Energy Tidbits

May 28, 2023

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China's Model Predicts Covid Cases Peak ~65 Million/Week in Late June, Reminds Model Calculations "Might Not Be Accurate"

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. China's model predicts Covid peaks ~65 million per week in late June, but also reminded that model calculations "might not be accurate" (Click here)

2. Seasonal Russian refinery maintenance normally frees up ~500,000 b/d of crude oil for exports in Feb/Apr/May ie. why Russian oil exports have been stronger. (Click here)

3. Saudi Energy Minister Abdulaziz reminder to traders drove oil up to start the week but Russia's Novak not expecting any new actions at OPEC+ June 4 sent oil lower. (Click here)

4. Something looks off in the Baidu China city-level congestion data in the face of rising Covid cases. (Click here)

5. Canadian mutual funds continue to be hit by big redemptions in balanced and equity funds. (Click here)

6. Pease 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 – +96 bcf build in US gas storage; now 529 bcf YoY surplus

US gas storage 529 bcf YoY surplus

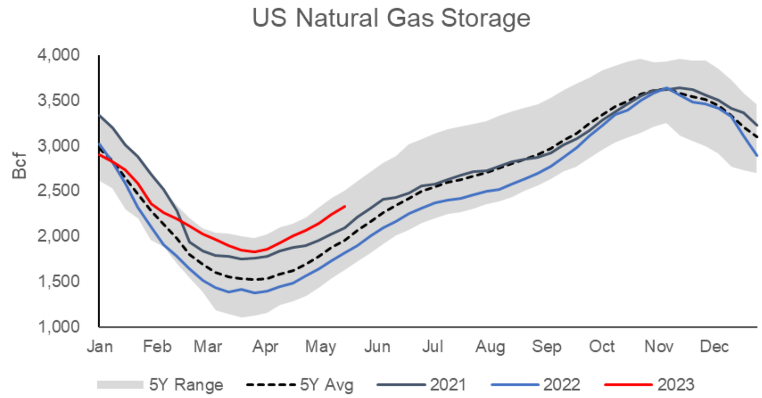
It's May so it's the normal natural gas injection season absent some unusual event. For the week of May 19, the EIA reported a +96 bcf build (under the expectations of a 101 bcf build), compared to the +87 bcf build reported for the week of May 20 last year. This is a slight increase from last week's build of +99 bcf, and the 5-year average build of +43 bcf. Total storage is now 2.336 tcf, representing a surplus of +529 bcf YoY compared to a surplus of +521 bcf last week and is +340 bcf above the 5-year average, in like with the +340 bcf above last week. Below is the EIA's storage table from its Weekly Natural Gas Storage Report [LINK].

Figure 1: US Natural Gas Storage

	Stocks billion cubic feet (Bcf)				Year ago (05/19/22)		5-year average (2018-22)	
Region	05/19/23	05/12/23	net change	implied flow	Bcf	% change	Bcf	% change
East	489	458	31	31	321	52.3	370	32.2
Midwest	546	520	26	26	390	40.0	428	27.6
Mountain	120	112	8	8	108	11.1	115	4.3
Pacific	139	127	12	12	192	-27.6	222	-37.4
South Central	1,042	1,023	19	19	796	30.9	861	21.0
Salt	294	290	4	4	252	16.7	273	7.7
Nonsalt	748	734	14	14	545	37.2	588	27.2
Total	**2,336**	**2,240**	**96**	**96**	**1,807**	**29.3**	**1,996**	**17.0**

Source: EIA

Figure 2: US Natural Gas Storage – Historical vs Current



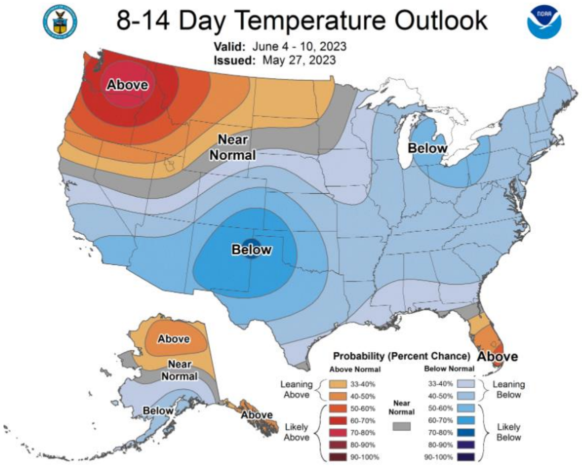
Source: EIA, SAF

Natural Gas – NOAA 8-14 day temperature outlook is no major weather driven demand

NOAA 8-14 day outlook

May is now almost over and we are moving in to the hot months of the summer. But it looks like June will be off to a cooler normal temperatures start, which means that for much of the US, it will be leave the windows open temperatures and not crank up the A/C temperatures. NOAA updates daily its 6-10 and 8-14 day temperature outlooks. Yesterday, we tweeted [LINK] "*Updated @NOAA 8-14 day temp outlook for June 4-10 calls for cooler than normal* *temps. No real temp driven #NatGas demand in NE & Great Lakes ie. daily highs NYC ~25c, Chicago 21-24c. But south is still warm ie. Dallas daily highs 31-33c. Houston 31-34c. #OOTT."* The temperatures we referenced were from AccuWeather. So even though Texas shows a little cooler than normal, AccuWeather still expects Dallas and Houston to have daily highs in the low 30s Celsius for June 4-10. But they see Chicago at 21-24c for daily highs.

Figure 3: NOAA 8-14 day temperature outlook June 4-10



Source: NOAA

Natural Gas – TC asks to put US/Mexico 0.495 bcf/d North Baja pipeline into service

TC's new 0.495 bcf/d to Mexico

One of the key US natural gas themes to 2030 will be increasing US natural gas exports via pipeline to Mexico for Mexico domestic consumption and to new LNG on the Mexico west coast. And TC Energy is probably the driving force for this big push. On Friday, Bloomberg reported "*TC Energy (NYSE:TRP) sought permission Thursday from the Federal Energy Regulatory Commission to put parts of the North Baja natural gas pipeline expansion in Arizona and California into service. The 495M cf/day North Baja expansion will supply more U.S. natural gas to Mexico, including to Sempra Energy's (SRE) Costa Azul liquefied natural gas export plant in Mexico, which is under construction. In its filing, TC Energy (TRP) said it completed work on some North Baja facilities earlier this year and was now asking FERC for permission to put remaining facilities into service. North Baja is a bidirectional pipeline that entered service in 2002 and can move gas from Arizona to California and Mexico as well as from Mexico to California and Arizona."*

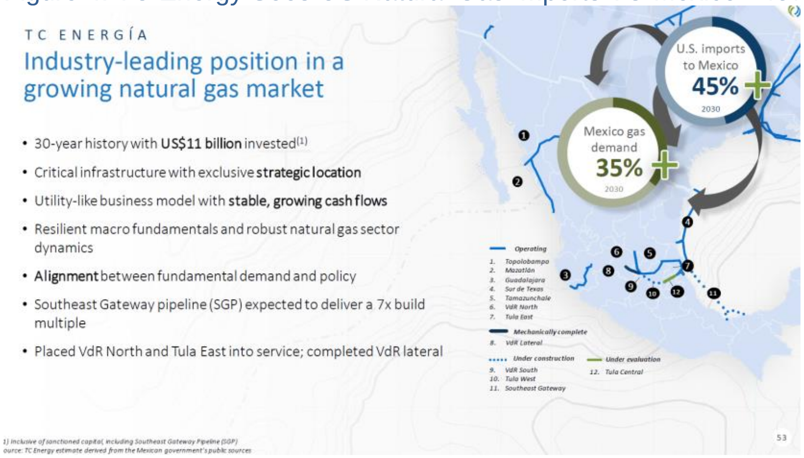
What if TC is right that Mexico attracts +3 bcf/d of Permian by 2030?

Here is what we wrote in our Dec 18, 2022 Energy Tidbits memo. *"It won't affect stock trading, but for those that look at capital allocation on a mid to long term basis or look at tail-end risks/opportunities, the question of Mexico's natural gas infrastructure build-out is worth tracking. We had the opportunity to listen to a major energy analysis group recent US natural gas outlook and it didn't include any slides or commentary on the potential (or expectation by some) for Mexico to ramp up its natural gas pipeline imports from the Permian in the 2020s. It's something that most either overlook or discount or just don't care about, but a factor that could a material* *impact on the US natural gas view. TC Energy is probably the driving force behind much of Mexico's domestic natural gas pipeline infrastructure build-out and has a very bullish view that Mexico will attract an additional +3 bcf/d to 2030. If they are right, this will attract Permian natural gas, and that means there will be less Permian natural gas for LNG export. And will raise the question is there enough natural gas to support the growth in US LNG exports? And, since US LNG export growth, it means that there will be a need to try to get Appalachia natural gas down to the Gulf Coast. And, or course, TC Energy has the solution for that. But you can see how the TC view on Mexico has a very big impact on US natural gas in the 2020s, if not necessarily in the next couple years. We highlighted this in our Dec 4, 2022 Energy Tidbits."*

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

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

Figure 4: TC Energy Sees US Natural Gas Imports TO Mexico +45% to 2030



Source: TC Energy

Natural Gas – Mexico's 2nd consecutive month natural gas production above 5 bcf/d,

On Friday, Pemex reported [LINK] its natural gas data for April. Pemex reported April 2023 natural gas production of 5.095 bcf/d, which was +7.5% YoY and +1.2% MoM. The big picture story for Mexico natural gas is, at least for now, still unchanged – for the past six years, Mexico natural gas production has been stuck right around 5 bcf/d, and that means any increased domestic natural gas consumption has been met by US natural gas imports. To be fair, the last two months have been the first consecutive months over 5 bcf/d since Dec 2019/Jan 2020. Pemex does not provide any commentary along with its production data. Below is our ongoing table of Pemex reported monthly natural gas production.

Mexico natural gas above 5 bcf/d in April

Figure 5: Mexico Natural Gas Production (bcf/d)

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

Source: Pemex

Natural Gas – Qatar warns energy transition to lead to big shortage in natural gas

We don't believe Qatar's warning on an upcoming big shortage in natural gas from the energy transition will change many minds on the climate change side, but we wonder if it will give some western leaders more food for thought as they try to figure out how to manage the energy transition in a way that avoids a future of energy crisis. But on Tuesday, we tweeted

Qatar warns on natural gas shortage

[LINK] ""*There is going to be a big shortage in the gas predominantly due to the #energytransition. "You need a proper energy mix and it can't be driven by politics and politicians wanting to get in the seat to say this is the solution" Warning from Qatar Energy Minister al-Kaabi. Thx @GulfTimes_QATAR. #OOTT #NatGas #LNG."* We saw the clip of his comments at the Qatar Economic Forum, but our tweet attached the Gulf Times (Qatar) reporting of his key quotes. "*so saying renewables just generating electricity does not solve the problem, you need a proper energy mix and it can't be driven by politics and ppoliticians wanting to get in the seat to say this is the solution.*" And "*Regarding the gas development and the future for the supply and demand, there is going to be a big shortage in the gas predominately due to the energy transition push that is really aggressive without studying it properly because if you look at economic stability and environment sustainability, they're no t mutually exclusive. You need to have both. And if you push some countries into doing that, that doesn't help humanity in general.*" Our Supplemental Documents package includes the Gulf Times reporting.

Natural Gas – India April natural gas production -4.0% MoM to 3.23 bcf/d

India natural gas production down -2.90% YoY

It looks like India's domestic natural gas production is staying relatively flat after moving up from the recent 2020/21 trough. India natural gas production peaked in 2010 at 4.6 bcf/d. Its 2018-2019 production averaged 3.18 bcf/d, declining to 3.02 in 2019-2020 and then further declined to average 2.78 bcf/d 2020-2021. But then natural gas production returned to growth in 2021-2022 but that growth has mostly stalled or is modest at best. On Wednesday, India's Petroleum Planning and Analysis Cell released their monthly report for April's natural gas and oil statistics [LINK]. India's domestic natural gas production of 3.23 bcf/d was down -3.23% YoY in April from 3.33 bcf/d in April 2022, and was down -4.04% MoM from 3.37 bcf/d in March. Our Supplemental Documents package includes excerpts from the PPAC monthly.

Natural Gas – India Apr LNG imports down 3.3% MoM to 2.63 bcf/d

India LNG imports -9.47% YoY

For the past several years, there has been increased India LNG imports whenever domestic natural gas production was flat or decreased. But the overriding factor in 2022 has been the sky-high LNG prices. India is always viewed as an extremely price sensitive buyer in terms of its LNG imports. We saw this in periods of low LNG prices such as June to Oct 2020 when India had a big ramp up in LNG imports. But with the sky-high LNG prices in 2022, India did their best to minimize LNG imports. However, now with the pull back in LNG prices, we are seeing some modest MoM increases in India's LNG imports. On Wednesday, India's Petroleum Planning and Analysis Cell released their monthly report for April natural gas and oil statistics [LINK]. Over the past 3 years, India's LNG imports declined from a 2020-2021 peak of 3.84 bcf/d in Oct 2020 to just 2.85 bcf/d in Jan 2021 and lower in 2022. Additionally, April LNG imports were 2.63 bcf/d, up +3.33% MoM from 2.55 bcf/d in March and down -9.47% YoY from 2.91 bcf/d in April 2022.

Natural Gas – JKM LNG and Dutch TTF natural gas prices are both below $10

JKM and TTF below $10

One of the reasons we follow weather, especially winter weather is that the winter is the big setup for the year for natural gas and LNG prices. It's tough to fully recover from a warm winter, especially when it's warm for all the major natural gas consuming regions of the world. And once early March passes, it's really shoulder season for most, but not all, of the major natural gas consuming regions. And it was warm in March. So no surprise, natural gas and LNG prices have been very weak in 2023. However, we don't think even the natural gas bears called for both JKM LNG prices and TTF Dutch natural gas prices would both be below $10. The one advantage of the below $10 LNG prices is that it is opening up cargoes for the poorer countries (ie. Pakistan) to finally get some LNG cargoes.

Figure 6: JKM and TTF prices both below $10

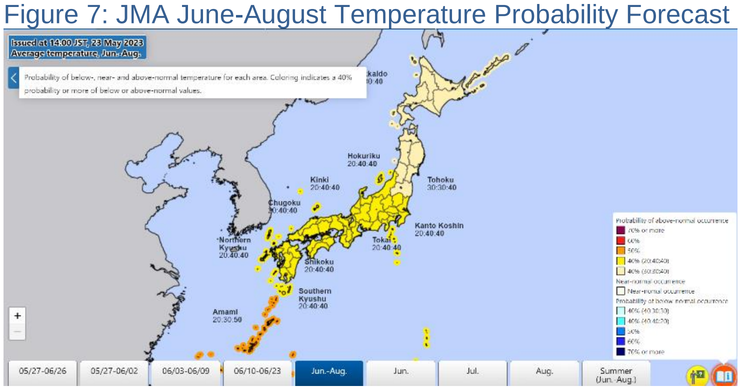
Source: Bloomberg

Natural Gas – Slightly above average temperatures expected in JJA in Japan

Japan's JJA temperature forecast

It looks like there should be some, but not necessarily big, weather support for natural gas demand in Japan in Jun/Jul/Aug with slightly above average temperatures starting in June. On Thursday, the Japan Meteorological Agency updated 30-day outlook [LINK] also included its look at Jun-Jul-Aug, which calls for warmer than normal temperatures from June through August, with temperatures increasing as the months progress. Below is the JMA's temperature probability forecast for June-Aug.

Figure 7: JMA June-August Temperature Probability Forecast



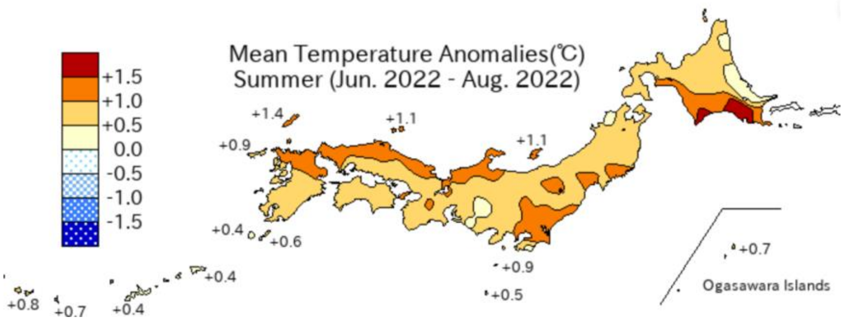
Source: JMA

June/July/August 2022 had very warm temperatures

An expectation for a slightly warmer than normal JJA in 2023 will be comp'd against a very warm June-August 2022 in Japan. The JMA's recap of JJA 2022 was [LINK]

"Seasonal mean temperatures were significantly above normal in eastern and western Japan, and Okinawa/Amami, because warm-air tended to cover the regions through the summer. In western Japan, the temperature was tied for the highest since 1946."

Figure 8: JMA June-August 2022 Temperature



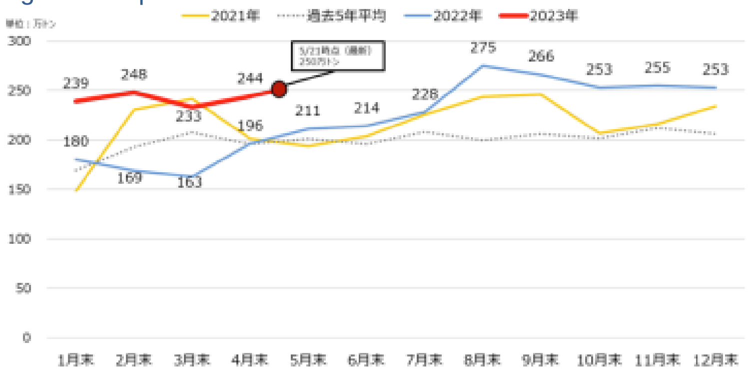
Source: JMA

Natural Gas – Japan's LNG stocks down -4.2% WoW to ~120 bcf

Japan LNG stocks down -4.2% WoW

Japan had a mild winter with a hot March to end winter, so it was able to escape any weather-driven LNG shortages. April was warm and May started off warm, but this is shoulder season and warmer than normal April and early May doesn't drive any significant weather driven push for natural gas. The start of June is expected to move back to more normal temperatures so, at least for now, weather isn't expected to be a huge push for natural gas demand. LNG stockpiles held by Japanese power producers continue to exceed both last year's level and the seasonal average. Japan's METI weekly LNG stocks data was released on Wednesday [LINK]. LNG stocks on May 21 were 120.1 bcf and are down -4.2% WoW from May 14 of 125.4 bcf, and well above the 5-year average of 96.5 bcf. Below is the LNG stocks graph from the METI weekly report.

