

Energy Tidbits

June 18, 2023

Produced by: Dan Tsubouchi

Blinken's Non-Denial Denial Won't Squash Expectations That a US/Iran Nuclear "Understanding" is Getting Close

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. US Secretary of State Blinken made what looks to be a classic non-denial denial that a US/Iran understanding on Iran's nuclear program is getting close. ([Click here](#))
2. Won't make difference, but a good warning by Rosneft CEO "*The global economy does not have the metals, rare earth minerals, energy, time and money to make this transition*". ([Click here](#))
3. Still hard to see the math for sustained growth in Permian oil unless there is a big increase in Permian drilling to boost Permian Drilled UnCompleted Wells inventory. ([Click here](#))
4. Shell's Capital Markets Day points to LNG Canada first cargoes after 2025 ie. we assume 2026. ([Click here](#))
5. China's Baidu city-level congestion has 9 of top 15 cities at lower YoY congestion ie. when there were Covid restrictions. ([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 – +84 bcf build in US gas storage; now 552 bcf YoY surplus

It’s still early June so it’s still normally natural gas injection season at least until there is very hot weather across the US or some other unusual event. For the week of June 9, the EIA reported a +84 bcf build (under the expectations of a 94 bcf build), comparable to the +92 bcf build reported for the week of June 10 last year. This is a slight decrease from last week’s build of +104 bcf, and a big increase vs the 5-year average build of +43 bcf. Total storage is now 2.634 tcf, representing a surplus of +552 bcf YoY compared to a surplus of +562 bcf last week and is +353 bcf above the 5-year average, in line with the +353 bcf above last week. Below is the EIA’s storage table from its Weekly Natural Gas Storage report [LINK](#).

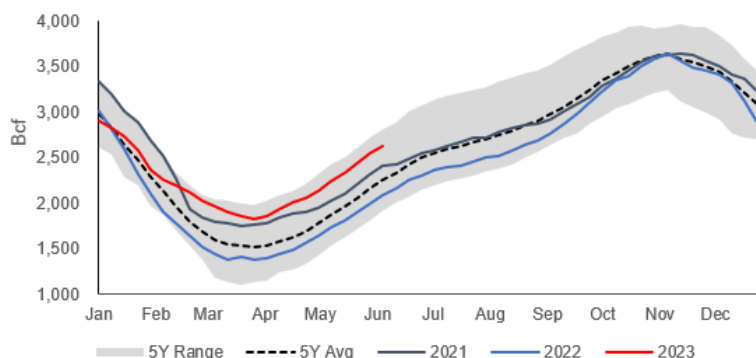
**US gas storage
552 bcf YoY
surplus**

Figure 1: US Natural Gas Storage

Region	Stocks billion cubic feet (Bcf)				Year ago (06/09/22)		5-year average (2018-22)	
	06/09/23	06/02/23	net change	implied flow	Bcf	% change	Bcf	% change
East	574	552	22	22	403	42.4	453	26.7
Midwest	632	604	28	28	478	32.2	515	22.7
Mountain	148	137	11	11	121	22.3	135	9.6
Pacific	176	164	12	12	220	-20.0	244	-27.9
South Central	1,105	1,093	12	12	860	28.5	934	18.3
Salt	324	319	5	5	251	29.1	284	14.1
Nonsalt	781	774	7	7	609	28.2	650	20.2
Total	2,634	2,550	84	84	2,082	26.5	2,281	15.5

Source: EIA

Figure 2: US Natural Gas Storage – Historical vs Current



Source: EIA, SAF

Natural Gas – NOAA 8-14 day temperature outlook not likely big catalyst to prices

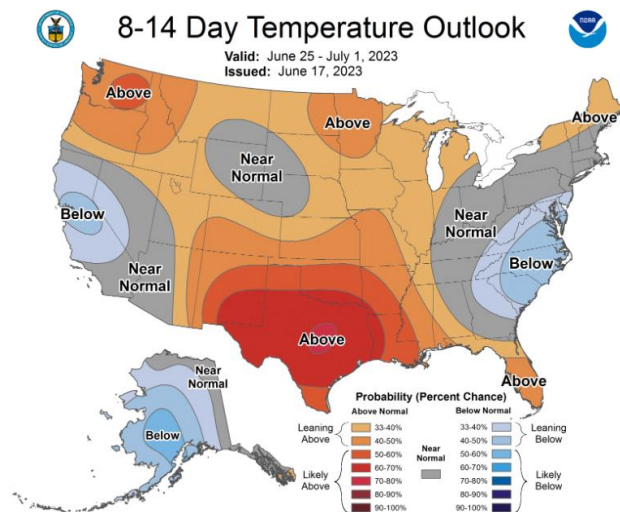
We are now moving into the normal hot summer period with late June thru mid Sept. But at late June and early July, the key is to have at least normal temperatures. NOAA posts daily an updated 6-10 day and 8-14 day temperature probability outlook. Yesterday, we tweeted [LINK](#) “Today’s @NOAA 6-10 & 8-14 day temperature outlook covering June 23-July 1 calls for heat wave in Gulf Coast, above normal thru center slice of US, but normal/below normal parts of East & West coast. South. Not likely a big catalyst for #NatGas prices. #OOTT.” Yesterday’s NOAA 6-10 day [LINK](#) and 8-14 day outlook [LINK](#) is valid for June 23=July 1 calls for hot weather in US Gulf Coast and warmer than normal temperatures up the central

**NOAA 8-14 day
outlook**

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slide of the US. And then normal to below normal temperatures for much of the east and west coasts. It could be better but, at this type of year, we don't see this temperature outlook being a big catalyst to natural gas prices. On a YoY comparison, June 2022 was the 15th hottest June in the last 128 years.

Figure 3: NOAA 8-14 day temperature outlook June 25-July 1



Source: NOAA

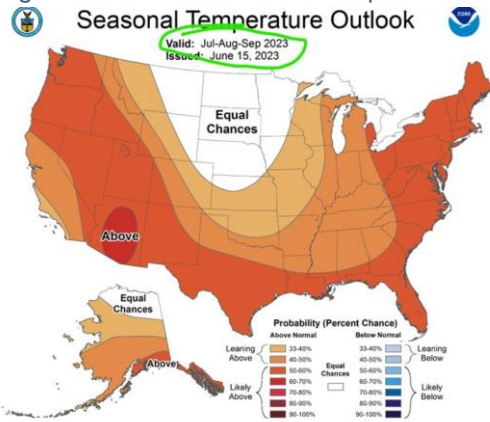
Natural Gas – NOAA’s outlook calls for a hot summer

On Thursday, we tweeted [LINK](#) “Support for summer #NatGas prices. @NOAA 's updated Jul/Aug/Sep temperature outlook calls for a hot summer. A hot 2023 summer but YoY comp is to JAS 2022 being the hottest on record over 128 years. #OOTT.” NOAA updates its seasonal outlook every month and it’s June 15 update calls for a hot Jul/Aug/Sept. NOAA calls for above normal in almost all of the US with the only normal temperature area being in the less populated plains areas ie. North & South Dakota, Montana, Nebraska, Wyoming and Minnesota. And NOAA sees well above normal temperatures along the entire east coast and down thru the Gulf Coast. Below is NOAA’s JAS temperature probability map.

NOAA forecasts hot summer

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Figure 4: NOAA JAS 2023 Temperature Probability Forecast

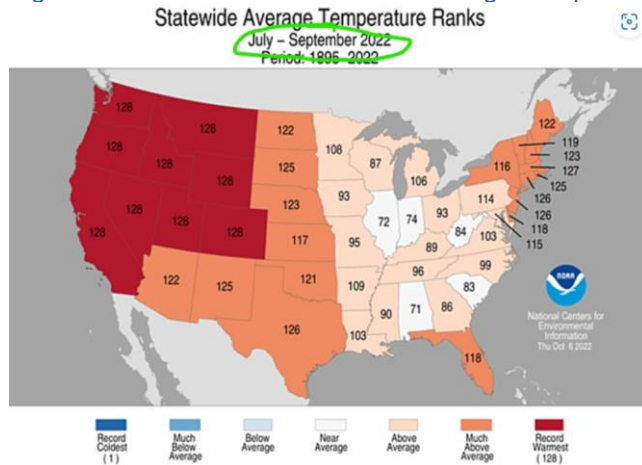


Source: NOAA

Summer 2022 had record warm temperatures

Our tweet noted the comparison to last summer. Jul/Aug/Sep 2022 was the hottest summer on record in 128 years. We should not ethe prior summer, Jul/Aug/Sept 2021 was the 3rd hottest in the last 127 years. Below is NOAA's statewide average temperature map for JAS 2022.

Figure 5: US 2022 JAS Statewide Average Temperature Map



Source: NOAA

Natural Gas – EIA, US shale/tight natural gas forecast +4.3% or +4.01 bcf/d YoY in July

The warm winter was the biggest negative to natural gas prices so far in 2023, but then there has also been the negative that continues to be the very strong YoY growth in US natural gas production driven by the major shale/tight plays. Remember also that the top US

Shale/tight gas production

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shale/tight oil plays are oil wells that produce associated NGLs and natural gas i.e., so as the Permian, Bakken, Eagle Ford and Niobrara go on oil production, natural gas production in these plays go the same. On Monday, the EIA released its monthly Drilling Productivity Report for June 2023. The key takeaway is that July would be the 5th consecutive month of growth for US shale/tight natural gas, albeit the last few have been more modest MoM growth but growth, nonetheless. The DPR [LINK](#) is the EIA's forecast for oil and natural gas production from the major shale/tight oil and gas basins for the current month (in this case June) and the next month (in this case July). (i) Shale/tight natural gas is forecasted to have 5 months of consecutive growth and has been breaking out since last April, as increasing US LNG export capacity out of the Gulf Coast is driving natural gas growth in Louisiana and Texas. US shale/tight natural gas was 96.970 bcf/d in May and June is forecasted to be 97.258 bcf/d (97.238 bcf/d previously) with July production forecasted to be 97.341 bcf/d. (ii) As for the July forecast, the largest increases are seen in the Permian (+0.060 bcf/d MoM), Bakken (+0.029 bcf/d MoM), Appalachia (+0.025 bcf/d MoM), and Niobrara (+0.013 bcf/d MoM). (iii) Total US shale/tight natural gas production is expected +4.011 bcf/d YoY for July. All shale/tight plays are up YoY, aside from Niobrara. The most notable YoY increases are the Permian +1.575 bcf/d YoY, Haynesville +1.342 bcf/d YoY, and Appalachia +0.579 bcf/d YoY; with Haynesville and Permian acting as key shale/tight plays feeding growth US LNG exports. (iv) Remember US shale/tight gas is ~90% of total US natural gas production. So, whatever the trends are for shale/tight gas are the trends for US natural gas in total. Below is our running table showing the EIA DPR data for the shale/tight gas plays, and the MoM changes in major shale/tight natural gas production. Our Supplemental Documents package includes the EIA DPR.

Figure 6: MoM Change – Major Shale/Tight Natural Gas Production

mmcf/d	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	July YoY	July YoY%	July less June
Anadarko	6,806	7,028	7,092	6,961	6,730	6,872	6,879	6,850	6,866	6,869	6,850	6,807	38	0.6%	-43
Appalachia	34,753	34,919	34,393	34,978	34,499	35,532	34,962	35,148	35,214	35,269	35,341	35,366	579	1.7%	25
Bakken	3,130	3,222	3,197	3,086	2,678	2,878	3,073	3,102	3,140	3,178	3,215	3,244	99	3.1%	29
Eagle Ford	7,025	6,977	7,071	7,117	7,030	7,138	7,101	7,179	7,243	7,302	7,335	7,331	398	5.7%	-4
Haynesville	15,430	15,802	16,186	16,329	16,639	16,353	16,379	16,332	16,461	16,566	16,641	16,645	1,342	8.8%	4
Niobrara	5,120	5,172	5,208	5,292	5,008	5,077	5,003	5,022	5,030	5,043	5,058	5,071	-19	-0.4%	13
Permian	21,545	22,085	22,063	21,877	21,983	22,380	22,191	22,586	22,674	22,744	22,818	22,878	1,575	7.4%	60
Total	93,810	95,205	95,210	95,641	94,568	96,231	95,588	96,219	96,628	96,970	97,258	97,341	4,011	4.3%	83

Source: EIA, SAF

Natural Gas – Shell, looks like LNG Canada Phase 1 will start after 2025

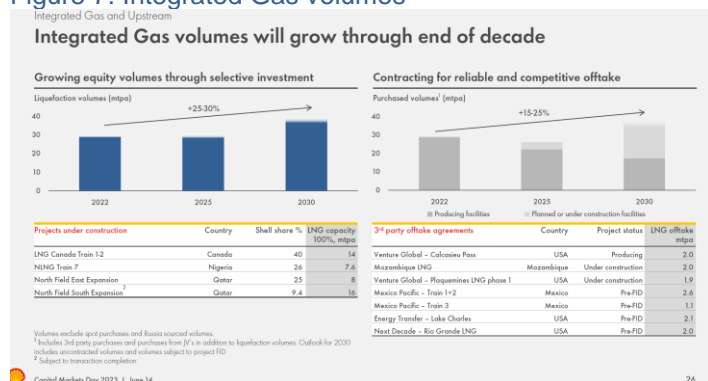
On Wednesday, Shell held its Capital Markets Day 2023. There were a couple of questions on LNG Canada Phase 1 startup and it looks like LNG Canada 1.8 bcf/d Phase 1 will start up after 2025. Shell included the below graph that doesn't look to include any LNG Canada Phase 1 in the 2025 liquefaction volumes. 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 (inaudible) and the other work that we're doing around feed gas supply and operational improvements to underpin the equity production that we have." And then later in the Q&A, mgmt. said "Yes. So we are 80% complete. We've de-risked a significant part. We're not giving any more clarity than the mid-part of the decade. So, we're feeling confident about mid-part of the decade that that will come online". So it looks like Shell is pointing to 2026,

Minor delays to LNG Canada Phase 1

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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 7: Integrated Gas volumes



Source: Shell Capital Markets Day

Fits Q1 comments, LNG Canada onstream around the middle of this decade

We try to carefully follow the words Shell uses to describe when they expect first LNG from LNG Canada 1.8 bcf/d Phase 1. Normally super majors like Shell are careful in their wording. The Capital Markets Day timing would fit with the changing timing that was indicated in the Shell Q1 call on May 3, 2023, when Shell backed away from their longstanding timing for first LNG “by the middle of this decade”. Here is what we wrote in our May 7, 2023 Energy Tidbits memo. “Shell CEO didn’t say it, but it sounds to us like there will be a minor delay to first LNG at the 1.8 bcf/d LNG Canada Phase 1. The reality is that, if so, it’s pretty impressive that there is only a minor delay to the startup. Shell CEO previously said first LNG cargoes “by” the middle of the decade whereas in the Q1, he said “around” the middle of the decade”. We suspect he is pointing to first LNG Canada cargos sometime in 2025 or early 2026. Shell knows there is a difference. (i) Shell held its Q1 call on Thursday and we tweeted [LINK](#) “#Shell Q1 Q&A still on/ CEO Sawan “continue to be incredibly excited about the prospect of that project [#LNGCanada] coming onstream around the middle of this decade. It’s making good progress”. Sounds like minor delay vs Sawan 02/21/22 “by the middle of this decade” #LNG #OOTT.” (ii) In the Q&A on Thurs, CEO Sawan said “. So no new guidance other than to say we continue to anticipate startup there around the middle of the decade. I look forward to seeing where that goes.”. (iii) This is different than what Sawan said in their Feb 21, 2022 Integrated Business Deep Dive before he took over as CEO. We highlighted this in our Feb 27, 2022 Energy Tidbits memo, where Sawan said “The project remains dedicated to have the first cargo by the middle of this decade”. Our Supplemental Documents package includes the transcript we made of Sawan’s comments from Thurs and from Feb 21, 2022.”

LNG Canada start in 2026 would seem to fit Coastal GasLink timing

Here is another item from our May 7, 2023 Energy Tidbits memo. “Shell CEO Sawan switching from “by” to “around” the middle of the decade would seem to fit with the

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uncertainty as to when Coastal GasLink will be fully commissioned and ready to start natural gas deliveries to LNG Canada. (i) TC Energy reported Q1 on Apr 28. In its Coastal GasLink update, TC Energy wrote “Over the winter construction season, the Coastal GasLink project progressed in line with our revised cost and schedule and is now approximately 87 per cent complete. The entire project route has been cleared, grading is approximately 99 per cent complete, welding is approximately 95 per cent complete and we continue to target mechanical completion in late 2023.” Mechanical completion doesn’t mean the pipeline is operational and ready to move natural gas as planned. (ii) TC Energy did not say this on Apr 28 but, in its Q4/22 release, wrote “The work plan continues to target mechanical completion by year-end 2023, with commissioning and restoration work continuing into 2024 and 2025.” We think the big factor is when will commissioning be completed i.e. how far into 2024 or 2025 will the commissioning be? What isn’t clear to us is will TC Energy allow Coastal GasLink to move into full operations if commissioning was complete but there are still people working on restoration along the pipeline and by pumping stations?

Figure 8: Coastal GasLink Pipeline



Source: Coastal GasLink

Natural Gas – No question to Shell on potential FID for LNG Canada 1.8 bcfd Phase 2

xxxx

There were no comments from Shell nor questions from analysts on a potential FID for LNG Canada 1.8 bcf/d Phase 2. However, bulls for LNG Canada Phase 2 will be looking at Shell’s growth expectations for LNG supply in the back half of the 2020s and believe LNG Canada Phase 2 has to be included in the growth assumptions. In their prepared comments, mgmt. said “We are the world leader in LNG. Supplying our customers with secure, reliable energy today and in the future. LNG is deeply integrated with our trading and optimization activities, which enable us to capture additional value from the scale and breadth of our global LNG portfolio. And we’re growing that portfolio even more, with around 11 million tonnes per year of new LNG capacity under construction, which will come on stream in the second half of the decade. This is almost a third of our current LNG portfolio.” 11 million tonnes per year is 1.45 bcf/d per year.

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Natural Gas – Forecast for really hot temperatures to end June in Japan

It looks there should be hot weather to the end of June in Japan. It is hot in in Asia and Japan is expected to continue thru the end of June. And it should be slightly warmer than normal to start July. Every Thursday, the Japan Meteorological Agency updates its 30-day outlook [LINK](#) and its June 15 update calls for very hot temperatures to end June. It is expected to be the warmest through the northern and central regions of Japan, however the southern region is still expected to have above average temperatures. So there should be some solid weather driven electricity demand for the rest of June. Below is the JMA’s temperature probability forecast for June 17 to July 16.

Japan’s 30-day temperature forecast

Figure 9: JMA June 17-July 16 Temperature Probability Forecast



Source: Japan Meteorological Agency

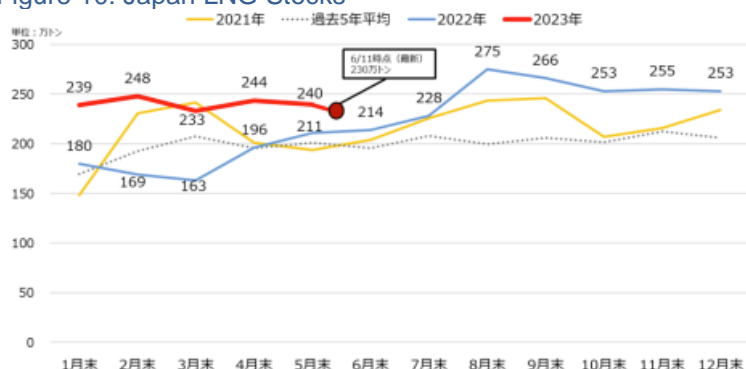
Natural Gas – Japan’s LNG stocks down -3.7% WoW to 110.5 bcf

Japan’s LNG stocks ended winter in good shape due to the mild winter, and LNG stocks haven been fairly flat thru early June. April/May is shoulder season and, even it’s warm, there isn’t any major weather driven demand. And this year, Japan has been putting a push on using less natural gas ie. turn the thermostats on air condition up into the low 80’s so early June hasn’t been a big pull on natural gas consumption. The hope is that the hot weather to end June will start to be a bigger pull on LNG stocks. On Wednesdays, Japan’s METI releases its weekly LNG stocks data [LINK](#). LNG stocks on June 11 were 110.5 bcf and are down -3.7% WoW from June 4of 114.7 bcf, but remain well above the 5-year average of 93.7 bcf. Below is the LNG stocks graph from the METI weekly report.

