45 mmb/d YoY to 68.66 mmb/d). Key YoY non-OPEC growth areas for 2024 are US +0.61 mmb/d (was +0.66 mmb/d), Canada +0.24 mmb/d (unchanged), Guyana at +0.15 mmb/d (unchanged), Brazil +0.12 mmb/d (unchanged), Norway +0.12 mmb/d (was +0.19 mmb/d), and Kazakhstan +0.08 mmb/d (unchanged). (vii) OPEC Secondary Sources for September were +113,000 b/d MoM to 27.449 mmb/d. The major changes were Iran up +143,000 b/d MoM to 3.00 mmb/d, Nigeria +98,000 b/d MoM to 1.269 mmb/d, Saudi Arabia -88,000 b/d MoM to 8.967 mmb/d, and Angola -60,000 b/d MoM to 1.115 mmb/d. (viii) Direct Communications (what the OPEC countries report). There were a few items to note vs what countries directly reported vs Secondary Sources estimates: Venezuela says it produced more at 820,000 b/d in August vs secondary sources of 730,000. Nigeria says it produced 1.187 mmb/d compared to the 1.269 mmb/d reported by Secondary Sources. Iraq said it produced less at 4.073 mmb/d in August vs secondary sources of 4.277 mmb/d. (ix) Our Supplemental Documents package includes excerpts from the September OPEC MOMR.

Oil: IEA OMR: Demand down, non-OPEC supply up, but warns on market deficit in H2

IEA Oil Market Report

On Wednesday, the IEA released its monthly Oil Market Report for September at 2am MT. They only release very limited public info, but Bloomberg provided detailed tables and added color from the report. (i) Early Wednesday morning, we tweeted [LINK] "*The Man" Saudi Energy Min Abdulaziz knows #Oil markets! Oil would normally be down as @IEA OMR cuts* *demand forecast for 2023 & 2024, increases non-OPEC supply. But IEA warns extension of Saudi & Russia cuts "will lock in substantial market deficit through 4Q23". #OOTT."* The IEA lowered their oil demand forecasts and increased their non-OPEC supply forecasts but, because of Saudi Arabia and Russia extending their cut thru December, the IEA warns "*The extension of output cuts by Saudi Arabia and Russia through year-end will lock in a substantial market deficit through 4Q23*." (ii) Lower oil Demand. The IEA did not change its oil YoY demand growth rates but revised down its historical 2022 demand such that its 2023 oil demand is down 0.4 mmb/d in 2023 to 101.8 mmb/d (was 102.2 mmb/d) and in 2024 to 102.8 mmb/d (was 103.2 mmb/d). (iii) One potential setup to raising their 2024 demand forecast. For the past few months, we have highlighted what looks to be an unusual assumption for their Q1/24 demand and the IEA continues to gradually walk back their forecast assumption of a massive sequential QoQ demand drop from Q4/23 to Q1/24. It is still way too large a drop and it looks like it sets them up for a reason if they choose to increase 2024 demand. In their June OMR, the IEA had a massive -2.0 mmb/d QoQ drop in Q1/24 vs Q4/23. The normal seasonal pattern is for Q1 to be down sequentially QoQ vsw the prior year Q4. But the 2.0 mmb/d QoQ drop was unusually large. They walked that QoQ decline to -1.9 mmb/d in July OMR, then -1.6 mmb/d QoQ in Aug OMR, and now -1.4 mmb/d QoQ in the Sept OMR. Three months ago, we looked at some of the older pre-Covid OMR reports and didn't see any QoQ forecasts this big, rather it was more like 1 mmb/d QoQ. For perspective, OPEC's Sept MOMR yesterday had Q1/24 down -0.29 mmb/d QoQ vs Q4/23. The reason why we highlight this is if Q1/24 is low, it probably means the rest of 2024 is low. (iv) Another potential set up for increasing their 2024 demand is their work from home comments. This is not as big an item but one that feels like a setup for a reason to increase 2024 demand in a few months. It was interesting to see the IEA highlight ""*But global demand growth is set to slow sharply to around 1 mb/d in 2024 as the recovery runs out of steam and with efficiency gains, EV penetration and working from home further suppressing consumption."* Bloomberg wrote "*Work From Home Still Sapping 800k B/d of Road-Fuel Demand: IEA*". We don't disagree that the working from home hurts gasoline consumption. But working from home is not new. Rather it has been reducing and more are back to the office. We think this looks like a set up for a potential reason for a future demand increase in 2024. Otherwise, why highlight this now. So perhaps in a few months, a demand forecast increase for 2024 in a few months from the IEA then saying how demand is up with less people working from home. Bloomberg reported it's almost as much as EV savings. Bloomberg wrote "* *To put the impact into context, the IEA compares it with electric vehicle sales up to January, which account for about 950k b/d of fuel savings".* (v) IEA increased non-OPEC supply. For 2023, Sept OMR is now + 1.3 mmb/d YoY to 67.6 mmb/d (was +1.9 mmb/d YoY to 67.2 mmb/d). For 2024, non-OPEC supply, up to +1.5 mmb/d YoY to 68.8 mmb/d (was +1.3 mmb/d YoY to 68.7 mmb/d). (vi) OECD stocks in Aug are at a 13-month low. The IEA wrote "*Global observed oil inventories plummeted by 76.3 mb to a 13-month low in August, led by a hefty decline in oil on water. Non-OECD oil stocks fell by 20.8 mb with the largest draw seen in China, while OECD inventories eased by 3.2 mb. In July, OECD industry stocks rose by 26.7 mb to 2 814 mb but remained 102.6 mb below their five-year average."* Our Supplemental documents package includes the IEA release and the Bloomberg reports.

Figure 40: IEA Global Demand Forecast by OMR Report

mmb/d	2022	Q1/23	Q2/23	Q3/23	Q4/23	2023	23-22	Q1/24	Q2/24	Q3/24	Q4/24	2024	24-23
Sep 23	99.9	100.4	101.7	102.6	102.5	101.8	1.9	101.1	102.6	104.0	103.5	102.8	1.0
Aug 23	99.9	100.6	102.0	102.9	103.1	102.2	2.3	101.5	102.6	104.2	104.3	103.2	1.0
July 23	99.9	100.5	101.4	103.1	103.3	102.1	2.2	101.4	102.6	104.3	104.5	103.2	1.1
June 23	99.9	100.5	101.6	103.4	103.5	102.3	2.4	101.5	102.5	104.1	104.4	103.1	0.8
May 23	99.9	100.5	101.3	103.0	103.1	102.0	2.1						
Apr 23	99.9	100.4	101.2	103.1	103.0	101.9	2.0						
Mar 23	99.9	100.7	101.3	101.9	101.9	101.5	1.6						
Feb 23	100.0	100.1	101.1	102.9	103.5	101.9	1.9						
Jan 23	99.9	99.6	100.8	102.9	103.5	101.7	1.8						
Dec 22	99.9	99.7	100.6	102.7	103.4	101.6	1.7						
Nov 22	99.8	99.6	100.5	102.3	103.0	101.4	1.6						
Oct 22	99.6	99.5	100.4	102.1	102.9	101.3	1.7						

Source: IEA, Bloomberg, SAF

Oil: IEA's first Oil Market Report was 40 years ago in Sept 1983

IEA's 1st OMR was 40 yrs ago

The IEA's press release for the Oil Markets Report September 2023 noted that this issue marked the 40th anniversary of of the OMR. The IEA wrote "*40 years on. The very first edition of the IEA's benchmark Oil Market Report (OMR) was published 40 years ago, in September 1983. The international oil market complex has since grown exponentially. But then, as now, energy security concerns were critical. The IEA was created in response to the energy security challenges triggered by the 1973-1974 oil embargo when major producers pushed prices to historic levels. Launched to provide greater market transparency, the OMR has since become one of the world's most authoritative sources for comprehensive analysis and timely statistics on oil market fundamentals, crucial to strengthening energy security globally."* We don't disagree that the IEA is an excellent source for statistics. And, to a great degree, their analysis continues to be very good. But, as noted in our May 21, 2023 Energy Tidbits memo, the IEA is under increasing political pressure from its bosses (the western leaders) under the energy transition.

Increasing political pressure on IEA under the Energy Transition

Here is what we wrote in our May 21, 2023 Energy Tidbits memo. *"Is IEA under indirect political pressure? Above, we recap the IEA's bullish view of oil demand and supply for H2/23, but we have to wonder if there is indirect political pressure being put on the IEA for their numbers to support any western, especially the US, hopes to try to influence OPEC+ June 4 decision. (i) We had not thought about this potential until listening to Neil Atkinson (Former head of IEA Oil Markets Division) speak on the Gulf Intelligence daily podcast on Wednesday. We have heard him speak many times on this podcast and he always seems very careful and precise in his words. His response here is very much in line with how he always speaks. So when you take into account the speaker, it just jumped at us that what he seems to messaging is that it is different now at IEA and the implication is indirect political pressure. Again, that is assuming that Atkinson was careful in his wording and not just sloppy. It's worth a listen to et your own view. Atkinson said that when did it, "never on any one occasion was I, as the editor of the Oil Market Report, was put under any pressure to skew the numbers one way or the other". And then he gives his statement about today "I do not believe that the numbers that the oil team are putting out at the IEA are influenced by direct political pressure from above. I just don't believe that." A careful speaker made sure he inserted the word "direct" political pressure. That is* *raises our antenna. (ii) The issue is around the IEA OMR Tuesday (noted above) that surprised most by its bullish call on oil demand in H2 and warning of a tight supply market. We have been noting how the IEA seems to have shifted from its original role to one of being the big cheerleader for the pro energy transition side with many caveated views that Net Zero can be accomplished. But after thinking about Atkinson's apparent messaging, we have to wonder if the IEA came out with this very bullish oil demand view and warning ahead of the OPEC+ June 4 meeting to try to influence OPEC+ that they can't make any more cuts and that the IEA numbers suggest OPEC+ needs tokin add more barrels back now. (iii) Recall the implication a few weeks ago when the OPEC+ June 4 meeting became an in-person meeting, no one, including us, believed Saudi Energy Minister Abdulaziz would call an in-person meeting to say no change. Rather, we assumed that Abdulaziz is having an in-person meeting to make some sort of statement. And since the OPEC+ voluntary cuts, the risk to the world economy and China's pace of recovery is worse ie. no reason to add more oil. (iv) Below is the transcript we made but it doesn't do just justice to Atkinson's clear emphasis on words like "direct". It's worth a listen because if anyone is going to know the difference on political pressure, direct or indirect, it should be Atkinson."*

SAF transcript of Neil Atkinson's (former IEA) comments on political pressure
Here is another excerpt from our May 21, 2023 Energy Tidbits memo. "*It's worth a listen to Atkinson's comments. Here is the SAF Group created transcript of comments by Neil Atkinson (Former Head of Oil Markets Division, International Energy Agency) with host Sean Evers (Managing Director, Gulf Intelligence) on Gulf Intelligence Daily Energy Markets May 17th Podcast. [LINK] Items in "italics" are SAF Group created transcript. Evers "….. they [IEA] do seem to be sliding. I remember all the years, one would say you can always rely on the IEA numbers and not so much on the OPEC numbers because they were biased in their own political ways. Everyone reporting their own numbers though. Now it seems things have slipped, flipped the other way around. If you want to respond to that or not, your thoughts". Atkinson "Yeah, sure, I have no connection to the IEA. Can say exactly what I like. My experience in producing 62 Oil Market Reports for the IEA was that never on any one occasion was I, as the editor of the Oil Market Report, was put under any pressure to skew the numbers one way or the other. Now, when writing the commentary on the market, which was my little piece of authorship every month, Yes, you knew there were limits. You can't overtly attack say OPEC and say a decision based taken is going to destroy the global economy or anything like that. You can make a suggestion that higher prices are damaging and put it in a diplomatic way. There are limits. So I understood that. …….. the IEA remains on the high side [for Oil demand]. I do not believe that the numbers that the oil team are putting out at the IEA are influenced by <u>direct</u> political pressure from above. I just don't believe that."*

End of an era – the IEA used to be the most important view on energy
Here is another item from our May 21, 2023 Energy Tidbits memo. "*After hearing Neil Atkinson's above comments, it feels like the final confirmation of what we have been noting – it's the end of an era where the IEA's view on oil markets was*

considered the go-to view on oil. And readers weren't wondering if there was indirect political pressure to message a certain way, including in their forecasts. I was an E&P executive in the 80s/90s but the IEA wasn't part of everyday E&P thoughts. But when I joined the sellside in the late 90s for energy research and later energy investment banking, I very quickly realized the critical role the IEA played for the analysis and interpretation of oil markets as their focus wasn't on selling a message or theme, but giving data and analysis focused on what was important to the world - energy security. Don't forget the IEA was formed after the 1973/74 Arab Oil Embargo to provide critical analysis for the US and other oil consuming countries. The IEA was the bible and Robert Priddle (IEA Executive Director 1994-2002) was the Charles Schwab of oil markets – when he talked, people listened. Partly it was the world, where we didn't have twitter and media and he didn't have to, or chose not to, weigh in publicly on everything, everyday to put a pro this or pro that spin. So markets listened because they didn't have to look at Priddle and the IEA's message because their focus and mandate was clear. Atkinson's comments make me feel it is the end of an era."

