Energy Tidbits

October 8, 2023

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Trans Mountain CEO: 1st Oil at West Coast Loading Terminal in March for 590,000 b/d TMX Expansion

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. Trans Mountain CEO sees first oil to be at the marine loading terminal in March for the 590,000 b/d TMX expansion. [click here]

2. Only been 36 hrs so far from clear what will be the ultimate market, oil and geopolitical impact of the Hamas attack on Israel soil. [click here]

3. WSJ reports "*Exxon is closing in on a deal to buy Pioneer*". [click here]

4. Too early to know if Hamas/Israel impacts our view that Saudi isn't likely to add oil supply to physical markets until Q2/24. [click here]

5. Is Mexico's request for 5-yr pipeline natural gas a concern on US supply in late 2020s to fill all increasing LNG export capacity? [click here]

6. Our news cut off is 7am MT.

7. 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 .

8. 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: +86 bcf build in US gas storage; now +357 bcf YoY surplus

US gas storage +357 bcf YoY surplus

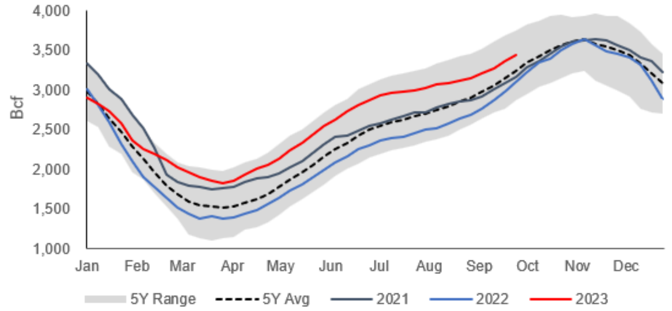
It's been a warm end to summer (much like last summer) that has led to lower than normal seasonally gas injections into storage. For the week of September 29, the EIA reported a +86 bcf build (below with expectations of a +95 bcf build), and a YoY decrease compared to the +129 bcf build reported for the week of September 30, 2022. Total storage is now 3.445 tcf, representing a surplus of +357 bcf YoY compared to a surplus of +397 bcf last week. Total storage is +202 bcf above the 5-year average, down from the +217 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 (09/29/22)		Historical Comparisons: 5-year average (2018-22)	
Region	09/29/23	09/22/23	net change	implied flow	Bcf	% change	Bcf	% change
East	847	821	26	26	751	12.8	807	5.0
Midwest	991	962	29	29	911	8.8	949	4.4
Mountain	239	234	5	5	183	30.6	200	19.5
Pacific	278	271	7	7	246	13.0	273	1.8
South Central	1,090	1,071	19	19	997	9.3	1,044	4.4
Salt	259	250	9	9	222	16.7	249	4.0
Nonsalt	830	821	9	9	775	7.1	796	4.3
Total	3,445	3,359	86	86	3,088	11.6	3,273	5.3

Source: EIA

Figure 2: US Natural Gas Storage – Historical vs Current



Source: EIA, SAF

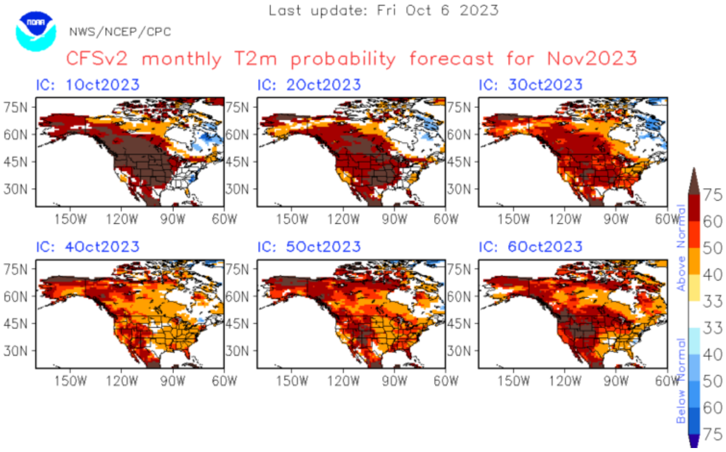
Natural Gas: NOAA expects well above normal temp for Nov

Forecast for a very warm Nov

The start of what markets call winter natural gas withdraw season, Nov 1, is now just over three weeks away. And we continue to expect the key holdback to near term natural gas and LNG prices is that forecasts are calling for a warm start to winter, including in the US. A warm start to winter will bring a weaker tone to prices and make it essential for a cold Jan/Feb/March or else it points to another year of soft prices. As seen in 2023, a warm start to winter and a warm winter overall has kept natural gas and LNG prices held back all year in 2023. On Friday, we tweeted [LINK] "*Not impossible, but it's hard to catch up if it's a hot Nov/Dec start to winter #NatGas withdraw season. If so, need a cold Jan/Feb. Nov is just over 3 weeks away and @NOAA daily lookahead for Nov still expects much warmer than normal Nov in US. #OOTT.*" On Friday, NOAA posted its daily update for its temperature probability outlook for November, and the temperature probability outlook is still for well above normal temperatures. We recognize that weather forecasts are far from 100%

certainty, but near-term forecasts tend to have a better accuracy. Below is the NOAA temperature probability outlook forecast for November made on Oct 1, 2, 3, 4, 5 and 6.

Figure 3: NOAA temperature probability outlook for Nov



Source: NOAA

Natural Gas: Is Mexico worried if US can supply its LNG export growth in late 2020s?

Is Mexico worried about US gas supply?

There was an overlooked item this week, which we believe adds fuel to fire (realistically, its' not a fire that anyone is concerned with now) wondering where will the US natural gas supply come from to meet domestic demand and increasing LNG export capacity in the 2020s. We have been bullish on US and Cdn natural gas for the 2020s in particular driven by the start up of LNG Canada 1.8 bcf/d in the next 18 months or less that will take away Cdn natural gas exports to the US. And there is huge growth ahead for US LNG export capacity in the rest of the decade. Our concern is where is the US gas supply coming from to meet US demand and to fill the US LNG export capacity. And then throw on top of that increasing pipeline export capacity to Mexico. So, the overlooked item this week was Mexico's CFE International request for proposals of natural gas supply at the West and/or South Texas regions [LINK]. That in itself is not an item that is significant. However, the overlooked detail is that CFE is looking for 3 to 5 year supply commencing March 1, 2024. That is what caught our attention. Mexico wants to lock up supply for 3 to 5 years ie. thru March 1, 2029. It has to make us wonder if Mexico is also worried or, at a minimum, want to try to protect at least some of its increasing natural gas demand from US pipelines. CFE's proposal is for 0.5 bcf/d in West Texas and 1 bcf/d in South Texas. Our Supplemental Documents package includes the CFE proposal.

US pipeline exports to Mexico at 6.7 bcf/d in July

Here is what we wrote in last week's (Oct 1, 2023) Energy Tidbits memo. "T*he EIA Natural Gas Monthly also provides its "actuals" for gas pipeline exports to Mexico [LINK], which were 6.7 bcf/d in July, down -0.1 bcf/d MoM from 6.8 bcf/d in June and is up +0.6 bcf/d YoY from 6.1 bcf/d in July 2022. The EIA doesn't provide explanations for the numbers but the increase should be linked to some recent infrastructure increases. Mexico's relatively unchanged domestic production over the past seven years has created the need for increased US pipeline exports as Mexico* *builds out its domestic natural gas infrastructure. Below is our table of the EIA's monthly gas exports to Mexico*."

Figure 4: US Pipeline Exports to Mexico

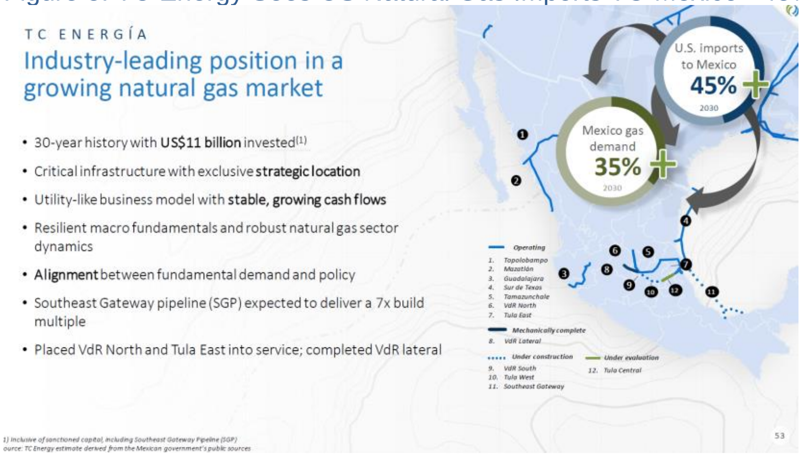
bcf/d	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Jan	1.7	2.2	3.2	3.9	4.4	4.9	5.2	5.6	5.7	5.3
Feb	1.8	2.3	3.5	4.0	4.5	4.8	5.4	4.9	5.5	5.4
March	1.9	2.4	3.3	4.2	4.3	4.8	5.4	5.9	5.5	5.7
Apr	1.9	2.6	3.5	3.7	4.4	4.7	4.6	6.1	5.9	5.6
May	2.0	2.8	3.7	4.0	4.4	5.0	4.7	6.2	6.0	6.3
June	2.2	3.0	3.9	4.5	4.6	5.2	5.4	6.6	6.1	6.8
July	2.2	3.3	4.0	4.4	4.9	5.4	5.8	6.4	6.1	6.7
Aug	2.1	3.3	4.3	4.4	5.0	5.4	6.0	6.2	5.8	
Sept	2.2	3.3	4.1	4.2	5.0	5.4	6.1	6.0	5.6	
Oct	1.9	3.2	4.2	4.2	4.9	5.5	6.0	6.0	5.5	
Nov	1.9	3.0	4.0	4.5	4.7	5.3	5.5	5.5	5.4	
Dec	2.1	3.2	3.6	4.4	4.5	4.9	5.3	5.4	5.1	
Average	2.0	2.9	3.8	4.2	4.6	5.1	5.5	5.9	5.7	6.0

Source: EIA, SAF

TC Energy sees Permian natural gas +3 bcf/d to Mexico by 2030

The big reason why Mexico is concerned is that it is expecting increasing natural gas imports from the US in the back half of the decade. We have been highlighting the increasing buildout by TC Energy of natural gas infrastructure in Mexico that sets up that sets up increased demand for US natural gas. Here is what we wrote in our Dec 4, 2022 Energy Tidbits. "*One overlooked upside to US natural gas in the 2020s is that the growth Mexico infrastructure projects are starting to kick in. Yesterday, we tweeted [LINK] "Positive for US #NatGas for 2020s. It's not just increasing #LNG exports, it's also Mexico. Mexico #NatGas demand from 9 bcfd to 12 bcfd in 2030. @TCEnergy expects MEX #NatGas pipeline imports from Permian +45% from 6 bcfd in 2022 to 9 bcfd by 2030. #OOTT." The growth in Mexico natural gas demand is a big plus to the Permian. For the last few years, every time we write on Mexico's natural gas production, we say it is still stuck below 5 bcf/d and that any increase in Mexico natural gas demand has to be met by increasing natural gas or LNG imports. For the past 5+ years, other than a few months, Mexico gas production was below 5 bcf/d. Mexico's natural gas demand growth and growing infrastructure was one of the key growth themes at TC Energy's investor day on Tuesday. Mgmt's slide deck included the below slide and mgmt said "We expect Mexican natural gas demand to increase by 3% per year across the country from 9 Bcf to 12 Bcf in 2030, with strategic government projects creating over 1 Bcf a day of incremental gas demand in the southeast alone by 2025. Now given Mexico's limited natural gas production, this increase in demand will likely be served by supplies in the U.S. and more specifically the Permian as we believe Mexican imports from the Permian are likely to increase by 45% from 6 Bcf a day in 2022 to 9 Bcf by 2030."*

Figure 5: TC Energy Sees US Natural Gas Imports TO Mexico +45% to 2030

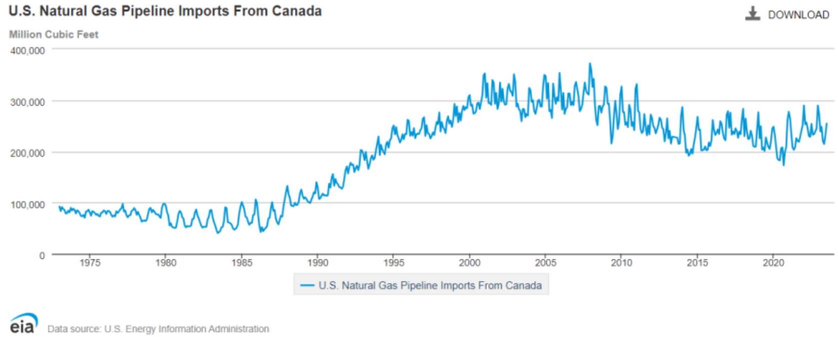


Source: TC Energy

US imports ~8 bcf/d from Canada via pipelines

The startup of LNG Canada's 1.8 bcf/d Phase 1 certainly won't eliminate Cdn natural gas exports to the US but should materially reduce the exports. Canada exports roughly 8 bcf/d to the US. We don't expect the LNG Canada joint venturers to drill up new production to fill the 1.8 bcf/d natural gas supply. Rather we expect them to also look at M&A of existing natural gas production and locking up other producers' natural gas supply via gas supply contracts. No one knows the number, but we don't think it's unrealistic to believe that ~1 bcf/d of existing Cdn natural gas production will be moved to LNG Canada when it starts up over the 18 months or so. Note last week, we think there is the potential to surprise to be sooner ie. close to year end 2024. But if there is 1 bcf/d, then that would theoretically take 1 bcf/d of existing Cdn natural gas supply that would go to the US.

Figure 6: US natural gas pipeline imports from Canada



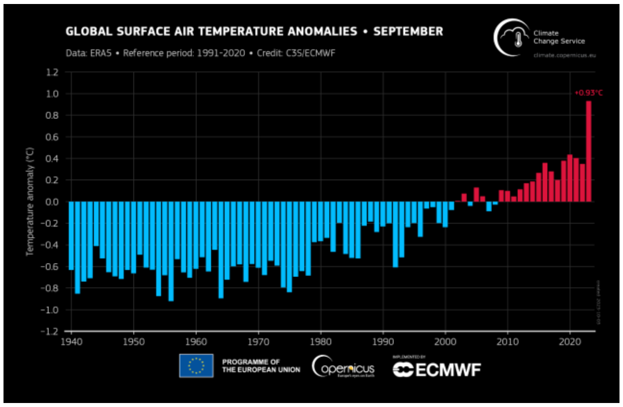
Source: EIA

Natural Gas: Warmest Sept for the world on record

Warmest Sept on record

There was a good reminder this summer on how the most important weather issue for natural gas and LNG is winter, not summer. Yes, it was very hot this summer and it supported prices but summer heat has nowhere the impact as a cold winter or a hot winter. But a hot summer is supportive of natural gas prices. On Thursday, Copernicus posted its monthly climate bulletin for Sept [LINK] that highlighted Sept was the hottest Sept on record. Copernicus wrote "*September 2023 was the warmest September on record globally, with an average surface air temperature of 16.38°C, 0.93°C above the 1991-2020 average for September and 0.5°C above the temperature of the previous warmest September, in 2020." "September 2023 was also the warmest September on record for the European continent, at 2.51°C higher than the 1991-2020 average, and 1.1°C higher than 2020, the previous warmest September." "Many regions outside Europe were also significantly warmer than average. Unusually warm conditions extended eastward from Europe to central Siberia and also prevailed further south across Asia, from the Middle East to China and Japan. Almost all of Africa had above-average temperatures, especially so in a band covering parts of Eritrea, Ethiopia, Sudan and South Sudan. Temperatures were also much higher than average over the southern USA and northern Mexico, and over central and eastern Canada. Countries in South America experiencing high early-spring temperatures included Argentina, Bolivia, Brazil, Paraguay and Peru. Western Australia experienced its warmest September on record, with the month ranking third warmest for Australia as a whole*."

Figure 7: Global surface air temperature anomalies - Sept



Source: Copernicus

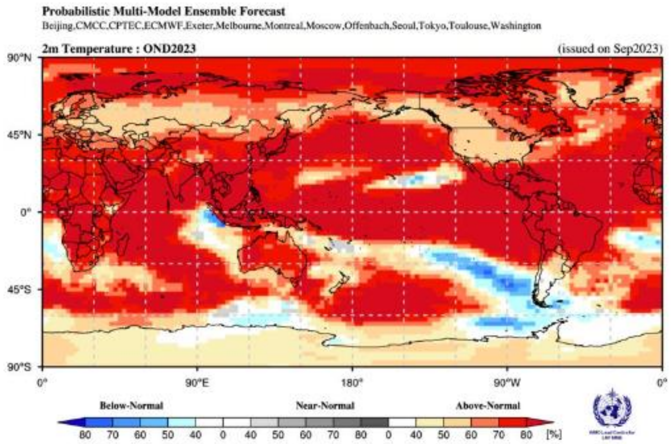
Natural Gas: WMO forecast warmer than normal OND temps almost everywhere

A warm start to winter

We have been highlighting the likely holdback to near-term natural gas and LNG prices is the expectations for a warm start to winter in all key natural gas consuming regions. Our primary concern for natural gas prices is always winter. If it's a warm winter, it normally leads to a weak natural gas price year. And the other aspect about winter is that if it's hot to start winter, it's hard to catch up. It's why we always focus on both winter and the start to winter. On Tuesday, we tweeted [LINK] "*Near-term holdback to #LNG #NatGas prices. @WMO forecast for Oct/Nov/Dec. "widespread prediction of above-normal temperatures over almost ALL land areas." Feels like could see a replay of winter 22/23, when it was warm in Asia, EU*

& US. #OOTT. [LINK].” Last week, the World Meteorological Organization posted its monthly update “*Global Seasonal Climate Update: Target season: October-November-December 2023*”. [LINK] The WMO is calling for “*Consistent with the anticipated development of an El Niño in the equatorial central and eastern Pacific, together with the prediction of above-normal sea-surface temperatures over much of the global oceans, there is widespread prediction of above-normal temperatures over almost all land areas. Positive temperature anomalies are expected over almost the entire Northern Hemisphere except for a maritime area off the south-west coast of North America that extends into the central Pacific at about 20°N.”* Our Supplemental Documents package includes the WMO outlook.

Figure 8: WMO Probabilistic Temperature for Oct/Nov/Dec 2023



Source: WMO

Natural Gas: Union to file notice to strike at Chevron Gorgon& Wheatstone LNG

Potential strike action at Chevron LNG

Early Friday morning, we tweeted [LINK] “*OMG. 09/21. #Chevron & Offshore Alliance Union accept Fair Work Commission recommendations on labor deal. But 2 weeks later, can't agree on to paper the deal. So union to file notice on Monday for industrial action at 2.1 bcfd Gorgon #LNG & 1.2 bcfd Wheatstone LNG. Like a Halloween movie, just won't go away. #OOTT #NatGas.”* As of our 7am MT news cut off, we haven’t seen any change to the Friday morning breaking news that the Offshore Alliance union members fare to file a notice for industrial action tomorrow morning. And we understand it’s a 7-day notice before any industrial action can happen. ON Sept 21, Chevron and the union agreed to accept the deal terms of the Fair Work Commission and to end the industrial action. But, two weeks later, they haven’t been able to agree on how to paper the deal. Rather, Offshore Alliance posted *The Chevron workforce have had a gutful of Chevron’s toxic and dysfunctional management of industrial relations and have directed the Offshore Alliance to file a new Notice of Protected Industrial Action on the Gorgon and Wheatstone Facilities. Notice of further Protected Industrial Action will be filed on Monday. Chevron’s decision to renege on adopting the Recommendations of the Fair Work Commission is a contemptuous slight to its workforce, the union and the industrial umpire. It was with significant reluctance that the Offshore Alliance accepted the Fair Work Commission Recommendations when they were handed down 2 weeks ago, and there is zero chance of the Offshore Alliance copping*

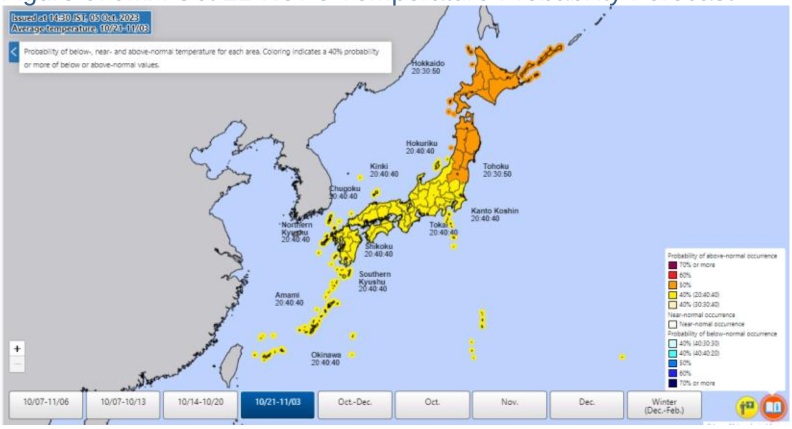
Chevron taking a 5 fingered discount from the FWC Recommendations which Chevron agreed to "without qualification." Markets were surprised by the inability of the parties to be able to paper the agreed deal. It's hard to believe Chevron will let a strike happen when all the big deal terms are agreed. But who knows.