Figure 9: Japan LNG Stocks



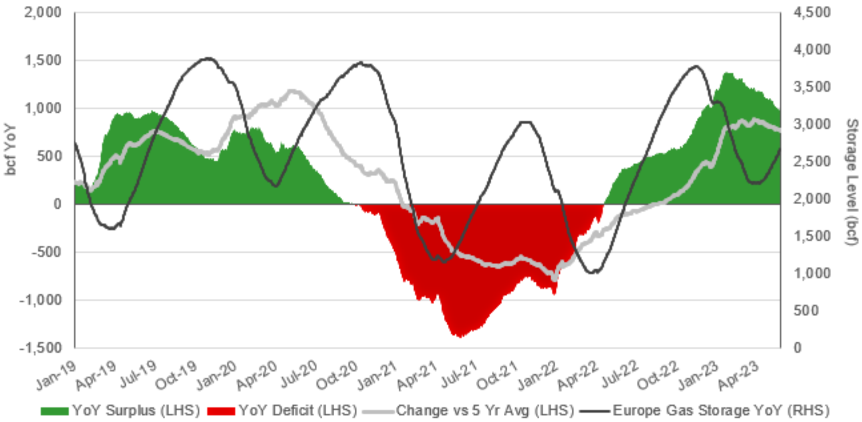
Source: METI

Natural Gas – Europe storage is now +18.18% vs 5-yr average, but within 5-yr range

Europe gas storage

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. There was negligible weather driven demand for natural gas, which along with the continued industrial demand destruction, meant storage levels are at still at high levels. However, we are seeing a gradual narrowing of the Europe gas storage surplus with the lower European natural gas prices and the impact of strikes impacting France LNG imports on and off over the past month. This winter (Nov 1/22) began with gas storage at 94.94% capacity, up 17.86% YoY and a YoY surplus of 27.02%. However, average temps remained a bit warmer this past week resulting in storage increasing slightly by +2.12% WoW to 66.71% on May 24. Storage is now +22.50% greater than last year levels of 44.21% and is +18.18% above the 5-year average of 48.53%. 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 10: Europe Gas Storage Level



Source: Bloomberg

Oil – US oil rigs -5 WoW at 570 oil rigs on May 26, US gas rigs -4 WoW at 137 gas rigs

US oil rigs down WoW

The US sees another week of declines in both oil and gas rigs this week. Baker Hughes released its weekly North American drilling activity data on Friday. This week total US oil rigs were down -5 rigs WoW as of May 26. We note that crude oil being priced at $70 seems to be where the more marginal players will begin to pull back rigs. The total US oil rig count is now at 570 rigs, -4 rigs YoY, +89 from the 2022 low of 481 rigs in January and +398 since the 2020 low of 172 rigs on Aug 14. Notably, on a per basin basis the Permian was up +1 rigs to 347. Cana Woodford and Other rig counts both declined this week by -2 rigs to 22 and -3 rigs to 85, respectively. It was expected to see US gas rigs decline given the low $2.30 Henry Hub. and were flat WoW at a total of 137 rigs. US gas rigs have decreased -14 rigs YoY. Notably, on a per basin basis Haynesville and Others both declined this week by -3 rigs to 54 and -2 rigs to 28, respectively. Below is our graph of total US oil rigs

Figure 11: Baker Hughes Total US Oil Rigs

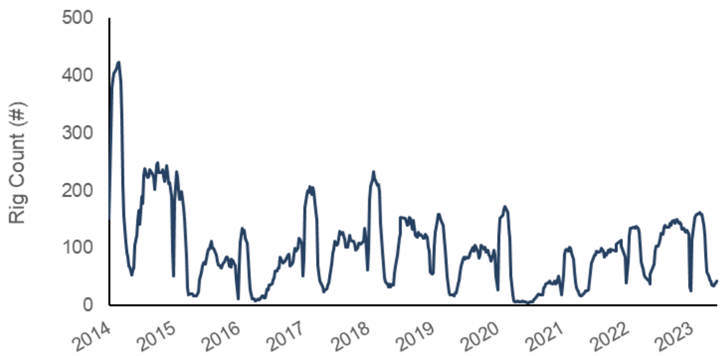
Source: Baker Hughes, SAF

Oil – Total Cdn rigs +2 WoW to 87 total rigs, better week but still bad for wildfires

Cdn total rigs up WoW

Wildfires are the story for Cdn rigs. Cdn drilling is now in what is the normal seasonal increase in drilling rigs from early May thru 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 with a better week for wildfires (but still too many wildfires), there was a +2 WoW increase for the week ended May 26. We normally see stronger increases at the end of May/early June, but wildfires are a wildcard every week. But there is the risk of more declines over the next couple of weeks depending on wildfires. Total Cdn rigs were up +2 rigs WoW at 87 rigs as of May 26. Notably, the week of May 26 saw a -2 rig decrease in AB, and BC remained flat through the wildfires. Saskatchewan and Manitoba increased +3 WoW to 5 rigs and +1 WoW to 1 rig, respectively. Cdn oil rigs were up +3 WoW to 42, while Cdn gas rigs decreased -1 to 45 rigs. Cdn oil rigs are now -10 rig YoY compared to 55 rigs last year, while gas rigs are -3 YoY from 48 rigs. Below is our graph of total Cdn oil rigs.

Figure 12: Baker Hughes Total Canadian Oil Rigs



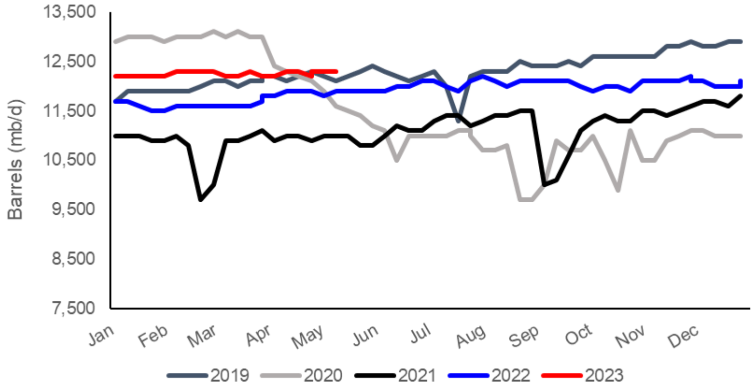
Source: Baker Hughes, Saf

US oil production increases WoW

Oil - US weekly oil production increases -0.100 mmb/d WoW to 12.3 mmb/d

It was another week of relatively no change to the EIA's estimates for weekly US oil production. As noted in the following item, these are estimates of the current week and the actuals have been higher than the weekly estimates ie. the weekly estimates have been low. The EIA estimates US oil production grew +0.100 mmb/d WoW to 12.3 mmb/d for the week ended May 19. The Lower 48 also grew +0.100 mmb/d WoW to 11.9 mmb/d, while Alaska +0.033 mmb/d to 0.438 mmb/d. US oil production, based on the weekly estimates, was mostly range bound in 2022 between 11.9 to 12.1 mmb/d since the 2nd week of May. But this year production broke above 12.1 mmb/d to 12.2 mmb/d for the week ended Jan 6, and has remained at or just above 12.2 mmb/d ever since. 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 Feb 3 at 12.3 mmb/d. US oil production is up +0.400 mmb/d YoY at 12.3 mmb/d but is still down significantly at -0.900 mmb/d since the 2020 peak of 13.1 mmb/d on March 13, 2020.

Figure 13: EIA's Estimated Weekly Oil Production



Source: EIA, SAF

EIA's Form 914 "actuals" for Feb were +0.18 mmb/d vs weekly estimates

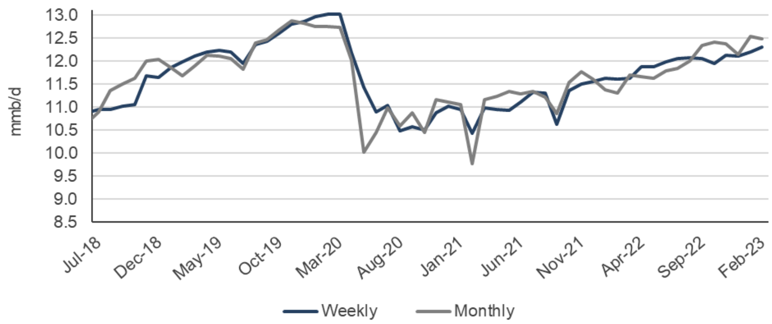
We remind that the EIA's actuals have been running higher than the weekly estimates. Here is what we wrote in out Apr 30, 2023 Energy Tidbits memo. "*As a reminder there is a sizeable difference between what the EIA looks as "actuals" for US oil production vs the EIA's weekly estimates noted above. On Friday, we tweeted [LINK] "#EIA Form 914 actuals: US oil production stronger than many expect. Feb 23 was 12.483 mmb/d, +1.177 mmb/d YoY. 2nd highest since Covid, following revised up Jan 23 of 12.536 mmb/d. Note Feb actuals of 12.483 mmb/d are +0.18 mmb/d vs @EIAgov weekly estimates. #OOTT." On Friday, The EIA released its Form 914 data [LINK], which is the EIA's "actuals" for February US oil and natural gas production. There were two key takeaways from the EIA's weekly US oil production data for Feb – the actuals were 183,000 b/d more than the weekly estimates, and Feb was the 2nd highest US oil production since Covid at +1.177 mmb/d YoY to 12.483 mmb/d vs. Jan's post-Covid peak of 12.536 mmb/d. Note that Jan's data was revised up by +74,000 b/d since the March Form 914 release. (i) Form 914 estimates* *that total US oil production saw a marginal decrease of -53,000 b/d MoM to 12.483 mmb/d in February. The actuals for February were 183,000 b/d higher than the EIA's weekly estimates that worked out to 12.300 mmb/d. January actuals were adjusted higher to 12.536 mmb/d and were 336,000 b/d higher than weekly estimates of 12.200 mmb. (ii) There was a slight MoM decrease of -0.053 mmb/d vs Jan of 12.536 mmb/d. Our Supplemental Documents package includes the New Mexico, Texas and offshore Gulf of Mexico tables attached to our tweet.*

Figure 14: EIA Form 914 US Oil Production (thousand b/d)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2023	12,536	12,483										
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 15: EIA Form 914 US Oil Production vs Weekly Estimate



Source: EIA

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

Low level of Permian DUCs vs growth

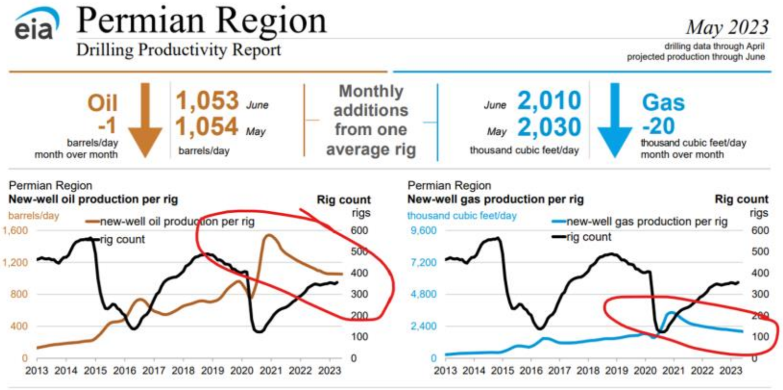
We have had a lot of comments on our item from last week's (May 21, 2023) Energy Tidbits memo on how the math looks tough for sustained Permian growth unless there is a big jump up in drilling. Here is what we wrote last week. "*We have been focused on the level of Drilled UnCompleted Wells (DUCs) in 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 May or June, 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 last month's DPR. However, that still doesn't make any real difference to the overall math problem. On Tuesday, we tweeted [LINK] "Bullish for #Oil. Is there SUSTAINABLE Permian oil GROWTH if Permian DUCs are at 2014 levels & Oil rigs ~65% of 2014 levels, but that was when Permian* *production was >30% of today's b/d? @EIAgov new well prod/rig is 3x 2014 levels, but down 1/3 since 2021.Need DUCs/New Oil wells to offset decline rate challenge. see 👇05/09 tweet on #WarrenBuffett #CharlieMunger views. #OOTT." And [LINK] not suggesting in any way that Permian oil falls off a cliff. rather it's tough to understand the math for Permian oil growth like some, including the EIA, expect. declines have to be offset as Buffett and Munger stressed. and not see the needed ramp up in oil rigs to build DUCs. #OOTT." Permian DUCs are at the same levels as Aug/Sept 2014. Yet Permian rigs are 63% of Aug/Sept 2014, and production is >3.5 times higher than Aug/Sept 2014. There is no question fracking/completions are multiples better than 2014. But if we use the EIA May 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 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 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 16: Permian: DUCs vs Rigs and Production

	DUCs	Oil Rigs	Gas Rigs	Oil mmb/d	Gas bcf/d
May 2023	915	350	4	5.79	22.5
Aug 2014	902	560	5	1.67	6.0
May 2023 as % Aug 2014	101%	63%	80%	347%	375%
Sept 2014	981	560	5	1.67	5.8
May 2023 as % of Sept 2014	93%	63%	80%	347%	388%
* Rigs are approx for month					

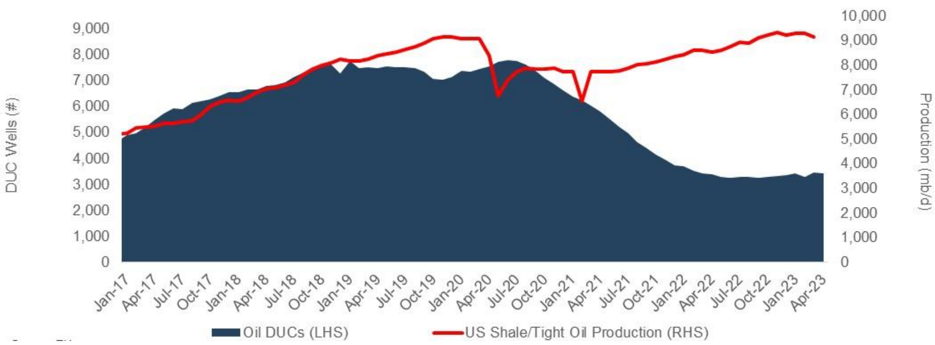
Source: EIA, Baker Hughes

Figure 17: Permian: EIA's Permian new-well-oil production per rig



Source: EIA

Figure 18: EIA Estimated Drilled UnCompleted Wells vs Permian Oil Production



Source: EIA Drilling Productivity Report

Warren Buffett & Charlie Munger highlighted "quick death" in Permian wells
As noted above, the math on how much production growth is straightforward and it starts with decline rates of the existing production base. All oil and gas wells decline and the first challenge for production growth is to add new production to offset the growth and keep production flat. Here is what we wrote in our May 7, 2023 Energy Tidbits memo on Warren Buffett and Charlie Munger highlighting the very fast decline rates in new Permian shale wells. "*We were surprised by the Warren Buffett and Charlie Munger negative comments on shale considering their large position in Permian producer Occidental Petroleum at the Berkshire Hathaway annual meeting last Saturday. They were very negative on the high decline rate of shale and how tough the high decline rate makes it for US shale. We have to believe that, other than a blind Buffett follower, many listeners would have turned negative on shale after listening to Buffett and Munger. The other thing is that its Buffett so it typically means that, in this forum, the answers aren't short. So there wasn't' much doubt on their concern on high decline raes for shale. On Tuesday, we tweeted [LINK] "Is this what #WarrenBuffett & #CharlieMunger wanted? Reason to not like #Shale? Huge initial production but 1 1/2 yrs, "it becomes practically nothing. "it really dies fast, those*

shale wells, if you like quick death in your wells, we have them for you", "it's not a long-term source".#OPEC loves it. Doubt about shale oil growth potential is a positive for #Oil in 2020s. See 👇SAF transcript." Here are a couple excerpts from the transcript we made of the Buffett and Munger comments on shale. Buffett "Well, in the Permian, this should sink in on you, in the first day, the first day when you bring in a well, it may be 12,000 barrels, it may be 15,000 barrels. It's dangerous. Occidental had one come in at 19,000 barrels or something like that. One day. And in a year, a year and a half, it becomes practically nothing. It's a different business." Munger "Yeah, it really dies fast, those shale wells. If you like quick death in your oil wells, we have them for you". Our Supplemental Documents package includes the transcript we made of the Buffett and Munger comments."

Oil – US SPR releases added >700,000 b/d, 220 mmb, since Russia invaded Ukraine

US SPR releases added >700,000 b/d

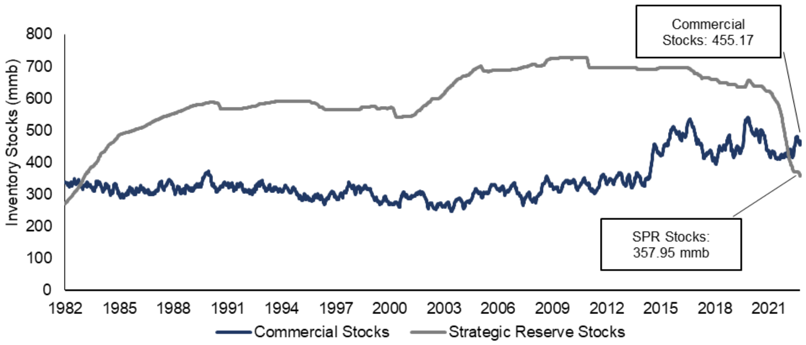
Every week, we report on weekly changes to SPR but don't' regularly remind the big picture of what the SPR releases have meant to oil markets. SPR releases have added >700,000 b/d to export markets since Russia invaded Ukraine On May 15, 2023, we tweeted [LINK] "*US depleting #SPR is ending in June after adding 700-750 kbd since RUS/UKR. KISS reminder from @Jorgecomments. US main tool to prevent #Oil price rise was deplete the SPR. Even if no refill, it's taking 745 kbd off market."* And [LINK] "*#SPR down 220.3 mmb (745 kbd) since RUS/UKR. Biden inauguration 638.1 mmb. Right before RUS/UKR 582.4 mmb. 05/05/23 362.1 mmb. US reduced SPR by 745 kbd since RUS/UKR. Depleting SPR is ending in June. Thx @Jorgecomments @sean_evers #OOTT."* This good reminder came from Jorge Montepeque (President & Founder, Global Markets) on Gulf Intelligence Daily Energy Markets May 15th podcast. [LINK] Our tweet included the transcript we made of his comments. Items in *"Italics*" are SAF Group created transcript. Montepeque "… *there was, whether it was said or not, an objective by the US and the West to either drive down the price of oil plus cutting the price to Russia to punish them as well as economically prevent a rise that would damage the western economies. A large part of that strategy was borne by the US and the main tool they used was by depleting their SPR. Let's not forget that. That depletion of the SPR is getting to a level that has now become a political issue inside. And the US Secretary and the Biden Administration are under pressure to start buying back and refilling that SPR. So part of the low price we have seen in the last year is that steady release from the US which you could say was 700 to 750,000 b/d. So that's like another country, another producing exporting. That is ending in June. There is still oil in the SPR but, I think going forward that may turn into a buy-in rather than a sell-out. And that is going to alter very much the dynamics. And I don't think anybody wants this war to continue much longer*".