The Arab Oil Embargo Oct 19, 1973 was the defining oil event

The IEA notes the 1973-74 oil embargo as the reason for their formation. We have highlighted the Arab Oil Embargo since we first started our Energy Tidbits memos. It was the most significant game changer to oil market. Here is what we have included in prior Energy Tidbits going back over the years/decades. "*We normally include a reminder of the 1973-1974 Arab Oil Embargo because it was "THE" game changer to oil markets. Most weren't born or too young or not in the US to remember the 1973/1974 Arab oil embargo that hammered the US economy and moved oil prices from ~$3 to ~$12. It forced the US and other western countries to have their first real look at oil security. There is no question that having an immediate cut off of oil forced change. Change always happens when something is cut off rather than just becomes more expensive. It was "THE" game changer to the oil and gas industry that led to lasting trends such as the 1976 election of Jimmy Carter (who introduced the first tax credits to kickstart the US shale gas/oil revolution), the creation of Strategic Petroleum Reserves, the International Energy Agency, the push to find oil outside the Middle East in regions, the US govt push to begin to import LNG, etc . It was also a game changer for consumers and led to the move to fuel efficient cars like the Honda Civic (don't forget made in Japan wasn't a good brand in the 60's). The big reason for this was that the Arab Oil Embargo led to an immediate rationing of gasoline in many parts of the US – it was immediate. And to the famous multi block long lineups to buy gasoline. I was in college in St. Louis (Missouri) at the time and the pictures, like the one below, were reality of line ups for gasoline. In. St. Louis, it immediately had restrictions on how many gallons of gasoline on day 1, and by day 2 they had switched to only allowed restricted volumes of gasoline to be purchased on odd days if your license plate ended in odd number and vice versa for even days. Don't forget there was no self service gas stations so you couldn't fill up in violation of the restrictions. In areas like St. Louis that had poor access to gasoline, it was common to line up for an hour for gasoline with your car in neutral and turned off, and taking turns with your friends to push your car to the gas station. The end of the oil embargo was on March 17, 1974."*

Figure 41: Gas Station Line Up During Arab Oil Embargo 1973-74

Source: Time

Oil: Saudi Arabia was looking ahead to Q1/24 when it extended 1 mmb/d cut thru Dec

Saudi 1 mmb/d voluntary cuts

The big oil news last week was Saudi Arabia extending its 1 mmb/d voluntary cut thru Dec and Russia extending its 0.3 mmb/d reduction to exports thru Dec. There were many reports as to why in the face of $90 Brent. But there was a good reminder from Energy Intelligence's Amena Bakr on Wednesday that Saudi Arabia was looking ahead to Q1/24. Earlier this morning, we tweeted [LINK] "*Reminder from @Amena__Bakr - Saudi was looking ahead to Q1/24 deliveries when extended 1 mmbd cut thru Dec to avoid inventory build. #IEA Sept OMR fcasts Q1/24 #Oil demand to be down -1.4 mmbd QoQ vs Q4/23. Thx @business @gulf_intel. #OOTT.*" We included the IEA Sept OMR forecast for Q1/24 oil demand to be down 1.4 mmb/d QoQ vs Q4/23. This is why Saudi extends the cuts thru Dec 31 to keep the barrels off of deliveries in Q1/24. On the Gulf Intelligence Daily Markets podcast, Amena Bakr said "*the cut was really to manage inventory levels. And they were worried about Q1 starting next year, they want to keep things tight. As we saw at the beginning of this year for example, we had a buildup of 700,000 b/d.".*

Oil: Is MBS messaging to US the time for promises is over?

Opinion piece on MBS

We recommend reading the Friday Saudi Gazette opinion piece "*Prince Mohammed bin Salman: His charisma and charm of vision"* [LINK]. We don't believe opinion pieces on MBS in the Saudi Gazette unless he is onside. At first, we thought it was a KMA piece but we thought there were a few key messaging items to the US. (i) Saudi not locked in to join BCRICS. The general view post the Saudi attending the Sept BCRICS meeting was that it was committed to join in early 2024. The Saudi Gazette says that is not the case. "*One telling example of this was Saudi Arabia's recent acceptance of an invitation to attend a meeting of leaders from the increasingly influential BRICS group on the international stage. In fact, Saudi Arabia did not request to join that group; rather, it received an invitation to attend the meeting and accepted it without entering into any obligations."* And "*When he engages with China, strengthens relations with Moscow, or participates in the deliberations of the*

BRICS bloc, he does so wit h the aim of advancing his country's highest interests and the well-being of its people." (ii) The headline was the US Democrats shouldn't assume they will have an "achievement" they can use in the 2024 elections. The Saudi Gazette wrote "*There is no doubt the American Democrats are seeking an "achievement" they can use in the 2024 elections. It is certain that Saudi Arabia, represented by its Crown Prince, will not provide that "achievement" without conditions that serve its pure national interests."* (iii) It seems like Saudi is saying to the US, if you have a specific firm deal to pitch, the time is now as Saudi Arabia isn't going to do things based on potential deals. They seem fed up with talk and promises. The Saudi Gazette wrote "*Those who know Prince Mohammed bin Salman closely are undoubtedly aware that he refuses to sacrifice Riyadh's relations with any other world powers in exchange for potential deals. When he engages with China, strengthens relations with Moscow, or participates in the deliberations of the BRICS bloc, he does so with the aim of advancing his country's highest interests and the well-being of its people. At the core of this is the Kingdom's century-long commitment to ensuring peace and stability in the Arab and Islamic regions."* (iv) Saudi Arabia isn't going to sacrifice its relationship with Russia and China. On Friday, we tweeted [LINK] "*Also note MBS "refuses to sacrifice Riyadh's relations with any other world powers in exchange for potential deals. When he engages with China, strengthens relations with Moscow, or participates in the deliberations of the BCRICS block, he does so with the aim of advancing the country's highest interests".* #OOTT." There is more in this short opinion piece. Our Supplemental Documents package includes the Saudi Gazette opinion piece.

Oil: IEA highlights Iran up 600,000 b/d until Aug, but not factoring in further increases

IEA not factoring in further Iran oil increases

On Wednesday, we tweeted [LINK] "*Iran #Oil "since the start of the year UNTIL Aug is up by 600,000 b/d" "we're not factoring in further increases in Iranian supplies" says @IEA Toril Bosoni to @flacqua. See 👇08/13 tweet, this is what Iran has saying AND that Iran is adding more oil in Aug. #OOTT."* Our tweet included a clip of IEA head of oil market division, Toril Bosoni on BloombergTV where she highlighted how the IEA has included Iranian oil production growth "*until*" August in their Sept OMR forecast. No one should be surprised to see the IEA highlight this as this is what Iran has been saying. However, we were a little surprised that Bosoni made a point of noting they aren't factoring in any further increase for now for Iran oil. We reference our Aug 13 tweet that noted Iran's Oil Minister that Iran oil was increasing another 100,000 b/d in Aug and up to another 200,000 b/d in Sept. Here is the transcript we made of Bosoni's comments "*Iranian production since the start of the year until August is up 600,000 b/d, which helps offset some of the declines from other OPEC+ producers. For our balances and forecast, we think Iran can sustain this level of production if the market is there. So far, we've seen India quite keen to snap up these discounted barrels and we saw that Iranian production increasing 3.1, 3.2 mmb/d in August, its highest in five years. So we are not factoring in further increases in Iranian supplies but it remains to be seen. It will depend on the market for those barrels."*

Can or will anyone stop Iran from adding ~0.6 mmb/d to oil markets in H2/23?

Our Wednesday tweet included our Aug 13 tweet on Iran telling markets on its increasing oil production in Aug and Sept. Here is what we wrote in our Aug 13, 2023 Energy Tidbits memo that was titled "*Can or Will Anyone Stop Iran Adding ~600,000 b/d to Oil Markets in Next Few Months?.*" "*Iran looks to be an overlooked risk to oil prices in H2/23 and not because of sanctions removal. Rather because* *they are adding oil production capacity and we don't know who will or can stop them from adding the new oil capacity to oil markets. (i) Earlier this morning, we tweeted [LINK] "Near term Oil hold back. Another Iran reminder today that at 3.2 mmb/d & to exceed 3.3 mmb/d by late Aug. Vs #OPEC MOMR Secondary Sources had Iran at 2.828 mmb/d in July. Who can or will stop Iran from adding up 0.6 mmb/d to #Oil markets in next few mths? #OOTT." It follows our tweet yesterday [LINK] "Who can or will stop Iran from adding up to 0.6 mmbd to #OIl markets over coming mths? Iran not subject to #OPEC quota. US negotiating with Iran on prisoners & releases of Iranian funds. See 👇08/09/23 thread - Iran is #oil supply risk in H2. #OOTT @DanialRahmat12." Our Aug 8, 2023 tweet was [LINK] "Iran near term #Oil supply adds! Given #Biden doesn't have any stroke over #MBS & tapped SPR, wonder if he effectively turns a blind eye as he sees this as a replacement for an SPR release to try to help keep a lid on oil/#Gasoline prices for 2024. Thx @DanialRahmat12! #OOTT. " (ii) On Wednesday, Tehran-based analyst, Danial Rahmat, tweeted [LINK] "CEO of #NIOC: Iran's crude prod. to increase by 150 k b/d in a week. By the end of Sep. 100k b/d will be added and output will reach 3.5 mil. b/d. In H2, about $8 b deals will be signed to develop 2 joint fields. #OOTT @Energy_Tidbits @sean_evers @FrankKaneDubai @imannasseri." Rahmat was reporting on comments by National Iranian Oil Company managing director, Khojasteh mehr, at a press conference in Tehran on Aug 9. (iii) Later PressTV (Iran state media) reported on Khojasteh mehr's comments on the press conference. [LINK] "Iran will reach a milestone oil production figure of 3.5 million barrels per day (bpd) in late September, according to the CEO of state oil company NIOC, despite sanctions imposed on the country by the US. Mohsen Khojasteh Mehr said on Wednesday that Iran's oil output will increase by 150,000 bpd within the next week and by another 100,000 bpd by the end of the month to September 22 to reach a total of 3.5 million bpd. The figure would be a major increase from 2.2 million bpd of oil production reported in August 2021 when the current administrative government led by President Raeisi took office, said Khojasteh Mehr. He said the growth in oil output will entirely serve Iran's plans to increase its oil exports." Earlier this morning, our tweet attached the Irna (state media) reporting [LINK] on Iran oil minister saying today that oil production was 3.2 mmb/d and to surpass 3.3 mmb/d by the end of August. (iv) Iran is saying they can hit 3.5 mmb/d in late Sept. Based on this week's OPEC Aug MOMR Secondary Sources production for Iran of 2.828 mmb/d in July, this is an add of >600,000 b/d. We think this is a significant item as we don't see who will or can block Iran from adding these barrels to global markets. Iran is one of three countries not subject to OPEC+ quotas so isn't held back by OPEC+ in increasing production and exports. (v) In theory, Iran is under sanctions but US has turned a blind eye to stopping Iran oil exports. And given the late week breaking news of a potential US/Iran prisoner swap and release of Iran's blocked funds in South Korea, it's hard to see the US stepping up to enforce sanctions. Plus there is the political reality that it's only 15 months to the US 2024 Presidential election. Our Aug 9 tweet said "Given #Biden doesn't have any stroke over #MBS & tapped SPR, wonder if he effectively turns a blind eye as he sees this as a replacement for an SPR release to try to help keep a lid on oil/#Gasoline prices for 2024." US gasoline prices keep inching up. Biden used the SPR to keep a lid on prices in the run up to the 2022 mid-term elections. He doesn't have that cushion now so he can look at Iran's new capacity as a bit of*

SPR replacement to keep a lid on oil prices. Our Supplemental Documents package include the PressTV report."

Oil: Turkey "*we need to take care of our interests*" before restart of Kurd oil exports

Turkey's clear position on restart Kurdistan oil

It was interesting to see the reports and tweets on the Turkish energy minister Alparsian Bayraklar comments on Friday. The reports focused on his comments that the pipeline will soon be "*technically*" ready for operations. Rather, it seemed like his key comments were overlooked, which is why we tweeted [LINK] ""*we need to take care of our interests" says Turkey before can restart Iraq/Kurdish #Oil exports. - Iraq owes $950mm re ICC arbitration, net of damages Turkey has to pay Iraq. - Iraq to withdraw 2nd arbitration case. - negotiate a reduced payment. What else does Turkey need? #OOTT."* No question Bayraklar said the pipeline will technically ready to resume production soon, but he was also clear that Turkey will need to take of their interests before there is a resumption. And that they want concessions from Iraq before they let the oil exports resume. It seems clearly in Iraq's court if they want to satisfy Turkey's demands. Reuters wrote "*Turkey also calculates Iraq owes $950 million as a result of ICC arbitration, net of damages Turkey has to pay Iraq. Ankara will also file in the Paris court for a "set-aside case", Bayraktar said. Iraq opened an enforcement case against Turkey in a U.S. federal court in April, to enforce a $1.5 billion arbitration award. "As two neighbouring countries, we need to find an amicable solution. But from the legality perspective, we need to take care of our interests. Most likely in the future we might face another court challenge. But the pipeline will be operational technically. It is more or less ready and we will start the operation soon", Bayraktar said. Ankara wants Baghdad to withdraw a second arbitration case covering the period from 2018 onward, and negotiate a reduced payment. Turkey also wants Erbil and Baghdad to agree on a common position and negotiate the continuance of the pipeline agreement, which is set to expire in 2026".* Our Supplemental Documents package includes the Reuters report.