Natural Gas: Forecast above normal temperatures to start November

Japan's 30-day temperature forecast

It was really hot in Japan this summer and it looks like the warmer than normal weather will continue through October and to begin November. Every Thursday, the Japan Meteorological Agency updates its 30-day outlook [LINK]. The October 5 update calls for a warmer than normal start to November which means, for Tokyo, daily highs around 20C and nighttime lows of around 12C. This shouldn't generate much natural gas demand for air conditioning. Rather it's what we call "leave the windows open" weather. Below is the JMA's 14-day temperature probability forecast for Oct 21 – Nov 3.

Figure 9: JMA Oct 21-Nov 3 Temperature Probability Forecast



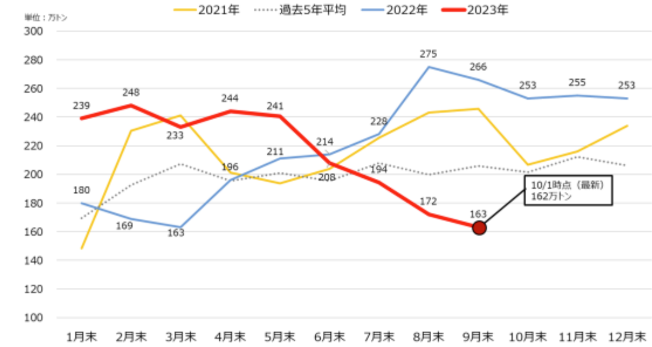
Source: Japan Meteorological Agency

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

Japan LNG stocks up +3.8% WoW

It's been hot in Japan through September, 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 in Oct and Nov for the winter. That was the case this week with a slight build, although still below 2022 levels and the 5-year average. On Wednesdays, Japan's METI releases its weekly LNG stocks data [LINK]. LNG stocks on Oct 1 were 77.8 bcf and are up +3.8% WoW from Sept 24 of 74.9 bcf, and below the 5-year average of 98.9 bcf. METI did not comment on the MoM decrease. Below is the Japanese LNG stocks graph from the METI weekly report.

Figure 10: Japan LNG Stocks



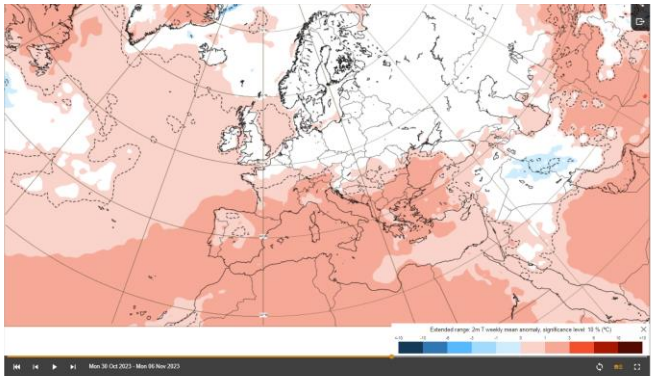
Source: METI

Natural Gas: No major weather demand for natural gas in early Nov in Europe

Europe early Nov forecast

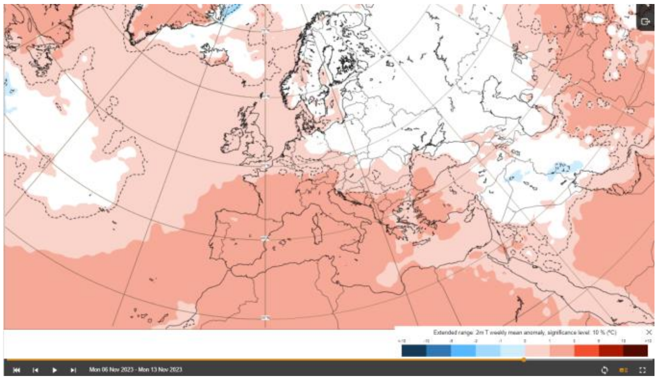
Our concern for near-term natural gas and LNG prices is that three will be a holdback as long as forecasts call for warmer than normal temperatures to start winter especially if it starts warmer than normal in multiple major natural gas consumption regions. As seen with winter 2022/23, when it starts warm, it's hard to catch up. As noted earlier, for terminology, much of Europe uses Oct 1 as the start of winter natural gas season. We tend to focus more on Nov as to when we might expect to see the start of some weather driven natural gas demand. The ECMWF provides daily short- term forecasts. ECMWF is European Centre for Medium Range Forecasts. The forecasts are not bullish for natural gas demand from weather. Yesterday's ECMWF's near term forecast calls for warmer than normal temperatures across Europe for the first two weeks of Nov.

Figure 11: ECMWF Oct 30-Nov 6 Temperature Probability Forecast



Source: ECMWF

Figure 12: ECMWF Nov 6-13 Temperature Probability Forecast



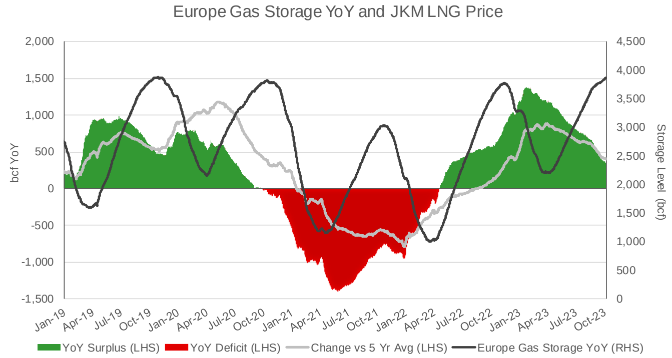
Source: ECMWF

Natural Gas: Europe storage over 96% full so entered winter close to full

Europe gas storage

Please note that Europe generally refers to the start of winter natural gas withdraw season as starting Oct 1, whereas North America refers to the start of winter natural gas season as starting Nov 1. Europe storage stayed above the 96% full level this week so they entered winter at close to full levels. This week, Europe storage increased by +1.25% WoW to 96.53% on Oct 5. Storage is now +6.46% greater than last year's levels of 90.07% and is +8.28% above the 5-year average of 88.25%. 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 13: European Gas Storage Level



Source: Bloomberg, SAF

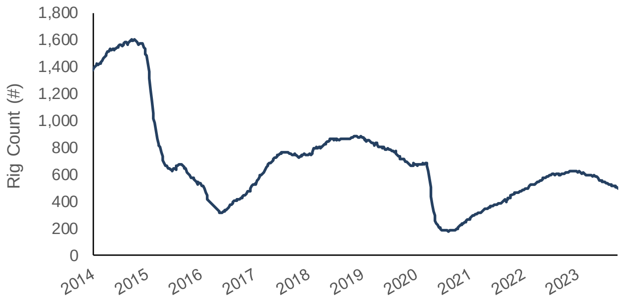
Oil: US oil rigs -5 WoW at 497 rigs, US gas rigs +2 WoW to 118 rigs

US oil rigs down WoW

On Friday, Baker Hughes released its weekly North American drilling rig data. (i) Total US oil rigs were down -5 WoW at 497 total rigs and are down -105 rigs YoY for the week of October 6. This is up +16 rigs from the 2022 low of 481 rigs in January. (ii) On a per basin basis, there were a few changes in the major US basins for the week of October 6. The Permian was down -6 rigs WoW to 302 rigs, Granite Wash was up +1 WoW at 5 rigs, Williston was down -1 WoW at 32 rigs, and Eagle Ford was up +2 rigs WoW at 46. Cana Woodford, Ardmore Woodford, Mississippian, and DJ Niobrara were flat WoW at 16, 2, 1 and 14 rigs respectively.

Others were down -1 WoW at 79 oil rigs. (iii) The Permian is near its lowest level since March 18, 2022, and is down -55 rigs from its recent high of 357 rigs on April 28, 2023. We are surprised that oil rigs are still going down, especially in the Permian, considering WTI has been solidly over $80 the past weeks and it's too early for the normal decline in US drilling on US Thanksgiving.(iv) Gas rigs were up +2 rigs WoW to a total of 118 rigs and have now decreased -40 rigs YoY. On a per basin basis, Permian was up +3 WoW at 7 rigs and Eagle Ford was down -1 WoW at 4 rigs. Others were flat at a total of 30 rigs. Below is our graph of total US oil rigs.

Figure 14: Baker Hughes Total US Oil Rigs



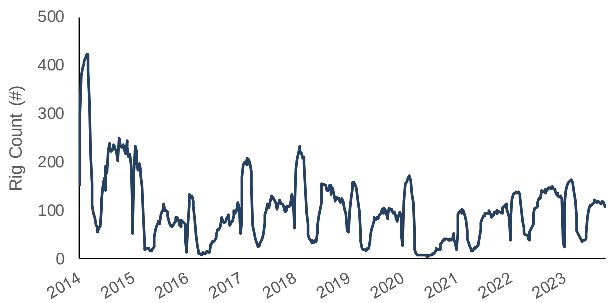
Source: Baker Hughes, SAF

Oil: Total Cdn rigs -11 WoW at 180 total rigs

Cdn total rigs down WoW

For the week of October 6, total Cdn rigs were -11 WoW at 180 rigs. BC was up flat WoW at a total of 20 rigs and Alberta was down -7 rigs to a total 128 rigs. While BC was unchanged, we expect to see a ramp up with another week of less wildfires. It isn't clear why there is a -7 in Alberta and whether that is related to a specific wildfire or wildfires. Alberta wildfires have been relatively unchanged the last couple of weeks. Saskatchewan was down -5 rig for a total of 28 rigs, Manitoba was flat WoW for a total of 3 rigs while Newfoundland was up +1 offshore rig at 1 rig. Cdn oil rigs were down -7 rigs WoW to 108 rigs, and Cdn gas rigs increased -4 rig to 72 rigs. Cdn oil rigs are down -40 rigs YoY, while gas rigs are up +5 rigs YoY. Below is our graph of total Cdn oil rigs.

Figure 15: Baker Hughes Total Cdn Oil Rigs



Source: Baker Hughes, SAF

Oil: US weekly oil production estimates flat WoW at 12.900 mmb/d

US oil production flat WoW

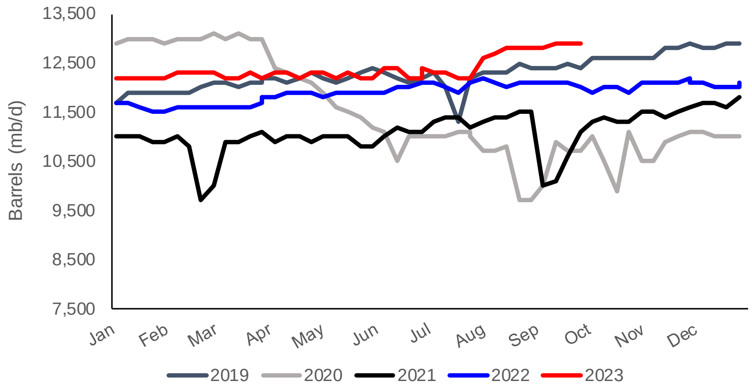
Our Aug 13, 2023 Energy Tidbits memo highlighted the EIA increased their weekly US oil production estimates by +0.4 mmb/d and how we had been expecting such a big increase to the weekly estimates. For months, we highlighted how the US weekly estimates were well below the EIA's actuals as per its monthly Form 914. As a result, the weekly estimates now seem more or less in line with the monthly actuals and why the weekly estimates in Aug jumped up vs July. The production estimates have continued to increase in September and has reached another post-pandemic high. This week, the EIA's production estimates were flat WoW at 12.900 mmb/d for the week ended September 29 [LINK]. The Lower 48 was also flat WoW at 12.500 mmb/d, and Alaska up slightly at 0.420 mmb/d. Below is a table of the EIA's weekly oil production estimates.

Figure 16: EIA's Estimated Weekly US Field Oil Production

	Week 1		Week 2		Week 3		Week 4		Week 5	
Year-Month	End Date	Value	End Date	Value	End Date	Value	End Date	Value	End Date	Value
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	09/15	12,900	09/22	12,900	09/29	12,900

Source: EIA

Figure 17: EIA's Estimated Weekly US Oil Production



Source: EIA, SAF

EIA Form 914 – US July oil actuals +1.147 mmb/d YoY

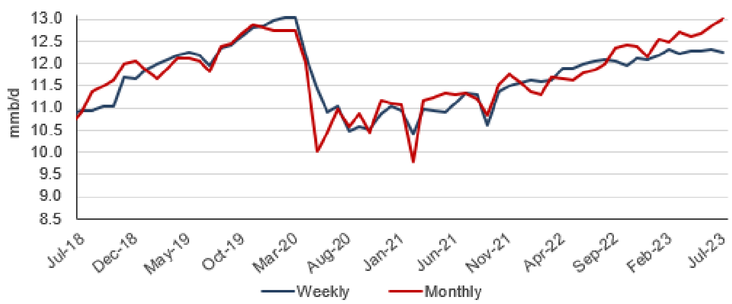
Here is what we wrote in last week's (Oct 1, 2023) Energy Tidbits. "*The reason why we highlighted for months the shortfall in the EIA weekly oil production estimates vs the EIA monthly actuals is that they understated the strong YoY growth in US oil production, which is >1 mmb/d YoY. As noted above, 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 Friday, the EIA released its Form 914 data [LINK], which is the EIA's "actuals" for July US oil and natural gas production. The Form 914 actuals for July have production at 12.991 mmb/d, which is +741,000 b/d vs the EIA weekly estimates of 12.250 mmb/d. And because of this significant difference, the Form 914 July production is +1.147 mmb/d YoY. The actuals thru July paint a picture of much stronger than expected YoY growth in US oil production.*"

Figure 18: 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	12,694	12,900	12,991					
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 19: EIA Form 914 US Oil Production vs Weekly Estimates



Source: EIA, SAF

Oil: Halliburton CEO highlights difficulty to produce oil and gas in North America

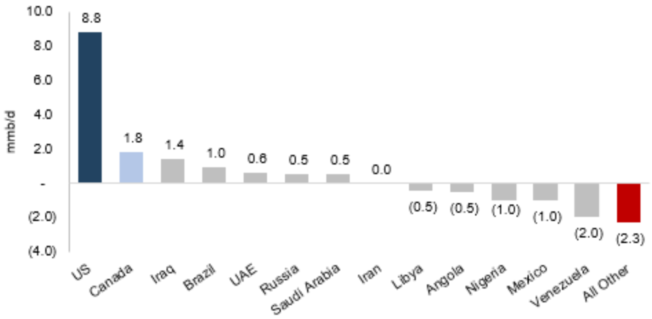
Halliburton CEO on US shale oil and gas

On Monday, Bloomberg interviewed Halliburton CEO Jeff Miller on the sidelines at ADIPEC 2023. We tweeted [LINK] "*Is US shale #Oil growth much less than most expect? "realizing how difficult it is to produce oil and gas, particularly as North America, you know wrestles with where their production is going to land" $HAL CEO to @youseftv. Positive for #Oil. #OOTT.*" Miller did not specifically say US growth is challenged. Rather he was talking about the reality that it is difficult to product oil and gas and he highlighted in North America. He didn't say US couldn't grow its oil production, but looks to be pointing to a lesser level of growth than most expect. Our tweet included our transcript of Miller's full comment. SAF Group created transcript of comments by Halliburton CEO Jeff Miller with Bloomberg's Yousef Gamal El-Din on the sidelines at ADIPEC 2023 on Oct 2, 2023. Items in *"italics*" are SAF Group created transcript. Miller "*Oil and gas probably is tight, and I think that's growing demand and we see growing demand ,expect that continues. As far as overtightening, I think the price of oil is going to be a function of supply and demand. And so I think that what we're seeing, realistically is that it's difficult to produce oil and gas. And I think that we're remembering that or realizing how difficult it is to produce oil and gas, particularly as North America, you know, wrestles with where their production is going to land. And meanwhile, we see lots of activity around the world*."

US added 8.8 mmb/d of quick cycle oil in 2012 thru 2022

We write regularly on the challenge for US to have sustained strong oil growth thru 2030 as many (most?) assume in their models. And we recognize that most of these forecasts are from economists or people who have never seen a drilling rig or understand what oil companies do to maintain and grow production. We encourage people to try to speak with oil industry and oilfield service industry people. It's why we listen when people like Halliburton CEO Jeff Miller speak on the difficulties to grow oil and gas production including in the US shale. It's why, yesterday, we tweeted [LINK] "*Here's why #OIl looks good thru 2030. Forecasts incl #IEA don't call peak oil demand until 2028/29 at earliest.* 👇*10/02/23 tweet, $HAL CEO on the difficulty for US #Oil growth. Oil consumers won't have US adding 8.8 mmb/d quick cycle oil like in 2012-2022. #OOTT."* Our tweet included our graph showing oil production growth by country for the 2012 thru 2022 period and it was all about US shale oil.

Figure 20: Oil production growth 2022 vs 2011



Source: Energy Institute

03/06/23: Pioneer CEO "*most companies are drilling Tier 2 and Tier 3 wells*"

One of the key reasons why future US oil growth is more difficult than the past is that most of the best lands have been drilled. On multiple occasions this year, we have noted comments from companies that, during the Covid 2020 and 2021 when industry was at a low, producers were forced to drill their best wells as a way to get the most from any dollar in drilling and completion. And those comments were why people shouldn't be surprised to see the data that 2021 wells were generally the peak for well rates. This them of drilling the best in the Permian was highlighted on March 6, 2023 by then Pioneer CEO Scott Sheffield. Here is what we wrote in our

March 12, 2023 Energy Tidbits memo. "*We recognize that there are many who believe the US can growth its oil production at strong rates for multiple years. However, the messaging from a wide range of producers and service companies has been caution on that assumption and that US oil growth expectations should be lowered. Another in this camp is Permian player, Pioneer Natural Resources CEO Scott Sheffield. He made a clear statement that "most companies are drilling Tier 2 and Tier 3 wells". On Monday, we tweeted [LINK] "Bullish for #Oil. $PXD CEO Sheffield "most companies are drilling Tier 2, Tier 3 inventory now. So we just don't have that potential to grow US production ever again. I think we may get back to 13 mmb/d, probably in ~2.5 to 3 yrs at a very slow pace." Thx @SullyCNBC. #OOTT." Our tweet included the transcript we made of Sheffield's comments. At 2:10 min mark [LINK] "… and secondly, we just don't have, the industry doesn't have the inventory. Most companies are drilling Tier Two, Tier Three inventory now. So we just don't have that potential to grow US production ever again. I think we may get back to 13 million barrels a day, probably in about 2 and a half to 3 years, at a very slow pace."*

Oil: WSJ reports Exxon "*is closing in on a deal to buy Pioneer*"

Exxon/Pioneer rumors again

Pioneer shares were up 10.4% on Friday on the Thursday night WSJ report that "*ExxonMobil is closing in on a deal to buy Pioneer*". On Thursday night, we tweeted [LINK] "*Breaking! Big M&A deals always bring focus to value. WSJ "$XOM is closing in on a deal to buy $PXD, a blockbuster takeover that could be worth roughly $60b. A deal could be sealed in the coming days, assuming the talks don't hit a last-minute snag, people familiar with the matter said. #OOTT."* WSJ had just posted a line or two on a developing story. The final story a few hours later didn't have much detail but said *"Exxon Mobil is closing in on a deal to buy Pioneer Natural Resources , a blockbuster takeover that could be worth roughly $60 billion and reshape the U.S. oil industry. A deal could be sealed as soon as in the coming days, though it is still possible there won't be one, people familiar with the matter said."* As of our 7am MT news cut off, we have not seen any reports of a confirmation or denial but, given the stock action on Friday, we would expect to see some sort of comments before the market opens on Monday. Our Supplemental Documents package includes the WSJ report.

