SAF GROUP

Energy Tidbits

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Produced by: Dan Tsubouchi

BlackRock CEO Larry Fink "*That is why we said do not ever divest of hydrocarbons.*"

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. BlackRock CEO Larry Fink "*We believe that hydrocarbons, by the way, are going to be with us for a long, long time … That is why we said do not ever divest of hydrocarbons*". [click here]

2. Coastal GasLink is 94.7% complete so would allow for an earlier start to 1.8 bcf/d LNG Canada Phase 1 as soon as they are ready to go. [click here]

3. Devon CEO says shale plays, even the Permian are moving to Tier 2 locations, "*That has been the history for decades, that some of the easiest – drill first, then go to the more challenging areas*". [click here]

4. IFIC reports Cdn balanced and equity funds continue to be hit by big net redemptions of $6.905b in Aug to bring YTD net redemptions to $31.002b. [click here]

5. BlackRock CEO says Chinese are "frightened" to spend so their savings rate has increased from 35% pre-Covid to 50% so a boost to economy & oil when they start to spend [click here].

6. Please follow us on Twitter at [LINK] for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT .

7. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK].

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Natural Gas: +90 bcf build in US gas storage; now +397 bcf YoY surplus

US gas storage +397 bcf YoY surplus

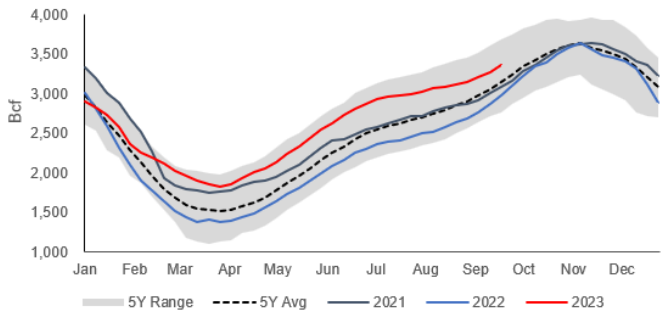
It's been a warm end to summer (much like last summer) that has led to lower than normal seasonally gas injections into storage. For the week of September 22, the EIA reported a +90 bcf build (in line with expectations of a +89 bcf build), and a YoY decrease compared to the +103 bcf build reported for the week of September 23, 2022. Total storage is now 3.359 tcf, representing a surplus of +397 bcf YoY compared to a surplus of +410 bcf last week. Total storage is +189 bcf above the 5-year average, up from the +183 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 (09/22/22)		Historical Comparisons: 5-year average (2018-22)	
Region	09/22/23	09/15/23	net change	implied flow	Bcf	% change	Bcf	% change
East	821	793	28	28	717	14.5	778	5.5
Midwest	962	931	31	31	874	10.1	914	5.3
Mountain	234	228	6	6	175	33.7	194	20.6
Pacific	271	263	8	8	242	12.0	269	0.7
South Central	1,071	1,053	18	18	955	12.1	1,015	5.5
Salt	250	242	8	8	203	23.2	236	5.9
Nonsalt	821	811	10	10	751	9.3	779	5.4
Total	**3,359**	**3,269**	**90**	**90**	**2,962**	**13.4**	**3,170**	**6.0**

Source: EIA

Figure 2: US Natural Gas Storage – Historical vs Current



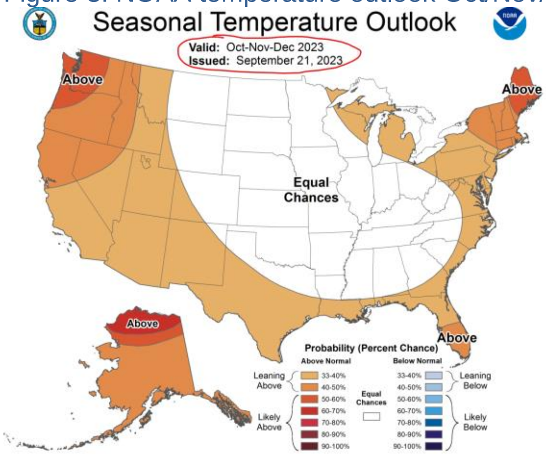
Source: EIA, SAF

Natural Gas: NOAA expects a warm start to and a warm early winter

Forecast for warm start to winter

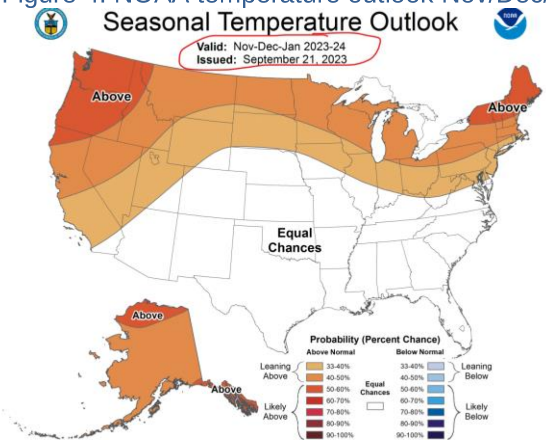
We continue to believe that the key holdback to near term natural gas and LNG prices is that forecasts are calling for a warm start to winter in Asia, Europe and the US. A warm start to winter will bring a weaker tone to prices and make it essential for a cold Jan/Feb/March or else it points to another 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. Last week (Sept 21) NOAA provided an update to its near-term temperature probability forecasts. We recognize that weather forecasts are far from 100% certainty, but near-term forecasts tend to have a better accuracy. NOAA calls for a warmer than normal start to winter (Oct/Nov/Dec) and a warmer than normal early winter (Nov/Dec/Jan). Below are the maps attached to our tweets: NOAA's temperature probability maps for Oct/Nov/Dec and Nov/Dec/Jan.

Figure 3: NOAA temperature outlook Oct/Nov/Dec



Source: NOAA

Figure 4: NOAA temperature outlook Nov/Dec/Jan



Source: NOAA

Natural Gas: US gas production flat for 5 mths, but July +5.4 bcf/d YoY to 103.9 bcf/d

US gas production +5.4 bcf/d YoY in July

Apart from winter, the big holdback to HH and AECO natural gas prices is the continued big YoY growth in US natural gas production. The two big picture US natural gas themes are unchanged this month with the release of July data – US gas production driven by shale/tight natural gas is up big YoY but relatively flat over the past three months. On Friday, the EIA released its Natural Gas Monthly [LINK], which includes its estimated "actuals" for July's dry gas production. Key items to note are as follows: (i) July's production of 103.9 bcf/d was up +5.4 bcf/d YoY from 98.5 bcf/d in July 2022 and up +0.8 bcf/d MoM from June's revised production of 103.1 bcf/d. (ii) US dry gas production is relatively unchanged over the past three months with May 103.1 bcf/d, June 103.1 bcf/d, and July 103.9 bcf/d. Our Supplemental Documents package includes excerpts from the EIA Natural Gas Monthly.

Figure 5: US Dry Natural Gas Production

bcf/d	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Jan	56.0	60.0	66.0	65.3	66.8	73.4	73.6	70.6	78.7	89.4	95.1	92.8	95.3	101.3
Feb	57.2	58.8	67.0	65.4	68.4	73.8	77.3	71.5	80.4	90.0	98.1	86.2	94.5	101.5
March	57.3	61.5	65.0	65.3	68.9	74.1	73.8	73.2	81.3	90.6	94.6	92.3	95.4	102.3
Apr	57.6	62.3	64.8	66.1	70.5	75.2	73.7	73.3	81.2	91.0	92.9	93.2	96.5	102.5
May	58.0	62.4	65.0	65.9	70.2	74.1	72.9	73.3	82.1	91.7	87.8	93.0	97.7	103.1
June	57.2	62.1	64.6	65.8	70.5	74.0	72.2	74.0	82.5	92.0	88.4	93.2	98.5	103.1
July	58.2	62.5	66.3	67.1	72.0	74.2	72.8	74.7	84.2	92.5	89.8	93.7	98.5	103.9
Aug	58.9	63.2	66.0	66.9	72.4	74.3	72.2	74.7	85.9	94.8	90.2	94.3	99.3	
Sept	59.1	63.1	66.4	66.8	72.4	74.7	71.7	76.0	87.3	94.7	89.5	93.6	100.5	
Oct	60.1	65.1	66.5	67.0	73.1	74.2	71.4	77.3	88.4	96.0	88.9	95.6	100.6	
Nov	60.1	65.9	66.6	67.7	72.6	73.9	72.0	79.8	89.9	96.7	92.0	97.0	101.0	
Dec	61.0	65.6	66.0	66.5	73.2	73.9	71.2	80.4	89.5	97.0	92.5	97.0	99.3	
Average	58.4	62.7	65.9	66.3	70.9	74.2	72.9	74.9	84.3	93.0	91.6	93.5	98.1	102.5

Source: EIA, SAF

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

US pipeline exports to Mexico down MoM

The 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 6: US Pipeline Exports to Mexico

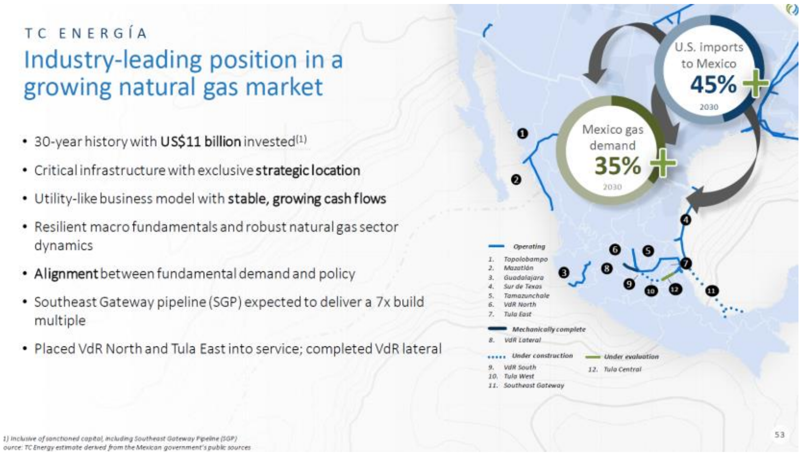
bcf/d	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Jan	1.7	2.2	3.2	3.9	4.4	4.9	5.2	5.6	5.7	5.3
Feb	1.8	2.3	3.5	4.0	4.5	4.8	5.4	4.9	5.5	5.4
March	1.9	2.4	3.3	4.2	4.3	4.8	5.4	5.9	5.5	5.7
Apr	1.9	2.6	3.5	3.7	4.4	4.7	4.6	6.1	5.9	5.6
May	2.0	2.8	3.7	4.0	4.4	5.0	4.7	6.2	6.0	6.3
June	2.2	3.0	3.9	4.5	4.6	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

Looking ahead to rest of the 2020s, one of the big positives for North America natural gas is the continued strong growth in US LNG capacity that sets up increasing LNG exports ie. demand for US natural gas. On a lesser, but still significant added demand factor is 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 7: TC Energy Sees US Natural Gas Imports TO Mexico +45% to 2030



Source: TC Energy

Natural Gas: US LNG exports up +3.4% MoM to 11.3 bcf/d in July; up +16.6% YoY

US July LNG exports

As a reminder, the US LNG export data is always available one to two weeks before it is included in the EIA's Natural Gas Monthly report. Here is what we wrote in our Sept 17, 2023 Energy Tidbits memo. "*On Friday, the Department of Energy (DOE) posted its US LNG exports estimates for July 2023 [LINK]. This is a reminder that the US LNG export data is available about two weeks prior to the more popularly referenced US LNG exports from the EIA's Natural Gas Monthly. The EIA is a group under the Department of Energy. The data for LNG exports is either identical or just a rounding issue. On Friday, we tweeted [LINK] "US #LNG exports July/23 up MoM w/ less maintenance to 11.3 bcfd vs Jun/23 of 10.9 bcfd. July/23 top 5 export mkts: Dutch, Japan, China, Spain, France. July/22: France, Dutch, Spain, Korea, Japan. This DOE LNG data is posted 2 wks before same data in @EIAgov #NatGas Monthly. #OOTT." US LNG exports were up MoM to 11.3 bcf/d in July from 10.9 bcf/d in June. The increase was due to less maintenance. US LNG exports are now averaging 11.6 bcf/d per month YTD for 2023, which is +0.7 bcf/d compared to the same period in 2022. The DOE did not comment on the MoM or YoY increases*." On Friday, the

EIA's Natural Gas Monthly reported the same data, US LNG exports for July were 11.3 bcf/d, up -0.4 bcf/d MoM from 10.9 bcf/d in June and was up +1.6 bcf/d from 9.7 bcf/d in July 2022. The DOE LNG report includes more information on US LNG exports. Our Supplemental Documents package includes excerpts from the DOE LNG report.

Figure 8: US Monthly LNG Exports

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

Source: EIA, DOE

Figure 9: US LNG Exports July 2023 vs July 2022

Summary

Overview of Activity for July 2023

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

Summary

Overview of Activity for July 2022

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

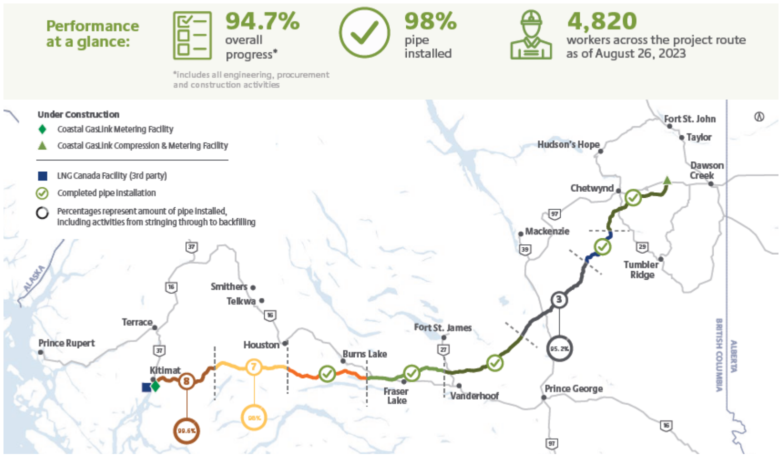
Source: DOE

Natural Gas: Coastal GasLink is 94.7% complete, good news for LNG Canada Phase 1

Coastal GasLink 94.7% complete

It certainly is looking like Coastal GasLink won't be any hold up to whenever Shell and LNG Canada wants to or is able to start up its 1.8 bcf/d Phase 1. On Thursday, Coastal GasLink posted its Construction Update September 28 [LINK] that started off "*Coastal GasLink wrapped up another month of construction with incredible progress."* Coastal GasLink noted they achieved 98% pipe installation and 94.7% overall progress. Coastal GasLink said "*While the project is quickly approaching mechanical completion at the end of 2023, there are a number of critical activities that the project team will continue to execute on, including: • Clean-up and Reclamation – When a section is complete, our contractors will ensure the ground and topsoil is reinstated so that we are ready to implement our reclamation program. Reclamation is underway in many sections across the project route, including time sensitive work that must take place prior to the onset of winter.• Erosion and Sediment Control (ESC) Measures – Our commitment to the environment does not end when construction is complete. Until the route is completely revegetated, which could take a few years due to seasonal constraints, our crews will continue implementing and monitoring ESC measures as required to protect the environment and meet our commitments."* Our Supplemental Documents package includes the summary page of the Coastal GasLink update.

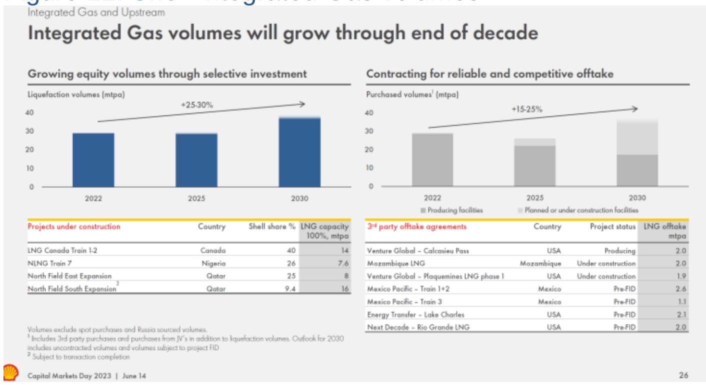
Figure 10: Coastal GasLink Construction Update September 28, 2023



Source: Coastal GasLink

When will Shell be able to start LNG Canada 1.8 bcf/d Phase 1?
It looks like Coastal GasLink should be ready to go whenever Shell and LNG Canada are ready to start up its 1.8 bcf/d Phase 1. A couple of years ago, we had thought Coastal GasLink and LNG Canada to have a chance to be ready for first LNG in late 2024. But then Coastal GasLink ran into cost/timing issue and now they look back on track to support LNG Canada Phase 1 as soon as they are ready to go. The last real update on the timing for LNG Canada Phase 1 was at the Shell Capital Markets Day on June 14, and Shell mgmt's comments seemed to point to after 2025. If so, that would be a big time gap after when Coastal GasLink would seem to be ready. But we wouldn't be surprised that the new CEO isn't just establishing his modus operandi to under-promise and over-deliver so is setting the stage to surprise to an earlier start up..Here is what we wrote in our June 18, 2023 Energy Tidbits on Shell's comments. "*On Wednesday, Shell held its Capital Markets Day 2023. There were a couple of questions on LNG Canada Phase 1 startup and it looks like LNG Canada 1.8 bcf/d Phase 1 will start up after 2025. Shell included the below graph that doesn't look to include any LNG Canada Phase 1 in the 2025 liquefaction volumes. No surprise, analysts asked "Can you give a bit more clarity on when you expect LNG Canada to start up? You mentioned the middle of the decade, but it doesn't look like it's included in 2025 in the volume chart on Slide 26" Mgmt replied "With respect to equity, that is around LNG Canada, which we have announced to be mid part of the decade, but it's also around the volumes that we're bringing in through (not by 2025 or in 2025, which would fit the mid part of the decade. Below is the Shell Slide 26 and the graph referenced is the graph with blue bars on the left."*

Figure 11: Shell Integrated Gas volumes



Projects under construction	Country	Shell share %	LNG capacity 100%, mtpa
LNG Canada Train 1-2	Canada	40	14
NLNG Train 7	Nigeria	26	7.6
North Field East Expansion	Qatar	25	8
North Field South Expansion[2]	Qatar	9.4	16

3rd party offtake agreements	Country	Project status	LNG offtake mtpa
Venture Global – Calcasieu Pass	USA	Producing	2.0
Mozambique LNG	Mozambique	Under construction	2.0
Venture Global – Plaquemines LNG phase 1	USA	Under construction	1.9
Mexico Pacific – Train 1+2	Mexico	Pre-FID	2.6
Mexico Pacific – Train 3	Mexico	Pre-FID	1.1
Energy Transfer – Lake Charles	USA	Pre-FID	2.1
Next Decade – Rio Grande LNG	USA	Pre-FID	2.0

Source: Shell Capital Markets Day

LNG Canada should drive M&A

Natural Gas: LNG Canada 1.8 bcf/d Phase 1 should drive Montney M&A

We continue to believe that LNG Canada 1.8 bcf/d Phase 1 sets up the need for the LNG Canada joint venture partners to acquires supply from M&A and/or long-term supply arrangements. We don't believe they would want to go into start up of LNG Canada 1.8 bcf/d Phase 1 without some certainty of at least several years supply. No question they will assume some level of future Montney drilling but the BC/Blueberry River First Nations deal leads to less clarity to plan multi-year drilling plans.