Are there other items on Turkey's wish list before restarting Kurd oil?

Our Friday tweet ended "*what else does Turkey need*?" on the assumption that there are more items on Turkey's need/want list from Iraq before allowing the restart of Kurdistan oil via Turkey. The reason we thing there is more on the Turkey wish list is because of what we saw on Aug 25 as to the first hint of the Turkey wish list. Here is what we wrote in our Aug 27, 2023 Energy Tidbits memo. ""*Up until Friday, we haven't seen any specifics on what Turkey wants to allow the restart of Kurdistan/Iraq oil via Ceyhan. But on Friday morning, we saw the first report albeit without naming the Turkish officials, of what Turkey wants in any deal. (i) We tweeted [LINK] "Best reporting what Turkey wants to resume Kurd #Oil export via Ceyhan. Won't pay $1.5b damages, wants Kurd to pay Baghdad. Contracts to help build out of power plant & other infra. Iraq/Kurd resolve their % oil splits. Exports could resume quickly. Reminder shouldn't be big hit to Oil markets ASSUMING Iraq keeps complying with #OPEC quota. Thx @SelcanHacaoglu @TurkWonk #OOTT." (ii) Our tweet included the Bloomberg report "Turkey Seeks Iraq Revenue-Sharing Deal to Restart Oil Exports.' (iii) We noted that a deal to restart shouldn't have any big impact on oil exports to world markets assuming Iraq complies with its OPEC quota as it has been producing close to its quota. (iv) Note that Bloomberg says Turkish officials says oil exports could resume quickly once a deal in place. "The pipeline running from Kirkuk to Turkey's Mediterranean port of Ceyhan remains operational and Iraqi crude* *exports could start quickly once there is a deal in place, the Turkish officials said, adding that Turkey aims to resolve the conflict as soon as possible." (v) Big one for Turkey. It wants Kurdistan to pay the $1.5b that Turkey was ordered to pay Iraq. we have been assuming this $1.5b payment would somehow be reduced in the negotiations with Iraq. But Bloomberg reports it's not a reduction, any payment is a non-issue. Bloomberg writes ""Turkey halted flows through a twin-pipeline in March after an arbitration court ordered it to pay about $1.5 billion in damages to Iraq for transporting oil without Baghdad's approval. Ankara has no intention of paying the fine and is asking the Kurds to pay it to Baghdad as they were the benefactors, the officials said." (vi) Not a Turkey holdup but a separate issue between Iraq and Kurdistan to resolve is that Turkey wants Iraq and Kurdistan to agree who gets what of the oil revenues split. Bloomberg writes "Baghdad has asked Turkey to collect the money from oil exports and transfer it to Iraq after deducting 12.6% of the share allocated to the KRG, said the officials, speaking on condition of anonymity. The KRG, however, has told Turkey that it wants to claim the entire revenue from exports via its territory, arguing that it has been unable to collect funds from separate Iraqi oil exports, they said." (vii) One other Turkey negotiating point. It isn't called a negotiating point but Turkey has been wanting a comprehensive agreement on issues with Iraq and that oil was part of their issues. So we have been assuming the oil deal would be wrapped into other negotiating items. Or the other negotiating items wrapped around the oil deal. One item that comes out of Bloomberg is that "Ankara is offering the Kurdistan Regional Government, or KRG, as well as the central government in Baghdad help in building power plants and other infrastructure." The offer sounds like Turkey wants some big contracts for its companies. Our Supplemental Documents package includes the Bloomberg report."*

Oil: Bloomberg reports Libya oil production unaffected by floods

Libya oil stable at 1.2 mmb/d

As of our 7am MT news cut off, we haven't seen any oil production update from the Libya National Oil Corporation post the deadly floods. Their last production update was on Tuesday morning and production was still at the ~1.2 mmb/d level. The NOC tweeted [LINK] "*Crude oil production reached 1,216,000 barrels per day, and condensate production reached 50,000 barrels per day during the past 24 hours*." The only report that we have seen on Libya oil production post the floods was Bloomberg's Friday report "*Libya Says Oil Production Remains Unaffected by Deadly Floods. Libya's state oil company said there has been no disruption to crude output following a storm that unleashed deadly flooding and left at least 5,500 people dead in the North African country. Oil-export ports in the east were unharmed by the storm and operating normally, Farhat Bengdara, chairman of the National Oil Corporation, said in an interview. Amos Hochstein, US President Joe Biden's senior adviser for energy, had earlier said on Bloomberg Radio that there had been some curtailments following the disaster. Libya had shut export ports in the east during the storm last weekend, and had reopened them by Tuesday. NOC said then that oil output was running at 1.2 million barrels a day. It didn't say what level production was at on Friday. Italy's Eni SpA said the floods hadn't impacted its Libyan operations. Torrential rain unleashed by Mediterranean storm Daniel collapsed two dams, which devastated the coastal city of Derna in northeast Libya. Relief workers and international organizations are still searching for survivors among collapsed buildings."*

Oil: Chinese "are cautious & lack confidence in the future" ie. not spending more

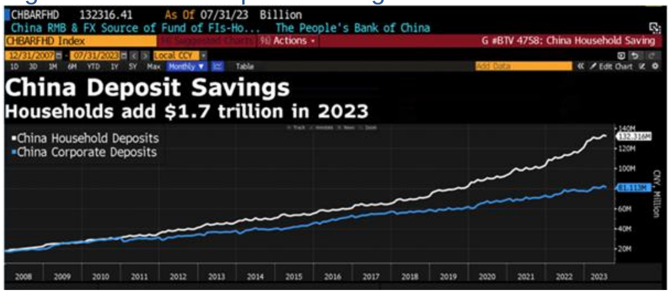
Chinese not spending more

If China can ever find a bottom and if the Chinese can feel confident that there is a turn, there will be some added torque to the recovery that will be in good part consumer driven like was seen in the US. (i) On Monday morning, we tweeted [LINK] "Chinese "*are cautious & lack confidence in the future so they tend to spend, maybe not less, but wouldn't spend much more than before" Victor Yang to @sean_evers @gulf_intel podcast. Fits 👇08/31/23 post why China household savings keep going up. #OOTT."* Then later on Monday, we tweeted [LINK] "*Key call for #Oil - when will Chinese consumer get confidence in future to spend $trillions of excess savings? See my 01/18/23 tweet/video. [LINK] Blackstone CEO, Americans put $2.5T of extra money into bank accounts & that spending has driven US economy #OOTT."* (ii) On the Gulf Intelligence Daily Energy Markets podcast on Monday morning, Beijing-based Victor Yang (Senior Analyst, JLC Network Technology) spoke on how the Chinese are not spending due to a lack of confidence in the future. It reinforces why Chinese are not spending their pent-up savings. Here is the transcript we made of Yang's comments. """*And now people are cautious & they lack confidence in the future so they tend to spend, maybe not less, but they wouldn't spend much more than before. So that's one issue. So they're [the government] trying to pump confidence into people and try to encourage them to spend more. And as for the real estate industry, well, people are not going to buy houses yet in the near term. Not many of them because they still expect the price to go down. And so a lot of real estate developers are still in trouble. And the government been trying to, well bail them out but not nearly to better, but to improve their policies on this sector to make it easier for them. To help them sell their houses. And this is what they're doing now."*

Chinese households keep increasing savings

The Victor Yang comments on the Chinese not having confidence in the future fits the thesis that Chinese are not spending their pent-up savings. As opposed to what happened in the US and how the US consumer spending their pent-up savings during Covid has been the key catalyst to the US economy. Here is what we wrote in last week's (Sept 10, 2023) Energy Tidbits memo on Chinese household savings. "*On Thursday night, we tweeted [LINK] "Is this a good indicator that there is still more risk than reward to near term China economy? Xi and politburo haven't yet been able to convince the Chinese people that it's time to spend the pent up savings! Thx @business. #OOTT." Earlier on Thursday night (MT), Bloomberg TV showed the below graph "Canada Deposit Savings: Households add $1.7 trillion in 2023." That is a big increase and the Chinese spending their savings was, earlier in the year, expected to be a catalyst for revving up the Chinese economy. We have seen the Chinese consumer step up, but not as much as expected to spend their savings. However, we have to believe that Chinese households still increasing savings is an indicator that they are still being cautious about the China recovery."*

Figure 42: China Deposit Savings



Source: Bloomberg

Waiting for $2 Trillion in excess China savings to be allocated in the reopening

As noted above, earlier in the year, Chinese spending their excess savings was expected to be a big catalyst in the China reopening. Here is what we wrote in our Jan 22, 2023 Energy Tidbits memo. "*We believe there has been an overlooked factor in China's reopening – Chinese have accumulated significant excess savings during Covid much like was seen in the US, and that a reopening will see Chinese spend just like has been spend in the US in an extra stimulus. In China's case, there is $2 Trillion of excess savings waiting to be spent in the reopening. We have been saying that we don't see why people in China won't be responding to China's reopening the same way people in all major countries responded when their countries reopened. On Tuesday night, we were watching Bloomberg Asia open and immediately tweeted on comments by Hong Kong Exchange CEO Aguzin. We tweeted [LINK] "1/2. $2 Trillion in EXCESS savings in China to be allocated in the reopening. @HKEXGroup CEO @aguzin "Something important around Covid also that I want to make sure people know. Over the last 2 yr, savings in China which traditionally size ~20% of disposable income... #OOTT" and [LINK] "2/2 .. It is very very high. But over the last 2 yr, that jumped to >30% so there's ~$2 trillion EXCESS savings in the system in China. $2 trillion. Now with the reopening that will have to be reallocated somewhere. Thx @haslindatv @aguzin #OOTT." We made a transcript of Aguzin's comments "Something important around Covid also that I want to make sure people know. Over the last 2 years, savings in China which traditionally size around 20% of disposable income. It is very very high. But over the last 2 years, that jumped to over 30% so there's about $2 trillion excess savings in the system in China. $2 trillion. Now with the reopening that will have to be reallocated somewhere. To travel, to purchase things, so that is a very significant amount. I hope a good chunk of that comes to the capital markets"*

Blackstone CEO Schwarzman reminds $2.5T US Covid savings drove economy

Our tweet this week referenced the Blackstone CEO Jan 18 comments. Here is another item from our Jan 22, 2023 Energy Tidbits memo. "*We were reminded of the significance of China $2 Trillion in excess savings waiting to be allocated by comments from Blackstone CEO Schwarzman in his Bloomberg interview from Davos. Schwarzman highlighted how there was $2.5 Trillion in excess savings in the US during Covid, half has been spent, which has been an extra stimulus to the US economic and there is still another half waiting to be spent. On Thursday morning, we* *tweeted [LINK] "Hmm! Overlooked China extra stimulus? US economy "quite good shape": #Blackstone Schwarzman $2.5T in excess savings during Covid, spent half, "an extra stimulus". China $2T in EXCESS savings to be spent on reopening. see 👇 @aguzin tweet last night. Thx @DavidWestin #OOTT."*

Oil: China's upcoming 12-day travel rush with national holidays

China's upcoming holidays

A reminder as we look ahead to China mobility data to end September is that there is a major 12-day travel rush coming that is expected from Sept 27 to Oct 8. This should lead to a big uptick in domestic air travel and a downtick in city-level road congestion. Yesterday, Xinhua (China state media) reported on the upcoming train travel rush. [LINK]. Xinhua wrote "*Friday marks the presale of train tickets for the first day of the Mid-Autumn Festival and National Day holidays, which extend from Sept. 29 to Oct. 6 this year. Ticket sales volumes reflect the travel demands of the people and the trends in economic and social development, said an official of China Railway, adding that the record-breaking ticket sales on Sept. 15 are indicative of the strong demand for travel during the upcoming Mid-Autumn Festival and National Day "golden week" holiday. China is expected to see 190 million railway trips during the upcoming 12-day travel rush, which will last from Sept. 27 to Oct. 8. The Mid-Autumn Festival, falling on Sept. 29 this year, is a traditional Chinese Festival usually marked by family reunions, watching the full moon and eating mooncakes.*"

