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Energy Tidbits

May 22, 2022

Produced by: Dan Tsubouchi

G7 "*We Recognize the Importance of Accelerating Investment in Upstream Developments, Including in Liquefied Natural Gas*"

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 and not just a specific company results. Our target is to write on 48 to 50 weekends per year and to post by noon mountain time on Sunday.

This week's memo highlights:

1. G7 Foreign Ministers communique "*we recognize the importance of accelerating investment in upstream developments, including in liquefied natural gas (LNG) projects*". [LINK]
2. IEA's Birol's latest tweet makes us worry that it's recipe for energy crisis thru 2020s [LINK]
3. EIA's forecast shale/tight natural gas production 91.75 bcf/d in June ie. no growth vs 91.19 bcf/d in Feb [LINK]
4. BlackRock states will invest in "traditional" energy company as they offer attractive returns [LINK]
5. Good thing CPPIB said oil and gas was strategic sector, its 03/31 Cdn public equities including three Cdn E&P stocks that were +45% in Q1 [LINK]
6. Please follow us on Twitter at [LINK] for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.
7. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK].

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Natural Gas – Natural gas injection of +89 bcf, storage now -358 bcf YoY deficit

YoY storage at -376 bcf YoY deficit

The YoY storage deficit started the winter at -282 bcf YoY at Oct 31 and is now -358 bcf YoY. The EIA reported a 89 bcf build (vs 89 bcf build expectations) for the May 13 week, which was in line with the 5-yr average build of 87 bcf, and above last year's injection of 71 bcf. Storage is 1.732 tcf as of May 13, decreasing the YoY deficit to -358 bcf, from -370 bcf last week and storage is 310 bcf below the 5-year average vs 312 bcf below last week. Below is the EIA's storage table from its Weekly Natural Gas Storage Report [LINK].

Figure 1: US Natural Gas Storage

	Stocks billion cubic feet (Bcf)				Historical Comparisons			
					Year ago (05/13/21)		5-year average (2017-21)	
Region	05/13/22	05/06/22	net change	implied flow	Bcf	% change	Bcf	% change
East	296	274	22	22	356	-16.9	363	-18.5
Midwest	364	342	22	22	470	-22.6	441	-17.5
Mountain	103	96	7	7	134	-23.1	121	-14.9
Pacific	187	183	4	4	245	-23.7	225	-16.9
South Central	781	749	32	32	884	-11.7	893	-12.5
Salt	251	241	10	10	278	-9.7	284	-11.6
Nonsalt	531	507	24	24	605	-12.2	608	-12.7
Total	**1,732**	**1,643**	**89**	**89**	**2,090**	**-17.1**	**2,042**	**-15.2**

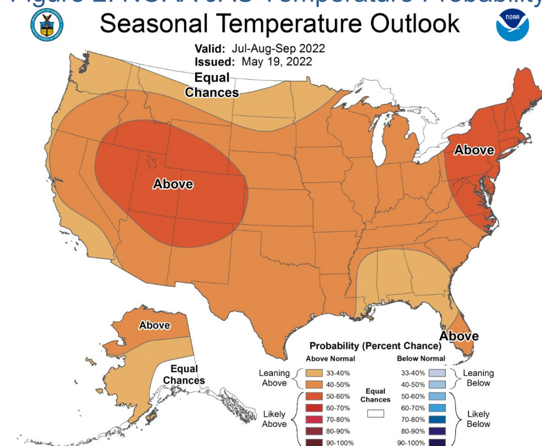
Source: EIA

Natural Gas – NOAA's outlook still calls for warmer than normal summer

NOAA forecasts hot summer

On Thursday, NOAA posted its monthly update to its seasonal temperature forecasts [LINK]. The forecast included small changes, but it's still calls for another hot summer with the JAS forecasted temperatures expected to be well above average temperatures ie. a supportive for weather related natural gas demand. Below are the temperature probability maps for JAS. We have added last years average temperature map across US states for the summer which ranked the 3rd hottest in the last 127 years.

Figure 2: NOAA JAS Temperature Probability Forecast



Source: NOAA

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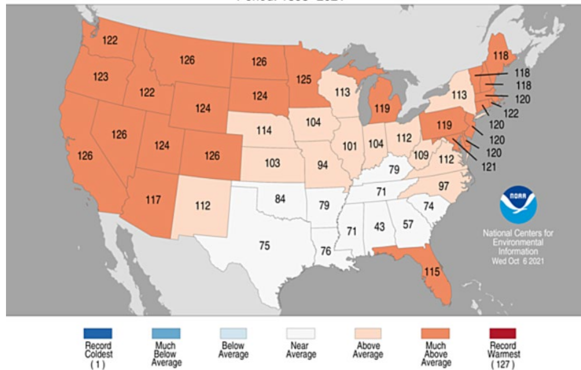
Figure 3: US 2021 JAS Statewide Average Temperature Map



Source: NOAA

Natural Gas – 2022 is looking like rare triple dip La Nina

A triple dip La Nina

Last week's (May 15, 2022) Energy Tidbits memo highlighted NOAA's 96% probability for La Nina/Normal conditions this summer. [LINK]. One of the weather buzz words that has been thrown around since that NOAA El Nino outlook is it looks like a rare triple dip La Nina. That is three consecutive years of La Nina. And the concern on this rare triple dip La Nina is that it is likely to be continued warm and dry conditions in the southern states including California ie. not good for the already severe drought over much of the western half of the US.

Natural Gas – Continued severe drought conditions in western US

Severe drought in western US

Unfortunately, 2022 is another bad drought year for the western half of the US, which means there is continued risk during this wildfire season. Below is a comparison of the US Drought Monitor maps for May 17, 2022 vs May 18, 2021 [LINK]. There are less "exceptional drought" acreage, the same amount of "extreme drought", but more "severe drought" and "moderate drought" regions in 2022. So basically another drought year. The risk is that we are just moving into the peak of lightning season, which, no surprise, coincides with the peak of wildfire season.

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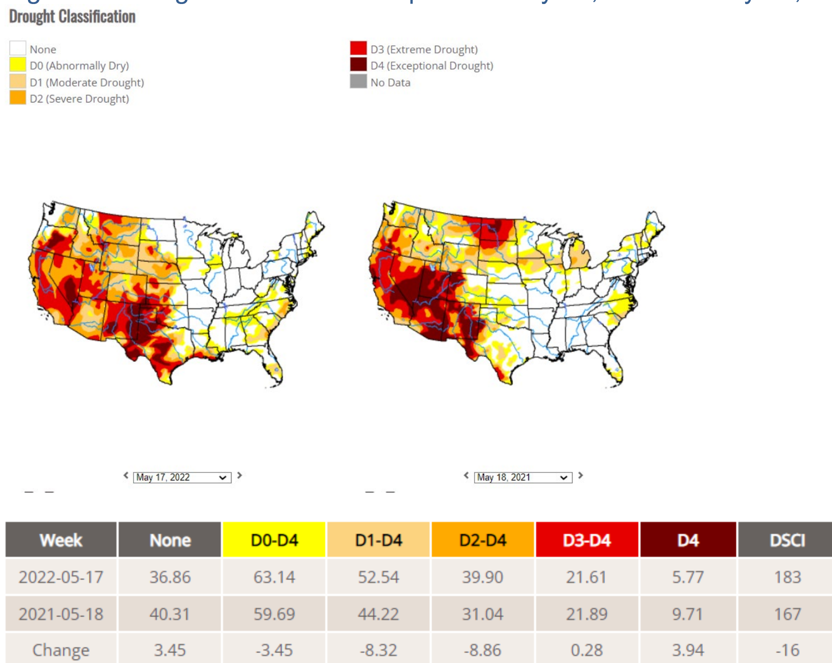
Figure 4: Drought Conditions Comparison May 17, 2022 vs May 18, 2021



Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
2022-05-17	36.86	63.14	52.54	39.90	21.61	5.77	183
2021-05-18	40.31	59.69	44.22	31.04	21.89	9.71	167
Change	3.45	-3.45	-8.32	-8.86	0.28	3.94	-16

Source: US Drought Monitor

Natural Gas – Not unusual to get the 1st named Atlantic tropical storm in May

Can see tropical storms in May

The theoretical start to the Atlantic hurricane season is June 1. We have been including the early season hurricane forecasts, which are all calling for a more active than normal Atlantic hurricane season. On Tuesday, The Weather Channel tweeted [LINK] out a reminder that it is not unusual to see the first named tropical storm in May. Their other reminder is that early season tropical storms tend to be in years with above average hurricane activity. Below is their graphic.

Figure 5: Early Season Storms vs Rest of Season

Early Season Storm vs Rest of Season
Average Season: 14 Named Storms

	Date of 1st Storm	Total Storms
2015	May 8	12
2012	May 19	19
2008	May 31	17
2006	May 9	15
2003	April 20	16

Source: The Weather Channel

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AccuWeather says waning chances for tropical storm prior to June 1

It's looking less likely for a May tropical storm. On Thursday, AccuWeather posted its report [LINK] "*Chances for a tropical system to form prior to June 1 now waning*" and "*The chances for a preseason tropical storm in the Atlantic basin are waning by the day, AccuWeather meteorologists say, though there is the chance for a meteorological phenomenon to develop around Central America that could support development in the weeks ahead.*"

Natural Gas – EIA, US shale/tight natural gas is flat since Feb

Shale/tight gas is still flat since Feb

Our April 24, 2022 Energy Tidbits memo stated *"We recognize that the headlines on the EIA's updated Drilling Productivity Report April 2022, was that shale/tight natural gas is forecast up MoM in May. That is true. But our concern is that shale/tight natural gas is stuck since Feb and actually down a little bit."* With the release of EIA's updated Drilling Productivity Report May 2022, we still have this concern. The DPR [LINK] is the EIA's forecast for oil and natural gas production from the major shale/tight oil and gas basins for the current month (in this case May) and the next month (in this case June). (i) The EIA forecasts June at 91.750 bcf/d, which is basically unchanged since since Feb, which was 91.187 bcf/d and March of 91.732 bcf/d. (ii) This month, all basins increased except for Anadarko (-0.018 bcf/d MoM). The largest increases came from Haynesville (+0.239 bcf/d MoM), Appalachia (+0.194 bcf/d MoM) and Permian (+0.169 bcf/d MoM). (iv) All basins are now up YoY, with the most notable YoY increases being Haynesville +2.160 bcf/d YoY and Permian +2.437 bcf/d YoY. Total US shale/tight natural gas production is +7.498 bcf/d YoY for June. (v) Remember US shale/tight gas is ~90% of total US natural gas production. So whatever the trends are for shale/tight gas are the trends for US natural gas in total. Below is our running table showing the EIA DPR data for the shale/tight gas plays, and the MoM changes in major shale/tight natural gas production. Our Supplemental Documents package includes the EIA DPR.

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

								2022						
mmcf/d	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jun YoY
Anadarko	5,919	6,129	6,192	6,139	6,107	6,203	6,321	6,278	6,341	6,286	6,118	6,134	6,116	197
Appalachia	34,586	34,364	34,366	34,783	34,838	35,601	34,825	34,988	35,716	36,298	35,443	35,476	35,670	1,084
Bakken	2,732	2,798	3,005	3,003	3,004	3,012	3,071	3,150	3,137	3,079	2,932	3,076	3,103	371
Eagle Ford	5,589	5,842	5,971	5,990	5,994	5,950	6,012	6,118	6,176	6,288	6,298	6,394	6,525	936
Haynesville	12,942	13,337	13,413	13,415	13,514	13,778	13,874	14,019	14,291	14,425	14,527	14,863	15,102	2,160
Niobrara	4,882	4,960	5,032	5,090	5,183	5,308	5,329	5,339	5,293	5,196	5,254	5,187	5,195	313
Permian	17,602	18,030	17,947	18,700	19,027	19,298	19,573	19,936	20,233	20,160	19,533	19,870	20,039	2,437
Total	84,252	85,460	85,926	87,120	87,667	89,150	89,005	89,828	91,187	91,732	90,105	91,000	91,750	7,498

Source: EIA, SAF

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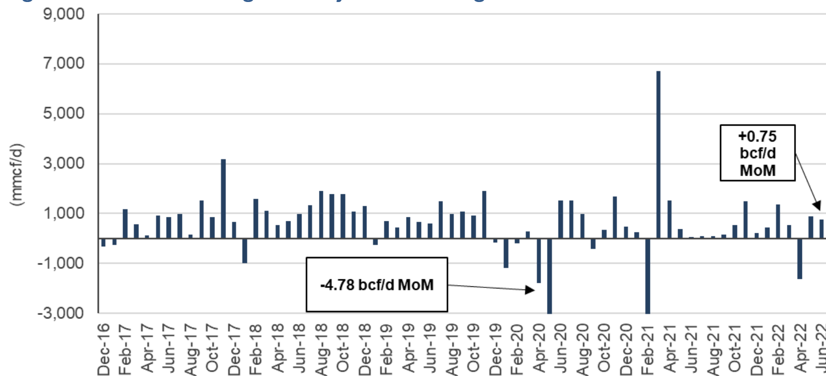
Figure 7: MoM Change – Major Shale/Tight Natural Gas Production