LNG Canada Phase 2 FID should clearly drive even more Cdn M&A

We still think Phase 1 will drive some Montney M&A. And we think any FID of 1.8 bcf/d Phase 2 should clearly drive more M&A. Here is what we wrote in our July 30, 2023 Energy Tidbits memo. "*Yesterday, we tweeted [LINK] "Here's why a Shell FID on #LNGCanada 1.8 bcfd Phase 2 should drive M&A in Cdn #NatGas. See 👇02/21/22 tweet, Shell CEO Sawan wants to have enough #NatGas supply to match their LNG offtake share. In Q2/23 call, Phase 1 supply seems in good shape based on CFO Gorman comments. But a Phase 2 FID would be another question. #OOTT." (i) In Feb 2022, Shell CEO Swan, in his previous role, spoke about LNG Canada and it jumped out at us that his comments were pointing to the likelihood for M&A for the natural gas supply for LNG Canada. On February 21, 2022, we tweeted [LINK] "Buckle up, could be huge for Cdn #NatGas M&A. @Shell just said like to align equity #NatGas supply and offtake obligations, used #LNGCanada, Shell has 40% interest so would be 1.44 bcf/d if it FIDs #LNGCanada phase 2. It's why #LNGCanada Phase 2 is the must watch event #OOTT #LNG." Shell held its Integrated Business Deep Dive on Feb 21, 2022. Our tweet included the transcript we made of Sawan's comments. At approx. 9:18am MT, an analyst asks if the future equity percentage you have for the natural gas supply be less than the offtake percentage you have for the LNG? Sawan replied ".. typically, what I would say, as much as possible, having access across the entire value chain in as close of a percentage as you can, helps ensure that wherever value might rate at any point in time, you are capturing that value. So in general. Take our LNG Canada investment that you just referenced in the second question, we would look to be able to at least assure ourselves that we are not caught up by vagaries of one part of the market.*

let's say the gas supply, but we would want to have enough on the gas supply equity side to be able to make sure if gas prices go up there, we benefit from them while maybe disadvantaging the midstream or vice versa depending on where prices go. So we are not in the game of necessarily taking undue risk. we are in the game of creating integrated value chains that we can leverage as part of the broader portfolio." Unless Sawan has changed his mind since becoming CEO, he clearly says that for LNG Canada, he wants to have enough Shell natural gas supply to meet its LNG offtake share ie. 1.44 bcf/d if both Phase 1 and 2 go ahead. (ii) Our tweet yesterday said it looks they are in good shape for Phase 1. And we included CFO Gorman's comments in the Q&A on LNG Canada. Gorman said "Again, it's your upstream, which we have good confidence in as you know, a large part of the gas that's coming from this is coming for us from our own assets, Groundbirch and otherwise." We would think they would be able to get there with drilling their lands over the next 18 months. (iii) But an FID on LNG Canada 1.8 bcf/d Phase 2 would be another question. And we have to wonder, if Shell is looking to FID LNG Canada Phase 2 over the coming months, will this M&A cycle happen sooner than later before valuations of BC and Alberta natural gas reflect 1.8 bcf/d of LNG Canada Phase 1 sometime around 2025 and then another 1.8 bcf/d LNG Canada Phase 2 to follow perhaps in the 2030 range."

Mexico natural gas just below 5 bcf/d

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

On Wednesday, Pemex posted its natural gas production data for August. [LINK]. Pemex does not provide any commentary on the data but reported August 2023 natural gas production of 4.947 bcf/d, which was +3.1% YoY and +0.2% MoM. The big picture story for Mexico natural gas is, at least for now, still unchanged – for the past six years, Mexico natural gas production has been stuck right around 5 bcf/d, and that means any increased domestic natural gas consumption has been met by US natural gas imports. Below is our ongoing table of Pemex reported monthly natural gas production.

Figure 12: Mexico Natural Gas Production

Natural Gas Production bcf/d	2017	2018	2019	2020	2021	2022	22/21	2023	23/22
Jan	5.326	4.910	4.648	5.005	4.848	4.713	-2.8%	4.955	5.1%
Feb	5.299	4.853	4.869	4.942	4.854	4.646	-4.3%	4.979	7.2%
Mar	5.383	4.646	4.857	4.946	4.839	4.766	-1.5%	5.035	5.6%
Apr	5.334	4.869	4.816	4.827	4.671	4.740	1.5%	5.095	7.5%
May	5.299	4.827	4.841	4.460	4.730	4.702	-0.6%	5.034	7.1%
June	5.253	4.840	4.843	4.754	4.727	4.744	0.4%	5.035	6.1%
July	5.216	4.856	4.892	4.902	4.725	4.815	1.9%	4.936	2.5%
Aug	5.035	4.898	4.939	4.920	4.656	4.796	3.0%	4.947	3.1%
Sept	4.302	4.913	5.017	4.926	4.746	4.798	1.1%		
Oct	4.759	4.895	4.971	4.928	4.718	4.795	1.6%		
Nov	4.803	4.776	5.015	4.769	4.751	4.845	2.0%		
Dec	4.811	4.881	5.024	4.846	4.697	4.845	3.2%		

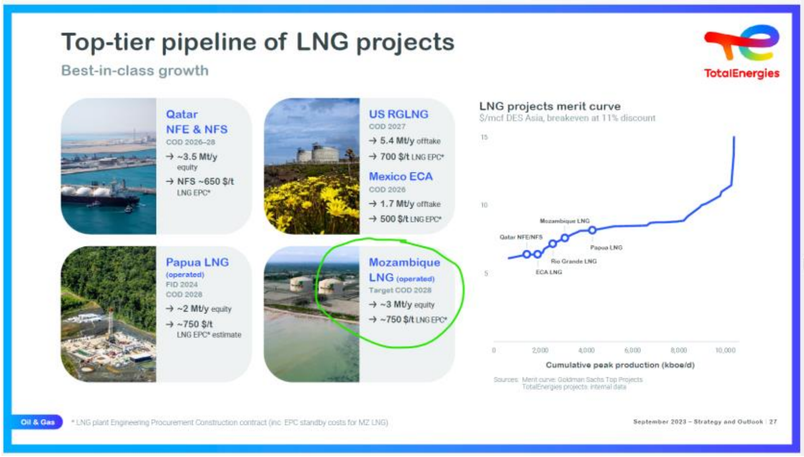
Source: Pemex, SAF

TotalEnergies Mozambique LNG

Natural Gas: TotalEnergies targets restart Mozambique LNG by year-end

On Wednesday, TotalEnergies held its "*2023 Strategy & Outlook*". We did not listen to the webcast but relied upon the Bloomberg transcript. In their prepared remarks, TotalEneriges CEO Pouyanne said "*On last Mozambique LNG. Where we are working to create the conditions for restart of the activities, with a target start up in 2028 $3 million ton per annum in company share. Still a competitive unit cost for the LNG plant because EPC contract was* *awarded back in 2019 in favorable conditions. So even with the suspension of activities we stay at an attractive dollar per ton EPC cost."* So TotalEnergies is planning for first LNG in 2028 from Mozambique LNG. In the Q&A, Pouyanne said their target is to restart by year-end as the security situation is satisfactory, but also said they haven't yet finalized renegotiated deals with all the service contractors. Recall TotalEnergies had said they were going to hold contractors to the original deal. But later in the Q&A, TotalEnergies noted that they had $1.5b in suspension costs. And their cost estimates reflected today's costs. When we see their response, we have to believe they expect to get to a deal they can live with for the remaining contractors. Here are the excerpts from the Q&A. "*In Mozambique, we are on the fourth measure since 2021, I think. Situation has clearly improved because the governmental forces supported by other countries, in particular, Ronda, have taken back the control of the situation in Cabo delgado, we make a number of audits which are satisfactory. And our objective is to restart the project before year-end. Today, in fact, we still have 2 -- 1 major, I would say, which is a relationship with our contractors because some of the contractors would like to benefit from the situation to increase their costs. We disagree. So we have some negotiations, including retendering some of the package in order to meant to control the cost of the project, but we'll have clarity of that in the coming months. Yes, I would say, security. But if we restart is because we came to the conclusion but we don't want to start to stop again to be clear. So we are able to execute the project fully. And it's not only shared by TotalEnergies but by our partners as well. So the improvement in the situation is strong enough. And in order to be able to remobilize contractors and to develop the project."* And then later in the Q&A, Analyst"*On LNG, just to clarify, when we see Mozambique in the cost curve that is based on the old cost estimate, I guess. With the new cost estimates, where..."* Mgmt "*No, it's based on the cost estimate we have today…Including the cost of -- because we have some suspension costs, which were around $1.5 billion, what we have to pay in order to suspend the project during this interim pays."* Analyst "*So you're happy with the cost that we have for Mozambique where they are now or you want to push them down?"* Mgmt "*No, no. We will not be happy with the target we put in this figure. So we need to work still."* Analyst "*Okay. Thank you.".* Mgmt "*But we are not far to, I hope so, to be happy".*

Figure 13: TotalEnergies "Top-tier pipeline of LNG projects"



Source: TotalEnergies

A TotalEnergies restart will set in motion 5 bcf/d of Mozambique LNG

It is important to remember that a restart of TotalEnergies Mozambique Phase 1 is more than a restart of the 1.7 bcf/d for Phase 1 – it's really sets in motion 5.0 bcf/d of Mozambique LNG. This is why we have highlighting TotalEnergies force majeure on its Mozambique LNG Phase 1 for the past 21 months as the game changing event for LNG markets. TotalEnergies Mozambique Phase 1 at 1.7 bcf/d is significant, but our view has been because TotalEnergies delaying Phase 1 of 1.7 bcf/d is actually leading to a delay of 5.0 bcf/d. This was the reason why, on April 28 2021, we posted a 7-pg blog "*Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?*" [LINK] We thought, and still think, there has been a major change to the outlook for LNG supply in the 2020s and one that is still being overlooked – there is a big new LNG supply gap starting around 2025 that is hitting faster and bigger than anyone expects. We saw Total's April 27, 2021 announcement of force majeure at its Mozambique Phase 1 LNG of 1.7 bcf/d was much more significant that viewed. We just didn't see market focused on the fact that this situation backs up an additional 3.3 bcf/d of LNG supply that is also being counted on in all LNG supply forecasts. Total's Phase 2 of 1.3 bcf/d was to follow, and Exxon's Rozuma Phase 1 of 2.0 bcf/d was originally expected to go FID in 2019 but is now not expected to have a FID decision until 2022 at the earliest. Mozambique is considered a premium LNG supply region for Asia and is in LNG supply forecasts. Total's original in service for Phase 1 is 2024. We had been warning that Mozambique has a major LNG market impact and its why we posted the April 28 blog. Its also why earlier we said that this is starting the clock running for other LNG projects wanting to go FID to make their mind up ie. like LNG Canada Phase 2." Our Supplemental Documents package includes our April 28, 2021 blog.

Natural Gas: Forecast above normal temperatures through October in Japan

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. Every Thursday, the Japan Meteorological Agency updates its 30-day outlook [LINK]. The September 28 update calls for much warmer than typical temperatures for the Sep 30 – Oct 29 period. It is important to remember that October is shoulder season for natural gas demand, which means above normal temperatures means daily highs for Tokyo generally below 25 in October and this shouldn't generate much natural gas demand for air conditioning. Rather it's what we call "leave the windows open" weather. We checked AccuWeather's daily forecast for the next four weeks and most days have highs below 25, a couple in high 20s and three in the high teens. Below is the JMA's 30-day temperature probability forecast for Sep 30 to Oct 29.

Figure 14: JMA Sep 30-Oct 29 Temperature Probability Forecast

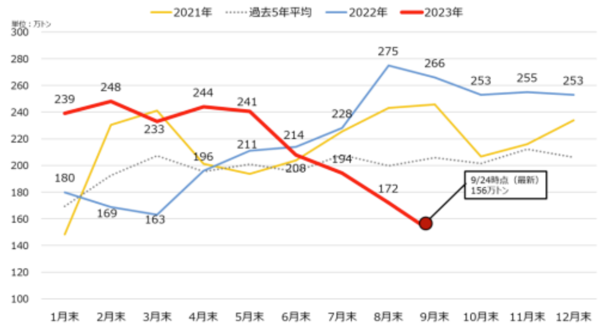
Source: Japan Meteorological Agency

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

Japan LNG stocks down -3.8% WoW

It's been hot in Japan, and Japan has been drawing on its LNG stocks for power generation for the past few weeks and have taken LNG stocks below year ago and the 5-yr average. It means that Japan will be starting to get some LNG cargos to increase LNG stocks in Oct and Nov for the winter. But that was not the case this week as we observed a large draw, keeping Japan LNG stocks well below 2022 average levels and the 5-year average. On Wednesdays, Japan's METI releases its weekly LNG stocks data [LINK]. LNG stocks on Sept 24 were 74.9 bcf and are down -3.8% WoW from Sept 17 of 77.8 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 15: Japan LNG Stocks



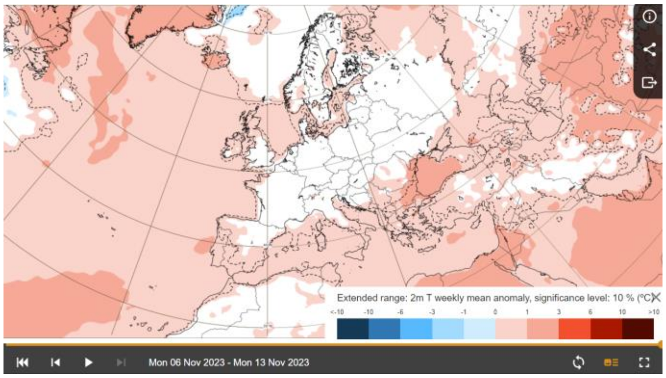
Source: METI

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

Europe early Nov forecast

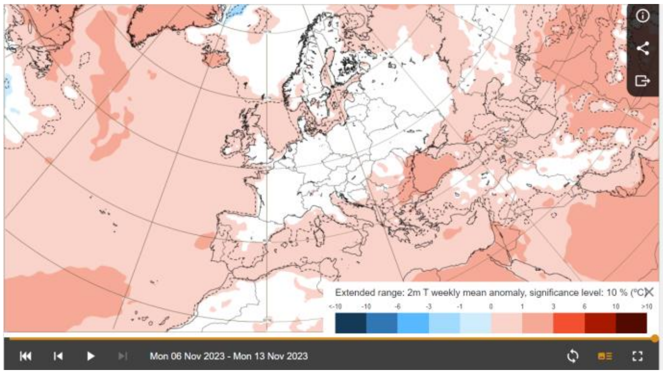
Our concern for near-term natural gas and LNG prices is that three will be a holdback as long as forecasts call for warmer than normal temperatures to start winter especially if it starts warmer than normal in multiple major natural gas consumption regions. As seen with winter 2022/23, when it starts 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 most of Oct and then at least seeing part of Euro turning to normal temperatures to start Nov.

Figure 16: ECMWF Oct 31-Nov 6 Temperature Probability Forecast



Source: ECMWF

Figure 17: ECMWF Nov 7-14 Temperature Probability Forecast



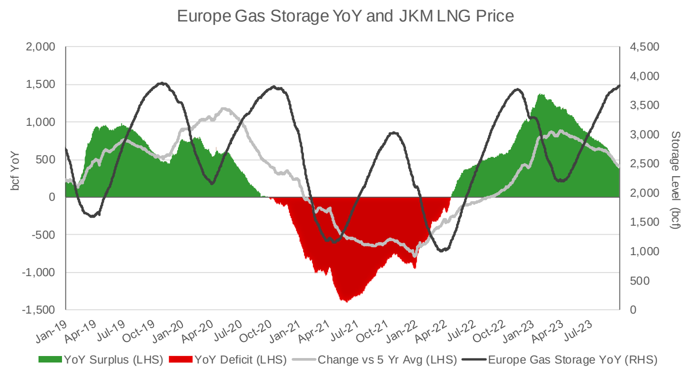
Source: ECMWF

Natural Gas: Europe storage over 95% full so entering winter close to full

Europe gas storage

Please note that Europe generally refers to the start of winter natural gas 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 95% full level this week so they will be entering winter at full or close to full levels. This week, Europe storage increased by +0.91% WoW to 95.15% on Sep 27. Storage is now +7.01% greater than last year's levels of 88.14% and is +8.19% above the 5-year average of 86.96%. 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 18: European Gas Storage Level



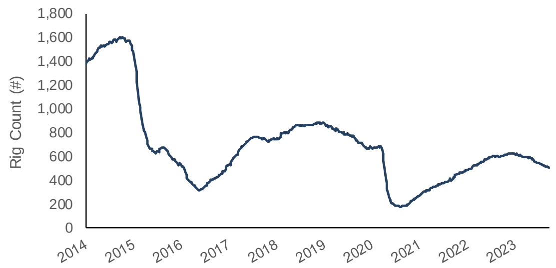
Source: Bloomberg, SAF

Oil: US oil rigs -5 WoW at 502 rigs, US gas rigs -2 WoW to 116 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 502 total rigs and are down -102 rigs YoY for the week of September 29. This is up +21 rigs from the 2022 low of 481 rigs in January. We are surprised that oil rigs are still going down considering the strength of oil prices over the past two months. On a per basin basis, there were a few changes in the major US basins for the week of September 29. The Permian was down -6 rigs WoW to 308 rigs, Granite Wash was down -1 WoW at 4 rigs, Williston was up +1 WoW at 33 rigs, and Mississippian was up +1 WoW at 1 rig. Cana Woodford, Ardmore Woodford, Eagle Ford and DJ Niobrara were flat WoW at 16, 2, 44 and 14 rigs respectively. Others were flat WoW at 80 oil rigs. The Permian is near its lowest level since March 18, 2022, and is down -49 rigs from its recent high of 357 rigs on April 28, 2023. (ii) Gas rigs were down -2 rigs WoW to a total of 116 rigs and have now decreased -43 rigs YoY. On a per basin basis, Permian was up +1 WoW at 4 rigs and Marcellus was down -1 WoW at 28 rigs. Others were down -2 gas rigs to a total of 30 rigs. Below is our graph of total US oil rigs.