Oil: Biggest WoW decline since Jan in China scheduled domestic flights

China scheduled domestic flights

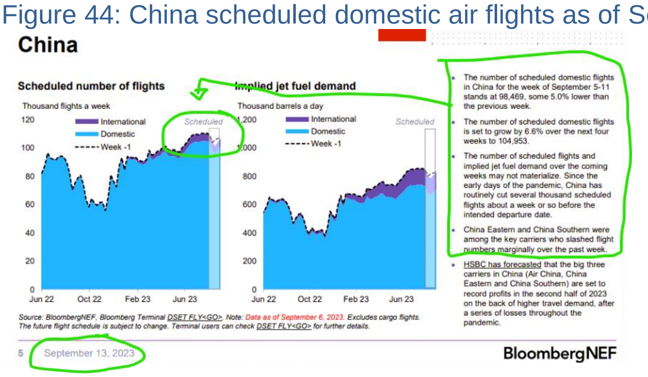
On Wednesday, we tweeted [LINK] "*China weakness. Biggest WoW decrease in China schedule domestic flights since Jan at -5.0% WoW to 98,469. And this was post Typhoon Saola on Aug 31. But expect big boost in air travel with 7-day National Day holidays end of Sept. Thx @BloombergNEF Claudio Lubis. #OOTT.*" (i) Early Wednesday morning, BloombergNEF posted its Aviation Indicators Weekly Sept 13. (ii) Biggest WoW drop in China scheduled domestic flights since the middle of January whereas would have expected much less of a drop given Typhoon Saola that impacted the prior week flights. This is also post summer holiday season so a decline was expected, but we suspect not this much of a decline. So the takeaway is negative or at least reinforcing the continued weak China business/economy. Now the 4-week look ahead is for much higher flights and we assume is because of two major holidays coming up. As noted above, there is a major 12-day travel rush expected with Mid-Autumn Festival and National Day holidays. (iii) Big decline in China domestic schedule flights. China scheduled domestic flights were -5.0% WoW to 98,469 flights for the Sept 5-11 week, compared to 103,637 flights for Aug 29-Sept 4 week, and 104,932 flights for Aug 22-28 week. This was the biggest WoW decline since Jan. Domestic flights have declined more than expected following the summer holidays. At 98,469 flights, it is back to end of June levels. And this week's drop to 98,469 flights is well below what was expected a week ago, when the then scheduled flights for next 4-weeks were 102,285 flights. Note the Sept 5-11 big drop shouldn't have been affected by Typhoon Saola unless there was a big after typhoon impact. Rather, it would have been expected to up WoW post Saola, which hit on Sept 1 as last week's report highlighted for the Aug 29-Sept 4 week how hundreds of flights were canceled within Hong Kong and Guangdong area at the end of Aug due to Saola. (iv) BloombergNEF keeps the warning that "the number of scheduled flights and implied jet fuel demand over the coming weeks may not materialize. Since the early days of the pandemic, China has routinely cut several thousand scheduled flights about a week or so before the departure date". BloombergNEF's updated scheduled domestic flights over the next four weeks is expected to increase by 6.6% to 104,953 flights. Note this is higher than what was in last week's report for the then scheduled domestic flights for the next four weeks to hit 102,285 flights. This makes sense given the two national holidays at the end of Sept/beginning of Oct: Mid-Autumn festival on Sept 29-Oct 1 and National Day holidays Sept 30-Oct 6. (v) Also note how it was clear that the outlook tipped negative right after the March 28 -Feb 3 week with lesser China recovery and the then worries about a new Covid peak to hit China at the end of June. The BloombergNEF March 28 report reported that the March 21-27 weeks flights were 89,513 flights and they forecast massive jump to 119,180 flights over the then next 4-weeks. Then the next week, March 28-Apr 3 week had made a huge WoW jump from 89,513 flights to 95,624 flights, but then the following week was down to 91,567 flights. And scheduled domestic flights didn't get back to March 21-27 until the end of June. Below is our running WoW changes from the prior BloombergNEF reports and the BloombergNEF charts from Sept 13 and March 28, and our listing of WoW changes from the prior BloombergNEF reports.

Figure 43: China scheduled domestic flights from BNEF Aviation Indicators Weekly reports

Sept 5-11: -5.0% WoW to 98,469 flights
Aug 29-Sep 4: -1.2% WoW to 103,637 flights
Aug 22-28: +0.2% WoW to 104,932 flights
Aug 15-21: -0.1% WoW to 104,716 flights
Aug 8-14: +0.8% WoW to 104,823
Aug 1-7: -0.4% WoW to 104,000
July 25-31: +0.4% WoW to 104,436
July 18-24: +1.3% WoW to 104,011
July 11-17: +2.8% WoW to 102,709
Jul 4-10: +2.4% WoW to 99,904
Jun 27-Jul 3: +1.9% WoW to 97,572
Jun 20-26: +3.4% WoW to 95,724
Jun 13-19: -0.9% WoW to 92,568
June 6-12: -1.2% WoW to 93,328
May 30-Jun 5: +0.2% WoW to 94,486
May 23-29: -0.1% WoW to 94,321
May 16-22: -2.8% WoW to 94,417
May 9-15: basically flat at 97,049
May 2-8: +2.8% WoW to 97,087
Apr 25-May 1: +0.04% to 94,471
Apr 18-24: +2.1% WoW to 94,138
Apr 11-17: +0.7% WoW to 92,231
Apr 3-10: -4.2% WoW to 91,567
Mar 28-apr 3: +6.8% WoW to 95,624
Mar 21-27: +1.5% WoW to 89,513
Mar 14-20: -0.6% WoW to 88,166
Mar 7-13 week: -0.8% WoW to 88,675
Feb 27-Mar 3 week: -2.6% WoW to 89,430
Feb 21-27 week: +0.0% WoW to 91,828
Feb 14-20 week -0.5% WoW to 91,561
Feb 7-13 week -0.7% WoW to 92,007
Jan 31- Feb 6 week +10.9% WoW
Jan 24-30 week -9.2% WoW to 83,500
Jan 17-23 week +7% WoW to 91,959
Jan 10-16 week +20% WoW to 85,910
Jan 3-9 week: -5.3% WoW to 71,642
Dec 27-Jan 2 week: -5.6% WoW to 75,652

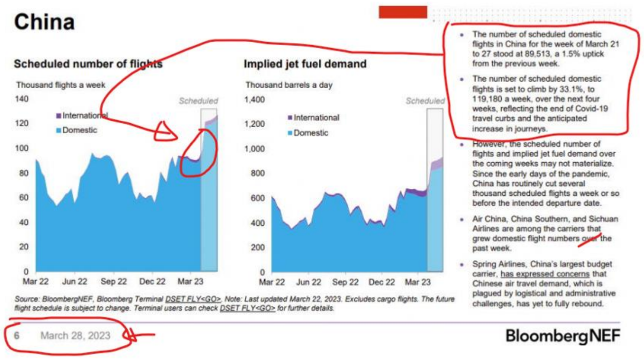
Source: BloombergNEF

Figure 44: China scheduled domestic air flights as of Sept 13



Source: BloombergNEF

Figure 45: China scheduled domestic air flights as of March 28



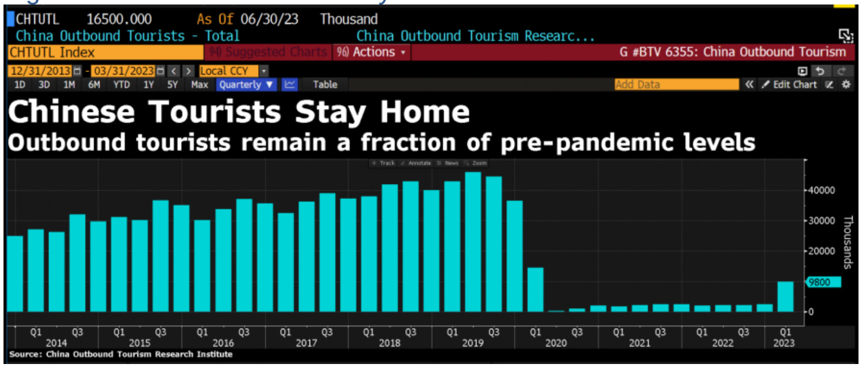
Source: BloombergNEF

Oil: Chinese outbound tourists remain a fraction of pre-pandemic levels

Chinese outbound tourists

On Thursday night, Bloomberg Daybreak Asia posted the below graph and we tweeted [LINK] "***IF*** *Chinese consumer ever gets confidence to start spending, there should be a good lift to economy/activity/#Oil in 2024. But until then, "Chinese tourists stay home. Outbound tourists remain a fraction of pre-pandemic levels". Graph just now from @SheryAhnNews @HaidiLun #OOTT."* No question that Chinese weren't allowed to travel but the reopening of foreign travel for the Chinese has been slow so far. And we believe a key part of that is the Chinese consumer is still not spending their pent-up savings until they see more certainty the economy has or is turning. Below is the Bloomberg graph from our tweet.

Figure 46: Chinese Tourists Stay Home



Source: Bloomberg

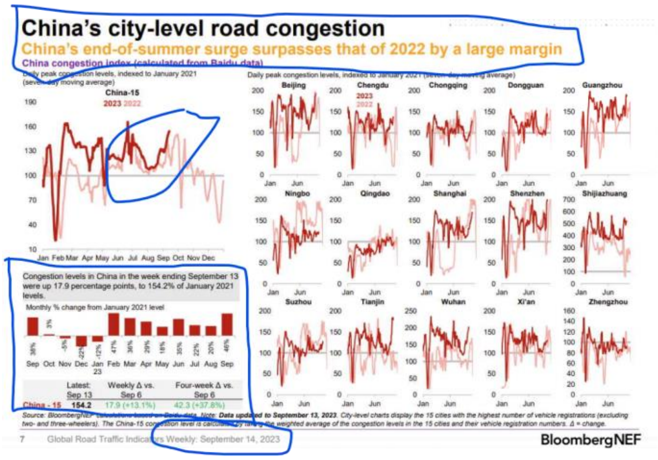
Oil: Baidu China city-level road congestion up again, but still a long way to go

China city-level traffic congestion

The headlines from the BloombergNEF Global Road Traffic Indicators Sept 14 report were "*China's end-of-summer surge surpasses that of 2022 by a large margin*" and "*September rebound remains below that of 2021".* (i) On Thursday, we tweeted [LINK] "*Still long way to go for China economy. 6th consecutive WoW increase in China Baidu city-level road congestion. But MTD Sept 2023 for Top 15 cities, in aggregate, is only 88% of Sept 2021. Shanghai down big YoY. Beijing basically flat YoY. Thx @BloombergNEF #OOTT."* (ii)

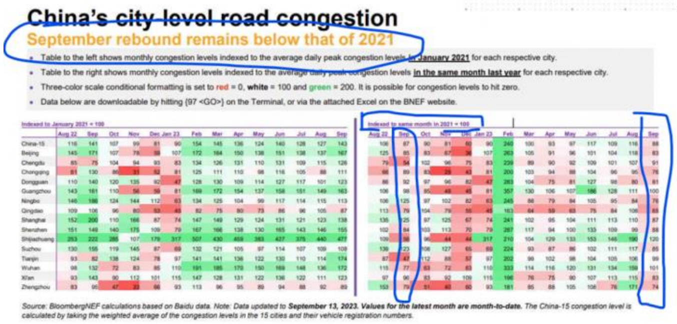
BloombergNEF posted its Global Road Traffic Indicators Sept 14 report, which includes the China Baidu city-level road congestion data for week ended Sept 13. (iii) For the week ended Sept 13, 2023, Baidu data for China city-level road congestion was +17.9% WoW to 154.2% of Jan 2021 levels. It's the 6th consecutive weekly increase so it supports the expected increase in city-level road congestion with summer over and people returning to cities and back to work. It was a big weekly increase and the headline on the surge surpassing 2022 by a large margin infers 2023 is way up vs 2022, but that is not the case. City-level road congestion is up YoY but, when the aggregate of the Top 15 cities is 88% of Sept 2021 levels vs Sept 2022 was 87% of Sept 2021 levels. (iv) The by city road congestion data for the top 15 cities in aggregate shows that China congestion is relatively unchanged YoY. BloombergNEF provided its road congestion by city numbers for Sept 2023 vs Sept 2022 and both being indexed vs the Sept 2021. Sept 2023 in aggregate is basically unchanged YoY and still 88% below Sept 2021. For the top 15 cities in aggregate, Sept 2023 was 88% of Sept 2021, whereas Sept 2022 was 87% of Sept 2021. Of the top 15 cities, 6 were up YoY and 9 were down YoY. It's a mix of cities being not much different, a few up big YoY and a few down big YoY. Up big YoY are Chengdu (91% vs 54%), Shijiazhuang (120% vs 56%), Tianjin (99% vs 47%), and Wuhan (101% vs 77%). Down big YoY are Ningbo (76% vs 125%), Shanghai (87% vs 125%), and Suzhou (85% vs 123%.). (v) Note the Baidu data is only for the first 13 days of Sept. Our tweet included the below graph and table from the BloombergNEF Global Road Traffic Indicators Sept 14 weekly report.

Figure 47: China city-level road congestion for the week ended Sept 13



Source: BloombergNEF

Figure 48: China city-level road congestion for the week ended Sept 13.