Oil - US SPR reserves now -97.214 mmb lower than commercial crude oil reserves

US SPR reserves

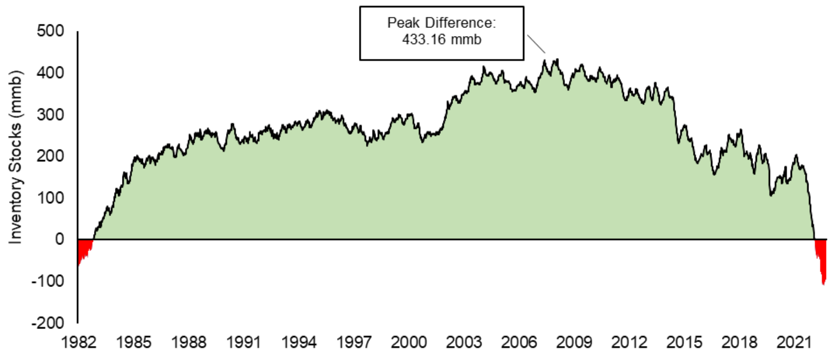
Oil in US Strategic Petroleum Reserves (SPR) continues to move below total US commercial crude oil reserves. SPR first went back below commercial for the first time since 1983 in the Sept 16, 2022 week. This deficit widened this week with a draw in commercial oil stocks of 12.6 mmb that actually includes the impact of a 1.6 mmb draw in SPR. The EIA's weekly oil data for May 12 has SPR reserves at 357.954 mmb vs commercial crude oil reserves at 455.168 mmb. The below graphs highlight the difference between commercial and SPR stockpiles.

Figure 19: US Oil Inventories: Commercial & SPR



Source: EIA, SAF

Figure 20: US Oil Inventories, SPR Less Commercial



Source: EIA, SAF

Oil – SPR now down 13.6 mmb of planned 26 mmb SPR draw ie. 12.4 mmb to go

12.4 mmb SPR sales 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 13.625 mmb to 357.954 million barrels as of May 19, 2023. This is draw of 13.625 million barrels leaving ~12.4 million barrels to go for the full 26 million barrel sales.

Oil – Cdn oil differentials widened $0.95 to close at $13.75 on May 26

WCS less WTI differentials

WCS less WTI differentials widened by $0.95 this week to close at $13.75 on May 26, which we expect was mostly linked to the lessening wildfires impact this week on Cdn oil operations. This has followed a couple weeks of narrowing of the differentials by $1.35/b over the prior two weeks when the wildfires were impacting more Cdn oil and gas operations. Alberta wildfires and their impact on oil and gas has been viewed as the main factor, but also in the background on the global scale is that OPEC+ cuts started May 1 and OPEC+ cuts tend to be the medium/heavy barrels. But WCS less WTI differentials have narrowed since the big pick up in Alberta wildfires. 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. 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, and now widened to $13.75 on May 26. For perspective, a year ago, the WCS-WTI differentials widened in May from $12.80 at the end of April to $18.25 on May 31, 2022. WCS-WTI differentials were $16.25/b on May 26, 2022. Below is Bloomberg's current WCS–WTI differential as of May 26, 2023 close.

Figure 21: WCS less WTI oil differentials including May 26 close

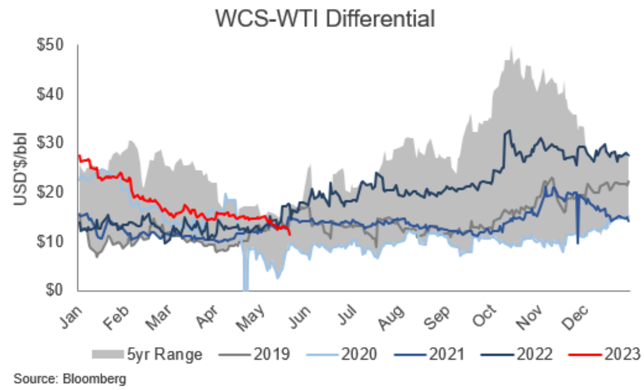
Source: Bloomberg

Oil – May is normally when Cdn heavy oil differentials are at their narrowest

WCS 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. The wildfires have disrupted the normal seasonal pattern for WCS less WTI differentials. Our prior comments on the normal WCS-WTI differentials patter said there are always unplanned events that impact WCs-WTI differentials. However, special items aside, 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. 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.

Figure 22: WCS less WTI oil differentials



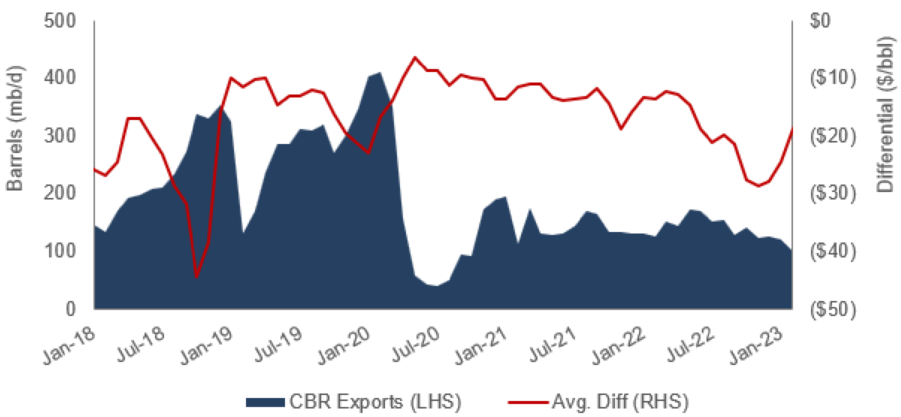
Source: Bloomberg

Oil – Cdn crude by rail exports at 97,817 b/d in March, down -35.6% YoY

Cdn crude by rail exports

The Canadian Energy Regulator (successor to NEB) reported Canadian crude by rail exports were down -1,5700 b/d MoM to 97,817 b/d in Mar vs to 99,387 b/d in Feb [LINK]. This puts export volumes at -54,080 b/d YoY (-35.6%) vs Mar 2022 of 151,894 b/d. CBR volumes are +58,950 since the Covid low of 38,867 b/d in July 2020. The CER doesn't provide any explanation for the MoM changes but the MoM drop is directionally consistent with the EIA data that shows less Cdn crude were down in Feb to the US Gulf Coast. Below is our graph of Cdn crude by rail exports compared to the WCS–WTI differential.

Figure 23: Cdn Crude By Rail Exports vs WCS Differential



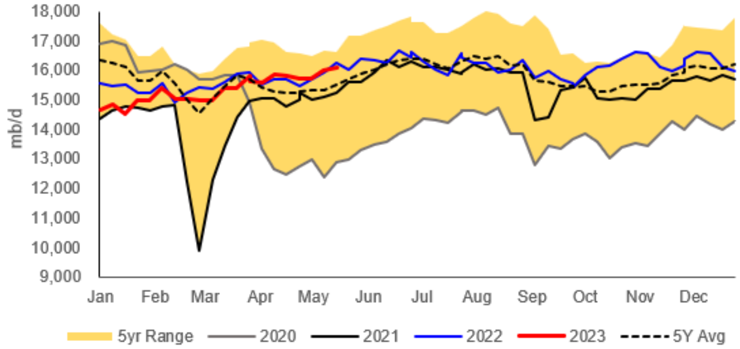
Source: Canadian Energy Regulator, Bloomberg

Oil - Refinery inputs up +0.245 mmb/d WoW to 16.069 mmb/d

Refiners switching to summer fuel blends

There are always unplanned refinery issues that impact crude oil inputs into refineries, but refineries around the world follow seasonal patterns for their maintenance such they are producing the key petroleum products at the right time of year. We normally see Feb/early March as a refinery turnaround season for refineries in the US to be ready to produce summer fuels, including asphalt. So that normally leads to less crude oil inputs during turnaround. And normally, refineries come out of turnarounds in late March/early April to start their ramp up in refining of summer blend fuels, which typically peaks in Aug/early Sept. So, unless there are unplanned refinery issues, we should be in a period of increasing crude oil inputs into US oil refineries in the ramp up for peak driving season. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended May 19. The EIA reported crude oil inputs to refineries were up +0.079 mmb/d this week to 16.069 mmb/d but are down -0.200 mmb/d YoY from 16.269 mmb/d for the week ended May 20, 2022. This week's refinery utilization was down -0.3% WoW to 91.7% and is down -1.5% YoY as well. Total products supplied (i.e., demand) increased WoW, up +1.143 mmb/d to 20.701 mmb/d, and Motor gasoline was up +0.529 mmb/d to 9.437 mmb/d from 8.908 mmb/d last week. The 4-week average for Motor Gasoline was down -0.019 mmb/d YoY to 9.066 mmb/d. The 4-week average of Total demand was up +0.123 mmb/d YoY to 20.057 mmb/d.

Figure 24: US Refinery Crude Oil Inputs (thousands b/d)



Source: EIA, SAF

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

US net oil imports

We repeat the same commentary as last week 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 we 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 imports from Venezuela in its monthly data but for reason not in these weekly estimates. (ii) US "NET" imports were down -1.249 mmb/d to 1.301 mmb/d for the May 19 week. US imports were down -1.010 mmb/d to 5.850 mmb/d. US exports were up +0.239 mmb/d to 4.549 mmb/d. The WoW decrease in US oil imports was driven mostly by the Top 10, which was down -0.552 mmb/d. Some items to note on the country data: (i) Canada was up +0.115 mmb/d to 3.707 mmb/d. (iii) Saudi Arabia was down -0.203 mmb/d to 0.212 mmb/d. (iv) Mexico was down -0.019 mmb/d to 0.657 mmb/d. (v) Colombia was down -0.125 mmb/d to 0.214 mmb/d. (vi) Iraq was down -0.038 mmb/d to 0.136 mmb/d. (vii)

Ecuador was down -0.030 mmb/d to 0.071 mmb/d. (viii) Nigeria was down -0.252 mmb/d to 0.077 mmb/d.

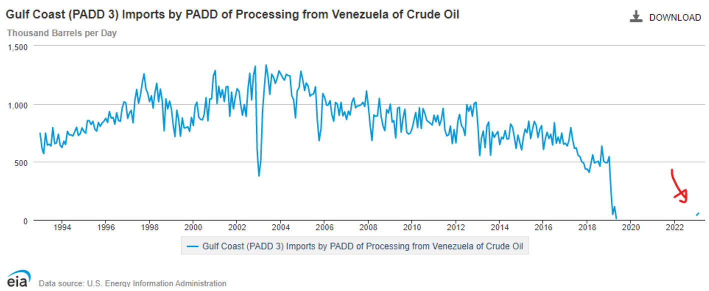
Figure 25: US Weekly Preliminary Oil Imports by Major Countries

(thousand b/d)	Mar 10/23	Mar 17/23	Mar 24/23	Mar 31/23	Apr 7/23	Apr 14/23	Apr 21/23	Apr 28/23	May 5/23	May 12/23	May 19/23	WoW
Canada	3,371	3,240	2,957	3,980	3,590	3,519	3,327	3,526	3,269	3,592	3,707	115
Saudi Arabia	385	483	228	514	376	339	393	242	381	415	212	-203
Venezuela	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	633	1,118	541	920	450	615	728	706	393	676	657	-19
Colombia	294	244	269	71	159	303	143	143	47	339	214	-125
Iraq	346	144	138	345	241	180	222	148	247	174	136	-38
Ecuador	46	0	118	80	242	131	36	57	145	101	71	-30
Nigeria	170	129	104	302	236	112	104	214	143	329	77	-252
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	5,245	5,358	4,355	6,212	5,294	5,199	4,953	5,036	4,625	5,626	5,074	-552
Others	971	814	970	932	899	1,095	1,423	1,360	928	1,234	776	-458
Total US	6,216	6,172	5,325	7,144	6,193	6,294	6,376	6,396	5,553	6,860	5,850	-1,010

Source: EIA, SAF

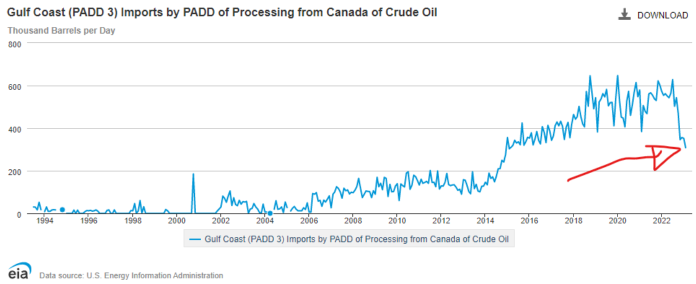
EIA shows imports from Venezuela in its monthly import data.
Here is what we wrote in our May 7, 2023 Energy Tidbits memo. *"Last week's (Apr 30, 2023) Energy Tidbits memo highlighted our Apr 29 tweet [LINK] that Chevron's start of Venezuela oil imports into the Gulf Coast is likely impacting Cdn WCS 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."*

Figure 26: Gulf Coast PADD 3 Crude Oil Imports From Venezuela



Source: EIA

Figure 27: Gulf Coast PADD 3 Crude Oil Imports From Canada



Source: EIA

Oil – Pemex oil production incl partner volumes above 1.6 mmb/d

Pemex April oil production

On Friday, Pemex reported April oil production [LINK]. Pemex April oil production, including partners was 1.608 mmb/d, which was -4.6% YoY and +0.1% MoM. Excluding partner production, Pemex interest April production was 1.587 mmb/d. Pemex does not provide any color to the numbers. The story remains the same – Mexico (Pemex) oil production is stuck around 1.6 mmb/d. Pemex has been unable to grow Mexico oil production, which means that any increase in Pemex Mexico refineries will result in less Mexico oil for export including to the US Gulf Coast. Below is our table tracking Pemex oil production.

Figure 28: Pemex (Incl partners) Mexico Oil Production

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

Source: Pemex

Oil – Mexico exports 989,000 b/d of oil in April

Pemex April oil exports

Please note that we continue to expect Mexico oil exports to decline in H2/23 as they start up their new 340,000 b/d Olemeca (formerly known as Dos Bocas) refinery. On Friday, Pemex posted its oil exports for April [LINK], which were 0.989 mmb/d, -3.4% YoY and +1.9% MoM. Oil exports can normally vary +/- 1.0 mmb/d, but changes in export volumes can be impacted by varying production levels of petroleum products. Mexico oil exports in the US were 0.574 mmb/d in April, which is down -3.4% YoY , and -10.0% MoM. Below is our table of the Pemex oil export data.

Figure 29: Pemex Mexico Oil Exports

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

Source: Pemex

Oil – Norway April oil production of 1.808 mmb/d, down -1.4% MoM

Norway oil production

On Tuesday, the Norwegian Petroleum Directorate released its April production figures [LINK]. It reported oil production of 1.808 mmb/d, down -1.4% MoM from 1.834 mmb/d in March and +8.7% YoY from 1.663 mmb/d in April 2022. April production actuals came in -0.4% (0.008 mmb/d) under the forecast volumes of 1.816 mmb/d. The NPD does not provide any explanations for the MoM changes. The theme for Norway through 2022 was that Norway oil production returned to growth because of the Johan Sverdrup oil field, and tax breaks from the government allowing increased capex in the energy sector. Norway oil production is expected to be up modestly in 2023. Our Supplemental Documents package incudes the NPD release.

Figure 30: Norway April 2023 production

		Oil mill bbl/day	Sum liquid mill bbl/day	Gas MSm³/day	Total MSm³ o.e/day
Production	**April 2023**	**1.808**	**2.035**	**340.2**	**0.664**
Forecast for	April 2023	1.816	2.027	334.8	0.657
Deviation from forecast		-0.008	0.008	5.5	0.007
Deviation from forecaset in %		-0.4 %	0.4 %	1.6 %	1.1 %
Production	March 2023	1.834	2.057	351.9	0.679
Deviation from	March 2023	-0.026	-0.022	-11.7	-0.015
Deviation in % from	March 2023	-1.4 %	-1.1 %	-3.3 %	-2.2 %
Production	April 2022	1.663	1.858	329.2	0.625
Deviation from	April 2022	0.145	0.177	11.1	0.039
Deviation in % from	April 2022	8.7 %	9.5 %	3.4 %	6.2 %

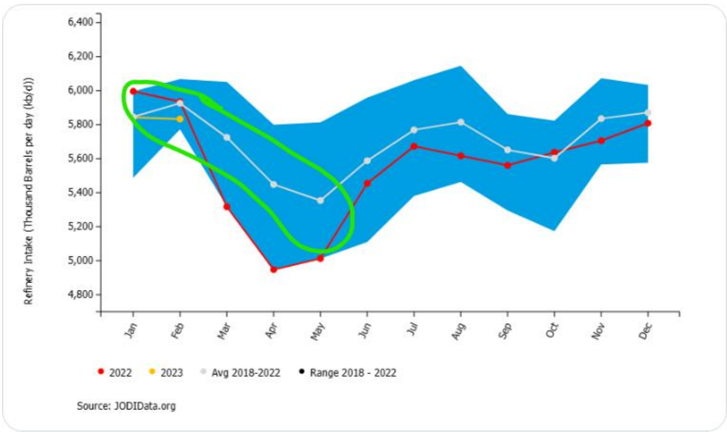
Source: Norwegian Petroleum Directorate

Oil – Russia's refineries normally increase oil processed in June ie. less oil for export

Norway oil production

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.