Figure 19: Baker Hughes Total US Oil Rigs



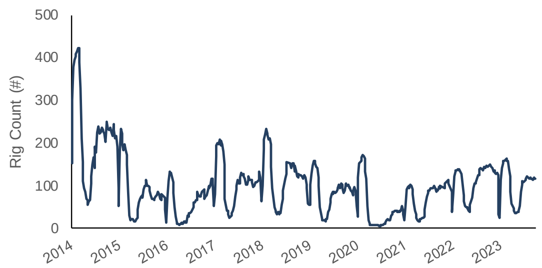
Source: Baker Hughes, SAF

Oil: Total Cdn rigs +1 WoW at 191 total rigs

Cdn total rigs up WoW

For the week of September 29, total Cdn rigs were +1 WoW at 191 rigs. BC was up +1 rig WoW at a total of 20 rigs and Alberta was up +2 rigs to a total 135 rigs. There was only a +1 increase in BC rigs but we think that is likely going higher this week with the big reduction in wildfires this week. Saskatchewan was down -1 rig for a total of 33 rigs, Manitoba was down -1 rig WoW for a total of 3 rigs while Newfoundland remained flat at 0 rigs. Cdn oil rigs were flat WoW to 115 rigs, and Cdn gas rigs increased +1 rig to 76 rigs. Cdn oil rigs are down -29 rigs YoY, while gas rigs are up +7 rigs YoY. Below is our graph of total Cdn oil rigs.

Figure 20: 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

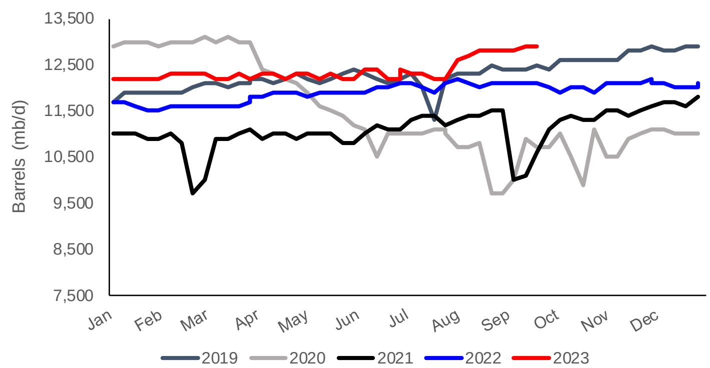
Our Aug 13, 2023 Energy Tidbits memo highlighted the EIA increased their weekly US oil production estimates by +0.4 mmb/d and how we had been expecting such a big increase to the weekly estimates. For months, we highlighted how the US weekly estimates were well below the EIA's actuals as per its monthly 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 22 [LINK]. The Lower 48 was also flat WoW at 12.500 mmb/d, and Alaska up slightly at 0.418 mmb/d. Below is a table of the EIA's weekly oil production estimates.

Figure 21: EIA's Estimated Weekly US Field Oil Production

Year-Month	Week 1		Week 2		Week 3		Week 4		Week 5	
	End Date	Value	End Date	Value	End Date	Value	End Date	Value	End Date	Value
2022-Jan	01/07	11,700	01/14	11,700	01/21	11,600	01/28	11,500		
2022-Feb	02/04	11,600	02/11	11,600	02/18	11,600	02/25	11,600		
2022-Mar	03/04	11,600	03/11	11,600	03/18	11,600	03/25	11,700		
2022-Apr	04/01	11,800	04/08	11,800	04/15	11,900	04/22	11,900	04/29	11,900
2022-May	05/06	11,800	05/13	11,900	05/20	11,900	05/27	11,900		
2022-Jun	06/03	11,900	06/10	12,000	06/17	12,000	06/24	12,100		
2022-Jul	07/01	12,100	07/08	12,000	07/15	11,900	07/22	12,100	07/29	12,100
2022-Aug	08/05	12,200	08/12	12,100	08/19	12,000	08/26	12,100		
2022-Sep	09/02	12,100	09/09	12,100	09/16	12,100	09/23	12,000	09/30	12,000
2022-Oct	10/07	11,900	10/14	12,000	10/21	12,000	10/28	11,900		
2022-Nov	11/04	12,100	11/11	12,100	11/18	12,100	11/25	12,100		
2022-Dec	12/02	12,200	12/09	12,100	12/16	12,100	12/23	12,000	12/30	12,100
2023-Jan	01/06	12,200	01/13	12,200	01/20	12,200	01/27	12,200		
2023-Feb	02/03	12,300	02/10	12,300	02/17	12,300	02/24	12,300		
2023-Mar	03/03	12,200	03/10	12,200	03/17	12,300	03/24	12,200	03/31	12,200
2023-Apr	04/07	12,300	04/14	12,300	04/21	12,200	04/28	12,300		
2023-May	05/05	12,300	05/12	12,200	05/19	12,300	05/26	12,200		
2023-Jun	06/02	12,400	06/09	12,400	06/16	12,200	06/23	12,200	06/30	12,400
2023-Jul	07/07	12,300	07/14	12,300	07/21	12,200	07/28	12,200		
2023-Aug	08/04	12,600	08/11	12,700	08/18	12,800	08/25	12,800		
2023-Sep	09/01	12,800	09/08	12,900	09/15	12,900				

Source: EIA

Figure 22: EIA's Estimated Weekly US Oil Production



Source: EIA, SAF

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

EIA Form 914 July

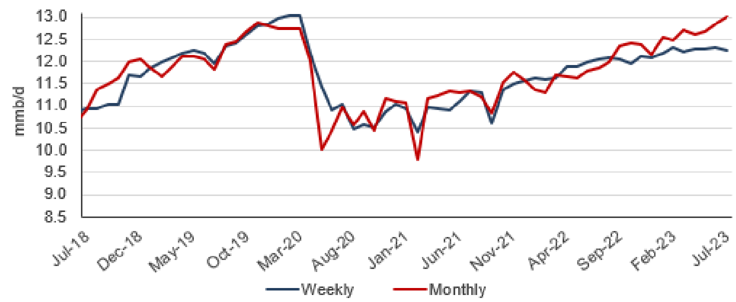
The reason why we highlighted for months the shortfall in the EIA weekly oil production estimates vs the EIA monthly actuals is that they understated the strong YoY growth in US oil production, which is >1 mmb/d YoY. As noted above, the EIA made a big +0.4 mmb/d increase adjustment to the Aug 4 week 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 23: 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 24: EIA Form 914 US Oil Production vs Weekly Estimates



Source: EIA, SAF

Oil: Devon CEO US shale moving to Tier 2 locations

Moving to Tier 2 shale locations

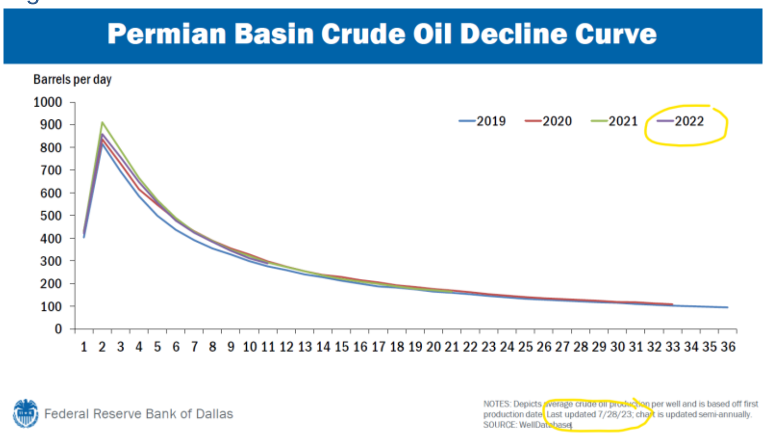
We continue to believe the sustained rate of growth for US oil production for the rest of the decade is one of the most important oil price factors and the concern is what Devon CEO Muncrief reminded this week – industry is moving on to Tier 2 locations as "*that has been the history for decades, that some of the easiest, drill first, then go to the more challenging areas*." On Monday, Continental's Harold Hamm hosted the American Energy Security Summit. There were headlines on some of the bullish views on oil price expectation ie. $150, but we thought the most interesting comment from the conference was only a headline on the Bloomberg terminal "*Devon Tier 2 shale wells looking more attractive at $90 oil"*. Fortunately, the Bloomberg terminal posted the video of their TV interview with Devon CEO Muncrief. We tweeted [LINK] "*Challenge for sustained shale growth, incl Permian. "At $90 oil prices, many of the Tier 2 opportunities become really quite attractive....been the history for decades, that some of the easiest - drill first, then go to more challenging areas" CEO Muncrief. Thx @adsteel*. #OOTT." And [LINK] "*Tier 1 to Tier 2 = positive for #Oil.* 👇*"As some of our basins mature, (Eagle Ford, Bakken, even gassier basins) you don't see as much activity. Even in the core of these basins, even in places like the Permian, you're starting to see the core more developed" CEO Muncrief. #OOTT."* Muncrief's comments fit the thesis that the US is running out of Tier 1 locations and more producers are drilling Tier 2 and Tier 3 locations including in the Permian. These wells now have attractive economics at $90 oil, but it fits the thesis of running out of Tier 1 locations to drill, which is why we think it's hard to see sustained growth in the Permian for the medium term. Doesn't mean they can't keep it flat or grow a bit, but it needs high prices to do so and each incremental barrel is more expensive to extract. Our tweet included the transcript we made of Muncrief's comments. SAF Group created transcript of comments by Devon Energy CEO Rick Muncrief with Bloomberg's Alix Steel on BloombergTV on Sept 25, 2023. Items in "*italics*" are SAF Group created transcript. Steel. "*How's productivity?* The other narrative is, it's harder and harder to get oil out of what's already there." Muncrief. "*Yeah, what's interesting is that this has really been a topic we've talked about with our investors. As some of our basins mature, (Eagle Ford, Bakken, even gassier basins) you don't see as much activity. Even in the core of these basins, even in places like the Permian, you're starting to see the core more developed, tightness in the market and maturity. At $90 oil prices, many of the Tier 2 opportunities become really quite attractive. That has been the history for decades, that some of the easiest – drill first, then go to the more challenging areas*."

03/06/23: Pioneer CEO "*most companies are drilling Tier 2 and Tier 3 wells*"
The moving to Tier 2 locations is not news. 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."*

Dallas Fed, lower productivity Permian 2022 wells than 2021 and 2020 wells
Here is what we wrote in our Aug 27, 2023 Energy Tidbits memo. "*On Friday, we tweeted [LINK] "ICYMI. @DallasFed Permian #Oil decline curve updated 07/28. Fits maturing Permian thesis ie. industry generally drilled their best wells in 2020/21 when cash flows were squeezed. 2022 wells. Less than 2021 wells. Start little higher vs 2020 but cross over lower ~6 mths. #OOTT." The Dallas Fed posts an Energy Slideshow, and the current release was on August 18. [LINK]. One fo the key charts is their "Permian Basin Crude Oil Decline Curve", which has data updated as of July 28. The data is updated on a semi-annual basis and the prior data update was Feb 21, 2023. The graph plots the Permian Basin wells from 2019, 2020, 2021 and 2022. The takeaway and narrative is unchanged from the last data update. The best Permian wells were drilled in 2021 when cash flows and capital access were*

squeezed. The 2022 wells are less than the 2021 wells. The 2022 wells start a little higher vs the 2020 wells, but they converge around 6 months and then 2022 wells are slightly lesser than 2020 wells. There is no data on 2023 wells."

Figure 25: Permian Basin Crude Oil Decline Curve



Source: Dallas Fed

Oil: Cushing oil inventories vs WTI price

Cushing oil inventories

Another week of declining Cushing oil inventories was one of the headline stories coming out of the EIA's weekly oil inventory data as of Sept 22. The EIA reporting Cushing oil was down 0.94 mmb/d to 22.0 mmb as of Sept 22. There is no official number but the general view is that Cushing oil inventory below 20 mmb (vs Cushing's ~100 mmb capacity) is considered the close to the low level below which it increases the ability to remove oil from storage. WTI prices are driven by a range of factors and not just by Cushing oil inventory levels. But we tweeted [LINK] "*There is much more than the Cushing factor, but normally a good correlation of Cushing #Oil inventories vs WTI oil price. Six straight weeks of falling Cushing oil inventories has been matched up with WTI $78.89 on Aug 24 to $93.50 today. Thx @business. #OOTT."* Our tweet included the two below Bloomberg graphs.

Figure 26: Cushing oil inventories fall for six straight weeks

Source: Bloomberg

Figure 27: Cushing oil inventories vs WTI price

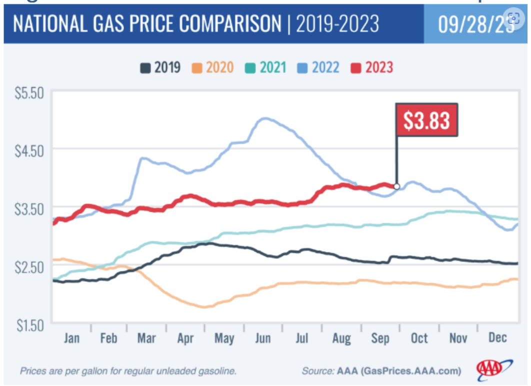
Source: Bloomberg

Oil: US gasoline prices -$0.03 this week to $3.82

Yesterday, AAA reported that US national average prices were down $0.03 this week to $3.82 on Sept 30, which is +$0.02 vs year ago of $3.80. Remember US gasoline prices started to ease below $4 in August 2022 and were declining in Sept helped by the SPR releases. On Thursday when US national average gas prices were $3.83, AAA posted a blog "*Falling like a Feather*" [LINK] that wrote "*Despite tepid demand with fewer drivers visiting the pump, the national average for a gallon of gas only fell three cents since last week to reach $3.83. The slow descent is due to the high cost of oil, which is acting like a drogue chute on falling gas prices. "Oil is stubbornly staying above $90 per barrel for now, and it's the main ingredient in gasoline," said Andrew Gross, AAA spokesperson. "Gas prices will likely keep falling, but it's going to be slow and unsteady, so expect some days where it might edge higher a bit."* AAA included the below graph with their blog.

US gasoline prices

Figure 28: AAA National Gas Price Comparison 2019-2023



Source: AAA

Oil: California gasoline prices hit $6, but expected lower this week

On Thursday, we tweeted [LINK] *"ICYMI. California gasoline prices hit $6.03 today, flat YoY, below all-time high of $6.44 on June 14, 2022 reports @AAAnews. Good thing for Democrats the state and national elections are 13 mths away. #OOTT."* Yesterday, AAA reported California average gasoline prices were $6.08 on Sept 30, which is down YoY from $6.29 on Sept 30, 2022, and down vs the all-time high of $6.44 on June 14, 2022.

California gasoline hit $6

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."* Our Supplemental Documents package includes the San Diego Tribune report.

Oil: Cdn WCS less WTI differentials flat WoW to close at $18.60 on Sept 29

WCS less WTI differentials

It was a great May thru mid Aug for WCS less WTI differentials that were much narrower than normal and, even in Sept, are still narrower than normal. Normally WCS less WTI differentials start to seasonally widen in mid-May. But that didn't happen this year. WCS less WTI differentials were $14.15 on March 31, which was the Friday before the Sun Apr 2 reports that OPEC+ was going to cut production effective May 1. The WCS less WTI differential was up and down but closed at $14.65 on Apr 28, then narrowed in May to 13.50 on May 31, narrowed in June to $11.25 on June 30, widened in July to $13.75 on July 31, then widened to close at $17.75 on Aug 31, and now widened by $0.85 MoM to close at $18.60 on Sept 29. WCS less WTI differentials were flat this week to close at $18.60 on Sept 29. This is not the norm and is linked to the global medium sour tightness and, in the US, the reducing Saudi oil exports to the Gulf Coast. The normal seasonal trend for WCS less WTI differentials that normally widen starting in mid-May. For perspective, a year ago, the WCS-WTI differentials last year were $22.25 on Sept 29, 2022. Below is Bloomberg's current WCS–WTI differential as of Sept 29, 2023 close.

Figure 29: WCS less WTI oil differentials including Sept 29 close

Source: Bloomberg

SAF GROUP

Oil: Crack spreads decreased $3.72 WoW to $22.35 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 0.239 mmb/d WoW following last week's 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 $3.72 WoW to $22.35 on Sept 29, down from $26.07 on Sept 22, which followed the prior week's down $6.39 from $32.48 on Sept 15. Crack spreads at $22.35 are just a little big higher than 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 $22.35 as of the Friday Sept 29, 2023 close.

Figure 30: Cushing Crude Oil 321 Crack Spread Sept 29, 2013 to Sept 29, 2023

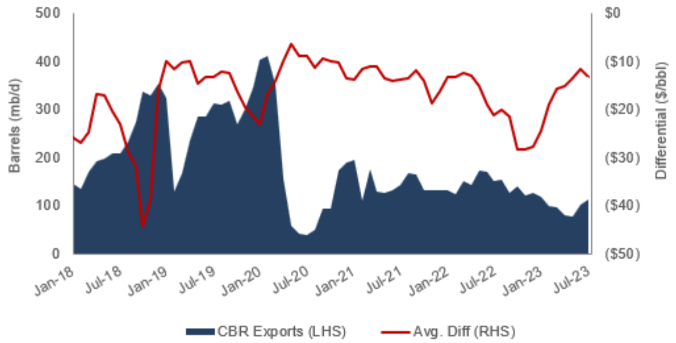
Source: Bloomberg

Oil: Cdn crude by rail exports at 113,784 b/d in July, down -25.3% YoY

Cdn crude by rail down YoY in July

We will try to find out why there is such a huge difference between the Canadian Energy Regulator (successor to NEB) reported Canadian crude by rail exports to the US vs the EIA's crude by rail imports from Canada. But for now, the CER reported Cdn crude by rail exports were up +11,049 b/d MoM to 113,784 b/d in July vs the 102,735 b/d in June [LINK]. This puts export volumes at -38,485 b/d YoY (-25.3%) vs July 2022 of 152,269 b/d. CBR volumes are +74,917 b/d since the Covid low of 38,867 b/d in July 2020. The WCS–WTI differential still provide the price incentive for crude by rail to the Gulf coast. But May and June and July to a lesser extent were impacted by oil sands maintenance. The CER doesn't provide any explanation for the MoM changes, but the modest MoM increase was likely linked to the slightly less maintenance impact. Below is our graph of Cdn crude by rail exports compared to the WCS–WTI differential.