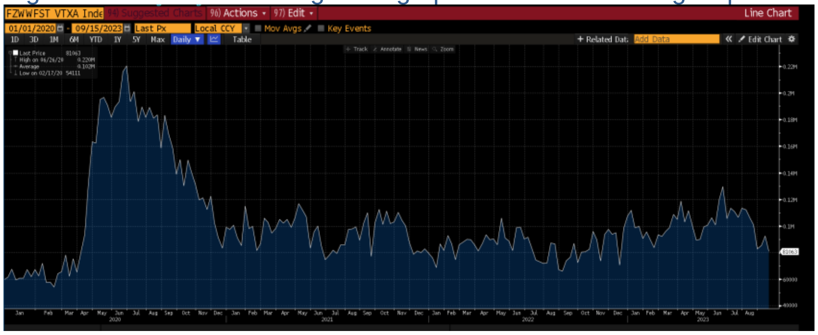
Source: BloombergNEF

Oil: Vortexa crude oil floating storage at Sept 15 was 81.06 mmb, -11.35 mmb WoW

Vortexa floating storage

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 Sept 9 at 9am MT. (i) There was a big upward revision to Sept 8, but still the last 4 weeks have seen a floating storage average 85 mmb,, which is back to Nov 2022 levels. And the average of 85 mmb for the last four weeks is down a whopping 45 mmb vs the recent June 23, 2023 peak of 129.69 mmb. (ii) As of 9am MT yesterday, Bloomberg posted Vortexa crude oil floating storage estimate for Sept 15 at 81.06 mmb, which is 11,35 mmb WoW vs upwardly revised Sept 8 of 92.41 mmb. Note Sept 8 was revised +12.07 mmb vs 80.34 mmb originally posted at 9am on Sept 8. (iii) Revisions. Note that other than the big +12.07 mmb upward revision to Sept 8, all other revisions were less than +/- 2 mmb. The revisions from the estimates posted yesterday at 9am MT vs the estimates posted on Bloomberg at 9am MT on Sept 9 are as follows: Sept 8 revised +12.07 mmb. Sept 1 revised +0.85mmb Aug 25 revised -1.43 mmb. Aug 18 revised +0.42 mmb. Aug 11 revised +0.51 mmb. Aug 4 revised +1.93 mmb. July 28 revised +0.68 mmb. (iv) There is a wide range of floating storage estimates for the past seven weeks, but a simple average for the past seven weeks is 94.41 mmb vs last week's then seven-week average of 96.86 mmb. The drop is due to adding a low 81.06 mmb for Sept 15 to the 7-week average. (v) Also remember Vortexa revises these weekly storage estimates on a regular basis. For example, when most report on the Vortexa data on Monday morning, they will be reporting on different estimates. We do not track the revisions through the week. Rather we try to compare the first posted storage estimates on a consistent week over week timing comparison. Normally we download the Vortexa data as of Saturday mornings around 9am MT. (vi) Note the below graph now goes back to Jan 1, 2020 and not just three years as floating storage in Apr 2020 had started to reflect the Covid impact. (vii) Sept 15 estimate of 81.06 mmb is -139.25 mmb vs the Covid peak of 220.31 mmb on June 26, 2020. (viii) Sept 15 estimate of 81.06 mmb is +15.45 mmb vs pre-Covid Feb 28, 2020 of 65.61 mmb. (ix) Sept 15 estimate of 81.06 mmb is +4.52 mmb YoY vs Sept 16, 2022 of 76.54 mmb. (x) Below are the last several weeks of estimates posted on Bloomberg as of 9am MT Sept 16, 9am MT Sept 9, and 9am MT Sept 2.

Figure 49: Vortexa Floating Storage posted on Bloomberg Sept 16 at 9am MT



Source: Bloomberg, Vortexa

Figure 50: Vortexa Estimates Posted 9am MT on Sept 16, Sept 9 and Sept 2

Posted Sept 16, 9am MT

FZWFST VTXA Inde — 01/01/2020 - 09/15/2023

	Date	FZWFST VT... Last Px
Fr	09/15/2023	81063
Fr	09/08/2023	92408
Fr	09/01/2023	85382
Fr	08/25/2023	82930
Fr	08/18/2023	100.765k
Fr	08/11/2023	106.072k
Fr	08/04/2023	112.234k
Fr	07/28/2023	113.251k
Fr	07/21/2023	106.64k
Fr	07/14/2023	110.853k
Fr	07/07/2023	113.483k

Sept 9, 9am MT

FZWFST VTXA Inde — 01/01/2020 - 09/08/2023

	Date	FZWFST VT... Last Px
Fr	09/08/2023	80338
Fr	09/01/2023	84534
Fr	08/25/2023	84359
Fr	08/18/2023	100.352k
Fr	08/11/2023	105.557k
Fr	08/04/2023	110.301k
Fr	07/28/2023	112.572k
Fr	07/21/2023	105.787k
Fr	07/14/2023	111.475k
Fr	07/07/2023	114.175k
Fr	06/30/2023	106.65k

Sept 2, 9am MT

FZWFST VTXA Inde — 01/01/2020 - 09/01/2023

	Date	FZWFST VT... Last Px
Fr	09/01/2023	82150
Fr	08/25/2023	84056
Fr	08/18/2023	105.039k
Fr	08/11/2023	108.074k
Fr	08/04/2023	113.596k
Fr	07/28/2023	114.702k
Fr	07/21/2023	106.866k
Fr	07/14/2023	110.974k
Fr	07/07/2023	113.323k
Fr	06/30/2023	106.441k
Fr	06/23/2023	131.033k

Source: Bloomberg, Vortexa

Source: Bloomberg, Vortexa

Oil: Vortexa crude oil floating storage WoW changes by regions

Vortexa floating storage by region

Bloomberg also posts the Vortexa crude oil floating storage in the key regions, but not all regions of the world. The regions covered are Asia, Europe, Middle East, West Africa and US Gulf Coast. We then back into the "Other" or rest of world. (i) As noted above, Sept 8, in total, was revised +12.07 mmb. The main revisions in a region vs the originally posted (as of 9am Sept 9) floating oil storage for Sept 8 were Asia revised +10.82 mmb and Other revised +1.36 mmb. (ii) Total floating storage was -11.35 mmb WoW. The largest WoW changes were Asia -9.55 mmb, Other -5.44 mmb and Europe +2.53 mmb. (iii) Sept 15 of 81.06 mmb is down a whopping 48.63 mmb vs the recent June 23, 2023 peak of 129.69 mmb. The major changes by region vs the recent June 23 peak are Asia -28.11 mmb, Other -22.08 mmb and West Africa +5.88 mmb. (iv) Below is the table we created of the WoW changes by region posted on Bloomberg at of 9am MT yesterday. Our table also includes the "Original Posted" regional data for Sept 8 that was posted on Bloomberg at 9am MT on Sept 9.

Figure 51: Vortexa crude oil floating by region

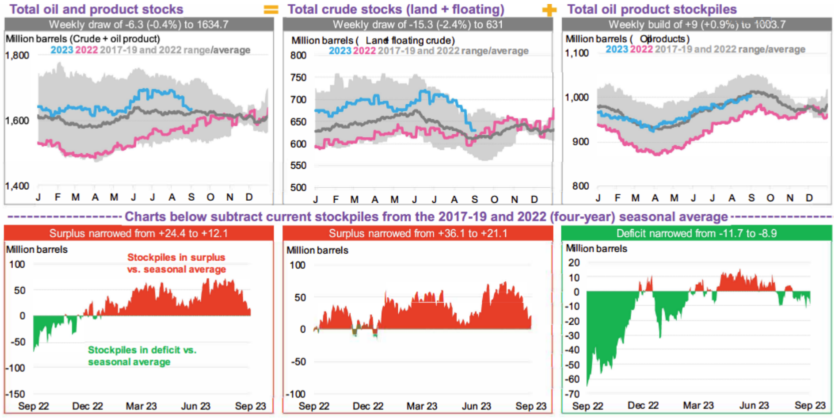
Vortexa Crude Oil Floating Storage by Region (mmb)				Original Posted	Recent Peak	
Region	Sept 15/23	Sept 8/23	WoW	Sept 8/23	Jun 23/23	Sept 15 vs Jun 23
Asia	45.20	54.75	-9.55	43.93	73.31	-28.11
Europe	5.97	3.44	2.53	3.53	6.52	-0.55
Middle East	4.24	3.10	1.14	3.32	7.00	-2.76
West Africa	9.84	7.93	1.91	8.08	3.96	5.88
US Gulf Coast	0.73	2.67	-1.94	2.32	1.74	-1.01
Other	15.08	20.52	-5.44	19.16	37.16	-22.08
Global Total	81.06	92.41	-11.35	80.34	129.69	-48.63
Vortexa crude oil floating storage posted on Bloomberg 9am MT on Sept 16						
Source: Vortexa, Bloomberg						

Source: Bloomberg, Vortexa

Oil: BNEF – global oil and product stocks surplus narrowed WoW to 12.1 mmb

Please note that the BloombergNEF global oil and products stocks estimate are for the week ending Sept 1, which is a week earlier than the EIA US oil inventory data that is for the week ending Sept 8. So, the BloombergNEF global oil stocks data won't include the US crude oil inventory draw of -8.30 mmb for the week ending September 8. 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, and other times using a five-year average 2016-2019 + 2022. In both cases they do not include 2020 and 2021 in the averages. (ii) The global stockpile for crude oil and products surplus narrowed from 24.4 mmb to 12.1 mmb for the week ending Sept 1. The crude oil stockpile deficit widened to 25.0 mmb against the five-year average (2016-2019 + 2022). (iii) Total crude inventories (incl. floating) decreased by 2.4 % WoW to 631 mmb, narrowing the surplus from +36.1 mmb to +21.1 mmb against the four-year average (2017-2019 + 2022). (iv) Land crude oil inventories decreased by 2.8% WoW to 546.1 mmb, widening the deficit to -25 mmb against the five-year average (2016-2019 + 2022). (v) The gas, oil, and middle distillate stocks increased by -1.0% WoW to 152.2 mmb/d, with the deficit against the four-year average widening to -23.6 mmb. Jet fuel consumption by international departures for the week of September 18 is set to decrease by -81,100 b/d WoW, while consumption by domestic passenger departures is forecast to decrease by -67,900 b/d WoW. Below is a snapshot of aggregate global stockpiles.

Figure 52: Aggregate Global Oil and Product Stockpiles



Source: BloombergNEF

Oil: Bloomberg Oil Demand Monitor "Deficit Unrolls as Stockpiles are Depleted"

Bloomberg oil demand monitor

We recommend reading the Bloomberg Terminal Oil Demand Monitor for a good recap of key oil demand indicators around the world. Major themes in this month's report include resilient oil demand and growth of air travel paired with OPEC+ production cuts. The IEA pointed out that global inventories fell by over 75 mmb in August, and even OPEC acknowledged in their own forecasts that the world may be short 3 mmb by Q4 2023. With the summer holidays at an end in North America and Europe, the seasonal decline in demand for air travel and jet fuel is underway, but on a yearly basis, airline passenger throughput is either meeting or beating pre-pandemic levels. China's economy is showing mixed signs, causing uncertainty about the country's fuel usage for the remainder of 2023. China's refiners increased +0.6% MoM and saw a rebound in air travel during July that matched a monthly high not reached since 2006, with over 62 million passengers. Traffic levels in China have also swelled in recent months. The latest figures imply that US jet fuel demand fell MoM and dipped just below 2019 levels but continues to remain at a seasonal post-pandemic high. Commercial airline flights at the start of this week were ~27% higher YoY, and ~6.2% above 2019 levels (pre-Covid), according to a 7-day average tracked by Flightradar24. As of Sep 11, road congestion was above pre-pandemic levels in 6 of the 13 major global cities tracked by TomTom mobility data. China's traffic continues to remain strong in major cities following the huge initial recovery seen after the country's zero-Covid policy was lifted. Refinery utilization in the US as of Sep 8 was up +0.3% MoM to 93.7% and also up +2.2% YoY. Our Supplemental Documents package includes the Bloomberg Oil Demand Monitor.

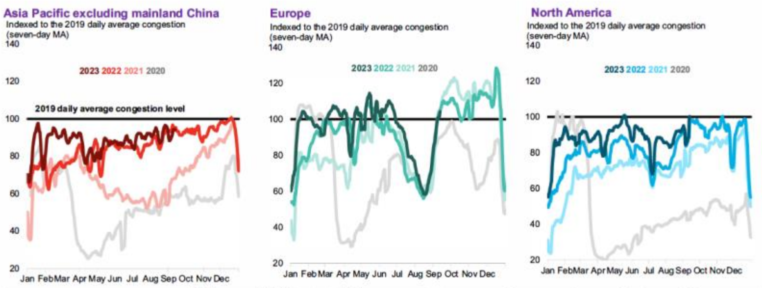
Oil: TomTom mobility indicators: NA increases, along with EU and Asia Pacific

Global road traffic indicators

On Thursday, BloombergNEF posted its Global Road Traffic Indicators Weekly report, which recaps traffic indicators in all the major economic regions of the world i.e. mobility indicators like TomTom. For the week ending September 12, North American traffic levels increased by +18.7% WoW, while Europe and Asia Pacific (ex-China) traffic level increased +11.9% and +5.5% WoW, respectively. Traffic levels in Europe, North America, and Asia Pacific (ex-China) traffic are +4.2%, +0.2% and -5.9% compared to the 2019 average and are +0.8%,

+1.8% and +3.4% YoY, respectively. Traffic in Europe had been steadily increasing in June, but dropped off in July significantly. NA and Asia Pacific (ex-China) have been steadily increasing over the last few weeks, with a sizeable recovery to July levels in Europe. It its worth noting that TomTom data on congestion levels now reflects daily average congestion compared to peak congestion previously. The change in methodology took effect from January 19.