Japan LNG stocks down -3.7% WoW

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Figure 10: Japan LNG Stocks



Source: METI

Natural Gas – Japan LNG Imports down -19.9% YoY to 7.14 bcf/d in May

May in Japan is still not a huge air conditioning month and Tokyo has had a big natural gas conservation push so there wasn't any major pull on natural gas in May. So no surprise when, on Thursday, Japan's Ministry of Finance posted its import data for May [LINK](#) and pointed to a material YoY decline in LNG imports. The MOF reported Japan's May LNG imports were 7.14 bcf/d, which is down -1.4% MoM from 7.25 bcf/d in April, and -19.9% YoY from 8.92 bcf/d in May 2022. Notably, May 2023's imports of 7.14 bcf/d was the second lowest LNG imports recorded in the last decade, following May 2020's imports of 7.09 bcf/d. There is also the factor of the high LNG prices to end 2022 that would have impacted LNG imports in the proceeding months of 2023. In addition, Japan's thermal coal imports in May were -17.7% YoY, compared to -10.8% YoY in April. Petroleum products imports were down -21.6% YoY, a significant decrease from the +8.3% increase last month in April. Plus, April's temperature forecast for Japan in May expected hot weather, so there was no real urgency to import LNG. Below is our table that tracks Japan LNG import data.

Japan LNG down 19.9% YoY

Figure 11: Japan Monthly LNG Imports

bcf/d	2014	2015	2016	2017	2018	2019	2020	2021	2022	22/21	2023	23/22
Jan	12.66	13.06	11.22	12.85	12.79	11.69	11.63	12.48	10.51	-15.8%	10.56	0.5%
Feb	12.88	13.26	12.30	13.36	14.23	12.61	10.99	13.84	12.19	-11.9%	10.98	-9.9%
Mar	12.46	12.60	12.62	12.61	12.28	11.30	11.16	11.04	10.07	-8.7%	8.86	-12.0%
Apr	11.54	10.56	10.21	10.52	8.97	9.00	8.31	7.96	8.92	12.0%	7.25	-18.7%
May	10.06	8.91	8.55	9.66	9.92	8.62	7.09	7.67	8.92	16.3%	7.14	-19.9%
June	10.91	10.61	10.02	9.90	8.88	8.32	8.42	9.13	9.29	1.7%		
July	12.14	10.77	10.19	10.19	10.55	10.56	9.35	9.58	9.54	-0.4%		
Aug	10.92	10.93	11.96	11.24	11.73	9.45	9.04	9.75	9.71	-0.4%		
Sept	11.64	11.06	10.67	9.31	10.04	10.30	10.41	8.66	8.52	-1.6%		
Oct	10.75	9.38	9.73	9.50	10.12	9.75	9.20	7.17	7.88	9.9%		
Nov	11.00	10.71	12.07	10.26	10.15	10.03	9.63	9.38	8.88	-5.4%		
Dec	12.79	12.51	11.69	12.31	11.23	10.54	11.96	10.89	9.39	-13.8%		

Source: Japan Ministry of Finance

Natural Gas – China natural gas production up +5.3% YoY to 20.6 bcf/d in April

We have been highlighting a big change in China's natural gas and LNG dynamics over the past two years. China has been increasing its domestic natural gas production, which means less need for LNG imports. That has been compounded by China's increasing natural gas pipeline imports of cheaper Russian natural gas. This reduces the need for LNG imports.

China natural gas production +5.3% YoY

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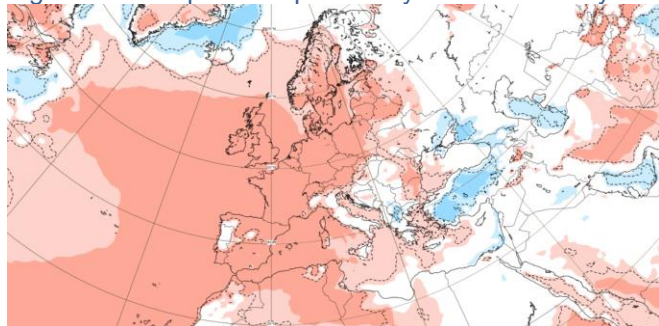
China continued to increase its domestic natural gas production in May 2023. On Wednesday, China's National Bureau of Statistics reported domestic natural gas production of 19.0 bcm (21.6 bcf/d) in May which is +7.2% YoY [\[LINK\]](#). China does not provide the separate data for May vs April, so a MoM change is not easily determinable. May's data brings total YTD production to 97.3 bcm (20.6 bcf/d), reflecting an increase of +5.3% YoY.

Natural Gas – Warm temperatures across Europe forecast to continue thru end of July

The European Centre for Medium-Range Weather Forecasts, updates on Thursday, call for warm temperatures to continue across Europe thru the end of July. They provide forecasts for each of the next six weeks up to the week of July 24-31. Each weekly forecast calls for warmer than normal temperatures across Europe. Below we passed two of the weeks – July 3-10 and July 24-31.

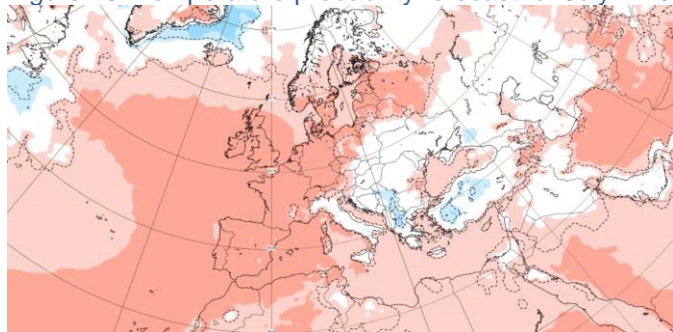
Continued warm temps in Europe

Figure 12: Temperature probability forecast for July 3-10 week



Source: ECMWF

Figure 13: Temperature probability forecast for July 24-31 week



Source: ECMWF

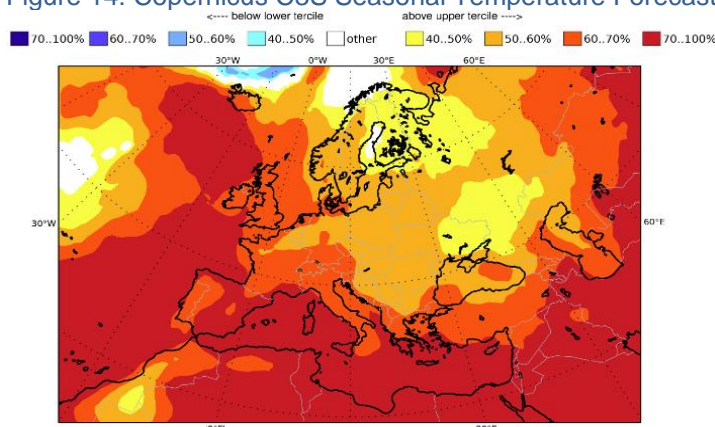
Fits expectations for a hot summer in Europe but not as hot as summer 2022

Here is what we wrote in our May 14, 2023 Energy Tidbits memo. *“Europe can expect higher than usual temperatures this summer with the most recent Copernicus forecast. The Copernicus forecast are widely used in Europe as the Copernicus Climate Change Service is “is one of six thematic information services provided by the Copernicus Earth Observation Programme of the European Union.” On Wednesday, Copernicus posted their monthly seasonal forecast for the summer in*

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Europe [\[LINK\]](#). On Wednesday we tweeted [\[LINK\]](#) “#NatGas #LNG markets hoping the new @CopernicusECMWF summer Europe forecast for a hot summer is right. #OOTT”. Copernicus wrote “For temperature, the signal is for above-average seasonal values virtually across all land areas, strongest over southern and western Europe. Both the ensemble-mean anomalies and the probabilities are lower than in the May 2022 forecast for last year’s European summer, in most regions.” The summer refers to June/Jul/Aug, and Copernicus is highlighting this summer is expected to hot but not as hot as last summer.”

Figure 14: Copernicus C3S Seasonal Temperature Forecast for Jun/Jul/AUg



Source: Copernicus

Summer 2023 was record heat in Europe

The Copernicus new summer forecast expects a hot summer 2023 but not as hot as last summer, which was record heat. Here is what we wrote in our Sept 11, 2022 Energy Tidbits memo. “It was record heat this summer in Europe. We have spoken to several people who traveled to the continent this summer and they all noted the high temperatures but also how their hotels had their A/C at much higher levels than normal and not just in the public areas. The problem is that they all stayed in bigger hotels that have central control of A/C so they couldn’t set their rooms to lower temperatures. On Thursday, Copernicus Climate Change Services reported [\[LINK\]](#) “Summer 2022 Europe’s hottest on record” and “The average temperature over Europe in 2022 was: • the highest on record for both August and summer (June – August) by substantial margins of 0.8°C over 2018 for August and 0.4°C over 2021 for summer”.

Natural Gas – Europe storage is now +16.86% vs 5-yr average, but within 5-yr range

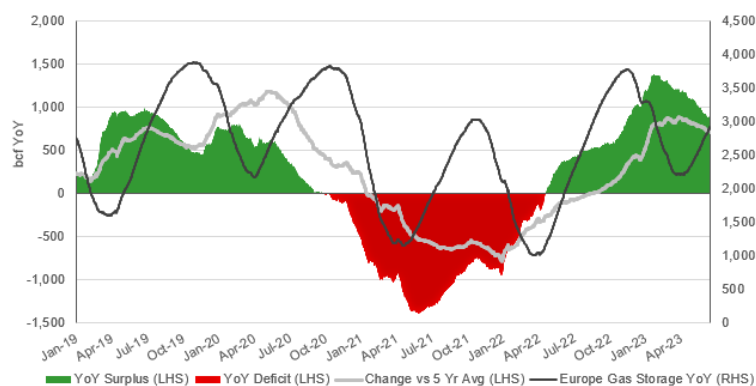
The big global natural gas story for Q1/23 was how mild winters in Europe and Asia were the key reason why Europe made it through winter without a natural gas shortage. And when natural gas makes it thru with ease thru the winter, that normally continues thru shoulder season when there isn’t any real strong demand for natural gas. We continue to see a modest but steady narrowing of the gas storage surplus on a YoY and vs the 5-yr average. However, this week, it was basically no change to the YoY gas storage surplus. This winter

Europe gas storage

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(Nov 1, 2022) began with gas storage at 94.91% capacity, +17.83% YoY and a YoY surplus of 27.02%. The mild winter kept the storage surplus high on a YoY basis. But the last 8 weeks have seen a decline in the YoY surplus and the surplus vs the 5-yr average. This week, Europe storage increased by +2.19% WoW to 73.13% on June 14. Storage is now +20.14% greater than last year levels of 52.99% and is +16.86% above the 5-year average of 56.27%. The prior four weeks, starting with the most recent has seen the YoY surplus at +20.14% +21.50%, +23.53%, and +24.63%. The prior four weeks starting with most recent has seen the surplus vs the 5-yr average at +16.86, +17.72, +18.18%, and +18.69%. In addition, current storage is currently within the 5-year range, albeit at the top end of the range. Below is our graph of Europe Gas Storage Level.

Figure 15: European Gas Storage Level



Source: EIA, SAF

Oil – US oil rigs -4 WoW at 552 rigs on Jun 16, US gas rigs -5 WoW at 130 rigs

We continue to see the US rig count fall, after having the first increase since March last week. Baker Hughes released its weekly North American drilling activity data on Friday. This week total US oil rigs were down -4 rig WoW to 552 total rigs, and -32 rigs YoY for the week of June 16. That is up +71 from the 2022 low of 481 rigs in January, and +380 since the 2020 low of 172 rigs on Aug 14. The decline in oil rigs is being driven by lower WTI which has not sustained >\$70/bbl. This reinforces the fact that US producers want visibility to more stable and prices higher than the \$60's before beginning to ramp up production. On a per basin basis Eagle Ford increased +3 rigs WoW to 59 total rigs, while the Permian decreased -4 rigs to 337 total rigs. It wasn't a surprise to see US gas rigs decline given the expected weakness for Q2 with low Henry Hub, which we saw a -5 WoW decrease, for a total of 130 rigs. It is important to note that US gas rigs have now decreased -24 rigs YoY. Notably, on a per basin basis Utica increased +3 rigs WoW to 13 total rights, while Macrellus and Eagle Ford decreased by -5 rigs to 34 and -1 rig to 1 total rigs, respectively. Below is our graph of total US oil rigs.

US oil rigs down WoW

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Figure 16: Baker Hughes Total US Oil Rigs



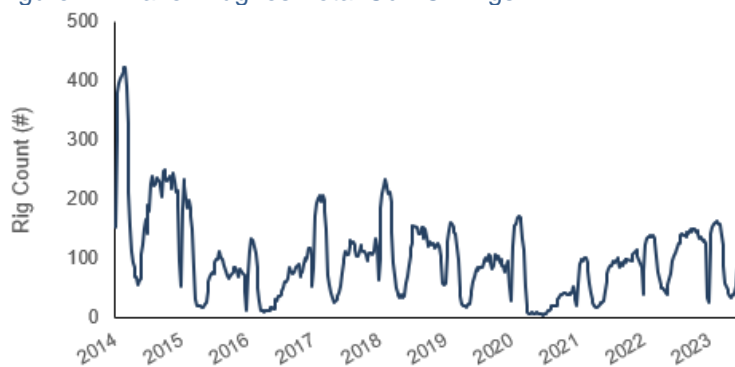
Source: Baker Hughes

Oil – Total Cdn rigs +23 WoW to 159 total rigs, wildfire impact lessens

Wildfires continue to be the big story in Alberta and BC, but the wildfires are down from their recent peak a month ago. And they are having a lesser impact, at least for now, we are continuing to see drilling activity recovering back to normal. This means drilling rigs are in their normal post Spring breakup increase in rigs that typically runs from mid-May to before Xmas. Traditionally, Cdn rigs hit their trough the last week of April or first week of May. That happened this year, but then wildfires caused a further dip in May. But rigs are moving up strongly with the lesser impact of wildfires. Total Cdn rigs were up +23 rigs WoW to 159 rigs for the week of June 16. Notably, Alberta and Saskatchewan were +18 and +4 rigs WoW, to 108 rigs and 32 rigs, respectively. Note there was no provincial decreases this week. Cdn oil rigs were up +18 WoW to 103 rigs, and Cdn gas rigs increased +5 to 56 rigs. Cdn oil rigs are now -1 rig YoY compared to 104 rigs last year, while gas rigs are up +4 YoY from 52 rigs. Below is our graph of total Cdn oil rigs

**Cdn total rigs up
WoW**

Figure 17: Baker Hughes Total Cdn Oil Rigs



Source: Baker Hughes

Oil – US weekly oil production remains flat WoW at 12.4 mmb/d

We shouldn't be surprised to see the EIA weekly oil production estimates continue to stay strong at 12.4 mmb/d given how the EIA's "actuals" from their Form 914 data have been

**US oil production
flat WoW**

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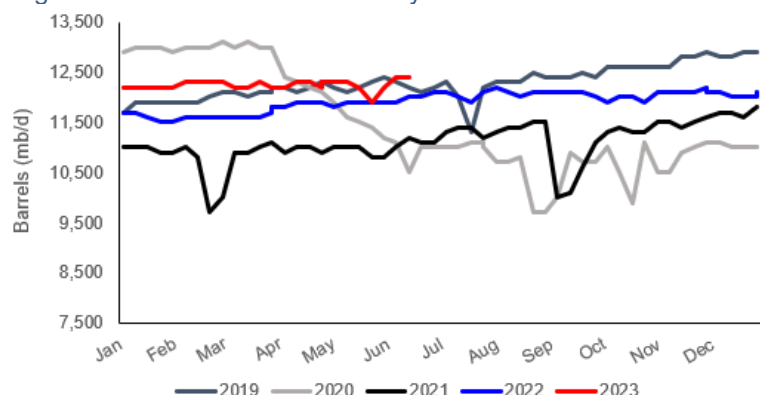
reporting US oil production higher than the weekly estimates. As noted in the following item, these are estimates of the current week. The actuals have been higher than the weekly estimates ie. the weekly estimates have been low. The EIA estimates US oil production remained flat WoW at 12.4 mmb/d for the week ended June 9 [LINK](#). Lower 48 was also flat WoW at 12.0 mmb/d, and Alaska was down -0.008 mmb/d to 0.422 mmb/d. US oil production, based on the weekly estimates, finally has broken above 12.3 mmb/d. It has remained between 12.1 mmb/d and 12.3 mmb/d since the week ended Jan 6, 2023. The first time since it touched 12.2 mmb/d since the pandemic was the 1st week of August in 2022. Total US production reached its highest level since March 13, 2020, this year on this week at 12.4 mmb/d. US oil production is up YoY at +0.500 mmb/d but is still down significantly at -0.700 mmb/d since the 2020 peak of 13.1 mmb/d on March 13.

Figure 18: Figure xx: EIA's Estimated Weekly US 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						

Source: EIA

Figure 19: EIA's Estimated Weekly Oil Production



Source: EIA, SAF

EIA Form 914: US March oil actuals +473,000 b/d vs weekly estimates

Here is what we wrote in last week's (June 4, 2023) Energy Tidbits memo. "As a reminder, the EIA's actuals for US oil production continue to be well above their weekly estimates. There is a growing difference between what the EIA looks at as

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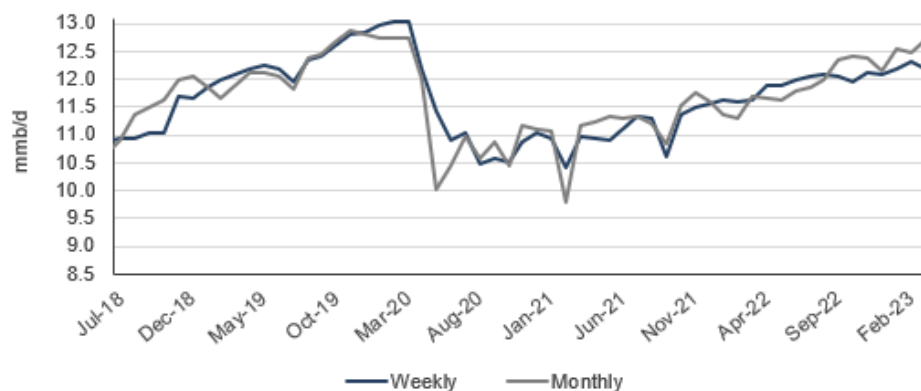
“actuals” for US oil production vs the EIA’s weekly estimates noted above. The actuals continue to be significantly higher than the weekly estimates. On Wednesday, the EIA released its Form 914 data [\[LINK\]](#), which is the EIA’s “actuals” for March US oil and natural gas production. (i) On Wednesday, we tweeted [\[LINK\]](#) “US #Oil production continues to surprise to upside. See 📌 EIA excerpts. @EIAgov Form 914: Mar/23 actuals of 12.696 mmb/d is +995,000 b/d YoY vs Mar/22 of 11.701 mmb/d. Also +473,000 b/d vs EIA estimates of weekly oil production that were 12.223 mmb/d. #OOTT.” The Form 914 actuals for March have March production at 12.696 mmb/d, which is +473,000 b/d vs the EIA weekly estimates. And because of this significant difference, the Form 914 March production is +995,000 b/d YoY, just shy of 1 mmb/d YoY. The actuals paint a picture of much stronger than expected US oil production.”