Figure 31: Cdn Crude By Rail Exports vs WCS Differential



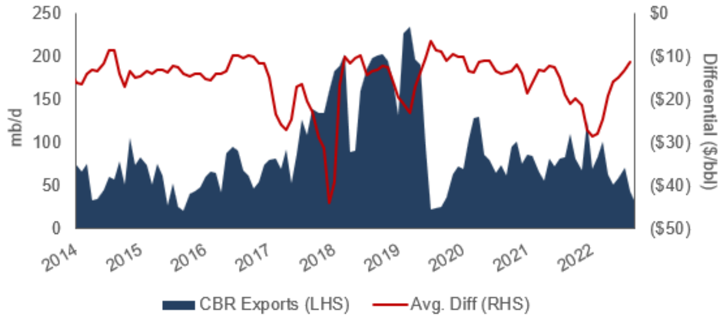
Source: Canadian Energy Regulator, Bloomberg

Oil: EIA estimates total Cdn crude by rail imports down MoM to 37,806 b/d in July

EIA Cdn crude by rail imports

As noted above, we will try to find out why there is such a huge difference in the CER's crude by rail exports to the US vs the EIA's crude by rail imports from Canada. But for now, on Friday, the EIA posted its monthly "U.S. Movements of Crude Oil by Rail" [LINK], which includes the EIA data on US imports of Cdn crude by rail. EIA estimates total US imports of Cdn crude by rail was 37,806 b/d in July, which was down -26,960 b/d MoM from 64,767 b/d in June. US imports of Cdn crude by rail into PADD 3 (Gulf Coast) were 29,742 b/d in July which is down -14,091 b/d MoM from 43,833 in June. The EIA did not comment on the MoM changes. Below is our graph of Cdn CBR exports to the Gulf Coast and WCS differential over time.

Figure 32: Canada CBR Exports to US Gulf Coast vs WCS Differential



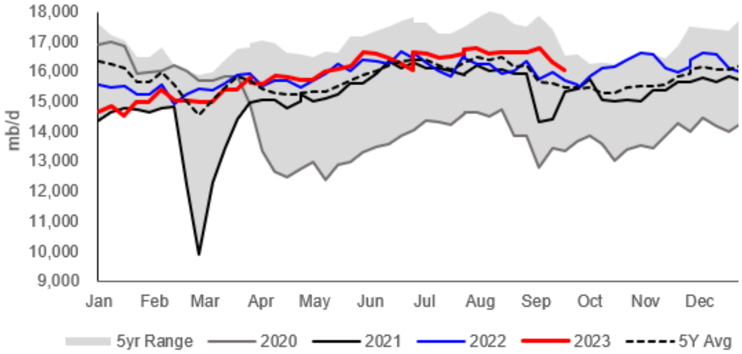
Source: EIA, Bloomberg

Oil: Refinery inputs down -0.239 mmb/d WoW to 16.065 mmb/d

Refinery inputs -0.239 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 is happening but, at least so far, continued strong crack spreads and demand for diesel is keeping refineries wanting to operate at higher levels than normal at this time of Sept. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended September 22 [LINK]. The EIA reported crude inputs to refineries were down -0.239 mmb/d this week to 16.065 mmb/d and are up +0.314 mmb/d YoY. Refinery utilization was down -2.4% WoW to 89.5%, which is -1.1% YoY. We likely hit the seasonal peak in refining two weeks ago.

Figure 33: US Refinery Crude Oil Inputs



Source: EIA, SAF

One example of turnarounds is Exxon Baytown this week
Exxon's Baytown (Texas) refinery has a capacity of 564,000 b/d. On Wednesday, Bloomberg reported "*Exxon's Baytown refinery along the Houston Ship Channel is starting a turnaround this week on its biggest of three crude units, people familiar with operations said. * Work on the approximately 280k b/d Pipestill 8 will last about 35-40 days, with at least several additional days needed to return the unit to normal operations * This will be the first major maintenance performed on Pipestill 8 since early 2019.*"

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 an Other number. Give the EIA credit for putting out weekly oil import estimates, but it's a reminder that we have to be careful about using the weekly oil import estimates. Rather we need to make sure we go to the monthly data for oil imports. The EIA reported US "NET" imports were up +1.766 mmb/d to 3.217 mmb/d for the September 22 week. US imports were up +0.711 mmb/d to 7.229 mmb/d. US exports were down -1.055 mmb/d to 4.012 mmb/d. The WoW increase in US net imports was driven mostly by "Top 10". Top 10 was up +0.916 mmb/d. Some items to note on the country data: (i) Canada was up +0.593 mmb/d to 3.880 mmb/d. (ii) Saudi Arabia was flat +0.000 mmb/d at 0.383 mmb/d. (iii) Mexico was up +0.241 mmb/d to 0.844 mmb/d. (iv) Colombia was down -0.001 mmb/d to

0.286 mmb/d. (v) Iraq was up +0.047 mmb/d to 0.280 mmb/d. (vi) Ecuador was up +0.033 mmb/d to 0.167 mmb/d. (vii) Nigeria was up +0.003 mmb/d to 0.003 mmb/d.

Figure 34: US Weekly Preliminary Imports by Major Country

US Weekly Preliminary Crude Imports By Top 10 Countries (thousand b/d)													
(thousand b/d)	Jul 7/23	Jul 14/23	Jul 21/23	Jul 28/23	Aug 4/23	Aug 11/23	Aug 18/23	Aug 25/23	Sep 1/23	Sep 8/23	Sep 15/23	Sep 22/23	WoW
Canada	3,385	3,698	3,203	3,691	3,466	3,505	3,832	3,405	3,679	3,645	3,287	3,880	593
Saudi Arabia	444	426	242	427	330	285	221	462	567	383	383	383	0
Venezuela	0	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	526	1,004	830	760	667	901	780	437	699	1,095	603	844	241
Colombia	153	215	287	290	296	75	290	295	300	211	287	286	-1
Iraq	134	259	273	235	305	304	283	232	100	248	233	280	47
Ecuador	144	207	216	175	142	363	192	328	99	0	134	167	33
Nigeria	189	91	229	94	237	307	89	144	220	219	0	3	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	4,975	5,900	5,280	5,672	5,443	5,740	5,687	5,303	5,664	5,801	4,927	5,843	916
Others	905	1,274	1,087	996	1,239	1,418	1,246	1,314	1,106	1,781	1,590	1,386	-204
Total US	5,880	7,174	6,367	6,668	6,682	7,158	6,933	6,617	6,770	7,582	6,517	7,229	712
Source: EIA													

Source: EIA, SAF

Oil: Mexico oil production including partner volumes just above 1.6 mmb/d

Pemex August oil production

On Wednesday, Pemex posted its August 2023 oil production data. [LINK] Pemex does not provide any commentary on the data, but reported August oil production, including partners, was 1.602 mmb/d, which was -5.3% YoY and +1.8% MoM. The big picture story remains the same - Mexico (Pemex) oil production is stuck around 1.6 mmb/d for the last three years. Pemex has been unable to grow Mexico oil production, which means that any increase in Pemex Mexico refineries crude oil input will result in less Mexico oil for export including to the US Gulf Coast. And it also means that if Mexico has refinery issues in a month, there will be more Mexico oil for export in a month. Below is our table tracking Pemex oil production.

Figure 35: Pemex (Incl Partners) Mexico Oil Production

Oil Production (thousand b/d	2016	2017	2018	2019	2020	2021	2022	2023	23/22
Jan	2,259	2,020	1,909	1,623	1,724	1,651	1,705	1,584	-7.1%
Feb	2,214	2,016	1,876	1,701	1,729	1,669	1,684	1,582	-6.1%
Mar	2,217	2,018	1,846	1,691	1,745	1,697	1,696	1,597	-5.8%
Apr	2,177	2,012	1,868	1,675	1,703	1,693	1,686	1,608	-4.6%
May	2,174	2,020	1,850	1,663	1,633	1,688	1,690	1,611	-4.7%
June	2,178	2,008	1,828	1,671	1,605	1,698	1,702	1,609	-5.5%
July	2,157	1,986	1,823	1,671	1,595	1,701	1,707	1,573	-7.9%
Aug	2,144	1,930	1,798	1,683	1,632	1,657	1,691	1,602	-5.3%
Sept	2,113	1,730	1,808	1,705	1,643	1,709	1,685		
Oct	2,103	1,902	1,747	1,655	1,627	1,692	1,698		
Nov	2,072	1,867	1,697	1,696	1,633	1,691	1,706		
Dec	2,035	1,873	1,710	1,706	1,650	1,694	1,576		

Source: Pemex

Oil: Mexico exports 1.076 mmb/d of oil in August, +2.3% MoM

Pemex August oil exports

On Wednesday, Pemex posted its oil exports for August. [LINK] Pemex does not provide any commentary on the data but reported July oil exports were 1.076 mmb/d, which was +17.6% YoY and +2.3% MoM vs 1.052 mmb/d in July. Pemex oil exports were up 0.024 mmb/d MoM overall but its exports to the US was relatively unchanged in August at 0.772 mmb/d vs 0.809 mmb/d in July. The US tends to be a higher margin market so Pemex typically prioritizes oil exports to the US. Please note that we continue to expect Mexico oil exports to decline later in H2/23 as they start up their new 340,000 b/d Olmeca (formerly known as Dos Bocas) refinery. Below is our table of the Pemex oil export data.

Figure 36: Pemex Mexico Oil Exports

Oil Exports (thousand b/d)	2016	2017	2018	2019	2020	2021	2022	2023	23/22
Jan	1,119	1,085	1,107	1,071	1,260	979	832	980	17.8%
Feb	1,241	1,217	1,451	1,475	1,093	1,006	925	949	2.6%
Mar	1,062	1,001	1,176	1,150	1,144	925	905	971	7.3%
Apr	1,081	1,017	1,266	1,023	1,179	923	1,024	989	-3.4%
May	1,204	958	1,222	1,205	1,062	1,031	965	1,087	12.6%
June	1,098	1,157	1,110	995	1,114	1,106	1,029	1,203	16.9%
July	1,146	1,255	1,156	1,079	1,051	1,173	1,062	1,052	-0.9%
Aug	1,261	1,114	1,181	1,082	1,190	1,099	915	1,076	17.6%
Sept	1,425	1,159	1,206	995	1,023	983	1,022		
Oct	1,312	1,342	1,027	963	908	935	971		
Nov	1,273	1,388	1,135	1,114	1,171	1,025	893		
Dec	1,115	1,401	1,198	1,115	1,243	1,037	900		

Source: Pemex

Oil: OPEC JMMC meeting is Oct 4

OPEC+ JMMC on Oct 4

The next OPEC+ Joint Ministerial Monitoring Committee isn on Wed Oct 4. There has been very little speculation on the meeting. Brent is over $90 but, given higher for longer interest rate view and China's still stalled recovery, it's hard to see how the JMMC would make any recommendation to change the existing OPEC+ agreement to keep 2 mmb/d off the market thru 2024. And, as we saw in their last meeting press release, we expect the JMMC will repeat their language "*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 for the month of September. The committee also acknowledged the Russian Federation for its additional voluntary reduction of exports by 300 kbd for the month of September."*

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

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

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: Novak points to Russia's temporary ban on diesel exports lasting thru November

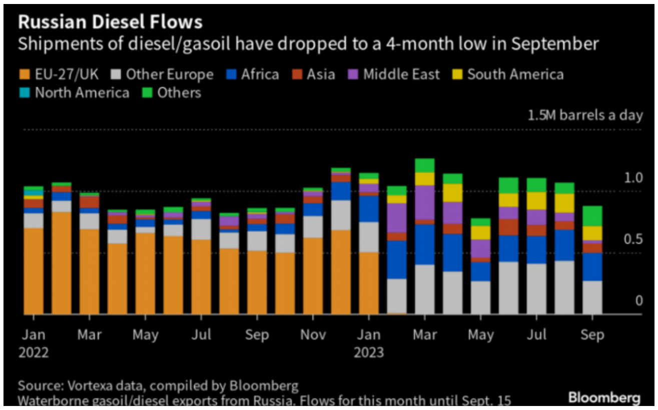
Russia ban of diesel & gasoline exports

The big oil market news last week was Russia surprise announcement that it was putting a temporary ban on exports of diesel and gasoline. At that time, we thought the temporary timing was to try to reduce the price of diesel in Russia during harvest season, which meant to us, at least thru Oct. Early Thursday morning, we tweeted [LINK] "*Looks like temp export cuts of Russian #Diesel to continue thru Nov. Novak. particular attention to agricultural producers " .. supply 1.8 mm tonnes of diesel fuel through Nov.... additional amounts of diesel fuel supplies ... period of Sept-Nov for completion of field". #OOTT.*" Interfax reported on comments by Russia Deputy PM Novak that point to the temporary ban on diesel exports to continue thru November to lower diesel prices to support agricultural producers. Novak noted that gasoline prices had increased by 15% and diesel prices by 30% over the past two months, but that had declined 20% for gasoline and 16% for diesel since the export ban. Then Novak pointed to a continuation thru November. Interfax wrote ""*Particular attention is being paid to fuel supplies to agricultural producers. Command center work has been organized together with the Energy Ministry, Agriculture Ministry and [Russian Railways]. A monthly schedule with a breakdown of regions and a breakdown of oil companies has been signed to supply 1.8 million tonnes of diesel fuel through November. Additional amounts of diesel fuel supplies to agricultural producers by Russian region in the period of September-November for completion of field work have also been conveyed to companies," Novak said."* Our Supplemental Documents package includes the Interfax report. [LINK]

Russia diesel/gasoline export markets

Here is what we wrote in last week's (Sept 24, 2023) Energy Tidbits memo. "*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 37: Russia shipments of diesel/gasoline



Source: Bloomberg

Oil: Saudi nest egg, its net foreign assets were up $0.4b MoM in August

Saudi net foreign assets

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 38: Saudi Arabia Net Foreign Assets

Source: Bloomberg

Iraq's natural gas debt to Iran

Oil: Did US/Iran deal also unlock >$12b Iraq owes to Iran for natural gas?

We had a number of comments on an item that most weren't aware of from the US/Iran deal. Here is what we wrote in last week's (Sept 24, 2023) Energy Tidbits memo. "*On Friday, we tweeted [LINK] "No wonder Iran wanted US deal. @DanialRahmat12: $23b of Iran frozen funds being freed up. $6b frozen in Korea now in Iran accts in Qatar, to be spent on humanitarian. Bigger & better than that, Iraq now allowed to pay Iran for overdue #NatGas payments via barter for fuel oil & heavy oil. ie. sounds like should free up cash for whatever Iran wants to spend on. See 👇SAF transcript. Thx @DanialRahmat12 @VandanaHari_SG @gulf_intel #OOTT." We, like most, have focused on the well publicized part of the US/Iran deal that saw the prisoner exchange and also the $6b in Iran frozen funds in Korea that have now been transferred to Iranian accounts in Qatar to be used for humanitarian purposes within Iran ie. medical. But on the Gulf Intelligence Daily Energy Markets podcast on Thursday, Tehran-based analyst Danial Rahmat highlighted the $6b of Iranian assets in Korea banks that has been transferred to Iranian accounts in Qatari banks is much less than the money that Iraq owes Iran for its natural gas and those payments have been frozen by US sanctions. Rahmat says those have now been freed up, not to pay in cash, but better in a barter where Iraq will export to Iran fuel oil and heavy oil. Rahmat said Iraq is the big part of the $23b in total of frozen Iranian assets. We looked and saw other reports that the Iraq natural gas debt to Iran was ~$12b but those may be a month or two old. Rahmat didn't specifically say this, but we have to believe the swap of physical fuel oil and heavy oil to Iran would then effectively provide funds for Iran that wouldn't be subject to humanitarian spending restrictions. Rahmat reminded that Iran wouldn't have the need for all the billions for restricted humanitarian spending. Our Supplemental Documents package includes the transcript we made of Rahmat's comments*."

07/11/23 Reuters: Iraq owed $12.1b to Iran for natural gas, needs US approval

Here is another linked item from last week's (Sept 24, 2023) Energy Tidbits memo. *"After hearing Rahmat's above comments, we wanted to see if we could find how many billions Iraq owed Iran for natural gas. We checked and saw this Reuters 07/11/23 report [LINK] "Iraq to trade crude oil for Iranian gas to settle power debt, prime minister says". Iraq PM noted that Iraq then owed Iran $12.1b for natural gas, was talking about a swap of oil/products to pay the debt, and needed US approval to settle the debt. So the $12.1b is an Iraq number and we wouldn't be surprised to see Iran have a higher number. Regardless, it fits to Rahmat's comments. Reuters* *reported "Iraq will begin trading crude oil for Iranian gas to end the recurring issue of payment delays to Tehran due to the need for U.S. approval, Iraqi Prime Minister Mohammed Shia Sudani said on Tuesday. Sudani said Iran had cut gas exports to Iraq by more than 50% as of July 1 after Baghdad failed to secure U.S. approval to disburse owed funds, but Tehran had now agreed to resume gas exports in exchange for crude oil. The deal was reached during talks with an Iranian delegation that was in Baghdad since Saturday, Sudani said in a televised speech. Iraq imports electricity and gas from Iran that total between a third and 40% of its power supply, especially crucial in sweltering summer months when temperatures can top 50 Celsius (122 Fahrenheit) and power consumption peaks. Iraq has had trouble paying for those imports. It owes Iran around 11 billion euros ($12.1 billion) in outstanding debts, Sudani said, and struggles to pay due to U.S. sanctions that only allow Iran to access funds to buy non-sanctioned goods, such as food and medicine. Even those procedures are complicated, and "contribute to unwanted delays in making the payments, and subsequently the funds are not paid to the Iranians", Farhad Alaaldin, foreign affairs adviser to the prime minister, told Reuters. By trading Iraqi crude for Iranian gas, Sudani said, Iraq would avoid rolling power cuts every summer while working to complete gas capture and extraction projects that would help make the country self-sufficient." Our Supplemental Documents package includes the Reuters report.*

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

On Thursday, the Libya National Oil Corporation had a Facebook posting on a production update, which is post the recent deadly floods on the coast. 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 Thursday Facebook post [LINK] was "*The product of crude oil amounted to one million and 208 thousand barrels per day, and the production of capacitors reached 54 thousand barrels per day during the past 24 hours."* This is unchanged from the ~1.2 mmb/d levels over the past several months. We haven't seen any reports of any lingering impact on loadings from the recent floods.

Libya oil stable at 1.2 mmb/d

Oil: Iraq's oil exports in Sept of 3.438 mmb/d, basically flat for past three months

The reminder is that Turkey's continued halt of Kurdistan/Iraq oil exports via Ceyhan hurts Kurdistan and not Baghdad. Earlier this morning, we tweeted [LINK] "*Reminder, it's Kurdistan #Oil that gets shut-in from Turkey's halt of #Oil via Ceyhan. @Khalidansary reporting Iraq oil ministry exports. Sept 3.438 mmbd. Aug 3.42 mmbd. July 3.44 mmbd. June 3.335 mmbd. May 3.305 mmbd. Apr 3.288 mmbd. #OOTT."* Bloomberg reports monthly on the Iraq oil ministry oil exports data and earlier today reported "*Iraq Exported Average 3.438m B/D of Crude in September: Ministry. Iraq, OPEC's second-largest producer, exported a preliminary total of 103.143m barrels of crude oil in September from the fields under the central government's control, the country's oil ministry said in a statement."* Iraq's production allocation under the OPEC+ agreement is 4.431 mmb/d.