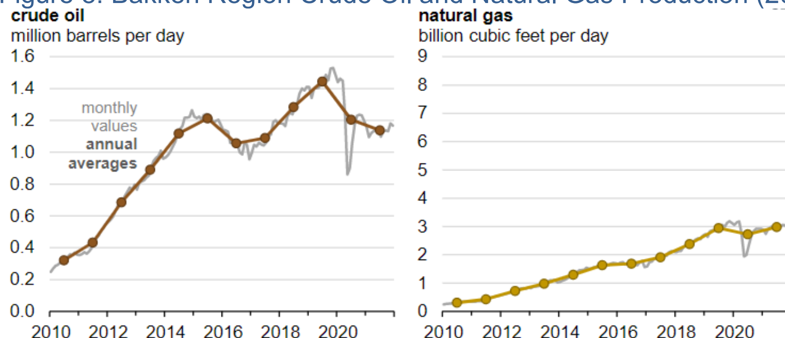
Source: EIA, SAF

Natural Gas – EIA, no surprise Bakken natural gas growing faster than its oil

EIA on Bakken natural gas production

On Monday, the EIA posted its blog [LINK] "Natural gas production in the Bakken region grew while crude oil fell in 2021", which highlighted the increasing ratio of natural gas to crude oil production in the Bakken region. According to EIA's Drilling Productivity Report for this month, annual natural gas production in the region increased by 9% in 2021, as crude oil production declined by 6%. Natural gas production reached an annual high of 2.97 bcf/d, surpassing the previous high of 2.95 bcf/d set in 2019. The EIA contrasted this with the region's peak annual crude oil production of 1.45 mmb/d in 2019 which declined by 17% in 2020 and by 6% in 2021. The NDIC has raised natural gas capture targets from 74% in October 2014 to 91% in the beginning of 2020, which has reduced flaring at the wellhead. In order to meet these targets, midstream companies have greatly expanded natural gas processing capacity, which has led to the increased production in the region. As more pipeline takeaway capacity is added, the processing capacity for the Bakken is expected to increase to 4.2 bcf/d in 2023, up 3.2 bcf/d from 2013. Another factor that explains the growing natural gas production levels is the increasing natural gas to oil ratio in the Bakken as the wells mature, which was not mentioned in this week's blog. Below is a graphic showing the crude oil and natural gas production levels in the Bakken over time. Our Supplementals Documents package includes the EIA blog.

Figure 8: Bakken Region Crude Oil and Natural Gas Production (2010-2021)



Source: EIA

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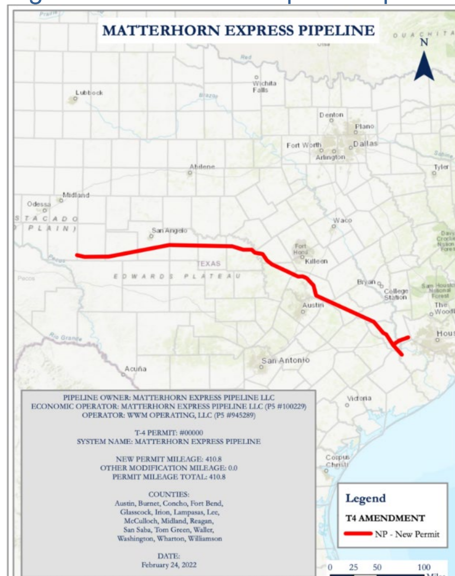
Matterhorn Express Pipeline gets FID

Natural Gas – Matterhorn Express to add 2.5 bcf/d of Permian takeaway in Q3/24

There continues to be an urgency to increase Permian natural gas takeaway capacity. This week, there was another announcement. On Thursday [LINK], WhiteWater issued a press release announcing their partnership with EnLink Midstream and Devon Energy has reached FID and will move ahead with construction of the Matterhorn Express Pipeline after securing sufficient firm transportation agreements with shippers. The pipeline is expected to transport 2.5 bcf/d of natural gas from Waha to Katy, Texas. The pipeline travels approximately 490 miles and will be sourced by multiple upstream connections in the Permian basin. Matterhorn Express will also include direct connections to the processing facilities in the midland basin through a 75-mile lateral and a direct connection to the 3.2 bcf/d Agua Blanca Pipeline, a JV between WhiteWater and MPLX. The Matterhorn Pipeline is expected to be in service in Q3/24 pending the receipt of customary regulatory and other approvals. The significant point to note here is that this is a greenfield pipeline that can be done n just over 2 years.

Figure 9: Matterhorn Express Pipeline Route



Source: WhiteWater

Is Qatar's 6.4 bcf/d expansion going to be early?

Natural Gas – Qatar says its 6.4 bcf/d expansion could be ready by 2026?

On Friday, Qatar Deputy Minister, Sheikh Mohammed Bin Adbulrahman al-Thani met with German ministers and signed the Qatar/Germany energy partnership (see later item in the memo). He also spoke with the media, who picked up his comment that Qatar wants to supply Germany with LNG in 2024 from their 70% ownership in the under construction Golden Pass LNG in the Gulf Coast. But what didn't get picked up in most media was his comments on their massive 6.4 bcf/d Qatar LNG expansion. But forturately, German news, Handlesbatt, posted its interview with [LINK]. Early Friday morning, we tweeted [LINK] "*Qatar's 6.4 bcfd #LNG expansion maybe 1 yr early, by 26, not 27, "will not be completed until 2026, maybe even as early as 2025". Re #JCPOA, "the Iranian leadership told us they were ready for a compromise". says @MBA_AlThani_ #NatGas #OOTT Thx @handelsblatt*

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Mathias Brueggmann." Handlesblatt reported "*The expansion of production in our North Dome gas field will not be completed until 2026, maybe even as early as 2025. But we want our US liquid gas plant Golden Pass in Texas, in which Qatar Energy holds 70 percent, to be ready by 2024 so that we can go to Germany can deliver."*. All Qatar disclosure has been that the expansion would be ready before 2027 (ie. in 2026) but the Deputy PM is saying it could be ready before 2026 (ie. in 2025).

Natural Gas – Equinor's 0.63 bcf/d Melkoeya LNG restart delayed about a week

Equinor Melkoeya LNG restart delayed a week

The restart of Equinor's Hammerfest LNG, including the Melkoeya LNG facility was completed this week, but a minor fault at a compressor will delay the restart to sometime this coming week. Last week's (May 15) Energy Tidbit memo indicated that the restart had been scheduled for May 17 after months of delays. In its Q1/22 release on May 4, Equinor said "*Hammerfest LNG is on track for a safe start-up on 17 May*." Equinor issued a press release on May 16 stated [LINK] *"During the weekend, a minor fault was discovered on a compressor that needs to be rectified prior to start-up. The component is now being replaced, and the stepwise process towards operations continues through the week.*" The Melkoeya LNG facility has a capacity of 0.63 bcf/d and has been offline since Sept 2020. In February, Equinor reported that the operational restrictions associated with the repairs and the uncertainty over the past months related to the pandemic are responsible for the delay in the restart from the original date of March 31. The Equinor facility has been closed since September 2020 due to a build up of insects in the pre filters of the air intake-auto which caused an ignition.

Natural Gas – EU thinks Mozambique security will be fine in a matter of months

EU ambassador on Mozambique security

No one but TotalEnergies knows what comfort on the security situation they will need before they resume construction of their Mozambique LNG. But there is no question that there is pressure on them, and also the market opportunity for them, to get started as soon as possible. The last TotalEnergies comment was April 28 (see below), when they said it would take at least 2022 before they decided. The reality is that it's only their view that counts. However, this week, Club of Mozambique (Mozambique news) reported [LINK] on comments from the EU ambassador to Mozambique, Antonio Gaspar. They wrote "*The European Union (EU) ambassador to Mozambique believes that within "months" there will be security in Cabo Delgado for the return of large investments associated to natural gas, he said in an interview with Lusa on Tuesday. Asked whether Mozambique risks losing the opportunity to make a profit from the gas reserves in the Rovuma basin, if it takes years to resolve the armed insurgency in the region, António Gaspar said he preferred to talk "in months rather than years," until the "normalisation" of life in Cabo Delgado begins. Cabo Delgado "is much safer, no doubt," he said, since troops from Rwanda and the Southern African Development Community (SADC) began supporting Mozambican forces in 2021. The EU is monitoring the situation and maintaining contacts, in coordination with SAMIM (the SADC military mission) and the Rwandan military, which now point to "more sporadic attacks" by the rebels who have been plaguing the region for four and a half years."* This is the ambassador to Mozambique so we wouldn't expect to see a negative view, but you never know. And the restart of TotalEnergies Mozambique LNG construction is a major LNG supply event. We believe that, if anything, TotalEnergies is more likely to be careful about not restarting too early. The last thing, they need is a repeat of Q1/21, when they restarted to only stop again within a matter of days.

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TotalEnergies said take at least thru 2022 before restart Mozambique LNG

Here is what we wrote in our May 1, 2022 Energy Tidbits. "*It wasn't what Mozambique was hoping to hear from the TotalEnergies Q1 call on when they expect to restart their Mozambique LNG Phase 1 construction. But, in reality they should be happy as TotalEnergies did seem to point to a potential restart a few months earlier than they said in their Q4/21 earnings call. Will take at least through 2022 before a potential restart. TotalEnergies did not say when but they seemed to leave the door open to a restart could happen in early 2023. A restart in April 2023 would mean that the force majeure caused a minimum two year delay. On Thursday, we tweeted [LINK] "Restart of TotalEnergies Mozambique LNG Phase 1 not expected in 2022. @PPouyanne "my view is that all that will take at least 2022, and then what we plan on our side is to willing to go back there." Security much improved but "not yet fully recovered" Thx @business. #OOTT #LNG" CEO Pouyanne noted the improving security situation but said "So that I said there is an activity on the ground, not from us, but from the Government of Mozambique and utilize to recover the security and then to bring back as a population in piece to over normal life. We saw the two conditions we agreed with the Mozambique government, my view is that all that will take at least 2022, and then what we plan on our side is to willing to go back there. And as I said, last time we reshuffled activities a but I will have be able to visit (inaudible) Palomar and Mozambique mostly by the prior year. Because my security people told me not to go, I will not send any of my people of contractors to face a difficult situation. So I think it's a matter of, as I said before, there is a good news. Good news and the run the security as much improved and less, much less. I would say with the fact, it's not yet fully recovered. I think the Government of Mozambique communicated, but they the objective is to recover the security."*

Natural Gas – Another long-term LNG deal, 20-yr supply to Poland's PGNiG

One more long term LNG deal

Our March 13, 2022 Energy Tidbits memo noted Europe's plan to move away from Russian pipeline natural gas and LNG is a global game changer for energy for at least the 2020s. We were already seeing clear signals of the bullish LNG for 2020s call since the end of June 2021 with the abrupt shift of Asian LNG buyers to long term contracts. Now, with Russia, the rush continues and from more than Asian LNG buyers. There continues to be a consistent news flow of more long-term LNG supply deals, especially for the quickest to market LNG from the US Gulf Coast. On Tuesday, Sempra Infrastructure, and the Polish Oil & Gas Company announced [LINK] they have entered into a heads of agreement (HOA) for the purchase of approximately 0.40 bcf/d of LNG delivered free-on-board from Sempra Infrastructure's portfolio of LNG projects in North America. This would be a 20 year LNG sale-and-purchase agreement for 0.27 bcf/d from the Cameron LNG Phase 2 project under development in Louisiana, and 0.13 Mtpa from the Port Arthur LNG project under development in Texas. Though this is a HOA, we expect it to go final because of the prior relationship between the companies. Our Supplemental Documents package includes the Sempra release.

Europe has a long way to go to catch up to Asia

Our March 13, 2022 Energy Tidbits memo noted that Europe LNG buyers were starting 9 months behind the wave of Asian LNG buyers who started to lock up long

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term LNG supply starting in July 2021. It was clear to many that there was a major sea change in LNG outlook. We turned very bullish on LNG outlook for the 2020s once TotalEnergies went force majeure on its Mozambique LNG in April 2021. We posted our April 28, 2021 blog *"Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?"* as we thought the market had overlooked that this force majeure backed up 5.0 bcf/d of Mozambique LNG that was originally planned to start in phases in 2024. And that this would create an earlier and larger LNG supply gap in the mid 2020s. Then we started to see validation of this view when Asian LNG buyers in July made an abrupt change to their LNG contracting and pivoted to trying to lock in long term LNG supply. On July 14, 2021 we posted our 8-pg "*Asian LNG Buyers Abruptly Change and Lock in Long Term Supply – Validates Supply Gap, Provides Support For Brownfield LNG FIDs".* Here is an excerpt from the blog "*The last 7 days has shown there is a sea change as Asian LNG buyers have made an abrupt change in their LNG contracting and are moving to lock in long term LNG supply. This is the complete opposite of what they were doing pre-Covid when they were trying to renegotiate Qatar LNG long term deals lower and moving away from long term deals to spot/short term sales. Why? We think they did the same math we did in our April 28 blog "Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?" and saw a much bigger and sooner LNG supply gap driven by the delay of 5 bcf/d of Mozambique LNG that was built into most, if not all LNG supply forecasts. Asian LNG buyers are committing real dollars to long term LNG deals, which we believe is the best validation for the LNG supply gap. Another validation, Shell, Total and others are aggressively competing to invest long term capital to partner in Qatar Petroleum's massive 4.3 bcf/d LNG expansion despite plans to reduce fossil fuels production in the 2020s. And even more importantly to LNG suppliers, the return to long term LNG contracts provides the financing capacity to commit to brownfield LNG FIDs. The abrupt change by Asian LNG buyers to long term contracts is a game changer for LNG markets and sets the stage for brownfield LNG FIDs likely as soon as before year end 2021. It has to be brownfield LNG FIDs if the gap is coming bigger and sooner. And we return to our April 28 blog point, if brownfield LNG is needed, what about Shell looking at 1.8 bcf/d brownfield LNG Canada Phase 2? LNG Canada Phase 1 at 1.8 bcf/d capacity is already a material positive for Cdn natural gas producers. A FID on LNG Canada Phase 2 would be huge, meaning 3.6 bcf/d of Cdn natural gas will be tied to Asian LNG markets and not competing in the US against Henry Hub. And with a much shorter distance to Asian LNG markets. This is why we focus on global LNG markets for our views on the future value of Canadian natural gas."* Our Supplemental Documents package includes our April and July blogs.