Rumors began in April, made sense to us If Exxon believes oil is here to stay

On Sat April 8, 2023, the WSJ reported "*The oil major has reportedly held preliminary talks with U.S. producer Pioneer Natural Resources about a possible acquisition*." Here is what we werote in our April 9, 2023 Energy Tidbits memo. "*We don't know how serious a look Exxon has reportedly taken at US Permian shale player, Pioneer Natural Resources as reported by WSJ, but we have a little different take on the report than the Twitter chatter this weekend. As opposed to being worried that Exxon is just running out of organic oil growth opportunities, we start with the premise that Exxon believes oil is here to stay for a long time and, if so, it is looking to take advantage of its cost of capital and access to capital to figure out where is the best advantaged oil to add for the next 10 to 20 years. We have heard Exxon CEO Woods use the term "advantaged" with respect to assets. Advantaged is not just the lowest cost, but also low emissions, also access to markets, also access to integrated infrastructure, etc. Exxon has looked at the US Gulf Coast as a key oil and petrochemicals hub for the long term. So it makes sense that it would look at a Permian player for these reasons. As we said, we have no idea how serious a look,* *but we believe Exxon is only going to look at assets that it can call advantaged including from a low emissions perspective. Our Supplemental Documents package includes the WSJ report. [LINK].”* Note WTI was ~$80 at that time.

Oil: Does Pioneer’s recent Permian rig decline an indicator of an Exxon deal?

Pioneer Permian oil rigs

On Friday, we tweeted [LINK] “*Reminder if $XOM buys $PXD, a combo normally leads to less Permian #Oil rigs than currently run by them. That is, unless they are already dropping Permian rigs. Would be a good indicator to fuel, if not support the rumor. #OOTT.”* Permian oil rigs are down 12 in the past two weeks from 314 on Sept 22 to 308 on Sept 29 to 302 on Friday. In theory, the recent move above $80 oil prices should have been leading to more rigs coming back. We don’t have access to the information on what oil companies are dropping the rigs. So, we tweeted a couple hours after the Baker Hughes rig count, primarily because we hadn’t seen any comments on Exxon and Permian rig levels in the Permian. This was partly to see if someone would give some insight in response to our tweet. There were two Oil 101 points in our tweet. First, when two large players in the same basin merge, the norm is that there combo rig levels end up less than the sum of their rigs prior to a deal. Second, if Exxon and Pioneer have been reducing their Permian rigs in the last week or two, that would be a good indicator to at least fuel the rumors. And withing 11 minutes, White Tundra Investments founder tweeted [LINK] *“$PXD was running 22 rigs 2 months ago and now at 19. Some fuel to the rumor 🤔.”* Fuel to the rumor.

Figure 21: Baker Hughes Permian oil and gas rigs

	Permian			
Date	Oil	Gas	Misc	Total
6-30-2023	336	5	0	341
7-7-2023	330	12	0	342
7-14-2023	326	11	0	337
7-21-2023	323	10	0	333
7-28-2023	324	10	0	334
8-4-2023	320	9	0	329
8-11-2023	322	5	0	327
8-18-2023	323	4	0	327
8-25-2023	317	3	0	320
9-1-2023	316	3	0	319
9-8-2023	317	3	0	320
9-15-2023	319	3	0	322
9-22-2023	314	3	0	317
9-29-2023	308	4	0	312
10-6-2023	302	7	0	309

Source: Baker Hughes, SAF

An Exxon/Pioneer deal would result in less Permian oil rigs

The other Oil 101 from our tweet is that we would expect any Exxon/Pioneer deal would lead to less Permian oil rigs than the two companies were running pre-deal. This is the case in every oil and gas M&A involving two companies with the same core area. The point of reference we would use isn’t today as the parties, if they are close to a deal, have been working on this for some time and would have dropped some Permian oil rigs in advance of any deal. That is why, above, we think a Pioneer decline in Permian oil rigs is a data point that adds fuel to the rumor. This is especially so since it doesn’t make sense to drop oil rigs in a rising oil price environment in Sept and well before the normal season US Thanksgiving late November decline in rigs.

Oil: US gasoline prices -$0.10 this week to $3.72

US gasoline prices

As expected, US gasoline prices were down this week, in great part driven by lower California gasoline prices. Yesterday, AAA reported that US national average prices were down $10.10 this week to $3.72 on Oct 7, which is -$0.17 vs year ago of $3.89. Remember US gasoline prices started to ease below $4 in August 2022 and were declining in Sept helped by the SPR releases. AAA included the below graph with their blog.

California gasoline prices down big as Newsom allows move to winter gas

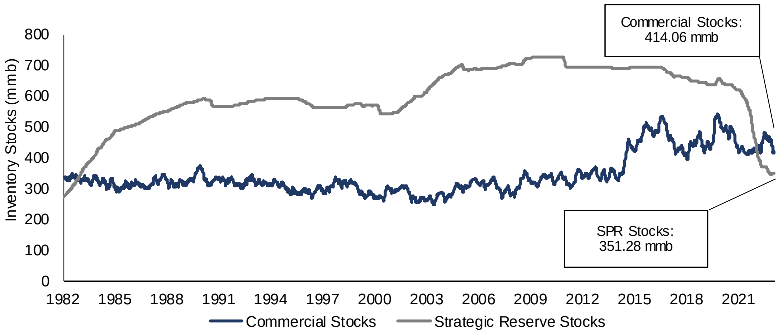
The big reason for the drop in US gasoline prices was the expected big drop in California gasoline prices following last week's Gov Newsom move to immediately switch to cheaper winter blend gasoline. AAA reported California average gasoline prices were $5.83, down $0.25 WoW from $6.08, and down $0.56 YoY from year ago of $6.39. Here is what we wrote in last week's (Oct 1, 2023) Energy Tidbits memo. "*California gasoline prices to drop as Newsom allows move to winter gas. We expect California gasoline prices to be down this week given Gov Newsom, on Thursday night, has moved an immediate switch to cheaper winter blend fuels. The San Diego Tribune reported [LINK] "In an attempt to curb a recent spike in gasoline prices, Gov. Gavin Newsom late Thursday instructed California regulators to speed the delivery of less expensive winter-blended gas to stations across the state. Winter-blended gas is about 20 to 25 cents per gallon cheaper than summer-blended gas and fuel analysts expect the waiver put in place by the California Air Resources Board at Newsom's behest will lead to a dip in prices within a few days. "This waiver will affect wholesale gas prices probably on Friday," said Patrick De Haan, head of petroleum analysis at GasBuddy, a tech company that helps drivers across the country find the cheapest places to buy gas. "But there's only one day left in the trading week. That may segue into another drop on Monday and theoretically retailers could be passing that along in lower prices this weekend, but it's not going to be much at first."*

Oil: US SPR reserves now -62,783 mmb lower than commercial crude oil reserves

US SPR reserves

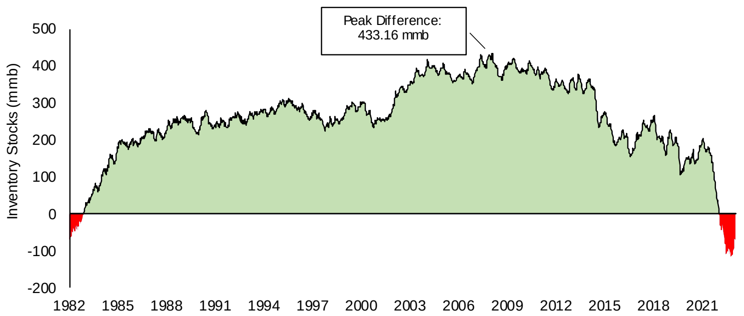
Oil in the US Strategic Petroleum Reserves (SPR) continues to be much lower than total US commercial crude oil reserves. The SPR went back below commercial for the first time since 1983 in the Sept 16, 2022 week. This deficit narrowed this week after a draw in commercial oil stocks of -2.224 mmb, which puts commercial stocks at their lowest level since December 2022. The EIA's weekly oil data for September 29 [LINK] saw the SPR reserves up +0.300 mmb WoW with the US DOE repurchases increasing SPR reserves to 351.280 mmb, while commercial crude oil reserves decreased -2.224 mmb to 414.063 mmb. There is now a -62.783 mmb difference between SPR reserves and commercial crude oil reserves. The below graphs highlight the difference between commercial and SPR stockpiles.

Figure 22: US Oil Inventories: Commercial & SPR



Source: EIA, SAF

Figure 23: US Oil Inventories: SPR Less Commercial



Source: EIA, SAF

Oil: Trans Mountain CEO sees TMX commercial operations by end of Q1/24

On Thursday night, we tweeted [LINK] *"Breaking good news for Cdn #Oil. Trans Mountain CEO sees TMX 590,000 b/d expansion in commercial operations by end of Q1/24. 4.5 mmb line fill to start end of Jan. Thx @ChrisVarcoe #OOTT"."* The Calgary Herald had just posted an interview with Trans Mountain CEO Dawn Farrell, which was her first interview since taking over as CEO in Aug 2022. [LINK]. Farrell gave the key data point – when will first oil be on the West Coast. Farrell said ""*We're aiming to have first oil to (the Westridge Marine Terminal) by the end of the first quarter of 2024 . . . As long as we don't run into sort of geological risks, I feel very confident that we're in that time frame*." Calgary Herald didn't include her quote on line-fill but wrote "*In her first interview since taking on the job as chief executive of the federal Crown corporation, Farrell said the $30.9-billion project remains "in that range," with only 16 kilometres of pipeline left to put in the ground. Once construction is complete, it will allow for testing, commissioning work and filling the line with 4.5 million barrels of oil, which should begin near the end of January."* Starting to add 4.5 mmb of line-fill near the end of Jan and oil in the terminal by the end of Q1/24 for tanker loadings. Our Supplemental Documents package includes the Calgary Herald interview.

TMX start up in Q1/24

TMX adds 590,000 b/d capacity of oil to west coast

Here is Trans Mountain's overview of TMX [LINK]. "*The original Trans Mountain Pipeline was built in 1953 and continues to operate safely today. The Expansion is essentially a twinning of this existing 1,150-kilometre pipeline between Strathcona County (near Edmonton), Alberta and Burnaby, BC. It will create a pipeline system with the nominal capacity of the system going from approximately 300,000 barrels per day to 890,000 barrels per day." "Three new berths will be built at Westridge Marine Terminal in Burnaby. Once the new berths are completed and in service, the number of tankers loaded at the Westridge Marine Terminal could increase to approximately 34 per month. The existing pipeline will carry refined products, synthetic crude oils, and light crude oils with the capability for heavy crude oils. The new pipeline will carry heavier oils with the capability for transporting light crude oils.*"

Money talks? Looks like no TMX timing risk to B.C First Nations appeal request

The Calgary Herald interview with Trans Mountain CEO Farrell did not specifically address the B.C. First Nation saying it was entitled to an appeal of the CER approved minor route change. But CEO Farrell's timing for line-fill to start end of Jan and commercial operations at the loading terminal by the end of March, which suggests she doesn't see any risk to her timeline for TMX startup. On Tuesday, we tweeted [LINK] "*Risk to timing, hopefully only small, for 1st #Oil at TMX expansion? Seems hard for CER to not hear A.B.C First Nation appeal on the route change. CER Mission statement 👇 incl "recognizing and respecting the rights of the Indigenous peoples of Canada"? Thx @AmandaMsteph. #OOTT.*" The Canadian Press had reported [LINK] "*In a letter to the regulator dated Wednesday, a lawyer representing the Stk'emlupsemc te Secwepemc Nation (SSN) said the decision to grant the route deviation Monday without providing its reasons has left the First Nation without the ability to decide its next steps. Article content. The letter said the First Nation has the right to request a reconsideration of the decision, or to appeal it through the Federal Court of Appeal.*" We have to believe the key reason that Trans Mountain isn't seeing any impact to its timing is that money talks and the owner of the pipeline is the Cdn government and not private sector. And CEO Farrell indicates that every month of delay is $200 million. The Calgary Herald wrote "*I think we're close (on the latest price tag). For sure, there's pressure on it because every time there's a bit of a delay or you have to do a regulatory hearing, or you have to find a new methodology, that puts pressure on the contingency and on the reserve. But we are close, in that range," she added, noting rising interest rates are another factor. "The biggest pressure on this project right now is the timing, for sure. So every month of delay is $200 million that accrues to the project.*"

Oil: Cdn WCS less WTI differentials +2.30 WoW to close at $20.90 on Oct 6

WCS less WTI differentials

It was a great last five months for WCS less WTI differentials, which were significantly less than norm linked to the global medium sour tightness and Saudi's 1 mmb/d voluntary cut starting July 1. So, Cdn crude traded at a lesser discount to WTI than normal. WCS less differentials didn't have their normal seasonal widening but have over the past two weeks seasonally widened as they normally do each year as fall refinery turnaround season hits. The WCS less WTI differential closed at $14.65 on Apr 28, $13.50 on May 31, $11.25 on

June 30, $13.75 on July 31, $17.75 on Aug 31, and $18.60 on Sept 29. WCS less WTI differentials were +$2.30 this week to close at $20.90 on Oct 6. For perspective, a year ago, the WCS-WTI differentials last year were $24.50 on Oct 6, 2022. Below is Bloomberg's current WCS–WTI differential as of Oct 6, 2023 close.

Figure 24: WCS less WTI oil differentials including Oct 6 close

Source: Bloomberg

Oil: Crack spreads decreased $3.07 WoW to $19.28 with increased turnarounds

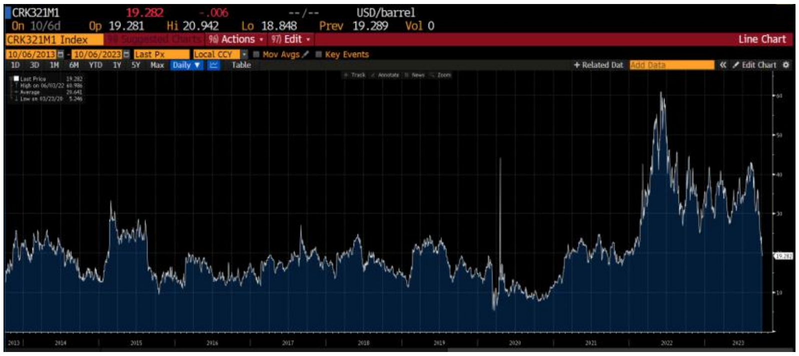
Crack spreads down this week

We are seeing the expected the normal seasonal decline in crack spreads as refiners move into fall turnarounds. This week, crude oil into refineries were down another 0.463 mmb/d WoW, following last week's 0.239 mmb/d WoW and the prior week down 0.496 mmb/d WoW. So no surprise we have seen a big drop in crack spreads. 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, crack spreads were down $3.07 WoW to $19.28 on Oct 6, which follows last week's down $3.72 WoW to $22.35 on Sept 29, the $26.07 on Sept 22, and the $32.48 on Sept 15. Crack spreads at $19.28 are at the high end of the more normal pre-Covid that was more like $15-$20.

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 $19.28 as of the Friday Oct 6, 2023 close.

Figure 25: Cushing Crude Oil 321 Crack Spread Oct 6, 2013 to Oct 6, 2023



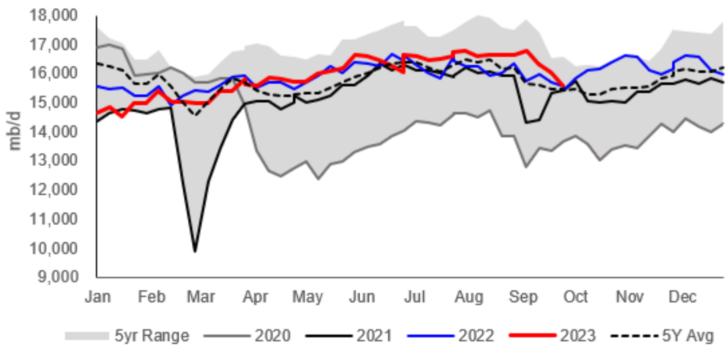
Source: Bloomberg

Oil: Refinery inputs down -0.463 mmb/d WoW to 15.602 mmb/d

Refinery inputs -0.463 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 have been expecting to see a seasonal decline in crude oil inputs into refineries as refiners turnaround to prepare to shift to more winter fuel blends. That seasonal decline has been underway for the past few weeks. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended September 29 [LINK]. The EIA reported crude inputs to refineries were down -0.463 mmb/d this week to 15.602 mmb/d and are down -0.359 mmb/d YoY. Refinery utilization was down -2.2% WoW to 87.3%, which is -4.0% YoY. We likely hit the seasonal peak in refining three weeks ago.

Figure 26: US Refinery Crude Oil Inputs



Source: EIA, SAF

Oil: Still not sure if the EIA is including Venezuela in the weekly oil imports estimates

US net oil imports

We now know why the EIA doesn't have any data in the row for Venezuela weekly oil imports but we still don't know if the weekly oil imports are off or if Venezuela is included in the weekly oil imports in the Others number. But we do know that Chevron continues to import >100,000 b/d from Venezuela into the Gulf Coast. 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 down -1.958 mmb/d to 1.259 mmb/d for the September 29 week. US imports were down -1.014 mmb/d to 6.215 mmb/d. US exports were up +0.944 mmb/d to 4.956 mmb/d. The WoW increase in US net imports was driven mostly by "Top 10". Top 10 was down -1.163 mmb/d. Some items to note on the country data: (i) Canada was down -0.589 mmb/d to 3.291 mmb/d. (ii) Saudi Arabia was down -0.092 mmb/d to 0.291 mmb/d. (iii) Mexico was down -0.320 mmb/d to 0.524 mmb/d. (iv) Colombia was down -0.143 mmb/d to 0.143 mmb/d. (v) Iraq was up +0.026 mmb/d to 0.306 mmb/d. (vi) Ecuador was down -0.042 mmb/d to 0.125 mmb/d. (vii) Nigeria was down -0.003 mmb/d to 0.000 mmb/d.