Iraq 3.438 mmb/d oil exports

Oil: Still no visibility to when restart Kurdistan/Iraq 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, it seems like this could last for months and not days or weeks. Our concern for a quick resolve is that

Kurdistan oil via Turkey

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. Yesterday, Iraq Oil Report reported [LINK] "*Iraq presses claim to enforce arbitration award against Turkey. In a U.S. legal filing, Iraq contested Turkey's effort to flip the award in its own favor, as the two sides still appear deadlocked over a restart of Iraq's northern exports. Iraq is pressing forward with its attempt to enforce a major arbitration award against Turkey, arguing for a U.S. court to enter a judgment of $601.9 million in Iraq's favor. The Sept. 28 legal filing is a sign that Baghdad and Ankara do not appear to be close to the kind of diplomatic agreement needed to reopen Iraq's northern oil export pipeline via Turkey, despite a flurry of technical talks in mid-September that seemed to be laying the preliminary groundwork for a restart."* Last week's (Sept 24, 2023) Energy Tidbits memo highlighted the Sept 23 Rudaw (Kurdistan news) report [LINK] "*Safeen Dizayee, head of the Kurdistan Regional Government's Department of Foreign Relations, told Rudaw's Diyar Kurda on the sidelines of the United Nations General Assembly in New York on Friday that "as Iraq has been trying to get the $1.5 billion, the suspension of the Region's oil export has caused the Iraqi federal budget and Kurdistan Region nearly $6 billion loss since March." This is "mathematically illogical," he added. According to Dizayee, the Region had incurred $5 billion of losses by August 29. About 400,000 barrels of oil were being exported daily by Erbil through Ankara before the halt, in addition to some 75,000 barrels from the federally-controlled Kirkuk's fields. Dizayee said that the Iraqi government does not have the authority to forgive Turkey regarding the $1.5 billion penalty "but probably needs a ruling from the parliament." "But there are other solutions. They can find a win-win solution," noted the Kurdish official."* Kurdistan is saying that Iraq isn't budging on the $1.5b award, which would be a hold up to a deal.

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

On Thursday, the Libya National Oil Corporation had a Facebook posting on a production update, which is post the recent deadly floods on the coast. 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 Thursday Facebook post [LINK] was "*The product of crude oil amounted to one million and 208 thousand barrels per day, and the production of capacitors reached 54 thousand barrels per day during the past 24 hours."* This is unchanged from the ~1.2 mmb/d levels over the past several months. We haven't seen any reports of any lingering impact on loadings from the recent floods.

Oil: BlackRock CEO, Chinese now saving 50% of disposable income vs 35% pre-Covid

Chinese not spending more

We continue to highlight that a key upside potential to the Chinese economy and oil in 2024 is once the Chinese consumer starts to spend some of their massive increase in savings. BlackRock CEO Larry Fink's Friday comments on Chinese savings and why they aren't spending didn't get much coverage. But on Friday, we tweeted [LINK] ""*Because they're frightened" says $BLK CEO Fink as to why pre-Covid Chinese savings rate of 35% of disposable income is now 50%. Fits 👇09/11/23 tweet. Positive for 2024 China economy and #Oil once consumers start to spend. Thx @daniburgz. #OOTT."* Fink said pre-Covid, Chinese saved 35% of disposable income but that has increased since Covid to 50%. And the reason is that they are frightened to spend. Fink also reminded of one of our key points that it is more significant when Chinese spend their savings as they don' have the same safety nets as North Americans with health, retirement and other benefits. Fink says they are underinvested in China until they see savings rates decline and Chinese are consuming more. Our Supplemental Documents package includes the transcript we made of Fink's comments.

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

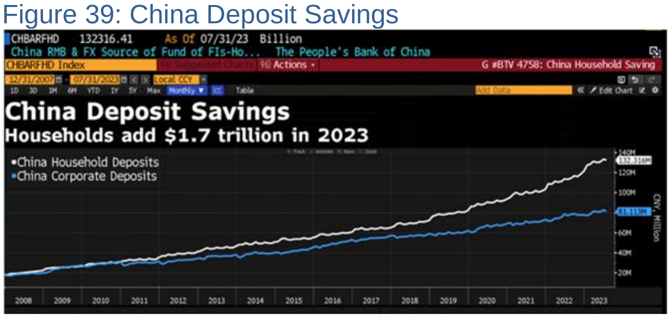
Fink's comments on Chinese being frightened into spending is the same concept we highlighted three weeks ago. Here is what we wrote in our Sept 17, 2023 Energy Tidbits memo. "*If China can ever find a bottom and if the Chinese can feel confident that there is a turn, there will be some added torque to the recovery that will be in good part consumer driven like was seen in the US. (i) On Monday morning, we tweeted [LINK] "Chinese "are cautious & lack confidence in the future so they tend to spend, maybe not less, but wouldn't spend much more than before" Victor Yang to @sean_evers @gulf_intel podcast. Fits 👇08/31/23 post why China household savings keep going up. #OOTT." Then later on Monday, we tweeted [LINK] "Key call for #Oil - when will Chinese consumer get confidence in future to spend $trillions of excess savings? See my 01/18/23 tweet/video. [LINK] Blackstone CEO, Americans put $2.5T of extra money into bank accounts & that spending has driven US economy #OOTT." (ii) On the Gulf Intelligence Daily Energy Markets podcast on Monday morning, Beijing-based Victor Yang (Senior Analyst, JLC Network*

Technology) spoke on how the Chinese are not spending due to a lack of confidence in the future. It reinforces why Chinese are not spending their pent-up savings. Here is the transcript we made of Yang's comments. ""“And now people are cautious & they lack confidence in the future so they tend to spend, maybe not less, but they wouldn't spend much more than before. So that's one issue. So they're [the government] trying to pump confidence into people and try to encourage them to spend more. And as for the real estate industry, well, people are not going to buy houses yet in the near term. Not many of them because they still expect the price to go down. And so a lot of real estate developers are still in trouble. And the government been trying to, well bail them out but not nearly to better, but to improve their policies on this sector to make it easier for them. To help them sell their houses. And this is what they're doing now."

Chinese households keep increasing savings

Fink did not give an estimate of the $ trillions of excess savings with the Chinese moving from 35% of disposable income for savings up to 50%. However, our Sept 10, 2023 Energy Tidbits memo wrote the following "*On Thursday night, we tweeted [LINK] "Is this a good indicator that there is still more risk than reward to near term China economy? Xi and politburo haven't yet been able to convince the Chinese people that it's time to spend the pent up savings! Thx @business. #OOTT." Earlier on Thursday night (MT), Bloomberg TV showed the below graph "Canada Deposit Savings: Households add $1.7 trillion in 2023." That is a big increase and the Chinese spending their savings was, earlier in the year, expected to be a catalyst for revving up the Chinese economy. We have seen the Chinese consumer step up, but not as much as expected to spend their savings. However, we have to believe that Chinese households still increasing savings is an indicator that they are still being cautious about the China recovery."*

Figure 39: China Deposit Savings



Source: Bloomberg

Oil: China is in its 12-day travel rush for Super Golden Week

China's upcoming holidays

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 next two weeks data for China schedule domestic flights and China Baidu city-level road congestions. Here is what we wrote in our Sept 17, 2023 Energy Tidbits memo on the then upcoming national holidays in China. "*A reminder as we look ahead to China mobility data to end September is that there is a major 12-day travel rush coming that is expected from Sept 27 to Oct 8. This should lead to a big uptick in domestic air travel and a downtick in city-level road congestion. Yesterday, Xinhua (China state media) reported on the upcoming train travel rush. [LINK]. Xinhua wrote "Friday marks the presale of train tickets for the first day of the Mid-Autumn Festival and National Day holidays, which extend from Sept. 29 to Oct. 6 this year. Ticket sales volumes reflect the travel demands of the people and the trends in economic and social development, said an official of China Railway, adding that the record-breaking ticket sales on Sept. 15 are indicative of the strong demand for travel during the upcoming Mid-Autumn Festival and National Day "golden week" holiday. China is expected to see 190 million railway trips during the upcoming 12-day travel rush, which will last from Sept. 27 to Oct. 8. The Mid-Autumn Festival, falling on Sept. 29 this year, is a traditional Chinese Festival usually marked by family reunions, watching the full moon and eating mooncakes."*

Oil: Foreign investors continue to be net sellers of China stocks

Foreign investors net selling in China

We continue to foreign investors in the "show me" phase with respect to the China recovery. They have been too many head-fakes since Covid. On Thursday night, Bloomberg TV posted the below graph "*Northbound Stock Connect Flows Into China: Foreign funds net sellers since start of August*". It's not that complicated – more sellers than buyers and price goes down in any market. We decided to extend the graph to a 5-yr period and it shows how this has been the period with least number of net buying weeks vs higher number of net selling weeks since before Covid.

Figure 40: Net selling by foreign investors June 1, 2023 to Oct 1, 2023

Source: Bloomberg

Figure 41: Net selling by foreign investors – Oct 8, 2018 – Oct 1, 2023

Source: Bloomberg

Oil: China scheduled domestic flights flat WoW but expected to jump up this week

China scheduled domestic flights

On Wednesday, we tweeted [LINK] "*China consumer still hesitant. China scheduled domestic flights flat WoW to 95,742. Big boost ahead with flights +8.2% to 103,570 for 12-day Golden Week travel rush. But that is -1.3% less than 104,950 expected a couple weeks ago. Thx @BloombergNEF Claudio Lubis. #OOTT.*" (i) Early Wednesday morning, BloombergNEF posted its Aviation Indicators Weekly Sept 27. (ii) China scheduled domestic fights have been declining, as expected, post the summer holidays but were essentially flat this week. But are expected to jump back up this week as the big 12-day travel rush picks up for the Mid-Autumn and National Day "golden week" holidays. But we think the takeaway reinforces a continued weak China business/economy and the Chinese consumer still not yet confident the bottom is here. This week's 4-week lookahead of scheduled flights is +8.25 to 103,570 flights. But this is less than the lookahead from Sept 19 of 104,947 flights and from Sept 13 that had 104,953 flights. (iii) China scheduled domestic flights were essentially flat Wow following three consecutive WoW declines at the end of summer. China scheduled domestic flights were down 0.1% WoW to 95,742 flgiths for the Sept 19-25 week, compared to 95, 853 flights for the Sept 12-18 week, 98,469 flights for the Sept 5-11 week, 103,637 flights for Aug 29-Sept 4 week, and 104,932 flights for Aug 22-28 week. The big decline in domestic flights was, as expected, for the end of summer holidays but that ended in the Sept 12-18 week. At 95,742 flights, it back to June 20-26 levels. Note that the drop in flights thru Sept 12-18 week was expected And the drop over the past couple weeks is well below what was expected three weeks ago, when, on Sept 5, the then scheduled flights for next 4-weeks were 102,285 flights. (iv) Reminder in the look ahead, the increase in domestic flights is due to the upcoming 12-day travel rush with national holidays, which should last from Sept. 27 to Oct. 8. (v) BloombergNEF's updated scheduled domestic flights over the next four weeks is expected to increase by 8.2% to 103,570 flights. Note this is lower than expected over the past two weekly reports. Last week's (Sept 19) report saw the then 4-week lookahead at 104,947 flights and the prior week's (Sept 13) report that saw the then 4-week lookahead at 104,953 flights. As noted above, the increase makes sense given the big upcoming national holidays. (vi) Also note how it was clear that the outlook tipped negative right after the March 28 -Feb 3 week with lesser China recovery and the then worries about a new Covid peak to hit China at the end of June. The BloombergNEF March 28 report reported that the March 21-27 weeks flights were 89,513 flights and they then forecast a massive jump to 119,180 flights over the then next 4-weeks. Then the next week, March 28-Apr 3 week had made a huge WoW jump from 89,513 flights to 95,624 flights, but then the following week was down to 91,567 flights. And scheduled domestic flights didn't get back to March 21-27 until the end of June. Flights never got close to 119,180 flights. Below is our running WoW changes from the prior BloombergNEF reports and the BloombergNEF charts from Sept 27 and March 28, and our listing of WoW changes from the prior BloombergNEF reports.

Figure 42: China scheduled domestic flights from BNEF Aviation Indicators Weekly reports

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

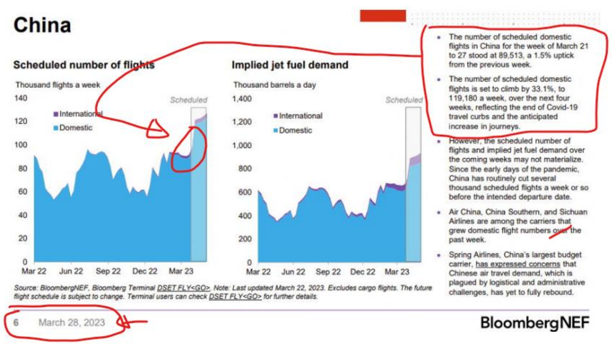
Apr 25-May 1: +0.04% to 94,471
Apr 18-24: +2.1% WoW to 94,138
Apr 11-17: +0.7% WoW to 92,231
Apr 3-10: -4.2% WoW to 91,567
Mar 28-apr 3: +6.8% WoW to 95,624
Mar 21-27: +1.5% WoW to 89,513
Mar 14-20: -0.6% WoW to 88,166
Mar 7-13 week: -0.8% WoW to 88,675
Feb 27-Mar 3 week: -2.6% WoW to 89,430
Feb 21-27 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 43: China scheduled domestic air flights as of Sept 27

Source: BloombergNEF

Figure 44: China scheduled domestic air flights as of March 28



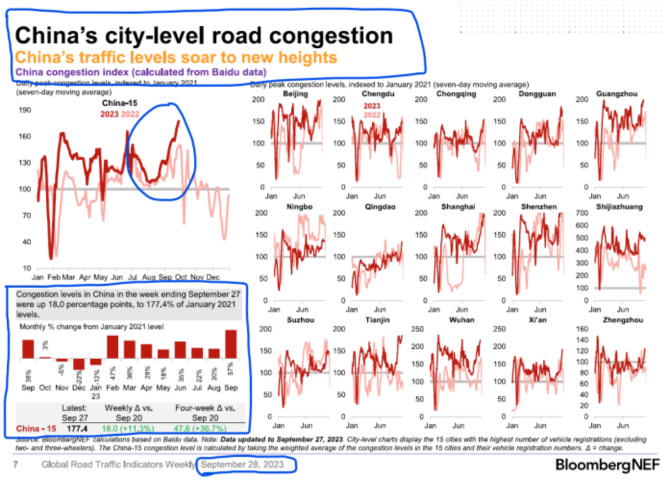
Source: BloombergNEF

Oil: Baidu China city-level road congestion up again, now 102% of 2021 levels

China city-level traffic congestion

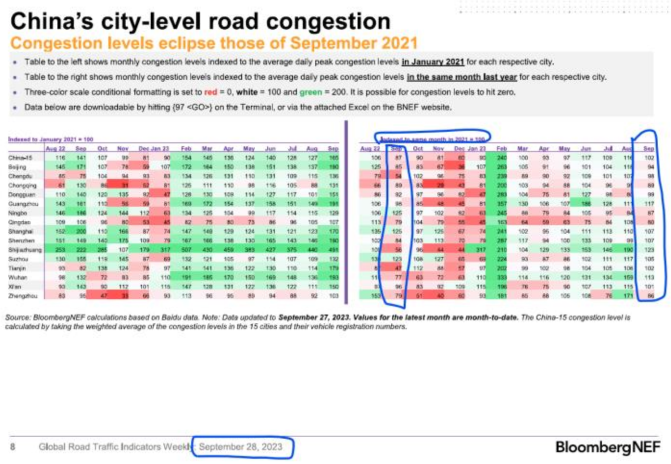
The headlines from the BloombergNEF Global Road Traffic Indicators Sept 28 report were "*China traffic reaches highest point in two years*" "*China's traffic levels soar to new heights"* and "*Congestion levels eclipse those of September 2021".* (i)On Thursday, we tweeted [LINK] "*One positive China indicator. China Baidu city-level road congestion has 8th consecutive WoW increase. Up YoY and above Sept 2021 levels. But expect big drop in city congestion & big boost in air travel as 12-day National Day holidays starts now. Thx @BloombergNEF. #OOTT ."* (ii) For the week ended Sept 28, 2023, Baidu data for China city-level road congestion was +11.3% WoW to 177.4% of Jan 2021 levels. It's the 8th consecutive weekly increase so it supports the expected increase in city-level road congestions as summer ended and people returned to cities and back to work. (iii) Please note we should be seeing a big drop in the city-level road congestion in the next two reports reflecting the 12-day travel rush with national holidays. (iv) The top 15 cities in aggregate in Sept 2023 to date are 102% of Sept 2021 levels, whereas Sept 2022 was 87% of Sept 2021 levels. So pretty close to 2021. Of the top 15 cities, 12 are up YoY and 3 are down YoY.

Figure 45: China city-level road congestion for the week ended Sept 27



Source: BloombergNEF

Figure 46: China city-level road congestion for the week ended Sept 27



China's city-level road congestion

Congestion levels eclipse those of September 2021

- Table to the left shows monthly congestion levels indexed to the average daily peak congestion levels **in January 2021** for each respective city.
- Table to the right shows monthly congestion levels indexed to the average daily peak congestion levels **in the same month last year** for each respective city.
- Three-color scale conditional formatting is set to red = 0, **white** = 100 and green = 200. It is possible for congestion levels to hit zero.
- Data below are downloadable by hitting {97 <GO>} on the Terminal, or via the attached Excel on the BNEF website.