There have been 7.97 bcf/d of long term LNG supply deals since July 1, 2021

We first highlighted this abrupt shift to long term LNG supply deals in our July 14, 2021 8-pg "*Asian LNG Buyers Abruptly Change and Lock in Long Term Supply – Validates Supply Gap, Provides Support For Brownfield LNG FIDs".* We included a table of the deals done in that short two week period. We continue to update that table, which now shows 7.97 bcf/d of long term LNG deals since July 1, 2021. 80% of the deals have been by Asian LNG buyers, but we are now seeing rest of world long

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term deals post Russia/Ukraine. Below is our updated table of Asian and Europe LNG buyers new long term supply deals since July 1, 2021.

Figure 10: Long Term LNG Supply Deals since July 1, 2021

Long-Term LNG Buyer Deals Since July 1, 2021							
Date	Buyer	Seller	Country	Volume	Duration	Start	End
			Buyer / Seller	(bcf/d)	Years		
Asian LNG Deals							
Jul 7, 2021	CNOOC	Petronas	China / Canada	0.30	10.0	2022	2032
Jul 9, 2021	CPC	QatarEnergy	Taiwan / Qatar	0.16	15.0	2022	2037
Jul 9, 2021	Guangzhou Gas	BP	China / US	0.13	12.0	2022	2034
Jul 12, 2021	Korea Gas	QatarEnergy	Korea / Qatar	0.25	20.0	2025	2045
Sept 29, 2021	CNOOC	QatarEnergy	China / Qatar	0.50	15.0	2022	2037
Oct 7, 2021	Shenzhen	BP	China / US	0.04	10.0	2023	2032
Oct 11, 2021	ENN	Cheniere	China / US	0.12	13.0	2022	2035
Nov 4, 2021	Unipec	Venture Global LNG	China / US	0.46	20.0	2023	2043
Nov 4, 2021	Sinopec	Venture Global LNG	China / US	0.53	20.0	2023	2043
Nov 5, 2021	Sinochem	Cheniere	China / US	0.12	17.5	2022	2040
Nov 22, 2021	Foran	Cheniere	China / US	0.04	20.0	2023	2043
Dec 6, 2021	Guangdong Energy	QatarEnergy	China / Qatar	0.13	10.0	2024	2034
Dec 8, 2021	S&T International	QatarEnergy	China / Qatar	0.13	15.0	2022	2037
Dec 10, 2021	Suntien Green Energy	QatarEnergy	China / Qatar	0.13	15.0	2022	2037
Dec 15, 2021	SPIC Guangdong	BP	China / US	0.03	10.0	2023	2033
Dec 20, 2021	CNOOC Gas & Power	Venture Global LNG	China / US	0.26	20.0	2023	2043
Dec 29, 2021	Foran	BP	China / US	0.01	10.0	2023	2032
Jan 11, 2022	ENN	Novatek	China / Russia	0.08	11.0	2024	2035
Jan 11, 2022	Zhejiang Energy	Novatek	China / Russia	0.13	15.0	2024	2039
Feb 4, 2022	CNPC	Gazprom	China / Russia	0.98	30.0	2023	2053
Mar 24, 2022	Guangdong Energy	NextDecade	China / US	0.20	20.0	2026	2046
Mar 29, 2022	ENN	Energy Transfer	China / US	0.36	20.0	2026	2046
Apr 1, 2022	Guangzhou Gas	Mexico Pacific Ltd	China / Mexico	0.26	20.0	n.a.	n.a.
Apr 6, 2022	ENN	NextDecade	China / US	0.20	20.0	2026	2026
Apr 22, 2022	Kogas	BP	Korea / US	0.20	18.0	2025	2043
May 2, 2022	Gunvor Singapore Pte	Energy Transfer LNG	Singapore / US	0.26	20.0	2026	2046
May 3, 2022	SK Gas Trading LLC	Energy Transfer LNG	Korea / US	0.05	18.0	2026	2042
May 10, 2022	Exxon Asia Pacific	Venture Global LNG	Singapore / US	0.26	n.a.	n.a.	n.a.
May 11, 2022	Petronas LNG	Venture Global LNG	Malaysia / US	0.13	20.0	n.a.	n.a.
Total Asian LNG Buyers New Long Term Contracts Since Jul/21				**6.45**			
Non-Asian LNG Deals							
Jul 28, 2021	PGNiG	Venture Global LNG	Poland / US	0.26	20.0	2023	2043
Nov 12, 2021	Engie	Cheniere	France / US	0.11	20.0	2021	2041
March 7, 2022	Shell	Venture Global LNG	US / US	0.26	20.0	2024	2044
March 16, 2022	NFE	Venture Global LNG	US / US	0.13	20.0	2023	2043
March 16, 2022	NFE	Venture Global LNG	US / US	0.13	20.0	2023	2043
May 2, 2022	Engie	NextDecade	France / US	0.23	15.0	2026	2041
May 17, 2022	PGNiG	Sempra Infrastructure	Poland / US	0.40	20.0	n.a.	n.a.
Total Non-Asian LNG Buyers New Long Term Contracts Since Jul/21				**1.52**			
Total New Long Term LNG Contracts since Jul/21				**7.97**			
*Excludes Asian short term/spot deals							
*on Dec 20, CNOOC also agreed to buy an additional 0.13 bcf/d from Venture Global for an undisclosed shorter period							

Source: Company reports, SAF Group

Natural Gas – A warm April in Japan, but doesn't mean much to natural gas demand

Warm April in Japan

Japan experienced above normal average temperatures for April, which means there really wasn't any significant weather-related natural gas demand ie. not hot enough to justify air conditioning or cold enough for heating. On Thursday, the Japan Meteorological Agency posted its recap of April weather [LINK] and their mean temperature anomalies map (below) shows it was above average temperatures thru most of Japan. Their recap also noted the higher temperatures, *"Monthly mean temperatures were above normal nationwide, and significantly above normal in northern and eastern Japan, because the regions were frequently covered with high-pressure systems and warm-air inflow was stronger than normal."*

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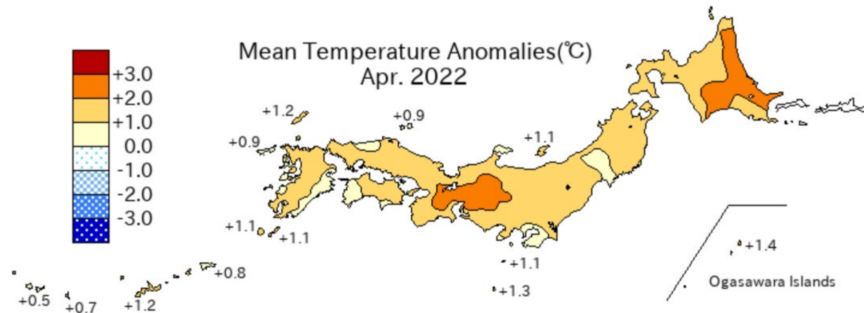
Figure 11: Japan Mean Temperature Anomalies April 2022



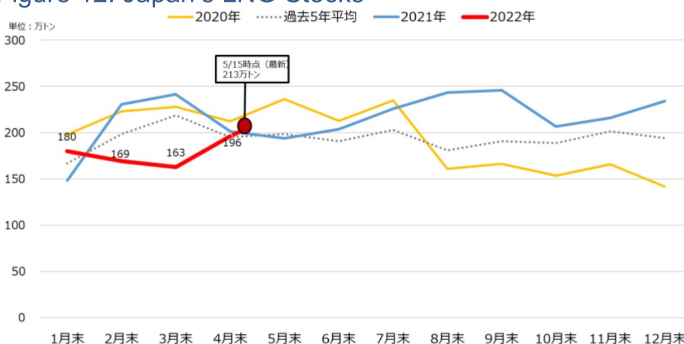
Source: Japan Meteorological Agency

Natural Gas – Japan's LNG stocks up 5.4% from last week

Japan LNG stocks +5.4% WoW

As a reminder, Japan's LNG stockpiles are not huge relative to LNG imports that have ranged from 7 to 14 bcf/d since Jan 1, 2021. LNG stockpiles held by Japanese power producers have exceeded both last year's level and the 4-year average. Japan's METI weekly LNG stocks data was released on Wednesday [LINK]. LNG stocks at May 15 were ~102 bcf, +5.4% WoW from 97 bcf and up a bit from the 5-yr average of 95 bcf. Below is the LNG stocks graph from the METI weekly report.

Figure 12: Japan's LNG Stocks



Source: METI

Natural Gas – Looks like >50% of Gazprom clients will give into Putin's gas payments

Putin's gas payment process

Last week's (May 15, 2022) Energy Tidbits noted that EU was giving in to Putin's natural gas payment process through Gazprombank. So there should be no surprise that this week saw reports on a number of major European energy companies (ie. Eni) have set up Gazprombank accounts ie. what Putin says is required to keep getting Gazprom natural gas. It looks like more than half of Gazprom's export clients Then on Thursday, we tweeted [LINK] "*More indicators EU should be able to refill #NatGas storage ahead of winter. #Novak: "about half" of 54 #Gazprom export customers have "already opened" special Gazprombank accounts, likely going higher as deadline not there for some. #OOTT.*" TASS reported [LINK] "*We have about 54 companies that have contracts with Gazprom Export, there are large,*

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medium and small companies. According to my information, about half of this number have already opened special foreign currency accounts in our authorized bank (Gazprombank - TASS note). and ruble in order to ensure the receipt of foreign exchange earnings, conversion into rubles and payment for the supplied gas in rubles," Novak said during a speech at the New Horizons marathon organized by the Znanie society." And that Russia will not know how many more there will be until sometime in June as there is still time for others to comply. Novak said "There are certain payment dates, there are advances, there is an advance payment, there is an actual payment for the supplied gas. This is a mechanism that is extended in time - for example, deliveries in April, for which payment is finally made in May." Our Supplemental Documents package includes the TASS report.

Natural Gas – No LNG specifics in the new Germany/Qatar energy partnership

Germany/Qatar energy partnership

As much as there were headlines on Friday about the Germany and Qatar signing an energy partnership, we looked at the Qatar state news agency reporting of the partnership and we didn't see anything specific on any LNG deals, or hints of any near term deals. Rather the partnership speaks to items that are "expected". Qatar wrote "*The agreement builds on the ongoing successful dialogue between the two countries and is expected to develop into a mutually beneficial Energy Partnership between Qatar and Germany through building LNG trade relations as well as pursuing the climate action ambitions of both countries. It is expected that such partnership will further strengthen Germanys energy supply diversification through LNG imports from Qatar".* Our Supplemental Documents package includes Qatar news agency report. [LINK]

Natural Gas – Europe storage is now +7.21% YoY ie. 41.23% full vs 34.02%

Europe storage now 41.23% full

The urgency to refill Europe storage has been working. As a result, the YoY Europe storage gap has changed to a YoY storage surplus. Europe gas storage started down 18.52% YoY and is now a YoY surplus of 7.21%. Inventories are rising all across Europe, as is normal during spring and early summer. Europe gas storage started last winter (Nov 1/20) at basically full levels at 94.66% and had dropped by 65.77% to be 28.89% at Apr 1/21. Europe storage levels bottomed in late Apr at 29%, which was the lowest level since Apr 2018. This winter began (Nov 1/21) with gas storage at 77.14% capacity, down 18.52% YoY. The YoY deficit has turned to surplus after months of the deficit tightening this week. Thanks to the warm weather and US LNG, storage as of May 18 is at 41.23%, which is +7.21% greater than last year levels of 34.02% and are -3.61% below the 5-year average of 44.84%. As spring injections continue, we expect to see a decline in demand for LNG as less is used to heat homes. Below is our graph of Europe Gas Storage Level.