Figure 20: EIA Form 914 US Oil Production (thousands b/d)

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2023	12,568	12,525	12,696									
2022	11,369	11,316	11,701	11,668	11,629	11,797	11,844	12,002	12,337	12,417	12,379	12,149
2021	11,124	9,925	11,326	11,305	11,356	11,356	11,347	11,277	10,918	11,569	11,790	11,634
2020	12,852	12,842	12,797	11,914	9,713	10,442	11,006	10,577	10,921	10,457	11,196	11,168
2019	11,869	11,673	11,913	12,149	12,154	12,218	11,902	12,486	12,590	12,809	13,000	12,978
2018	10,001	10,281	10,467	10,500	10,435	10,641	10,897	11,392	11,443	11,509	11,886	11,945
2017	8,875	9,110	9,166	9,101	9,185	9,111	9,247	9,250	9,517	9,669	10,085	9,983

Source: EIA

Figure 21: EIA Form 914 US Oil Production vs Weekly Estimate



Source: EIA, SAF

Oil – North Dakota April oil production up ~1.0% MoM to 1.133 mmb/d

North Dakota oil production in April was up 0.96% MoM to 1.133 mmb/d, which was up +25.9% YoY with 1.123 mmb/d in April 2022. In our May 14, 2023 Energy Tidbits memo, we noted North Dakota’s warning that blizzards in April was expected to impact April production. It doesn’t look like there was a major impact on production, but April production was still down -25,204 b/d compared to February. On Tuesday, the North Dakota Industrial Commission posted its Director’s Cut, which includes April’s oil and natural gas production data [\[LINK\]](#). Following the release of the report, we tweeted [\[LINK\]](#) “North Dakota #Oil production should

North Dakota oil production

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show good growth in May & June. Note the huge estimate of 138 wells completed in May. Post Covid, only 1 mth hit 100, 1 was >90, most months were more in the 40 to 70 range. #OOTT". North Dakota April production was up 0.96% MoM to 1.133 mmb/d and is up +25.9% YoY from ~0.900 mmb/d in April 2022. Estimated well completions were 62 in March and 51 in April, which was likely due to the weather conditions North Dakota warned last month. Our Supplemental Documents package includes excerpts from the Director's Cut.

Figure 22: North Dakota Oil Production by Month

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

Source: NDIC, NDPA

Huge completions level in May should lead to a burst in May/June production

There was one stand out number in the monthly North Dakota Director's Cut – the huge level of estimated completions in May. On Wednesday, we tweeted [LINK](#) "North Dakota #Oil production should show good growth in May & June. Note the huge estimate of 138 wells completed in May. Post Covid, only 1 mth hit 100, 1 was >90, most months were more in the 40 to 70 range. #OOTT." It's only an estimate, but it must be based on what North Dakota has seen from operators in May and should be directionally right. It is a huge number of completions and should point to good growth in North Dakota oil production in May and June. If for any reason, North Dakota doesn't grow, it will raise big questions. We looked thru the Director's Cuts since Covid and only saw one month that just got over 100 and one other month over 90. There were some very low post-Covid months below 40 but, as a general trend, the completions seemed to range from 40 to 70 per month.

Oil – North Dakota crude by rail up MoM to 92,996 b/d in April

The North Dakota Pipeline Authority posted its monthly update "June 2023 Production & Transportation" [LINK](#). Please note that we always go to the backup excel sheets from the North Dakota Pipeline Authority for more detailed numbers of crude by rail out of North Dakota. The NDPA Monthly Update (graph below) report only provides rounded numbers, and these rounded numbers are not accurate enough to match the graphs. In the backup excel, the NDPA estimates crude by rail in April from a low of 77,996 b/d and a high of 107,996 b/d for an average of 92,996 b/d. This is above the March average of 80,872 b/d. Below is a chart from the NDPA monthly update showing the crude by rail volumes since 2013. Our Supplemental Documents package includes excerpts from the NDPA monthly update.

North Dakota
CBR up MoM in
April

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Figure 23: Estimated North Dakota Rail Export Volumes



Source: NDPA

Oil – North Dakota sees oil production finishing 2023 up to 1.2 mmb/d

North Dakota holds a monthly webcast the afternoon that it releases its monthly oil and gas data and, almost always, there are added insights. [\[LINK\]](#) On Tuesday, we tweeted [\[LINK\]](#) *“Bit of a surprise? North Dakota sees growing #Oil production in H2/23. See 🙌 SAF Group transcript. “But we ought to be able to finish the year in that 1.2 million barrel a day range with \$70 to \$75 oil prices“ says NDIC Director Helms. #OOTT.”* It’s not necessarily huge growth, but it was a surprise to see North Dakota come out and be confident to see increasing oil production thru to year-end. Our tweet included the transcript we made of comments by North Dakota Director, Lynn Helms, on the monthly podcast to discuss the North Dakota oil and gas data for the month of April. Items in *“italics”* are SAF Group created transcript. At 11:40 min mark, Director Lynn Helms said *“... and definitely a 1%, maybe a 2% growth in oil production by the end of the year. So we should finish this calendar year in really strong shape in terms of North Dakota’s oil industry. And if this program, this workforce program works as well as we hope, we’re going to see that rig count bounce back and that adds a lot of dollars to North Dakota’s economy. The great thing about these folks [Ukrainian workers to the oil patch] is they’re not going to be long distance commuters. Nobody is going to be commuting to North Dakota back and forth from the Ukraine. They’re going to come here and they’re going to work. And so that’s going to be very beneficial to the local economies in terms of housing these folks, and feeding them, and putting them into the workforce and collecting their income taxes and all of that. So it should be a good second half of the year. It’s not going to be outstanding. We’re not talking about you know the boom days when we were climbing to a million and a half barrels a day. But we ought to be able to finish the year in that 1.2 million barrel a day range with \$70 to \$75 oil prices.”*

North Dakota forecasts growing oil production

Oil –US shale/tight oil to hit new high in July, but only +1% in last six months

The headlines on US shale/tight oil were how it is expected to hit new production highs in July. That is accurate. But it is also accurate to say that US shale/tight oil in July at 9.376 mmb/d is only +1% in the last six months vs 9.299 mmb/d in January. On Monday, the EIA released its Drilling Productivity Report June 2023 [\[LINK\]](#), which is its forecast for US shale/tight oil that shows a MoM increase in June, followed by another increase (albeit to a

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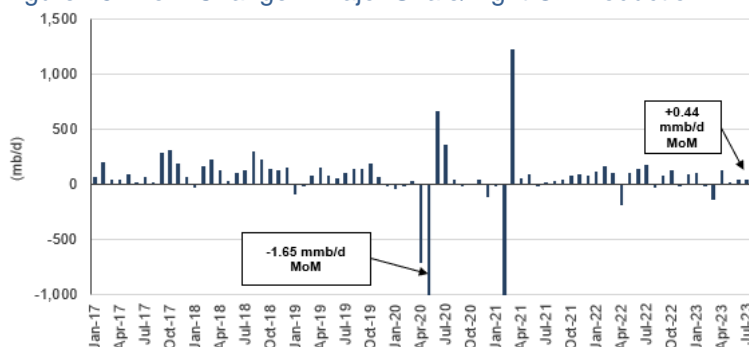
lesser extent) in July after being fairly stuck throughout Sept-Dec. The DPR is the EIA's forecast for production for the major shale/tight oil and gas basins for the current month (in this case June) and the next month (in this case July). (i) Shale/tight oil was ramped up to 9.299 mmb/d in Jan, but is only +1% since then. The EIA is forecasting a MoM production increase in June and July, but the MoM increases are immaterial ie. July is only +9,000 b/d MoM. The EIA now forecasts total US shale/tight oil in June at 9.367 mmb/d and July at 9.376 mmb/d. (iii) The growth in July is being driven by the Bakken and Niobrara, which are forecasted to have the largest MoM increases of +7,000 b/d and +4,000 b/d, respectively. Eagle Ford is the only basin forecasted to decrease, down -5,000 b/d MoM in July. (v) Note that shale/tight oil is approx. ~75% of total US production, so whatever the trends are for shale/tight oil are normally the trends for US oil in total. Below is our table of running DPR estimates of shale/tight oil production and our graph of MoM changes in major shale/tight oil production.

Figure 24: MoM Change – Major Shale/Tight Oil Production

Thousand b/d	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	July YoY	July YoY%
Anadarko	380	387	373	388	407	398	416	405	413	424	434	439	440	60	16%
Appalachia	112	118	120	126	133	127	144	152	148	149	150	150	150	38	34%
Bakken	1,106	1,103	1,149	1,142	1,125	980	1,084	1,197	1,165	1,180	1,194	1,207	1,214	108	10%
Eagle Ford	1,103	1,106	1,118	1,118	1,108	1,070	1,107	1,097	1,095	1,107	1,117	1,122	1,117	14	1%
Haynesville	35	36	37	36	35	33	35	35	35	36	36	36	36	2	5%
Niobrara	629	639	641	650	660	604	634	620	637	640	645	651	655	26	4%
Permian	5,316	5,391	5,516	5,561	5,577	5,645	5,752	5,679	5,723	5,742	5,751	5,762	5,763	447	8%
Total	8,681	8,779	8,954	9,021	9,045	8,856	9,299	9,184	9,216	9,276	9,327	9,367	9,376	695	8%

Source: EIA, SAF

Figure 25: MoM Change – Major Shale/Tight Oil Production



Source: EIA, SAF

Oil – EIA DUC's down marginally MoM in May

We have been warning that we see a key risk to how much US oil production can sustainably grow in 2023 and beyond is the need to increase rig counts (not have less frac spreads) to replenish the inventory of Drilled Uncompleted wells at higher levels and the challenge for oilfield services to add capacity to increase frac spreads and completions. As noted earlier in the memo, we have highlighted how DUCs in the Permian are really about the same level as May/June 2014 when Permian production was about 1/3 of current levels. The biggest problem in the past with the EIA's Drilling Productivity Report [\[LINK\]](#) estimate of Drilled Uncompleted wells was that the data had been constantly revised and sometimes significantly. (i) However, the DUC estimates provide a clear picture of the trend that DUCs

DUCs down marginally in May

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haven't really increased since Feb 2022. It's why there is the need for drilling rigs to pick up to replenish the DUC inventory if the US is to have sustained strong oil growth in 2024 and beyond. (ii) Drilled UnCompleted Wells were down -30 MoM (-444 YoY) in May to 4,834 DUCs. Note that April's data (including the Permian) had a net upward revision of +1 to 4,864. (iii) But at 4,634 DUCs, it means that a total 4,240 DUCs were worked down since the Jun/20 peak of 8,874. The largest work downs are coming from the Permian (-385 YoY) and Eagle Ford (-121 YoY). With DUCs being worked down so significantly we will need to see rig counts go up to replenish DUCs in the near future. (iv) Note that shale/tight oil is approx. ~70% of total US production, so whatever the trends are for shale/tight oil are normally the trends for US oil in total. Below is our table of running DPR estimates of shale/tight oil production and our graph of MoM changes in major shale/tight oil production. Our Supplemental Documents package includes the EIA DPR.

Figure 26: EIA – Estimated Drilled UnCompleted Wells in 2023

Drilled UnCompleted	2023												May	May YoY	YoY %
	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April			
Anadarko	789	783	781	772	751	737	749	747	737	741	743	744	744	20	-6%
Appalachia	763	792	806	807	785	778	763	768	746	735	724	715	710	218	-7%
Bakken	622	617	608	597	590	575	583	598	587	574	561	549	539	120	-13%
Eagle Ford	661	659	657	619	601	584	556	547	521	508	499	491	483	-121	-27%
Haynesville	596	621	641	667	675	685	694	705	714	724	735	745	761	326	28%
Niobrara	522	544	573	610	630	629	659	685	703	706	710	711	717	391	37%
Permian	1,325	1,295	1,240	1,199	1,164	1,104	1,078	1,054	1,016	980	940	909	880	-385	-34%
Total	5,278	5,311	5,306	5,271	5,196	5,092	5,082	5,104	5,024	4,968	4,912	4,864	4,834	-444	-8%

Source: EIA, SAF

Oil – Hard to see the math for sustained Permian growth based on the DUCs

We have been focused on the level of Drilled UnCompleted Wells (DUCs) in the Permian from the EIA's monthly Drilling Productivity Report because the level of sustained Permian oil growth in the 2020s is perhaps the biggest wildcard and variable to oil prices in the 2020s. It's not that we don't care what US shale/tight oil production is forecast in June or July, absent a big fall off the cliff, it isn't the key data point from the EIA's DPR. Our position is unchanged – we have trouble seeing how the math works for sustained Permian oil growth in the 2020s based on the level of DUCs and oil rigs. Note that the EIA made significant upward revisions to the recent month's Permian DUCs that basically reversed the surprise significant downward revisions in the May DPR. However, that still doesn't make any real difference to the overall math problem. Permian DUCs are at the roughly the same levels as Aug/Sept 2014. Yet Permian rigs are 61% of Aug/Sept 2014, and production is 3.44 times higher than Aug/Sept 2014. There is no question fracking/completions are multiples better than 2014. But if we use the EIA June DPR new production added per rig as a guide (see below EIA excerpt), it's about three times higher than 2014 so a big jump as would be expected. But note that that has dropped by about a third in the past two years. That makes sense if you recall some recent producer comments that, in the move to survive in 2020 and 2021, they drilled their best wells. On the flip side, when you look ahead, more companies have drilled up most off, or a good chunk, of their Tier 1 lands and we have been seeing this specifically said by more producers. The math is straightforward. Oil and gas production levels are the result of decline rates and how much can they be offset or more than offset by new well completions. And the ability to complete a well for shale/tight plays needs wells that are being drilled or have been drilled for an inventory of DUCs to be completed to add to production. Shale/tight oil plays like the Permian are all fracked. So a drilling rig drills the well, it then

Permian DUCs

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leaves the well as uncompleted and waiting for the frack spread to come and frack/complete the well. If drilling isn't high enough to keep adding to the DUCs and the existing DUCs inventory is low, there is less growth potential. It's math! This is why we still think it's tough to see how there is sustained production growth from the Permian for the coming years. It doesn't mean to say it declines and falls off a cliff, but it's hard to see sustained growth. Below is the table from our tweet showing Permian DUCs vs rigs and production comparing May with Aug/Sept 2014 when DUCs were the same level, and the excerpt from the DPR showing the new well production per Permian rigs that was in the May DPR.

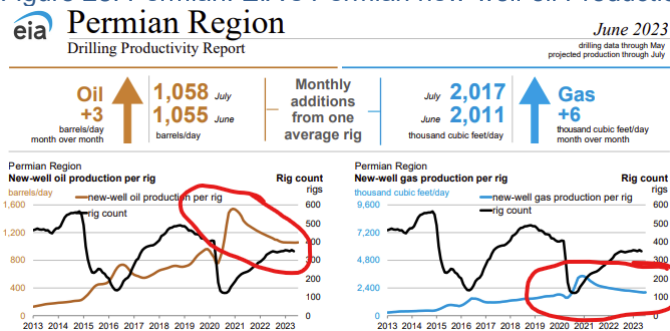
Figure 27: Permian DUCs vs Rigs and Production

	DUCs	Oil Rigs	Gas Rigs	Oil mmb/d	Gas bcf/d
May 2023	880	341	5	5.75	22.7
Aug 2014	902	560	5	1.67	6.0
May 2023 as % Aug 2014	98%	61%	100%	344%	379%
Sept 2014	981	560	5	1.67	5.8
May 2023 as % of Sept 2014	90%	61%	100%	344%	392%

* Rigs are approx for month

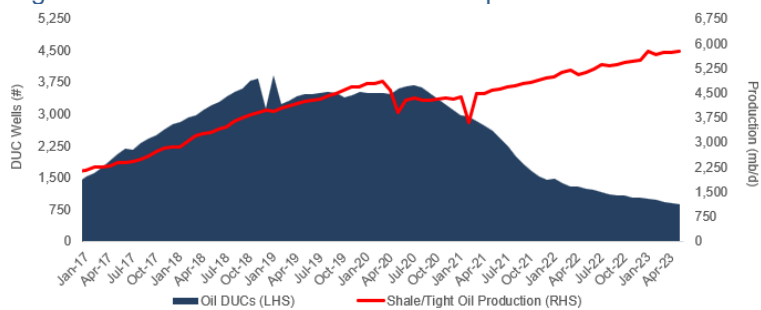
Source: EIA, SAF

Figure 28: Permian: EIA's Permian new-well-oil Production Per Rig



Source: EIA

Figure 29: EIA Estimated Drilled UnCompleted Wells vs Permian Oil Production



Source: EIA, SAF

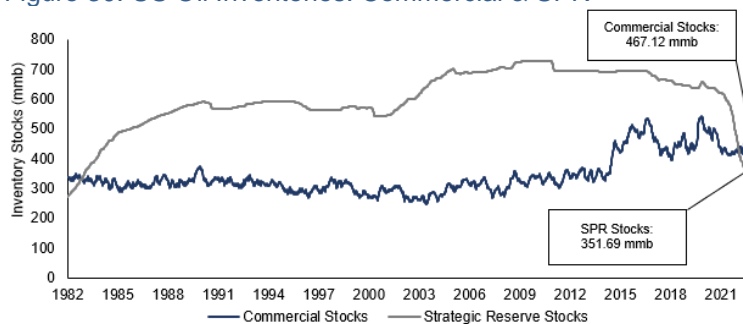
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US SPR reserves

Oil - US SPR reserves now -115.437 mmb lower than commercial crude oil reserves

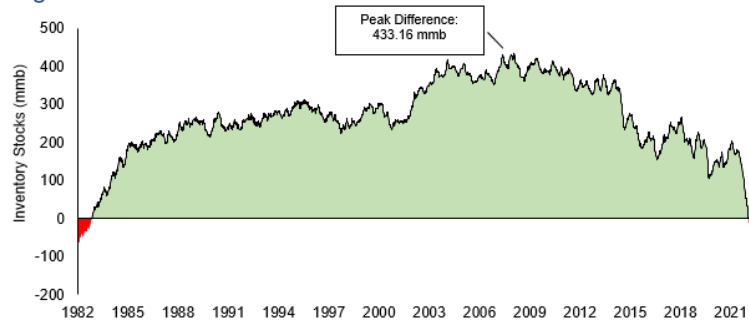
Oil in US Strategic Petroleum Reserves (SPR) continues to move further below total US commercial crude oil reserves. SPR went back below commercial for the first time since 1983 in the Sept 16, 2022 week. This deficit continued to widen this week after a build in commercial oil stocks of 7.92 mmb. The EIA's weekly oil data for June 9 [\[LINK\]](#) saw the SPR reserves decrease -1.882 mmb to 351.687 mmb, while commercial crude oil reserves increased +7.919 mmb 467.124 mmb. There is now a -115.437 mmb difference between SPR reserves and commercial crude oil reserves. The below graphs highlight the difference between commercial and SPR stockpiles.