Figure 53: Mobility Indicators



	Week-on-week (2019 average = 100)				Year-on-year (same week last year = 100)			
	Latest week: Sep 12	Δ vs. Sep 5	4-week MA	Δ vs. Sep 5	Latest week: Sep 12	Δ vs. Sep 5	4-week MA	Δ vs. Sep 5
Asia Pacific ex-mainland China	94.1	+4.9 (5.5%)	92.9	+1.5 (1.6%)	98.7	+3.3 (3.4%)	99.3	-1.4 (-1.4%)
Europe	104.2	+11.1 (11.9%)	83.9	+11.4 (15.8%)	98.6	+0.8 (0.8%)	98.4	-1.2 (-1.2%)
North America	100.2	+15.8 (18.7%)	92.4	+3.0 (3.3%)	102.3	+1.8 (1.8%)	102.0	-1.7 (-1.6%)

Source: BloombergNEF calculations based on TomTom data. Note: ***Data updated to September 12, 2023****. Δ = change. MA = moving average.*

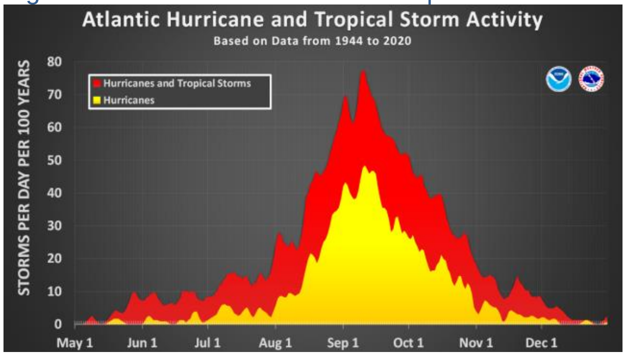
Source: BloombergNEF

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

Peak hurricane season is mid-Aug to mid-Oct

Sub tropical storm Lee hit Nova Scotia and New Brunswick in the last 24 hours and, as of our 7am MT news cut off, there looks to still be >100,000 without power and some flooding. But the comments from local officials seems to be they dodged a big bullet as they were worried about a much bigger hit. Lee is also a reminder that this is still the peak of Atlantic hurricane season. So far this season, there have been a lot hurricanes but, to the most part, they have stayed in the Atlantic Ocean and not having huge impact in the Gulf of Mexico and oil, natural gas and LNG production and infrastructure, or even along the Atlantic Coast. No two hurricane seasons are identical and there will always be items that make a hurricane season not the norm. But, our Aug 6, 2023 Energy Tidbits memo reminded that 90% of Atlantic hurricanes come after Aug 1, and the peak is normally mid-Sept. We reminded that July and early Aug may well the hottest time of the year, but 90% of Atlantic hurricanes typically come after Aug 1. So August normally marks the start of the ramp up of hurricane season with high hurricane activity typically from mid-Aug thru mid-Oct with a normal peak in mid-Sept. Below is NOAA's graph showing the distribution of Atlantic hurricanes and tropical storms based on data from 1944 to 2020. [LINK]

Figure 54: Atlantic hurricane and tropical storm activity by month



Source: NOAA

Oil & Natural Gas: Alberta wildfires mostly flat, BC wildfires down

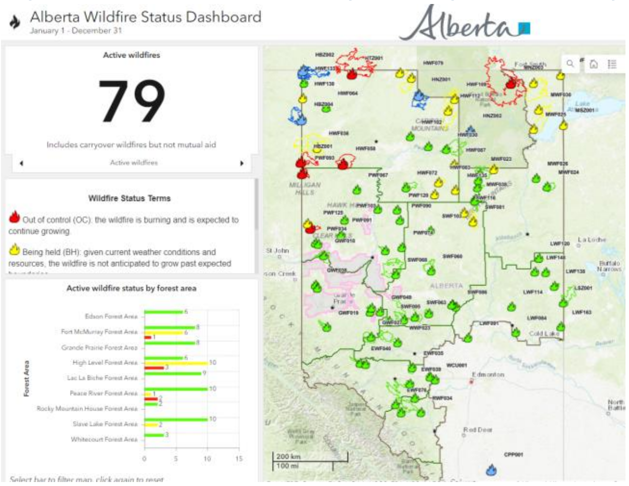
BC and Alberta Wildfires

Alberta wildfires were basically flat but BC wildfires were down this week. As of 7pm MT last night, there were 79 Alberta wildfires including 3 Out of Control, which compares to a week ago at 81 Alberta wildfires including 2 Out of Control. In BC, there was a small decline in number of wildfires but it doesn't seem like it with all the people being forced out of their homes. As of 7pm MT last night, there were 398 BC wildfires including 151 Out of Control, which compares to a week ago at 413 BC wildfires including 183 Out of Control.

Links to Alberta and BC wildfire status maps

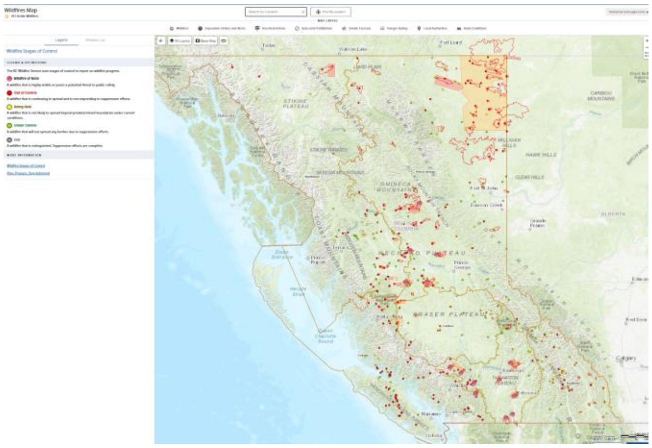
We recommend bookmarking the starting points for wildfire information are the Alberta Wildfire Status interactive map [LINK] and the BC Active Wildfires interactive map [LINK]. Please note these links have changed over the past few years. Both maps are interactive and open up for the information on any particular fire. Here are the wildfire maps as of 7pm MT last night.

Figure 55: Alberta wildfire map as of 7pm MT on Sept 16



Source: Alberta Wildfire Status Dashboard

Figure 56: BC wildfire map as of 7pm MT on Sept 16



Source: BC Wildfire Service

Energy Transition: IEA peak demand for oil, natural gas & coal before 2030

Peak demand for fossil fuels

On Tuesday (local time), the Financial Times front page story was "*World at beginning of end of fossil fuel era, says IEA.*" The FT posted an op-ed by IEA Executive Director Birol titled "*Peak fossil fuel demand will happen this decade*" [LINK]. (i) The difference to other calls is that Birol is calling for peak demand for oil, coal and natural gas. Birol wrote "*There's a taboo in the traditional energy sector against suggesting that demand for the three fossil fuels — oil, gas and coal — could go into permanent decline. Despite recurring talk of peak oil and peak coal over the years, both fuels are hitting all-time highs, making it easier to push back against any assertions that they could soon be on the wane. But according to new projections from the International Energy Agency, this age of seemingly relentless growth is set to come to an end this decade, bringing with it significant implications for the global energy sector and the fight against climate change. Every year, the IEA's World Energy Outlook maps out potential pathways the global energy system could take in the coming decades to help inform decision-making. This year's report, to be released next month, shows the world is on the cusp of a historic turning point. Based only on today's policy settings by governments worldwide — even without any new climate policies — demand for each of the three fossil fuels is set to hit a peak in the coming years. This is the first time that a peak in demand is visible for each fuel this decade — earlier than many people anticipated.*" (ii) We don't think anyone will disagree that the world is on track to have demand for each of the fossil fuels peak sometime. But it comes down to when. Not many would disagree with peak coal demand by 2030. The debate on peak oil demand is generally around 2030 with oil bulls more like mid 2030s, and oil bears just before 2030. But not many would expect peak natural gas demand before 2030. (iii) Birol doesn't really emphasize it, but we suspect a significant factor in the new IEA forecast for the timing of peak fossil fuels will be a very large assumed contribution from energy conservation and energy efficiency. (iv) One thing missing from Birol's op-ed is any concern on what this will do to the cost of energy ie. is the world looking at an era that energy will be higher forever? Birol doesn't say he sees these clean alternatives are able to provide reliable, available and affordable energy. (v) Birol gave himself the out to say he warned that there can still be spikes. But he is clearly inferring it isn't a higher price energy environment. Birol says "The declines in demand also won't be linear. Although fossil fuels are set to hit their peaks this decade in structural terms, there can still be spikes, dips and plateaus on the way down." (vi) And of course, Birol says there will still be a need for investment in oil and gas supply even in the face of peak oil and gas demand. Birol says "*And even as demand for fossil fuels falls, energy security challenges will remain as suppliers adjust to the changes. The peaks in demand we see based on today's policy settings don't remove the need for investment in oil and gas supply, as the natural declines from existing fields can be very steep. At the same time, they undercut the calls from some quarters to increase spending and underline the economic and financial risks of major new oil and gas projects — on top of their glaring risks for the climate*." Our Supplemental Documents package includes the Birol op-ed.

OPEC: "*thinking on fossil fuels is ideologically driven, rather than fact-based*"
It really is a shame for people that there can't be a coming together of the best minds as to how to tackle reducing emissions. Two days after the IEA Birol blog, OPEC wrote "*On the International Energy Agency's recent Op-Ed published on 12 September 2023, asserting that fossil fuel demand would peak before 2030, OPEC notes that consistent and data-based forecasts do not support this assertion*." [LINK] It is a short release and an easy read. OPEC presents a simple case – the IEA blog on the peaking of fossil fuels demand is not fact based. OPEC says "*This thinking on fossil fuels is ideologically driven, rather than fact-based*", describes the policies as "*experimental net zero policies",* and describes them as "*predictions*". And OPEC is concerned that as opposed to prior predictions that didn't come true for peak oil demand, this time it's dangerous because there is the call to stop investing in oil and gas. OPEC writes "t*he difference today, and what makes such predictions so dangerous, is that they are often accompanied by calls to stop investing in new oil and gas projects. "Such narratives only set the global energy system up to fail spectacularly. It would lead to energy chaos on a potentially unprecedented scale, with dire consequences for economies and billions of people across the world," says OPEC Secretary General, HE Haitham Al Ghais."* Our Supplemental Documents package includes the OPEC release.

Energy Transition: EU knows wind industry faces current "unique mix of challenges"

EU to help wind industry

At least the EU realizes that the offshore wind industry isn't working right now and they have to do something to get it back going. The questions are what will they do, when will they do it, will it be enough to get the offshore wind industry back at it, and when will the offshore industry get back at it? The EU did not give any timing for this support package nor did they specifically say the reality that these projects are being delayed or not proceeding because there aren't the economic returns to the wind developers. But, in her State of the Union address on Wednesday [LINK], President von der Leyen said "*Our wind industry, for instance, is a European success story. But it is currently facing a unique mix of challenges. This is why we will put forward a European Wind Power package – working closely with industry and Member States. We will fast-track permitting even more. We will improve the auction systems across the EU. We will focus on skills, access to finance and stable supply chains. But this is broader than one sector: From wind to steel, from batteries to electric vehicles, our ambition is crystal clear: The future of our clean tech industry has to be made in Europe."*

Orsted CEO gives his suggestions for the European Wind Power package

One of the most vocal wind developers on the need for better terms for offshore wind developers in the EU and UIS is Orsted CEO Mads Nipper. Post the EU State of the Union featuring offshore wind, Nippers made sure he gave his input in to the to be developed European Wind Power package via a Linkedin post [LINK]. Nipper started with the challenge "*During the first six months of this year, 11.8 GW of offshore wind capacity was awarded through tenders in Europe. And yet, the European Wind Industry is not in a good state: Capital and raw material costs are high, which challenges both the supply chain and project realization. We in the industry should continue taking responsibility to develop the sector in a direction with higher financial viability. Investing in the supply chain and long-term procurement contracts are part of the solution."* But then gave his suggestions to the EU. "*I firmly believe that we need to have a 360 degree assessment of how auctions are designed: First, before the actual competitive element of the bid, strict minimum criteria should be put in place to ensure project delivery and a level playing field. Such criteria could address societal benefits such as human rights requirements, sustainability and environmental performance. Second, in the design of the actual bid, non-price factors should play a larger role than today. Competing only on price risks leading to a race to the bottom. Third, once a site has been awarded, more emphasis needs to be put on project delivery. We should ensure that when seabed is allocated, projects are delivered within a reasonable time frame. Lastly, given the high uncertainty surrounding both the cost side and future electricity prices, revenue stabilization in the form of two-way CfDs will have to play a larger role in coming years."* Our Supplemental Documents package includes the Nipper LInkedin post.