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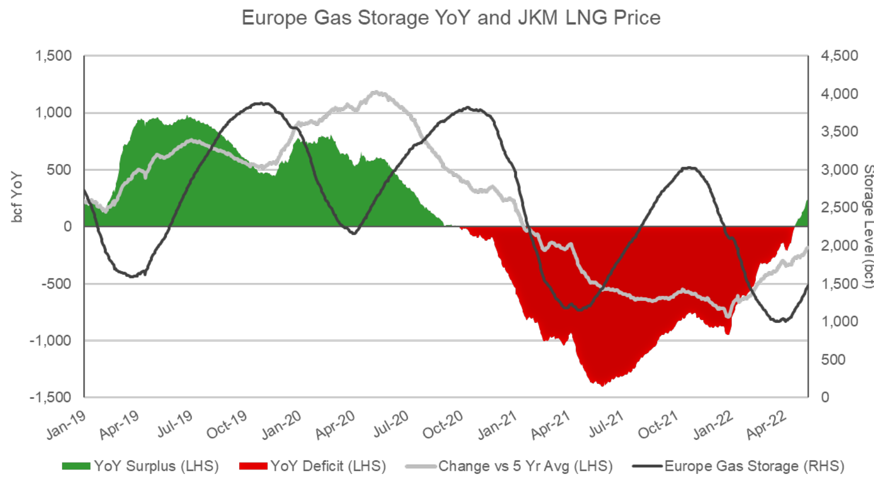
Figure 13: Europe Gas Storage Level



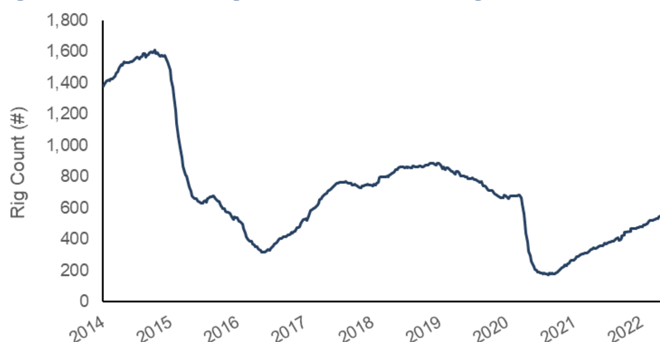
Source: Bloomberg

Oil – US oil rigs +13 WoW at 576 oil rigs at May 20

Baker Hughes released its weekly North American drilling activity data on Friday. There are still extremely strong oil, NGLs and natural gas prices and industry has fresh (and many modestly increasing) 2022 capex budgets and the reality is that industry needs to crank up drilling to increase the depleted inventory of DUCs. This week US oil rigs were +13 WoW at 576 oil rigs, with the increase driven by the Permian, which had been stagnant for the previous 6 weeks. The increase in Permian rigs is expected, in great part for the need to replenish DUCs. Oil rigs are +404 off the bottom of 172 in Aug14/2020 week. Permian was up +8 at 342 rigs this week while Bakken was flat at 37 rigs after no change last week. US oil rigs hit their 2020 peak at 683 on March 13 and have since fallen by -107 (-16%) to 576 oil rigs. US gas rigs were flat this week though still higher than normal. Below is our graph of US oil rigs since January 1, 2014.

US oil rigs +13 WoW

Figure 14: Baker Hughes Total US Oil Rigs



Source: Baker Hughes

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Oil – US frac spreads +4 to 288 for the week ended May 20

Mark Rossano (C6 Capital Holdings) held his weekly US frac spread recap for the week ended May f20 on the Primary Vision network. YouTube video is at [LINK]. For the week ended May 20, US frac spreads at the high point in the week were +4 to 288 spreads. There was an increase of 4 spreads in the Permian. There was also a number of "adjustments" in smaller basins, adding a spread, but others falling off. Some of the places he sees will get the opportunity are the western Gulf, as well as the Anadarko. Seeing additions in the western Gulf, and thinks that will continue. The juggernaut is the Permian, but then expects to see continued strength in Texas, Louisiana and southern parts of Oklahoma. So are about to hit the 290 number and should see another 10 or so as go into the end of June. But also says that 300 number will be difficult to hit with equipment and other issues. Rossano sees the peak as being 315 and not 325.

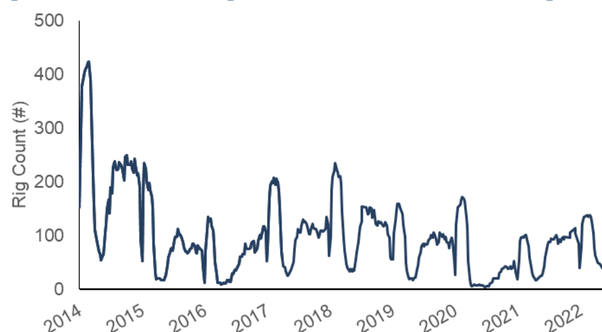
Frac spreads +4 to 288

Oil – Total Cdn rigs flat at 88 total rigs, +30 rigs YoY

Total Cdn rigs were flat this week at 88 total rigs. Cdn oil rigs were +3 at 40 rigs. Cdn gas rigs were -3 at 48 gas rigs. There might be some declines over the next couple weeks but we would expect these to minimal. The typical bottom for rig count is the first or second week of June. Total rigs are now +75 since the June 26, 2020 all-time low. Cdn drilling has recovered YoY, a year ago Cdn oil rigs were 25 and Cdn gas rigs were 33 for a total Cdn rigs of 58, meaning total Cdn oil rigs are +15 YoY and total rigs are +30 vs 2021.

Cdn rigs flat WoW

Figure 15: Baker Hughes Total Canadian Oil Rigs



Source: Baker Hughes

Oil – US weekly oil production up 0.1 mmb/d to 11.9 mmb/d

As expected, we are seeing small increases in US oil production, which was up 0.1 mmb/d to 11.9 mmb/d for the week ended May 13 after decreasing last week. Lower 48 production drove total production and was up from last weeks level at 11.5 mmb/d this week, with Alaska staying flat. US oil production is up YoY at +0.9 mmb/d and is still down significantly at -1.2 mmb/d since the 2020 peak of 13.1 mmb/d on March 13. With the continued sanctions against Russian crude, we would expect US oil production to remain relatively flat if not inch up a little higher in Q2/22.

US oil production up WoW

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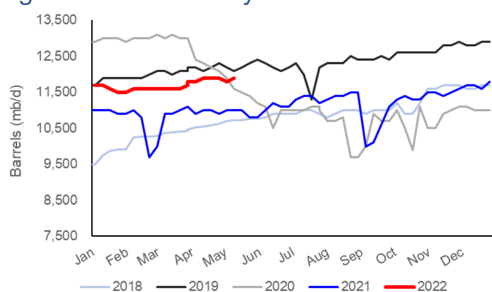
Figure 16: EIA's Estimated Weekly US Oil Production

Year-Month	Week 1		Week 2		Week 3		Week 4		Week 5	
	End Date	Value	End Date	Value	End Date	Value	End Date	Value	End Date	Value
2020-Apr	04/03	12,400	04/10	12,300	04/17	12,200	04/24	12,100		
2020-May	05/01	11,900	05/08	11,600	05/15	11,500	05/22	11,400	05/29	11,200
2020-Jun	06/05	11,100	06/12	10,500	06/19	11,000	06/26	11,000		
2020-Jul	07/03	11,000	07/10	11,000	07/17	11,100	07/24	11,100	07/31	11,000
2020-Aug	08/07	10,700	08/14	10,700	08/21	10,800	08/28	9,700		
2020-Sep	09/04	10,000	09/11	10,900	09/18	10,700	09/25	10,700		
2020-Oct	10/02	11,000	10/09	10,500	10/16	9,900	10/23	11,100	10/30	10,500
2020-Nov	11/06	10,500	11/13	10,900	11/20	11,000	11/27	11,100		
2020-Dec	12/04	11,100	12/11	11,000	12/18	11,000	12/25	11,000		
2021-Jan	01/01	11,000	01/08	11,000	01/15	11,000	01/22	10,900	01/29	10,900
2021-Feb	02/05	11,000	02/12	10,800	02/19	9,700	02/26	10,000		
2021-Mar	03/05	10,900	03/12	10,900	03/19	11,000	03/26	11,100		
2021-Apr	04/02	10,900	04/09	11,000	04/16	11,000	04/23	10,900	04/30	10,900
2021-May	05/07	11,000	05/14	11,000	05/21	11,000	05/28	10,800		
2021-Jun	06/04	11,000	06/11	11,200	06/18	11,100	06/25	11,100		
2021-Jul	07/02	11,300	07/09	11,400	07/16	11,400	07/23	11,200	07/30	11,200
2021-Aug	08/06	11,300	08/13	11,400	08/20	11,400	08/27	11,500		
2021-Sep	09/03	10,000	09/10	10,100	09/17	10,600	09/24	11,100		
2021-Oct	10/01	11,300	10/08	11,400	10/15	11,300	10/22	11,300	10/29	11,500
2021-Nov	11/05	11,500	11/12	11,400	11/19	11,500	11/26	11,600		
2021-Dec	12/03	11,700	12/10	11,700	12/17	11,600	12/24	11,800	12/31	11,800
2022-Jan	01/07	11,700	01/14	11,700	01/21	11,600	01/28	11,500		
2022-Feb	02/04	11,600	02/11	11,600	02/18	11,600	02/25	11,600		
2022-Mar	03/04	11,600	03/11	11,600	03/18	11,600	03/25	11,700		
2022-Apr	04/01	11,800	04/08	11,800	04/15	11,900	04/22	11,900	04/29	11,900
2022-May	05/06	11,800	05/13	11,900						

Source: EIA

Figure 17: US Weekly Oil Production



Source: EIA, SAF

Oil – EIA forecast US shale/tight oil for June may finally be showing an increase

US shale/tight oil production

The EIA Drilling Productivity Report May 2022 [LINK] forecast for US shale/tight oil shows an increase in production from last month. Similar to natural gas, the EIA's forecast for shale/tight oil has been more or less stuck since Feb, but June is finally showing an increase. The DPR is the EIA's forecast for production for the major shale/tight oil and gas basins for the current month (in this case May) and the next month (in this case June). (i) The headline from the report is that US shale/tight oil was +142,000 b/d MoM to reach 8.761 mmb/d in June. May at 8.619 mmb/d was basically unchanged vs 8.598 mmb/d in Feb. (ii) The Permian basin saw the most significant increase of +88,000 b/d to help move production up from the stagnancy seen in Feb/March. Eagle Ford is also up +27,000 b/d, benefitting from its higher natural gas ratio and the pull for natural gas for US LNG exports. (iii) Note that shale/tight oil is approx. ~70% of total US production, so whatever the trends are for shale/tight oil are normally the trends for US oil in total. Below is our table of running DPR estimates of shale/tight oil production and our graph of MoM changes in major shale/tight oil production. Our Supplemental Documents package includes the EIA DPR.

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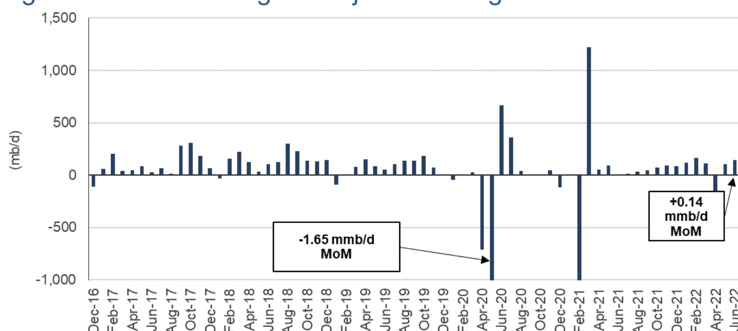
Figure 18: MoM Change – Major Shale/Tight Oil Production

Thousand b/d	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jun YoY	Jun YoY %	Jun less May
Anadarko	353	354	370	369	363	366	378	389	393	399	398	391	395	42	12%	4
Appalachia	128	131	129	125	118	122	120	115	113	113	111	114	117	-11	-8%	3
Bakken	1,102	1,116	1,139	1,139	1,131	1,137	1,146	1,184	1,192	1,172	1,169	1,172	1,189	87	8%	17
Eagle Ford	1,027	1,043	1,054	1,053	1,076	1,078	1,090	1,104	1,122	1,123	1,140	1,149	1,176	149	15%	27
Haynesville	32	34	34	34	34	34	33	33	33	33	34	35	35	3	8%	0
Niobrara	516	540	555	576	594	608	615	615	611	613	610	627	630	114	22%	3
Permian	4,607	4,647	4,756	4,773	4,826	4,886	4,960	4,996	5,134	5,138	5,055	5,131	5,219	612	13%	88
Total	7,765	7,865	8,037	8,069	8,142	8,231	8,342	8,436	8,598	8,591	8,517	8,619	8,761	996	13%	142

Source: EIA Drilling Productivity Report

Figure 19: MoM Change – Major Shale/Tight Oil Production



Source: EIA Drilling Productivity Report

Oil – EIA DUC's worked down by 70 in April

DUCs continue to work down

The big risk to how much US oil production can grow in 2022 and 2023 is the need to increase rig counts to replenish the inventory of Drilled UnCompleted wells. The biggest problem in the past with the EIA's Drilling Productivity Report [LINK] estimate of Drilled UnCompleted wells was that the data had been constantly revised and sometimes significantly. However, the DUC estimates provide a clear picture of the trend since Aug 2020, which is that DUCs continue to be worked down. It's why there is the need for drilling rigs to pick up to replenish the DUC inventory if the US is to have strong oil growth in 2022. (i) It is also important to remember that a portion of the DUCs will never be completed as there are drilled wells that don't look like they can justify the higher cost of completion. (ii) Drilled UnCompleted Wells are down another 70 MoM in April, meaning a total 4,651 DUCs were worked down since the Jun/20 peak of 8,874. The largest work downs are coming from the Permian (-1,475 YoY) and Eagle Ford (-435 YoY). With DUCs being worked down so significantly we will need to see rig counts go up to replenish DUCs in the near future. (iii) Bakken DUCs. As per the NDPA presentation on April 22, 2021, they estimate there are only 395 economic DUCs at April 30. This is 268 DUCs or ~40% lower than the EIA estimate of 415 as of Mar. Bakken DUCs were worked down 240 since then and in 2021 DUCs have dropped ~23 per month. This means that at this rate, the Bakken has ~14 months of economic DUC inventory. Below is our running table of the EIA Drilling Productivity Report DUCs.