Figure 30: US Oil Inventories: Commercial & SPR



Source: EIA, SAF

Figure 31: US Oil Inventories: SPR Less Commercial



Source: EIA, SAF

Oil – SPR now down 19.9 mmb of planned 26 mmb SPR draw ie. 6.1 mmb to go

We have been reminding that the US SPR was going 26 mmb lower. In Feb, the US Dept of Energy reminded of the congressionally mandated sale of 26 million barrels of crude from the SPR to be enacted this fiscal year. At that time the SPR included 371.579 million barrels. That stayed flat until the sales started at the end of March. Since then the SPR is down 19.892 mmb to 351.687 mmb as of June 9, 2023. This draw of 19.892 million barrels leaves 6.1 million barrels to go for the full 26 million barrels sales.

6.1 mmb SPR sales to go

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Enbridge Line 5 oil pipeline

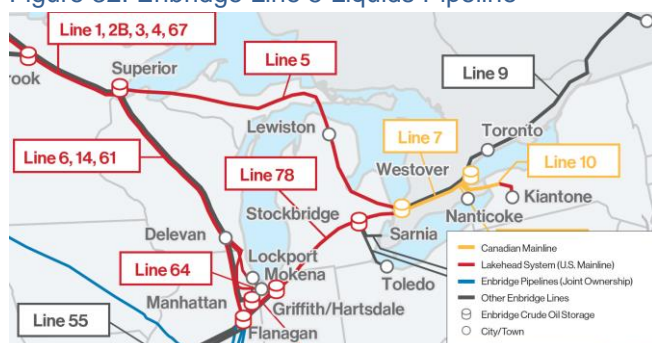
Oil – Judge orders Enbridge to shut down portions of Line 5 within three years

It sounds like the story isn't done on this Friday night news because a judge is ordering the shutdown of a portion of Enbridge Line 5 in Wisconsin, but reportedly also recognizes that a sudden shutdown could lead to oil shortages. Regardless, it will be a story that will get attention especially given its importance to getting Cdn oil to US markets. As of our 7am MT news cut off, we checked Enbridge website, Facebook and Twitter and have not seen any formal response to the late Friday night news on its Line 5 pipeline. Yesterday morning, Reuters reported [LINK](#) "A U.S. judge has ordered Canadian energy company Enbridge (ENB.TO) to shutter portions of an oil pipeline that runs through tribal land in Wisconsin within three years and to pay the tribe nearly \$5.2 million for trespassing plus a portion of its profits until the shutdown is completed." And "An Enbridge spokesperson said on Saturday the company plans to appeal the judge's order. In the ruling, Conley said a sudden shutdown could lead to oil shortages and price hikes in the United States, adding that "given the environmental risks, the court will order Enbridge to adopt a more conservative shutdown and purge plan." Enbridge said in court filings ahead of the judge's action that a hasty shutdown of the pipeline was unnecessary and would cause "extreme market turmoil." The company has proposed re-routing the pipeline around the tribal reservation, but has not received federal approvals to do so. Representatives for the tribe did not immediately respond to a request for comment." Our Supplemental Documents package includes the Reuters report.

Reminder, Enbridge Line 5 supplies 55% of Michigan propane needs

This item has showed up several times in our Energy Tidbits memos and it's a reminder that Enbridge Line 5 is critical to Michigan propane needs. Fortunately, It's was warm in December. We first noted this in a June 19, 2020 tweet [LINK](#) started "A weekend must read, Enbridge "impact of a Line 5 shutdown" is excellent recap of who, where, what gets hit by Line 5 shut down." It includes tidbits such as "Line 5 supplies 65% of propane demand in Michigan's Upper Peninsula, and 55% of Michigan's statewide propane needs." There would also be a big impact on refineries to the east "Refineries served by Enbridge in Michigan, Ohio, Pennsylvania, Ontario and Quebec would receive approximately 45% less crude from Enbridge than their current demand." There was a good map that shows how Line 5 fits into other Enbridge pipelines delivering oil to places like Imperial's Sarnia and Nanticoke refineries in Ontario. [LINK](#)

Figure 32: Enbridge Line 5 Liquids Pipeline



Source: Enbridge

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Oil – Cdn oil differentials widened small, +\$0.15 to close at \$11.45 on June 16

WCS less WTI differentials widened by \$0.15 to close at \$11.45/b on June 16. It's hard to determine exactly what led to the narrowing but differentials were helped (anything that helps narrow) by last week's Enbridge lowering its tolls effective July 1, likely some impact of the OPEC+ cuts that started on May, and some ongoing concerns on wildfires. WCS less WTI differentials have narrowed since Alberta wildfires started to hit hard in early May. 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 widened to \$15.40 on Apr 13, and then narrowed to \$14.65 on Apr 28, then to \$14.15/b on May 5, then to \$12.85/b on May 12, then to \$12.80/b on May 19, widened to \$13.75 on May 26, narrowed to \$12.90 as of June 2, then \$11.30 on June 9 and now basically unchanged this week at \$11.45 on June 16. This is contrary to 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 \$19.00 on June 16, 2022. Below is Bloomberg's current WCS–WTI differential as of June 16, 2023 close

WCS less WTI differentials

Figure 33: WCS less WTI oil differentials including June 16 close



Source: Bloomberg

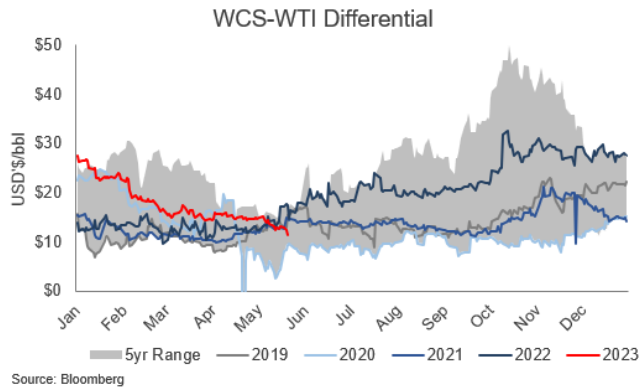
Oil – WCS less WTI differentials normally widen after early May

As noted above, we are seeing the impact of extraordinary unplanned events that are impacting WCS less WTI differentials – the wildfires are number one and there is also the OPEC+ cuts. And last week's boost from Enbridge lowering its tolls. But the wildfires and OPEC+ cuts have disrupted the normal seasonal pattern for WCS less WTI differentials. Our prior comments on the normal WCS-WTI differentials patten said there are always unplanned events that impact WCs-WTI differentials. However, special items aside, early May is normally when Cdn heavy oil differentials are at their narrowest. In 2022, the narrowest for WCS-WTI differential was May 2, 2022 at \$12.50/b and increased to \$18.25/b by May 31 and \$19.00 on June 16, 2022. Cdn heavy oil differentials normally narrow in the Feb/Mar/Apr period as this is when refineries tend to maximize production of asphalt ahead of the annual summer paving season. As is said in Canada, there are two seasons in Canada – winter and paving season. Below is graph showing WCS-WTI differentials that shows this normal seasonal trend of narrowing WCS-WTI differentials from Feb thru April with the narrowest normally being in early May ie. two weeks ago.

WCS differentials normally widen after early May

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Figure 34: WCS less WTI oil differentials



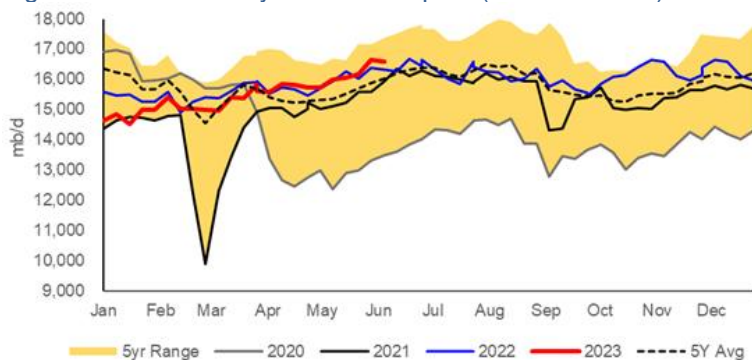
Source: Bloomberg

Oil - Refinery inputs down -0.061 mmb/d WoW to 16.586 mmb/d

There are always unplanned issues that impact crude oil inputs into refineries, but refineries around the world follow seasonal patterns for their maintenance. This ensures they are producing the key petroleum products at the right time of year. 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 Sep. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended June 9 [\[LINK\]](#). The EIA reported crude oil inputs to refineries were down -0.061 mmb/d for the week ended June 9 to 16.586 mmb/d and are up +0.266 mmb/d YoY. Refinery utilization was down -2.1% to 93.7%, which is flat YoY. Total products supplied (i.e., demand) increased WoW, up +1.187 mmb/d to 20.408 mmb/d, and Motor gasoline was down -0.025 mmb/d to 9.193 mmb/d from 9.218 mmb/d last week. The 4-week average for Motor Gasoline was up +0.071 mmb/d WoW to 9.236 mmb/d. The 4-week average of Total demand was up +0.213 mmb/d WoW to 19.943 mmb/d.

Refinery inputs down -0.061 mmb/d WoW

Figure 35: US Refinery Crude Oil Inputs (thousands b/d)



Source: EIA, SAF

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Oil – Crack spreads up \$8 this week so no reason for refiners to stop buying crude

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, the US 321 crack spreads widened by \$8 to \$39.15. It's not like the crazy high spreads of a year ago, when 321 crack spreads high \$58.50 on June 17, 2022. But double the more normal range pre-Covid that was more like \$15-\$20. A \$39.15 crack spread is a good incentive for US refiners to run hard and process as much crude as possible.

Crack spreads up \$8 this week

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 \$39.15 as of the Friday June 16, 2023 close.

Figure 36: Nymex WTI Cushing Crude Oil 321 Crack Spread to June 16 close



Source: Bloomberg

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

We continue to iterate the same commentary as the last several weeks that something doesn't look quite right in the EIA weekly oil imports by country data. It looks like something is off in the EIA's estimates of weekly oil imports by country data, but, the reason we highlight this is that we just don't know if the total US crude oil imports are wrong or if's just that the EIA has incorrectly allocated import volumes to the wrong country. (i) For some reason, the EIA weekly data does not include any oil imports from Venezuela in their weekly reporting of US oil imports by country. Yet we have seen Chevron importing oil from Venezuela into its and other PADD 3 Gulf Coast refineries. What we don't know if the EIA has just allocated to some other country. We have been highlighting how Chevron has steadily increasing US Gulf Coast (PADD 3) imports from Venezuela every month in 2023. And the EIA reports oil

US net oil imports

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imports from Venezuela in its monthly data but for reason not in these weekly estimates. (ii) US “NET” imports were down -0.814 mmb/d to 3.111 mmb/d for the June 9 week. US imports were down -0.019 mmb/d to 6.381 mmb/d. US exports were up +0.795 mmb/d to 3.270 mmb/d. The WoW decrease in US oil imports was driven mostly by “Other”. The top 10 was up +0.347 mmb/d. Some items to note on the country data: (i) Canada was down -0.165 mmb/d to 3.339 mmb/d. (ii) Saudi Arabia was up +0.611 mmb/d to 0.677 mmb/d. (iii) Mexico was up +0.198 mmb/d to 0.845 mmb/d. (iv) Colombia was up +0.057 mmb/d to 0.184 mmb/d. (v) Iraq was down -0.178 mmb/d to 0.252 mmb/d. (vi) Ecuador was down -0.164 mmb/d to 0.054 mmb/d. (vii) Nigeria was down -0.012 mmb/d to 0.132 mmb/d.

Figure 37: US Weekly Preliminary Imports by Major Country

US Weekly Preliminary Crude Imports By Top 10 Countries (thousand b/d)												
(thousand b/d)	Mar 31/23	Apr 7/23	Apr 14/23	Apr 21/23	Apr 28/23	May 5/23	May 12/23	May 19/23	May 26/23	Jun 2/23	Jun 9/23	WoW
Canada	3,980	3,590	3,519	3,327	3,526	3,269	3,592	3,707	3,589	3,504	3,339	-165
Saudi Arabia	514	376	339	393	242	381	415	212	534	66	677	611
Venezuela	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	920	450	615	728	706	393	676	657	913	647	845	198
Colombia	71	159	303	143	143	47	339	214	286	127	184	57
Iraq	345	241	180	222	148	247	174	136	114	430	252	-178
Ecuador	80	242	131	36	57	145	101	71	214	218	54	-164
Nigeria	302	236	112	104	214	143	329	77	98	144	132	-12
Kuwait	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
Top 10	6,212	5,294	5,199	4,953	5,036	4,625	5,626	5,074	5,748	5,136	5,483	347
Others	932	899	1,095	1,423	1,360	928	1,234	776	1,469	1,264	898	-366
Total US	7,144	6,193	6,294	6,376	6,396	5,553	6,860	5,850	7,217	6,400	6,381	-19

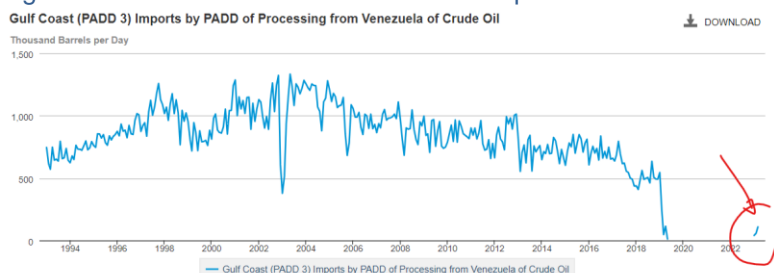
Source: EIA, SAF

EIA shows imports from Venezuela in its monthly import data.

Here is what we wrote in our May 7, 2023 Energy Tidbits memo. “Last week’s (Apr 30, 2023) Energy Tidbits memo highlighted our Apr 29 tweet [\[LINK\]](#) that Chevron’s start of Venezuela oil imports into the Gulf Coast is likely impacting Cdn WCS less WTI differentials and how Venezuela oil into the Gulf Coast will be increasing in March and April. On Monday, Bloomberg’s Tanker Tracker for Venezuela confirmed the increases in March and April. We tweeted [\[LINK\]](#) ‘Blame it on #Chevron. Seasonal narrowing for WCS-WTI differentials, but not as much as might be expected. Increasing PADD 3 Gulf Coast imports of VEN #Oil. Feb: 89 kbd. Mar: 115 kbd. Apr: 143 kbd. Thx @business Tanker Tracker, @lkassai. #OOTT”. (ii) Here is what we wrote in our Apr 30, 2023 Energy Tidbits memo on the EIA monthly data. “Our tweet included the below EIA graphs of crude oil imports into the Gulf Coast PADD 3. They remind how Cdn heavy/medium crude was able to penetrate PADD 3 (Gulf Coast) because there was a need with declining Mexico and Venezuela crude oil. Conversely, if Venezuela increases, it will mean more Venezuela crude to the Gulf Coast and less need/increased pressure on Cdn differentials. It’s hard to see form the graph but we pointed to the first Venezuela oil imports into the Gulf Coast in about 3 ½ years were 40,000 b/d in Jan and 58,000 b/d in Feb, and this will be higher in March.”

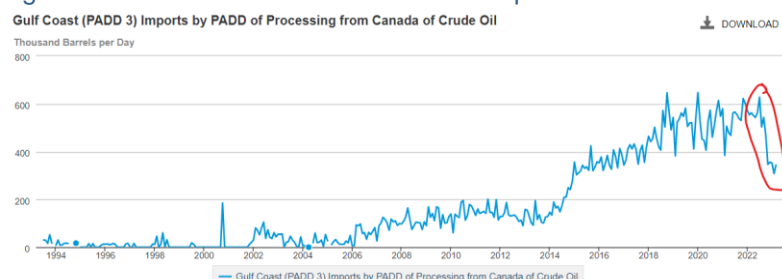
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Figure 38: Gulf Coast PADD 3 Crude Oil Imports From Venezuela



eia Data source: U.S. Energy Information Administration
Source: EIA

Figure 39: Gulf Coast PADD 3 Crude Oil Imports From Canada



eia Data source: U.S. Energy Information Administration
Source: EIA

Oil – Russia expects oil + condensate production to be down ~400,000 b/d YoY in 2023

Everyone, including their OPEC Middle East partners, are waiting for data to support Russia’s statements that it cut 500,000 b/d. So, it also means that no one will go to the bank when Russia forecasts that its oil + condensate production will be down ~400,000 b/d YoY in 2023. On Thursday, we tweeted [\[LINK\]](#) “#OPEC+ voluntary cuts. Russia expects #Oil production will be down ~400,000 b/d YoY in 2023 says Russian Energy Minister Nikolai Shulginov. #OOTT.” Our tweet included the TASS reporting of Russia Energy Minister Shulginov comments in his Izvestia interview on Thursday. TASS wrote [\[LINK\]](#) “Oil production. At the same time, according to the head of the Ministry of Energy, oil production in Russia will decrease in 2023 by 20 million tons from the level of 2022. “The decline in oil production with condensate will probably be about 20 million tons from last year,” he said.” Our Supplemental Documents package includes the TASS report.

Russia expects production to be -400,000 b/d

Oil – Kpler tracking shows Russian oil & products exports in May at/near pre war level

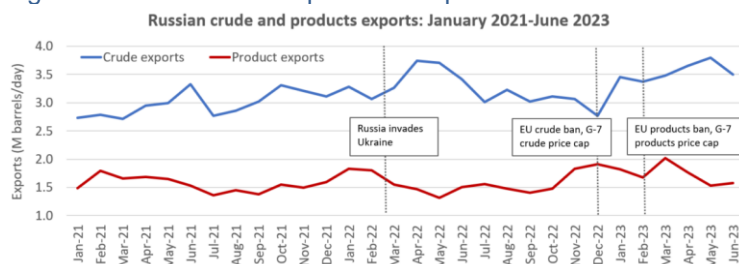
On Monday night, we tweeted [\[LINK\]](#) “Big negative to prices in 2022/23: Biden has been able to keep Russia #Oil #PetroleumProducts supply on the market but hurt their netbacks. Thx @GMJournalist for graphing @Kpler showing RUS oil & products exports in line with pre-Invasion. #OOTT [\[LINK\]](#).” This has been the major negative to oil prices – Russian oil and petroleum products exports have continued to flow at or near pre-invasion levels. So in theory, Biden’s sanctions have worked in that global oil prices are lower and Russian revenues have been hit. And Freightwaves also noted the big price discount “As of Friday,

Russia oil & products exports

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Russian Urals crude was selling at \$23 to \$24 less per barrel than Brent crude, according to Argus data.” Our tweet included the below Freightwaves graph of Kpler oil and products exports. Freightwaves wrote “Russian crude exports rose to 3.8 million barrels per (b/d) day in May, the highest level since before the pandemic. June crude exports averaged 3.5 million b/d through Monday, down from May but still 15% higher than the average in the 12 months prior to the invasion of Ukraine. The vast majority of Russian crude is flowing to China and India, with smaller volumes to Turkey and Bulgaria, said l’Anson. Russian petroleum products exports are averaging 1.6 million b/d so far this month, according to Kpler data. That’s down from the record high of 2 million b/d in March, but still in line with pre-invasion volumes despite a boycott by the EU, formerly Russia’s largest buyer.” Our Supplemental Documents package includes the Freightwaves report.