Figure 31: Crude oil input into Russian refineries



Source: JODI

Last week, Novak said Russia reached its voluntary 500,000 b/d cuts

Here is what we wrote in our May 21, 2023 Energy Tidbits memo. *"It seems like all the key oil agencies don't believe Russia has made its voluntary cut of 500,000 b/d yet, even though they said they were doing so in March. So it's been two months. On Wednesday, we tweeted [LINK] "Wonder if The Man, Saudi Energy Minister Abdulaziz, subtly reminded Novak to deliver? "As for the current situation, Russia is cutting [output] by 500,000 barrels per day. We have reached [the announced reduction volume] in May," says Russia Deputy PM Novak. #OOTT." We have to believe that there might have been some reminders that the OPEC+ meeting is two weeks away and Russia should be able to say they delivered as promised, albeit two months late. On Wednesday, TASS reported [LINK] "Russia reached oil output cuts volume of 500,000 bpd since May — Novak At the end of April, Alexander Novak said that Russia had already reached the volume of voluntary production cuts. Russia has reached the volume of reducing oil output by 500,000 barrels per day (bpd) since May, Russia's Deputy Prime Minister Alexander Novak told reporters. "As for the current situation, Russia is cutting [output] by 500,000 barrels per day. We have reached [the announced reduction volume] in May," he said."*

Oil – Russia's Novak doesn't expect "any new steps" at OPEC+ June 4 meeting

Novak on OPEC+ June 4 meeting

The negative oil story Thursday morning came from Russia Deputy PM Novak's lengthy Izvestia interview – Novak said doesn't think there will be any new steps at the OPEC+ June 4 meeting. [LINK]. Early Thursday morning, we tweeted [LINK] "*Novak on OPEC+. "I do not think there will be any new steps because just a month ago,.... voluntary reduction of #Oil production ....an additional 1.6 mmb/d will be reduced in May. Our task now is to monitor the situation on the market and respond promptly". See 👇Izvestia interview excerpt. #OOTT".* Our tweet included an excerpt from the Izvestia interview. "*What do you expect from the next OPEC+ meeting, which will be held on June 4? - This will be the first face-to-face meeting in six months, we are waiting, as usual, for an assessment of the market situation. But I do not think that there will be any new steps, because just a month ago, certain decisions were made regarding the voluntary reduction of oil production by some countries due to the fact that we saw a slow pace of global economic recovery. If we take the total set of reductions - Russia, Saudi Arabia, Iraq, the United Arab Emirates, Kuwait and other countries - an additional 1.6 million barrels per day will be reduced in May. Our task now is to monitor the situation on the market and respond promptly."* Understandably, the market focused on the no new steps, but he also seemed to leave the door open for OPEC+ to take action as he says "*our task now is to monitor the situation on the market and respond promptly"*. Our Supplemental Documents package includes the Izvestia report.

Novak tried to backtrack in a subsequent statement to TASS

Later on Thursday, we tweeted [LINK] "*Novak followup statement to TASS on OPEC+ excludes his earlier 👇Izvestia statement "i do not think there will be any new steps". Rather said to TASS ""This is a systematic approach, which will also be the basis of the OPEC+ meeting in June, where, if necessary, decisions can be made" "Russia will participate in the discussion together with partners in order to determine what is best for the market, while adhering to all previous decisions" But to be fair, he did say to Izvestia "out task now is to monitor the situation on the market and respond promptly".* It seemed like Novak went quickly into damage control mode and say decisions won't be made until the meeting. TASS reported *. "This is a systematic approach, which will also be the basis of the OPEC+ meeting in June, where, if necessary, decisions can be made. We do not agree with the fact that Bloomberg has distorted the information, on the basis of an incomplete citation declaring Russia's disagreement with the possibility of making decisions at a future meeting. Russia will participate in the discussion together with partners in order to determine what is best for the market, while adhering to all previous decisions," he said."* Our Supplemental Documents package include the TASS report.

Was Novak's statement because RUS didn't like the Saudi Zelensky red carpet

On Friday, we tweeted [LINK] "*Was Novak's "i do not think there will be any new steps" really signaling break away if Abdulaziz wants something more at #OPEC+ June 4 meet? OR was it just to signal RUS isn't happy with the red carpet for*

Zelensky at Arab Summit as @kdourian reminds with @sean_evers? Think the latter & Novak will follow Abdulaziz's preference. #OOTT." We hadn't thought that Russia was unhappy with Saudi Arabia because of the red carpet rolled out for Zelensky at the Arab summit, and that maybe Novak's original comments were just to express that displeasure knowing that Russia would line up with Saudi Arabia at the OPEC+ June 4 meeting. Our tweet includes the transcript we made of Kate Dourian's comments. SAF Group created transcript of comments by Kate Dourian (FEI, MEES Contributing Editor & Non-Resident Fellow, The Arab Gulf States Institute in Washington) to Sean Evers (Managing Partner Gulf Intelligence) on the Gulf Intelligence PODCAST: Daily Energy Markets – May 25th. [LINK] Item in "*italic*s" are SAF Group created transcript. Evers: "… *and the Russians saying the opposite, no more cuts are necessary …….. How long do you think these two can coexist. Saudi Arabia willing to do what it takes to prop up the market, keep the shorts out. And Russia saying whatever it takes and pumping whatever it can*". Dourian. "*I think that both of them need each other. I don't think they can afford to allow this alliance to fall apart. But I also think Saud Arabia basically runs the show. You know, I think, we have seen Novak say in the past whatever my colleague Prince Abdulaziz says, I go along with it. I think it may be part of the strategy to keep the market guessing*." Dourian. "*Going back to this Russian situation [referring to the Novak comments on OPEC+ June 4 meeting], I think, it may be that Russia, Moscow was not very pleased with the fact that Zelensky was invited to the Arab Summit. I mean that was quite something, wasn't it? Which is sort of a bit of a surprise considering they're so, sorry my phone is buzzing. So I think it may have been the response came after that basically saying, hang on a second. But they've made their bed. They have formed this alliance with Russia on OPEC regardless of politics. And I don't think it's about to fall apart. I may be wrong. But we've seen it in the past, yes they didn't agree. But I think, if anything Russia needs, Putin doesn't have that many friends. He's got this powerful Saudi prince who is his ally*."

Oil – Crude/products go into UAE as Russian, blended & ten rebranded out as UAE

More Russian oil & products into UAE

Everyone knows or hears how more Russian crude oil and petroleum products are going into Saudi Arabia and UAE, and then end up being reexported as UAE. But it is always good to hear that directly from people who own/control storage tanks in Fujairah (UAE) and are doing it. Let's be clear, it isn't against the law. It's just what happens to Russian crude and petroleum products to reduce the revenue to Russia while maintaining the supply into global oil markets. One of our must listen-to daily webcasts is the Gulf Intelligence Daily Energy Markets podcast. On Thursday, Tony Quinn (Operating Partner, Prostar Capital & CEO Tankbank International) gave the insight on Russia flows into UAE and out as rebranded UAE based on what he sees as an owner/controller of storage tanks at Fujairah. Fujairah is the major Middle East crude oil and petroleum products storage hub. On Thursday, we tweeted [LINK] "*Big Russian #Oil #PetroleumProducts flows into UAE (Fujairah), blended that changes certificate of origin & "moved to all sorts of strange places you would never expect to be exported to" says @TankchatTony to @FrankKaneDubai @gulf_intel. See 👇SAF Group transcript #OOTT."* Our tweet included the transcript we made. SAF Group created transcript of comments by Tony Quinn (Operating Partner, Prostar Capital & CEO Tankbank International) with host Frank Kane (Editor-at-Large, Arabian Gulf Business Insights) on Gulf Intelligence PODCAST: Daily Energy Markets May 25th. [LINK] Items in "italics" are SAF

Group created transcript. At 18:10 min mark, Quinn "I *have to be careful what I say because I get in trouble here, but the oil [Russian oil] is still flowing. I'm sitting amongst 11 terminals here [Their terminals in Fujairah] and probably 50% of them are full of Russian product. So, it's still moving….. But I think in general, I'm seeing more flows. I'm seeing more traders taking Russian flows directly into here. We have seen product moving here to all sorts of strange places that you would never expect to be exported to. So there are big movements particularly out of this part of the Gulf of Russian crude. It's all being diverted. We have a different customer base. Whereas we used to bunker the Kuwaitis, now we're unloading the Russians*." At 20:15 min mark, Kane asking if some the product diverting elsewhere, some of it must be Russian ending up in Europe. Quinn "…. *offloading of product here or any terminal in the world, you have to remember that, once they blend that product, the certificate of origin changes. So you're suddenly dealing with a product that has a new origin. So If that's here, it suddenly become a UAE product wherever it was before. So all of those things happen. So looking at the flows, you really don't know where it comes from*."

Oil – Saudi's Abdulaziz's message to oil traders "*I would just tell them to watch out*"

Abdulaziz warns oil traders

The oil story that drove oil up on Mon/Tues/Wed was Saudi Energy Minister Abdulaziz's warning to oil traders while speaking at the Qatar Economic Forum. His warning carries weight with oil markets because of the impact of his prior warnings on oil prices in Oct 2022 and April 2023. It was a similar warning – watch out. The impact would have been more if it wasn't in the face of the big negative markets and oil story – China economic stall and the media and markets finally realizing there is another ramp up of Covid cases in China that won't peak until late June. Early Monday morning, we tweeted [LINK] *"I would just tell them to watch out". "i keep advising them that they will be ouching. They did ouch in April": Warning from "The Man", Saudi Energy Minister Abdulaziz to #Oil market speculators. Thx @business. #OOTT."* Our tweet included the transcript we made of his comments. SAF Group created transcript of comments by Saudi Energy Minister Abdulaziz at Qatar Economic Forum on May 23, 2023. "*I don't worry. I think. I save my neck by not worrying and I focus on thinking. So I don't worry. I think speculators like I think in any market, they are there to stay. I keep advising them that they will be ouching. They did ouch in April. I don't have to show my cards. I'm not a poker player and I don't know poker, how to play poker but I got it from a movie somewhere. I would just tell them watch out*. "

Oil – Saudi's Abdulaziz on the IEA "*takes a special talent to be consistently wrong'*

Abdulaziz on the IEA's "special talent"

There was also a good reminder by Saudi Energy Minister Abdulaziz that the IEA's forecasts are used by their western members as the basis to set policy and take energy actions even if the forecasts are wrong. We think this is the bigger point that is overlooked by most. He noted how the IEA's forecast for Russian crude to decline 3 mmb/d set the rationale for the US's massive release from the SPR. And the headline comment was how they are consistently wrong. Early Monday morning, we tweeted [LINK] "*i think they (#IEA) have proven it takes a special talent to be consistently wrong. And that's exactly what they have done" Saudi Energy Minister Abdulaziz. Bigger concern is why did IEA miss? Was it indirect political pressure on IEA for forecasts that set up desired political policy moves? ie. SPR release. #OOTT @flacqua."* Our tweet included the transcript we made of comments by Saudi Energy Minister Abdulaziz with Bloomberg's Francine Lacqua at Qatar Economic Forum on May 23, 2023. [LINK] At 41:40 min mark, Lacqua "… why have we seen prices [Oil] where they are?" Abdulaziz "….. *we were as OPEC+ blamed in October, blamed in April.*

Who has the right numbers? Who gauged the situation in a much more, I would say, responsible attentive way? And what was our endeavour? Were we price gougers or market stabilizers? I think over the last 6, 7 months, we've proven to be a responsible regulatory institution. Had we had not that, look at what happened to the other sources of energy in 2022. What we need to do in the future continue delivering on our authority. Because if you check what happened with all these so-called projections and forecasts. I hope you can just give me a few seconds. Look who did the most in trying to bring forecasts and data and projections that really, really created most of the volatility that we had in 2022 and continue to do so – there is an organization called the IEA. I think they have proven that it really takes a special talent to be consistently wrong. And that's exactly what they have done. Who put together that Russia production will decline 3 million . what happened? None of that happened. Policies were made in the form of SPR draws as a result of that. What was the use for it. Look at where we are now. Energy security is being shackled. We're running out of capacities because countries are not investing, both in oil and gas. We have a very funny trajectory of what demand will be. So if you are a hedger as we are, we have to take action to pre-empt any possibility of further volatility and that's the challenge that we are forthrightly accepting the challenge. And we will continue attending to the challenge."

Sounds like Saudi's Abdulaziz is discounting IEA's H2 bullish oil demand call?
We can't help believe that the Saudi Energy Minister is discounting the IEA's bullish oil demand call from their Oil Market Report May that was released last week. We actually included an item in last week's (May 21, 2023) Energy Tidbits memo on tis point. We then wrote "*Should we discount the IEA's H2 bullish oil demand call? Above, we recap the IEA's bullish view of oil demand and supply for H2/23, but we have to wonder if there is indirect political pressure being put on the IEA for their numbers to support any western, especially the US, hopes to try to influence OPEC+ June 4 decision. (i) We had not thought about this potential until listening to Neil Atkinson (Former head of IEA Oil Markets Division) speak on the Gulf Intelligence daily podcast on Wednesday. We have heard him speak many times on this podcast and he always seems very careful and precise in his words. His response here is very much in line with how he always speaks. So when you take into account the speaker, it just jumped at us that what he seems to messaging is that it is different now at IEA and the implication is indirect political pressure. Again, that is assuming that Atkinson was careful in his wording and not just sloppy. It's worth a listen to et your own view. Atkinson said that when did it, "never on any one occasion was I, as the editor of the Oil Market Report, was put under any pressure to skew the numbers one way or the other". And then he gives his statement about today "I do not believe that the numbers that the oil team are putting out at the IEA are influenced by direct political pressure from above. I just don't believe that." A careful speaker made sure he inserted the word "direct" political pressure. That is raises our antenna. (ii) The issue is around the IEA OMR Tuesday (noted above) that surprised most by its bullish call on oil demand in H2 and warning of a tight supply market. We have been noting how the IEA seems to have shifted from its original role to one of being the big cheerleader for the pro energy transition side with many caveated views that Net Zero can be accomplished. But after thinking about Atkinson's apparent messaging, we have to wonder if the IEA came out with this very bullish oil demand view and warning ahead of the OPEC+ June 4 meeting to try to influence OPEC+ that they*

can't make any more cuts and that the IEA numbers suggest OPEC+ needs tokin add more barrels back now. (iii) Recall the implication a few weeks ago when the OPEC+ June 4 meeting became an in-person meeting, no one, including us, believed Saudi Energy Minister Abdulaziz would call an in-person meeting to say no change. Rather, we assumed that Abdulaziz is having an in-person meeting to make some sort of statement. And since the OPEC+ voluntary cuts, the risk to the world economy and China's pace of recovery is worse ie. no reason to add more oil. (iv) Below is the transcript we made but it doesn't do just justice to Atkinson's clear emphasis on words like "direct". It's worth a listen because if anyone is going to know the difference on political pressure, direct or indirect, it should be Atkinson.

SAF transcript of Neil Atkinson's (former IEA) comments on political pressure

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

End of an era – the IEA used to be the most important view on energy

Here is another item from last week's (May 21, 2023) Energy Tidbits memo. "*After hearing Neil Atkinson's above comments, it feels like the final confirmation of what we have been noting – it's the end of an era where the IEA's view on oil markets was considered the go-to view on oil. And readers weren't wondering if there was indirect political pressure to message a certain way, including in their forecasts. I was an E&P executive in the 80s/90s but the IEA wasn't part of everyday E&P thoughts. But when I joined he sellside in the late 90s for energy research and later energy investment banking, I very quickly realized the critical role the IEA played for the analysis and interpretation of oil markets as their focus wasn't on selling a message or theme, but giving data and analysis focused on what was important to the world -*

energy security. Don't forget the IEA was formed after the 1973/74 Arab Oil Embargo to provide critical analysis for the US and other oil consuming countries. The IEA was the bible and Robert Priddle (IEA Executive Director 1994-2002) was the Charles Schwab of oil markets – when he talked, people listened. Partly it was the world, where we didn't have twitter and media and he didn't have to, or chose not to, weigh in publicly on everything, everyday to put a pro this or pro that spin. So markets listened because they didn't have to look at Priddle and the IEA's message because their focus and mandate was clear. Atkinson's comments make me feel it is the end of an era.

Oil – Reminder OPEC+ 1.157 mmb/d voluntary cuts were to start May 1

We remind May 1 was when the OPEC+ voluntary cut (production adjustments) of 1.157 mmb/d were to start and to run thru 2023. This was the breaking news in our April 2, 2023 Energy Tidbits memo, which OPEC followed up with their April 3, 2023 press release. [LINK] . These voluntary cuts were in addition to Russia's prior announcement of cutting 500,000 b/d vs Feb 2023 production and that would be until the end of 2023. The voluntary cuts were Saudi Arabia 500,000 b/d, Iraq 211,000 b/d, UAE 144,000 b/d, Kuwait 128,000 b/d, Kazakhstan 78,000 b/d, Algeria 48,000 b/d, Oman 40,000 b/d, and Gabon 8,000 b/d.

OPEC+ voluntary cuts

Oil – Still no visibility for restart Iraq/Kurdistan oil thru Turkey

The key conclusion from our update this week is unchanged – there is no visibility to when Kurdistan/Iraq oil will resume exports via Ceyhan in Turkey. As of our 7am MT news cut off, we have not seen any reports giving any indication of when there will be a resumption of ~450,000 b/d of Iraq/Kurdistan oil exports via Ceyhan (Turkey). That isn't unexpected given the Turkey Presidential election had to go today's runoff. No one was expecting a restart prior to the Presidential election. And most seem to still believe that Turkey isn't going to give in until it has negotiated on the award against them as they know their best leverage is while they are holding up a resumption of exports.