Figure 27: US Weekly Preliminary Imports by Major Country

US Weekly Preliminary Crude Imports By Top 10 Countries (thousand b/d)													
(thousand b/d)	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	Sep 15/23	Sep 22/23	Sep 29/23	WoW
Canada	3,698	3,203	3,691	3,466	3,505	3,832	3,405	3,679	3,645	3,287	3,880	3,291	-589
Saudi Arabia	426	242	427	330	285	221	462	567	383	383	383	291	-92
Venezuela	0	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	1,004	830	760	667	901	780	437	699	1,095	603	844	524	-320
Colombia	215	287	290	296	75	290	295	300	211	287	286	143	-143
Iraq	259	273	235	305	304	283	232	100	248	233	280	306	26
Ecuador	207	216	175	142	363	192	328	99	0	134	167	125	-42
Nigeria	91	229	94	237	307	89	144	220	219	0	3	0	-3
Kuwait	0	0	0	0	0	0	0	0	0	0	0	0	0
Angola	0	0	0	0	0	0	0	0	0	0	0	0	0
Top 10	5,900	5,280	5,672	5,443	5,740	5,687	5,303	5,664	5,801	4,927	5,843	4,680	-1,163
Others	1,274	1,087	996	1,239	1,418	1,246	1,314	1,106	1,781	1,590	1,386	1,535	149
Total US	7,174	6,367	6,668	6,682	7,158	6,933	6,617	6,770	7,582	6,517	7,229	6,215	-1,014
Source: EIA													

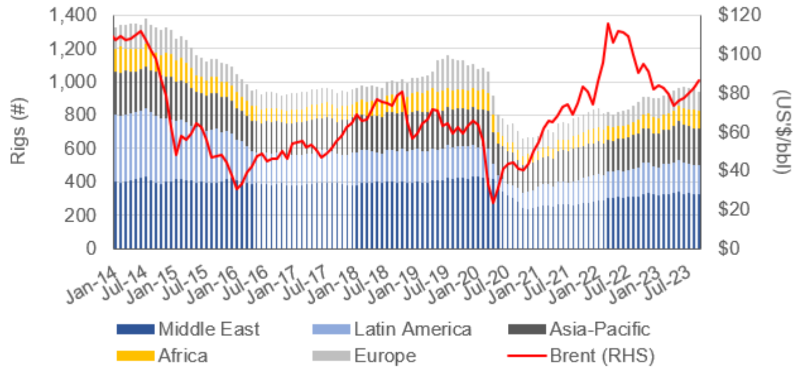
Source: EIA, SAF

Oil: Baker Hughes International rigs -12 MoM to 940 rigs in September

International rigs -12 MoM in September

On Friday, Baker Hughes posted its monthly update to international rigs, in total, that show rigs in September decreased MoM. (i) Total international rigs decreased by -12 rigs MoM to 940 rigs in September, and total rigs are now up +134 rigs from the recent low of 806 in April 2022. (ii) Mexico, Ecuador, and Algeria had the largest MoM increases of +5 to 56 rigs, +4 to 11 rigs, and +3 to 40 rigs, respectively. In September, Ukraine's rigs continue were flat at 46 rigs and is +19 rigs YoY from 27 rigs in September 2022 post the Russia invasion. In contrast, Colombia, Norway, and Brazil had the largest MoM decreases of -5 to 25 rigs, -5 to 17 rigs, and -4 to 14 rigs, respectively. (iii) Libya, Saudi Arabia, and China are up +10 rigs, +11 rigs, and +7 rigs YoY. The largest YoY decreases were realized by Colombia, Turkey, Australia and Kuwait which had declines of -9 rigs, -6 rigs, -4 rigs and -4 rigs, respectively. (iv) August's count of 940 rigs was +7% YoY from 879 in September 2022, and down -19% vs pre-Covid July 2019 of 1,162 rigs. The YoY rig count is as follows: Africa +25, Asia-Pacific +13, Europe +9, Latin America -5, and the Middle East +19. (v) Rig counts continue to be solid in the major Persian Gulf countries but remain below pre-Covid levels. Since February 2022, Saudi Arabia has added +16 rigs to 83 active rigs in September 2023, while UAE (Abu Dhabi) added +23 rigs and Iraq added +16 rigs each over the same period. Below is our graph of international rigs by region and avg monthly Brent price.

Figure 28: Baker Hughes International Rig Count and Brent Price



Source: Baker Hughes, Bloomberg, SAF

Oil: Venezuela exports hit 812,000 b/d in Sept incl 145,000 b/d to US

Venezuela oil exports

We remind that exports of oil can be more than exported, like this report, if there is as Reuters reported a draw on oil inventory. On Monday, Reuters reported [LINK] "*Venezuela's oil exports in September topped 800,000 barrels per day (bpd), the second highest monthly average this year, as state-run oil firm PDVSA and its joint ventures recovered output, particularly in the Orinoco Belt. …. In September, PDVSA and its partners shipped an average 812,000 bpd of crude and fuel mainly to China, directly and through trans-shipments hubs. Chevron's (CVX.N) exports of Venezuelan oil to the U.S. last month slipped to some 145,000 bpd, from 147,000 bpd in August, according to PDVSA's documents and LSEG tanker tracking data. …. However, the higher exports reduced PDVSA inventories of its flagship export crude grade - Merey 16 - at the end of the month, according to one of the documents, which could limit exports in coming months.*" Our Supplemental Documents package includes the Reuters report.

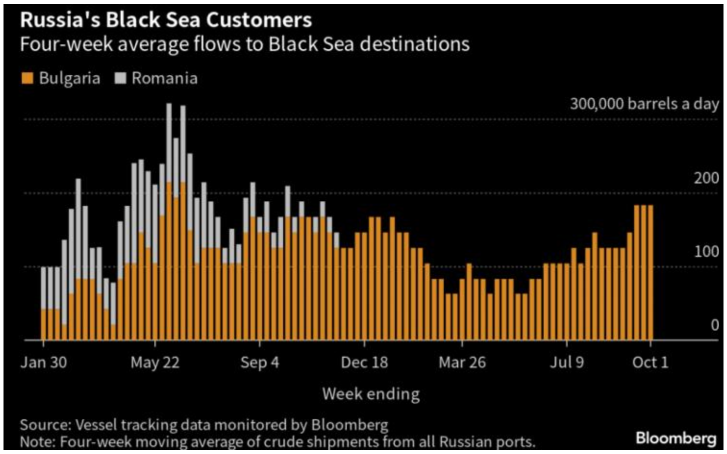
Oil: Russia crude oil shipments in line with commit to cut shipments by 300,000 b/d

Russia oil shipments in line

On Tuesday, we tweeted [LINK] "*Supportive for #Oil price. Russia Oil shipments hit 3-mth high but 4-week average of about 3.3 mmb/d is in line with Russia commitments to reduce to ~3.28 mmb/d. Thx @JLeeEnergy for great recap of RUS oil shipments. #OOTT.*" Bloomberg reported on Russia crude oil shipments for the week ended Oct 1 and the Russia's four-week average crude oil shipments was ~3.30 mmb/d, which is in line with their commitment to reduce oil shipments to ~3.28 mmb/d. Bloomberg wrote "*Russia's seaborne crude exports jumped to the highest in three months in the week to Oct. 1, lifting four-week average flows to a level that's broadly in line with the country's pledge to reduce overseas shipments. About 3.72 million barrels a day of crude was shipped from Russian ports last week, a 24% increase from the previous seven days and the highest since the week ending July 2, tanker-tracking data monitored by Bloomberg show. That lifted the less volatile four-week average to about 3.3 million barrels a day. The jump came after maintenance work disrupted flows from two key ports over the previous weeks, with shipments curtailed first from Kozmino on the Pacific coast and then from Primorsk on the Baltic. Deputy Prime Minister Alexander Novak said in early August that the Kremlin would prolong export restrictions, while tapering the cut to 300,000 barrels a day from September until the end of the year, down from 500,000 for the previous month. The baseline for the reduction was average exports in May and June —*

when seaborne volumes hit new highs. Bloomberg calculations indicate that shipments through ports should be running now at about 3.28 million barrels a day." Bloomberg's report includes data on Russia's oil shipments by export port and by shipment destination. Our Supplemental Documents package includes Bloomberg's Russian seaborne crude flows report.

Figure 29: Russia's seaborne crude shipments thru Oct 1 week



Source: Bloomberg

Russia ban of diesel & gasoline exports

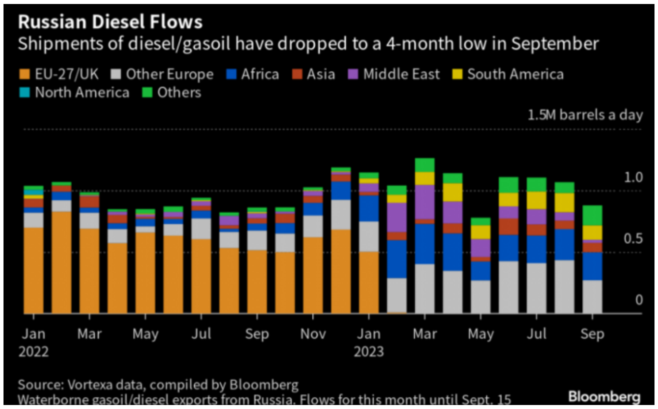
Oil: Russia lifts diesel export ban, but restrictions will hold back some diesel

There was a big surprise on Friday with the reports that Russia had lifted its diesel ban that most, including, us had expected to last at least thru Oct to ensure low diesel prices during harvest season. However, apparently the domestic diesel price has reduced enough to all a lifting of the diesel ban, albeit with some other diesel restrictions/incentives that will ensure less diesel is exported than prior to the ban. Russia lifted the diesel ban but, as noted in the below Russian Government post on Telegram [LINK], there are some added restrictions and incentives that are expected to keep more diesel in Russia. The end result should be a high percentage of diesel being returned to export markets. The Google Translate is "*The government has approved additional systemic measures to maintain stability in the fuel market The fuel damper has been restored since October 1. Changing the damper coefficient from 0.5 to 1.0 will increase compensation to oil refineries for lost income when selling motor fuel on the domestic market and stimulate saturation of the domestic market with fuel, while restraining the growth of wholesale exchange prices, which will ultimately help maintain a stable price situation in retail at a level close to inflation. The share of diesel sales on the stock exchange has also increased from 9.5 to 12%, and for class 5 gasoline – from 13 to 15%. Selling part of the fuel on the exchange allows independent gas stations to purchase it at market prices. This reduces the risks of monopoly pricing. The changes will increase the volume of supply at auctions and increase the share of transactions that are concluded on competitive terms. To counteract gray exports, a protective duty on petroleum products is being introduced - 50 thousand rubles per ton for suppliers who buy products for resale. This also prevents them from exporting class fuel under the guise of other products. Restrictions on the export of diesel fuel delivered to seaports by pipeline have also been lifted, provided* *that the manufacturer supplies at least 50% of the diesel fuel produced to the domestic market. t.me/government_rus /9123 37.4Kviewsedited Oct 6 at 00:00."*

Russia diesel/gasoline export markets

Here is what we wrote in our Sept 24, 2023 Energy Tidbits memo on Russia's diesel export markets prior to the diesel export ban. "*Post the Russian decision, Bloomberg wrote "So far this year, Russia was the world's single biggest seaborne exporter of diesel-type fuel, narrowly ahead of the US, according to Vortexa data compiled by Bloomberg. The country shipped more than 1 million barrels a day during January to mid-September, with Turkey, Brazil and Saudi Arabia being among the main destinations." Bloomberg included the below graph that shows Other Europe (ie. Turkey), South America (ie. Brazil). Our Supplemental Documents package includes the Bloomberg report.*

Figure 30: Russia shipments of diesel/gasoline



Source: Bloomberg

Oil: Russia and Saudi Arabia extended their cuts thru Dec

Russia & Saudi Arabia extend cuts

Early Wednesday morning, we tweeted [LINK] "*Breaking. Saudi continues 1 mmbd cut in production thru Dec. Russia continues 0.3 mmbd reduction in Oil supplied to market thru Dec. Both say will review next month to consider deepening the cut or increasing production. Continued support for #Oil. #OOTT.*" The announcements came out well ahead of the JMMC meeting. The Saudi Press Agency reported [LINK] "*An official source from the Ministry of Energy announced that the Kingdom of Saudi Arabia will continue its voluntary cut of one million barrels per day, which has gone into implementation in July 2023 and was later extended until the end of December 2023. Thus, the Kingdom production in the coming months November and December will be approximately 9 million barrels per day. The source stated that this voluntary cut decision will be reviewed next month to consider deepening the cut or increasing production.*" The Russian government reported reported [LINK] "*Alexander Novak: Russia will continue additional voluntary funds until the end of December 2023 a reduction in supplies to world markets by 300 thousand barrels per day, which entered into force in September and October 2023. Next month will be held analysis of the market in order to make a decision on deepening reduction or increase oil production. This is in addition to the voluntary reduction, previously announced by Russia in April 2023, which will last until the* *end of December 2024 year*." Our Supplemental Documents package includes the Saudi Press Agency and Russian government releases.

Oil: OPEC JMMC meeting was a quick no change recommendation

OPEC+ JMMC on Oct 4

No one should have been surprised to see the OPEC+ Joint Ministerial Monitoring Committee on Wed Oct 4 was a quick meeting that had no changes. And it was a non-event on Wed given tit followed the prior separate announcements by Saudi Arabia to continue its 1 mm\b/d voluntary cut thru Dec and Russia to continues its 300,000 b/d reduction to exports thru Dec. OPEC [LINK] wrote "*The committee reaffirmed the commitment of its member countries to the DoC which extends to the end of 2024 as agreed in the 35th OPEC and non-OPEC Ministerial Meeting (ONOMM) on 4th of June 2023. It also noted the adjustment for the frequency of the monthly meetings to become every two months for the JMMC and the authority of the JMMC to hold additional meetings, or to request an OPEC and non-OPEC Ministerial Meeting as agreed on in the 33rd OPEC and non-OPEC Ministerial Meeting (ONOMM) on 5th of October 2022. The committee will continue to closely assess market conditions noting the willingness of the DoC countries to address market developments and stand ready to take additional measures at any time, building on the strong cohesion of OPEC and participating non-OPEC oil-producing countries. The committee also expressed its full recognition and support for the efforts of the Kingdom of Saudi Arabia aimed at supporting the stability of the oil market and reiterated its appreciation for the Kingdom's additional voluntary cut of 1 million barrels per day and for extending it till end of December 2023. The committee also acknowledged the Russian Federation for extending its additional voluntary reduction of exports by 300 kbd till the end of December 2023. The next meeting of the JMMC (51st) is scheduled for 26 November 2023.*"

Oil: Many questions 1st 36 hrs of Israel/Hamas conflict ie. will Iran be drawn in?

Israel/Hamas conflict

It's been less than 36 hours since the Hamas rocket attack on Israel and its way too early to know what the end result will be and when will that be clear. And that means it is far from clear on how markets will react when they open in Asia tonight for more of how global financial and oil markets are assessing the early hours of the Hama/Israel conflict. We have been glued to the TV and internet and can't believe it's been less than 36 hours since the Hamas attack on Israel. We have a 7am MT new cut off and the Hamas rocket attack starting around 9:30pm MT Friday night. (i) Israel cabinet approves Article 40. What is clear is that this Hamas attack is driving Israel to new levels – a state of war with death tolls estimated over 500, and dozens of hostages taken back to the Gaza strip. (i) Last night, the Israeli security cabinet approved Article 40 (still has to e signed by the Knesset tomorrow) that allows the government to take "*significant military action that may lead, with a level of probability close to certain, to war*." And it also allows PM Netanyahu to take actions without getting cabinet approvals. The first key question is what would or could be significant military action and the initial speculation is on sending in troops. That concern is believed supported by Netanyahu warning residents of the Gaza Strip to get out while they can. What and how Israel does next beyond its bombing will be a key watch item over the next 24-48 hours. (ii) How long will the aftermath last? One thing is clear is that it's different this time from a normal back and forth rockets exchange. Israel will be escalating its counterattacks and this will inevitably have a longer term impact. No one knows if it changes the formula or escalates the ongoing risk. (iii) Will there be a serious Hezbollah escalation on Israel's north. There have been rockets of some type sent into Isrrael from Hezbollah but not yet considered to be a big escalation of the norm. Hezbollah has come out aligned with Hamas. And the concern is that Israel ends up with a two front fight and the Hamas conflict escalates especially as Hezbollah reportedly has rocket/projectile capability multiples stronger than Hamas. And if there is a two-front war, then how does the west and the Arab countries respond? (iii) Will Iran be accused of being directly involved or will Israel expand to the conflict to include Iran? This is the big wildcard, does Israel expand the conflict to include Iran? If so, then it opens up huge risk to oil markets. Yesterday, the US said no evidence to point to Iran being directly involved. But the common view is that Iran has been supply rockets and knowhow on how to build rockets. It's not just a question of proving Iran is directly involved, rather the question is whether Israel will say Iran is directly involved as that will expand the risk. (iv) There is much more but these are a few of our key questions/items to watch after less than 36 hours.

Biden's different response yesterday vs Ukraine

There has been a lot of linkage that the Hamas attack is analogous to the Oct 1973 Yom Kippur War that ultimate led to the Arab Oil Embargo two weeks later. How much will the US and the west be involved in their support for Israel is a key question and this is where the US is being careful to not suggest or hint they will be involved like they are in Ukraine with providing weapons, military advice, etc to Israel. Rather they talk about standing with Israel and Isael has a right to defend itself. Yesterday, Biden's statement [[LINK] "*We will not ever fail to have their back. We'll make sure they have the help their citizens need and they can continue to defend themselves." "You know, when I spoke with Prime Minister Netanyahu this morning, I told him the United States stands with the people of Israel in the face of this terrorist assaults. Israel has the right to defend itself and its people*." Biden did not mention or hint the US would provide weapons to Israel or be involved in any Israel actions (cutting off electricity, food, etc) against Hamas and the people in the Gaza Strip. This is very different than Biden's initial statement after Russia attacked Ukraine, where Biden clearly pointed to some sort of coordinated NATA response against Russia. His Feb 23, 2022 statement [LINK] said " *The prayers of the entire world are with the people of Ukraine tonight as they suffer an unprovoked and unjustified attack by Russian military forces. President Putin has chosen a premeditated war that will bring a catastrophic loss of life and human suffering. Russia alone is responsible for the death and destruction this attack will bring, and the United States and its Allies and partners will respond in a united and decisive way. The world will hold Russia accountable. I will be monitoring the situation from the White House this evening and will continue to get regular updates from my national security team. Tomorrow, I will meet with my G7 counterparts in the morning and then speak to the American people to announce the further consequences the United States and our Allies and partners will impose on Russia for this needless act of aggression against Ukraine and global peace and security. We will also coordinate with our NATO Allies to ensure a strong, united response that deters any aggression against the Alliance. Tonight, Jill and I are praying for the brave and proud people of Ukraine."*

Yom Kippur War began Oct 6, led to the Arab Oil Embargo that changed energy

There has been a lot of commentary on the how the Hamas attack will have a conceptually similar impact as the Yom Kippur War 50 years ago. No question this is a huge attack and deserved of a huge Israel response. The west better hope not because the Yom Kippur War led to a lasting change to energy costs and security. We think there is one key difference today vs 50 years ago. While there isn't any love lost between the Arab nations, especially Saudi Arabia, with the US and the western leaders, 50 year ago seemed like much more anti-west view. Regardless, we think the risk of a Yom Kippur War response is in the minds of the west and why they aren't inferring they will be providing weapons and other direct military support to Israel. Here is what we wrote in last week's (Oct 1, 2023) Energy Tidbits on the 50th anniversary of the Yom Kippur war. "*The Yom Kippur War started Sat Oct 6, 1973 and ended Thurs Oct 25, 1973 and was the catalyst to the Arab Oil Embargo that stated on Oct 19, 1973. It was called the Yom Kippur War as Egypt and Syria attacked on Yom Kippur in their attempt to gain back territory in the Sinai Peninsula that Israel took control of in the famous Six-Day War in 1967. It led to the Arab Oil Embargo that was directed at the countries that supported Israel in the Yom Kippur War - Canada, Japan, Netherlands, UK and US. And then later extended to Portugal, Rhodesia and South Africa.*"

THE" Game changer to oil, the Arab Oil Embargo started Oct 19, 1973

The Arab countries response to the west's support to Israel in the Yom Kippur War has to be in the back of the west's minds and why they haven't suggested any direct weapons or military support to Israel. Here is what we wrote in last week's (Oct 1, 2023) Energy Tidbits memo. "*We have written for decades on the Arab Oil Embargo, which we believe was the game changer to oil and energy, especially we were living in St. Louis when it hit and the impact was immediate. The Arab Oil Embargo started on Oct 19, 1973, which was "THE" game changer to oil markets and many energy related parts of the economy. 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 quadrupled 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 decisively and quickly 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). And to the US mandating other fuel efficiency items like reducing interstate highway speeds to 55 mph. Most can remember in the Canada even with a 70 mph speed limit on the 401 and in the 70's, most did 10 mph above the max. 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. Don't forget there was no self service gas stations so you couldn't fill up in violation of the restrictions. In areas that had poor access to gasoline, it was common to line up for 30 min to an hour for gasoline. The end of the oil embargo was on March 13, 1974."*

Oil: Yesterday's news, WSJ says Saudi willing to add oil to secure Biden Israel deal

OPEC+ JMMC on Oct 4

There was a great example of yesterday's news. On Friday after markets, the WSJ reported a story that was to be the oil markets story for Monday but that was before the Hamas attacked Israel. On Friday after markets, WSJ posted its report saying "*Saudi Arabia has told the White House it would be willing to boost oil production early next year if crude prices are high—a move aimed at winning goodwill in Congress for a deal in which the kingdom would recognize Israel and in return get a defense pact with Washington, Saudi and U.S. officials said."* There was a lot of oil commentary on this report. We immediately had trouble believing this and realized that that the oil chatter was only focused on the headlines of the WSJ report and didn't pay attention to paragraph 3 of the report. We tweeted [LINK] "*Beyond headlines, see paragraph 3 "Still, Saudi negotiators emphasized that market conditions would guide any action on production". Hard to see Saudi adding #Oil in early Q1, the seasonally low demand period . But a Q1 decision to add Oil into physical markets in Q2 for seasonal increasing demand could make sense.* #OOTT." The WSJ paragraph 3 was overlooked and said "*Still, Saudi negotiators emphasized that market conditions would guide any action on production and officials familiar with the talks said the discussions didn't represent a long-term agreement to cut prices."* We tweeted as we had trouble believing Saudi Arabia would give up their long worked on credibility with its OPEC+ partners, oil and financial markets for Biden's Israel deal push. But, until it's clear what emerges from the first 36 hours of the Hamas/Israel conflict, we have to believe any Biden plan for Isrrael/Saudi Arabia grand deal is put on the backburner. Our Supplemental Documents package includes the WSJ report.