Indexed to January 2021 = 100

	Aug 22	Sep	Oct	Nov	Dec	Jan 23	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
China-15	116	141	107	99	81	90	154	145	136	124	140	128	127	165
Beijing	145	171	107	78	59	107	172	164	150	138	151	138	137	190
Chengdu	85	75	104	94	93	83	134	126	131	110	131	109	115	136
Chongqing	61	130	86	31	62	81	125	111	110	98	116	105	88	131
Dongguan	110	140	120	135	92	47	128	130	109	114	127	117	101	151
Guangzhou	143	161	113	56	59	81	169	172	154	137	158	151	149	191
Ningbo	146	186	124	144	112	63	134	125	104	99	117	114	115	129
Qingdao	109	106	96	80	53	45	82	75	80	73	86	96	105	107
Shanghai	152	200	110	166	87	74	147	149	129	124	131	121	123	170
Shenzhen	151	149	140	175	109	79	167	166	138	130	165	143	146	190
Shijiazhuang	253	222	285	107	179	317	507	430	459	383	427	375	440	491
Suzhou	130	155	119	145	87	69	132	121	105	97	114	107	109	132
Tianjin	93	82	138	124	78	97	141	141	136	122	130	110	114	179
Wuhan	98	132	72	83	85	110	191	185	170	150	169	148	136	193
Xi'an	93	143	90	112	101	115	147	128	131	122	136	122	111	150
Zhengzhou	83	95	47	33	66	93	113	96	95	89	94	88	92	103

Indexed to same month in 2021 = 100

	Aug 22	Sep	Oct	Nov	Dec	Jan 23	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
China-15	106	87	90	81	60	90	240	100	93	97	117	109	116	102
Beijing	125	85	83	67	36	107	263	105	91	96	101	104	118	94
Chengdu	79	54	102	96	75	83	239	89	90	92	109	101	107	98
Chongqing	66	89	83	28	43	81	200	103	94	88	104	96	[illegible]	89
Dongguan	86	92	97	96	82	47	283	104	75	81	127	98	[illegible]	99
Guangzhou	106	98	85	48	45	81	357	130	106	107	186	128	[illegible]	117
Ningbo	106	125	97	102	82	63	245	88	79	84	105	95	84	87
Qingdao	113	79	104	79	55	45	163	64	59	63	75	84	108	80
Shanghai	135	125	97	125	67	74	241	102	95	104	111	113	110	107
Shenzhen	102	84	103	113	70	79	287	117	94	100	133	109	99	107
Shijiazhuang	[illegible]	56	96	44	44	317	210	104	129	133	153	146	190	123
Suzhou	[illegible]	123	108	127	65	69	224	93	87	86	102	111	117	105
Tianjin	[illegible]	47	112	88	57	97	202	99	102	98	104	105	106	102
Wuhan	[illegible]	77	63	72	63	110	333	114	116	120	131	134	159	113
Xi'an	[illegible]	96	83	92	109	115	196	76	75	90	107	113	115	101
Zhengzhou	153	79	51	40	60	93	181	85	88	105	108	76	171	86

*Source: BloombergNEF calculations based on Baidu data. Note: Data updated to **September 27, 2023. Values for the latest month are month-to-date.** The China-15 congestion level is calculated by taking the weighted average of the congestion levels in the 15 cities and their vehicle registration numbers.*

8 Global Road Traffic Indicators Weekly September 28, 2023 BloombergNEF

Source: BloombergNEF

Oil: WSJ reports US to build up drone arsenal to deter China

US wants to build drone arsenal

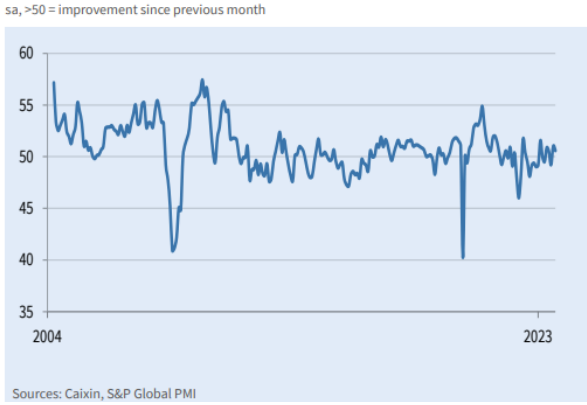
On Monday, we tweeted [LINK] "*Future of war! Lessons from UKR/RUS & Houthis/KSA: cheaper drones can cause huge damage. Not just air, also sea! US sees mass production large & small air drones to build big stocks of weapons & ammunition to deter China reports @dougcameron.* #OOTT." No question, the lessons from Ukraine/Russia and the Houthis/Saudi is the role that relatively inexpensive drones can play in taking down naval ships, massive oil complexes like Abqaiq and hit in cities. And the Ukraine use of sea drones reminds its not just air drones. And we have to believe sea drones would be used if there was any defense of Taiwan against Chinese naval ships. On Monday, the WSJ reported [LINK] "*Pentagon Plan to Buy Thousands of Drones Faces Looming Snags. Booming jetliner and air-taxi markets leave shortages of parts and skilled labor, causing a production crunch. The Pentagon wants to acquire thousands of drones over the next two years that can fly to their targets, confuse radar, overwhelm enemy defenses, fire missiles and gather intelligence. But making the uncrewed aircraft quickly and cheaply is another matter. Mass production of large and small drones is crucial to the Pentagon's plan to build big stocks of weapons and ammunition to deter China, which the Defense Department describes as the U.S.'s prime strategic competitor. U.S. military leaders have lined up to warn of China's ambitions to absorb Taiwan, perhaps in the next few years. The scale of China's own military buildup, including thousands of missiles, jets, ships and drones, can only be challenged by the U.S. making more, and soon, say Pentagon leaders.*" Our Supplemental Documents package includes the WSJ report.

Oil: Caixin Manufacturing PMI at 50.6 in Sept, but still a long way to go

Sept PMI 50.6

Last night, we tweeted [LINK] "*China economy bottoming? China Caixin Manufacturing PMI Sept 50.6 (est 51.2) vs Aug 51.0, July 49.2, June 50.5. "various important economic indicators have shown marginal improvement and the macroeconomy has shown signs of stabilization. However, the economy recovery has yet to find a solid footing... " Thx @SPGlobalPMI #OOTT.*" As a reminder, there are two China manufacturing PMI data from S&P Global that come out each month. The Official Manufacturing PMI that normally comes out the day before the Caixin Manufacturing PMI data that we track. We have focused on the Caixin PMI as we view it more as a leading indicator for how the China recovery is doing as it is a more export-oriented PMI and export have been the big drive of China for the past 20 years. The Caixin Manufacturing PMI for Sept was released at 7:45pm MT last night [LINK]. The Sept number was in growth mode but was less than expectations and less than Aug. And the written message was very much an economy is in recovery but still a long way to go to get to a sustained solid growth. The IHS wrote ""*Over the past few months, Beijing has introduced multiple policies aimed at stabilizing expectations, and promoting consumption and investment. Various important economic indicators have shown marginal improvement, and the macroeconomy has shown signs of stabilization. However, the economic recovery has yet to find a solid footing, with insufficient domestic demand, external uncertainties, and pressure on the job market."* Our Supplemental Documents package include excerpts from the PMI.

Figure 47: China Caixin General Manufacturing PMI



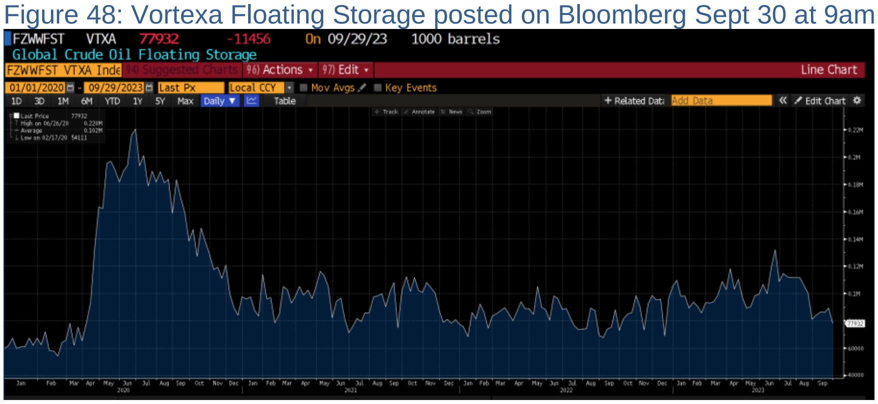
Source: S&P Global

Oil: Vortexa crude oil floating storage est 77.93 mmb at Sept 29, -11.46 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 23 at 9am MT. (i) There weren't big revisions to the last seven weeks, and the average for the last six weeks is 84.10, which is down a whopping 47.78 mmb vs the recent June 23, 2023 peak of 131.79 mmb. (ii) As of 9am MT yesterday, Bloomberg posted Vortexa crude oil floating storage estimate for Sept 29 at 77.93 mmb, which is -11.46 mmb WoW vs downwardly revised Sept 22 of 89.39 mmb. Note Sept 22 was revised -2.23 mmb vs 91.62 mmb originally posted at 9am on Sept 23. (iii) Revisions. The revisions for the past seven weeks were relatively modest with a mix of down and up revisions. The revisions from the estimates posted yesterday at 9am MT vs the estimates posted on Bloomberg at 9am MT on Sept 23 are as follows: Sept 22 revised -2.23 mmb. Sept 15 revised -2.29 mmb. Sept 8 revised -1.29 mmb. Sept 1 revised +0.51 mmb. Aug 25 revised +0.28 mmb. Aug 18 revised +1.96 mmb. Aug 11 revised +1.35 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 86.42 mmb vs last week's then seven-week average of 89.83 mmb. The drop is mostly due to dropping a high week from 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) Sept 29 estimate of 77.93 mmb is -142.38 mmb vs the Covid peak of 220.31 mmb on June 26, 2020. (viii) Sept 29 estimate of 77.93 mmb is +12.32 mmb vs pre-Covid Feb 28, 2020 of 65.61 mmb. (ix) Sept 29 estimate of 77.93 mmb is +4.98 mmb YoY vs Sept 30, 2022 of 72.95 mmb. (x) Below are the last several weeks of estimates posted on Bloomberg as of 9am MT Sept 30, 9am MT Sept 23, and 9am MT Sept 16.

Figure 48: Vortexa Floating Storage posted on Bloomberg Sept 30 at 9am MT



Source: Bloomberg, Vortexa

Figure 49: Vortexa Estimates Posted 9am MT on Sept 30, Sept 23 and Sept 16

Posted Sept 30, 9am MT

FZWWFST VTXA Index, 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 Index, 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

Sept 16, 9am MT

FZWWFST VTXA Index, 01/01/2020 - 09/15/2023

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

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 22, in total, was revised -2.23 mmb. The main revisions in a region vs the originally posted (as of 9am Sept 23) floating oil storage for Sept 22 were West Africa revised -4.36 mmb and Asia revised +2.32 mmb.. (ii) Total floating storage was -11.96 mmb WoW. The largest WoW changes were Europe -5.40 mmb WoW, West Africa -3.19 mmb WoW, and Asia -2.83 mmb.Wow. (iii) Sept 29 of 77.93 mmb is down a whopping 53.95 mmb vs the recent June 23, 2023 peak of 131.88 mmb. The major changes by region vs the recent June 23 peak are Asia -25.26 mmb and Other -22.78 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 22 that was posted on Bloomberg at 9am MT on Sept 23.

Figure 50: Vortexa crude oil floating by region

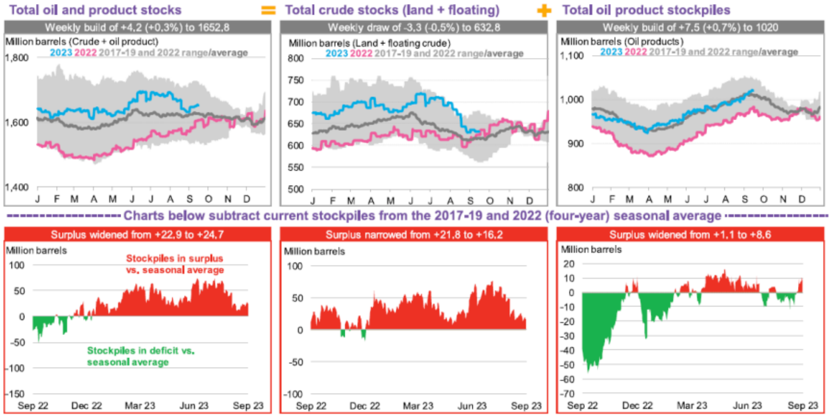
Vortexa Crude Oil Floating Storage by Region (mmb)				Original Posted	Recent Peak	
Region	Sept 29/23	Sept 22/23	WoW	Sept 22/23	Jun 23/23	Sept 29 vs Jun 23
Asia	47.37	50.20	-2.83	47.88	72.63	-25.26
Europe	3.75	9.15	-5.40	9.31	6.51	-2.76
Middle East	5.79	6.63	-0.84	6.68	7.03	-1.24
West Africa	5.93	9.12	-3.19	13.48	7.45	-1.52
US Gulf Coast	0.58	0.00	0.58	0.00	0.97	-0.39
Other	14.51	14.79	-0.28	14.27	37.29	-22.78
Global Total	77.93	89.89	-11.96	91.62	131.88	-53.95
Vortexa crude oil floating storage posted on Bloomberg 9am MT on Sept 30						
Source: Vortexa, Bloomberg						

Source: Bloomberg, Vortexa

Oil: BNEF – global oil and product stocks surplus widened WoW to 24.7mmb

Please note that the BloombergNEF global oil and products stocks estimate are for the week ending Sept 15, which is a week earlier than the EIA US oil inventory data that is for the week ending Sept 22. So, the BloombergNEF global oil stocks data won't include the US crude oil inventory draw of -2.17 mmb for the week ending September 22. On Tuesday, BloombergNEF posted its "Oil Price Indicators" weekly, which provides good charts depicting near-term global oil demand and supply indicators. (i) Note BloombergNEF uses different periods to determine the surplus/deficit, sometimes using a four-year average for 2017-2019 + 2022, and other times using a five-year average 2016-2019 + 2022. In both cases they do not include 2020 and 2021 in the averages. (ii) The global stockpile for crude oil and products surplus widened from 22.9 mmb to 24.7 mmb for the week ending Sept 15. (iii) Total crude inventories (incl. floating) decreased by -0.5% WoW to 632.8 mmb, narrowing the surplus from +21.8 mmb to +16.2 mmb. (iv) Land crude oil inventories decreased by -0.4% WoW to 546.4 mmb, widening the deficit to -27.4 mmb against the five-year average (2016-2019 + 2022). (v) The gas, oil, and middle distillate stocks decreased by -2.0% % WoW to 153.3 mmb, with the deficit against the four-year average widening to -19.6 mmb. Jet fuel consumption by international departures for the week of September 25 is set to decrease by -13,000 b/d WoW, while consumption by domestic passenger departures is forecast to increase by +36,400 b/d WoW. Below is a snapshot of aggregate global stockpiles.

Figure 51: Aggregate Global Oil and Product Stockpiles



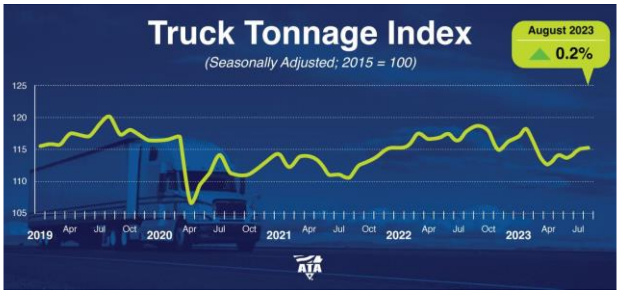
Source: BloombergNEF

Oil: Truck tonnage index in August +0.2% MoM

Truck tonnage index -2.3% YoY in August

We look to items like truck tonnage for indicators on the US economy, and the August truck tonnage is in line with the expectations for a slowing US economy. Truck tonnage increased +0.2% MoM but is down -2.3% YoY from August 2022. The American Trucking Association released its seasonally adjusted Truck Tonnage Index for August last Tuesday [LINK]. Chief Economist Bob Costello noted, *"The evidence is growing that tonnage hit bottom in April and continues its slow climb upwards. However, year-over-year comparisons remain difficult as tonnage peaked in September of last year. As a result, it is unlikely that tonnage turns positive compared with a year earlier for at least a month or two longer. Most recently, freight continues to be mixed, with consumer spending and factory output flat to down*". Trucking serves as a barometer of the U.S. economy, representing 72.6% of tonnage carried by all modes of domestic freight transportation, including manufactured and retail goods. Trucks hauled 11.46 billion tons of freight in 2022. Motor carriers collected $940.8 billion, or 80.7% of total revenue earned by all transport modes. Our Supplemental Documents package includes the ATA release.

Figure 52: Truck Tonnage Index



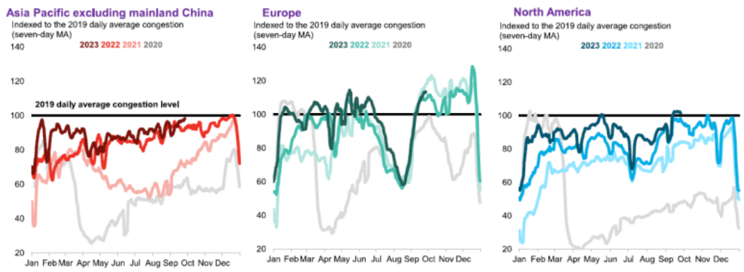
Source: ATA

Oil: TomTom mobility indicators: NA decreases, EU and Asia Pacific increase 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 September 26, North American traffic levels decreased by -1.0% WoW, while Europe and Asia Pacific (ex-China) traffic level increased +3.2% and +1.8% WoW, respectively. Traffic levels in Europe, North America, and Asia Pacific (ex-China) traffic are +13.4%, +1.2% and -1.7% compared to the 2019 average and are +3.6%, +4.0% and +6.2% YoY, respectively. Traffic in Europe has recovered to pre-summer levels while Asia Pacific (ex-China) is still increasing steadily. 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 53: Mobility Indicators



	Week-on-week (2019 average = 100)				Year-on-year (same week last year = 100)			
	Latest week: Sep 26	Δ vs. Sep 19	4-week MA	Δ vs. Sep 19	Latest week: Sep 26	Δ vs. Sep 19	4-week MA	Δ vs. Sep 19
Asia Pacific ex-China	98.3	+1.8 (1.8%)	94.5	+0.6 (0.7%)	106.2	+1.2 (1.1%)	101.4	+1.2 (+1.2%)
Europe	113.4	+3.5 (3.2%)	105.1	+9.6 (10.0%)	103.6	+2.7 (2.7%)	101.5	-0.2 (-0.2%)
North America	101.2	-1.0 (-1.0%)	97.0	+2.1 (2.2%)	104.0	-0.9 (-0.9%)	103.4	+0.4 (+0.4%)

Source: BloombergNEF calculations based on TomTom data. Note: ***Data updated to September 26, 2023****. Δ = change. MA = moving average.*

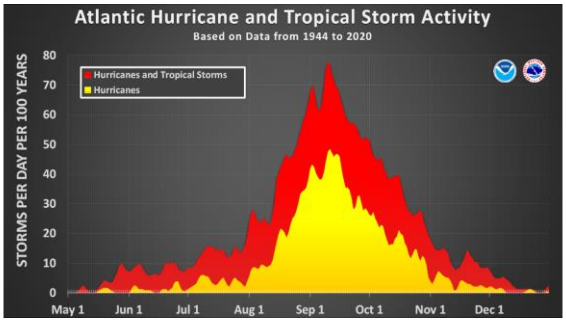
Source: BloombergNEF

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

Peak hurricane season is mid-Aug to mid-Oct

Atlantic hurricanes/tropical storm activity continues to be on the Atlantic side and not in the Gulf of Mexico. Its now Oct 1 so the normal peak for Atlantic hurricane season has justs passed, but there normally continues to be active hurricane activity in October. So far this season, there have been a lot of hurricanes but, to the most part, they have stayed in the Atlantic Ocean and not having huge impact in the Gulf of Mexico and oil, natural gas and LNG production and infrastructure, or even along the Atlantic Coast. No two hurricane seasons are identical and there will always be items that make a hurricane season not the norm. Our Aug 6, 2023 Energy Tidbits memo reminded that 90% of Atlantic hurricanes come after Aug 1, and the peak is normally mid-Sept. We reminded that July and early Aug may well the hottest time of the year, but 90% of Atlantic hurricanes typically come after Aug 1. So August normally marks the start of the ramp up of hurricane season with high hurricane activity typically from mid-Aug thru mid-Oct with a normal peak in mid-Sept. Below is NOAA's graph showing the distribution of Atlantic hurricanes and tropical storms based on data from 1944 to 2020. [LINK]

Figure 54: Atlantic hurricane and tropical storm activity by month



Source: NOAA

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

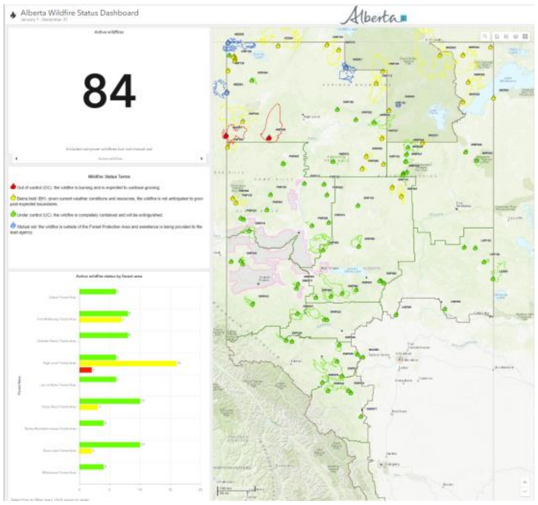
BC and Alberta Wildfires

Alberta wildfires were up small, but precipitation in BD led to a reduction in BC wildfires. As of 7pm MT last night, there were 84 Alberta wildfires including 1 Out of Control, which compares to a week ago at 84 Alberta wildfires including 3 Out of Control. In BC, there was some precipitation that helped lead to a decline in BC wildfires. As of 7pm MT last night, there were 341 BC wildfires including 71 Out of Control, which compares to a week ago at 385 BC wildfires including 138 Out of Control.