Turkey holds up Kurdistan oil exports

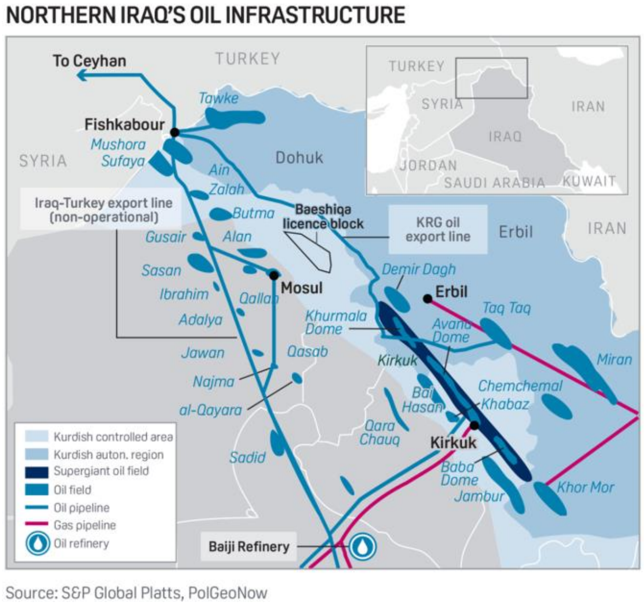
But Vitol sees Iraq compensating by increasing oil exports from the south

It sounds like the only production being shut-in are the Kurdistan oil volumes and that Iraq has been able to move their oil that normally goes north via Turkey to their southern export port. Here is what we wrote in our May 7, 2023 Energy Tidbits memo. "*One of the supply surprises to the negative from the northern Persian Gulf countries is Iraq. No question they are not exporting their +400,000 b/d of Kurdistan/Iraq oil via Turkey. However an interesting comment this morning from Vitol's Mike Muller on the Gulf Intelligence daily podcast that Iraq is making up for a good portion of the >400,000 b/d Kurdistan and Iraq oil that hasn't been able to be moved thru the northern pipeline to export via Ceyhan in Turkey. Earlier this morning, we tweeted [LINK] "#Oil supply surprise. There is no visibility to return of .400 kbd of Kurdish/Iraq exports via Turkey, BUT @michaelwmuller to @gulf_intel "i think Iraq seems to have compensated for reduced or cancelled Kurdish exports to the north by exporting more from the south". #OOTT."*

Iraq's court case win halted 370,000 Kurdistan & 75,000 b/d Iraq oil exports

Here is what we wrote in our March 26, 2023 Energy Tidbits memo. "*Breaking news yesterday that Iraq reportedly halted 445,000 b/d of crude oil exports thru its north on* *the export pipeline to Ceyhan, Turkey. Iraq won an arbitration with Turkey, which means that Turkey has to deal with Iraq's oil marketing arm for approval of all Iraq oil exports, including oil from Kurdistan. It's not clear how long it will take to get to a mechanism for Iraq dealing with Turkey on the oil exports. Don't know if's wishful thinking but Kurdistan media was pointing to not too long to get an understanding. Regardless, until Iraq resumes oil exports via Turkey, it means there will be ~445,000 b/d of crude oil off the market. Yesterday, we tweeted [LINK] Iraq reportedly halts 370 kbd KRG + 75 kbd federal oil thru export pipeline thru Turkey reports @Ahmed_Rasheed_R @RowenaCaine. Positive for #Oil until Iraq resumes northern exports ie. agrees on mechanism to export Iraq oil thru Turkey in line with its arbitration win. #OOTT." Yesterday, Reuters reported [LINK] "Iraq halted crude exports from the semi-autonomous Kurdistan region and northern Kirkuk fields on Saturday, an oil official told Reuters, after the country won a longstanding arbitration case against Turkey. The decision to stop shipments of 450,000 barrels per day (bpd) of crude relates to a case from 2014, when Baghdad claimed that Turkey violated a joint agreement by allowing the Kurdistan Regional Government (KRG) to export oil through a pipeline to the Turkish port of Ceyhan. Baghdad deems KRG exports via Turkish Ceyhan port as illegal. The International Chamber of Commerce ruled in favour of Iraq on Thursday, Iraq's oil ministry confirmed on Saturday. Turkey has informed Iraq that it will respect the arbitration ruling, a source said. Turkish shipping officials told Iraqi employees at the Ceyhan oil export hub that no ship will be allowed to load Kurdish crude without the approval of the Iraqi government, according to a document seen by Reuters. Turkey subsequently halted the pumping of Iraqi crude from the pipeline that leads to Ceyhan, a separate document seen by Reuters showed. On Saturday, Iraq stopped pumping oil through its side of the pipeline which runs from its northern Kirkuk oil fields, an official told Reuters. Iraq had been pumping 370,000 bpd of KRG crude and 75,000 bpd of federal crude through the pipeline, according to a source familiar with its operations. "A delegation from the oil ministry will travel to Turkey soon to meet energy officials to agree on new mechanism to export Iraq's northern crude oil in line with the arbitration ruling," a second oil ministry official said." Kurdistan region Prime Minister Masrour Barzani expects this to be quickly resolved. Yesterday Kurdistan 24 news reported [LINK] "Kurdistan Region Prime Minister, Masrour Barzani, on Saturday reiterated the Kurdistan Regional Government's (KRG) good relations with the Iraqi federal government. "Our recent understandings with Baghdad have laid the groundwork for us to overcome the arbitration ruling today," PM Barzani wrote in the tweet. "A team from the KRG will visit Baghdad for talks tomorrow to build on the goodwill of our discussions," Barzani added." Below is a Platts Northern Iraq's oil infrastructure map from 2020 [LINK].*

Figure 32: Northern Iraq's oi infrastructure map from 2020



Source: Platts

Oil – China consumers spent less, but more traveled over May Day holiday

19% more travelers over May Day

One of the big market stories on Tuesday was how the European luxury brands stocks were creamed in good part by the lowering expectations for Chinese consumers in 2023. A good chunk of their business and future is China consumers, who aren't spending as expected. But we saw a good distinction on Thursday of the difference between Chinese consumers spending on big ticket items or even just trading down for every day purchases, but more Chinese were getting out and traveling around China ie. gasoline consumption increaes. Early Thursday morning, we tweeted [LINK] "*#OilDemand. Chinese consumers trading down ie. spending less when out. BUT 19% more Chinese traveled during May Day holiday ie. more travelers means more #Gasoline #Diesel consumption. See 👇clip of @shaunrein to @tanvirgill2 @sam_vadas. #OOTT."* Our tweet included a mobile clip we made where Shaun Rein noted how the number of travelers during the May Day holiday was +19% YoY, but these travelers were spending less. Rein used examples that people go into the restaurant and order 3 dishes instead of 4 dishes. Our tweet includes the mobile video we made of his comments. He later called it "trading down" on their consumer trying to stretch their dollars when they buy things like cars and iphones. Rein didn't say it specifically, but he did highlight that the implied higher gasoline consumption as he noted there were 19% more travelers YoY over the May Day holiday.

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

China admits Covid wave

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 wont' 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." Our Supplemental Documents package includes the Global Times report.

Reminder these are predictive models that might be wrong
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."*

04/30/23: No one seemed worried about China's virus update last Sunday night
Here is what we wrote in our April 30, 2023 Energy Tidbits. "*No one seems too worried about China's virus update last Sunday night. Last Sunday night, we thought China's virus update would be a big market and news story this week, but that doesn't seem to be the case. If anything, the comments we heard on Bloomberg TV on Tues night almost seemed to suggest the reports were not big deal. The reason why we noted it was that it wasn't from rumors or third parties, rather it was from China state media – Global Times. Early Monday morning, we tweeted [LINK] "#Oil markets back on China virus info digging again? China state media. China CDC found 42 cases of XBB.1.16 new variant, the dominant variant in India since Mar. Also not "yet" in 2nd wave of COVID-19. but Covid-19 cases increasing. #OOTT." We would have assumed that others would have a similar view of a report from China state media on a virus that the working assumption would have been that the*

virus numbers are understated. But, at least for now, no one else seems concerned on the Global Times report especially give the title of the report "China not yet in middle of second wave of COVID-19: epidemiologists". Not "Yet" sounded like a *warning to us. Global Times wrote [LINK] "China not yet in middle of second wave of COVID-19: epidemiologists." The Chinese Center for Disease Control and Prevention (China CDC), which has been monitoring COVID-19 infection numbers and new variants, said on Sunday that health departments reported 2,661 positive COVID-19 cases nationwide on Thursday. The COVID-19 positive rate for Thursday was slightly higher than it was on April 13. On March 13, the China CDC announced that 1.3 percent of those who took nucleic acid tests were positive, and the rate on Thursday was 1.7 percent." And "The China CDC claimed it had detected 12 new variants in this country. The center had found 42 cases of XBB.1.16 - referred to as "arcturus"—which has been the dominant variant in India since March. The China CDC assured the public, saying that there are a very small number of XBB.1.16 carriers, which have yet to form a transmission trend. Although the scale won't be as huge as the previous wave, Zhang still called for stockpiling of small molecule antivirals of COVID-19, and at the same time establishing a model that could treat COVID-19 patients within 48 hours." Our Supplemental Documents package includes the Global Times report."*

Oil – Unfortunately, China's lack of/control of Covid info makes it difficult

China's control of Covid info

We are the first to acknowledge that we, along with the rest of the world, are sitting outside the inner Chinese bubble on what is really going on with Covid. We hope it is like China portrays that the vast majority (whatever that infers) only have mild symptoms and there is no expected stress to hospitals capacity. But their track record on Covid information isn't good and they are not providing a lot of Covid information and controlling the flow of Covid information. And, as noted above, they moved from low probability of a large scale spread to predicting a peak of 65 million cases per week around the end of June. That is still 5% of the population per week at that peak. We were reminded of this info issue by CNBC's Eunice Yoon who is based in Beijing. Don't forget her CNBC reporting is live monitored by China and they have in the past blacked out her live reports when she starts to say something offside. So she has to be careful in how she describes/reports on what is going on. On Wednesday, we tweeted [LINK] "*China Covid watch. Not a confidence builder for increasing China restricting/controlling info on new Covid wave. Unfortunately, lack of or control of info to world only gets more worrying there is more to the story. Thx @onlyyoontv @MelissaLeeCNBC #OOTT."* Our tweet included a short video clip of Yoon noting the downplaying of the Covid and control of Covid info. Yoon also gave a good example of this China lack of clarity. We tweeted [LINK] "*China Covid watch. Difficult to know if the sudden shut down of a lot of different entertainments venues is from spread of Covid or comedian joke on Chinese military reports @onlyyoontv @MelissaLeeCNBC. Either way, its an indicator China recovery is slowing/stalling #OOTT."* Our tweet included a short clip of Yoon noting the sudden shutdown of many different entertainment venues but not being clear if it was Covid-related or the government not being pleased on a comedian joking about the army.

Oil – China Covid "limited impact" on everyday life should have impact on recovery

China Covid-19

The big global economic stories have been rising interest rates/increasing western economy recession themes and a slower than expected/stalling China economic recovery. Earlier this morning, we tweeted [LINK] *"#ChinaCovid. "wave of Covid-19 reinfection in China has limited impact on everyday life". limited impact on everyday life implies some impact on the China recovery. Top respiratory expert reminds predicted peak is still 65 million per week at end of June, but reminds "it's predicted based on model calculation, which might not be accurate".* #OOTT." Our tweet included the Global Times (China state media) Friday report. The good news is that China still sees mild symptoms to the most part. But what caught our attention was Global Times reporting "*A rising number of COVID-19 reinfection cases in China have caused public concern over whether there will be a new wave of the virus. Experts have noted that the epidemic situation is on a slow upward trend, but there will be limited disruption on everyday life."* When we see "*caused public concern*" and reassuring "*limited disruption on everyday life*", it seems to point to some holdback in what the Chinese people are doing in the recovery. There is no indication of the quantum but we continue to expect that the big rise in Covid cases will impact some people's activity and spending. Our Supplemental Documents package includes the Global Times May 26 report.

Oil – China scheduled domestic flights for back to month ago levels

China domestic flights

The Chinese mobility indicators continue to point to a stalling or at least a much slower than expected China recovery in China domestic scheduled flights in May and continuing into June. China scheduled domestic flights have just given back the last month's gains. On Monday, we tweeted [LINK] "*Chinese domestic air travel giving back last month's gains. Scheduled domestic flights -2.8% WoW to 94,417 is basically back to month ago levels ie. Pre May Day Holiday. Scheduled "over" next 4-wk is set to increase to 100,177 flights is -15.9% vs 119,180 flights that were scheduled on Mar 28 for Apr. Thx @BloombergNEF Claudio Lubis. #OOTT #Oil."* This week's update of scheduled China domestic flights was a more negative message this week. It's a give back of the last month's increases in China scheduled domestic flights with -2.8% WoW in scheduled domestic flight for the May 16-22 week,, China is back to flight levels seen a month ago before the May Day Holiday ie. no growth in the last month. On Monday, BloombergNEF posted its Aviation Indicators weekly May 22, 2023. BNEF reported that China scheduled domestic flights -2.8% WoW to 94,417 flights for May 16-22 week vs 97,049 flights for May 9-15 week, Both weeks are after the 5-day May Day Holiday on Apr 29-May 3. Note that domestic flights to for May 16-22 at 94,417 flights is -20.7% vs what was scheduled on March 28 for the then next 4-weeks (ie. April) of 119,180 flights. Plus Monday's number of scheduled domestic flights for the next four weeks is set to increase by 6.1% "over" the next weeks to reach 100,177 flights. Again still -15.9% 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 pre May Day Holiday levels. And, at best there is modest increases in scheduled flights to levels far less than expected two months ago. Our tweet included the BloombergNEF chart and our listing of WoW changes from the prior BloombergNEF reports.

Figure 33: China scheduled domestic flights from BNEF Aviation Indicators Weekly reports

May 16-22: -2.8% WoW at94,417 flights
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

Figure 34: China scheduled domestic air flights

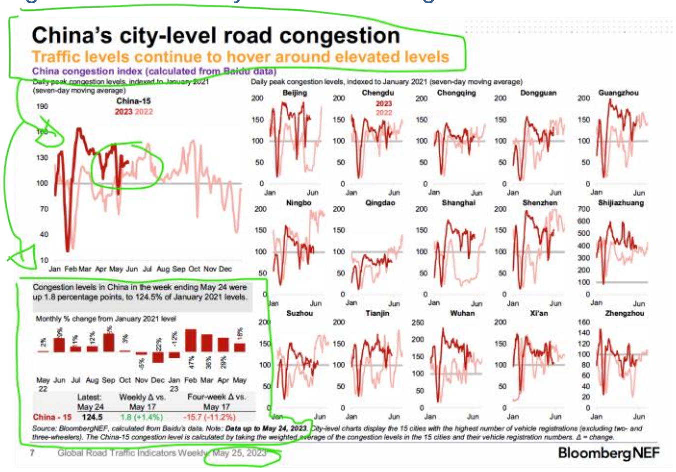
Source: BloombergNEF

China city traffic congestion

Oil – Game playing in Baidu China city-level road congestion data??

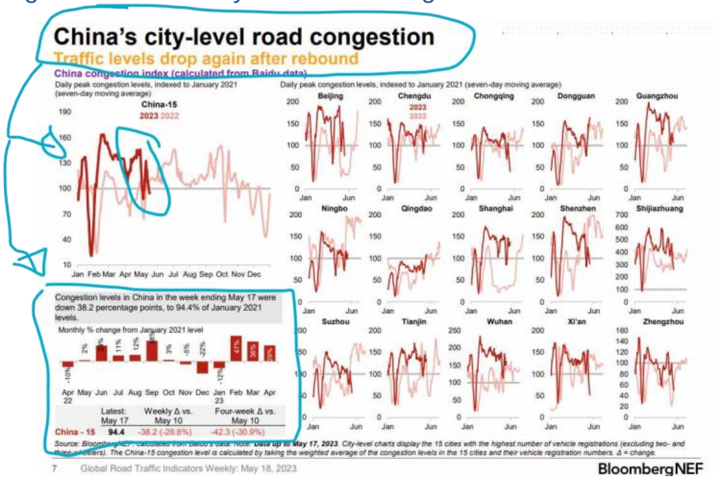
One of the benefits of tracking/following data on a weekly basis is that we often see data and think something is off and that was the case in the BloombergNEF Global Road that includes the Baidu city-level road congestion. (i) This week's report includes Baidu data for the week ended May 24. BloombergNEF wrote ""*Congestion levels in China in the week ending May 24 were up 1.8 percentage points, to 124.5% of January 2021 levels"* (ii) A small +1.8% WoW increase isn't what we would have expected with the big increase in Covid cases but isn't unbelievable asi tis only +1.8% WoW. However, as soon as we saw it, it jumped out that something doesn't sound right. Last week's (May 21, 2023) Energy Tidbits memo highlighted the Baidu data for the week ended May 27. And here's what BloombergNEF wrote in the Global Road Traffic Indicators May 18, 2023 report "*Congestion levels in China in the week ending May 17 were down 38.2 percentage points, to 94.4% of January 2021 levels."*(iii) So something is off in the Baidu data and, assuming the new data for the May 24 week is right, Baidu made a huge upward revision to its May 17 data and that would have been in the face of rising Covid cases. We have been tracking this report for some time and don't recall ever seeing such a revision. If May 24 week data is right, the Chinese didn't have the big collapse in city-level traffic in the May 17 week and everything looks solid. (iv) But if the May 17 Baidu data is right, it's hard to believe that China city-level road congestion was +31.9% WoW and not +1.8% WoW in the face of rising Covid cases. (v) Something seems off in the Baidu data, but we just don't yet know what is off. Below are the BloombergNEF China city-level congestion data for the week ended May 24 and May 17.