Energy Transition: India to add more coal than planned to supply electricity for growth

India to add even more coal

India is a good reminder that the energy transition isn't the priority to many parts of the world as it is to the wealthy western leaders. Yesterday, we tweeted [LINK] *"India says need more #Coal power than under construction and planned. "We will make available the electricity required for our growth and we are not going to default on that". Priority is reliable, affordable & available power, which means more coal. #EnergyTransition #OOTT."* You have to give India credit as they don't make any secrets about their plans. Last year, the western leaders were trying to get India to not take Russia crude oil and India was clear they were going to get oil from whoever gave them the best deal. On Friday, India's Power Minister RK Singh spoke at an industry conference and made a clear statement that they are going to add even more coal power than planned. We have to believe that India's response to any western pressure to not add more coal than already planned will be much like their response to the cut off Russia oil request – India will do what is best for them economic growth and that is reliable, available and affordable electricity ie. coal. The Economic Times (India) reported [LINK] "*India may need to add 25-30 GW of thermal power capacity over the 49 GW already planned or under construction to meet future requirements, power minister RK Singh said on Friday. The country's electricity demand is rising and will continue to grow, he said. "We will make available the electricity required for our growth and we are not going to default on that," Singh added."* Our Supplemental Documents package includes the Economic Times report.

Energy Transition: A new strong bp CEO has to impact energy transition plan

Bp CEO search

One of the big oil market news this week was the surprise departure of bp CEO Bernard Looney and that bp has started a CEO search that will include external candidates. We find it hard to believe that a new strong CEO won't want to put his/her personal stamp on bp's energy transition plan. The energy transition plan is the most important strategic action that will shape bp's future. But you never know, maybe they will find a new CEO that is more focused on executing the bp energy transition but that is hard to believe. What isn't clear is what way he/she will want to change it. bp flip flopped on the energy transition in the last year and how bp approaches the energy transition is the most important strategic direction for the company as it shapes their future. For those that missed it, the bp release on Looney's conduct that led to his resignation is found at [LINK]

bp CEO that an orderly transition needs oil and gas investment

Our Aug 27, 2023 Energy Tidbits highlighted now former bp CEO Looney's energy transition plan. Here is what we wrote "*Yesterday, bp CEO Bernard Looney spoke on a panel at B20 Summit India and his message was simple – if it isn't a just energy transition, there won't be a transition. Fortunately, we were able to find a YouTube clip of the panel discussion. Looney's comments weren't a surprise as it was all linked to bp's it's "And Not Or" with respect to the energy transition. Earlier this morning, we tweeted [LINK] "See 12:25 min 👇bp CEO Looney on reality to have a rapid AND orderly transition. "if it's not just, there won't be a transition" "gas prices went up 7-fold" "countries to fuel their economy turned to the next cheapest alternative, which is what? Coal" "typically in an OECD economy, between 10-12% of the GDP is spent on energy. Last year, that numbers to 20%" "must invest like crazy .... in accelerating the energy transition ... And Not Or, we must at the same time continue to invest responsibly in today's energy system which is a hydrocarbon system" #Oil #NatGas will be needed for a long time. #OOTT[LINK]." If natural gas is too expensive, countries turn to coal especially if energy costs are up to 20% of GDP. Below is the transcript we created of Looney's comments.*

bp CEO Looney on the energy transition

Our Aug 27, 2023 Energy Tidbits memo included the following SAF Group created transcript of comments by bp CEO Bernard Looney on a panel hosted by Lynn Forester (CEO of El Rothschild) at B20 Summit India 2023 on Aug 26, 2023. [LINK]. Items in "*italics*" are SAF Group created transcript. At 12:25 min mark, Looney ".... *A rapid and an orderly transition, what does that mean? I think in many ways the case for a rapid transition is relatively straightforward. Emissions have risen every year since Paris with the exception of the pandemic. And then during the pandemic, emissions fell by 5.6% when the world essentially ground to a halt. So that is not a strategy that we wish to employ. But the reality is that emissions are continuing to rise and, therefore, with each day that that is happening, the urgency around the pace and the speed of the transition simply grows. So in many ways the case for a rapid transition is relatively straightforward. The case for the orderly transition is something I think we need to spend a little bit more time talking about. Now, an orderly transition is one where today's energy system needs continued investment. And today's energy system, some people don't like this fact but it is a fact, it's 55% oil and gas. It was 57% in 2012. And it needs continued investment. Why? We need to* *make sure that we continue to match supply with demand. Why is this important of today's energy system? It's important because of the following. Last year, the world lost 3% of the world's gas supply. Demand didn't change because nothing was done to change demand but supply was lost. 3%. Prices went up seven-fold. Not 7%, not 70%, 700%. Now what happened when gas prices rose seven-fold? Two things happened. The first is that countries to fuel their economy turned to the next cheapest alternative, which is what? Coal. Coal usage reached a record. German coal consumption went up 25%. South Korea's coal consumption went up. Japan's coal consumption went up. I think coal consumption went up here* [India], *the same in China. That's not what we're trying to achieve with the transition. So that's the first thing that happens when we don't match supply with demand. And the second thing that happens is that typically in an OECD economy, between 10 and 12% of the GDP is spent on energy. Last year, that number went to 20%. 20% of GDP being spent on energy, that is not sustainable economically. Nor does it leave any room to invest the necessary dollars into the transition. So we need a rapid transition but we also need to make sure the transition is orderly, that the transition is just. If it's not just, there won't be a transition. Now how do we do that? Well we do that, in our language at bp, in what we call a very simple strategy description which is And Not Or. We must invest like crazy you would argue in accelerating the energy transition, period. And, Not Or, we must at the same time continue to invest responsibly in today's energy system which is a hydrocarbon system. It is an And strategy, Not an Or strategy.* [Note Looney then goes on to speak on bp is doing on its And Not Or actions in India] *Lynn, that's what we' re trying to do. That's why this conversation is so important because if ever we focus on just one aspect of the equation, I worry that we won't achieve the goal we all want."*

Capital Markets: The Warren Buffett impact on Japanese stocks since April 12

Warren Buffett effect

No one can specially prove that the recent strength in Japanese stocks is primarily the result of Warren Buffett's April 12 CNBC interview but it just so happens that Japanese stock have been on a big run exactly timed to his bullish Japanese trading house comments in that interview. On Wednesday night, we saw a good graph on Japan's Topix on Bloomberg TV and we tweeted [LINK] "*The @WarrenBuffett effect has been great for Japan stocks. Apr 11. Topix closed 1,992, last time below 2,000. Apr 12. His bullish Japan trading stocks interview with @BeckyQuick @SquawkCNBC. See 👇@business graph Topix breaks out! #OOTT."* Our tweet included the below Bloomberg graph titled "*The Land of the Rising…. Stock Market. Japan's Topix Index breaks out*." Our tweet noted that Buffett's CNBC interview was on April 12, and the Topix closed at 1991.85 on April 11, which was the last time the Topix was below 2,000. We have been tweeting and writing on this Warren Buffett impact on Japanese stocks for the past four months – give him credit or not, it's been clear that Japanese stocks have been on a big run since his interview. Note that we circled April 11, when the Topix closed at 1991.85 on the below BloombergTV graph.

Figure 57: Japan's Topix Index breaks out

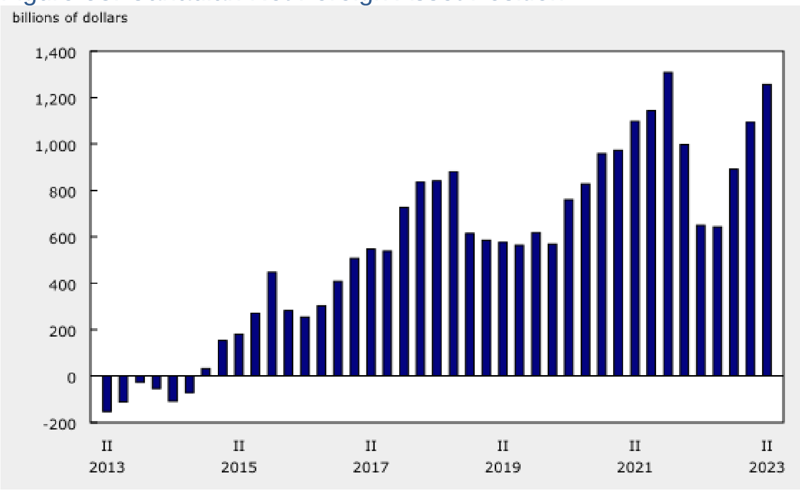
Source: Bloomberg

Capital Markets: Canadian international investment position increased in Q2/23

Cdn net foreign asset position

Statistics Canada released Canada's international investment position in securities for the second quarter of 2023 on Sep 12 [LINK]. Canada's foreign asset position continued its upward trend, reaching $1.256bn at the end of the quarter, a $162.2bn increase from the previous quarter as growth in international assets continues to exceed international liabilities. This was the third consecutive quarter of gains that was led by significant market price gains in the US equity market. Overall market prices led to a $241.3bn increase in Canada's net foreign asset position in Q2/23, this was underpinned by an 8.3% increase in the US stock market and a 1.9% increase in European markets, the Canadian market was mostly unchanged in Q2/23. Canada's international assets were up by $216.5bn (+2.7%) to $7.975tn at the end of the Q2/23, primarily due to higher equity prices. The downward revaluation attributable to the appreciation of the Canadian dollar. Liabilities were also up by $54.3bn to $6.719tn predominantly through an uptick in foreign investment in Canadian debt securities. Concerning revaluation, the Stats Canada release noted "*The revaluation effect from fluctuations in exchange rates (-$91.5 billion) lowered the value of assets more than liabilities, moderating the overall increase in Canada's net foreign asset position. Over the second quarter, the Canadian dollar appreciated against the US dollar (+2.2%), the euro (+1.8%) and the Japanese yen (+11.0%), while it depreciated slightly against the UK pound sterling (-0.5%). At the end of the quarter, 96.4% of Canada's international assets were denominated in foreign currencies compared with 40.0% of its international liabilities*." Canada's gross external debt increased by $50.3bn at the end of the second quarter to $3.654tn with the growth largely in short term instruments (maturity of <1 year). The financial sector was responsible for the bulk of the increases, mainly from deposit taking corporations. Gross external debt as a percentage of GDP increased 129.3% at the end of Q2/23, an increase form 128.4% in the previous quarter. The financial sector held the highest proportion of Canada's gross external debt at 62.7%, followed by the government sector at 17.3%.

Figure 58: Canadian Net Foreign Asset Position



Source: Statistics Canada

Capital Markets: Will Canada be short 3.5mm, 4.0mm or more housing units by 2030?

Canada short housing units

Canada's housing crisis was elevated in the Cdn press on Thursday with PM Trudeau's speech that included his measure to help build more rental housing with "*the federal government: • will incentivize the construction of much-needed rental homes by introducing legislation to remove the Goods and Services Tax (GST) on the construction of new apartment buildings for renters."* In the reporting around this issue, the common reporting was on how the CMHC (Canada Mortgage and Housing Corporation) forecast a supply gap of 3.45 million housing units by 2030. This estimate came from the CMHC Sept 13 report "*Housing shortages in Canada. Updating how much housing we need by 2030*". We had reviewed the short report when it came out so we were concerned that everyone was using the CMHC 3.45 million number as the shortfall of housing units. It is their baseline forecast but that forecast and their high case forecast both look low when you look at their key assumptions. Any analyst will tell you a forecast is only as good as its assumptions. So we tweeted [LINK] *"Canada housing shortage. Don't have to be a housing analyst or demographer to read CHMC assumptions & think high case 4.01 mm short might be better than base case 3.45 mm short. Base and even high case are way less than 2022 immigrant & non-permanent resident levels."* The CMHC base forecast assumes lower immigration numbers after 2025 because the Govt of Canada doesn't have formal immigration targets post 2025. [Note the current immigration targets are higher in 2024 and again higher in 2025] The CMHC wrote "*The government has not yet determined the long-term level of immigration until 2030. For this reason, Statistics Canada and Oxford Economics project a relatively sharp decline in growth in the overall population in the years up to 2030. As a result, in this year's analysis, Canada's projected 2030 population of around 43 million people isn't significantly higher than last year's projection."* And even in their high case of 4.01 mm housing units short, they use 600,000 to 700,000 immigrants per year as the number. Our concern on the high case is that it seems to infer that they aren't including temporary or non-permanent residents as the Govt of Canada immigration targets are for permanent immigrants ie. excluding temporary or non-permanent residents. In 2022, Canada had

437,180 immigrants and 607,782 non permanent residents. On March 22, 2023, Statistics Canada wrote ""*For the year 2022, Canada welcomed 437,180 immigrants and saw a net increase of the number of non-permanent residents estimated at 607,782. Both of these numbers represent the highest levels on record, reflecting higher immigration targets and a record-breaking year for the processing of immigration applications at Immigration, Refugees and Citizenship Canada. The estimated gains in non-permanent residents recorded for 2022 are the highest for a single calendar year for which comparable data are available. Furthermore, it is the first time these gains are superior to those from immigrants over the same period*." Our Supplemental Documents package includes govt of Canada release on the Trudeau speech and excerpts from the CMHC forecast.

Figure 59: Supply gaps by scenario, 2030, millions of housing units

Table 5: Supply gaps by scenario, 2030, millions of housing units

	Baseline	Low-economic-growth	High-population-growth
Ontario	1.48	1.31	1.65
Quebec	0.86	0.77	1.09
British Columbia	0.61	0.55	0.69
Alberta	0.13	0.13	0.17
Manitoba	0.17	0.15	0.18
Saskatchewan	0.06	0.06	0.08
Nova Scotia	0.07	0.06	0.07
New Brunswick	-	-	-
Newfoundland and Labrador	0.06	0.03	0.07
Prince Edward Island	-	-	-
Canada	3.45	3.07	4.01

Source: CMHC calculations. Numbers may not add up because of rounding.