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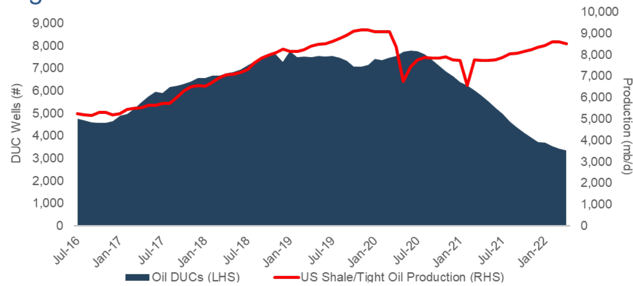
Figure 20: EIA - Estimated Drilled UnCompleted Wells

Drilled UnCompleted	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr YoY	Apr YoY %
Anadarko	901	880	863	856	838	824	812	799	787	773	758	753	740	728	-152	-17%
Appalachia	603	590	598	595	590	588	557	537	513	565	457	473	471	468	-122	-21%
Bakken	688	663	656	619	590	566	541	516	485	464	436	426	426	419	-244	-37%
Eagle Ford	1,102	1,071	1012	954	912	869	833	796	760	685	683	653	642	636	-435	-41%
Haynesville	387	385	392	399	402	406	396	392	386	372	369	371	395	407	22	6%
Niobrara	489	448	402	373	380	379	375	372	362	354	343	331	317	309	-139	-31%
Permian	2,852	2,731	2598	2,419	2,249	1,994	1,812	1,669	1,537	1,444	1,482	1,380	1,302	1,256	-1,475	-54%
Total	7,022	6,768	6,521	6,215	5,961	5,626	5,326	5,081	4,830	4,657	4,528	4,387	4,293	4,223	-2,545	-38%

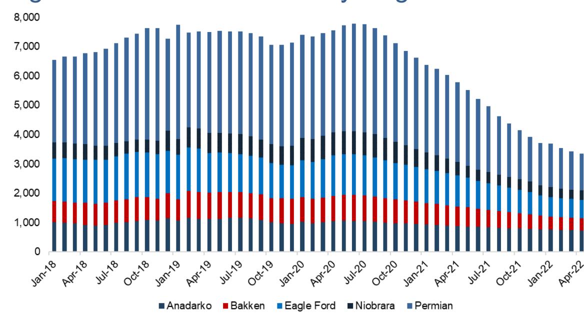
Source: EIA, SAF

Figure 21: Shale Oil Production vs Oil DUC Wells



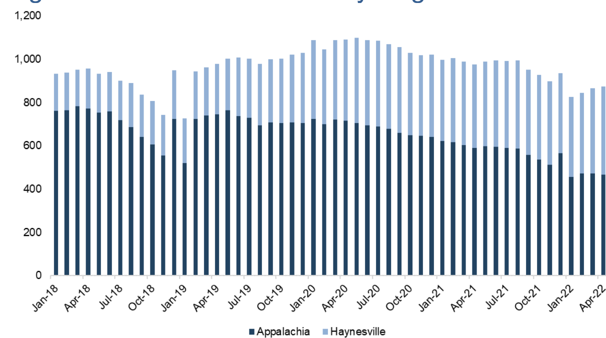
Source: EIA, SAF

Figure 22: EIA – Oil DUCs by Region



Source: EIA, SAF

Figure 23: EIA – Gas DUCs by Region



Source: EIA, SAF

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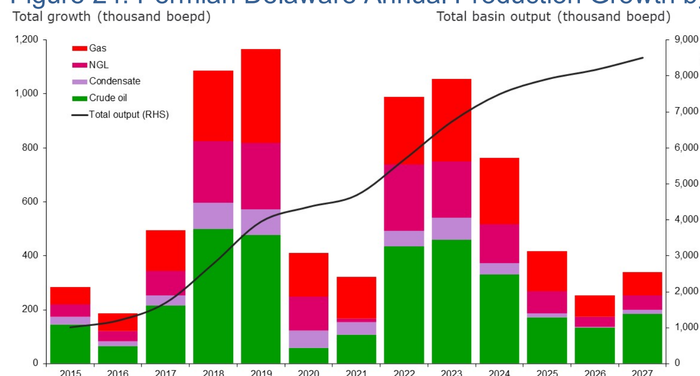
Oil – Rystad, Permian Delaware output to hit a record in 2022

Record Permian Delaware output

On Thursday, Rystad Energy posted a blog [LINK] that projected Permian Delaware basin oil equivalent output will hit a record 5.7 mmb/d in 2022. Investments in the basin are also expected to jump, surging more than 40% from 2021 levels to reach $25.7 billion this year. The majors are expected to raise investment in the basin by 60% to $7.4 billion, while private operators are set to raise investment by 50% to $5.8 billion. Cost inflation is expected to range between 10% and 15%, and is also a contributor to the higher spend. Rystad Energy vice president, Veronika Meyer, stated *"The Permian Delaware has emerged as the top oil-producing play in the US shale patch, outpacing growth in other oil-rich regions. With oil prices expected to remain elevated, 2022 promises to be another outstanding year for production growth in the region."* Private operators have reacted quickly to the elevated market and are also less focused than their public counterparts on well optimization and environmental objectives, meaning they will be a significant driver of growth. Rystad highlighted that it may seem like the growth in production is a reaction to the US government's call for increased supply, but most of the drilling and capital expansion was already guided by the companies at the end of 2021, before Russia's invasion of Ukraine. Public operators have been reluctant to chase higher production growth and remain focused on capital discipline in the face of cost inflation and labor and equipment shortages. They are prioritizing returns to shareholders while keeping reinvestment rates at between 30% and 40%. This is why private operators have stepped up their game, making up 46% of the 33% increase of spudded wells last year. Majors, driven by ExxonMobil in particular, are also actively increasing their drilling efforts in 2022. This peer group is expected to increase drilling by 60% this year and contribute about 20% of total activity in the play, up from 17% last year. Below is a graphic of Permian Delaware annual production growth from the Rystad blog. Our Supplemental Documents package includes the Rystad blog.

Figure 24: Permian Delaware Annual Production Growth by Hydrocarbon



Source: Rystad Energy

Oil – Major New Mexico wildfires are outside the Permian

New Mexico wildfires

Earlier, we noted how the drought conditions were bad last year in New Mexico, but look even worse this year ie. there is continued risk to wildfires. One of the big US stories remains the major wildfires in northern New Mexico, which seems to have only worsened over the past couple weeks. Our May 8, 2022 Energy Tidbits noted Biden's May 4 declaring a major

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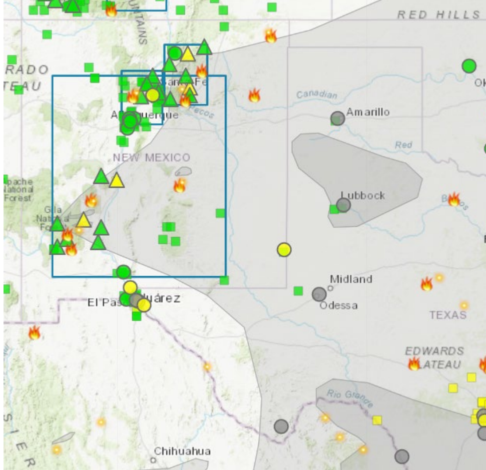
disaster and how the major wildfire areas were north and west of the Permian play in New Mexico. There are closer wildfires, but don't seem to be major wildfires and we are not seeing reports of Permian production risk from wildfires. Below is the AirNow fire and smoke map as of May 18 at 3:30pm [LINK], New Mexico county map, and EIA"s major Permian basins map.

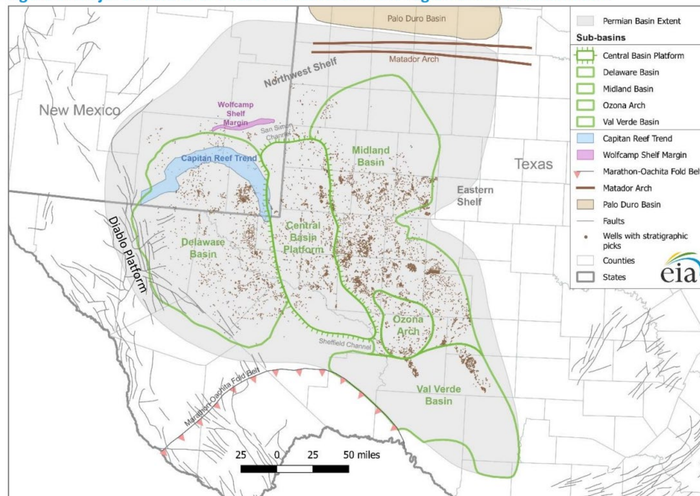
Figure 25: Fire and Smoke map as of 3:30pm MT May 18



Source: AirNow

Figure 26 Major Permian Basins

Figure 1. Major structural and tectonic features in the region of the Permian Basin



Source: EIA

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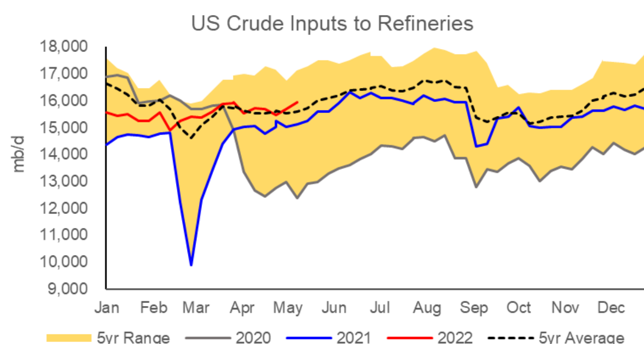
SAF GROUP

Oil – Refinery inputs +0.239 mmb/d WoW at 15.935 mmb/d

Refinery inputs up WoW

US refineries normally increase processing volumes in Q2 every year. The EIA crude oil input to refinery data is for the week ended May 13. The EIA reported crude oil inputs to refineries up 0.239 mmb/d to 15.935 mmb/d for the week ended May 13 and are +0.818 mmb/d YoY from last year that was still recovering from the big February Freeze in the Permian. Refinery utilization was up slightly at 91.8%, which is +5.5% YoY though is still below 5-year average utilization levels; refineries are exiting the planned maintenance season as the summer demand is soon to ramp up. Note that hurricane season in the US is around the corner with June 1 marking the official start of the season. Total products supplied (i.e., demand) increased WoW, up 0.430 mmb/d to 19.661 mmb/d, and Motor gasoline was up 0.325 mmb/d at 9.027 mmb/d from 8.702 mmb/d last week. The four-week average for Finished Motor Gasoline was down this week at 8.831 mmb/d.

Figure 27: US Refinery Crude Oil Inputs (thousands b/d)



Source: EIA

Oil – US "net" oil imports down -0.342 mmb/d WoW at 30.48 mmb/d

US "net" oil imports up WoW

US "NET" imports were down -0.342 mmb/d to 3.048 mmb/d for the May 13 week. US imports were up +0.299 mmb/d to 6.568 mmb/d. US exports were up +0.641 mmb/d to 3.520 mmb/d. The WoW increase in US oil imports was driven by US's Top 10 imports by country, which were up by 0.245 mmb/d. Some items to note on the by country data. (i) Canada was up this week by +0.304 mmb/d to 3.588 mmb/d. (ii) Saudi Arabia was up +0.114 mmb/d to 0.420 mmb/d this week. (iii) Colombia was up +0.089 mmb/d to 0.365 mmb/d. (iv) Ecuador was down -0.308 mmb/d at 0.043 mmb/d. (v) Iraq was down -0.084 mmb/d to 0.242 mmb/d. (vi) Mexico was up +139 mmb/d to 0.832 mmb/d.