Figure 35: China city-level road congestion for the week ended May 24



Source: BloombergNEF

Figure 36: China city-level road congestion for the week ended May 17



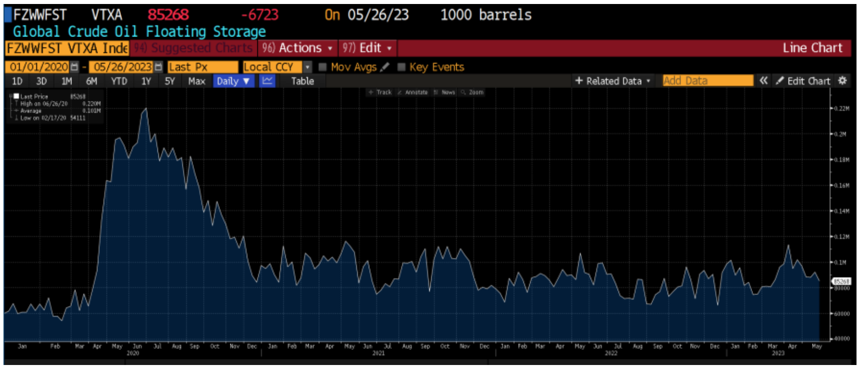
Source: BloombergNEF

Oil – Vortexa crude oil floating storage at May 26 was 85.27 mmb, -6.72 mmb WoW

Vortexa floating storage

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 May 20 at 9am MT. (i) As of 9am MT yesterday, Bloomberg posted Vortexa crude oil floating storage estimate for May 26 at 85.27 mmb, which was -6.72 mmb WoW vs upwardly revised May 19 of 91.99 mmb. Note May 19 was revised +7.09 mmb vs the 84.90 mmb posted on Bloomberg as of 9am MT on May 20. (ii) Please note our tweet yesterday [LINK] on Vortexa floating storage highlighted the big -28.17 mmb drop in floating storage vs the recent Apr 7, 2023 peak. And we wrote "*See 👇table, -28.17 mmb vs 04/07, is this Iran selling floating storage, RUS oil being rerouted after floating & being transferred?"* We discuss this more in a couple items in this memo. (iii) Other than the +7.09 mmb to May 19 and +3.31 mmb to May 5, all the rest of the last seven weeks' revisions were less than +/- 2mmb. The revisions from the estimates posted yesterday at 9am MT vs the estimates posted on Bloomberg at 9am on May 20 are as follows: May 19 revised +7.09 mmb. May 12 revised -1.25 mmb. May 5 revised +3.31 mmb. Apr 28 revised -.0.50- mmb. Apr 21 revised +0.71 mmb. Apr 14 revised -1.49 mmmb. Apr 7 revised -0.92 mmb. (iv) There is a wide range of floating storage estimates for the past seven weeks, but a simple average for the past seven weeks is 92.39 mmb, which is down vs last week's then seven-week average of 95.42 mmb. The big drop is because the Apr 7 week of 113.44 mmb was dropped from the seven-week average this week. (v) 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. (vi) May 26 estimate of 85.27 mmb is -134.65 mmb vs the Covid peak on June 26, 2020 of 219.92 mmb. (vii) Note the below graph now goes back to Jan 1, 2020 and not just three years as floating storage in Apr 2020 had started to reflect the Covid impact. (vii) May 26 estimate of 85.27 mmb is +19.66 mmb s pre-Covid Feb 28, 2020 of 65.61 mmb. (ix) May 26 estimate of 85.27 mmb is -4.88 mmb YoY vs May 27, 2022 of 90.15 mmb. (x) Below are the last several weeks of estimates posted on Bloomberg as of 9am MT May 27, 9am MT May 20, and 9am MT May 13.

Figure 37: Vortexa Floating Storage posted on Bloomberg May 27 at 9am MT



Source: Bloomberg, Vortexa

Figure 38: Vortexa Estimates Posted May 27 9am MT, May 20 9am MT, May 13 9am MT

Posted May 27, 9am MT

FZWWFST VTXA Inde 94) Sugg

01/01/2020 - 05/26/2023 L

1D 3D 1M 6M YTD 1Y 5Y

	Date	FZWWFST VT... Last Px
Fr	05/26/2023	85268
Fr	05/19/2023	91991
Fr	05/12/2023	88048
Fr	05/05/2023	88236
Fr	04/28/2023	96881
Fr	04/21/2023	101.561k
Fr	04/14/2023	94718
Fr	04/07/2023	113.444k
Fr	03/31/2023	98654
Fr	03/24/2023	95716
Fr	03/17/2023	86093

May 20, 9am MT

FZWWFST VTXA Inde 94) Sug

01/01/2020 - 05/19/2023

1D 3D 1M 6M YTD 1Y 5

	Date	FZWWFST VT... Last Px
Fr	05/19/2023	84904
Fr	05/12/2023	89302
Fr	05/05/2023	84925
Fr	04/28/2023	97375
Fr	04/21/2023	100.845k
Fr	04/14/2023	96206
Fr	04/07/2023	114.358k
Fr	03/31/2023	99009
Fr	03/24/2023	95814
Fr	03/17/2023	86464
Fr	03/10/2023	80745

May 13, 9am MT

FZWWFST VTXA Inde 94) Sugg

01/01/2020 - 05/12/2023 L

1D 3D 1M 6M YTD 1Y 5Y

	Date	FZWWFST VT... Last Px
Fr	05/12/2023	84249
Fr	05/05/2023	80996
Fr	04/28/2023	95522
Fr	04/21/2023	100.75k
Fr	04/14/2023	96272
Fr	04/07/2023	116.357k
Fr	03/31/2023	100.981k
Fr	03/24/2023	97478
Fr	03/17/2023	86636
Fr	03/10/2023	80804
Fr	03/03/2023	81511

Source: Bloomberg, Vortexa

Oil – Vortexa crude oil floating storage WoW changes by regions

Vortexa floating storage by region

Please note the following comment on Iran/Russia floating storage. 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 Europe Asia -12.31 mmb and then Other +2.73 mmb. Note Asia was revised up to 56.00 mmb vs the 50.77 mmb originally posted on Bloomberg on May 20 at 9am MT. 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 May 19 that was posted on Bloomberg at 9am MT on May 20.

Figure 39: Vortexa Floating Crude Oil Storage Weekly Changes by Region

Vortexa Crude Oil Floating Storage by Region (mmb)				Original Posted	Recent Peak	
Region	May 26/23	May 19/23	WoW	May 19/23	Apr 7/23	May 26 vs Apr 7
Asia	43.69	56.00	-12.31	50.77	59.43	-15.74
Europe	4.73	3.83	0.90	4.34	23.80	-19.07
Middle East	6.11	5.12	0.99	3.74	4.89	1.22
West Africa	6.53	6.65	-0.12	5.84	5.97	0.56
US Gulf Coast	1.09	0.00	1.09	0.00	3.17	-2.08
Other	23.12	20.39	2.73	20.21	16.18	6.94
Global Total	85.27	91.99	-6.72	84.90	113.44	-28.17
Vortexa crude oil floating storage posted on Bloomberg 9am MT on May 20						
Source: Vortexa, Bloomberg						

Source: Bloomberg, Vortexa

Oil – Is it Russia/Iran floating oil that is impacting the Vortexa floating oil data?

Is it Russia and Iran floating oil?

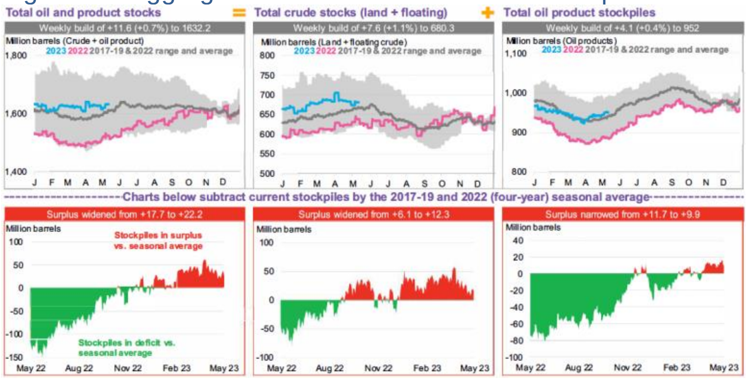
Our May 7, 2023 Energy Tidbits memo noted how Saudi Arabia is increasing imports of Russian oil and petroleum products, Russian oil getting rerouted out of the Middle East, and Iran is reportedly selling its floating storage/very slow in transit oil at discounted prices. When we look at the Vortexa data, we have to wonder if these two factors are part of what is at play in the Vortexa data. Floating crude oil recent peak was on Apr 7 at 113.44 mmb, and May 26 is down 28.17 mmb. This includes Asia -15.74 mmb and Europe -19.07 mmb since Apr 7. We have to wonder if these large declines represent Russian and Iran oil being transferred and rerouted to Asia and Europe, and Iran selling down its floating storage and very slow moving oil in Asia. Note the above table shows the floating storage by region at Apr 7 and the changes vs May 26 floating storage.

Oil – BNEF: global oil and product stocks surplus widened WoW to 22.2 mmb

BNEF's global oil inventories

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 17.7 mmb to 22.2 mmb for the week ending May 12. Land crude oil inventories increased by +2.8 mmb WoW to 590.3 mmb, shortening the deficit to 21.4 mmb against the five-year average (2016-2019, 2022). Total crude inventories (incl. floating) increased by +7.6 mmb WoW to 680.3 mmb, widening the surplus from +6.1 mmb to +12.3 mmb. Total product stocks were up by +4.1 mmb WoW to 952.0 mmb, narrowing the stockpile surplus against the 4-year average (2017-2019,2022) to 9.9 mmb for the May 12 week. The gas, oil, and middle distillate stocks increased by +1.5 mmb WoW at 146.4 mmb/d, with the deficit against the four-year average narrowing to -15.8 mmb. Jet fuel consumption by international departures for the week of May 29 is set to increase by +8,800 b/d WoW, while consumption by domestic passenger departures is forecast to increase by +1,600 b/d WoW. Below is a snapshot of aggregate global stockpiles.

Figure 40: Aggregate Global Oil and Product Stockpiles



Source: BloombergNEF

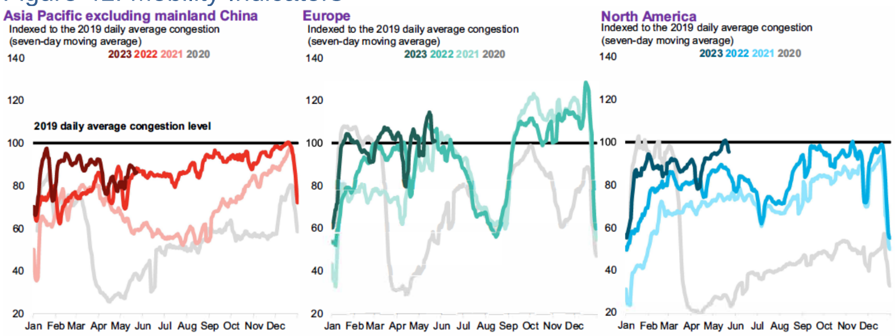
Oil – TomTom mobility indicators: NA, EU, and Asia Pacific traffic decreases

Global road traffic indicators

On Thursday, BloombergNEF posted its Global Road Traffic Indicators Weekly report, which recaps traffic indicators in all the major economic regions of the world ie. mobility indicators like TomTom. For week ending May 23, North American, European, and Asia Pacific (ex-China) traffic levels all decreased WoW by -5.0%, -10.5%, and -3.3%, respectively. Traffic levels in Europe is now +1.0% above the 2019 average and down -4.8% YoY respectively.

North America and Asia Pacific (ex-China) traffic are -4.7% and -13.7% below the 2019 average and are +13.2% and -1.6%YoY. Traffic in the Asia-Pacific region has steadily increased throughout the month of May. We would be expecting to see stronger YoY driving in the US given the big drop in gasoline prices YoY. 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 41: Mobility Indicators



	Week-on-week (2019 average = 100)				Year-on-year (same week last year = 100)			
	Latest week: May 23	∆ vs. May 16	4-week MA	∆ vs. May 16	Latest week: May 23	∆ vs. May 16	4-week MA	∆ vs. May 16
Asia Pacific ex-China	86.3	-2.9 (-3.3%)	85.0	+2.1 (2.5%)	98.4	-6.6 (-6.3%)	104.5	+2.2 (+2.2%)
Europe	101.0	-11.8 (-10.5%)	104.1	-0.5 (-0.5%)	95.2	-10.8 (-10.2%)	98.7	-4.1 (-4.0%)
North America	95.3	-5.1 (-5.0%)	96.4	+0.8 (0.8%)	113.2	-1.2 (-1.0%)	111.0	+1.0 (+0.9%)

Source: BloombergNEF

Oil – So far, no big air cancellations during Memorial Day weekend travel

Memorial Day holiday travel

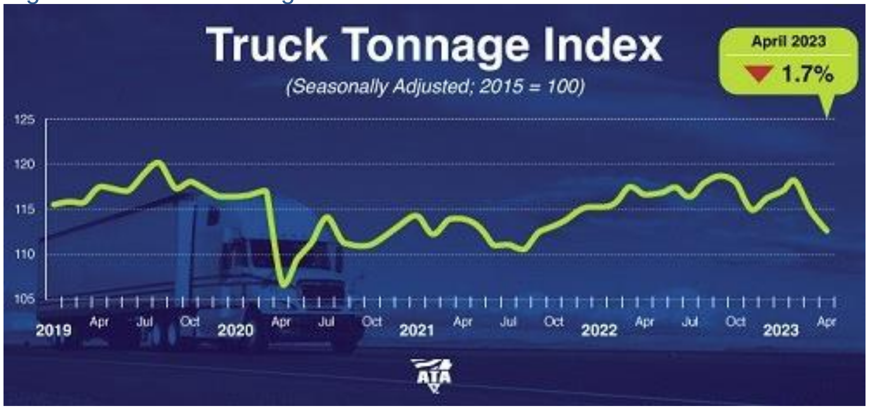
Good news so far for US travel as there haven't been any reporting of the travel chaors that hammered air travel during Memorial Day weekend last year. Rather on Friday, Transportation Secretary Buttigieg said saw the most passengers since the pandemic and cancellations were less than 1%. Positive sign so far with what looks like a passing grade for the air industry in its first big test. On Tuesday, we tweeted [LINK] "*Will there be a repeat of summer 2022 US air travel chaos? Good test this Memorial Day Weekend. @UnitedAirlines_ CEO Kirby: Busiest Memorial Day weekend air travel ever with 2.9 mm passengers, +16% YoY. "It's going to be a busy summer"* #OOTT #JetFuel." Our tweet included a clip of United Airlines CEO Kirby talking about the busy Memorial Day weekend travel.

Oil – Truck tonnage index fell -1.7% in April to 112.7

Truck tonnage index -1.7% MoM in April

We look to items like truck tonnage for indicators on the US economy and the April truck tonnage is in line with the expectations for a slowing US economy. Truck tonnage fell -1.7% MoM and -3.4% YoY in April, resulting in a total YTD decline of -4.7% since the start of 2023. This is the largest YoY decrease since February 2021. This follows 2022's cumulative growth of 3.4% which was the largest single year increase observed since 2018. In addition, April's YoY decline follows March which contraction marked the end of eighteen straight months of YoY gains. The American Trucking Association released its seasonally adjusted Truck Tonnage Index for March on Tuesday [LINK]. Chief Economist Bob Costello noted, *"While the broader economy continues to surprise and thus far stave off an expected recession, the* *freight economy is starkly different; The goods-portion of the economy is soft and as a result, even contract truck freight is now falling, albeit not nearly as much as the spot market. The tonnage index hit the lowest level since September 2021 in April and has now fallen on a year-over-year basis for two straight months."* Trucking serves as a barometer of the U.S. economy, representing 72.2% of tonnage carried by all modes of domestic freight transportation, including manufactured and retail goods. Trucks hauled 10.93 billion tons of freight in 2021. Motor carriers collected $875.5 billion, or 80.8% of total revenue earned by all transport modes, equating to roughly 3.6% of total U.S. GDP in 2021. Our Supplemental Documents package includes the ATA release.

Figure 42: Truck Tonnage Index



Source: ATA

Oil and Natural Gas – Big decline in total number of Alberta wildfires this week

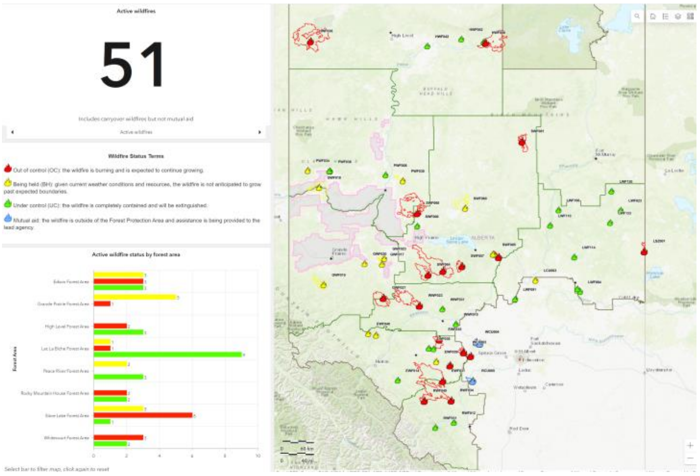
Big decline in Alberta wildfires

There was a relief this week with a big drop in the total number of Alberta wildfires as there was rain in many parts of the province. A week ago, there were 86 total wildfires as of 6 am MT on May 21, and whereas there were 51 total Alberta wildfires as of 7:30pm on May 27. It's hard to tell precisely but it doesn't look to be much difference in the number of Out of Control wildfires in Alberta.

Links to Alberta and BC wildfire status maps

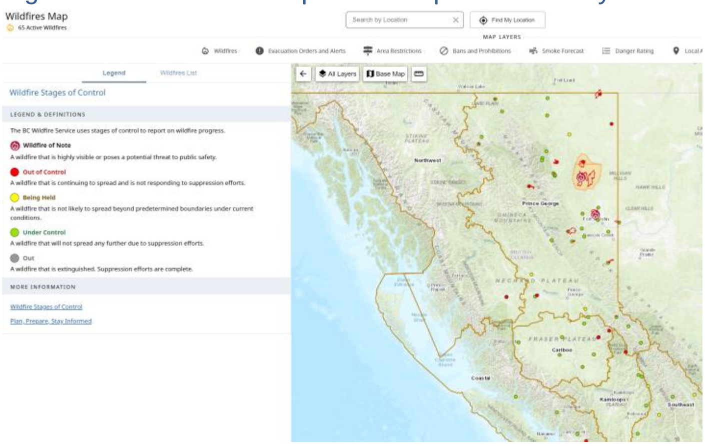
We recommend bookmarking the starting points for wildfire information are the Alberta Wildfire Status interactive map [LINK] and the BC Active Wildfires interactive map [LINK]. Please note these links have changed over the past few years. Both maps are interactive and open up for the information on any particular fire. Here are the wildfire maps as of 7:30pm MT last night.