Saudi's Saturday morning statement on Israel/Hamas

We like everyone in North America was surprised to wake up yesterday morning and see the Hamas attack reports. We have been glued to the switching flipping from BBC, CNN, MSNBC and Al Jazeera for the past day as well as scanning as many Middle East news as possible. Yesterday morning, we tweeted a followup to our above Friday night tweet on the WSJ report. We tweeted [LINK] "👇*Saudi calls for an "immediate cessation of escalation" between Israel and Palestinians. Netanyahu "we are at war". Would seem difficult for Saudi to move to deal with Israel in the face of escalating Hamas/Israel conflict while maintaining support for Palestinians? #OOTT."* The Saudi Press Agency reported [LINK] "*The Kingdom closely follows the unprecedented developments between a number of Palestinian factions and the Israeli occupation forces, and calls for an immediate cessation of escalation between the two sides, the protection of civilians, and restraint. The Ministry of Foreign Affairs issued the following statement today: The Kingdom of Saudi Arabia is closely following the developments of the unprecedented situation between a number of Palestinian factions and the Israeli occupation forces, which resulted in an increase in the level of violence on a number of fronts there. The Kingdom calls for an immediate de-escalation between the two sides, the protection of civilians, and restraint. The Kingdom recalls its repeated warnings of the dangers of the situation exploding as a result of the continued occupation, the deprivation of the legitimate rights of the Palestinian people and the repetition of systematic provocations against their holy sites. The Kingdom reiterates its call on the international community to shoulder its responsibilities and activate a credible peace process leading to a two-*

state solution in order to achieve security and peace in the region and protect civilians."

Oil: Not clear how Hamas/Israel will impact our view when Saudi adds back oil supply

When will Saudi add back oil supply?

The qualifier to this point is that it was from Tuesday night before the uncertainty on what happens to the Middle East from Hamas/Israel conflict. It was a little bit of bad timing for us on Tuesday night. We were asked to be on the A block on Brian Sullivan's CNBC Last Call on Tuesday night to talk about the Wed OPEC JMMC meeting. The unfortunate timing was that the Kevin McCarthy stepping down had just broken in the minutes before the A block so our interview was cut from about 8 min to 3 min. Regardless, it was great to be on his show as we are big fans of Brian given he knows every significant oil person in the world starting with Saudi Energy Minister Abdulaziz. (i) We could only give a short bit of what we prepared to say on the CNBC question does $90 oil bring OPEC oil supply sooner? Here are a few of our key points. We don't look at this as an OPEC+ or Russia decision. It's a Saudi decision. For OPEC+. They will have to wait until either after Saudi/Russia bring back their voluntary cuts or simultaneous with Saudi/Russia. Russia is in a different spot. But we don't think they have much choice to follow Saudi's lead and do the bare minimum of what they promised. Which they seem to be doing based on Sept oil shipments. The last thing Russia wants is Saudi to put other producers back in line. So it all comes down to Saudi and Prince Abdulaziz and when will he think is the right time to add back his voluntary 1 mmb/d cut. When he does decide to do so, we have to believe it will be done in one shot and not in stages. (ii) It's not now, we see no reason even with $90 oil for him to consider adding back the 1 mmb/d at this time. Putting aside for the moment what has happened to markets in the last week on higher for longer rates that the market is clearly pricing in for interest rates, but also the impact of interest rates are hitting sectors like renewable energy stocks. Go back five months and the supply and demand factors that led to the Saudi 1 mmb/d voluntary cut aren't better, arguably a little worse. On supply - Iran has just hit 5 yr production highs, Venezuela hit 800,000 b/d exports, and US oil production has been stronger than move everyone expected given that drilling hasn't ramped up. On demand, the number one holdback to demand is China. There are probably even deeper questions on China today than there were five months ago. But on the numbers. Domestic air flights are up with Super Golden Week but probably 15% less than what was expected. PMI numbers and the commentary is that there still isn't solid footing for the recovery of the economy. And the big one is the Chinese consumer. Remember Chinese don't have our safety nets on health, pensions, etc. That's why we think it means more when the Chinese are taking their money out of saving to travel or buys stuff. And we just saw BlackRock CEO Larry Fink last week on how, in his words, the Chinese consumer is "*frightened*" to spend. Their savings rate has gone from 35% of disposable income pre Covid to 50% now. There is multi trillion dollars of excess savings that keeps growing because the Chinese are frightened to spend. Don't forget on the flip side, when they start to spend we should see a big boost just like we saw the consumer lead the US recovery. So prior to the higher for longer interest rate hit on markets, supply/demand gave no reason for Saudi to add back oil. Now add in the last week and how the markets reacted in the last couple days pricing in a higher for longer rate rtes. And don't forget US rates flow thru to other regions who can't handle the higher rates as well. So even if Saudi had given an ounce of thought to add back the 1 mmb/d voluntary cut, the past few days has only reinforced they were right to do what they did for oil price stability and right to not change. (iii) When? Back to timing, the other overlooked demand factor by non-oil people is that oil demand is always seasonally lower in Q1 of every year vs the preceding Q4, and normally call it a 1.5 mmb/d or so. So even if the supply/demand was a little better, the fact that oil demand is down QoQ in Q1 ever4y years makes it hard to see why Saudi add back barrels until the barrels won't hit the market until after Q1 and in the lead up to summer oil demand. So we think the most likely early time for an add back is either late in Q1 or early in Q2 so the barrels can hit the market for the normal big seasonal increase in demand in the summer. (iv) We also told CNBC that this our view unless some unknown event that hits supply, all the data and indicators really haven't changed the argument as to why Saudi put did the voluntary 1 mmbd. If anything, the supply and demand and new higher for longer interest gives Prince Abdulaziz more reason to say he was right and there is no reason to change his action. But there will be big pressure in an election year to do so for him to do in that late Q1/early Q2 period with the 2024 elections. We think that will be the key test. To add back 1 mmb/d to physical markets until sometime in Q2 at the earliest. (v) Reminder this is what we told CNBC on Tuesday night ahead of the OPEC JMMC Wed meeting and ahead of Hamas/Israel conflict this weekend. And that is far from clear what will happen.

Oil: Saudi to continue to search for "OPM", other people's money, for Vision 2030

Saudi use of OPM

Yesterday, we tweeted [LINK] "*Here's why Saudi will work to strong #Oil prices in 2020s. Saudi projects deficit for 2024. Overlooked is what i call their #1 financial theme in the 2020s is increasing use of OPM to finance Vision 2030.* 👇*Saudi may not say Other People's Money but that is what it is. #OOTT."* Last weekend (Sept 30), the Saudi Ministry of Finance posted its Pre-Budget Statement for FY 2024. The headlines this week on it were all on how Saudi projects a budget deficit for FY 2024. "*Today, September 30 2023, the Ministry of Finance announced its pre-budget statement for FY 2024, saying that it estimates total expenditures will reach SAR 1,251 billion, and total revenues SAR 1,172 billion."* That would be a deficit of US$21.3 billion using a 0.27 exchange rate. We didn't see anyone highlight what we have been calling for the past few years the #1 financial theme for Saudi Arabia for the 2020s – its increasing use/need for Other People's Money to finance its Vision 2030. In the pre-budget statement, Saudi Arabia didn't use the specific words Other People's Money but that is what their statement said. "*In addition, the government will continue to search for available opportunities after considering the market conditions to finance strategic capital projects and infrastructure, seeking to diversify financing channels, to maintain capital efficiency and deepen debt markets. It is expected that the size of the public debt portfolio will increase as a result of the expansion in spending. This is to accelerate the implementation of some social and economic programs and projects to achieve Saudi Vision 2030 goals."* Using OPM doesn't mean the investment opportunities won't be profitable, rather it's a reminder that Saudi Arabia will be using/needing increasing OPM for the coming decade or longer. Our Supplemental Documents package includes the Saudi Ministry of Finance pre-budget statement. [LINK]

Saudi nest egg, its net foreign assets down $329.6b in last nine years

We have been reporting on the monthly change in Saudi Net Foreign assets for over three years because we believe the huge burn is a key reason why we thought Saudi Arabia would be working hard to keep strong oil prices after the Covid oil price crash. Here is what we wrote in last week's (Oct 1, 2023) Energy Tidbits memo. *"On Monday, the Saudi Central Bank (SAMA) released it's Monthly Statistical Bulletin for the month of August [LINK]. We continue to believe the #1 financial theme for Saudi*

Arabia in the 2020s will be their continued, and likely increasing, use of Other People's Money as they try to transition their country to MBS's Vision 2030. We believe this has been obvious with how Saudi Arabia's net foreign assets dropped by 45% or $329.6b over the last nine years. We are surprised that markets and oil watchers didn't seem to pay attention to the Saudi net foreign assets data i.e., what we call their nest egg to help them their push to MBS's Vision 2030. There was a +$0.4b MoM increase to $407.4b vs $407.1b in July. Saudi net foreign assets at August 31 of $407.7b is a decline of 45% of $329.6b over the last 9 years from its peak of $737.0b on Aug 31, 2014. That is an average of $3.1b per month for the last 108 months since the peak. One factor over the last several years is that Saudi Arabia has been moving more capital to its PIF (Public Investment Fund) but those would generally be into less liquid assets. Saudi Arabia is far from going broke but there has been a huge decline in the last 9 years, but it is still a big nest egg. This net foreign asset depletion is why we have been highlighting that the primary financial theme for Saudi Arabia in the 2020s is getting Other People's Money (OPM) to fund as much of their Vision 2030 as possible. And no question, accessing OPM has helped to slow down and temporarily pause the decline in net foreign assets. Below is our graph of Saudi Arabia net foreign assets updated for the August 31 data."

Figure 31: Saudi Arabia Net Foreign Assets

Source: Bloomberg

Oil: Iran says it's at 3.1 mmb/d oil production, can add 0.3 mmb/d by 2027

Iran at 3.1 mmb/d oil production

We have been highlighting how Iran has cranked up oil production by ~0.5 mmb/d over the past few months. And we continue to believe Iran could crank up its production by more than 1 mmb/d if sanctions were to be removed. But, at least for now, it looks like Iran is suggesting the next added 0.3 mmb/d would take 3 years ie. not as much near term big upside as might be expected. Last week (Sept 29), Iran posted an update on its oil and condensate production on Shana, the news agency for the ministry of oil. [LINK]. (i) Iran reported that its "oil" production recently reached 3.1 mmb/d and that increased to 3.8 mmb/d including condensate. Also that it's gas production is now "more than 1 bcm/d of rich gas, which would be >35 bcf/d. Note their adjective "rich" gas, which infers not dry gas. (ii) Iran also separately provided the production levels for the NISOC, National Iranian South Oil Company, "*accounting for 75% of the country's oil production."* The interesting part of the report is that Iran is suggesting that it can only add >0.3 mmb/d over the next few years. Shana wrote "*According to a five-year plan submitted to the Ministry of Petroleum, NISOC* *intends to bring its production from the current 2.943 mb/d to 3.279 mb/d by 2027*." Our Supplemental Documents package includes the Shana report.

Oil: Still no visibility to when restart Kurdistan/Iraq oil via Turkey

Kurdistan oil via Turkey

As of our 7am MT news cut off, there doesn't seem like any visibility to when there could be a restart of Kurdistan/Iraq oil via the Turkey pipeline to export from Ceyhan. Rather, our view is unchanged, it seems like this could last for longer than expected. And that there are two deals, not one deal to be made. We have highlighted for weeks that Turkey has an ask on what they want and we have seen no indication that Iraq and Turkey have reached a deal. And then there is still a Iraq/Kurdistan deal that still is unresolved. It seems like it's in Baghdad's hands and our concern remains that the OPEC+ quotas are to run thru Dec 2024 so Iraq can't crank up production. Iraq's oil exports are flat and it's Kurdistan oil that is being shut-in so, under the continued OPEC+ quota, Baghdad isn't being disadvantaged. (i) However, this week, there was clarity that the pipeline is ready to move oil, it's just down to the financial and other issues. On Monday, Bloomberg and others reported "*Turkey said a key pipeline bringing oil from northern Iraq to the Mediterranean coast can resume this week, though an Iraqi official cast doubt on that timetable. The pipeline — which carries almost half a million barrels of crude a day — has been offline since March amid a payment dispute between Ankara and Baghdad. Turkey has also said repairs following damage from an earthquake are complete. "The pipeline is ready to operate and within this week, we will start operating the Iraqi-Turkey pipeline, which after resuming operations will be able to supply half a million barrels" of oil a day to global markets, Turkish Energy Minister Alparslan Bayraktar said in Abu Dhabi on Monday. An Iraq official said oil flows can't resume until commercial and financial issues have been resolved."* (ii) The Iraqi News Agency [LINK] confirmed that the issues are in Baghdad's court without specifically saying what issues. On Thursday, they reported on comments from Turkey's energy minister Bayraktar following his meeting with Iraq's ambassador to Turkey. INA wrote "*Bayraktar confirmed that "the Turkish technical teams have completed the technical and logistical procedures for resuming the pumping of Iraqi oil through the pipeline," explaining that "the issue is now in the custody of the Iraqi side."* (iii) Kurdistan oil companies say still need to confirm revenue splits. On Wednesday, Rudaw (Kurdistan news) reported [LINK] "*The Association of the Petroleum Industry of Kurdistan (APIKUR) said in a statement that it "welcomes this development [minister's comments], which can be a step towards the long-awaited recommencement of international export of crude oil produced in the Kurdistan Region." The petroleum association stressed that even if the Iraq-Turkey pipeline were to reopen, the member companies would not be "in a position to produce oil for pipeline exports" IOCs are paid their contractual entitlements of oil sold and delivered "in the past and for future sales of such oil exports." "APIKUR members are currently owed nearly $1 billion in overdue and unpaid arrears," stressed the association in the statement. APIKUR stated that some IOCs hold production sharing contracts (PSCs), and in the absence of an agreement on payments, "member companies will have to sell their contractual entitlements of crude oil to buyers who can give certainty of payments for oil deliveries*." Our Supplemental Documents package includes the Rudaw report.

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

Here is what we wrote in our Sept 17, 2023 Energy Tidbits memo on Turkey's latest public comments. "*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."*

Oil: Libya oil production stable at ~1.2 mmb/d

Libya oil stable at 1.2 mmb/d

We expect to see the Libya National Oil Corporation post an updated Facebook post on its oil production either today or tomorrow. But, as of our 7am MT news cut off, the latest NOC production update was posted on Monday. Note that the NOC still isn't keeping up their Twitter reporting post the flood but has posted more on Facebook. The Google Translate of the NOC Monday Facebook post [LINK] was "*Crude oil production reached 1,208,000 barrels per day, and condensate production reached 50,000 barrels per day during the past 24 hours."* This is unchanged from the ~1.2 mmb/d levels over the past several months. .

Oil: China says travel and spending were up in just finished Golden Week

China consumer spending up in Golden Week

The big travel rush for the combined major holiday season is generally ending today. We have been reminding that China is now in a major travel period that will crank up air travel and also crank down city-level road congestion. On Sept 24, we tweeted we tweeted [LINK] "*Reminder. Major 12-day travel rush is coming, expected from Sept 27 to Oct 8 for Mid-Autumn Festival & National Day holidays. Should see big increase in China domestic flights and big decrease in China Baidu city-level road congestion. #OOTT."* We have been highlighting this because it should lead to be swings in the data for China schedule domestic flights and China Baidu city-level road congestion as people leave cities for holiday and then return to get back to work. Yesterday, Global Times (China state media) reported [LINK] "*The average daily number of inbound and outbound trips reached 1.47 million during the holiday period, which ended on Friday, the National Immigration Administration said on Saturday. The number is 2.9 times that of the same period in 2022, yet only stands at 85.1 percent of the same period in 2019. The data is seen as a sign that cross-border trips have* *been experiencing a strong recovery since China relaxed COVID-19 restrictions earlier in 2023, yet the growth still pales in comparison with domestic travel. During the eight-day holidays, 826 million domestic tourist trips were made in the country, an increase of 71.3 percent from 2022 and a rise of 4.1 percent from 2019, the Ministry of Culture and Tourism said on Friday."* Perhaps the most interesting indicator was in a Global Times Friday report [LINK] "*According to consumption data for this year's Mid-Autumn and National Day holidays compiled by Meituan, daily average consumer spending across the country increased by 153 percent compared to the same period in 2019, marking it the most prosperous holiday season in five years. Among the top five cities in terms of consumer spending were Shanghai, Beijing, Chengdu, Chongqing, and Shenzhen*."

Oil: China scheduled domestic flights up WoW with Golden Week travel

China scheduled domestic flights

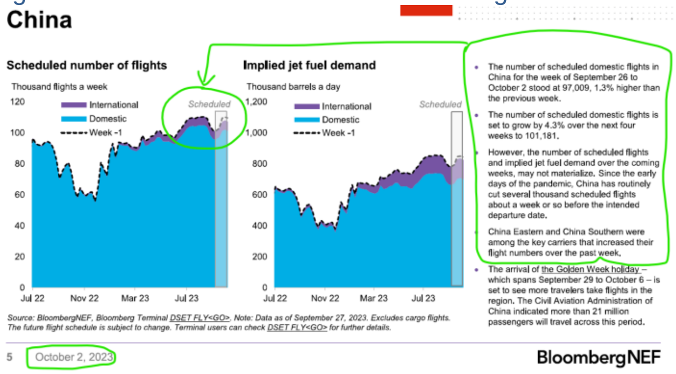
On Monday, we tweeted [LINK] "*China consumer still hesitant, see 👇09/29 tweet. Start of 12-day Golden Week travel rush = China scheduled domestic flights +1.3% WoW to 97,009. But this is 5% less than 102,285 originally scheduled for this period. Thx @BloombergNEF Claudio Lubis. #OOTT."* (i) Early Monday morning, BloombergNEF posted its Aviation Indicators Weekly Oct 2. (ii) China scheduled domestic fights have been declining, as expected, post the summer holidays but were up this week. An increase was expected with the start of the 12-day travel rush for the Mid-Autumn and National Day "Golden Week" holidays. It's up but still less than expected or hoped. The scheduled domestic air flights still reflect a lesser level of flights than expected a month ago ie. there still isn't the level of confidence in the Chinese consumer to jump in and start spending. This week's 4-week lookahead of scheduled flights is +4.3% to 101,181 flights. But this is less than the lookahead from Sept 27 of 103,570 flights and from Sept 19 that had 104,947 flights. (iii) China scheduled domestic flights were up Wow following three consecutive WoW declines at the end of summer. China scheduled domestic flights were up +1.3% WoW to 97,009 flights for the Sept 26-Oct 2 week, compared to 95,742 flights for the Sept 19-25 week, 95,853 flights for the Sept 12-18 week, 98,469 flights for Sep 5-11 week, and 103,637 flights for Aug 29-Sep 4 week. At 97,009 flights, it is still less than what was expected a month ago, when the Sept 13 report wrote the then 4-week lookahead was to grow by 6.6% to 105,953 flights. (iv) BloombergNEF's updated scheduled domestic flights over the next four weeks is expected to increase by 4.3% to 101,181 flights. Note this is lower than expected over the past two weekly reports. Last week's (Sept 26) report saw the then 4-week lookahead at 103,570 flights and the prior week's (Sept 19) report saw the then 4-week lookahead at 104,947 flights. As noted above, the increase makes sense given the big upcoming national holidays. (v) Also note how it was clear that the outlook tipped negative right after the March 28- Apr 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 then forecast a massive jump to 119,180 flights over the then next 4-weeks. Domestic scheduled flights have never got close to 119,180 flights. Below is our running WoW changes from the prior BloombergNEF reports and the BloombergNEF charts from Oct 2 and March 28, and our listing of WoW changes from the prior BloombergNEF reports.