Figure 40: Russia oil and products exports



Source: Freightwaves, Kpler

Oil – Russian refineries seasonal maintenance is ending in June ie. less oil for export

One of the overlooked themes over the past few months was how Russian refineries are no different than other countries and normal seasonal maintenance where refineries use less crude oil, which frees up oil supply for exports. On Friday, we tweeted [\[LINK\]](#) “RUS refineries out of maintenance = less #Oil for exports. “Russia’s refinery runs are increasing as the nation’s biggest facilities complete seasonal maintenance, Energy Minister Nikolai Shulginov said in an interview with state-run Rossiya 24” reports @ja_herron. See 📌 05/27 tweet, normal seasonal RUS maintenance reduces refineries intake by ~500,000 b/d Feb thru May. #OOTT.” Bloomberg reported on comments by Russia Energy Minister Sulginov “Russia’s refinery runs are increasing as the nation’s biggest facilities complete seasonal maintenance, Energy Minister Nikolai Shulginov said in an interview with state-run Rossiya 24.” We could not find the report on Rossiya 24 website. But we did find a lengthy Izvestia interview with Shulginov also on Thursday. Shulginov did not provide any details on how many more barrels of oil will be refined but he did reiterate that refineries have increased their processing volumes. Izvestia wrote “At the end of June, repairs at the main refineries are already being completed.”

Russia oil refineries

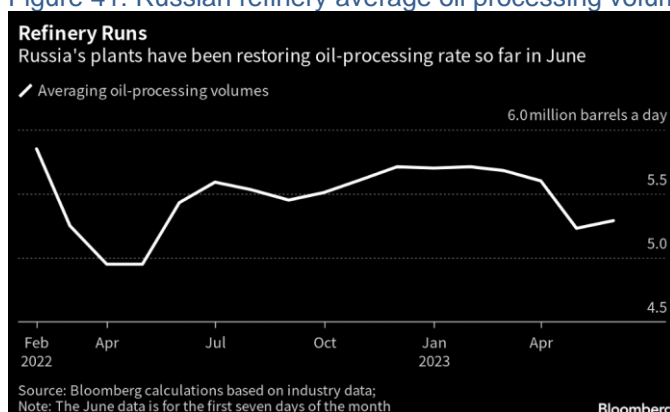
Russian refineries are increasing oil processed in June ie. less oil for export

Here is what we wrote in last week’s (June 11, 2023) Energy Tidbits memo. “It’s only the first week of June, but we are seeing data to support the expectation for Russian oil refineries to come out of seasonal maintenance and increase crude oil processing, which means that there should be less oil for export. On Friday, we tweeted [\[LINK\]](#) “Less Russian #Oil available for export. @ja_herron reports peak of RUS refinery

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maintenance has passed. Refined +94,000 b/d this wk to 5.29 mmb/d. See 📌 05/27 tweet: fits normal seasonal timing for increasing RUS refinery runs, which means less oil for export. #OOTT.” The data came from a Bloomberg Friday report that wrote “Russia’s oil refineries have been accelerating their crude-processing rates, offering further evidence that the peak of spring maintenance has now passed. Primary processing rates averaged 5.29 million barrels a day in the first week of June, according to a person familiar with the matter. That’s more than 94,000 barrels a day higher than in prior seven days, when nation’s refineries started to ramp up. Russia’s crude supplies to domestic refineries, along with seaborne exports, remain the key gauges for oil market observers seeking clues to the nation’s production after the government classified output data following Western sanctions.” Below is the Bloomberg graph. Our Supplemental Documents package includes the Bloomberg report.”

Figure 41: Russian refinery average oil processing volumes



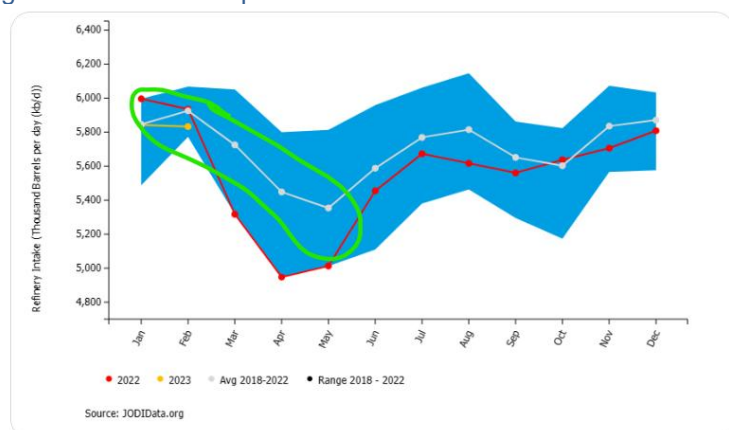
Source: Bloomberg

Russian refineries normally increase oil volumes in June ie. less oil for export

Here is what we wrote in our May 28, 2023 Energy Tidbits memo. “One of the big negatives for oil markets has been the view that more Russian oil crude has been hitting export markets and the generally accepted cause is that Russia hasn’t delivered on stated plan to cut 500,000 b/d beginning in March. However, there is another reason why more Russia oil would have hit export markets in March/April/May – it’s the season when Russian refineries process less crude due to refinery maintenance. So less crude processed by refineries frees up more oil for export. Yesterday, we tweeted [\[LINK\]](#) “Should see RUS #oil production cuts hit Jun/Jul/Aug physical markets & why cuts hasn’t hit exports yet. Normal seasonal pattern of RUS refinery turnarounds reduce oil intake by ~500,000 b/d from Feb thru May. Thx @JODI_Data. #OOTT.” Nothing is normal in Russia post its invasion of Ukraine, but the normal seasonal pattern of Russian refineries is that they reduce crude oil inputs in March, April and May, and this is down over 500,000 b/d in this period in the normal seasonal trend. Below is the JODI graph attached to our tweet.”

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Figure 42: Crude oil input into Russian refineries



Source: JODI

Oil – OPEC MOMR: neutral to slightly positive with widening oil/products stocks deficit

On Tuesday, OPEC released its Monthly Oil Market Report at ~5:20 am MT. (i) We thought the overall takeaway from the data and forecasts was neutral to slightly positive. There are basically no changes in forecasts for oil demand, non-OPEC supply and call on OPEC. But there is a widening of the oil + products stocks deficit vs the 2015-2019 average. (ii) Reminder that the OPEC+ voluntary cuts of 1.16 mmb/d were supposed to start on Monday May 1. This excludes the 0.5 mmb/d that Russia said they were making good progress within April. These additional OPEC cuts are what makes H2/23 much stronger given OPEC hasn't really changed its balance of 2023 oil supply and demand forecasts. (iii) 2023 average demand was basically unchanged at 101.91 mmb/d (was 101.90). (iv) Notably, the 2023 outlook does not seem to show the normal quarterly trends in oil demand. Normally, Q1 is down vs the prior year Q4, and Q2 tends to see a marginal ramp up followed by a significant seasonal increase in Q3. In contrast, OPEC's current 2023 outlook shows a QoQ increase of +0.55 mmb/d between Q4/22 and Q1/23, and a QoQ decrease of -0.75 mmb/d for Q2/23. OPEC's 2023 demand changes by quarter: Q1/23 decreased -0.03 mmb/d to 101.55 mmb/d, Q2/23 increased +1.10 mmb/d to 101.80, Q3/23 is unchanged at 102.03 mmb/d, an increase of +1.23 mmb/d QoQ. Q4/23 demand is unchanged at 103.25 mmb/d. This means 2023 YoY growth immaterially increases to +2.35 mmb/d (was +2.33 mmb/d). (v) China demand forecast for 2023 was increased to 15.70 mmb/d, compared to 15.66 mmb/d in the May MOMR. The increase was due to a stronger Q2/23 China demand up to 15.56 mmb/d (was 15.40), while all other quarters remained unchanged with Q1/23 at 15.63 mmb/d, Q3/23 at 15.43 mmb/d, and Q4/23 at 16.16 mmb/d. (vi) non-OPEC supply. For 2023, YoY growth was unchanged and remains at +1.43 mmb/d with average production lowering to 67.17 mmb/d (was 67.19 mmb/d). Note that 2023 growth is inclusive of NGLs. Key YoY non-OPEC growth areas are US +1.06 mmb/d YoY (was +1.04 mmb/d), Brazil +0.24 mmb/d YoY (unchanged), Norway +0.18 mmb/d YoY (unchanged), Canada +0.15 mmb/d YoY (was +0.16 mmb/d), and Kazakhstan +0.12 mmb/d YoY (was +0.11 mmb/d). In contrast, Russia was unchanged at -0.75 mmb/d YoY. For the US, OPEC estimates +1.06 mmb/d YoY to 20.26 mmb/d in 2023 (was 20.24 mmb/d) and US tight/shale oil supply was increased slightly to YoY growth of +0.71 mmb/d to 8.60 mmb/d (was +0.69 mmb/d to 8.57 mmb/d). (vii) OPEC Secondary

**OPEC Monthly
Oil Market
Report**

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Sources for May was down -464,000 b/d MoM to 28.065 mmb/d. The OPEC10 share of the MoM was unchanged at -1.273 mmb/d and the non-OPEC share was unchanged at -0.727 mmb/d. (vii) Direct Communications (what the OPEC countries report). There were a few items to note vs what countries directly reported vs Secondary Sources estimates: For the first time in almost a couple years, Libya provided Direct Communications data for April and May. Libya says May was -52,000 b/d to 1.158 mmb/d from 1.210 mmb/d in April. We normally reference the Libya NOC tweets/Facebook posts that have consistently said production has been marginally over 1.2 mmb/d. Venezuela says it produced 819,000 b/d in May. Iraq says it produced 3.955 mmb/d vs Secondary Sources of 4.137 mmb/d. Finally, Nigeria says it produced 1.184 mmb/d compared to the 1.269 mmb/d reported by Secondary Sources. Our Supplemental Documents package includes excerpts from the June OPEC MOMR.

Oil – IEA OMR: bullish oil demand and provides first forecasts for 2024

On Wednesday, the IEA released its monthly Oil Market Report for June at 2am MT. They only release very limited public info, but Bloomberg provided detailed tables and added color from the report. So big thanks, as usual, to the Bloomberg team. (i) Note the IEA is introducing its first forecasts for 2024 in the June OMR. (ii) On Tuesday, we tweeted [\[LINK\]](#) *“Key question from @IEA OMR? What led to the -2 mmbd QoQ drop in @IEA fcst demand from Q4/23 to Q3/24? Probably 2x normal pre-Covid QoQ drop. If Q1/24 is low, then it subsequent quarters likely low. Also calling peak #Oil demand in OECD. #OOTT”* (iii) The overall message is near term positive with expectations of demand growth slowing in 2024. IEA increased 2023 demand forecast by 0.2 mmb/d when many, including Saudi Energy Minister Abdulaziz, who thought the May MOMR demand forecast was too high. We had expected a pull back in the IEA demand forecast, but they didn't. (iv) The IEA made an increase of +0.2 mmb/d in its 2023 oil demand forecast to 102.3 mmb/d, implying YoY growth of +2.3 mmb/d. The 2024 forecast estimates an increase of +860,000 b/d to 103.1 mmb/d. Total demand of 102.3 in 2023 mmb/d is a record high and well above pre-Covid of 100.5 mmb/d. (v) Changes to quarterly demand in the June vs May OMR also show higher demand to exit 2023. IEA forecasts Q1/23 demand 100.5 mmb/d (unchanged). Q2/23 demand is 101.6 mmb/d (was 101.3). Q3/23 demand is 103.4 mmb/d (was 103.0). Q4/23 demand is 103.5 mmb/d (was 103.1). (vi) The 2024 forecast estimates a total YoY increase of +860,000 b/d to 103.1 mmb/d for the full year. Note that forecast for Q1/24 is 101.5 mmb/d, which is down 2.0 mmb/d QoQ vs Q4/23 of 103.5 mmb/d. This is a normal seasonal pattern for Q1 to be lower than the preceding Q4. But it is a significant QoQ drop. The reason we highlight this is that if Q1 is low, then the rest of the year is also likely low. IEA forecasts Q1/24 demand 101.5 mmb/d, Q2/24 demand is 102.5 mmb/d, Q3/24 demand is 104.1 mmb/d, and Q4/24 demand is 104.4 mmb/d. (vii) The IEA writes *“With the post-Covid rebound having largely run its course, global demand growth is set to decelerate to 860 kb/d next year. The impact of the unprecedented monetary policy tightening can further curtail activity and limit advanced economies to a second year of subpar growth in 2024. Combined with improved vehicle efficiencies and widespread teleworking, this will push OECD deliveries into decline. Conversely, non-OECD oil use will continue to expand. On a global level, petrochemical feedstocks will replace jet fuel as the main driver, accounting for half of the total gain”*. (viii) Also note the IEA has now called peak oil demand in OECD countries with OECD demand forecast for 2024 at 45.8 mmb/d, down 0.4 mmb/d YoY. The IEA commented *“With the post-Covid rebound having largely run its course, global demand growth is set to decelerate to*

IEA Oil Market Report

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860 kb/d next year. The impact of the unprecedented monetary policy tightening can further curtail activity and limit advanced economies to a second year of subpar growth in 2024. Combined with improved vehicle efficiencies and widespread teleworking, this will push OECD deliveries into decline.” (ix) May OMR noted that non-OPEC supply growth decreased by -0.1 mmb/d YoY for 2023 to 67.0 mmb/d (was 67.1 mmb/d). (x) Please note numbers provided by Bloomberg are rounded. Our Supplemental documents package includes the IEA release and the Bloomberg reports.

Figure 43: IEA Global Demand Forecast by June OMR Report

mmb/d	2021	2022	Q1/23	Q2/23	Q3/23	Q4/23	2023	23-22	Q1/24	Q2/24	Q3/24	Q4/24	2024	24-23
June 23	97.7	99.9	100.5	101.6	100.4	103.5	102.3	2.4	101.5	102.5	104.1	104.4	103.1	0.8
May 23	97.7	99.9	100.5	101.3	103.0	103.1	102.0	2.1						
Apr 23	97.7	99.9	100.4	101.2	103.1	103.0	101.9	2.0						
Mar 23	97.7	99.9	100.7	101.3	101.9	101.9	101.5	1.6						
Feb 23	97.7	100.0	100.1	101.1	102.9	103.5	101.9	1.9						
Jan 23	97.7	99.9	99.6	100.8	102.9	103.5	101.7	1.8						
Dec 22	97.7	99.9	99.7	100.6	102.7	103.4	101.6	1.7						
Nov 22	97.7	99.8	99.6	100.5	102.3	103.0	101.4	1.6						
Oct 22	97.7	99.6	99.5	100.4	102.1	102.9	101.3	1.7						
Sep 22	97.7	99.7	100.2	101.0	102.6	103.3	101.8	2.1						
Aug-22	97.6	99.7	100.3	101.1	102.5	103.3	101.8	2.1						
July 22	97.5	99.2	99.8	100.8	102.0	102.7	101.3	2.1						
June 22	97.5	99.4	100.5	101.1	101.9	102.7	101.6	2.2						

Source: IEA, Bloomberg, SAF

Oil – Last Sun, Saudi’s Abdulaziz highlighted this or next month view for oil up

Last Sunday morning, Saudi Energy Minister Abdulaziz spoke at Day 1 of the Arab-China Business Conference. Fortunately, he spoke early enough on Sunday for us to include before our 7am MT news cut off. Here is what we wrote in last week’s (June 11, 2023) Energy Tidbits memo. “Today, Saudi’s Abdulaziz highlighted the above this or next month view for oil. We have a 7am MT news cut off so we are just squeezing this item in after ahaving the memo basically ready to go. Today is Day 1 of the Arab-China Business Conference in Riyadh. We started to see headlines of his talk hitting the Bloomberg tape around 4:15am MT and fortunately we were able to find the YouTube live feed so we could listen to his comments and make a couple transcripts. Abdulaziz didn’t say it specifically but it seemed like he was describing the Saudi extra 1 mmb/d cut for July as a holding mechanism for markets for a month or two until summer seasonal demand kicks in. Earlier today, we tweeted [\[LINK\]](#) “See 🙌 Saudi Energy Minister Abdulaziz to @dan_murphy “I believe that within this month, hopefully the month after. I don’t want to bet on gambling. But it is I think the physical market is telling us something. I think the futures market is telling us something else it’s a matter of being in a state of readiness” Sounds like Saudi’s extra 1 mmbd cut was to hold the market until seasonal summer #Oil demand ramps up. #OOTT.” Our tweet included the transcript we made of comments by Saudi Energy Minister Abdulaziz with Dan Murphy (Anchor & correspondent, CNBC) at the Arab-China Business Conference in Riyadh on June 11, 2023. [\[LINK\]](#) Items in “italics” are SAF Group created transcript. Murphy “what is necessary to provide this market stability moving forward?” Abdulaziz “... that is why we have this agreement [OPEC+]. But also we are working against something called uncertainties and sentiments. And I believe that within this month, hopefully the month after. I don’t want to bet on gambling. But it is I think the physical market is telling us something. I think the futures market is telling us something else it’s a matter of being in a state of readiness That’s why we keep taking these precautionary measures. It’s part and parcel of

Saudi Energy Minister on next month or two

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what we call proactive and preemptive. To understand OPEC+ as it is today, it's all about being proactive, preemptive and precautionary."

Saudi's 1 mmb/d cut to hold markets until summer seasonal demand pick up

Here is what we wrote in last week's (June 11, 2023) Energy Tidbits memo. *"We had to go to press last weekend before any official word from the OPEC+ meeting. (i) There were mixed views of the OPEC+ decisions. And as evidenced by the price action over a couple days, most didn't seem to think it was enough in the face of more concerns on the global economic outlook and China stalled recovery. We looked at the actions as more of a reinforcement that Saudi Arabia is prepared to try to keep the market balanced until the expected summer seasonal ramp up in demand kicks in. We look at the 1 mmb/d extra cut as more of an offset to a delayed China recovery. (ii) The big news from OPEC+ came separately when the Saudi Arabia Ministry of Energy announced [\[LINK\]](#) "the Kingdom will implement an additional voluntary reduction in its production of crude oil, amounting to one million barrels per day, starting in July for a period of one month, subject to extension." This was the surprise of the OPEC+ meetings. (iii) The negative reaction to Saudi Arabia going alone on the extra cut was that there was no one else prepared to step up alongside Saudi Arabia. (iv) We see the biggest risk to our view of Saudi prepared to hold the market in balance is if others, in particular Russia, don't at least keep their production to their quota ie. no cheating. Saudi Arabia seemed clear that they expected this compliance from all members including Russia.. (v) Revised quotas for 2024. The reduction of the African countries wasn't unexpected given the huge underperformance of Angola and Nigeria relative to their quota. And the increase to the UAE wasn't unexpected given this has been a major UAE issue for years. So overall, the reaction was a negative given it meant higher OPEC production as UAE can deliver the extra volumes and the reduced quota for Angola/Nigeria isn't going to cut their production levels."*

Oil – Kuwait Petroleum sees growing China oil demand in H2/23

The major oil market uncertainty in H2/23 is the China recovery and will it ramp up oil demand. Kuwait Petroleum CEO didn't give an estimate of how much H2/23 oil demand growth in China but was positive on that demand was going to keep growing. On Thursday, we tweeted [\[LINK\]](#) *"Kuwait Petroleum CEO wouldn't give a number but sees China #Oil demand continuing to grow in H2/23. @axelthrefall asks "the response is enough to keep markets stable?". CEO Al-Sabah "Yes". See 🗨️ SAF Group transcript. #OOTT "* Kuwait Petroleum CEO Sheikh Nawaf Saud Nasir Al-Sabah was interviewed by Axel Threfall (Editor-at-Large, Reuters) on Al-Attayah Foundation webcast on June 15, 2023. [\[LINK\]](#). Our tweet included the transcript we made of Al-Sabah's comments. Items in *"italics"* are SAF Group created transcript. At 3:35 min mark in response to question on H2/23 demand and is he optimistic China demand will continue to increase. Al-Sabah *"I have been asked this over the last six months and my answer has always been consistent. I see demand in China continuing to rise. It is doing so at a sustainable rate. It is almost an assured rate as it's going through. We see that from our customers. Our customers in China is our largest customer for crude oil for KPC, those customers continue to demand at least a similar amounts of crude, if not more. And it's a harbinger if you will of continued good demand, but also perhaps just of the long term supply relationship that we have with our customers. On the second half of the*

**Kuwait on
China H2/23 oil
demand**

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year assuming Chinese demand continues to grow and the opening continues to happen, we see that there will be good demand coming out of China. Numbers, nobody really knows exactly, can project exactly what those numbers will be but, we're looking forward to that." Threlfall "okay, the response is enough to keep the market stable?" Al-Sabah "Yes".