Figure 43: Alberta wildfire map as of 730pm MT on May 27



Source: Alberta Wildfire Status Dashboard

Figure 44: BC wildfire map as of 730pm MT on May 27



Source: Alberta Wildfire Status Dashboard, BC Wildfire Service

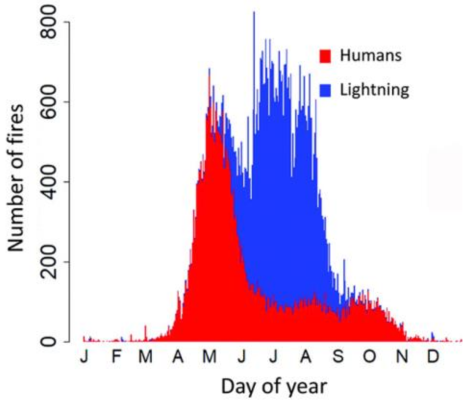
Oil and Natural Gas – High wildfire risk in Alberta/BC as peak is normally Jul/Aug

High wildfire risk this summer

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 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! #OOTT."* (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 %

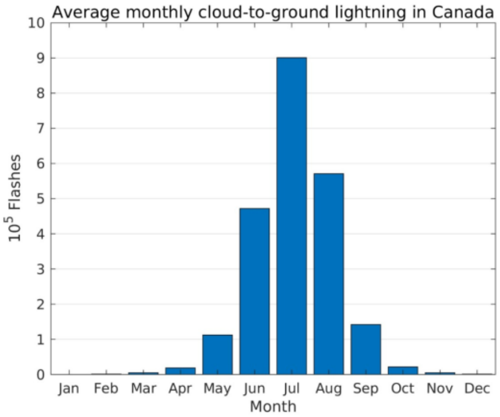
of normal for Nov 1 thru Mar 31, and for the month of April that clearly show how dry it was this winter and especially so in April. We have included these maps previously in our memos.

Figure 45: Canada Wildfires Distribution Over Year



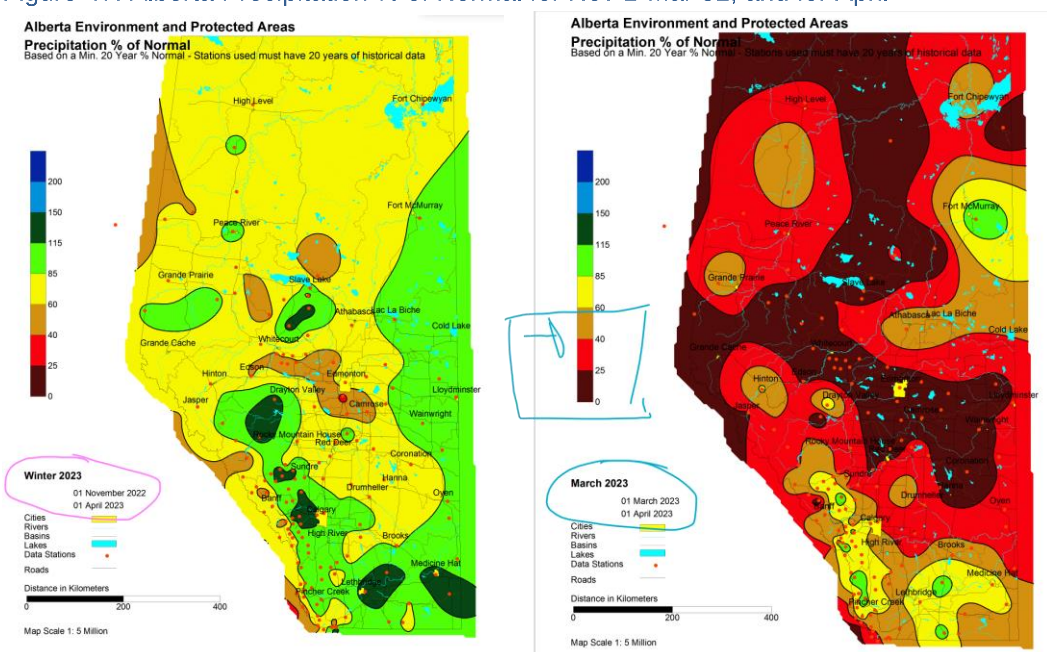
Source: Wildfire Today

Figure 46: Average monthly cloud-to-ground lightning in Canada



Source: Canada Environment and Natural Resources

Figure 47: Alberta Precipitation % of Normal for Nov 1-Mar 31, and for April



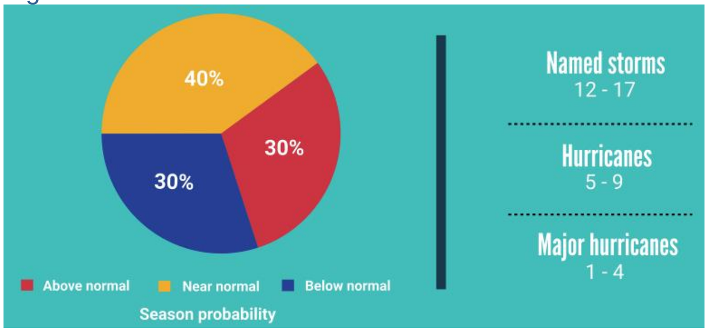
Source: Alberta Environment

Oil & Natural Gas – NOAA forecasts near-normal Atlantic hurricane season

Near-normal hurricane season expected

On Thursday, NOAA released it predictions for the 2023 Atlantic hurricane season. The NOAA is forecasting that there will be between 12-17 total named storms, with between 5-9 of them having potential of becoming hurricanes. The NOAA estimations are comparable to Klotzbach and Accuweather. Additionally, in our April 16, 2023, Energy Tidbits, we noted, *"The NOAA sees 62% probability for El Nino conditions during May/June/July"*, which foreshadows a less active first-half of the 2023 hurricane season. AccuWeather wrote, "*AccuWeather's team of tropical weather forecasters, led by veteran meteorologist and hurricane expert Dan Kottlowski, is once again predicting an above-normal season in terms of tropical activity in the Atlantic, as well as a higher-than-normal chance that a major hurricane could make landfall in the mainland United States, Puerto Rico and the U.S Virgin Islands. Specifically, the team is forecasting 16-20 named storms and six to eight hurricanes. Of those hurricanes, about three to five are forecast to reach major hurricane status, which occurs when a storm reaches Category 3 strength with winds exceeding 111 mph or higher. AccuWeather's forecast of 16-20 named storms is higher than the 30-year average of 14 per year, while the projection of six to eight hurricanes is about in line with the normal of seven. It's also nearly identical to how 2021 played out. Last year, the 21 named storms included seven hurricanes and four major hurricanes. Eight of those storms made a direct impact on the U.S. About four to six direct impacts are predicted for 2022."* Below is the NOAA forecast table. Our Supplemental Documents package includes NOAA's forecast.

Figure 48: NOAA Forecast for 2023 Atlantic Hurricane Activity



Source: NOAA

NOAA's hurricane forecast is in line with Klotzbach and AccuWeather
There were no surprises from the NOAA hurricane forecast as they lined up with the other top hurricane forecasters. In our April 23, 2023 Energy Tidbits memo, we highlighted the Colorado State University (Phil Klotzbach) initial Atlantic hurricane season forecast calling for less than normal hurricane activity in 2023. The Atlantic hurricane season runs from Jun 1 to Nov 30. And we also highlighted AccuWeather is forecasting a less active hurricane season [LINK], which is in-line with last year. On average, a normal hurricane season produces 14 named storms with roughly 50% of them reaching hurricane strength and storm seasons accompanied by El Nino characteristics are typically less intense. With that said, AccuWeather estimates that there will be 11-15 named storms with 35-50% of them potentially reaching hurricane strength, which implies slightly below normal activity levels relative to the historical 30-year average..

Atlantic hurricane/tropical storm names for 2023
Every year, there is a different list of names for the Atlantic hurricanes or tropical storms. The hurricanes/tropical storms naming follow the alphabet. But a hurricane name is retired if it causes major damage ie. Katrina is never to be used again. The NOAA Atlantic hurricane forecast also included the below list of Atlantic storm names for 2023.

Figure 49: NOAA 2023 Atlantic Hurricane Names

Arlene	Harold	Ophelia
Bret	Idalia	Philippe
Cindy	Jose	Rina
Don	Katia	Sean
Emily	Lee	Tammy
Franklin	Margot	Vince
Gert	Nigel	Whitney

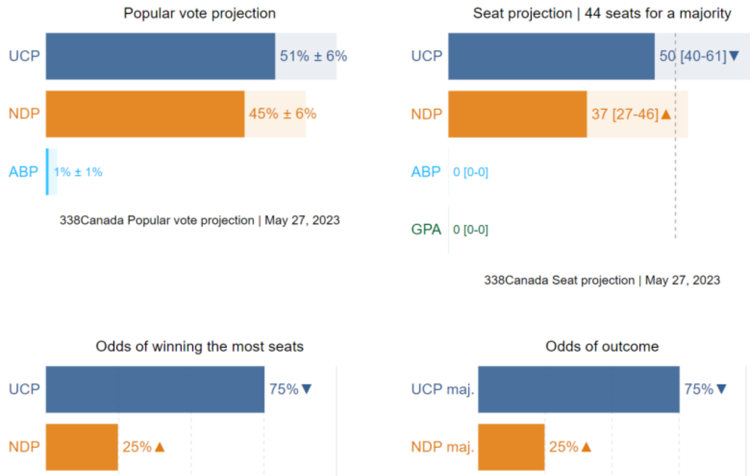
Source: NOAA

Oil & Natural Gas – Alberta election tomorrow, UCP are leading as people vote

Alberta provincial election on May 29

It was a short 4-week Alberta election campaign and it seemed like it given that many in the province were more concerned with the Alberta wildfires. But the election is tomorrow. The last 338Canada projection we are seeing is from yesterday [LINK] that still shows the UCP with a good lead that would, if true, lead to a majority UCP government. In one of our tweets this week, we said there is always the undecided wildcard. But there is one other big wildcard for the turnout that many in central/northern Alberta are rightly focused on wildfires and their families/homes and not on voting. Below is the 333Canada election projections as of May 27.

Figure 50: Alberta election projection as of May 27



Source: 338Canada

Oil & Natural Gas – Turkey Presidential election voting today

Turkey's Presidential election is today

Turkey's Presidential election is today. Voting closes at 8am MT and our news cut off is 7am MT so there is no final result as we write. However, some of the early reporting is, no surprise, pointing to a re-election of President Erdogan. All f the reporting we have seen over the past two weeks has been pointing to an Erdogan win over Kemal Kilicdaroglu. It will be interesting to see how the market responds. In the first round, Erdogan didn't get 50% but had a good margin and the market reaction on the Monday following was negative.

Energy Transition – Germany to subsidize electricity to keep industry from leaving

Germany to subsidize electricity for industry

Germany is the largest economy in Europe and it is feeling the pain from high energy costs. We have to believe German Vice Chanceller Habeck's Tuesday announcement of electricity subsidies was to dampen the reaction to the German GDP numbers that came out on Thursday. wonder if G On Thursday, the data was out and, no surprise, Germany fell into a recession with another quarter of negative growth. To be fair, the sky-high electricity costs in the fall of 2021, before Russia invaded Ukraine, had already caused some energy-intensive industries to cut back. So high electricity prices back in 2021 and continuing are impacting industry. No surprise to see the Reuters Tuesday report [LINK] "*Germany plans to earmark* *around 4 billion euros ($4.40 billion) annually to subsidize electricity prices for energy-intensive industries, to support an industrial move away from fossil fuels and discourage firms from moving offshore.*" That's $4.4 billion per year. On Tuesday, we tweeted [LINK] "*Is it the #EnergyTransition or cost of replacing cheap RUS #NatGas via pipeline with #LNG or both? Regardless, Germany needs to provide $4.4b PER YEAR to help subsidize high electricity price to try to keep industry from going elsewhere. Thx @RihamKousa. #OOTT.*" We don't know the proportions linked to the cost of the energy transition vs Russia, but there is no question that a big factor is the decision to stop imports of cheap Russian pipeline natural gas via Nord Stream and replace it with multiples higher priced LNG. But the reality is clear – Germany is worried about losing industry unless it can get to a lower electricity price for industry and that means it must subsidize electricity for industry. Our Supplemental Documents package include the Reuters report.

Germany has remained steadfast in its cutting off cheap Russian natural gas
Natural gas is different from oil for Germany and others supplied by Russian pipeline natural gas – as a rule, if they cut off pipeline natural gas, there aren't other pipeline natural gas that is available and easy to connect, which means they are forced to buy much higher priced LNG and then set up new infrastructure to import and deliver domestically the LNG/natural gas. We had thought Germany would be the weak link and break solidarity to give in to some degree on Putin for this very reason – the cost of cutting out Russian pipeline natural gas would hammer the economy. But instead of cracking, Germany is hanging tight with the west and will try to keep industry by subsidizing more of the cost of electricity for industry.

Recession hits Germany with Q1 GDP down 0.5%
The economy news out of Germany on Thursday didn't surprise that Germany was in a recession as Q1/23 GDP was reported down 0.5%, which followed Q4/22 down 0.3%. On Thursday, we tweeted [LINK] "*Germany slips into recession in Q1/23. See 👇05/23 tweet. High electricity costs driven by combination of #EnergyTransition and cost of replacing cheap RUS #NatGas with #LNG are hurting industrial production. Hopefully Habeck's subsidies keep some German industry from going elsewhere. #OOTT.}*

Energy Transition – No EU, Japan or Korea off-takers for Saudi blue hydrogen

Still no off-takers for blue hydrogen

No one should be surprised to have seen Saudi Energy Minister Abdulaziz's comments on Monday that there haven't been any European, Japanese or Korea buyers willing to step up to be a long-term off-taker for a blue hydrogen development. And the problem is that, with the huge relative cost to produce hydrogen, it needs long-term off-taker commitments for the hydrogen supplier, in this case Saudi Arabia, step up with the billions of dollars of investment needed to get a commercial project. Early Monday morning, we tweeted [LINK] "*Hydrogen, the fuel of the future, can't take off until there are buyers. Saudi Energy Minister Abdulaziz "who is going to be the off-taker?" no clear policies for off-taker to step up & pay the price needed for producer to develop the #hydrogen.no surprise, see 👇05/10/23 tweet, #SaudiAramco CEO said #BlueHydrogen cost $250/boe & can't identify EU, Japan, Korea customers to step up. #EnergyTransition is happening but will take way, way longer than aspirations. #NatGas #LNG will be needed for a very long time. #OOTT,* Our tweet included a transcript we made of Saudi Energy Minister Abdulaziz comments at the Qatar Economic

Forum on May 23, 2023. [LINK] Items in "*italics*" are SAF Group created transcript. At 40:00 min mark, Abdulaziz "… *including by the way hydrogen. People talk about hydrogen as the fuel of the future. I ask you who is going to be the off-taker. And where is the price for hydrogen today? We go around, you go around talking about blue, green, purple, pink hydrogen but, in the final analysis, who is going to be the off-taker, what would be the price of hydrogen. We're not talking oil. We're not talking gas. We're talking about THE so-called cleanest of cleanest future fuel of the future. And yet you don't have the off-takers. But again there are no clear policies for the off-taker to say I have been given an incentives package that will enable me to buy that hydrogen, even green hydrogen for that price for producers to produce it. If this is happening to hydrogen . And what we saw in Europe in terms of power, last autumn, rescued by a gift of god that winter was not as cold as was projected. How in earth one can envisage an energy future with all this uncertainty and, more important, with all these big questions that are not being answered,"*

05/10/23 Aramco CEO, can't get off-take as blue hydrogen cost ~$250/boe

Here is what we wrote in our May 14, 2023 Energy Tidbits on Saudi Aramco CEO saying they can't get off-take as blue hydrogen costs ~$250/boe. *We continue to believe that one of the key assumed parts of the energy transition, hydrogen, will take way longer than the aspirations. There will be small deals, but the challenge for the needed big anchor deals is that hydrogen is very expensive. There is no question that Saudi Aramco has been trying to do long term Blue Hydrogen supply deals, but Saudi Aramco CEO Nasser also gave a reality check why that hasn't happened – Blue Hydrogen is too expensive at a cost of $250/boe/d. That's a huge premium and why Saudi Aramco hasn't been able to get a major long term capital commitment to get the needed anchor deals. No one should be surprised to hear that, and we actually thought the cost might be higher. On Wednesday, we tweeted [LINK] "#NatGas #LNG will be needed for a very long time. #SaudiAramco CEO, #BlueHydrogen cost ~$250/boe! "very difficult to identify any off-take agreement in EU" "Even the customers in Japan and Korea are waiting for government incentives ...." Thx @MattMartin128 @faaj22 #OOTT." Nasser made his comments in the Q&A of the Aramco Q1 call on Wed. Our tweet included the Bloomberg report, which was consistent with the Q1 call transcript that wasn't public until Thursday night. Here is what Bloomberg wrote "Yet existing technology means blue hydrogen could cost the equivalent of around $250 a barrel of oil, Aramco's chief executive officer said on Tuesday. "It is very difficult to identify any off-take agreement in Europe" for blue hydrogen, Amin Nasser said on a call with analysts on Tuesday. "Even the customers in Japan and Korea are waiting for government incentives. Until they get these incentives, it'll be costly for them to pursue that blue hydrogen." The company won't make a final investment decision to build hydrogen export facilities without first signing supply deals, he said. It's so far sent test shipments in the form of ammonia to South Korea and Japan. "This is a very expensive program," Nasser said. "It's a lot of capital and you need customers. So we will not sanction a project without securing an off-take agreement." Our Supplemental Documents package includes the Bloomberg report."*