Figure 32: China scheduled domestic flights from BNEF Aviation Indicators Weekly reports

Sept 26-Oct 2: +1.3% WoW to 97,009 flights
Sept 19-25: essentially flat WoW to 95,742 flights
Sept 12-18: -2.7% WoW to 95,853 flights
Sept 5-11: -5.0% WoW to 98,469
Aug 29-Sep 4: -1.2% WoW to 103,637
Aug 22-28: +0.2% WoW to 104,932
Aug 15-21: -0.1% WoW to 104,716
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

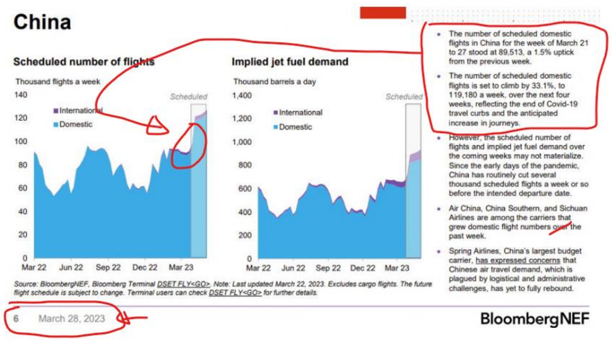
Source: BloombergNEF

Figure 33: China scheduled domestic air flights as of Oct 2



Source: BloombergNEF

Figure 34: China scheduled domestic air flights as of March 28



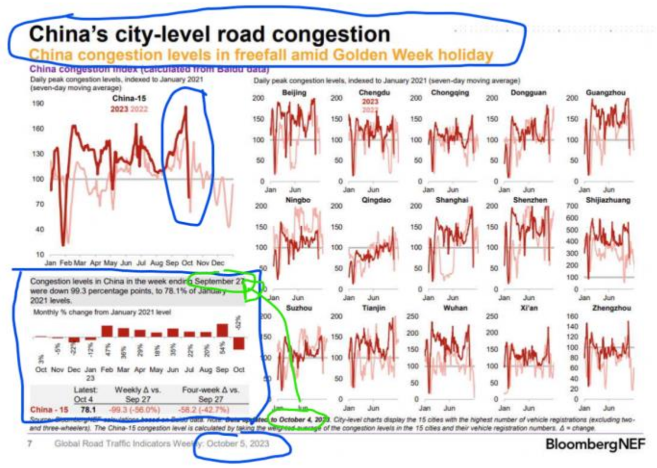
Source: BloombergNEF

Oil: Baidu China city-level road congestion halved amid holiday season

China city-level traffic congestion

The headlines from the BloombergNEF Global Road Traffic Indicators Oct 5 report were "*China traffic levels halved amid holiday season*" and "*China congestion levels in freefall amid Golden Week holiday".* (i) On Thursday, we tweeted [LINK] *"Expected big WoW crash in China Baidu city-level road congestion with 12-day travel rush as Mid-Autumn Festival combines with Golden Week. Plus no Covid restrictions in 2023. Thx @BloombergNEF. #OOTT."* (ii) For the week ended Oct 4, 2023, Baidu data for China city-level road congestion was -56.0% WoW to 78.1% of Jan 2021 levels. A big WoW decline was expected with the 12-day travel rush with the combined holidays for mid-Autumn Festival and National Day holidays. The WoW decline followed eight consecutive WoW increases in city-level road congestion as summer holiday season ended and people returned to cities and back to work. (iii) For the Top 15 Cities in aggregate, they ended up for Sept at 97% of Sept 2021 levels vs Sept 2022 that was 87% of Sept 2021 levels. Ten of the top 15 cities were higher YoY and 5 were lower YoY. (iv) For the limited Oct data to Oct 4, there are two key factors at work – this year Mid Autumn Festival rolled into National Day Holidays to create a 12-day travel rush, and the removal of Covid restrictions this year means that people are free to travel when they weren't in 2022. For the first four days of Oct but the Top 15 cities in aggregate are only 43% of Oct 2021 levels vs Oct 2022 that was 90% of Oct 2021 levels. All 15 cities are down YoY and at a fraction of 2021 levels. National Day holidays is actually one week from Oct 1-7 for holidays. But there is a big difference to this year's holidays in that 2023 is seeing the Mid-Autumn Festival holidays run into and the National Day holidays creating a 12-day travel rush, whereas Mid-Autumn Festival was much earlier and did not overlap in 2021 and 2022. Mid Autumn Festival was around Sept 29 this year, around Sept 10 in 2022, and around Sept 21 in 2021. So we expect the much longer holiday period led to more people leaving the cities but that is also helped by China being a little stronger in 2023 and the end of Covid restrictions at the beginning of 2023 letting people travel this year.

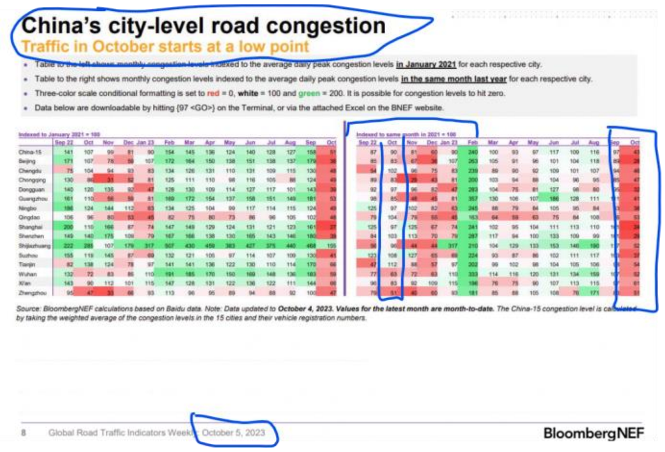
Figure 35: China city-level road congestion for the week ended Oct 4



Source: BloombergNEF

SAF GROUP

Figure 36: China city-level road congestion for the week ended Oct 4



Source: BloombergNEF

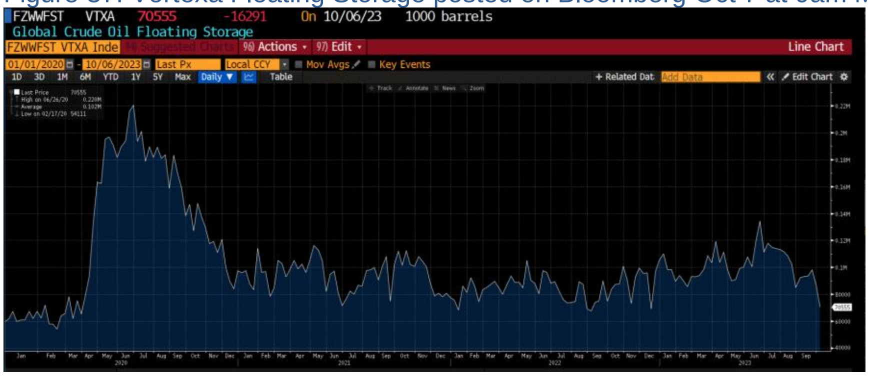
Oil: Vortexa crude oil floating storage est 70.56 mmb at Oct 6, -16.29 mmb WoW

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 30 at 9am MT. (i) The headline would be a huge positive with a -16.29 mmb WoW drop to 70.56 mmb but the holdback is that the last five weeks were all revised up approx. +8 mmb. Even still, the last seven weeks average of 88.54 mmb is down a whopping 45.60 mmb vs the recent June 23, 2023 peak of 134.14 mmb. (ii) As of 9am MT yesterday, Bloomberg posted Vortexa crude oil floating storage estimate for Oct 6 at 70.56 mmb, which is -16.29 mmb WoW vs upwardly revised Sept 29 of 86.85 mmb. Note Sept 29 was revised +8.93 mmb vs 77.93 mmb originally posted at 9am on Sept 30. (iii) Revisions. There were big upward revisions for the last five weeks. The revisions from the estimates posted yesterday at 9am MT vs the estimates posted on Bloomberg at 9am MT on Sept 30 are as follows: Sept 29 revised +8.93 mmb. Sept 22 revised +8.69 mmb. Sept 15 revised +7.85 mmb. Sept 8 revised +6.99 mmb. Sept 1 revised +8.22 mmb. Aug 25 revised +3.94 mmb. Aug 18 revised +2.05 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 88.54 mmb vs last week's then seven-week average of 86.42 mmb. The increase is due to upward revisions for the last seven weeks more than offsetting the drop of a big week in the 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) Oct 6 estimate of 70.56 mmb is -149.75 mmb vs the Covid peak of 220.31 mmb on June 26, 2020. (viii) Oct 6 estimate of 70.56 mmb is +4.95 mmb vs pre-Covid Feb 28, 2020 of 65.61 mmb. (ix) Oct 6 estimate of 70.56 mmb is -12.96

mmb YoY vs Oct 7, 2022 of 83.52 mmb. (x) Below are the last several weeks of estimates posted on Bloomberg as of 9am MT Oct 7, 9am MT Sept 30, and 9am MT Sept 23.

Figure 37: Vortexa Floating Storage posted on Bloomberg Oct 7 at 9am MT



Source: Bloomberg, Vortexa

Figure 38: Vortexa Estimates Posted 9am MT on Oct 7, Sept 30, and Sept 23

Posted Oct 7, 9am MT

FZWWFST VTXA Inde — 01/01/2020 - 10/06/2023

	Date	Last Px
Fr	10/06/2023	70555
Fr	09/29/2023	86846
Fr	09/22/2023	98074
Fr	09/15/2023	93663
Fr	09/08/2023	93249
Fr	09/01/2023	92371
Fr	08/25/2023	85005
Fr	08/18/2023	102.389k
Fr	08/11/2023	108.306k
Fr	08/04/2023	111.692k
Fr	07/28/2023	113.137k

Sept 30, 9am MT

FZWWFST VTXA Inde — 01/01/2020 - 09/29/2023

	Date	Last Px
Fr	09/29/2023	77932
Fr	09/22/2023	89388
Fr	09/15/2023	85808
Fr	09/08/2023	86258
Fr	09/01/2023	84147
Fr	08/25/2023	81072
Fr	08/18/2023	100.343k
Fr	08/11/2023	105.783k
Fr	08/04/2023	111.572k
Fr	07/28/2023	111.529k
Fr	07/21/2023	111.665k

Sept 23, 9am MT

FZWWFST VTXA Inde — 01/01/2020 - 09/22/2023

	Date	Last Px
Fr	09/22/2023	91620
Fr	09/15/2023	86421
Fr	09/08/2023	87552
Fr	09/01/2023	83641
Fr	08/25/2023	80788
Fr	08/18/2023	98377
Fr	08/11/2023	104.428k
Fr	08/04/2023	110.633k
Fr	07/28/2023	111.023k
Fr	07/21/2023	108.16k
Fr	07/14/2023	111.502k

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 29, in total, was revised +8.93 mmb. The main revisions in a region vs the originally posted (as of 9am Sept 30) floating oil storage for Sept 29 were Asia revised +5.08 mmb and Other revised +2.62 mmb. (ii) Total floating storage was -16.29 mmb WoW. The largest WoW changes were Asia -14.56 mmb WoW, Other -7.04 mmb WoW and West Africa +2.22 mmb WoW. (iii) Oct 6 is down a whopping -63.58 mmb vs the recent June 23, 2023 peak of 134.14 mmb. The major changes by region vs the recent June 23 peak are Asia -36.77 mmb and Other -27.07 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 29 that was posted on Bloomberg at 9am MT on Sept 30.

Figure 39: Vortexa crude oil floating by region

Vortexa Crude Oil Floating Storage by Region (mmb)				Original Posted	Recent Peak	
Region	Oct 6/23	Sept 29/23	WoW	Sept 29/23	Jun 23/23	Oct 6 vs Jun 23
Asia	37.89	52.45	-14.56	47.37	74.66	-36.77
Europe	5.10	4.28	0.82	3.75	6.45	-1.35
Middle East	7.09	5.73	1.36	5.79	7.03	0.06
West Africa	8.90	6.68	2.22	5.93	7.87	1.03
US Gulf Coast	1.49	0.58	0.91	0.58	0.97	0.52
Other	10.09	17.13	-7.04	14.51	37.16	-27.07
Global Total	70.56	86.85	-16.29	77.93	134.14	-63.58
Vortexa crude oil floating storage posted on Bloomberg 9am MT on Oct 7						
Source: Vortexa, Bloomberg						

Source: Bloomberg, Vortexa

Oil: Air cargo in August "Air cargo recorded first annual growth since Feb 2022"

Air cargo up YoY in August

We look at international air cargo as the data that affirms the level of export orders and trade. On Tuesday, the International Air Transport Association (IATA) announced cargo data for the month of August [LINK]. The headline was "*Global cargo tonne-kilometers (CTKs) increased by 1.5% year-on-year (YoY) in August, the first annual growth in 19 months since February 2022. Industry CTKs were 1.3% lower than their 2019 levels.*" But the IATA then warned "*Air cargo's historic tie with industrial production and cross-border trade trended back to realignment. However, the sustained annual contraction of trade remains a worrying signal to air cargo demand.*" And qualified the growth "*The positive annual growth in global CTKs is also a result of a lower baseline in 2022.*" Positive but still some concerns. Our Supplemental Documents package includes the IATA release.

Figure 40: August 2023 Air Cargo Market

	World share[1]	August 2023 (% year-on-year)			
		CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]
TOTAL MARKET	***100.0%***	**1.5%**	**12.2%**	**-4.4%**	**42.0%**
Africa	*2.0%*	-4.7%	3.8%	-3.5%	38.8%
Asia Pacific	*32.4%*	4.9%	28.5%	-9.9%	44.3%
Europe	*21.8%*	-0.2%	3.6%	-1.8%	48.4%
Latin America	*2.7%*	6.2%	13.7%	-2.3%	32.6%
Middle East	*13.0%*	1.4%	15.7%	-5.8%	40.7%
North America	*28.1%*	-1.2%	2.7%	-1.5%	37.7%

Source: IATA

Oil: Asia Pacific Airlines August air traffic results show declining air cargo volume

Asian Pacific air traffic in August

On Thursday, the Association of Asia Pacific Airlines released its August traffic results [LINK] which is comprised of aggregate data across a total of 40 Asia Pacific airline carriers. (ii) Air travel. International passenger air travel on the 40 airlines is up big YoY, but still well below 2019 levels. The AAPA reports preliminary August travel figures "*showed further recovery in international passenger markets, underpinned by robust travel demand and expansion in city-pair connections from both outside and within the region. In total, Asia Pacific airlines carried*

25.7 million international passengers in August, a solid 129.7% year-on-year growth compared to the same month last year, bringing demand to average 76.5% of pre-pandemic levels. In revenue passenger kilometres (RPK), demand rose by 102.0% year-on-year, while available seat capacity expanded by 88.7%, leading to a 5.4 percentage point increase in the average international passenger load factor to 82.8%". (iii) Air cargo is declining, which is an indicator for the global economy. The AAPA wrote "*Meanwhile, renewed declines in export orders prolonged the decline in air cargo markets. Demand, as measured in freight tonne kilometres (FTK), saw a slight 1.8% year-on-year fall in August when compared to the subdued volumes recorded in the same month last year. The international freight load factor remained under pressure, recording a 6.6 percentage point decline to average 58.8% for the month, after accounting for a 9.2% yearon-year expansion in offered freight capacity."* Below is a snapshot of the APAA's traffic update.

Figure 41: APAA Preliminary International Air Traffic Data

International	Aug-23	Aug-22	% Change
Passengers (Thousand)	25,693	11,187	+ 129.7%
RPK (Million)	94,842	46,947	+ 102.0%
ASK (Million)	114,505	60,680	+ 88.7%
Passenger Load Factor	82.8%	77.4%	+ 5.4 pp
FTK (Million)	5,388	5,489	- 1.8%
FATK (Million)	9,159	8,390	+ 9.2%
Freight Load Factor	58.8%	65.4%	- 6.6 pp

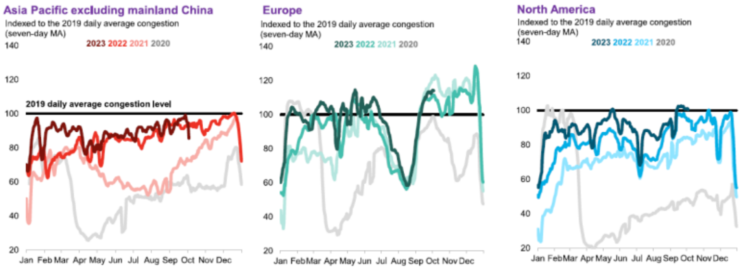
Source: APAA

Oil: TomTom mobility indicators: EU increases, EU and Asia Pacific decrease WoW

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 Oct 3, North American traffic levels decreased by -0.7% WoW, while Europe and Asia Pacific (ex-China) traffic level increased +0.6% and decreased -12.9% WoW, respectively. Traffic levels in Europe, North America, and Asia Pacific (ex-China) traffic are +14.0%, +0.5% and -14.4% compared to the 2019 average and are +2.2%, +6.0% and -8.6% YoY, respectively. Traffic in Europe has recovered to pre-summer levels while Asia Pacific (ex-China) is experiencing its expected big drop due to the golden week holidays. It is 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 42: Mobility Indicators



	Week-on-week (2019 average = 100)				Year-on-year (same week last year = 100)			
	Latest week: Oct 3	Δ vs. Sep 26	4-week MA	Δ vs. Sep 26	Latest week: Oct 3	Δ vs. Sep 26	4-week MA	Δ vs. Sep 26
Asia Pacific ex-China	85.6	-12.7 (-12.9%)	93.6	-0.9 (-0.9%)	91.4	-14.3 (-13.6%)	100.4	-1.0 (-1.0%)
Europe	114.0	+0.6 (0.6%)	110.4	+5.2 (5.0%)	102.2	-1.6 (-1.6%)	101.4	+1.1 (+1.1%)
North America	100.5	-0.7 (-0.7%)	101.0	+4.0 (4.2%)	106.0	+0.9 (0.9%)	104.7	+1.3 (+1.3%)

Source: BloombergNEF calculations based on TomTom data. Note: ***Data updated to October 3, 2023****. Δ = change. MA = moving average.*

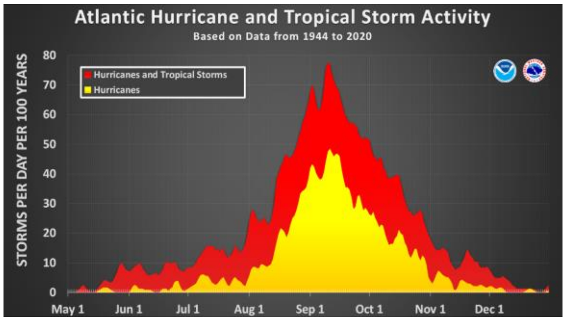
Source: BloombergNEF

Oil & Natural Gas: Oct is normally still an active Atlantic hurricane month

Peak hurricane season is mid-Aug to mid-Oct

It's been a good hurricane season so far for the oil and gas sector in the Gulf of Mexico as most of the Atlantic hurricanes/tropical storm activity has been on the Atlantic side and not in the Gulf of Mexico. Its now Oct 8 so the normal peak for Atlantic hurricane season has just passed but, normally, October tends to be an active hurricane activity month. No two hurricane seasons are identical and there will always be items that make a hurricane season not the norm. 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. 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 43: Atlantic hurricane and tropical storm activity by month



Source: NOAA

Oil & Natural Gas: Big drop in BC Out of Control wildfires, Alberta wildfires unchanged

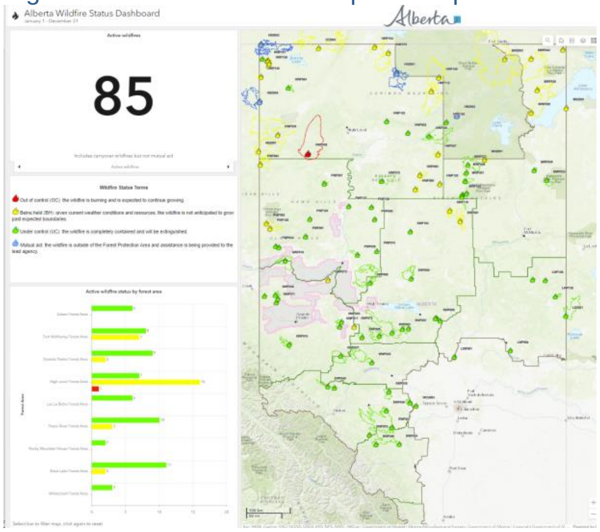
BC and Alberta Wildfires

Alberta wildfires were up small, but precipitation in BD led to a reduction in BC wildfires. As of 7pm MT last night, there were 85 Alberta wildfires including 1 Out of Control, which compares to a week ago at 84 Alberta wildfires including 1 Out of Control. In BC, it was another week of big decline in Out of Control wildfires. As of 7pm MT last night, there were 320 wildfires including 46 Out of Control, which compares to a week ago at 341 BC wildfires including 71 Out of Control.