Oil – US non-denial denial on US/Iran nuclear “understanding” is getting close

Earlier this morning, we tweeted on a great example of what we call a political non-denial denial. We tweeted [\[LINK\]](#) *"Non-denial denial! @SecBlinken asked re status of "understanding" with Iran to hold back nuclear program. "SOME of the reports that we've seen about an agreement on nuclear matters or, for that matter, on detainees are simply not accurate and not true. #OOTT #JCPOA."* Using the classic "SOME". It's like when politicians say some people tell me, it normally refers to when they are grasping to infer people support a position. We always try to look at the source documents instead of just reading the headlines and a good example is the reporting of comments by US Secretary of State Blinken on Friday on the potential of a US/Iran deal to hold back Iran's nuclear program. Firstly, the messaging this week was clear that there couldn't be an amendment to JCPOA as that would require getting Congress onside. So the messaging was that they were looking at some sort of side deal "understanding" between the US and Iran to hold back Iran's nuclear development. There isn't any official list of what Iran would get, but the commonly reported items that could be included are the release of some Iran's money stuck in places like Korea, some easing of sanctions ie. moving oil/condensate, etc. As to status, there were headlines yesterday on how Blinken denied any deal was close. But, after reading the transcript, it doesn't look like that is right. Rather, we would suggest that his denials that there is an agreement do nothing to deny the reports that an agreement/understanding is close. Blinken was asked *"thank you. Mr. Secretary, on Iran, how would you characterize the ongoing indirect talks with Tehran, which you say that you're optimistic that an understanding can be reached between the two sides on constraining Iran's nuclear program?"* Blinken responded *"Great. Thanks, Jennifer. With regard to -- to Iran, some of the reports that we've seen about an agreement on nuclear matters or, for that matter, on detainees are simply not accurate and -- and not true. On the nuclear side of the equation, we are determined to ensure that Iran never acquires a nuclear weapon. We remain convinced that the best way to do that is through diplomacy. We haven't taken any option off the table. You've heard that clearly from the president. But we continue to believe that diplomacy would be the most effective path forward, but there is no agreement, and reports to the contrary are simply inaccurate."*

US non-denial denial on Iran

Oil – Will a US understanding allow Iran oil to hit all markets ie. Europe?

We note above that most seem to expect a US/Iran understanding would allow some sanctions relief including on oil exports. We believe that is a big win for Iran, not so much for increased oil export volumes but for allowing Iran to export their oil to markets such as Asia. If this happens, this is the big plus as it would also mean that Iran could get their oil and condensate sold at world prices and not discounted prices.

Will Iran oil be allowed to hit Europe

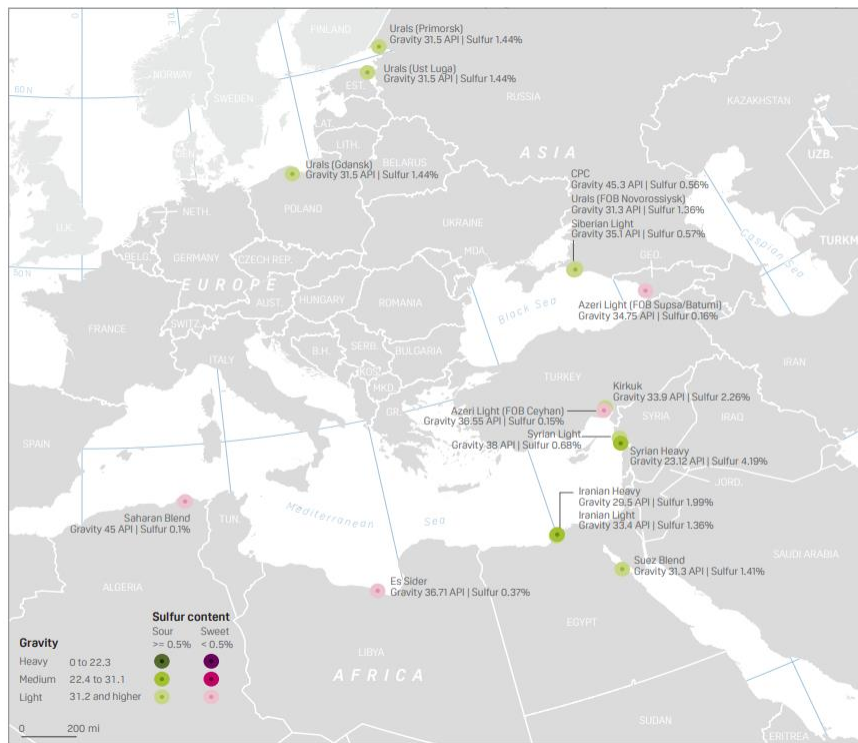
Iran oil would be a crude quality replacement for RUS Urals crude to Europe

Earlier this morning, we tweeted [\[LINK\]](#) *"Iran's oil would be good crude oil quality replacement for Russia Urals crude to Europe IF any US/Iran nuclear understanding lets Iran oil hit Europe markets. Also should mean Iran doesn't have to sell at*

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discount. See 📌 03/09/22 tweet. #OOTT.” We also remind that Iran’s oil would be a plus to Europe as it’s crude quality is similar to the major Russian crude to Europe. Here is what we wrote in our March 13, 2022 Energy Tidbits memo. “On Wednesday, we tweeted [LINK](#) on a good reminder from the Gulf Intelligence daily Podcast [LINK](#) that Iran’s crude oil quality would be a good replacement for Russian Urals crude oil to Europe. We tweeted “#JCPOA. Good reminder from @gulf_intel podcast. Matt Stanley @starfuels reminds Iran light matches API and H2S very well and is a good substitute RUS Urals. See below @SPGlobalPlatts crude specs map. #OOTT”. Our tweet included the below Platts map that noted crude qualities for Russia were Urals (Primorsk) 31.5 API 1.44% H2S, Urals (Ust Luga) 31.5 API 1.44% H2S, and Urals Gdansk 31.5 API 1.44% H2S, which compares to Iranian Light 33.4 API 1.36% H2S.”

Figure 44: Platts Specifications Guide Europe and Africa Crude Oil



Source: Platts

Oil – Finally, Iraq and Turkey to meet to discuss the mechanism to resume oil exports

As of 7am MT news cut off, we have not seen any updated reports, including from Kurdistan news, of any insights into tomorrow’s meeting between Iraq and Turkey on a potential restart to Kurdistan oil exports via Turkey. But at least there is a meeting. On Thursday, Rudaw (Kurdistan news) reported [LINK](#) “Iraq and Turkey have reached an agreement to meet in Baghdad next week to discuss the resumption of the Kurdistan Region’s oil exports which

Turkey and Iraq to meet

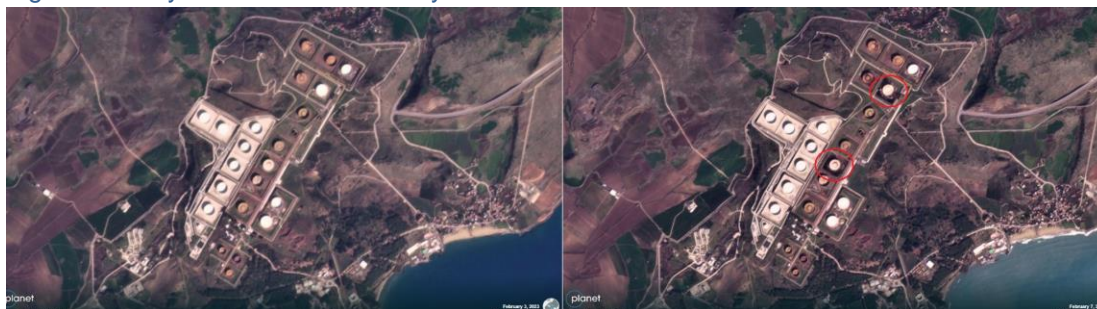
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have been put on hold for nearly three months, said an Iraqi official on Thursday. The Kurdistan Region's oil exports through Turkey's Ceyhan port are yet to resume after being halted in late March following a ruling from a Paris-based arbitration court saying that Ankara had breached its 1973 pipeline agreement with Baghdad. "An agreement has been reached with Turkey to hold a meeting in Baghdad on the 19th of this month [June] to discuss the mechanism to resume the pumping of crude oil from the Kurdistan field to the Turkish Ceyhan port," Basim Mohammed Khudair, the Iraqi oil ministry's undersecretary for extraction affairs, told state-owned al-Sabah newspaper on Monday. Khudair said that both sides have stressed the importance of restarting the exports, noting that Ankara has attributed the delay due to the inspection process. Kurdish and Iraqi authorities have repeatedly declared their willingness to resume the exports, saying the reason the process has not yet restarted is because Turkey wants to inspect and rehabilitate the port tubes that might have been damaged following February's earthquake." Our Supplemental Documents package includes the Rudaw report.

Turkey raised the Ceyhan damage post the earthquake

The Rudaw report notes that "Turkey wants to inspect and rehabilitate the port tubes that might have been damaged following February's earthquake." The earthquake damage at Ceyhan is not a new excuse. On Feb 7, we retweeted two Feb 7 tweets from TankerTrackers.com. The first [LINK](#) wrote "Satellite imagery captured today by @planet now shows what appears to be two ruptured oil storage tanks at the Ceyhan terminal in Turkey. These tanks are fed with oil that derives from northern Iraq. Each one of these tanks can store a million barrels. #OOTT." The tweet included the below images. The second tweet was "we anticipate that there may be more damage than meets the eye; particularly with the empty storage tanks. Also, future aftershocks may continue to create additional ruptures in the coming weeks and months. Our latest export figures will be published on Thursday."

Figure 45: Ceyhan terminal in Turkey



Source: TankerTrackes

Oil – Very little China Covid reporting, peak still expected in June

As of our 7am MT news cut off, we have not seen any new Chinese state media (Global Times, People's Daily & Xinhua) reports on Covid for the past week. So no reporting from state media. We assume that is probably okay news as we would expect a major push on hospitalizations would get some reports, even if downplayed. That is an assumption, but we

**China Covid 1st
timers**

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just aren't seeing reports out of China of a big drain on hospitalizations or deaths, even downplayed reports.

China's model predicted new Covid wave peaks at 65 million/week in late June

Here is what we wrote in our May 28, 2023 Energy Tidbits memo. *"On Monday, China admitted there is a new wave of Covid that their predictive model calls for a peak of 65 million cases per week at the end of June, but also thinks the impact won't be as bad. On Tuesday, we tweeted [\[LINK\]](#) "China on market watch for next several weeks as to how severe is this new wave of Covid. State media: China's top respiratory disease expert says new COVID-19 wave will likely peak in late June at ~65 million cases per week. Thinks 2nd peak won't be as bad as 1st, now will hospitals be overloaded as usually mild symptoms. Also new variant XBB has no significant change in pathogenicity. Even if only mild, will slow down pace of recovery. #OOTT". Our tweet included the Global Times (China state media) reporting that included "A small wave of COVID-19 infections at the end of April and early May was "anticipated." Projections showed that a small peak of infections is likely at the end of May, with the number of infections peaking at about 40 million per week. By the end of June, the epidemic is expected to peak at about 65 million infections a week. The second peak won't be as bad as the first, nor will hospitals be overloaded as reinfection usually comes with milder symptoms, Wang Guangfa, a respiratory expert at Peking University First Hospital, told the Global Times on Monday."*

Reminder these are predictive models that might be wrong

Here is another item from our May 28, 2023 Energy Tidbits memo. *"Earlier this morning we tweeted [\[LINK\]](#) on the Global Times Friday reporting "Wave of COVID-19 reinfection in China has 'limited impact' on everyday life" that included the reminder that these are predictive models that might not be accurate. Global Times wrote "The country is predicted to face a peak at the end of June, with about 65 million people infected with COVID-19 each week, according to Zhong. But Zhong also noted that it's predicted based on model calculation, which might not be accurate." As a reminder, last week's (May 21, 2023) Energy Tidbits included the updates from Chinese state media and how there was a low probability of large scale infection. We wrote "On Wednesday, Xinhua news reported [\[LINK\]](#) "China sees low possibility of a large-scale COVID-19 epidemic outbreak in the country at the current stage, according to an expert with the Chinese Center for Disease Control and Prevention (China CDC The number of confirmed COVID-19 cases reported nationwide has been on the rise since mid-to-late April, according to official surveillance data, said Wang Liping, a researcher with the China CDC, adding the symptoms of the majority of confirmed cases reported are mild. The COVID-19 Omicron XBB subvariants had developed into dominant subvariants in China as of early May, while there is no significant change in the pathogenicity of XBB subvariants, said Chen Cao, a researcher with the China CDC."*

Oil – China scheduled domestic flights are back down to mid April levels

Chinese domestic air travel mobility indicators continue to point to a stalling China recovery in China domestic scheduled flights has continued into June. China scheduled domestic flights

China scheduled domestic flights

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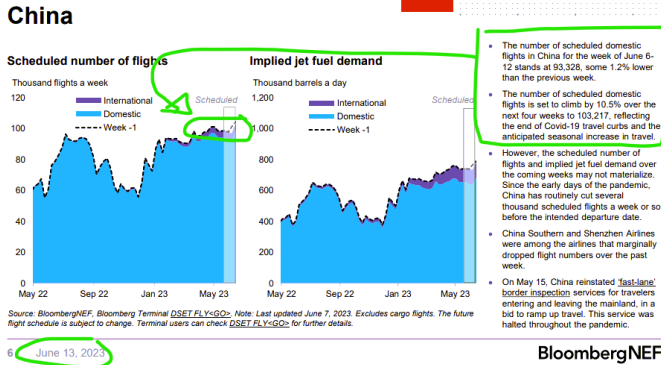
have given back the early May gains and are back to mid April levels. On Tuesday, we tweeted [LINK](#) “China’s stalling recovery. Scheduled domestic flights -1.2% WoW to 93,328, back to mid-Apr levels. Scheduled “over” next 4-wk is increasing to 103,217 flights is -13.4% vs 119,180 flights that were scheduled on Mar 28 for Apr. Thx @BloombergNEF Claudio Lubis #OOTT.” This week’s BloombergNEF Aviation Indicators weekly report (June 13) update of scheduled China domestic flights was a continued negative indicator for China recovery from BloombergNEF scheduled domestic flights in China, and a little worse message than the prior three weeks, China scheduled domestic flights taking another step back. In May 16-22, China scheduled domestic flights gave up any increases around Apr 29-May 3 May Day holidays and went back to Apr 18-24 levels. But they were basically flat for three weeks. This week, they went lower, -1.2% WoW. are now below the Apr 18-24 levels. China scheduled domestic flights -1.2% WoW to 93,328 flights for June 6-12 flights vs 94,486 flights for May 30–Jun 5 week. The recent 5-day May Day Holiday was Apr 29-May 3. Note scheduled domestic flights for June 6-12 at 93,328 flights is -21.7% vs what was scheduled on March 28 for the then next 4-weeks ie. April) of 119,180 flights. Rather, domestic scheduled flights are back to mid-April levels. The June 13 number of scheduled domestic flights for the next four weeks is set to increase by +10.5% “over” the next four weeks to reach 103,217 flights. This is higher than last week’s then 4-week forecast for 101,197 flights. Again, this 103,217 flights is still -13.4% below the 4-week scheduled on March 28 for the end of April that was 119,180 domestic scheduled flights. This is still saying the big jump up in scheduled domestic flights for April didn’t happen. China scheduled domestic flights are back to mid-April levels ie. back to pre May Day holiday levels. At best, the scheduled next four weeks is up, but nowhere near what was expected on March 28. Our tweet included the BloombergNEF charts from June 13 and March 28, and our listing of WoW changes from the prior BloombergNEF reports.

Figure 46: China scheduled domestic flights from BNEF Aviation Indicators Weekly reports

June 6-12: -1.2% WoW to 93,328 flights
 May 30-Jun 5: +0.2% WoW to 94,486 flights
 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
 Mar 7-13 week: -0.8% WoW
 Feb 27-Mar 3 week: -2.6% WoW
 Feb 21-27 week: +0.0% WoW (note this was +0.01%)
 Feb 14-20 week -0.5% WoW
 Feb 7-13 week -0.7% WoW
 Jan 31- Feb 6 week +10.9% WoW
 Jan 24-30 week -9.2% WoW
 Jan 17-23 week +7% WoW
 Jan 10-16 week +20% WoW
 Source: BloombergNEF

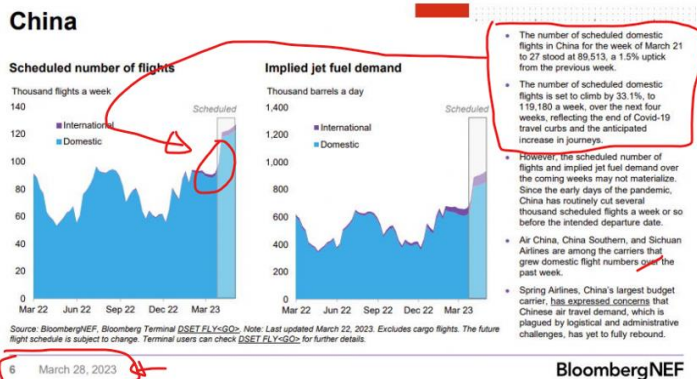
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Figure 47: China scheduled domestic air flights as of June 13



Source: BloombergNEF

Figure 48: China scheduled domestic air flights as of March 28



Source: BloombergNEF

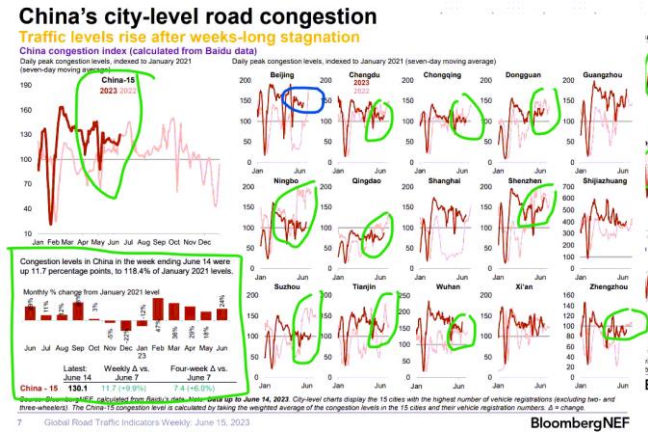
Oil – Baidu China 9 of top 15 cities road congestion down YoY to below 2022 levels