Figure 28: US Weekly Preliminary Oil Imports by Major Countries

(thousand b/d)	Feb 18/22	Feb 25/22	Mar 4/22	Mar 11/22	Mar 18/22	Mar 25/22	Apr 1/22	Apr 8/22	Apr 15/22	Apr 22/22	Apr 29/22	May 6/22	May 13/22	WoW
Canada	3,869	3,630	3,731	3,398	3,806	3,612	3,923	3,153	3,465	3,510	3,492	3,284	3588	304
Saudi Arabia	358	520	701	562	534	333	573	328	255	438	554	306	420	114
Venezuela	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	768	497	412	645	641	731	619	763	488	391	553	693	832	139
Colombia	332	144	71	279	72	284	216	49	332	364	313	276	365	89
Iraq	285	295	188	161	489	82	71	155	266	242	181	326	242	-84
Ecuador	98	0	160	205	103	96	76	145	211	108	66	351	43	-308
Nigeria	25	43	96	0	2	148	148	89	191	0	43	136	127	-9
Kuwait	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Angola	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Top 10	5,735	5,129	5,359	5,250	5,647	5,286	5,626	4,682	5,208	5,053	5,202	5,372	5,617	245
Others	1,093	638	960	1,145	839	973	674	1,313	629	881	1,130	897	951	54
Total US	6,828	5,767	6,319	6,395	6,486	6,259	6,300	5,995	5,837	5,934	6,332	6,269	6,568	299

Source: EIA, SAF

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Oil – Germany says it has crude oil reserve for three months

Germany is a member of the IEA and all IEA member countries are supposed to maintain 90 days of oil imports in oil reserves. On Monday, Germany's Vice Chancellor and Minister of Economy Robert Habek announced [LINK] "*We have large reserves. We have crude oil for three months. This will ensure the supply even if nothing comes into the country at all*." While fears of shortages in Eastern Germany continue, this statement shows that Germany is working to uphold energy security while striving towards the goal of reduced Russian energy dependence. At the end of 2021, Germany's national oil reserves were estimated at 103 mmb of crude oil and 66 mmb of petroleum products. Our Supplemental Documents package includes the TASS article.

Germany has 3 months of oil supply

Oil – Norway April oil production of 1.660 mmb/d, down -4.7% MoM

The Norwegian Petroleum Directorate released its April production figures [LINK] of 1.660 mmb/d of oil, which is -3.3% YoY and -4.7% MoM from March of 1.742 mmb/d. April production was down significantly (-0.196 mmb/d) with the forecast amount of 1.856 mmb/d. The NPD does not provide any explanations for the MoM changes. The theme for Norway over the past 5 years has been that Norway oil production returned to growth in the last 3 years because of the Johan Sverdrup oil field, and tax breaks from the government allowing increased capex in the energy sector.

Norway oil production

Figure 29: Norway April 2022 production

		Oil mill bbl/d	Sum liquid mill bbl/d	Gas MSm³ /d	Total MSm³ o.e/d
Production	**April 2022**	**1,660**	**1,871**	**327,1**	**0,625**
Forecast for	April 2022	1,856	2,082	327,1	0,658
Deviation from forecast	April 2022	-0,196	-0,211	0,0	-0,033
Deviation from forecast in %	April 2022	-10,6 %	-10,1 %	0,0 %	-5,0 %
Production	April 2021	1,716	1,996	312,7	0,630
Deviation from	April 2021	-0,056	-0,125	14,4	-0,005
Deviation in % from	April 2021	-3,3 %	-6,3 %	4,6 %	-0,8 %
Production	March 2022	1,742	1,939	338,4	0,647
Deviation from	March 2022	-0,082	-0,068	-11,3	-0,022
Deviation in % from	March 2022	-4,7 %	-3,5 %	-3,3 %	-3,4 %

Source: Norwegian Petroleum Directorate

Oil – Russia's Novak says oil production +200-300,000 b/d in May and higher in June

The big oil supply wildcard is how much Russian oil production and oil exports are off the market. It is important to remember that losses to oil production and oil exports will not be the same. For example, Russia oil production could be down 1 mmb/d, but oil exports could be done more or less depending on how Russian domestic oil consumption is being hit. The accepted expectation is that Russia domestic consumption is down and therefore oil exports might not be hit as much as oil production. The negative oil story on Thursday morning was on Russia oil being stronger than expected. Early Thursday morning, we tweeted [LINK] on the breaking news "*Negative to #Oil. Russia #Oil production & exports continue to recover, not going lower. #Novak: production down 1 mmb/d in Apr, up 200-300,000 b/d in May, further recovery in June. Also restoring oil exports & RUS oil exporting companies "today they feel quite confident". #OOTT.*" The negative is because most are expecting Russia oil production to be going lower and not higher from the 1 mmb/d. TASS reported [LINK] "*Yes,*

Novak expects Russia's oil production up again in June

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somewhere in March-April, as a result of the shock, we received a slight decrease in production and oil refining. This was expressed in approximately 10-14% figures," he said. production is increasing. If in April we reduced production by about 1 million barrels per day, in May we already increased by 200-300 thousand b / d. And we expect that further recovery will also take place in June." Our Supplemental Documents package includes the TASS report.

Oil – Saudi's Abdulaziz warns there is no refining capacity commensurate with demand

Abdulaziz on the lack of global refining capacity

Once again, Saudi Energy Minister Abdulaziz is able to clearly and very simply explain the oil situation – there is no refining capacity to meet the summer expectations of demand. It's one of the reasons why we call him "The Man". And, of course, the big reason is that he basically led OPEC+ out of the depths of Covid crashing oil price to the great oil markets for producers. It's hard to believe, its really just been a little of over two years. On Monday, we tweeted [LINK] "*Buckle up! "The Man" Abdulaziz "simple. it tells you that there is no refining capacity commensurate with the current demand and the expectation, again the expectation of the demand this summer when people go to gasoline, diesel & what have you for their transportation". #OOTT*. We created a transcript of his interview on Monday [LINK], when Abdulaziz said "*I also would like to show you the physical impediments that no producer can sort. Here you go. Luckily, I am with a group here that are veterans of industry when did we ever, when did we, when did we have seen in our lives, at least in my 35 years in this business. I don't want to say how many years you have had. When did we have a thirty or $47. I think it's not appearing properly but it's $47 of refining margin. 650% change between March and what it is today. or 650% between the average of the five-year average and what it is today. what does this tell you? Simple. It tells you that there is no refining capacity commensurate with the current demand and the expectation, again the expectation, of the demand this summer when people go to gasoline, diesel and what have you for their transportation*". Below is the graph referred to by Abdulaziz in these refining comments.

Figure 30: Refining Capacity Margins

Source: Saudi Arabia Ministry of Energy

Oil – Another big potential OPM deal, Aramco mulls $30b IPO of its trading

Aramco mulls IPO of its trading

We continue to believe the primary financial theme for Saudi Arabia in the 2020s is getting Other People's Money to fund as much as possible in the country from helping Saudi Aramco cover its dividends to paying for the hoped for transformation of the country in its Vision 2030.

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This is the financial theme for the 2020s. On Tuesday, Bloomberg reported "*Saudi Aramco 'mulling $30bn listing of trading arm' Saudi Aramco is said to be considering a spin-off of its trading arm through a separate listing that could value the division at more than $30 billion. The Saudi state oil giant, which listed 1.5 per cent of its shares in Riyadh in 2019, last week overtook Apple to become the world's most valuable company at more than $2.4 trillion. It is working with banks including Goldman Sachs, JP Morgan and Morgan Stanley on a potential listing of Aramco Trading and could sell a 30 per cent stake in the division, Bloomberg reported today."* Our Supplemental Documents package includes the Bloomberg report.

Saudi nest egg, its net foreign assets now $434.2b, vs $737.0 peak in Aug 2014
Here is what we wrote in our May 1, 2022 Energy Tidbits. "*We continue to see key financial reasons why Saudi Arabia is going to do all it can to maintain high oil prices (ie. say >$80) for the foreseeable future. And we continue to believe the #1 financial theme for Saudi Arabia in the 2020s will be their continued, and likely increasing, use of Other People's Money as they try to transition their country to MBS's Vision 2030. We are surprised that markets and oil watchers don't seem to pay much attention to the Saudi net foreign assets data ie. what we call their nest egg to help them thru the Energy Transition. Saudi Arabia's net foreign assets at Mar 31 were $434.2b, which was up $10.1b MoM from $424.1b in Feb, but down $17.9b from $452.1b in Nov. Oil prices have been $100 since Russia/Ukraine, but they were still basically still over $70 in Dec and over $80 in Dec. With the decline in net foreign assets, it reinforces that there is a lot more on the cost side to Saudi Arabia. Saudi Arabia is far from going broke but there has been a huge decline in the last 7 years, but it is still a very big nest egg. This net foreign asset depletion is why we have been highlighting that the primary financial theme for Saudi Arabia in the 2020s is getting Other People's Money (OPM) to fund as much of their Vision 2030 as possible. And no question, accessing OPM has helped to slow down and temporarily pause the decline in net foreign assets, at least up until the past few months. Saudi Arabia's central bank (SAMA) doesn't provide explanations for the monthly swings. But it looks like it is trending back towards November levels as oil prices remain elevated. Saudi net foreign assets at Mar 31 of $434.2b are down $10.38b YoY from $444.6b at Mar 31, 2021. The peak in Saudi net foreign assets was $737.0b on Aug 31, 2014, which means there has been a decline in the 86 months of >$300.0b, or approx. $3.5b per month for that period. We believe this is why there has been such a big push in the last few use to get OPM so Saudi doesn't keep depleting its nest egg. And why we call this the #1 financial theme for Saudi Arabia in the 2020s – the increasing use of Other People's Money. And not just in Saudi Aramco, although we do expect to see more equity and bond sales from Aramco. Below is our graph of Saudi Arabia net foreign assets updated for the Mar 31 data.*

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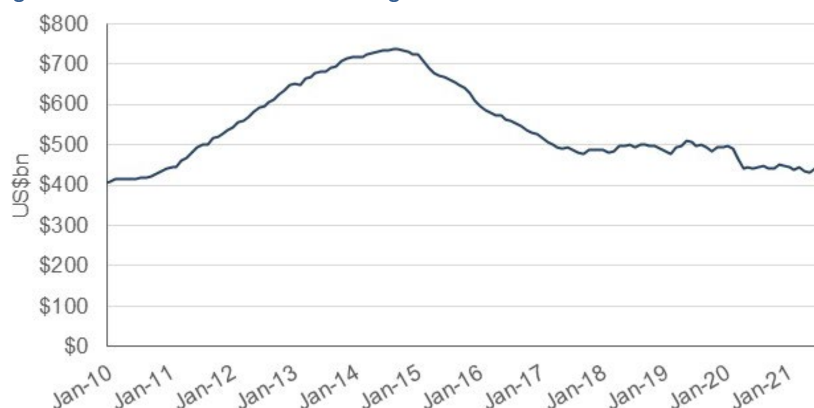
Figure 31: Saudi Arabia Net Foreign Assets



Source: Bloomberg

Oil – Aramco didn't disclose the impact of Houthi's March missile hits on refineries

Aramco Q1/22 disclosure

We were waiting to see the Saudi Aramco Q1 interim report to see what they would disclose on the Houthi's March missile attacks on refineries and the impact thereon. We reviewed the Aramco Q1/22 interim report and there was no disclosure on the missile attacks or even hint that there were missile attacks on refineries. (i) Aramco wrote "*The Company continued to demonstrate its excellent track record of supply reliability by achieving 99.9% reliability in the first quarter of 2022."* This was the only disclosure and it speaks to "supply" and not refinery production. Supply can be from petroleum products produced or that is in storage in tanks at any location anywhere. And supply could also be from non-Aramco petroleum products purchased by Aramco and delivered to Aramco's customers. We revised the 39-pg report and there was no discussion on refinery operations run times, or how much crude oil was processed in Q1. To be fair, Aramco does not normally disclose crude oil processed volumes. But what we always wonder is when we see what wasn't included. In last year's Q1/21 interim report, Aramco wrote "*The Company achieved 100.0% (Q1 2020: 99.7%) supply reliability in the first quarter through continued demonstration of its operational agility and logistics optimization*." Sounds similar but seems a little different ie. no mention this year of "operational agility". We were specifically looking for some hint of the impact of the Houthis March 10 drone attack on the 130,000 b/d Riyadh refinery and the March 19 drone attack that was acknowledged to have hit the 430,000 b/d YASREF refinery in Yanbu.

Seemed like Houthis March 10 drone impacted Riyadh refinery operations?