Links to Alberta and BC wildfire status maps

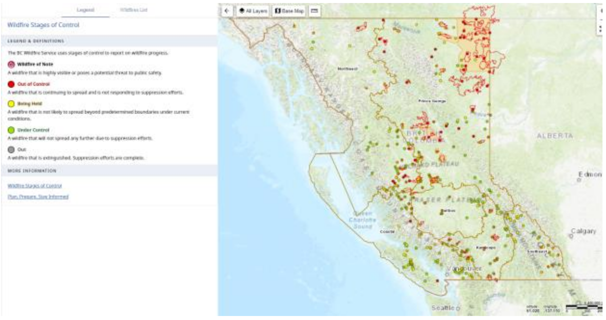
We recommend bookmarking the starting points for wildfire information are the Alberta Wildfire Status interactive map [LINK] and the BC Active Wildfires interactive map [LINK]. Please note these links have changed over the past few years. Both maps are interactive and open up for the information on any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

Figure 44: Alberta wildfire map as of 7pm MT on Oct 7



Source: Alberta Wildfire Status Dashboard

Figure 45: BC wildfire map as of 7pm MT on Oct 7



Source: BC Wildfire Service

Energy Transition: Uganda, no fossil fuels will make Africa sit in darkness

She didn't call the west elites rather she bluntly laid out the vast difference in how Africa looks at the energy transition vs the view from the G7 looking down. There was a great

Uganda on fossil fuels.

interview on Wednesday with Uganda's Energy Minister Uganda Minister of Energy and Mineral Development (Ruth Nankabirwa Ssentamu) at ADIPEC 2023 that was a great reminder that Africa's view on the energy transition is focused on energy issues that haven't been seen in the west since before coal – move from burning firewood for essentials like cooking. Yesterday, we tweeted [LINK] *"#EnergyTransition reality from Uganda/Africa perspective and not from G7 perspective. See 👇transcript. @NankabirwaRS blunt talk ie move from firewood to LPG for cooking. As @summer_said @benoitfaucon quoted her "You can't do a somersault from charcoal to hydrogen". #OOTT."* A few of her points were (i) Africa is not getting the money promised from the west to support the energy transition. (ii) Uganda needs the money from oil production to reinvest in infrastructure for energy generation, transmission & distribution and agriculture. (iii) "*So to think that Uganda and all Africa should not develop the fossil fuel is to make Africa sit in darkness and continues being a markets for those developed countries."* (iv) "*Or else, let the world bring money to Uganda to replace the money that we are going to get, we are expecting to get from petroleum*." (v) "*If someone wants firewood to cook, if you don't give an alternative, they will cut down trees.*" (vi) ""Their green energy plan is "*move away from biomass to LPG*". Our Supplemental Documents package includes the transcript we made of her comments.

Energy Transition: BlackRock CEO Fink's reality check on the energy transiton

BlackRock CEO Fink on energy transition

It was interesting to some of our investor contacts interested in trying to figure out the implications of BlackRock CEO Larry Fink's energy transition comments from last week IF he is right. Here is what we wrote in last week's (Oct 1, 2023) Energy Tidbits memo. "*On Friday, Bloomberg interviewed BlackRock CEO Larry Fink at the Berlin Global Dialogue forum. As noted below in our capital markets section, the headlines were on his views on embedded inflation and how that should lead to the US 10-yr rates of at least 5%. However, Fink also highlighted a reality check on the energy transition and how fossil fuels will beneed for along time. The link to the BlackRock CEO Larry Fink interview with Bloomberg's Dani Burger at Berlin Global Dialogue forum on Sept 29, 2023 is at [LINK].*" Note the three below inserts were also from last week's (Oct 1, 2023) Energy Tidbits memo.

> ***Fink "That is why we said do not ever divest of hydrocarbons"***
> *On Friday, we tweeted [LINK] ""That is why we said do not ever divest of hydrocarbons". "we believe that hydrocarbons, by the way, are going to be with us for a long, long time" . Says $BLK CEO Fink to @daniburgz. #Oil #NatGas will be needed for longer. #OOTT." Our tweet included the transcript we made of Fink's comments. Items in "Italics" are SAF Group created transcript. At 15:55 min mark. Fink "Oh my gosh. Getting back to this whole idea of working with governments, public/private. It may not have that type of trillion dollars of explosive growth. But I do believe we can help make a difference in building better societies. We can prepare societies better. Working with governments in terms of preparedness for elevated countries in the world. We believe we are going to have move more rapidly towards decarbonization. We believe that hydrocarbons, by the way, are going to be with us for a long, long time. And that's why we're working with energy companies, not against energy companies. That is why we said do not ever divest of hydrocarbons, which the far left doesn't agree with me. The far right disagrees with me. So I guess we are doing something right when I am getting attacked from both sides*."

Fink must "find technologies to bring down competitive cost of renewables"

For the past few years, we have identified one of the biggest risks to energy transition plans – the plans, laws, and regulations being implemented are based on the assumption that technologies will be developed in the future to allow the aspirations to be met. Plans are built on assumed future technology developments. Fink highlighted this risk n the need to "find" technologies to bring costs down. On Friday, we tweeted [LINK] ""Let's be clear, we are not going to have a transition unless we can't find technologies to bring down the competitive cost of renewables" says $BLK CEO Fink to @daniburgz. #EnergyTransition assume future technology advancements. #Oil #NatGas will be needed for longer. #OOTT." Items in "Italics" are SAF Group created transcript. At 17:30 min mark, Fink "but we just did a survey that was part of that article that 57% of our global investors are going to put more money into decarbonization technology. Let's be clear, we are not going to have a transition unless we can't find technologies to bring down the competitive cost of renewables. [Note listened to this sentence a few times and he said can't and not can]. We cannot do that. We saw what happened with elevated energy prices just two years in Germany and Europe. You can't have a transition. And more importantly, if we don't reorient and reimagine finance, we will never decarbonize the emerging world. We see when energy prices go up, the emerging world uses more coal because livelihood and life is more important than the future. And so, we need to reimagine finance. And finance is going to have to find ways of bringing billions and billions and trillions to help them decarbonize. We don't have the structure in the world today. We have a World Bank, an IMF that was created after post WWII. They were organized when banking was a prominent lender and because of the Basel capital standards, because of Dodd Frank in the US, banks can't lend."

Fink "nobody answers that question, at what cost?" for energy security

Our long-standing view on the energy transition is unchanged – it is happening, but it is going to take way longer, cost way more and be a bumpy/rock road versus the energy transition aspirations. We got to give the western leaders credit as they were able, for years, to build citizen support for the energy transition as it was sold to citizens as not going to impact energy security, reliability, availability and, most of all, costs. Fink talked about this issue in that leaders don't talk about the cost of items like national security for food, chips or energy. On Friday, we tweeted [LINK] "Reality check going on right now for #EnergyTransition. "national security for chips or food or energy. Obviously, energy. And all these issues & the question is At What Cost? And nobody answers that question – At What Cost?". $BLK CEO. #Oil #NatGas needed for longer. Thx @daniburgz #OOTT." Items in "italics" are SAF Group created transcript. Fink ".. I actually think every day is normal. The markets go up and down. Markets move, markets respond, markets respond to political issues, political uncertainties. But I would clearly say we are in a period of time with these megacycles. We are in a period of time with so many transitions, whether it's a transition from deflation to inflation. A geopolitical transition, how does that, where does that go. The fragmentation of supply chains is just beginning. We have policies in so many democracies that have moved from policies that I would say were embedded for more deflation and now policies are more embedded for inflation."

Fink "my opinion is we're going to have 10-year rates at least at 5% or higher because of this embedded inflation. This structural inflation is unlike anything. And I think business leaders and politicians are not providing the foundation to help explain this. We have not seen inflation like this in over 30 years. Actually, I was a young bond trade during the late 70s and where we had hyperinflation. I don't think we'll have anything close to the inflation of the 70s. But we have so much deeper, structural inflation and we are underestimating what the change in geopolitics, is so structurally inflationary. When I was in Davos earlier this year, I heard the phrase national security, uttered everywhere. And quite frankly, I never heard those phrases uttered that often before that in all my years. So national security for chips or food or energy. Obviously energy. And all these issues and the question is At What Cost. And nobody answers that question, At What Cost".

Energy Transition: Avangrid pays $16mm to terminate CT offshore wind project

Connecticut offshore wind project

We have been highlighting how major offshore wind in US and in Europe are running into delays and cancellations because the projects aren't economic. No one should have been surprised to see Avangrid announced it was paying $16 mm to terminated its offshore Connecticut Park City Offshore Wind Project. It was worth reading both the press release and the slide deck as they had some different points. (i) On Wednesday, we tweeted [LINK] "*to avoid MASSIVE write-offs", Avangrid pays $16mm to terminate CT #OffshoreWind. Is "a rebid of the project" just a way to give cover to CT to accept Avangrid's terms or else no Park City project? Rebid = way higher clean energy costs than promised in CT. #OOTT #NatGas."* (ii) Both highlighted that the facility "*is no longer financeable*". But the slide deck included to avoid "*massive write-offs*". (ii) Avangrid paid a penalty to get out of the deal. But Avangrid wrote "*it is clear the best path forward for Park City Wind is in the termination of the Power Purchase Agreements and a rebid of the project."* We suspect that Avangrid likely feels confident that no one else will come in to take over their deal or bid uneconomically. So we have to wonder if the end result is Avangrid goes back to work on Park City Wind Offshore Project BUT after a rebid process has been taken. How long will that take? We don't know but think it will be hard for Connecticut to not at least open the bidding up to others to at what is competitive bids before agreeing to a new Avangrid bid that Connecticut has not liked. If they liked it, Avangrid wouldn't go thru this process. It's why we wonder if this is just a cover for Connecticut to say they have no other choice. (iii) The end result of this is that it is a reminder that the cost of clean energy power for Connecticut will much higher for this project and what was originally planned with this hold/termination/rebid. Plus this project will have lost time so it will cost more and be later than expected. Our Supplemental Documents package includes the Avangrid release and slide deck.

09/06/23: Orsted, need better deals or no more NE US offshore wind get done

Last month, another major US offshore wind player, Orsted, warned better NE US offshore wind deals are needed or else NE US offshore wind won't get done. Here is what we wrote in our Sept 10, 2023 Energy Tidbits memo. "On Wednesday, we tweeted [LINK] "*Reality check. Energy costs will be higher in #EnergyTransition. It's "inevitable" that electricity prices have to go higher, "and if they don't, neither we nor any of our colleagues are going to more offshore" in US. #Orsted CEO. Thx @priazrocha @_ToddGillespie #OOTT #NatGas."* Orsted is one of the big global offshore wind players who has offshore NE US projects that are currently in limbo, needing renegotiated terms. Orsted CEO Mads Nipper was clear to Bloomberg that offshore wind deals in the US need better deals/higher prices for the wind developer or they won't get done. The Bloomberg report was titled "*Orsted Ready to Abandon US Wind Projects as It Asks for Help*". Nipper had a pretty clear message on the need for renegotiated better terms. And he also warned that having offshore wind means higher energy/electricity costs to consumers. So Nipper's view is give wind developers a better deal or be prepared for no more offshore wind. Bloomberg wrote "*While offshore farms are seen as critical to ridding the US power grid of fossil fuels and avoiding the worst effects of climate change, they're also extremely capital- and labor-intensive. In order for the industry to bring future projects to fruition, it's "inevitable" that consumer prices for energy will increase, Nipper said. "And if they don't, neither we nor any of our colleagues are going to build more offshore," Nipper said. "It's very simple*." Our Supplemental Documents package includes the Bloomberg report.

09/03/23: New York knows it needs to renegotiate offshore wind contracts
Connecticut is not alone in having to renegotiate existing offshore wind contracts. Here is what we wrote in our Sept 10, 2023 Energy Tidbits memo on New York having to renegotiate. "*It feels like New York realizes it has to negotiate and pay up if it wants the major offshore wind projects to proceed or else it risks these approved projects not going to FID. The bottom line is that these major offshore wind projects are likely to get done, but done later than expected and at significantly higher electricity costs to NY customers. Fits our several year thesis – the Energy Transition is happening, but is taking way longer, will cost way more and be a bumpy/rocky road. On Monday, we tweeted [LINK] "Looks like @NYSERDA knows have to renegotiate and pay up or else major NY #OffshoreWInd won't happen. So expect delays and higher than promised prices for wind electricity to consumers for the #EnergyTransition. Thx @OffshoreWINDbiz Adrijana Buljan.#OOTT #NatGas." There were a number of reports last Friday on filings by the New York State Energy Research and Development Authority (NYSERDA) in response to the petitions filed by the major New York offshore wind developers seeking price adjustments on their contracts to give them better prices/revenues. Our tweet included the offshorewind.biz reporting as we thought it gave the best insight into the filings. We did not review the NYSERDA filing. NYSERDA is well aware that they need to renegotiate or else they risk these approved major offshore wind projects not getting done. Offshorewind.biz wrote "In their petitions, the developers said that without price adjustments their offshore wind projects might not be able to move forward, with Ørsted and Eversource saying that without this intervention "it would not be able to obtain a final investment decision (FID) allowing it to fully construct the Project" and the Equinor-BP joint venture noting that price adjustments would "restore the Projects' ability to attract the capital required for them to move forward". And ""[If] no price adjustment is made, progress to Climate Act targets would be slowed, opportunities to realize earlier grid reliability and health benefits, as well as substantial economic development, would be missed", NYSERDA states". Offshorewind.biz report included the below NYSERDA table of the increased prices being sought by the wind developers. Our Supplemental Documents package includes the Wind Offshore.biz report.*

Figure 46: NYSERDA estimated pricing impact of developer proposed new prices

Project	Original Strike Price ($/MWh)	Adjusted Strike Price ($/MWh)	Strike Price Increase
Sunrise Wind	$110.37	$139.99	+27%
Empire Wind 1	$118.38[34]	$159.64[35]	+35%
Empire Wind 2	$107.50	$177.84	+66%
Beacon Wind	$118.00	$190.82	+62%
Empire/Beacon portfolio (Wtd. Avg.)	$114.43	$176.36	+54%
Portfolio (Wtd. Avg.)	$113.40	$167.25	+48%

Source: NYSERDA

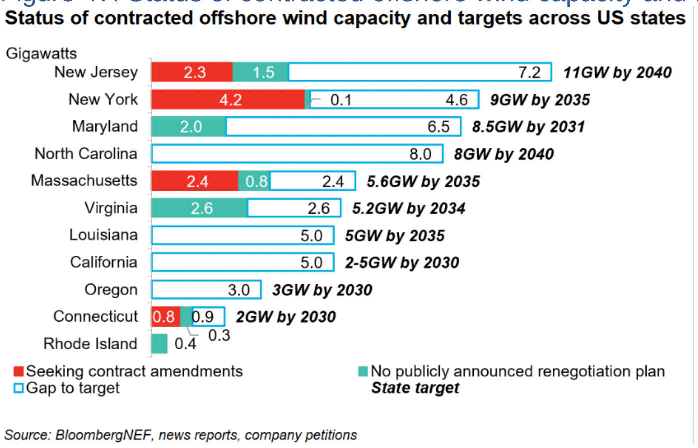
Orsted CEO says Biden Admin must also renegotiate NE US offshore wind

Here is another item from our Sept 10, 2023 Energy Tidbits memo. *"Earlier, we noted the item on how New York recognizes the need to renegotiate with the offshore wind developers. But there is also a federal role and Orsted CEO Nipper's comments to Bloomberg focused on the need for the Biden Administration to give a better deal to offshore NE US wind developers. Bloomberg wrote "Orsted A/S said it's prepared to walk away from US projects unless the White House guarantees more support, highlighting the myriad challenges facing wind-energy developers in the country." And "Under the Inflation Reduction Act, Orsted and other developers can already tap into tax credits generally worth 30%. At issue is the ability to claim additional bonus credits under the law that reward developers for using domestic content and projects that benefit so-called energy communities, such as those with coal mines and plants. Nipper has asked the White House to guarantee subsidies without the domestic content requirement at first and requested extra time to overcome the difficulties in sourcing American- made material. "What we proposed was a grace period, say, so give us three to five years," the CEO said. "Right now, it can't deliver." Biden administration officials working to implement the Inflation Reduction Act's tax provisions have emphasized that the domestic content bonus is an added incentive meant to help spur new clean-energy supply chains inside the US. The law "includes critical incentives to promote clean energy development while ensuring that US manufacturers and workers benefit from the growth of the clean energy economy," Treasury Department spokeswoman Ashley Schapitl said. The agency "is laser-focused on implementing these landmark incentives in a way that follows the law and its underlying goals."*

Over ½ of US offshore wind projects face delays

Here is what we wrote in our July 16, 2023 Energy Tidbits memo. "*Wind generation and the big offshore wind projects are key to the Energy Transition. And no question, over the past few years there have been a number of major offshore wind projects announced including offshore the US east coast. But it isn't enough to have a project announced, the project has to get done and done on time. There have been some offshore wind project cancellations and project developers leaving projects. And there are also many offshore projects in delay limbo as the project developers seek to renegotiate the deals to get satisfactory returns due to big cost increases. These* *projects are in limbo. We have been reporting on this lack of returns to OEMs and project developers. In the, BloombergNEF estimates that more than half of all offshore wind projects are now delayed and there could be more projects delays on top of that. On Monday, we tweeted [LINK] "Over 1/2 of US #OffshoreWind face delays as "developers such as Avangrid, Shell-Ocean Winds, BP-Equinor & Orsted-Eversource have cited deteriorating economics due to rising costs in trying to renegotiate or cancel contracts" reports @atinjai. #NatGas power will be needed for longer. #OOTT." Our tweet included the below BloombergNEF graph and wrote "New York state has a target to add 9 gigawatts of cumulative offshore wind capacity by 2035 and contracted 4.36GW of projects in its two concluded solicitations. But renegotiation attempts mean that 95% of the contracted capacity is at risk of delays. Neighboring Massachusetts sees 75% of contracted capacities being delayed by renegotiation attempts. In Connecticut it's 73%. New Jersey, which is targeting of 11GW, risks delays to 60% of its contracted pipeline. About 9.7GW of US offshore wind projects, or just over half of the 17.8GW total contracted, face delays, and more projects may soon face the same fate. Developers such as Avangrid, Shell-Ocean Winds, BP-Equinor and Orsted-Eversource have cited deteriorating economics due to rising costs in trying to renegotiate or cancel contracts." Our Supplemental Documents package includes the BloombergNEF report."*

Figure 47: Status of contracted offshore wind capacity and targets across US states



Source: BloombergNEF

RWE CEO says "*worst-case scenario for energy transition*" as "*offshore wind projects in EU & US have been stopped*"