We think one of the best indicators of a stalling of the China recovery is that 9 of the top 15 cities in China have lower Baidu road congestion data now than they did ear ago when they were still Covid restrictions. On Thursday, we tweeted [\[LINK\]](#) “China Slowdown. Baidu city-level road congestion. Top 15 cities down YoY. Indexed to same month in 2021. June 2023 is 104, down YoY vs Covid restrictions June 2022 at 108. 9 of top 15 cities are down YoY. See 📍 @BloombergNEF. #OOTT. The China reopening from Covid wasn’t announced until Dec 2022 so many will be surprised that June 2023 is down YoY vs June 2022. No one knows how much of this is due to the economic slowdown vs Covid expected to peak in late June. But we have to believe these are the two key contributing factors. Our tweet included the below graph from the BloombergNEF Global Road Traffic Indicators June 15 weekly report

China city traffic congestion

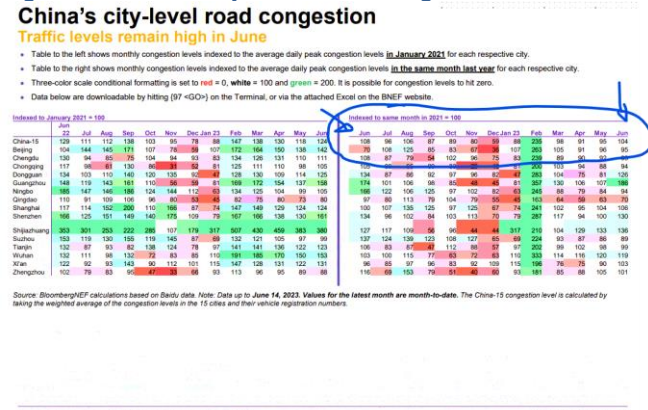
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Figure 49: China city-level road congestion for the week ended June 14



Source: BloombergNEF

Figure 50: China city-level road congestion for the week ended June 14



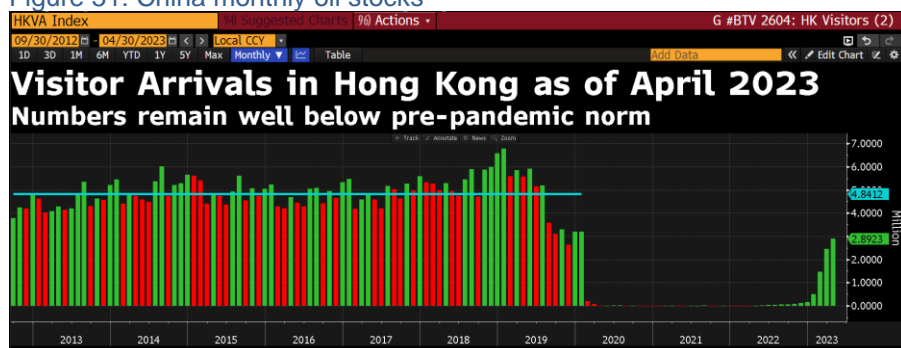
Source: BloombergNEF

Oil – Visitor arrivals in Hong Kong ramping up, but well below pre-pandemic norm
 On Thursday night, we tweeted [LINK](#) “Visitor arrivals in Hong Kong still increasing but at slower growth rate. Still well below preCovid norm. Fits narrative of slowing China recovery, but also reminds there is big torque to recovery if China can successfully stimulate economy. Thx @DavidInglesTV #OOTT.” Our tweet included the below Bloomberg TV graph. The visitor arrivals in Hong Kong data is much like other Chinese data - there was a big jump up post the reopening, but the rate of growth has slowed of late.

Visitor arrivals in Hong Kong

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Figure 51: China monthly oil stocks



Source: Bloomberg

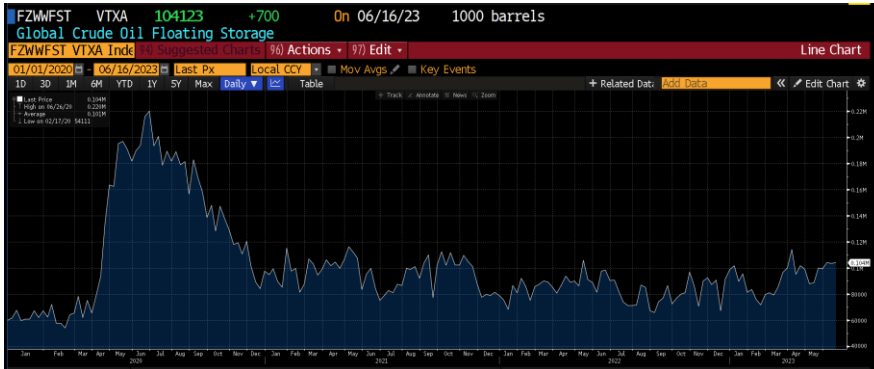
Oil – Vortexa crude oil floating storage at June 16 was 104.12 mmb, +0.70 mmb WoW

We are referencing the Vortexa global 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 June 10 at 9am MT. (i) As of 9am MT yesterday, Bloomberg posted Vortexa crude oil floating storage estimate for June 16 at 104.12 mmb, which was +0.70 mmb WoW vs upwardly revised June 9 of 103.42 mmb. Note June 9 was revised +8.28 mmb vs 95.14 mmb posted on Bloomberg as of 9am MT on June 10. (ii) Other than the big upward revision to June 9, all other revisions for their several weeks were minor. The revisions from the estimates posted yesterday at 9am MT vs the estimates posted on Bloomberg at 9am on June 10 are as follows: June 9 revised +8.28 mmb. June 2 revised -1.58 mmb. May 26 revised -0.47 mmb. May 19 revised +1.26 mmb. May 12 revised -1.59 mmb. May 5 revised -0.88 mmb. Apr 28 revised -1.41 mmb. (iii) There is a wide range of floating storage estimates for the past seven weeks, but a simple average for the past seven weeks is 98.26 mmb, which is up vs last week's then seven-week average of 96.99 mmb. (iv) Also remember Vortexa revises these weekly storage estimates on a regular basis and 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 (ie Saturday mornings). (v) 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. (vi) June 16 estimate of 104.12 mmb is -115.93 mmb vs the Covid peak on June 26, 2020 of 219.95 mmb. (vii) June 16 estimate of 104.12 mmb is +38.51 mmb vs pre-Covid Feb 28, 2020 of 65.61 mmb. (viii) June 16 estimate of 104.12 mmb is +5.97 mmb YoY vs June 17, 2022 of 98.15 mmb. (ix) Below are the last several weeks of estimates posted on Bloomberg as of 9am MT June 17, 9am MT June 10, and 9am MT June 3.

Vortexa floating storage

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Figure 52: Vortexa Floating Storage posted on Bloomberg June 17 at 9am MT



Source: Bloomberg, Vortexa

Figure 53: Vortexa Estimates Posted June 17 9am MT, June 10 9am MT, June 3 9am MT

Posted June 17, 9am MT		June 10, 9am MT		June 3, 9am MT	
FZWWFST	VTXA Inde	FZWWFST	VTXA Inde	FZWWFST	VTXA Inde
01/01/2020	06/16/2023	01/01/2020	06/09/2023	01/01/2020	06/02/2023
1D	3D	1M	6M	YTD	1Y
Date		Date		Date	
Last Px		Last Px		Last Px	
Fr 06/16/2023	104.123k	Fr 06/09/2023	95136	Fr 06/02/2023	88490
Fr 06/09/2023	103.423k	Fr 06/02/2023	105.812k	Fr 05/26/2023	94797
Fr 06/02/2023	104.229k	Fr 05/26/2023	99892	Fr 05/19/2023	92877
Fr 05/26/2023	99424	Fr 05/19/2023	98776	Fr 05/12/2023	90256
Fr 05/19/2023	100.044k	Fr 05/12/2023	90194	Fr 05/05/2023	89326
Fr 05/12/2023	88598	Fr 05/05/2023	88824	Fr 04/28/2023	99073
Fr 05/05/2023	87936	Fr 04/28/2023	100.314k	Fr 04/21/2023	102.658k
Fr 04/28/2023	98898	Fr 04/21/2023	103.382k	Fr 04/14/2023	96064
Fr 04/21/2023	101.602k	Fr 04/14/2023	96447	Fr 04/07/2023	114.915k
Fr 04/14/2023	95266	Fr 04/07/2023	115.7k	Fr 03/31/2023	99827
Fr 04/07/2023	113.962k	Fr 03/31/2023	101.25k	Fr 03/24/2023	97139

Source: Bloomberg, Vortexa

Source: Bloomberg, Vortexa

Oil – Vortexa crude oil floating storage WoW changes by regions

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. The largest WoW changes were in Other +10.99 mmb and Asia -9.97 mmb. We have to wonder if the increasing share of Other of the total global floating storage is just Russia oil floating around looking for a home or for a transfer? 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 June 9 that was posted on Bloomberg at 9am MT on June 10.

Vortexa floating storage by region

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Figure 54: Vortexa crude oil floating by region

Vortexa Crude Oil Floating Storage by Region (mmb)				Original Posted	Recent Peak	
Region	June 16/23	June 9/23	WoW	June 9/23	Apr 7/23	June 16 vs Apr 7
Asia	44.96	54.93	-9.97	44.84	58.78	-13.82
Europe	7.54	8.17	-0.63	8.05	23.82	-16.28
Middle East	9.14	6.84	2.30	9.33	4.97	4.17
West Africa	2.76	4.75	-1.99	3.89	5.94	-3.18
US Gulf Coast	0.90	0.90	0.00	0.90	3.17	-2.27
Other	38.82	27.83	10.99	28.13	17.21	21.61
Global Total	104.12	103.42	0.70	95.14	113.89	-9.77

Vortexa crude oil floating storage posted on Bloomberg 9am MT on June 17

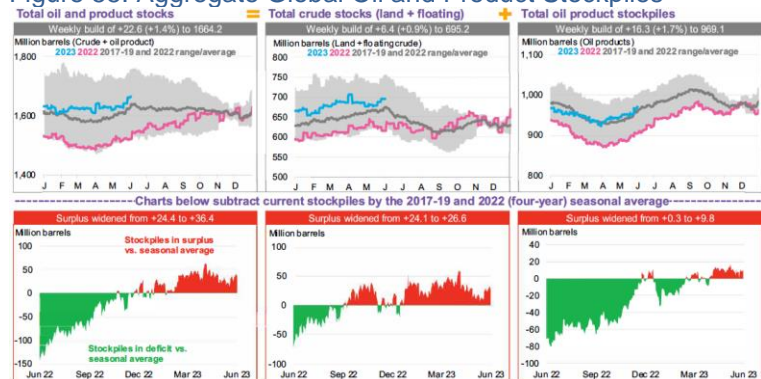
Source: Vortexa, Bloomberg

Source: Bloomberg, Vortexa

Oil – BNEF: global oil and product stocks surplus narrowed WoW to 36.4 mmb

One of the negatives for oil going into 2023 was that there was expected to be surplus oil in Q1 and a building of global oil inventories. That’s happened. So, a key data point to watch has been if this build turns into a draw over Q2/23 and certainly into Q3/23. And we remind that there are weekly changes that can flip flop but the key will be to watch the trend. For those with a Bloomberg terminal we recommend flipping through BloombergNEF’s “Oil Price Indicators” weekly that is released weekly on Monday, as it provides good charts depicting near-term global oil demand and supply indicators. The global stockpile for crude oil and products surplus widened from 24.4 mmb to 36.4 mmb for the week ending June 2. Land crude oil inventories decreased by 11.2 mmb WoW to 579.1 mmb, widening the deficit to 31.6 mmb against the five-year average (2016-2019, 2022). Total crude inventories (incl. floating) increased by +6.4 mmb WoW to 695.2 mmb, widening the surplus from +24.1 mmb to +26.6 mmb. Total product stocks were up by +16.3 mmb WoW to 969.1 mmb, widening the stockpile surplus against the 4-year average (2017-2019,2022) to 9.8 mmb for the June 2 week. The gas, oil, and middle distillate stocks increased by +7.1 mmb WoW at 151.1 mmb/d, with the deficit against the four-year average narrowing to -12.3 mmb. Jet fuel consumption by international departures for the week of June 19 is set to increase by +27,700 b/d WoW, while consumption by domestic passenger departures is forecast to decrease by +8,600 b/d WoW. Below is a snapshot of aggregate global stockpiles.

Figure 55: Aggregate Global Oil and Product Stockpiles



Source: BloombergNEF

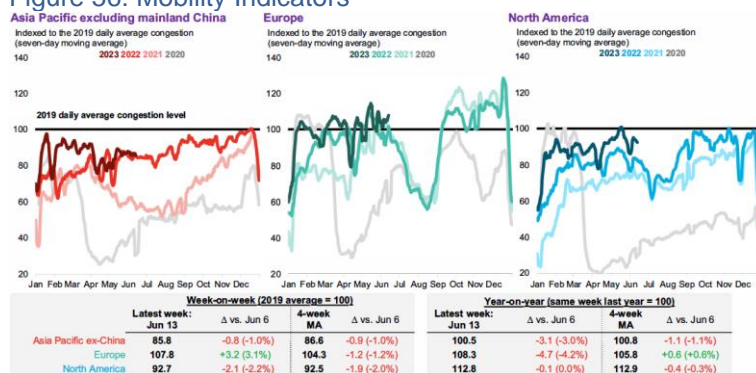
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Global road traffic indicators

Oil – TomTom mobility indicators: EU traffic increases, NA and Asia Pacific decreases

On Thursday, BloombergNEF posted its Global Road Traffic Indicators Weekly report, which recaps traffic indicators in all the major economic regions of the world ie. mobility indicators like TomTom. For week ending June 13, European traffic levels increased +3.1%, while North American and Asia Pacific (ex-China) decreased WoW by +2.2% and +1.0%, respectively. Traffic levels in Europe are now +7.8% above the 2019 average and up +8.3% YoY. North America and Asia Pacific (ex-China) traffic are -7.3% and -14.2% below the 2019 average and are +12.8% and +0.5%YoY, respectively. Traffic in Europe has been steadily increasing in June, while NA and Asia Pacific (ex-China) have taken a downturn. It its worth noting that TomTom data on congestion levels now reflects daily average congestion compared to peak congestion previously. The change in methodology took effect from January 19.

Figure 56: Mobility Indicators



Source: BloombergNEF

Oil & Natural Gas – A minor decrease in total number of Alberta wildfires this week

Wildfires are still a big issue in Alberta but still down from the highs of May. A month ago on May 21, there were 86 total wildfires in Alberta. That dropped to 51 on May 27, then up to 57 on June 3, 76 on June 10 and now down small to 74 on June 17. There are currently 20 Out of Control wildfires in Alberta.

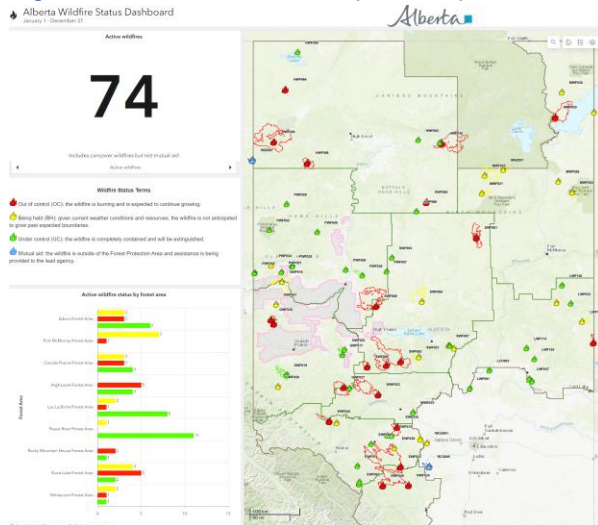
Minor decrease in Alberta wildfires

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 7:30pm MT last night.

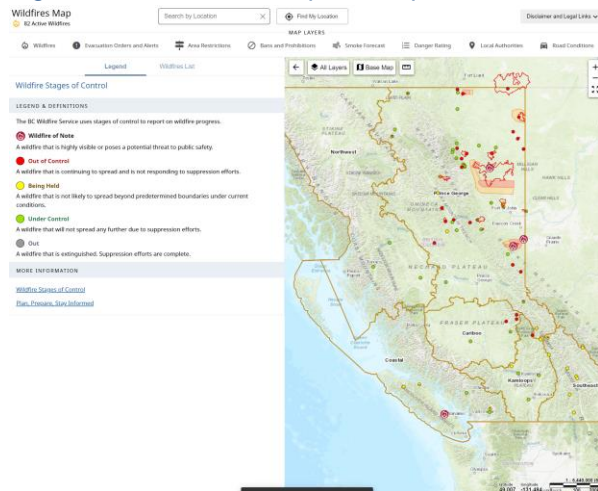
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Figure 57: Alberta wildfire map as of 7pm MT on June 17



Source: Alberta Wildfire Status Dashboard

Figure 58: BC wildfire map as of 7pm MT on June 17



Source: BC Wildfire Service

Oil & Natural Gas – High wildfire risk in Alberta/BC as peak is normally Jul/Aug

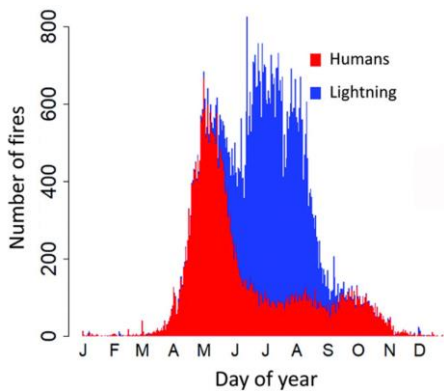
We don't track wildfires data outside Alberta/BC as our focus is on the oil and gas sector but, the big Canada story this week were the wildfires in eastern Canada with potential risks to energy such as to Quebec transmission lines. It's a reminder that wildfires are not just a western Canada. It's always better to see less wildfires. But we remind that wildfire season is just starting. Unfortunately, we have to remind that wildfire season peak isn't normally until July/Aug. (i) On May 9, we tweeted [\[LINK\]](#) "#Wildfire season is, unfortunately, only just starting with normal peak Jul/Aug. See 📌 excerpts. SAF 06/13/21 Energy Tidbits re

Wildfire peak is normally July Aug

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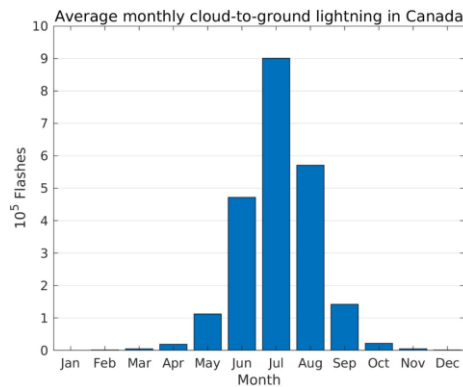
distribution of wildfires by month in Canada. SAF 05/07/23 Energy Tidbits re heightened 2023 risk with very low precipitation in Nov 1-Mar 31 & Apr. Hope everyone can be safe! #OTT.
 (ii) Our tweet included two graphs from our June 13, 2021 Energy Tidbits memo that shows the normal peak for Canada wildfires is July/Aug with a key reason being that is when lightning strikes normally peak. (ii) Our tweet also included the Alberta Environment maps of precipitation % of normal for Nov 1 thru Mar 31, and for the month of April that clearly show how dry it was this winter and especially so in April. Note we have updated the precipitation maps for the end of May. Below are Nov 1 thru Apr 30 and for the month of May maps showing precipitation % of normal. It's been dry.