Links to Alberta and BC wildfire status maps

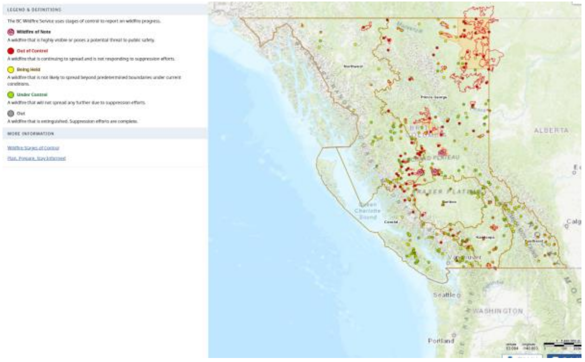
We recommend bookmarking the starting points for wildfire information are the Alberta Wildfire Status interactive map [LINK] and the BC Active Wildfires interactive map [LINK]. Please note these links have changed over the past few years. Both maps are interactive and open up for the information on any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

Figure 55: Alberta wildfire map as of 7pm MT on Sept 30



Source: Alberta Wildfire Status Dashboard

Figure 56: BC wildfire map as of 7pm MT on Sept 30



Source: BC Wildfire Service

TIPRO August jobs update

Oil & Natural Gas: TIPRO Texas oil natural and gas jobs up MoM in August

July was the first decrease in jobs in the Texas oil and gas industry. On Sept 15, the Texas Independent Producers and Royalty Owners Association (TIPRO) updated their employment figures for the Texas upstream sector for August [LINK]. August saw an increase of ~1,200 jobs MoM, and employment is up to 208,500 active jobs across direct oil and gas extraction and services, which is 18,200 more jobs than in August 2022. TIPRO wrote "*direct Texas upstream employment for August 2023 totaled 208,500, an increase of 1,200 job from July employment numbers. Texas upstream employment in August 2023 represented the addition of 18,200 positions compared to August 2022, including an increase of 2,300 jobs in oil and natural gas extraction and 15,900 jobs in the services sector. TIPRO's new employment data yet again indicated strong job postings for the Texas oil and natural gas industry during the month of August. According to the association, there were 11,951 active unique jobs postings for the Texas oil and natural gas industry in August, including 4,409 new job postings added during the month by companies. In comparison, the state of California had 3,641 unique job postings last month, followed by Louisiana (1,790), Oklahoma (1,609) and Pennsylvania (1,364). TIPRO reported a total of 53,810 unique job postings nationwide last month within the oil and natural gas sector*". Our Supplemental Documents package includes the TIPRO release.

BlackRock CEO Fink on energy transition

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

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].

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: Germany also backtracks on forcing key home energy efficiency

Germany's backtrack

We don't' think people should be surprised to see western leaders for climate change backtrack on key green initiatives as they start to accept the reality that the green push is leading to much higher than expected costs to its citizens. Germany is the latest to start to pull back on some green initiatives. But what is different is that the UK is a conservative government and the German coalition government has the Greens as a key player including Green party leader, Robert Habeck, as Germany's Vice Chancellor and commerce minister. On Wednesday, we tweeted [LINK] "*Following UK Sunak backing off green policies that would add costs to home building. See 👇@handelsblatt: Germany won't proceed with E40 standard to lower home construction costs. E40, new buildings to require 40% of primary energy consumption vs std comparable building. #OOTT."* This announcement was made by Vice Chancellor Habeck, who is also the leader of the Green party. Habeck said that Germany will not introduce E40 building standard and that this should lead to cheaper home construction costs. Handelsblatt reports "*with the EH-40 standard, new buildings require only 40 percent of the primary energy compared to a standard comparable building*". Handelsblatt also reported "Habeck told Reuters that high interest rates and inflation were a heavy burden on the industry. "*Orders are collapsing and for many families the dream of owning their own house threatens to burst. All this at a time when housing is scarce and expensive." Therefore, affordable housing must be placed at the center. "It is just as important to provide targeted impetus for the construction industry, for example by creating tax incentives to bring forward investments. Targeted incentives for restructuring are also necessary and will come. This can boost the construction industry and save space and energy costs for existing buildings."*

According to Habeck, rapid investments should be rewarded. "Waiting for a long time pays off less." Our Supplemental Documents package includes the Handelsblatt report. [LINK]

Follows UK PM Sunak backtrack on home energy efficiency standards

Germany's backtrack on home energy efficiency standards follows UK PM Sunak's backtrack last week on a number of green initiatives including on home efficiency standards. Last week's (Sept 24, 2023) Energy Tidbits memo wrote "*Sunak scraps forced energy efficiency upgrades on homes. Another big change was Sunak is scrapping any forced energy efficiency upgrades to homes. This isn't a delay, but a scrapping. Sunak said "Next, energy efficiency. This is critical to making our homes cheaper to heat. That's why we've got big government grants like the Great British Insulation Scheme. But under current plans, some property owners would've been forced to make expensive upgrades in just two years' time. For a semi-detached house in Salisbury, you could be looking at a bill of £8,000. And even if you're only renting, you'll more than likely see some of that passed on in higher rents. That's just wrong. So those plans will be scrapped, and while we will continue to subsidise energy efficiency - we'll never force any household to do it."*

Both fit our 2022 Prediction, leaders admit energy transition isn't working

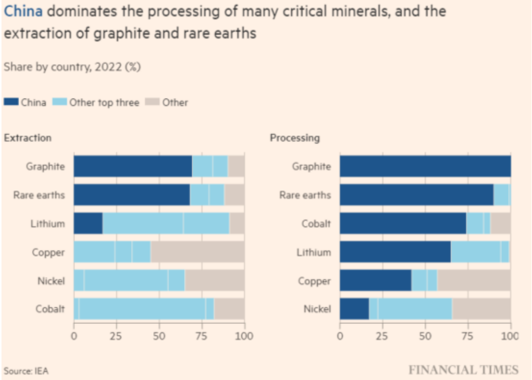
Germany and UK backtrack on green policies are good examples of what we called our #1 prediction for 2022. Here is what we wrote in our Dec 12, 2021 Energy Tidbits memo. "*Its December and so analysts will soon be coming out with 2022 predictions, so we thought we would beat them with one of our main 2022 predictions. On Thursday, we tweeted [LINK] "Time for #2022Predictions. My #1 is more #EnergyTransition #NetZero leaders come out of closet, have a #MacronMoment ie. have "transition" not self inflicted shortage so 2021 energy crisis isn't every year. A return to #EnergySecurity = #Oil #NatGas #LNG strong thru 2030. #OOTT." This should not surprise readers as we have been noting the start of energy transition leaders starting to admit, in a politician's manner, that the energy transition isn't working as per aspirations and energy costs will be a lot higher than aspired. We have said for years that the energy transition will happen, but it will take longer, be bumpy road and cost more than the aspirations. Last week's (Dec 5, 2021) Energy Tidbits wrote on the ADNOC CEO speech There was much more in the speech, which is why we tweeted [LINK] "If more leaders have a "Macron Moment" in 2022, maybe COP28 UAE in 2023 can be catalyst for getting down to work on practical, commercial, sustainable energy solutions: pro climate/pro growth? See SAF Group transcript of @SultanAhmedalj8 #ADIPEC keynote. #EnergyTransition #OOTT." We do wonder if we will see more world leaders accept that the energy transition isn't working according to their aspirations and that there is an increasing risk of a decade of energy crisis like seen in Europe in H2/21 unless the world puts in an achievable energy transition plan." We think COP26 will turn out to be turning point, but a turning point to force energy transition leaders into changing their plan. It why we think we will more of the energy transition leaders come out of the closet and admit this in 2022. But what got us to tweet this week was after seeing Saudi Aramco CEO Nasser speech at the WPC in Houston. Nasser said "There is one more thing that can no longer remain unsaid. A majority of key stakeholders agree with these realities as much as they believe in addressing climate change. We know this,* *because they say so in private. They should say it publicly too. I understand their dilemma. Publicly admitting that oil and gas will play an essential and significant role, during the transition and beyond, will be hard for some." So our #1 2022 Prediction is that we will see leaders come out of the close and admit, in a politician's way, that the energy transition plan needs to be changed. The key result will be that fossil fuels are needed for way longer and the outlook for oil, natural gas and LNG will be stronger thru 2030 and beyond.*

Energy Transition: US warns China's critical metals dominance to energy transition

China's critical metals dominance

On Thursday, The FT reported on comments by US Energy Secretary Granhom at the IEA's critical minerals summit in Paris. When we saw the FT report, we tweeted [LINK] "*OOPS! China's dominance in critical metals for the #EnergyTransition isn't new. Did the US not know this or have they been assuming China won't use critical metals as a weapon? Either way, #EnergyTransition will be a rocky road with supply risk. Thx @harrydemps. #OOTT.*" I find this amazing, surely Granholm and the US didn't realize China's dominance in critical metals for the energy transition or that they felt China would give in to whatever the US wnts before they decided to isolate China and make their trade/economic war against China as their key war for the reset of the decade. Either way, it sees like the US is realizing something that should hav been realized years ago. The FT's Harry Dempsey wrote "*US energy secretary Jennifer Granholm has warned that transitioning from fossil fuels will make energy security "infinitely more complex" because of China's stranglehold on the processing of the critical minerals essential for renewable power. China dominates the cobalt, rare earths and graphite industries, which are vital for renewable energy, electric cars and defence technologies. Its global market share for the refining of each of those three materials exceeds 70 per cent. "In this critical minerals context, we are up against a dominant supplier that is willing to weaponise market power for political gain," said Granholm on Thursday, in remarks widely interpreted as referring to Beijing's power. "The fuel of this energy transition — critical minerals — is going to make global energy security infinitely more complex and infinitely more important over the next few decades," she added at the International Energy Agency's first ever critical minerals summit in Paris.*" Below is the FT table FT's Harry Dempsey tweeted on Thursday on China's critical metals dominance. Our Supplemental Documents package includes the FT report.

Figure 57: China's dominant critical metals positon



Source: FT's Harry Dempsey

03/30/23: EU says China supplies 98% of EU's rare earths, 97% of its lithium
On Thursday, we tweeted [LINK] "*ICYMI. EU's dependence on China for #EnergyTransition. See 👇SAF 06/14/23 tweet @vonderleyen "we rely on one single supplier" China 98% of rare earth, 93% of magnesium, 97% of lithium. [LINK]. #EnergyTransition will be a rocky road with supply risk. #OOTT."* We also tweeted the forwarded tweet was from March 30, 2023 and not June 14, 2023. The tweet was a reminder how China's dominant critical metals isn't a new discovery. Here is what we wrote in our April 2, 2023 Energy Tdibtis memo. *"It's easy to see why there is an aggressive push into Africa and South America for critical metals and also why natural gas will be need for much longer than the EU's Net Zero aspirations. This was made clear by European Commission President Ursula von der Leyen on Thursday, who highlighted a key vulnerability – Europe relies on China for essentially all of its rare earth supply. On Thursday, we tweeted [LINKI] "#EnergyTransition reality check. @vonderleyen: "we rely on one single supplier" China 98% of rare earth, 93% of magnesium. 97% of lithium. How can EU not need #NatGas for way way longer than the NetZero aspirations? Thx @disclosetv #EnergyTransition #NatGas #OOTT." Our tweet included the transcript we made of of von der Leyen's comments [LINK]. Von der Leyen said "We know this is an era where we rely on one single supplier. China. 98% of our rare earth supply. 93% of our magnesium. 97% of our lithium, just to name a few. We are deeply mindful of what happened with Japan's imports or rare earths a decade ago. When foreign policy tensions between the two in the East China Seas became acute. Our demand for these materials will skyrocket as the digital and green transition speed up. Battery powering our electric batteries that are powering our electric vehicles are forecast to drive up demand for lithium by 17 times by 2050."*

Energy Transition: Lufthansa CEO makes it seem impossible to decarbonize airlines

Impossible to decarbonize airlines?

There seemed like a huge reality check from the Lufthansa CEO on the energy transition on how it seems like there is no realistic visible path to the airline industry decarbonization. (i) On Wednesday, we tweeted [LINK] "*Reality check. #Lufthansa CEO on hard (impossible?) to decarbonize airline industry. All the SAF in world today would fuel Lufthansa flights for 2 weeks. See 06/06/23 SAF tweet on #IATA SAF fcast to get to 9.4% of 2022 jet fuel consumption. [LINK] Lufthansa CEO "we would need around half of DEU's electricity to create enough of the fuels [e-kerosene]. #Oil, #JetFuel will be needed for a long time. Thx @prarthprakash #OOTT."* Fortune reported on comments from Lufthansa CEO and notes how the airline industry has what looks like an impossible road to decarbonization unless something new is invented. (ii) Sustainable Aviation Fuel. SAF. We have been pointing out for years how expensive SAF is and how it is growing at a fast rate but is nothing to mention. And SAF is considered the #1 item for airline industry decarbonization. Fortune wrote *""If the Lufthansa Group were to use all the SAF currently available, it would only be able to fly for just under two weeks. A market ramp-up, higher availability and associated lower prices are urgently needed to enable greater use of SAF," a Lufthansa spokesperson told Fortune in an emailed statement."* (iii) E-kerosene. We haven't bother reporting on e-kerosene because we have been under the view that it extremely expensive and seemingly impossible to see how this would make any significant dent in replacing jet fuel. Fortune wrote "*But while*

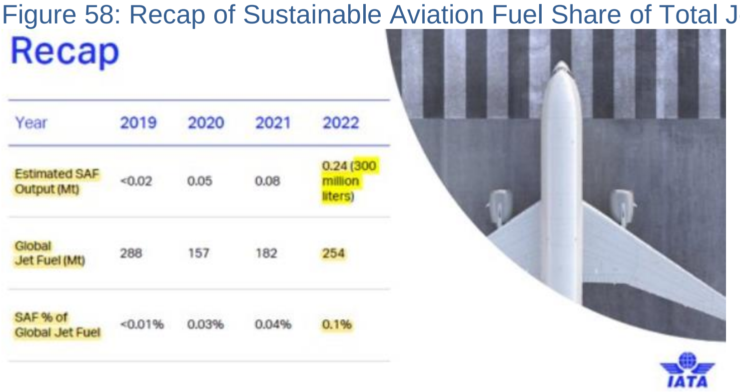
Lufthansa has tried to do its bit to adopt sustainable practices, the company's chief has said that switching the airline to green fuels like e-kerosene could come at a big price—half of Germany's electricity supply. "We would need around half of Germany's electricity to create enough of the fuels," Lufthansa's Carsten Spohr said at an aviation conference Monday, Bloomberg reported. He added that while green fuels made using renewable energy sources would help Lufthansa decarbonize its fuel consumption, the likelihood of having enough electricity to produce such materials was low. "I don't think Mr. Habeck is going to give me that," Spohr said at the Hamburg conference, referring to German energy minister Robert Habeck. Industry search for alternatives. Comments from the chief of Germany's biggest airline come as the aviation industry looks for alternatives to high carbon-emitting sources that have traditionally been used by airlines. SAFs offer a path to achieving this as they are biofuels manufactured with a lower carbon footprint. Green kerosene, or e-kerosene, is a type of SAF made from CO2 and water, but requires copious amounts of renewable electricity." Our Supplemental Documents package includes the Fortune report.

IATA Sustainable Aviation Fuel has a challenging, long road ahead

No one should be surprised by the Lufthansa CEO comments on Sustainable Aviation Fuel. The industry association, International Air Transport Assocation, highlighted the SAF challenge in June. Here is what we wrote in our June 11, 2023 Energy Tidbits memo. *"It didn't get much attention in all the IATA and airline CEO comments coming out of the IATA AGM but, we couldn't help note the data and forecasts for Sustainable Aviation Fuel (SAF) penetration of total jet fuel to 2030. It reinforces that it will take a lot longer than expected to decarbonize the airline industry ie. this part of the energy transition will take a very long time. (i) On Tuesday, we tweeted [LINK] "Challenge and will take a very long time to decarbonize airline industry. @IATA Sustainable Aviation Fuel update. SAF to provide 62% of carbon mitigation by 2050. SAF tripled in 2022, BUT only to 0.1% of jet fuel use. IATA says SAF of 24 mm tonnes in 2030 IF 30% of renewable fuel production. achieving 30% "is not a given". 24 mm is 9.4% of 2022 jet fuel consumption. #OOTT". (ii) On Tuesday, the IATA (International Air Transport Association) issued a press release and provided a slide deck at its AGM on the outlook for Sustainable Aviation Fuel. (iii) It's a good example of the challenge for a hard to decarbonize airline industry. IATA said SAF is being counted on to provide 62% of the airline industry's carbon mitigation goals for 2050. (iv) As a reminder, SAF is one of the renewable energy fuels along with items like renewable diesel and naptha. (v) SAF is on a huge rate of growth, but that is basically from zero. SAF tripled in 2022 but IATA highlights that was to 0.1% of total jet fuel consumption. The IATA says SAF "output set to rise exponentially again in 2023". (vi) For growth to 2030, the IATA says "If renewable energy production reaches 69 billion liters by 2028 as estimated, the trajectory to 100 billion liters (80 million tonnes) by 2030 would be on track. If just 30% of that produced SAF, the industry could achieve 30 billion liters (24 million tonnes) of SAF production by 2030." IF SAF gets to 24 million tonnes, that would equal to 9.4% of 2022 jet fuel consumption of 256 million tonnes. That is 2022 levels and does not assume the expected continued growth in jet fuel consumption to 2030. So the actual percentage should be significantly less than 9.4%. (vii) Note the IATA has a big qualifier on this forecast to 2030 and highlights their assumption that SAF is 30% of total renewable fuel generation is not guaranteed. The IATA wrote*

"Achieving the necessary SAF percentage output from these new and expanding facilities is not a given. But with governments the world-over agreeing at ICAO to a long-term aspirational goal (LTAG) of net zero by 2050, they now share accountability for aviation's decarbonization." (viii) The Energy Transition is happening including the decarbonization of the airline industry, but the reality is that both will take a lot longer, cost a lot more and be a bumpy/rocky road. We have highlighted this theme for years as it means energy markets will not change as quickly as the aspirations and that means there will a much longer need for oil and natural gas. Our Supplemental Documents package includes the IATA press release and excerpts from the IATA slide deck."