Source: CMHC

Canada's targets increase thru 2025 for permanent residents

As noted above, our concern is that the CMHC may not be including temporary or non-permanent residents in its high case given that the referenced Govt of Canada targets are for permanent residents or permanent immigrants. And that a combination of the two is much higher and should be included as temporary or non-permanent residents also need a place to live. In their 2022 Annual Report to Parliament on Immigration, the Govt of Canada formal estimates for permanent residents [LINK] has targets of 465,000 in 2023, 485,000 in 2024 and 500,000 in 2025. Again, we note this does not include temporary residents

Capital Markets: Trudeau tells grocers stabilize grocery prices or face possible taxes

Cdn grocers called out by Trudeau

The other key part of PM Trudeau's Thursday speech was to call out the major grocers to stabilize grocery prices. The Govt of Canada release said "*To address the escalating price of groceries for people, the Prime Minister announced that the government: • is calling for major grocery store chains to stabilize grocery prices in the near term. In recent years, large grocers have been making more money, all while the cost of groceries has risen drastically and families are struggling to put food on their tables. To address this, the leaders of the largest grocery chains in Canada have been called to an immediate meeting in Ottawa to begin discussions toward this goal. We are also looking at all tools at our disposal, and we are not ruling out the use of tax measures, in order to restore the grocery price stability that Canadians expect*." Trudeau did not specify what the potential tax measures could involve, but it would be interesting to see how he might penalize the grocers without having the cost passed through to the consumer.

Q2/23 call, Loblaw on why grocery prices go up higher than commodity prices
It's easy to call out the major grocers, but the reminder is that the increased grocery prices are not are a result of cost increase along the supply chain taking an item from a commodity like wheat to a loaf of bread price in the grocery store. This is what we have been highlighted for the past couple years. Grocery price increases continue to be much higher than commodity price increases. But the reminder of the supply chain comes from Loblaw. Here is what we wrote in our July 30, 2023 Energy Tidbits. "*We have been highlighting Loblaw mgmt. Q1/23 call explaining why grocery store prices keep going up more than commodity food prices. Loblaw held its Q2/23 call on Wednesday and took time to explain this same concept – there are a lot of cost increases that get passed on to them before they priced something for the grocery stores. The bottom line is that grocery store prices are going up when food commodity prices are going down. Here is what Loblaw said in the Q2/23 call. "As we battle inflation, we remain highly concerned about ongoing cost increases, and I wanted to offer some facts. This year suppliers have raised the price we pay for products by more than CAD 1 billion. This is double what we would expect normally. We have received double-digit increases from the same suppliers who gave us double-digit increases last year. That's why you see products that are noticeably more expensive than they were just a couple of years ago. While cost increases are coming in from all peers of our supplier base, the largest global brand stand out. Let me give you an example. Since inflation began, one of our largest vendors submitted price increases totaling 50% or CAD0.25 billion[ph], that's just one supplier. Here's another good illustration In Q2, the average price for meat, fruit and vegetable purchase in our stores were up in the mid-single digits. But the average purchase in the center of store where you find the biggest brands was up in the double digits. At the same time, our Food project – food profit margins have declined as our costs have grown faster than our prices. The math is very simple. Cost increases from big brands were well above -- and as its food inflation and our Food margin decline, suggesting of grocery profiteering just don't add up. Food inflation is a global problem. The causes range from climate change to -- We know that some cost increases are justified but many are not. The price of transportation, wheat, flour, paper and plastic all well off 2022 high. Our teams are actively reaching out to our largest suppliers pressing for cause decreases based on these facts. With lowered costs, we will lower prices."*

Will Cdn grocers also highlight supplier shrinkflation examples like Carrefour?
After seeing how Trudeau called out the grocers and not the supply chain for increased grocery prices, we couldn't help tweet [LINK] "'*Shrinkflation, This product has seen its liter decrease and the price charged by our supplier increase" Will Carrefour's (France) shrinkflation signs be coming to Canada with @JustinTrudeau calling out grocers. Grocers won't want to take all the blame."* Carrefour, the major France grocer, started putting the below signs on products this week that identified some products where the supplier reduced the product sized but still increased the price ie. shrinkflation + higher price.

Figure 60: Carrefour sticks price warnings on food to shame shippers

Source: Reuters

Capital Markets: US personal interest payments $506.1b in July pre student debt

US personal interest payments

Earlier this morning, we tweeted [LINK] "*Ouch! reminder below FED graph of personal interest payments is July ie. before have to start payments in Oct linked to ~$1.8 trillion of US student debt. July 2023 was $506.1 billion was up $1.67.4 billion YoY. Excludes mortgage interest. #OOTT [LINK]".* Two weeks ago, the Federal Reserve Bank posted its FRED economic data for US Personal Interest Payments, which were up $167.4 billion YoY to $506.1 billion. These interest payments exclude mortgage interest payments. The reminder we put in our tweet these are before Americans figure out how to finance the resumption of payments under the ~$1.8 trillion of US student debt. That resumed Sept 1 with first payments in Oct. One way or another Americans will either use saving, income or finance the resumption of student debt payments. So wonder what the FRED personal interest payments number will be when they report on Oct data at the end of Nov.

Figure 61: Personal Interest Payments updated for July 2023 payments.

Table 5: Supply gaps by scenario, 2030, millions of housing units

	Baseline	Low-economic-growth	High-population-growth
Ontario	1.48	1.31	1.65
Quebec	0.86	0.77	1.09
British Columbia	0.61	0.55	0.69
Alberta	0.13	0.13	0.17
Manitoba	0.17	0.15	0.18
Saskatchewan	0.06	0.06	0.08
Nova Scotia	0.07	0.06	0.07
New Brunswick	-	-	-
Newfoundland and Labrador	0.06	0.03	0.07
Prince Edward Island	-	-	-
Canada	3.45	3.07	4.01

Source: CMHC calculations. Numbers may not add up because of rounding.

Source: Federal Reserve

Demographics: Sask Premier Moe reminds of Maslow's law of the hammer

Maslow's law of the hammer

Everyone knows Abraham Maslow for his hierarchy of needs but boomers who went to university in the 70s would also know him for his famous hammer views. Couldn't help remember university Psychology 101 courses from the 70s when seeing Saskatchewan Premier Scott Moe tweet on Trudeau's warning of potential new taxes on grocers. Yesterday, Moe tweeted [LINK] "*The Trudeau-Singh carbon tax increases the cost of everything we produce, everything we truck to grocery stores and everything we buy. So what's Trudeau's solution? More taxes! When the only tool you have is a hammer, everything looks like a nail."* The law of the hammer was from Abraham Maslow and was required reading for Psychology 101 with his book The Psychology of Science. Maslow wrote *"I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail".* So Moe's comment on Trudeau's tax threat to grocers fits his view that increasing taxes is his only tool.

Demographics: Michael Bloomberg suspects remote workers are golfing

Are remote workers playing 18 holes?

No one can deny that remote working provides opportunities for remote workers to take a "break" and leave their remote office for an hour or so, but Michael Bloomberg believes remote workers are leaving for most of the day to play golf. It's hard to believe that people can get away with being away from their remote office for 6 hours or more in the US or Canada to play 18. However, insider.com wrote [LINK] "*Michael Bloomberg implies remote employees are playing golf instead of working: 'It is funny, but it's tragic' ""I will say we are paying our employees for five days a week of work," the former New York City mayor and billionaire businessman told CBS Sunday Morning in an interview that aired Sunday. "Now, if you think that those can be done at home, I don't know. But every golf course that I've heard about in the last three years has had record summers, okay? It is funny, but it's tragic." A March study by Stanford University researchers found that remote work "powered a huge boom in golfing," with visits to golf courses surging on weekdays and mid-afternoons compared to pre-pandemic times. "The most likely explanation is employees are golfing as breaks while working from home," the researchers, Nick Bloom and Alex Finan, wrote."*

Demographics: 86% of Japan municipalities want more foreign workers

Japan wants foreign workers

Everyone knows Japan has a rapidly aging population problem, the question always remains when will Japan take more urgent action to try to slow down the curve. Earlier today, Japan Times reported [LINK] *"86% of municipalities across Japan want more foreign workers, survey says*". The report also highlights the population problem "*The National Institute of Population and Social Security Research also projected that Japan's total population will decline by about 30% to 87 million in 2070, with people aged 65 or older accounting for nearly 40%."* At least it seems that most Japanese municipalities realize they need to get more younger people and that has to be via immigration for any near term impact. Japan needs workers. Japan Times wrote "*A total of 86% of municipalities across Japan feel the need to increase foreign labor, a recent survey by Kyodo News has shown, underscoring the serious shortage of workers in farming and other key sectors as the country grapples with a declining population. In a survey covering all 47 prefectures as well as cities and other municipalities, 84% of local government heads said they were either "strongly" concerned or "somewhat" afraid that their communities are at risk of disappearing."*

Twitter: Look for our first comments on energy items on Twitter every day

@Energy_Tidbits on Twitter

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.

LinkedIn: Look for quick energy items from me on LinkedIn

Look for energy items 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].

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 Calgary items.

22 years ago, 9/11 changed the world

I have to believe that many others watched a range of 9/11 shows last Sunday even with the start of the NFL season and reflected on the 9/11 on Monday with the 22nd anniversary of 9/11. A few months ago, I had the opportunity to talk to someone who was on business in New York on 9/11 and fortunately in midtown at the time of the plane attacks. He doesn't have PTSD but says it still feels like yesterday and not 22 years ago. He ended up in Central Park for most of the day and caught a lift back to Canada with a Canadian he met that day who borrowed a relative's car to drive back to Canada. I had the opportunity to live in the US, travelled dozens of times to NYC on business including meetings at the World Trade Center in June 2021 and had friends working right there in other buildings of the World Trade Center complex on 9/11. It was the day that changed the world. And I can't help but feel for the all the families and friends of the thousands who died that day and in the aftermath in the fight against terrorism.

The phenomenal story of Gander Newfoundland on 9/11

If you haven't seen the movie documentary, I highly recommend the documentary movie "*You Are Here Trailer - A Come From Away Story*" about Gander on 9/11 and for the week after. Its available on Crave in Canada, and the trailer is at [LINK]. I have probably seen this documentary movie a dozen times or more. 9/11 was a brutal day for tragic stories. But, among, the tragedy, there were many stories of heroism on people rescuing people. And there is one of what I think is one of the most amazing stories of 9/11 – the story of Gander, Newfoundland. When the US and Canada closed down North America air space, it meant that overseas planes were forced to land in Newfoundland with an immediate stranding of ~17,000 international travellers. Gander was the major airport landing with 39 jumbo jets. It was then a town of ~9,000 and they took in ~6,600 travellers overnight. The town basically doubled. That is unbelievable. It would be like Calgary taking in 1 million people overnight. And the story of how the locals took in, fed, gave them friendship, love is an amazing story and a tribute to Newfoundlanders. On the bucket list is to hopefully get to Appleton, the adjoining town to Gander, Newfoundland for their 9/11 memorial service just to be able to see some of the amazing Gander and Appleton citizens who stepped up during 9/11.

Hopefully Biden's 9/11 emotional speech next year has some changes

I try to focus on politician's policies instead of their annoying behaviour but it was hared to ignore Biden's 9/11 history, especially since all the networks, including the Democrat supportive networks like CNN, highlighted Biden's passionate 9/11 comments on his feelings walking on Ground Zero the next day when he, then Senator Biden, didn't go to Ground Zero for 9 days. Why? He could makes a feeling, caring speech without having say he was there. We suspect his 9/11 speech next year won't include this embellishment. CNN wrote [LINK] "*Fact check: Biden falsely claims he was at Ground Zero 'the next day' after 9/11." "Biden, returning from a whirlwind trip to Asia, said in his Monday remarks at a military base in Alaska: "I join you on this solemn day to renew our sacred vow: never forget. Never forget. We never forget. Each of us – each of those precious lives stolen too soon when evil attacked. Ground Zero in New York – I remember standing there the next day, and looking at the building. And I felt like I was looking through the gates of hell, it looked so devastating because of the way – from where you could stand." Facts First: Biden was not at Ground Zero the day after 9/11. He actually went to Ground Zero nine days after the attacks.*

Only 11.5% of NFL teams that start 0-2 have made the playoffs

It's only week 2 of the NFL seasons but, in a relatively short 17-game season that sees 14 or 32 teams make the playoffs, every game counts. On Thursday, the tVikings, who made the playoffs last year, lost to the Eagles to fall to 0-2. No surprise, the stats came out on how many 0-2 teams made the playoffs. AP wrote [LINK] "*Since 1990, only 31 of the 270 clubs (11.5%) that began a season 0-2 advanced to the playoffs. The Cincinnati Bengals recovered from losing their first two games last season to finish 12-4 and reach the AFC championship game*." And "*Only the 1993 Dallas Cowboys, 2001 New England Patriots and 2007 New York Giants won a Super Bowl after starting 0-2."*