Figure 59: Canada Wildfires Distribution Over Year



Source: Wildfire Today

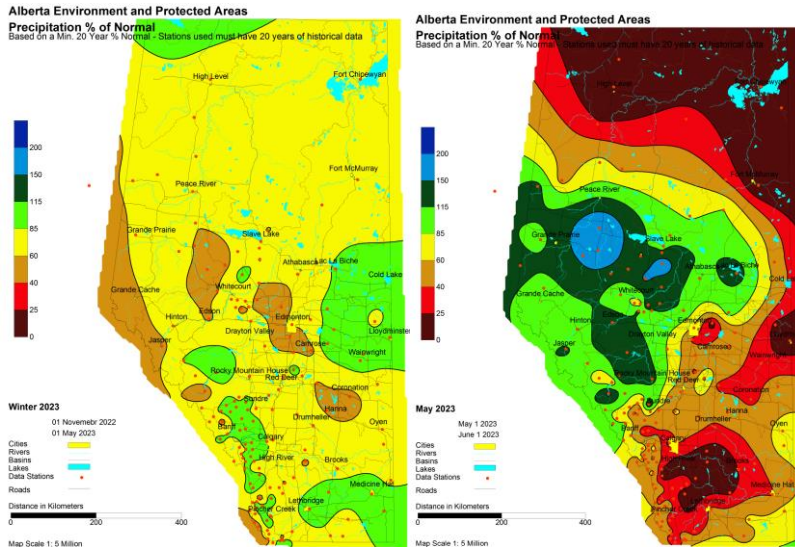
Figure 60: Average monthly cloud-to-ground lightning in Canada



Source: Canada Environment and Natural Resources

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Figure 61: Alberta Precipitation % of Normal for Nov 1-Apr 30, and for May



Source: Alberta Environment

Oil & Natural Gas – A big >7 magnitude earthquake in Fiji this week

There was one big earthquake this week recorded at a magnitude of 7.2 by the south of Fiji. Fortunately, there were no reports of major tsunamis or major damage and loss of life. And they weren't anywhere near to impact oil and gas operations. On Thursday, ETN News reported [\[LINK\]](#) "An earthquake of magnitude 7.2 struck south of the Fiji Islands today, the United States Geological Survey (USGS) said. There was no immediate reports of injuries, deaths or structural damage. No tsunami warning has been issued." On Thursday, Bloomberg reported "An earthquake with a magnitude of 7.2 jolted south of the Fiji Islands at 18:06:27 GMT on Thursday, the U.S. Geological Survey said. The epicenter, with a depth of 167.404 km, was initially determined to be at 22.9824 degrees south latitude and 177.2075 degrees west longitude". Earthquakes >7 magnitude are not common. Since Jan 1, 2017, there have been 97 earthquakes >7 or about 15 per year. Below is our table of earthquakes >7 since Jan 1, 2017.

Earthquakes >7 magnitude in Fiji

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Figure 62: Earthquakes above 7.0 since Jan 1, 2017

Country	Earthquakes With 7.0+ Magnitude							Total
	2017	2018	2019	2020	2021	2022	2023	
Indonesia	-	1	3	-	-	4	4	12
Japan	-	-	-	-	8	-	-	8
Papua New Guinea	1	2	1	1	1	1	1	8
US	-	2	1	2	1	-	-	6
Mexico	2	1	-	1	-	1	-	5
Peru	-	2	3	-	-	-	-	5
Russia	1	1	-	2	-	1	-	5
New Zealand	-	-	1	1	2	-	2	6
Vanuatu	-	-	-	-	3	1	2	6
New Caledonia	1	2	-	-	-	-	1	4
Fiji	-	3	-	-	1	-	1	5
Chile	-	-	-	-	1	1	-	2
Philippines	1	1	-	-	-	-	-	2
Argentina	-	-	-	-	1	-	-	1
Canada	-	-	-	-	-	1	-	1
Colombia	-	-	-	-	-	1	-	1
Costa Rica	-	-	-	-	-	1	-	1
Cuba	-	-	-	1	-	-	-	1
Ecuador	-	-	1	-	-	-	-	1
El Salvador	-	-	-	-	-	1	-	1
Greece	-	-	-	1	-	-	-	1
Guatemala	-	-	-	-	-	1	-	1
Honduras	-	1	-	-	-	-	-	1
Iran	1	-	-	-	-	-	-	1
New Caledonia	-	-	-	-	1	-	-	1
Pakistan	-	-	-	-	1	-	-	1
Philippines	-	-	-	-	-	1	-	1
South Georgia Islands	-	1	-	-	-	-	-	1
South Sandwich	-	1	-	-	-	-	-	1
Turkey	-	-	-	-	1	-	2	3
Tonga	-	-	-	-	-	2	1	3
Venezuela	-	1	-	-	-	-	-	1
Total	7	19	10	9	21	17	14	97

Source: USGC, Wikipedia

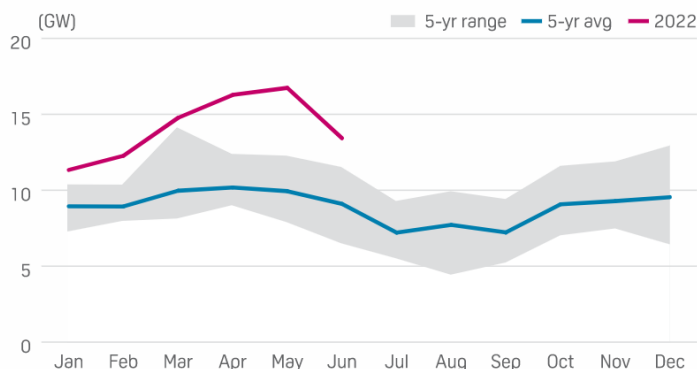
Energy Transition – Texas wind generation typically declines in May/Jun/Jul

Texas is in the news with the hot weather and one of the media stories was on how wind may not be delivering as much as expected. We don't know what the frame of reference was, but we do know that June is normally the seasonal period for wind generation to decline in Texas. Here is what we wrote on our July 31, 2022 Energy Tidbits memo. *“There was a good reminder this week on two key elements of Texas wind power generation – it's up big YoY and the summer is the seasonally low period for wind generation. On Tuesday, we tweeted [\[LINK\]](#) “Texas #Wind generation up big in 2022, however, average wind output tends to wane from June thru Sept. and risk increases for sufficient wind power to be unavailable during certain peak hours in Aug & Sept. Great reminder from @SPGlobalPlatts Mark Watson. #NatGas #OOTT”. There has to be some sort of power that can come to the rescue with the unpredictability of wind power. In Texas' case, it would be natural gas. Platts posted the report “As Texas heat persists, ERCOT forwards indicate risk of triple-digit power prices” [\[LINK\]](#). Platts included the key graph below of average hourly wind output in 2022 compared to 5-year historical output“*

Texas wind power risk

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Figure 63: ERCOT Average Hourly Wind Output



Source: ERCOT

Energy Transition – Rosneft CEO “Renewable energy is not essentially renewable”

We wish we had framed our energy transition views in the way Rosneft CEO Sechin did on Saturday. Our Energy Tidbits have highlighted the same concepts but have never framed it in one short sentence. Yesterday, we tweeted [\[LINK\]](#) “Reality check! Good framing of why “renewable energy” is not essentially renewable” by Rosneft CEO Sechin. “global economy does not have the metals, rare earth minerals, energy, time and money to make this transition” “authors of the “green transition” need to coordinate the rules with those who have production capabilities and the appropriate resource base, in particular, with China...” [Sechin didn’t say West is doing opposite & is moving away from China.] #Oil#NatGas#LNG will be needed for longer, incl Europe. #OOTT#EnergyTransition.” Sechin’s sentence says it all “global economy does not have the metals, rare earth minerals, energy, time and money to make this transition”. That really says it all, it’s not just the lack of critical metals and rare earth minerals, or enough alternative energy that can provide reliable, affordable, available energy, Sechin also reminds there is time constraint and the cost will be prohibitive. TASS reported on Sechin’s comments from the St. Petersburg International Economic Forum. Our Supplemental Documents package include the TASS reporting. [\[LINK\]](#)

Rosneft CEO
Sechin

Another key Sechin reminder – need to work with those with critical metals

We recognize that the climate change side will just ignore Rosneft CEO Sechin’s comments because he is Russian and an oil producer. But, he also had a good reminder of why the energy transition isn’t likely to be as smooth as the aspirations of the climate change side – the western leaders have a priority for the coming decades is to cut China out despite it being the big supplier of rare earths and critical metals. Rather Sechin warned that what is needed is for the climate change side to coordinate with suppliers like China. TASS wrote “We are faced with the fact that “renewable energy” is not essentially renewable. The global economy does not have the metals, rare earth minerals, energy, time and money to make this transition,” he said. The head of Rosneft added that the authors of the “green transition” need to coordinate the rules with those who have production capabilities and the appropriate resource base, in particular, with China, where a significant part of the production of equipment for renewable energy is concentrated.”

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China supplies 98% of EU's rare earths, 97% of its lithium

Our tweet this week linked to a prior tweet on Europe's dependence on China for rare earths. Here is what we wrote in our April 2, 2023 Energy Tidbits 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 [\[LINK\]](#) "#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 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 – Kuwait harsh warning on elimination of hydrocarbons

Earlier in the memo, we noted Kuwait Petroleum CEO Al-Sabah's view on increasing China oil demand in H2/23. We were surprised that his comments on oil and the energy transition didn't get raise huge pushback from the climate change side. (i) Al-Sabah warns that the world shouldn't have an artificial timeline to stop hydrocarbons without having something that can replace them. On Thursday, we tweeted [\[LINK\]](#) *"Should be fun at #COP28 "I say that a call on elimination of hydrocarbons within an artificial timeline will essentially lead to extreme economic dislocation and human suffering because you need hydrocarbons over the next few decades" KPC CEO Al-Sabah to @axelthrealfall #OOTT."* Here is the transcript we made of Al-Sabah's comments. " At 18:00 min mark, Al-Sabah "..... what we would like to see coming out of Dubai [COP28] is an open honest dialogue that includes all the parties that need to be heard on this. And from this perspective, I say that a call on elimination of hydrocarbons within an artificial timeline will essentially lead to extreme economic dislocation and human suffering because you need hydrocarbons over the next few decades. But how can we work responsibly with partners around the world to find the technical solutions and then also the funding to implement the offsets and the hydrocarbon, the carbon reduction that we are all looking forward to. That requires all of us to be working together to a common goal as opposed to being adversarial." (ii) A lot of oil will still be needed at the "end of any energy transition". On Thursday, we tweeted [\[LINK\]](#) *"Reality check! "We recognize that at the end of any energy transition, oil will remain part of the energy mix. Right now, it's about 1/3 of the energy mix. In the future, it may go down to 1/4 but the pie will be larger" KPC CEO. Like it or not, oil will be needed. #OOTT."* Al-Sabah didn't give a million b/d estimate, but if the demand for energy only grows by 1/3 over the next 15 years, then the world will still need 100 mmb/d. Here is the transcript we made for the full Al-Sabah quote *"We recognize that at the end of any energy transition, oil will remain part of the energy mix. Right now, it's about a*

Kuwait warns on energy transition

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third of the energy mix. In the future, it may go down to a quarter but the pie will be larger. A quarter of a larger pie of more energy demand, that will still be a robust demand for crude oil.”

Energy Transition –TotalEnergies CEO Sustainable Aviation Fuel 10x cost of jet fuel

We have never said that Sustainable Aviation Fuel can't be made or be a supply for the air industry as it moves to decarbonize. But we always remind that there limits to the potential supply amount and that the biggest holdback so far is that the SAF price is multiples more than regular jet fuel/kerosene. TotalEnergies CEO reminded of the high cost yesterday in his interview with the Le Journal du Dimanche. [\[LINK\]](#). The Google Translate of his comment was *“We are at the forefront in this sector. Governments have forced airlines and aviation on a path of sustainable aviation fuels. TotalEnergies will be there by 2030 to supply 6% of sustainable aviation fuels in France, as Europe wants. But they cost up to ten times more to produce than fossil kerosene. The European Union proposes a gradual transition with gradual increases in incorporation mandates, as we have historically practiced for gasoline with biofuels. It's an acceptable transition for travelers' wallets. And the condition of their acceptance.”*

**Sustainable
Aviation Fuel**

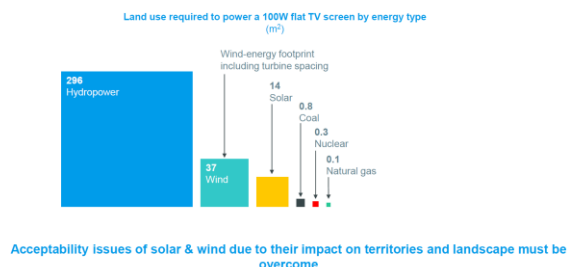
TotalEnergies prior reminder of the land competition/shortage for food vs SAF

We have noted in prior Energy Tidbits the well understood challenge for SAF is that it is hugely expensive relative to regular jet fuel. But the other part that doesn't seem to be understood is that there isn't the available land. Here is what we put in our Oct 3, 2021 Energy Tidbits. *“We believe one of the many overlooked assumptions on the energy transition is that no one seems to be worried that the competition for land for food production will impact feedstock for biofuels. This was another of the direct insights from the Q&A portion of the TotalEnergies investor day was on the big challenge for biofuels like sustainable aviation fuel (SAF) – there is limited amount of land for growth in biofuels. After seeing the JetBlue release, we tweeted [\[LINK\]](#) “#SAF (Sustainable Aviation Fuel, not our SAF Group) news from @JetBlue. Yes, SAF reduces aviation emissions, but note @PPouyanne warning on 1st Generation #Biofuels supply "which is quite limited, in fact on the planet". #EnergyTransition will take longer than expected #OOTT.” Mgmt was asked “And I was wondering, how confident you feel that the raw material will be there to fuel such a substantial growth there without really competing on the other side with the role of nature-based solutions and also without the key role of agriculture to supply food for a growing global population.” CEO Pouyanne gave a long answer, which included “So in my view, there will be, of course I would say the biofuels are immediately available. So we can begin to make, for example, sustainable aviation fuels with biofuels. I have a first generation or even what I call some wasted animal fats or used cook oil, but there will be a limit to that. Obviously in this type of feedstock, which is quite limited, in fact, on the planet. So and I agree with you that the competition with agriculture and -- will be also limited to the first generation biofuels.” Separately, they referred to their below chart on one of the challenges for solar and wind is that they need a huge amount of land to produce the same energy as other sources. Our Supplemental Documents package includes the full longer answer.”*

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Figure 64: Land use of relative energy sources

The footprint is also to be considered



Acceptability issues of solar & wind due to their impact on territories and landscape must be overcome

10 | 1 September 2021 – Energy Landscape Source: van Dal, Jelle, Bellen, Paul, 2016, The Spatial Extent of Renewable and Non-Renewable Power Generation

Source: TotalEnergies

Energy Transition – Sojitz cancels Japan wind project amid soaring material costs

We suspect there are other cancellations and delays on wind power projects around the world due to soaring material costs that just don't get picked up in the news. Yesterday, Bloomberg reported "Japanese trading company Sojitz canceled its plan to build a wind power plant in Hokkaido, amid soaring material costs and growing local criticism about the environmental impact of the project. "After re-examining the business plan from various perspectives, including the recent sharp rise in material prices, we have concluded that this project does not meet Sojitz's investment criteria," the company in a statement on Saturday. The decision adds to a recent trend of wind project cancellations, creating a headache for the Japanese government, which is seeking to significantly increase green energy production, particularly in Hokkaido. Sojitz had intended to construct large wind turbines in state-owned forests located in the city of Otaru and town of Yoichi in Hokkaido. The turbines were expected to operate for 20 years from 2029, with a total output of 109 megawatts." Bloomberg also noted that "Apart from financial concerns, the project also faced opposition from local residents who expressed worries about its potential impact on the environment." Our Supplemental Documents package includes the Bloomberg report.

Japan wind power project

Capital Markets –Low precipitation will make a very tough year for Alberta crops

We have been highlighting the very low amount of precipitation in Alberta over the winter as the set up for a potentially bad wildfire season in Alberta. The other impact that is increasingly in the news is that it is creating poor conditions for this year's Alberta crop season. Every week, Alberta posts an Alberta Crop Report, the latest is crop conditions as of June 13. [\[LINK\]](#). The assessment for Alberta surface soil moisture ratings as of June 13 are 40.0% poor, 31.8% fair, 21.2% good, 6.6% excellent and 0.3% excessive. The assessment for pasture growth conditions as of June 13 are 36.8% poor, 23.2% fair, 38.2% good and 1.8% excellent. Our Supplemental Documents package includes the Alberta crop report.

Tough crop year in Alberta

Capital Markets – A reason why insurance goes up, more don't mind committing fraud

One of the unfortunate/sad changes in society is that more and more don't mind ripping off companies. And all that means is that the cost of items, such as insurance, goes up for everyone. Last week, Verisk and the Coalition Against Insurance Fraud released the results of their new survey of insurance consumers. They wrote "The study found that 87-96% of

Increasing insurance fraud

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older respondents consider insurance fraud a crime, while only 75% of those under age 45 consider it a crime, with the percentage skewing downward by age to only 64% for the youngest group. Other findings include: • More than 36% of all Americans believe it's acceptable to submit an inflated auto damage claim • Over 30% of 25-34-year-olds "definitely would" submit a fraudulent property damage claim • 27% of those 18-24 would commit workers' compensation fraud, compared to less than 10% of those 45 and older • Over a quarter of those 18-34 are "motivated" to commit insurance fraud compared to less than 7% of those over 45." Our Supplemental Documents package includes excerpts from the survey.

[\[LINK\]](#)

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.

Big Alberta floods were 10 years ago

For many in Calgary, its hard to believe it's 10 years since the big Alberta floods that hit Calgary, High River and other areas on June 19, 2013. At that time, it was the costliest natural disaster in Canadian history at \$5 billion, but ultimately dwarfed by the May 2016 Fort McMurray wildfires at \$9 billion. One of the big flooding areas was along the Elbow River that flooded out residential areas like Riverdale, Elbow Park, Rideau and Roxboro and also flooding Stampede Park. Many of the homes had 10 to 15 feet of water so enough to fill their basements and maybe five feet on their main floors. And not all the homes survived. In the bottom picture, the four circled houses across the Elbow River from each other were torn down and never rebuilt. There were a number of other houses torn down and never rebuilt. And the famous Elbow Park school kept some of its shell but was gutted and expanded. There is a great interactive map at the City of Calgary at [\[LINK\]](#) that shows the flooding impact.

Figure 65: Elbow Park, Rideau, Roxboro, Stampede Park flooding June 20, 2013



Source: City of Calgary

Figure 66: Elbow Park and Riverdale flooding June 20, 2013



Source: City of Calgary

Happy Father's Day

Happy Father's Day! We join the world in wishing every Father to have a great day today. Just like every girl looks up to her mother, every boy looks up to his Dad as The Man. Boys want to be like their Dad. We wonder what young boys (say 8 to 12 yrs) buy for their Dad for Father's Day. One of the common presents for our friends in the mid 60s was cigarettes. A few of us would go to the local Smoke Shop (convenience store), the owner knew us and let us each buy a pack of cigarettes for Dad for Father's Day.

Appropriate name for a 5-foot fan that works well and quietly

Couldn't help note the appropriate product name for a fan that is used at the Blue Fish restaurant at Palmilla in San Jose del Cabo. It's hot at this time of year in Mexico with daily highs in the low 30C's and overnight lows in the 23-25C range. So it's hot, but Blue Fish had this 5-foot fan that was reasonably quiet to provide some

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breeze on their patio. As we're commenting how well the fan worked, we saw the name of the fan "Big Ass Fans".

Figure 67: "Big Ass Fan" in San Jose del Cabo



Source: SAF Group

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