Figure 58: Recap of Sustainable Aviation Fuel Share of Total Jet Fuel



Year	2019	2020	2021	2022
Estimated SAF Output (Mt)	<0.02	0.05	0.08	0.24 (300 million liters)
Global Jet Fuel (Mt)	288	157	182	254
SAF % of Global Jet Fuel	<0.01%	0.03%	0.04%	0.1%

Source: IATA

Capital Markets: BlackRock CEO sees embedded inflation = US 10-yr at 5% or higher

BlackRock CEO on inflation and rates

Earlier, we noted BlackRock CEO Larry Fink's comments on hydrocarbons and the energy transition at the Berlin Global Dialogue forum on Friday. The headlines out of his comments were his views on inflation and interest rates. We created a transcript of his comments where he said "*"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."*

Capital Markets: IFIC Equity and balanced funds see more net redemptions in August

IFIC Cdn mutual fund data

One of the big Cdn equity stories in 2022 continues to play out in 2023 – the continued net redemptions from active managed Cdn equity and balanced mutual funds. This flipped in Q2/22 from massive net sales into balanced and equity mutual funds to massive net redemptions in equity and balanced mutual funds. On Tuesday, IFIC (Investment Funds Institute of Canada) reported [LINK] mutual funds and ETF sales for August. IFIC reported net redemptions for balanced mutual funds were $4.750b in August vs $4.571b in July and $4.439b in June. IFIC also reported net redemptions for equity mutual funds were $2.155b in August vs net redemptions of $1.848b in July and $2.354b in June. This brought YTD August

2023 net redemptions to $31.002b out of balanced and equity mutual funds, a large increase compared to YTD August 2022 net redemptions of $9.318b for a YoY difference of $21.684b. Note that Q2/22 was when it flipped from net sales into the massive net redemptions to end 2022. Last year net redemptions in balanced and equity funds totalled $38.47b, which was a massive YoY crashing of $138.92b vs 2021 that saw net sales in balanced funds and equity funds of $100.45b. Our Supplemental Documents package includes the IFIC release.

Figure 59: Cdn Mutual Fund Net Sales/Net Redemptions ($ Millions)

Mutual fund net sales/net redemptions ($ millions)*

Asset class	Aug 2023	July 2023	Aug 2022	YTD 2023	YTD 2022
Long-term funds					
Balanced	(4,750)	(4,571)	(2,421)	(31,002)	(9,318)
Equity	(2,155)	(1,848)	(341)	(13,550)	2,482
Bond	(513)	406	(382)	8,485	(6,936)
Specialty	366	262	90	2,639	1,214
Total long-term funds	(7,053)	(5,751)	(3,053)	(33,428)	(12,558)
Total money market funds	1,362	934	(52)	10,182	2,818
Total	(5,691)	(4,817)	(3,105)	(23,246)	(9,740)

Source: IFIC

There were massive redemptions in Cdn active equity/balanced funds in 2022
It's been another bad year for net redemptions for Cdn balanced and equity funds, but 2022 was brutal especially considering the big net inflows to start 2022. Here is what we wrote in our Jan 29, 2023 Energy Tidbits memo. "*One of the big Cdn equity stories in 2022 continued to play out in the final month of the year – the massive net redemptions from active Cdn equity fund manager's balanced and equity mutual funds in 2022, which is a huge change from the massive net sales into balanced and equity mutual funds in 2021. On Thursday, we tweeted [LINK] "WOW! @IFIC balanced & equity mutual funds net sales/redemptions data for 2022. YTD 12/31/22 net REDEMPTIONS of $38.5b. YTD 12/31/21 net SALES $100.4b. YoY diff is -$138.9b!! Makes #Oil #NatGas stocks big outperformance vs TSX and oil prices even more impressive. #OOTT." On Tuesday the IFIC (Investment Funds Institute of Canada) reported [LINK] mutual funds and ETF sales for Dec. IFIC reported net redemptions for mutual funds balanced funds were $4.97b (vs $5.07b in Nov and $5.66b in Oct) and YTD Dec 31 of $29.99b. IFIC reported net redemptions for mutual funds equity funds were $3.08b in Dec (vs $3.01b in Nov and $1.89b in Oct) and YTD Dec 31 of $8.48b. The change vs 2021 is huge and has widened since the Nov update. YTD Dec 31, net redemptions in balanced funds and equity funds was $38.47b, which is a YoY crashing of $138.92b vs YTD Dec 31, 2021 that saw net sales in balanced funds and equity funds of $100.45b.*"

Figure 60: Cdn Mutual Fund Net Sales/Net Redemptions ($ Millions)

Mutual Fund Net Sales/Net Redemptions ($ Millions)*

Asset Class	Dec. 2022	Nov. 2022	Dec. 2021	2022	2021
Long-term Funds					
Balanced	(4,969)	(5,066)	1,628	(29,999)	63,346
Equity	(3,080)	(3,014)	462	(8,480)	37,102
Bond	(2,254)	(1,104)	(1,276)	(13,790)	14,530
Specialty	(37)	(10)	415	1,166	6,010
Total Long-term Funds	(10,340)	(9,194)	1,229	(51,103)	120,988
Total Money Market Funds	1,642	551	185	7,026	(7,414)
Total	(8,698)	(8,643)	1,415	(44,077)	113,574

Source: IFIC

Capital Markets: Biden's big fear, Robert F. Kennedy runs as an Independent?

Robert F. Kennedy

We have to believe Robert F. Kennedy Jr is test marketing a potential run in 2024 as an Independent instead of trying to get the Democrat nomination over Biden. The timing makes sense as he would have to decide soon given the 2024 elections are now only 13 months away. But we are seeing increasing speculation RJK would run an independent including the Friday report by Mediaite [LINK] "*EXCLUSIVE: Robert F. Kennedy Jr. Planning to Announce Independent Run.*" It's not the only such report and we believe it is likely a test marketing to see the level of pushback against such a run and to test the level of RFK's existing support as a Democrat to see how much would follow him if he runs as an Independent. We believe an RFK run would likely hand the 2024 presidential election to the Republicans no matter who runs for them. Presidents are decided on electoral votes, which are not the same as national vote percentage. But to put in perspective, Biden got 51.3% of the vote vs Trump at 46.8% of the vote. And that 51.3% led to 306 electoral votes to 232 electoral votes. But if RJK only gets 5% of the vote, he would likely tip the electoral vote in a number of close race states to the Republicans. Our Supplemental Documents package includes the Mediaite report.

Ross Perot run as an Independent led to Clinton winning 1992 with 43.0% vote

The last time there was an Independent who received a significant vote was in 1992, when Texan Ross Perot ran as an Independent. George H.W. Bush was President and the Republican nominee running for re-election. Perot was a Republican who went Independent not being a Bush fan and also because of his opposition to the Gulf War and NAFTA. And had to have known he would be splitting the Republican vote and thereby handing the election to Clint. The popular vote was split Clinton 43.0%, Bush 37.5% and Perot 18.9%, but the electoral vote was split Clinton 378, Bush 168 and Perot 0.

Capital Markets: USDA Consumer Price Index August for food +0.4% MoM, +3.7% YoY

USDA CPI for food +3.7% YoY

On Friday, the USDA posted its July Consumer Price Index for food [LINK], which reported the all-items Consumer Price Index (CPI) was +0.4% MoM and +3.7% YoY. The +3.7% YoY increase in the Consumer Price Index has a relative weighting for the various food categories. Some YoY index changes (compared to the 20-year average) in the August data were: sugar and sweets +8.0% YoY (+2.5% avg), beef and veal +6.3% YoY (+4.6% avg), processed fruits and vegetables +6.2% YoY (+2.6% avg), cereals and bakery products +6.0% YoY +2.6% avg), eggs -18.2% YoY (4.7% avg), and dairy products +0.3% YoY (2.3%

avg). It is important to note the USDA said that the "food-at-home (grocery store or supermarket food purchases) CPI" was +0.1% MoM and +3.0% YoY. The USDA wrote "*Food-at-home prices are predicted to increase 5.1 percent, with a prediction interval of 4.6 to 5.8 percent. Food-away-from-home prices are predicted to increase 7.1 percent, with a prediction interval of 6.9 to 7.4 percent*."

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

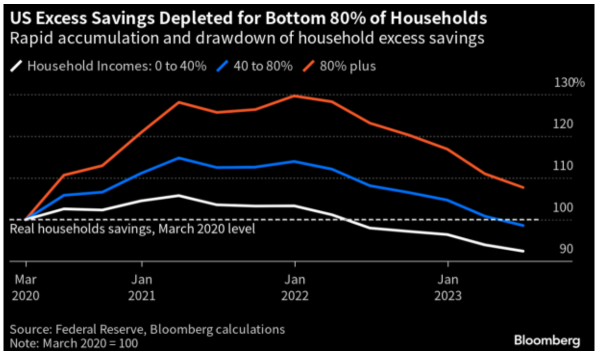
We recognize the US is different than Canada but we would expect the same food commodity to grocery shopping cart supply chain factors are in place in both countries. Here is what we wrote in our July 30, 203 Energy Tidbits memo. "*We have been highlighting Loblaw mgmt. Q1/23 call explaining why grocery 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 costs 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 CAD1 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."*

Capital Markets: FED, bottom 80% of households by income have Covid savings

US Covid savings being depleted

On Monday, we tweeted [LINK] "*Key consumer difference: US vs China. US: bottom 80% have spent pandemic savings reports @atanzi. China: See 👇09/11/23 tweet, consumers still lack confidence to spend pandemic savings. Upside to #Oil in 2024 is China consumer. #OOTT.*" Bloomberg reported on FED data that indicates excess Covid savings are now gone for the bottom 80% of US households by income. Bloomberg wrote "*Americans outside the wealthiest 20% of the country have run out of extra savings and now have less cash on hand than they did when the pandemic began, according to the latest Federal Reserve study of household finances. For the bottom 80% of households by income, bank deposits* *and other liquid assets were lower in June this year than they were in March 2020, after adjustment for inflation. All income groups have seen their balances decline in real terms from a peak in 2021, according to the Fed survey. But among the wealthiest one-fifth of households, cash savings are still about 8% above their level when Covid hit. By contrast, the poorest two-fifths of Americans have seen an 8% drop in that period. And the next 40% — a group that roughly corresponds with the US middle class — saw their cash savings drop below pre-pandemic levels in the last quarter."* Below is the Bloomberg graph that we attached to our tweet. Our Supplemental Documents package includes the Bloomberg report.

Figure 61: US excess savings depleted for bottom 80% of households by income



Source: Bloomberg

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

Twitter: Look for our first comments on energy items on Twitter every day
For new followers to our Twitter, we are trying to tweet on breaking news or early views on energy items, most of which are followed up in detail in the Energy Tidbits memo or in separate blogs. Our Twitter handle is @Energy_Tidbits and can be followed at [LINK]. We wanted to use Energy Tidbits in our name since I have been writing Energy Tidbits memos for over 20 consecutive years. Please take a look thru our tweets and you can see we aren't just retweeting other tweets. Rather we are trying to use Twitter for early views on energy items. Our Supplemental Documents package includes our tweets this week.

@Energy_Tidbits on Twitter

LinkedIn: Look for quick energy items from me on LinkedIn

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

Look for energy items on LinkedIn

Misc Facts and Figures

During our weekly review of items for Energy Tidbits, we come across a number of miscellaneous facts and figures that are more general in nature and often comment on sports and Calgary items.

Europe just clinched the Ryder Cup

Europe entered the final day of the Ryder Cup with a 10.5 to 5.5 lead. Our news cut off is 7am MT, but we just tucked in the latest as of 9:05 am when Tommy Fleetwood won his match to clinch the Ryder Cup for Europe. There are still two matches on the course so we don't know the final score. Europe was off to a great start but the US has rallied and took it down to the last few matches. Europe needed to get 14.5 points to win the Ryder Cup and the US needed 14 points to retain the Ryder Cup. The story for the Ryder Cup was Europe sweeping the US in the Day 1 morning foursomes. All ten times a side swept the Day 1 morning session, they have gone on to win or retain the Ryder Cup. Europe ended up leading 6.5-1.5 after Day 1. There have been 8 times that a side has led by 4 or more points after Day 1 and only one time did that team lose. The 1999 US team were down 2-6 after Day 1 and came back to win 14.5-13.5. There have been two times that a team has come back to win being down 4 points coming into the final day – US in 1999 and Europe in 2012.

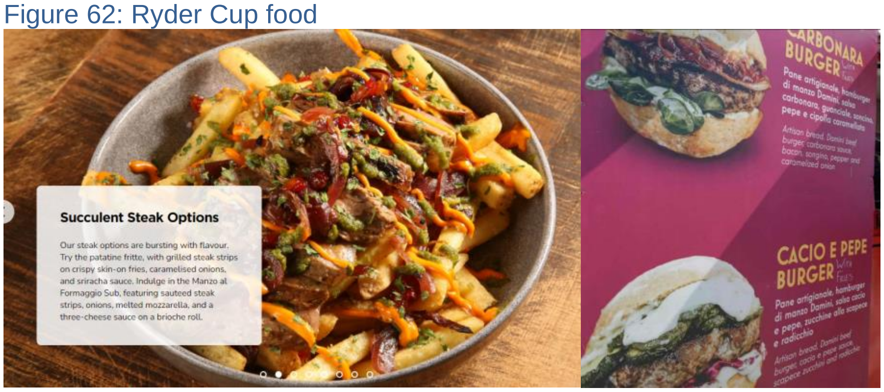
Jack Nicklaus/Tony Jacklin "The Concession" at 1969 Ryder Cup

Based on the scene at the 18th hole at the final match yesterday, it will be interesting to see who on the Europe or US Ryder Cup side wins the Nicklaus-Jacklin Award. It seems highly unlikely that we would see a similar Nicklaus/Jacklin "The Concession in 1969" happen between these teams. The Ryder Cup says "*The Nicklaus-Jacklin Award presented by Aon, which recognises the player that best embodies the true spirit of the Ryder Cup, will return for the 2023 edition in Rome. The Ryder Cup has delivered some of history's most shining examples of teamwork, sportsmanship, and performance. The Award recognises and memorialises these pillars of the Ryder Cup, highlighting the player who has most embodied the spirit of golf's greatest contest. "Golf is a sport that embodies principles of sportsmanship, integrity, and respect" said Guy Kinnings, Ryder Cup Director. "The Concession in 1969 is a famous example of these principles in action and a spirit that has underpinned the Ryder Cup for decades. This Award will not only recognise the decisions that ultimately characterise success, but also the sportsmanship that defines them. The Award was inspired by the famous 1969 Concession by Jack Nicklaus, which saw him give Tony Jacklin a 2-foot putt for a halved match, resulting in the first tie in Ryder Cup history. That storied moment has gone down as one of the most iconic demonstrations of sportsmanship in sports history."* For those that don't know the story of The Concession, our Supplemental Documents package includes the Ryder Cup's recap. [LINK]

Looks like some great food at Ryder Cup outside Rome

It's final day at the Ryder Cup, which is the 12 singles matches. As of 7am MT (3pm Rome time) news cut off, it's about xxx way thru the day and xxxxx.   One Ryder Cup item that caught our attention was that the food looked great, certainly not your normal concession food or, if it is normal concession food, it's with an Italian twist. Two that caught our eye were the steak on fries and the carbonara burger.

Figure 62: Ryder Cup food



Source: Ryder Cup,

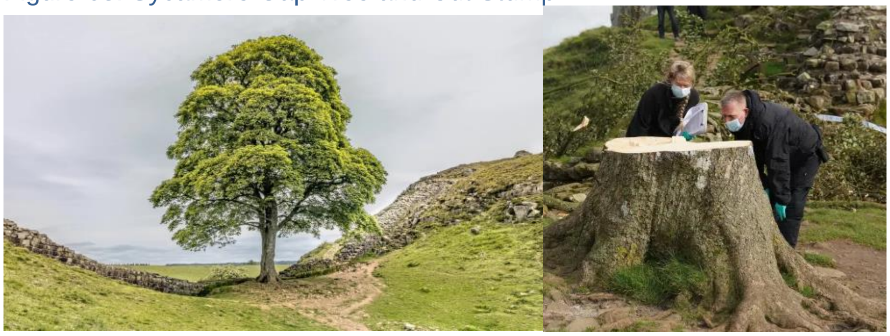
Only 1 NFL team has started 0-4 and made the playoffs

It's now week 4 of the NFL season, which in the old 16-game season represented the ¼ season mark. Last week, there nine teams that were 0-3 and some of them had upset wins ie. the Texans with an away win over the Jaguars. But going into today, there are now four teams at 0-4: Bears, Broncos, Panthers, and Vikings. The Vikings were a playoff team last year. And now history says its almost impossible to expect an 0-4 team make the playoffs. Since the AFL-NFL merger, there has only been one 0-4 team to make the playoffs – the 1992 San Diego Chargers who finished 11-1 to make the playoffs, beat the Chiefs in the wildcard, but lost to the Dolphins in the Divisional. In an unexpected scheduling fate, these four teams play each other this week so two of them, barring an unusual tie in the NFL, are set to fall to 0-5 and no 0-5 teams have ever made the playoffs. The Broncos are at the Bears, and the Vikings are at the Panthers.

Vandals cut down historic several hundred yr old Sycamore Gap tree

It's sad to see how so many pointless acts are done in the world today. We follow UK media, no question primarily for the EPL coverage, but also see all the headlines. One of the non-financial stories this week as how vandals cut down the historic Sycamore Gap tree that is located along the famous Hadrian's Wall. We just had a couple of Calgary friends come back from walking the trail along Hadrian's Wall. The Sycamore Gap tree was 70+ feet tall and believed to be several hundred years old and gained some fame outside the UK as it was featured in the Kevin Costner 1991 film "Robin Hood Prince of Thieves". The rocks are Hadrian's Wall.

Figure 63: Sycamore Gap Tree and Cut Stump



Source: Locationsout, The Sun