We continue to be surprised that no one questioned, based on the Aramco actions, if the Houthis damaged operations at the 130,000 b/d Riyadh refinery. Here is what we wrote in our March 13, 2022 Energy Tidbits. "*We recognize that everyone is accepting the Saudi Press Agency Friday morning report [LINK] at face value that "An official spokesman at the Ministry of Energy stated that at around 04:40 AM of yesterday, the Riyadh oil refinery was attacked by a drone, resulting in a small fire that has been brought under control. The attack did not result in any injury or death nor was the supply of oil or its derivatives affected." Note that the SPA report was at 01:42 Riyadh time on Friday and the attack is being reported at 04:40 Riyadh time on*

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*Thursday. Also note that the SPA is confirming there was a drone hit on the Saudi Aramco Riyadh refinery, but is downplaying any impact. Our initial Thursday night tweet [LINK] noted the release but also said "no 3rd party reports on impact". As of our 7am MT news cut off, we still haven't seen a 3rd party report. However, we wonder if there is a distinction between any impact on "supply" vs operations. And we wonder if Saudi Aramco signaled there was a problem with the Riyadh refinery operations by their actions. It's why, early Friday morning, we tweeted [LINK] "Did drone hit Riyadh refinery production capability, even if no impact to "supply" of oil or its derivatives? Drone hit Thurs at 4:40 Riyadh time or 1:40 GMT. Note @iamsharoncho @elizabethlow Thurs 3:47 GMT report #Aramco seeks unusually large amount of diesel in rare move. #OOTT". We remembered a Bloomberg Thursday morning report that was written a day before any reports of the drone attack. The timing was that the Bloomberg report was posted about two hours after when SPA said the drone hit. But again, SPA did not say this until a day later. We were going to write up the Bloomberg anyway because of the title "OIL TENDER: Aramco Seeks Diesel for Saudi Arabia in Rare Move. Aramco Trading is seeking an unusually large volume of diesel for prompt delivery to Saudi Arabia in a rare move for the country, which is usually an exporter of the fuel, according to traders who asked not to be identified. * Co. sought ~1.2m-4.6m barrels of 10ppm sulfur gasoil for delivery to Ras Tanura, Jizan, Jeddah and Duba via a tender * Delivery period from mid-March to mid-April." Is it a coincidence that Aramco just happened to seek an "unusually large volume of diesel" for immediate delivery? We just find it hard to believe that the SPA report didn't come out for a day later for a reason."*

Aramco admitted Houthis Mar 19 drone impacted YASREF refinery operations

There was also nothing in the Q1/22 interim report about the surprisingly acknowledged comment by the Ministry of Energy that the Houthis March 19 drone attack on the 430,000 b/d YASREF did impact refinery operations. In our March 20, 2022 Energy Tidbits, we wrote "*We recognize that markets generally don't price in any Houthi missile attack on Saudi Aramco but there was a significant drone attack last night – a drone hit a major Aramco refinery at Yanbu, which is Aramco's major Red Sea oil complex. Earlier this morning, we tweeted [LINK] "KSA confirms #Aramco 430,000 b/d YASREF refinery in Yanbu hit by drone & led to temporary reduction in refinery's production, compensated f/ inventory. Reminds just because supply is kept, doesn't mean operations aren't damaged. #Houthis have range to hit any #Oil facility #OOTT." The Saudi Press Agency reported "An official spokesman at the Ministry of Energy said that yesterday, Saturday March 19, 2022, at around 11:30 PM a drone assault was made on the petroleum products distribution terminal in Jizan in the south east of the Kingdom. Two additional drone attacks were made today, Sunday March 20, 2022, at around 5:30 AM, on Yanbu's natural gas plant, and shortly after, on the facilities of Yanbu Aramco Sinopec Refining Company (YASREF). The assault on YASREF facilities has led to a temporary reduction in the refinery's production, which will be compensated for from the inventory. The assaults resulted in no casualties." As everyone knows, for Saudi Arabia to admit there is an impact on a refinery operations has to raise a red flag question on how much damage or impact there will be on the refinery operations. And it is a reminder that there is a big difference between a refinery being able to maintain "supply" vs*

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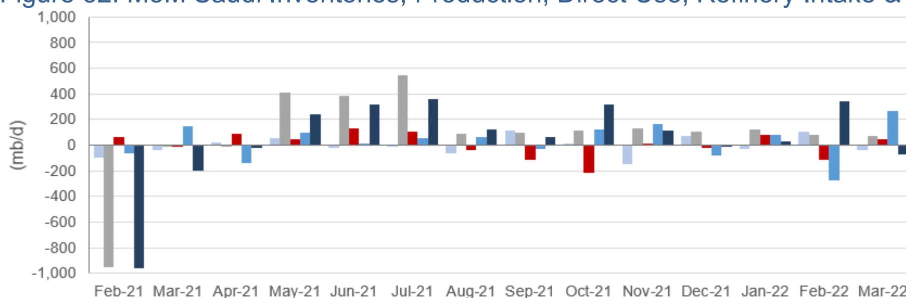
maintaining its "operations". All refineries have tanks for storing crude oil to be processed at the refinery and for storing finished petroleum products to be shipped/delivered. And in the case of a major refinery on the coast, the tankage for finished petroleum products will have large capacity as the products will be typically loaded on tankers. We will have to watch to see if we can get any clues on the actual impact on the refinery operations."

Oil – Saudi exports fall in March from two year high in Feb

JODI data for Saudi oil in March

The JODI data for Saudi Arabia oil supply and demand for March was updated on Monday [LINK]. (i) The biggest surprise was Saudi used 267,000 b/d more in refineries in March vs Feb, when we would have expected to see a lower throughput in March due to missile attacks. The increased MoM production and slight draw to inventory were below the increases in direct use and refinery intakes and decrease to exports. There was an increase to direct use of crude oil for electricity. Exports fell from the highest level observed in two years. Despite the decline in crude shipments in March, Saudi Arabia's exports still held above the 7 million bpd mark. (ii) Saudi used more oil for electricity in March vs Feb. This is attributed to the warmer temperatures experienced throughout March. The peak summer use was July at 691,000 b/d, that declined to 339,000 b/d in Nov and now reported +44,000 b/d MoM to 335,000 b/d for March. March 2022 is up +16,000 b/d YoY from March 2021 of 319,000 b/d. March was also above the 5-yr average of 305,000 b/d. (iii) The normal seasonal increases in Saudi use of oil for electricity would see a peak in July/Aug. (iv) Oil used in refineries was back up +267,000 b/d MoM to 2.773 mmb/d. This comes after the February decline of -271,000 b/d which can be attributed to the Houthi missile attacks on the Riyadh refinery. It looks like these missile attacks only had an impact on refineries in February. (v) On the overall JODI data for March, there was 0 b/d of unaccounted for supply though there was 122,000 b/d of unaccounted for demand. There was increased supply of +117,000 b/d MoM from production +75,000 b/d MoM and inventory down -42,000 b/d MoM. Demand increased +239,000 b/d from refinery intakes +267,000 b/d MoM, exports -72,000 b/d MoM, and direct use for electricity +44,000 b/d MoM. (vi) Inventories decreased -1,302 mmb MoM from 137.149 mmb to 135.847 mmb. Inventories remain at historically low levels, sitting below 150 mmb. (vii) Below are the AccuWeather Temp maps for Riyadh for Mar, Apr and May MTD. Careful they are different scales but look for oil for electricity to increase as we move further into peak season. Below are our updated graphs for the Saudi JODI data for January.

Figure 32: MoM Saudi Inventories, Production, Direct Use, Refinery Intake & Exports



Source: JODI, Bloomberg

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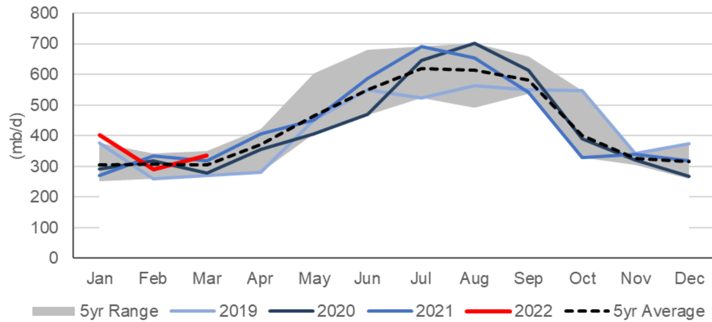
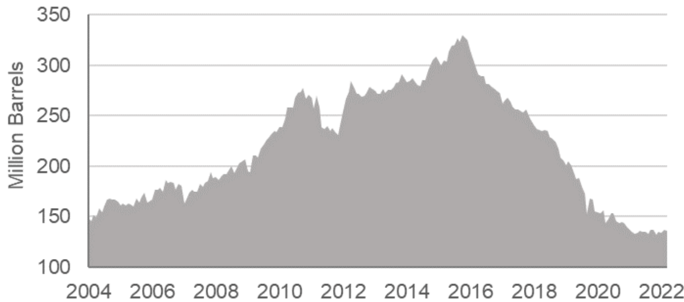
Figure 33: Saudi Arabia Direct Use of Crude Oil For Electric Generation



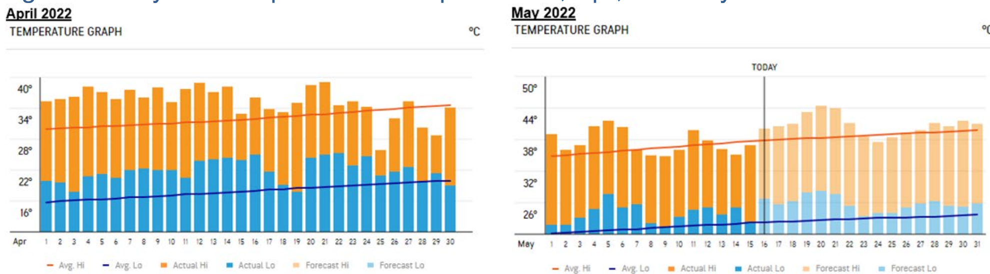
Source: JODI

Figure 34: Saudi Arabia Crude Oil Inventories (million barrels)



Source: JODI

Figure 35: Riyadh Temperature Recaps for Mar, Apr, and May



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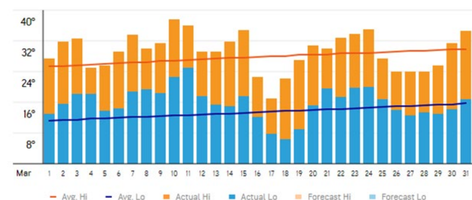

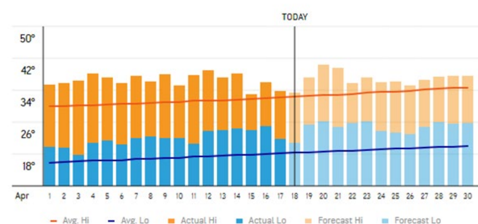

Source: AccuWeather

Oil – Is Biden messaging Iran or Saudi by testing the water on potential MBS meeting?

Biden tests the waters on an MBS meeting

Is Biden setting up the case for keeping Iran's full oil off the market or making a bad Saudi relationship worse? We have to admit that it's hard, at least for us, to figure out who Biden is trying to message by his testing the waters for a potential face-to-face meeting with MBS. If he really wants to meet MBS, he certainly doesn't have to test the water. But for some reason, the US has been testing the waters for the past few days. (i) Is this a signal that Biden will hold off on a JCPOA? We have trouble believing Biden would go to Saudi Arabia to meet MBS and then turn around and re-enter the JCPOA, We would see this as an insult to an already bad relationship. Also we have trouble believing Biden would re-enter the JCPOA and then go see MBS, can you imagine that meeting? So our thought is that if the US comes out and says Biden has confirmed a MBS meeting in Saudi Arabia, it is more likely an indicator that the US would hold off on a return to the JCPOA ie. a positive to oil prices. (ii) the other angle is that this testing the water is actually a message to Iran that it's time to stop messing around and sign the JCPOA offer that is on the table. Surely Iran would see a Biden trip to Saudi Arabia to sit with MBS as a sign that the US is likely to hold off on a JCPOA. But clearly, if this is the case and the US signs a JCPOA, the already poor Saudi Arabia relationship will be worse by what would turn out, in this event, to be a tease. (iii) Is there another reason? (iv) The other question is that if Biden says no JCPOA, will he then enforce Iran's cheating on getting oil out into the market? if so, that would be bullish for oil by taking some portion of Iran's current oil off the market. And we wouldn't expect Saudi to do more than some sort of temporary boost to supply if that was the quid pro quo for no JCPOA. (v) If this turns out to be a return to the JCPOA, we don't think it will do much to change to outlook for high oil prices unless demand drops due to price response or a bigger global slowdown/recession.

Oil – Does US have no choice but JCPOA if Biden wants to stop Iran nuclear?

Sanctions haven't stopped Iran's nuclear progress

Prior to the Biden testing the waters on an MBS meeting, we thought the US had given some clearer signals pointing to them having no choice but to go back to the JCPOA if they want to stop Iran from reaching nuclear breakout That is unless they are prepared to take out Iran's nuclear potential. We have been highlighting how the US and Iran have been dancing around for 2-3 months on whether there will be a JCPOA deal or no deal with no signs of either side giving in to get to a deal. Last week's (May 15, 2022) Energy Tidbits noted EU's Josep Borrell saying "*the negotiations were stalled, and now they have been reopened*". The US still continues with its line that it's Iran's court. However, we thought the US made

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comments this week that seem to indicated they see no option but to go back into the JCPOA if they want to stop Iran's progress to nuclear capability. That is, unless, Biden plans to go to war against Iran to stop their nuclear progress. On Tuesday, we tweeted [LINK] on the Amos Hochstein (Senior Advisor to the President of the United States for International Energy) interview by Maj. Gen. (Res.) Amos Gilead (Executive Director, Institute for Policy and Strategy (IPS), Reichman University) on May 17, 2022. [LINK]. The headlines from the Hochstein interview as on how he called it a "tragic mistake to exit the JCPOA. It seemed like Hochstein was saying the only way to stop Iran nuclear progress was via the JCPOA as sanctions have limitations and haven't been able to stop Iran's progress. He is saying the sanctions route is not stopping what Biden wants – to ensure Iran reach nuclear capability. We created a transcript and Hochstein said "*well, I don't want to get ahead of the President or ahead of others in US government and Rob Malley who is our chief negotiator but I think the most important thing to look at it as not to listen to whatever the headlines are saying from time to time since the predictions in the headlines have been rather wrong and off. The President sees the threat of a nuclear Iran as a significant national security threat to Israel, the region, to the world, to the United States. And has therefore been as committed to ensuring that Iran does not reach that level of becoming a nuclear state. We supported, this Administration and President Biden, when he was Vice President, supported the JCPOA agreement, believe that it was a tragic mistake to exit. Especially exiting an agreement with nothing to replace it with except for sanctions. Unfortunately, sanctions have limits to them as well. And we know where Iran is today, increasing its capacities. Again, I look at things from the energy perspective and from how to ensure that Iran does not have the revenues and the cash flow to continue to rebuild its economy, to have additional cash flow to support organizations, terrorist organizations around the region. And that's what we will continue to do. we continue to implement the sanctions. We have given, the opportunities have been clear that if they wanted to come back to the table in a serious way for an agreement. Again without getting into those details, that is something that the Administration wants to do. But President Biden has said not at all costs. And it has to be along the lines of what is important and consistent with national security concerns. But I will let others in my government who are handling that issue on a day-to-day basis talk to you about those kind of issues.*"