The Avangrid termination and the NYSERDA comments on New York e UK energy auction are in line with what we wrote in our Sept 3, 2023 Energy Tidbits memo on the RWE CEO LInkedin post. Here is what we wrote "*We have to wonder if governments are hearing wind developers and OEMs insisting the economics are working for wind generation, in particular offshore wind, or if they are just ignoring it and hoping for the best. Sooner or later, governments will have to make changes or accept what is clearly happening – wind projects aren't proceeding as approved and planned. There is a pause in wind, in particular offshore wind, in EU and US in 2023* *and no visibility to unlock that pause. We have been highlighting this issue and clearly wind developers and OEMs don't see any changes coming to get a restart. (i) On Wednesday, we tweeted [LINK] "WOW! Must read 👇RWE CEO post "... #OffshoreWind projects in EU & US have been stopped, mainly citing cost increases" "worst case scenario for the #EnergyTransition when large projects that have already been awarded are not realised as planned". #NatGas needed for longer. #OOTT." (ii) Our tweet included a Linkedin post by RWE CEO Markus Krebber last week "is there a perfect storm brewing in the offshore wind industry?" Krebber had a very clear message that the offshore wind industry is stuck in 2023 and it needs a lot from governments if they want offshore wind to get unstuck. And Krebber warned that offshore wind being stuck is the "worst-case scenario" for the energy transition. Krebber said "In recent weeks, for the first time, offshore wind projects in Europe and the U.S. have been stopped, mainly citing cost increases. In other news, turbine manufacturers were once again in the red in their latest quarterly reports, with losses running into billions. This is not good news, it's in fact the worst-case scenario for the energy transition when large projects that have already been awarded are not realised as planned. Happening at a time when the entire offshore industry has to scale up to achieve expansion targets, this quickly calls into question the achievement of climate protection goals." Krebber then goes thru five actions and says clearly "This development must serve as a wake-up call for policymakers to adapt the regulatory framework to market realities." The Krebber Linkedin post is short and worth a read. Our Supplemental Documents package includes the Krebber Linkedin post."*

Energy Transition: Jamie Dimon sees higher energy prices in the green economy

Jamie Dimon on green economy

JPMorgan CEO Jamie Dimon got markets attention and headlines on Monday with his comments that the world may not be ready for 7% interest rates. Green economy costs. Dimon also highlighted his concern on key items that are inflationary such as oil prices and "the green economy". He may not have specifically said it, but is pointing to higher not lower energy costs under the energy transition. On Monday, we tweeted [LINK] *"Seems JPMorgan CEO Dimon thinks the #EnergyTransition will lead to higher not lower energy costs over the long-term. See 👇SAF transcript. #Oil #NatGas will be needed for longer and should also benefit from higher Green Economy energy prices. Thx @emilychangtv #OOTT."* Our tweet included our transcript of Dimon's comments, a part of which was *"And then you've got all the long term fiscal things are kind of inflationary – you know oil prices, certain commodity prices, the green economy, you know the restructuring of trade, you name it, I see adding to Inflation, not subtracting inflation".*

Energy Transition: Rivian CEO new car buying in now is this my last ICE or my 1st EV

Rivian CEO

Whether you are an EV believer or not, knowing that western governments are working to stop new ICE vehicle sales in 2030 or 2035 means that consumers have to increasingly determine if their next new vehicle is going to be an ICE or EV, or a hybrid. We should say that the question is framed different for many who may look at the upcoming ICE sales stoppage thinking how long can they wait to buy their last ICE vehicle. However, Rivian CEO RJ Scaringe was on CNBC Squawk Box on Tuesday. On Thursday, we tweeted [LINK] *""if someone is buying a new car, whether it's a truck, a SUV, a smaller passenger car, in their heads they're thinking is this my last ICE vehicle or is this my first electric vehicle." Rivian*

CEO. Probably right if throw in hybrid for winter areas & non-city drivers. #OOTT #EV @Lebeaucarnews @SquawkCNBC." Our tweet included the longer transcript we made of Scaringe's comments. "*and ultimately as we think about long term, path to our vision. What we sell, what I talk about is if someone is buying a new car, whether it's a truck, a SUV, a passenger, smaller passenger car, in their heads they're thinking is this my last ICE vehicle or is this my first electric vehicle. So it's become a consideration in all purchases."* The other qualifier we made to Scaringe statement is that in winter cilmates or for non-ity drdivers, we expect to see more prioritize looking at hybrids vs EVs.

Energy Transition – Recirculated Ford F-150 Lightning failed Motor Trend's towing test

Motor Trend recirculated story

We wouldn't have included this item on a recirculated Motor Trend report if the report wasn't getting renewed interest this week and if Ford CEO Jim Farley hadn't warned people on the shortfalls of the F-150 Lightning. The Ford F-150 Lightning had a lot of headlines in the last week with the reports from dealers in Canada and US on how they weren't getting planned deliveries of the Lightning. So, inevitably, a range of stories come out on the Lightning from both car and EV news sites. And in many cases, these are not new news such as one that got circulated this week – the Motor Trend July 31, 2022 report [LINK] "*Tow No! The Ford F-150 Lightning Struggled in Our Towing Test".* Motor Trend reported "*We towed 3100-, 5300-, and 7200-pound travel trailers with Ford's electric truck and didn't get very far from home. Before you hitch an Airstream to your electric truck and set out to circumnavigate the country, you need to understand this: With the largest available battery pack, a fully charged 2022 Ford F-150 Lightning electric truck has less energy onboard than a regular F-150 with four gallons of gas in its tank. Consider how far a combustion-powered F-150 would tow at max capacity on four gallons of regular unleaded. Thirty five miles? Maybe 40 if you drive slowly? Now that you understand where we're starting from, you won't be as surprised to learn that the towing range of the electric F-150 is dismal. In Motor Trend testing, an F-150 Lightning Platinum saddled with a camper that nearly maxed out its 8,500-pound towing capacity couldn't even cover 100 miles. Range improved when we hooked up a significantly lighter trailer, but not by as much as you might expect."* Our Supplemental Documents package includes the Motor Trend report.

04/26/22: Ford CEO warned EV trucks aren't for normal pickup truck uses

Here is what we wrote in our May 1, 2022 Energy Tidbits memo on Ford CEO Jim Farley warning that the F-150 Lightning is really for normal pickup truck uses. "*We thought there was a throwing water on the fire reality check on EV trucks from Ford CEO Jim Farley on Tuesday. We had missed his comments but one of our Twitter followers flagged it for us after seeing our Wednesday morning tweet [LINK] "GM #SilveradoEV truck will have 400 miles of range & that is only a year away, @mtbarra just said to @tomkeene on @bsurveillance. #EV range is no longer a reason not to buy. Can they get the prices down?? #OOTT." We thought 400 miles of range was a pretty good number, even if it gets hammered down in cold Cdn winters. But then we went to search out the Ford CEO interview on the Ford F150 Lightning EV. As everyone knows, Ford dominates the pickup truck market with the F150. But clearly Farley threw some cold water on the fire. We were surprised at the bluntness of his warning on EV pickup truck uses. We tweeted [LINK] "#EV trucks #F150Lightning are not good for heavy users ie. ranchers, contactors. But perfect for urban cowboy & commuting to work, so will need mix of #ICE & #BEV* *says #Ford CEO to @sonalibasak..So why feature towing so prominently in commercials? Thx @kropija for flagging. #OOTT. Farley is basically saying the F150 Lightning is best suited for commuters and what Texans call "all hat, no cattle" pickup truck drivers. We created a transcript of Farley's comments [LINK]. Bloomberg's Sonali Basak. "Jim, look out into the future for a second here, can you see all the F150's going electric? And what would it take for that to happen?" Farley "No way. I don't see that happening. If you're towing a fifth wheel in Wyoming, or you know with a horse trailer, there is no way. An electric vehicle is not a good solution for super duty customers. We're 50% of all commercial light duty vehicles in the US so we know. And the technology is not right for that. For retail customer who is doing some light towing or commuting to work, it's perfect. But for heavy duty usage, it's not the right solution. So you're going to see a mix of ICE and BEV." After listening to Farley, we looked at the Ford F150 Lightning promotion video [LINK] and couldn't help notice how prominently Ford featured towing in its commercials."* [Note, we checked the link to the promotion video from 2022 and it is no longer available].

Capital Markets: Jamie Dimon sees China as the biggest geopolitical risk

Jamie Dimon on China

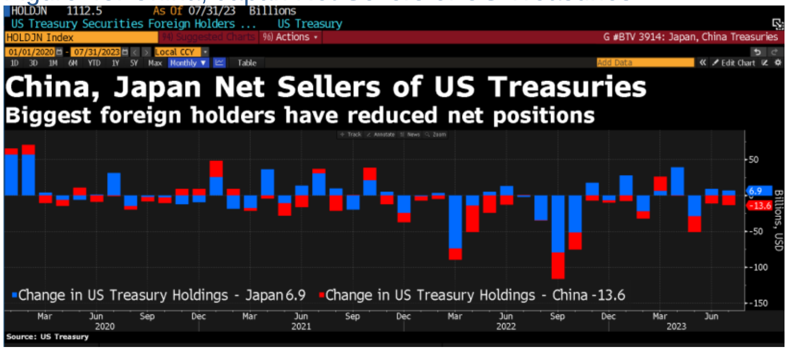
Overlooked by the headlines of JPMorgan CEO Jamie Dimon's 7% interest rate comments was his concern on geopolitical risks especially on China. Dimon warned that there are storm clouds but "*We don't know if they're going to hit, when they're going to hit, what they're going to do.*" And he highlighted China as the biggest geopolitical risk. We created a transcript of his comments with Bloomberg's Emily Chang on Monday. SAF Group created transcript of comments from JPMorgan CEO Jamie Dimon in London with Bloomberg's Emily Chang on Oct 2, 2023. [LINK] Items in "*italics*" are SAF Group created transcript. At 7:05 min mark. Dimon ".. but there are two things today, which are extraordinary today, which may have different outcomes. Think of them as storm clouds. We don't know if they're going to hit, when they're going to hit, what they're going to do. So I'm not predicting that but I tell you what i worry about. So one is the fiscal money being spent. It's so big, the largest in peace time ever. America and kind of around the world, with already very high deficits. And QT, we've never had. I know some people think QT will be uneventful. I'm not so sure. At a minimum, I expect volatile markets. And then you've got all the long term fiscal things are kind of inflationary – you know oil prices, certain commodity prices, the green economy, you know the restructuring of trade, you name it, I see adding to Inflation, not subtracting inflation. I don't think inflation will be that, keep on coming down, it may not. And therefore rates may go higher. But the bigger storm cloud is geopolitical. It's Ukraine, its humanitarian crisis, you know it's a war not far from here, 600 miles, 500,000 people killed. It's nuclear blackmail. It's going to affect all global relationships in America, China , trade alliances. We don't know how it's going to sort out either. So I just put those two things as I keep a close eye on." At 10:04 min mark. Chang "*where is China on the list of risks*?" Dimon "*When I say geopolitical, that's the big one. It's the thread from Ukraine, oil and gas, food, migration, all our relationships, the most important one being China. That is the most important for the future of the world. And obviously, Ukraine has affected it. In fact, its' very hard to see really positive outcomes with China until the Ukraine war is resolved. Hopefully, for the Ukraines to say they have a victory of some sort."*

09/07/22: Deutsche Bank CEO warned on China in his keynote speech
Jamie Dimon's warning on China reminded us of an excellent Deutsche Bank CEO speed from a year ago on many of the big geopolitical issues being discussed today including China. Here is what we wrote in our Sept 11, 2022 Energy Tidbits memo. "*We weren't certain where to put this item, but we believe the Deutsche Bank CEO Christian Sewing views of the world, if correct, will be positive for oil and natural gas thru the 2020s. The headlines on his Wednesday comments were all about his warning a recession is coming for Germany. (i) We tweeted [LINK] "1/2. Must Read @DeutscheBank CEO. RUS/UKR "destroyed a number of certainties on which we build our economic system over the past decades". NEXT UP, "awkward question on how to deal with China" in light of increasing CN/US isolation/tension, reducing China dependency will .. #OOTT", and [LINK] "2/2.."require a change no less fundamental than decoupling from RUS energy". Globalization gone, labor a global bottleneck. Extremely expensive #Electricity #NatGas s a threat to economy. the longer inflation remains high the higher the potential for social unrest, etc. #OOTT.". (ii) As you can see from our tweets, there are many thoughts. We tend to agree with a lot of what he is saying unless there is a social revolt to say enough is enough. (iii) The real theme of his theme of his speech is excellent – the world has changed for the foreseeable future. The norms of the past decades are gone. Globalization gone. China dependency must be reduced. Global value and supply chains disrupted. Workforce a worldwide bottleneck. Electricity/natural gas will be expensive in EU for a long time.. The truth is that 30 years of presumed calm will now be followed by a period of heightened volatility with economic uncertainty, regular crises and geopolitical conflicts that are also likely to drag on for decades. Trouble spots are not cut off from the rest of the world; they impact other regions in a number of ways. (iv) And he doesn't say much about it, but says "But the longer inflation remains high, the greater the strain and the higher the potential for social conflict." We still wonder about social conflict and if there will be Arab Spring type revolt within Germany and other European countries to how people feel they are getting hit by the Russian sanctions. (v) His views are relevant to longer term capital allocation. It's not just Germany has a terrible economic outlook. He raises issues like we have noted about China is the next Russia type target even if they don't invade Taiwan. Germany affects more than itself. And think about it, if Germany can hold the line on Russian sanctions on energy, then it probably says most of Europe can hold the line other than a handful like Hungary, etc. (vi) There is much more in this short viewpoint. Our Supplemental Documents package includes the CEO viewpoint."*

Capital Markets: China and Japan have been equal net sellers of US treasuries
There were a number of reports this week on how China has been driving the rout in US treasuries. Bloomberg TV posted the below graph on Thursday showing China and Japan net selling of US treasuring. No question China has been the big net seller of US treasuries in the last three months (May, June, July) with $47.1b net selling vs Japan with $13.3b net selling. But over the latest 12 months, their China and Japan net selling is almost identical. From Aug 2022 thru July 2023, China has $117.3b net selling vs Japan with $118.1b net selling.

China and Japan net sellers of US treasuries

Figure 48: China, Japan Net Sellers of US Treasuries



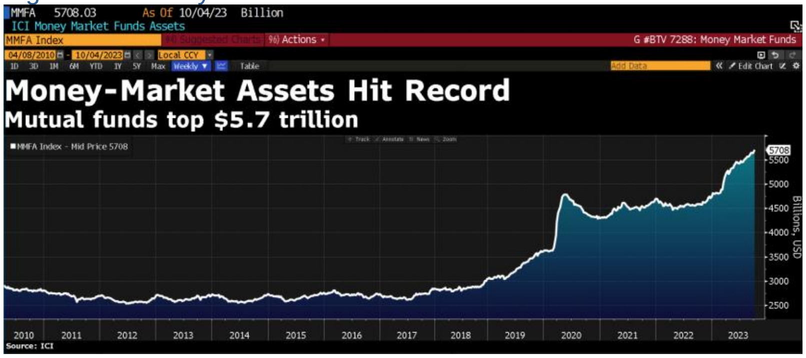
Source: Bloomberg

Capital Markets: Higher for longer interest rates = money market assets hit record

Money market assets hit record

If you thought oil analysts have a tough time forecasting oil prices, it's been worse for financial market experts on interest rates over the past few months on when and how to extend maturity. No surprise, the continued surprise of higher for longer has led to big money going into money market funds. Of course, there are many other reasons such as the stock market weakness moving some funds to money market for a place to park. The question is what will is the new normal level for money-market assets under the higher for longer interest rates ie. how many trillion are going to be shifted to other investments sometime in the future? Bloomberg TV posted the below graph on Thursday. "*Money-Market Assets Hit Record: Mutual funds top $5.7 trillion*."

Figure 49: Money-Market Assets Hit Record



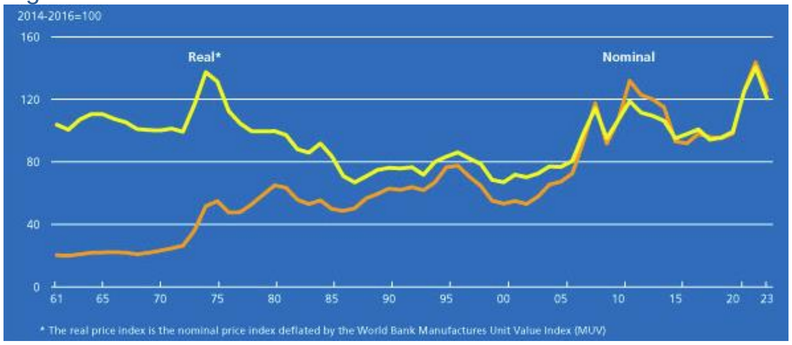
Source: Bloomberg

Capital Markets: UN FAO Food Price Index flat MoM in September, down 10.7% YoY

UN food price index flat MoM

Other than a small blip in April 2023, the UN Food Price Index had declined for 12 months in a row prior to July 2023. But a decline in commodity food prices really hasn't translated into a proportional decline in grocery food prices, or anywhere near that as the UN FAO Food Price index is a commodities measure and not a grocery store price measure. But it's good news that food commodity prices continue to ease and hopefully these will ultimately work their way thru the added costs in the supply chain before they get to grocery stores prices. The UN global food price index was essentially flat in September 2023. On Friday, the UN posted its monthly update of its FAO Food Price Index [LINK] titled "*FAO Food Price Index Virtually Unchanged in September".* Note that the index is calculated on a Real price basis. The FFPI averaged 121.5 points in September, which was essentially flat from 121.4 in August, but down -10.7% YoY. The FFPI also reported MoM declines for most of its sub-indices in September. The Vegetable Oil Index was down -3.9% MoM after a decrease last month, and is now down -20.8% YoY. The Sugar Price index and the Cereal Price Index were the only indexes that realized gains in September, up +9.8% and 1.0% MoM, respectively, and +48.4% and -14.6% YoY, respectively. In contrast, the Meat Index was down from last month by -1.0% (-5.0% YoY), and the Dairy Index was down -2.3% MoM (-23.9% YoY). Below is the all time FFPI graph.

Figure 50: UN FAO Food Price Index



Source: UN

Q2/23 call, Loblaw on why grocery prices go up higher than commodity prices
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."

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.

Fresh Turkey prices seemed really expensive yesterday in Calgary

There was a big wrinkle thrown into western Canada Thanksgiving Dinner food costs when, on Friday, Sobeys recalled some turkeys from its Freshco, IGA, Safeway, Sobeys and Thrifty Foods stores in western Canada. And it pulled all these turkeys off grocery stores freezers. We, like many others, are having family over for turkey dinner on Monday so had to scramble to find a Turkey yesterday. We don't know what the Turkey grocery stores prices were on Thursday, but the price at our Alberta independent grocer for a fresh Turkey was $91.25 for a 7.025kg or $12.99/kg. That seemed really expensive.

Steelers Head Coach Mike Tomlin's using Einstein insanity quote

The Houston Texans thumped the Pittsburgh Steelers 30-6 at home in Houston. No surprise, Steelers head coach Mike Tomlin was in a bad mood. Because if he wasn't in a really bad mood, he might have given the full Einstein quote instead of just a variation. But kudos to Tomlin for his shout-out to Einstein. Tomlin said "*Hell yeah, we got to make some changes, man. That was, that was an ugly product we put out there today. And so we're not going to do same things and hope for a different outcome. What those changes are, man, we'll put together a plan in preparation this week*". We know there are still some who don't want to give Einstein credit for coming up with the quote concept. Putting that aside, Einstein's quote is "*Insanity is doing the same thing over and over again and expecting different results*."

Other Einstein quotes

We thought we would add a few of our other favorite Einstein quotes. "*A man should look for what is, and not for what he thinks should be.*" "*Two things are infinite: the universe and human stupidity; and I'm not sure about the universe*." "*The difference between stupidity and genius is that genius has its limits.*" "*Try not to become a man of success, but rather try to become a man of value*." "*It may be possible to fight intolerance, stupidity, and fanaticism seperately, but when they come together there is no hope*." "*A theory is the more impressive the greater is the simplicity of its premises, the more different are the kinds of things it relates and the more extended the range of its applicability.*" *"Small is the number of people who see with their eyes and think with their minds."*