01/08/23, Norway minister, hydrogen light years away from being reasonable
In January, Norway came out with very blunt comments that hydrogen is "light years away from being justifiable of reasonable". Here is what we wrote in our Jan 15, 2023 Energy Tidbits memo. "*Earlier this morning, we tweeted [LINK] on Norway cabinet minister Moe's common sense approach as to why hydrogen is "light years away from being justifiable or reasonable". Moe said "And we must have a proven relationship with simple factors such as resource efficiency and effectiveness". He just wants to go with the economics as known. We also earlier tweeted [LINK] "Inmate escaping or crazyman? See 👇Norway cabinet minister Moe 01/08 posting. Hydrogen has large energy losses at both ends of the process, "in my opinion, light years away from being justifiable or reasonable". Energy will be $$$$ in the #EnergyTransition. #OOTT #NatGas ." Our tweet referenced a Facebook Jan 8 posting by Norway cabinet minister Moe. Moe is currently Minister of Research and Higher Learning, but was previously Minister of Petroleum and Energy from 2011 to 2013. Moe went thru his analysis of the energy losses in hydrogen and why he says "It is, in my opinion, light years away from being justifiable or reasonable." Here is his math on why hydrogen doesn't' make sense. This is from Google Translate "Hydrogen is certainly good for many things, but the fact is that it is a highly explosive storage medium with large energy losses at both ends of the process. If you use 100 kwh of electricity to produce hydrogen, you will be left with an amount of energy in hydrogen corresponding to 50 kwh. In other words, half of the energy is lost. If you are going to use this hydrogen in a fuel cell, you lose a further 50%. If you run it in a turbine to produce electricity, you lose 70%. In other words, you get a utilization rate in a car of about 25% or 25 kwh of the original 100 kwh due to energy loss in the processes. In a simple turbine, the loss is even greater. Alternatively, this current/energy could have been used directly all the time it is taken from the grid in Norway with a utilization rate for, for example, heating, production or transport of 90-100%! If Statkraft together with NEL succeeds in establishing 2 gw electrolysis of hydrogen in Norway, this corresponds to an energy quantity of approximately 17.5 twh, or approximately 12-13% of all power production in Norway." Our Supplemental Documents package includes Moe's Facebook posting and the Google Translate thereof."*

Hydrogen is an energy carrier, produced from another substance
We recognize that the Energy Transition world is aggressively pushing hydrogen and, unfortunately, many or most of the general comments on hydrogen talk about it as this great clean energy source. However, we want to remind that hydrogen is just like electricity in that it is produced from another substance such as coal, natural gas, etc. it is an energy carrier or storer. Here is what we wrote 16 months ago in our Jan 23, 2022 Energy Tidbits memo. "*On Friday, we tweeted [LINK] ""takes more energy to produce #hydrogen (by separating it from other elements in molecules) than hydrogen provides when it is converted to useful energy" "an energy carrier that must be produced from another substance". nice to see @EIAgov give facts not fiction. #OOTT #NatGas." This follows the new Jan 20 update from the EIA "Hydrogen explained". Hydrogen is considered one of the must be a significant contributor to any and all plans to get to Net Zero. Our view is unchanged, we understand why the Net Zero side pushes it for items like heavy industry, but it seems to get overlooked*

that hydrogen is not an energy sources like natural gas or solar. Rather it is an energy carrier. The EIA stuck to the basics on hydrogen and didn't politicize their message in their Jan 20 update on hydrogen. The EIA explained this concept clearly. "Hydrogen is an energy carrier Energy carriers allow the transport of energy in a usable form from one place to another. Hydrogen, like electricity, is an energy carrier that must be produced from another substance. Hydrogen can be produced—separated—from a variety of sources including water, fossil fuels, or biomass and used as a source of energy or fuel. Hydrogen has the highest energy content of any common fuel by weight (about three times more than gasoline), but it has the lowest energy content by volume (about four times less than gasoline). It takes more energy to produce hydrogen (by separating it from other elements in molecules) than hydrogen provides when it is converted to useful energy. However, hydrogen is useful as an energy source/fuel because it has a high energy content per unit of weight, which is why it is used as a rocket fuel and in fuel cells to produce electricity on some spacecraft. Hydrogen is not widely used as a fuel now, but it has the potential for greater use in the future". Our Supplemental Documents package includes the EIA Jan 20 update Hydrogen explained. [LINK]"

Cyber – US says China cyber attacks targeted US critical infrastructure incl utilities

China cyber attacks vs US

We are a little surprised that we didn't see a lot of comments by US utilities of the US National Security and Microsoft Wednesday of the China cyber threats. Maybe it was the Memorial Day weekend but the releases came out on Wednesday. On Wednesday, we tweeted [LINK] "*#CyberAttack. "Microsoft has uncovered stealthy and targeted malicious activity focused on post-compromise credential access and network system discovery aimed at critical infrastructure organizations in the United States. The attack is carried out by Volt Typhoon, a state-sponsored actor based in China" "The organization is apparently working to disrupt "critical communications infrastructure between the United States and Asia," Microsoft said, to stymie efforts during "future crises." #OOTT."* On Wednesday, the US National Security Agency and Microsoft reported that China has been targeting US critical infrastructure that included "*the affected organizations span the communications, manufacturing, utility, transportation, construction, maritime, government, information technology, and education sectors."* The media headlines were on communications infrastructure given Microsoft's highlighting "*Microsoft assesses with moderate confidence that this Volt Typhoon campaign is pursuing development of capabilities that could disrupt critical communications infrastructure between the United States and Asia region during future crises."* But, we also note the inclusion of utilities. And that one of the big fears for cyber attacks has been on power, water, natural gas and oil infrastructure. Our Supplemental Documents package includes the US National Security Agnecy and Microsoft releases.

Capital Markets – Jamie Dimon warns on higher for longer interest rates

Jamie Dimon warns on interest rates

He isn't the first to warn on higher for longer interest rates, but Jamie Dimon has a big global following so his words get more attention. We raise the concern that, if right, many companies and people are not prepared for interest rates being this high for longer. On Tuesday, we tweeted [LINK] ""*So I think there's a chance you're still going to have rates ticking up and not to 3.78. I'm talking about 4.25, 4.5, 5, 6 maybe even 7. I would be prepared for higher rates if I were someone." Jamie Dimon yesterday. Many companies &*

people are nowhere near prepared for this. #OOTT." Our tweet included the transcript we made of comments by JP Morgan CEO Jamie Dimon from JP Morgan Investor Day on May 22, 2023 [LINK] "*You're already seeing credit tighten up. The easiest way for a bank to retain capital is not to make the next loan. I think you are going to see that. And I think everyone should be prepared for rates going higher from here. That 5% is not enough in Fed Funds. If I, I've been advising this to clients and banks. You should be prepared for 6, 7. You should be prepared for, on the 10-year bond, I also feel this way. The Fed doesn't control the 5 or 10-year rate. They control the overnight rate. So while they've been raising the overnight rate, there's still too much liquidity in the system, which is why stocks are high, bond spreads are still. You all talk about recession not reflected in bond spreads. So I think there's a chance you're still going to have rates ticking up and not to 3.78. I'm talking about 4.25, 4.5, 5, 6 maybe even 7. I would be prepared for higher rates if I were someone. Whether it happens or not, we don't know, but you should be prepared for it.*"

IFIC Cdn mutual fund data

Capital Markets – IFIC: Equity and balanced funds see net redemptions in April
One of the big Cdn equity stories in 2022 continues to play out to start 2023 – the continuation in Q1/23 of massive net redemptions from active Cdn balanced and equity mutual funds in 2022, which was a huge change from the massive net sales into balanced and equity mutual funds in 2021. On Wednesday the IFIC (Investment Funds Institute of Canada) reported [LINK] mutual funds and ETF sales for April. IFIC reported net redemptions for mutual funds balanced funds were $3.941b in April (vs $4.167b in Mar and $0.945b in Feb). IFIC also reported net redemptions for mutual funds equity funds were $2.782b in April (vs net redemptions of $1.982b in March and net sales of $0.423 b in Feb). Last year net redemptions in balanced and equity funds totalled $38.47b, which was a massive YoY crashing of $138.92b vs 2021 that saw net sales in balanced funds and equity funds of $100.45b. April's data brings YTD net sales to a total of $4.6b, which is a drastic change from the YTD net sales of $11.1b reported in April 2022. Our Supplemental Documents package includes the IFIC release.

Figure 51: Cdn Mutual Fund Net Sales/Net Redemptions ($ Millions)

Asset Class	Apr. 2023	Mar. 2023	Apr. 2022	YTD 2023	YTD 2022
Long-term Funds					
Balanced	(3,941)	(4,167)	(2,055)	(13,453)	6,365
Equity	(2,782)	(1,982)	(259)	(5,010)	8,473
Bond	853	497	(1,752)	7,177	(2,068)
Specialty	274	427	(204)	1,462	845
Total Long-term Funds	(5,597)	(5,225)	(4,270)	(9,824)	13,614
Total Money Market Funds	1,020	1,823	(196)	5,242	196
Total	(4,576)	(3,402)	(4,466)	(4,582)	13,810

Source: IFIC

There were massive redemptions in Cdn active equity/balanced funds in 2022
2023 is not off to a good start for Cdn balanced and equity funds, but 2022 was brutal. Our Thursday tweet on the Jan/Feb IFIC data referenced the brutal 2022 data. Here is what we wrote in our Jan 29, 2023 Energy Tidbits memo. "*One of the big Cdn equity stories in 2022 continued to play out in the final month of the year – the massive net redemptions from active Cdn equity fund manager's balanced and equity mutual funds in 2022, which is a huge change from the massive net sales into*

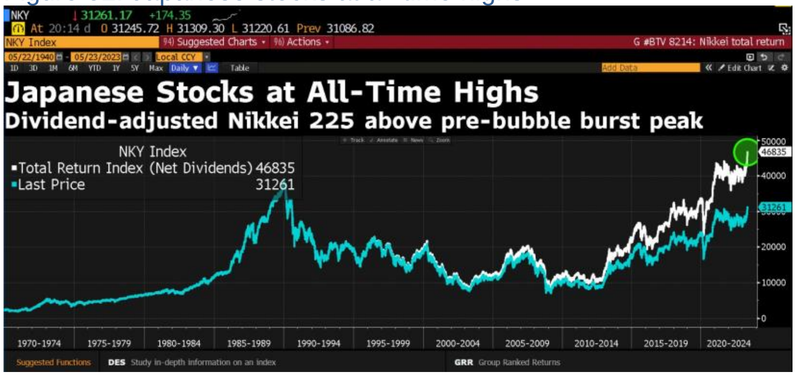
balanced and equity mutual funds in 2021. On Thursday, we tweeted [LINK] "WOW! @IFIC balanced & equity mutual funds net sales/redemptions data for 2022. YTD 12/31/22 net REDEMPTIONS of $38.5b. YTD 12/31/21 net SALES $100.4b. YoY diff is -$138.9b!! Makes #Oil #NatGas stocks big outperformance vs TSX and oil prices even more impressive. #OOTT." On Tuesday the IFIC (Investment Funds Institute of Canada) reported [LINK] mutual funds and ETF sales for Dec. IFIC reported net redemptions for mutual funds balanced funds were $4.97b (vs $5.07b in Nov and $5.66b in Oct) and YTD Dec 31 of $29.99b. IFIC reported net redemptions for mutual funds equity funds were $3.08b in Dec (vs $3.01b in Nov and $1.89b in Oct) and YTD Dec 31 of $8.48b. The change vs 2021 is huge and has widened since the Nov update. YTD Dec 31, net redemptions in balanced funds and equity funds was $38.47b, which is a YoY crashing of $138.92b vs YTD Dec 31, 2021 that saw net sales in balanced funds and equity funds of $100.45b."

Capital Markets – More signs of the Warren Buffett effect on Japanese stocks

Warren Buffett effect

No one can specially prove that the recent strength in Japanese stocks is primarily the result of Warren Buffett's April 12 CNBC interview, but many are attributing the inflow of foreign capital and outperformance of Japanese stocks. (i) Last week's (May 21, 2023) Energy Tidbits memo wrote "*We aren't in the category of the Warren Buffett fanatics who think everything he says is gospel and he touches turns to gold. But we really respect what he has accomplished and continues to accomplish over the decades. It's amazing when someone can be considered to be on the top of his game over many decades. So we couldn't help tweet a Warren Buffett shout-out on Thursday, when we saw the below Bloomberg TV chart on how foreigners are loving Japanese stocks. We tweeted [LINK] "The #WarrenBuffett effect is still working. @business "foreigners loving Japanese stocks. positive flows into equities for 7th straight week". Last 5 weeks were since #WarrenBuffett made his positive comments on Japanese trading houses in his @BeckyQuick Apr 12 interview in Japan. #OOTT." Buffett was in Japan in early April and there was big investor attention to the CNBC Becky Quick interview with Buffett and Greg Abel on April 12, where he made positive comments about the Japanese trading houses. We have to believe this got a lot of attention from investors around the world. Was it coincidental or did people follow? Given his following, we suspect a good portion of this was people following Warren Buffett into Japanese stocks.*" (ii) On Monday night, we tweeted [LINK] "*The #WarrenBuffett effect at work in Japan. @business Japanese stocks at all-time high. Dividend-adjusted Nikkei 225 above pre-bubble burst peak. Nikkei +4.9% in 2021 post Covid. -9.4% in 2022. +7.0% 01/01/23 to Buffet 04/12 @BeckyQuick interview. +12.0% 04/12 to 05/23. #OOTT.*" Below are the BloombergTV graphs attached to our two tweets.

Figure 52: Japanese stocks at all-time highs



Source: Bloomberg

Figure 53: Positive flows into Japanese equities for 7th straight week

Source: Bloomberg

Capital Markets – USDA consumer price index for food +4.9% YoY in April

USDA CPI for food +4.9% YoY

There was big decrease in the YoY increases in the USDA's official food price data for April vs March. One of the items we have stressed for the past year is the actual food prices people pay in the grocery store have had much higher YoY price increases. The USDA posted its April consumer price index for food data on Thursday [LINK], which pointed to food prices being up +0.5% MoM and +4.9% YoY. This compares to March's reading of +0.1% MoM and +8.5% YoY. The +4.9 YoY increase is for the overall food price index, which has a relative weighting for the various food categories. Some notable YoY index changes (compared to the 20-year average) in the March data were: fats/oils +13.8% YoY (+8.8% avg), poultry +5.0% YoY (+2.1% avg), fresh fruits -1.8% YoY (+0.1% avg), fresh vegetables +1.4% YoY (0.9% avg), eggs +21.4% YoY (23.6% avg), and dairy products +8.0% YoY (4.8% avg). The USDA also provided a full-year 2023 outlook and is forecasting a +4.9% to +7.5% YoY increase in overall food prices, which compares to the last forecast of +4.9% to +8.2% published in March and the 20-year average of +2.8%.

Loblaw explained why grocery prices go up higher than commodity prices

Here is what we wrote in our May 7, 2023 Energy Tidbits memo. "*As we keep saying there is a big difference between what the UN and USDA say is the inflation on* *commodity food prices because there is a big supply chain by the time a commodity gets turned into the price someone pays when they go to the grocery store. Loblaw had their Q1 call on Wednesday and mgmt. noted how the prices they pay for product to put on their grocery store shelves keeps going higher than the underlying food commodity price increase. In their prepared remarks, mgmt said "We are continuing to see elevated cost increase from our food suppliers. This includes small and medium-sized Canadian vendors catching up on costs and we're doing our best to expedite those. More concerning, we're still seeing outsized cost increases rolling in from large global consumer goods companies, exceeding what we would be expecting at this point." And then in the Q&A, mgmt. was a little more specific confirming it was relative to the commodity price increases. Mgmt replied "We wanted to call it out because it is one of the big drivers of cost inflation that we are seeing. You also heard Richard mention the small Canadian mid-sized manufacturers. So, we're kind of catching up to the inflationary costs. But yes, we are definitely seeing more inflationary cost pressure from the large multinational CPGs than we would have expected at this time based on what's happening in the commodity cost environment."*

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

@Energy_Tidbits on Twitter

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

LinkedIn – Look for quick energy items from me on LinkedIn

Look for energy items on LinkedIn

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

Misc Facts and Figures

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

Best last day of the season in any sport – Premier League

Today is the last day of the English Premier League and we have always believed it is the best last day of the season in any professional sport as all the teams play on the last day and all the games start at the same time. And EPL football (soccer) isn't like NHL, or NFL or MLB or NBA games where the length of games can vary widely. EPL football games tend to finish within 5 minutes or so from other games. It's not as exciting as many years as Manchester City has already clinched as champion. But there is still one issue on the relegation battle where every year, the bottom three teams are dropped out of the Premier League down to the Championship level. Southampton is already destined to be dropped. But there are three teams fighting for the 17th spot in the table to avoid relegation. Everton is in 17th with a two-point lead over Leicester City and Leeds United. Everton has to lose and Leicester and Leeds have to win for them to have a chance. So the TV coverage will be showing the different scores of these games as they get down to the final minutes. One interesting Everton tidbit in the morning sports show is that Everton has the current second longest streak of being in the EPL or prior top equivalent league name at 69 years.

Can Boston Celtics be the 1st ever to come back from 0-3 in the NBA playoffs

One of the advantages of Saturday being the biggest workday for our Energy Tidbits memo is that there is normally some good sports to have on in the background. And last night, it was some great sports with Game 6 of the Boston Celtics/Miami Heat in the Eastern Conference Finals. Miami had rallied back early in the 4th Quarter to take the lead with 3 seconds to go, but Derrick White's bucket on an offensive rebound with 0.1 seconds left won the game. This is potentially huge as the Celtics were down 0-3 and have now rallied to tie the series 3-3 and force game 7 in Boston on tomorrow night. There has never been an NBA team to win a playoff series after being down 0-3. Prior to the Celtics winning, there were only 3 teams in NBA history that were 0-3 to have made it to a game 7. But overall, teams that were 0-3 have yet to win a playoffs series in 150 such cases. They are 0-150.

Bayern Munich wins 11th straight Bundesliga title but still fires CEO

Talk about high standard for pro sports performance. Bayern Munich wins its 11th straight title and fires its CEO. We don't know if the right description is that Bayern Munich won the Bundesliga title yesterday or if Borussia Dortmund lost the title. Bayern was behind on the day and would have (and was expected to) finish second as they were behind Dortmund going into the last day and Dortumund was at home and heavily favored to win at home vs 9th place Mainz. But in the unpredictable world of sports, Dortmund tied Mainz, which allowed a Bayern win to put them with equal 71 points to finish the year, but Bayern wins the title due to the goal differential. Bayern then wins its 11th straight Bundesliga title, but the season was viewed throughout as less than the normal Bayern expectations. After the match, Bayern announced that it fired CEO Oliver Kahn and board member Hasan Salihamidzic had been dismissed. And this follows the big surprise late March firing of their manager (head coach role in NHL, NBA, NFL) Julian Nagelsmann, who they had hired this year on a 5-yr deal worth €40 million.