Oil – Iran denies it is prepared to compromise to get JCPOA done

Iran denies Qatar's claims

Earlier in the memo, we noted the Handlesbatt interview with Qatar Deputy Minister, Sheikh Mohammed Bin Adbulrahman al-Thani [LINK] and his comments on the Qatar LNG expansion timing. Our Friday morning tweet also noted his comments on the JCPOA. We tweeted [LINK] "*Qatar's 6.4 bcfd #LNG expansion maybe 1 yr early, by 26, not 27, "will not be completed until 2026, maybe even as early as 2025". Re #JCPOA, "the Iranian leadership told us they were ready for a compromise". says @MBA_AlThani_ #NatGas #OOTT Thx @handelsblatt Mathias Brueggmann.*" Handlesbatt asked "*Another country is under tough sanctions: Iran. When do you expect a breakthrough in the nuclear agreement that has now been renegotiated with your neighbor?*" The Qatar Minister replied "*The Emir was recently in Tehran and met both the President and the spiritual leader of Iran. He will report this to Chancellor Scholz, since Germany is negotiating very intensively for a solution. A breakthrough is in the interests of all of us, including those of us in the region. And the Iranian leadership told us they were ready for a compromise.*" No surprise, Iran has denied this claim suggesting a mistranslation. Al Jazeera reported [LINK] "*Iran's foreign ministry has rejected reports of the country's willingness to "compromise" its stance in ongoing indirect negotiations*

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with the United States to restore its 2015 nuclear deal with world powers. Foreign ministry spokesman Saeed Khatibzadeh said late Saturday that Iran's supreme leader, Ayatollah Ali Khamenei, made no mention of compromise to Qatar's emir, Sheikh Tamim bin Hamad Al Thani, when they met in Tehran earlier this month. Khamenei told the emir "we have always said the negotiations must yield results, not waste time", and "the Americans know what they need to do regarding this", Khatibzadeh told the semi-official Tasnim news website. "It is very clear from the context of the leader's remarks that the ball is in the US court, which must make wise political decisions to fulfill its obligations," he said. The comments come after Qatar's foreign minister, Sheikh Mohammed bin Abdulrahman Al Thani, was quoted as saying in the German newspaper Handelsblatt that the "Iranian leadership" had expressed readiness for compromise concerning "the Iranian nuclear file". Khatibzadeh suggested a mistranslation of comments may have occurred."

Oil – China reportedly in talks with Russia to buy oil for its strategic oil reserves

China in talks with Russia for oil supply

The market's working assumption is that China and India have been the two countries taking the most advantage of cheap Russia oil. And, in China's case, it looks like China is going to take advantage of the discounted Russian oil prices to fill its strategic reserves. On Thursday, we tweeted [LINK] *"Never let a good crisis go to waste. @onlyanna100 reports China in discussions to buy cheap Russian oil to replenish strategic crude oil reserves. Remember China took advantage of Covid #Oil price crash to add to strategic reserves. #OOTT"*. Bloomberg reported that details on volumes or terms of a potential deal have not been decided yet, but it is reported that the talks are being conducted at a government level with little direct involvement from oil companies. Refineries in China have been quietly buying Russian crude since the invasion, even with oil demand last month down 6.7% year-on-year as strict lockdowns confined millions to their homes. China does not disclose the size of its crude inventories, but experts estimate the nation has the ability to store 1 mmb of combined commercial and strategic stockpiles. Kpler estimates overall stockpiles are at 926.1 million barrels, up from 869 million barrels in mid-March -- but still 6% lower than a record in September 2020. Our Supplemental Documents package includes excerpts from the Bloomberg article.

Oil – China oil imports from Russia expected to almost 2 mmb/d in May

China oil imports almost 2 mmb/d from Russia

Even before China starts any large buying of cheap Russian crude oil for its strategic oil reserves, China is cranking up its imports of Russian oil. On Friday, TASS reported [LINK] that China's oil reports could reach almost 2 mmb/d, 1.1 mmb/d by tanker and 0.8 mmb via pipeline. TASS wrote "*China increases imports of Russian oil at a large discount compared to competitors from other countries, Reuters reported on Friday, citing an analysis of shipping data. Thus, China's imports of Russian oil via sea routes are expected to grow to an almost record-breaking 1.1 mln bpd in May, compared to 750,000 bpd in Q1 of 2022 and 800,000 bpd in 2021. The agency noted that China separately receives around 800,000 barrels of Russian oil per day through pipelines in accordance with government agreements. Thus, the volume of oil imports from Russia could reach almost 2 mln barrels per day, which equals to 15% of China's total demand."*

Oil – IEA's Birol keeps making us worry the 2020s will be a decade of energy crisis

IEA Birol's latest tweet

Yesterday, IEA Executive Director Birol tweeted [LINK] "*New @IEA analysis indicates global oil & gas sector income will jump to $4 trillion in 2022, more than twice its 5-year average.*

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The best way to protect people from future price shocks is to invest as much as possible of this in an accelerated & secure clean energy transition." Birol is noting the big jump in oil and gas sector income, which is because of the huge oil and gas prices. And then he talks about protecting from "future" price shocks. Yet prior IEA work notes the underinvestment in oil and gas without a decline in demand as aspired in IEA's Net Zero scenarios. So the world is short supply surplus capacity and this was pre Russia. No surprise there were a lot of pile on replies to his tweet. We tried to keep our response to what Birol is saying and what it means. His May 21 tweet builds on his May13 Linkedin poste that we featured in our May 15, 2022 Energy Tidbits. Here is what we wrote in our May 15, 2022 Energy Tidbits. "*Oil – IEA's Birol blog makes us worry the 2020s will be a decade of energy crisis. The reality of the world is that IEA's Executive Director Birol works for the western developed countries, who went "all-in" on a speedy Energy Transition. As politicians know, "never let a good crisis go to waste" and that is the case in Birol's Friday night LinkedIn posting. [LINK]. There is a lot in this 2-pg posting. It is an extremely well crafted/drafted post. It is positive for oil and gas, but our concern is that the strategy is one that will put the world teetering every year on an energy crisis and that isn't good for anyone, including the oil and gas sector. There has to be a balance or a steady market between producer and consumer and we worry that we will have what Europe was seeing before Russia/Ukraine. No one can disagree with the aspirations for having clear air, clean water and a healthy, safe environment. The problem is that western governments have assumed a perfectly timed and coordinated and very fast energy transition. And, as we saw pre Russia/Ukraine, that wasn't happening. The Birol post is what his bosses are doing/saying – get short cycle oil and gas on production but do not build long term capacity ie. use all the bullets now. It's why earlier this morning, we tweeted [LINK] "1/3 Need to use up near term #Oil #NatGas capacity to replace RUS, but don't build up future #Oil #NatGas capacity ICYMI, @IEA @fbirol says need available short cycle #Oil #NatGas ie. US shale, existing field extensions, etc to fill RUS shortfalls, Makes sense BUT ...#OOTT", [LINK] "2/3. .. then says "Nobody should imagine that Russia's invasion can justify a wave of new large-scale fossil fuel infrastructure in a world that wants to limit global warming to 1.5 C". YET clearly warns ... #OOTT." and [LINK] "3/3.. "we are not yet seeing the massive level of policy and investment efforts worldwide that would be needed to move us onto a net zero pathway ". Looks like a recipe for 2020s to be a decade of teetering on #EnergyCrisis. Positive for #Oil #NatGas for 2020s. #OOTT." There is much more in the post, but this is our major concern. If the western governments continue to discourage adding future capacity while encouraging using up short term capacity at the same time as they are nowhere near on course for their assumed rapid energy transition, it is a recipe for disaster for everyone. Producers also want some sort of balance/stable market."* Our Supplemental Documents package includes the Birol Linkedin post.

Oil – Moving into peak oil demand period, Q3/22 expected +1.6 to +2.3 mmb/d QoQ

Oil demand +1.6 to +2.3 mmb/d QoQ in Q3/22

It will be interesting to see how the major forecast agencies change their oil demand forecasts with the combination in their June forecasts. But one thing that is consistent is that, absent broad shutdowns, Q3/22 oil demand will be up QoQ with the normal seasonal increase in demand. Every year, global oil consumption increases in the summer and this is always the largest QoQ demand increase. Below is a table comparing the May forecasts for the EIA, IEA and OPEC showing their Q3/22 oil demand being +1.6 mmb/d QoQ for the EIA, +1.8 mmb/d QoQ for the IEA, and +2.3 mmb/d QoQ for OPEC.

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Figure 36: Oil Demand & Supply Balances From EIA, IEA and OPEC Current Forecasts

OPEC	May Forecasts					Change from April Forecasts				
mmb/d	1Q22	2Q22	3Q22	4Q22	2022	1Q22	2Q22	3Q22	4Q22	2022
World demand	**99.3**	**98.4**	**100.7**	**102.6**	**100.3**	**0.3**	**-0.7**	**-0.3**	**-0.2**	**-0.2**
Non-OPEC liquids supply	*65.2*	*65.2*	*66.1*	*67.3*	*66.0*	-0.2	*-0.5*	*-0.3*	*-0.2*	*-0.3*
OPEC crude	*28.4*	*29.0*	*30.1*	*30.4*	*29.5*	0.0	*-0.3*			*-0.1*
OPEC NGLs/others	*5.2*	*5.3*	*5.3*	*5.3*	*5.3*					
World supply	**98.8**	**99.4**	**101.5**	**103.0**	**100.7**	**-0.2**	**-0.8**	**-0.3**	**-0.2**	**-0.4**
Balance	**-0.4**	**1.0**	**0.8**	**0.4**	**0.4**	**-0.6**	**-0.1**	**0.0**	**0.0**	**-0.2**
IEA										
mmb/d	1Q22	2Q22	3Q22	4Q22	2022	1Q22	2Q22	3Q22	4Q22	2022
World demand	**98.8**	**96.2**	**100.0**	**100.4**	**99.4**	**0.2**	**-0.1**	**-0.1**	**0.0**	**0.0**
Non-OPEC+ liquids supply	*46.5*	*47.7*	*49.0*	*49.2*	*48.1*	-0.3	*-0.4*			*-0.2*
OPEC+ crude	*44.0*	*42.8*	*42.7*	*43.1*	*43.1*	0.0	*0.5*		*-0.1*	*0.1*
OPEC+ NGLs/others	*7.9*	*7.9*	*8.0*	*8.1*	*8.0*	0.0				
World supply	**98.4**	**96.4**	**99.7**	**100.4**	**99.2**	**-0.3**	**0.1**		**-0.1**	**-0.1**
Balance	**-0.4**	**0.2**	**-0.3**	**-0.1**	**-0.1**	**-0.5**	**0.2**	**0.1**	**0**	**0**
US EIA										
mmb/d	1Q22	2Q22	3Q22	4Q22	2022	1Q22	2Q22	3Q22	4Q22	2022
World demand	**98.7**	**98.6**	**100.2**	**100.9**	**99.6**	**-0.2**	**-0.6**	**0.0**	**0.1**	**-0.2**
Non-OPEC liquids supply	*65.1*	*65.0*	*65.7*	*66.0*	*65.4*	-0.2	*-0.5*	*-0.6*	*-0.6*	*-0.5*
OPEC crude	*28.2*	*28.8*	*29.3*	*29.5*	*29.0*		*0.2*	*0.2*	*0.2*	*0.1*
OPEC NGLs/others	*5.6*	*5.4*	*5.5*	*5.5*	*5.5*					
World supply	**98.8**	**99.3**	**100.4**	**101.0**	**99.9**	**-0.2**	**-0.2**	**-0.5**	**-0.4**	**-0.3**
Balance	**0.1**	**0.7**	**0.3**	**0.1**	**0.3**	**0.1**	**0.4**	**-0.4**	**-0.5**	**-0.1**

Source: EIA, IEA, OPEC

Oil – Matt Stanley "*oil is going one way and the world economy is going the opposite*"

Oil the opposite way of the economy?

We think it's fair to say the "fundamentals" of oil supply and demand are different than at any prior time in great part because it has more and more experienced oil people highlighting how things are different this time. On Tuesday, we tweeted [LINK] "*but there is nothing I can say in terms of supply shock that doesn't make me think that oil is going one way and the world economy is going the opposite. It should follow. it should be linear, but it's converging, it's crossing" Star Fuels Matt Stanley to @sean_evers. #OOTT."* Stanley is an experienced, 20+ years oil trader and is Director Star Fuels. Stanley made his comments on one of our favorite podcasts is Gulf Intelligence (in UAE) Daily Energy Markets on Tuesday. [LINK]. Stanley noted how, unlike prior cycles, he expects the short term move of oil to not go down with the economy. He didn't talk about 2023. We made a transcript of Stanley's comments ""*that's a very good point, not the Arsenal one. That's the last one, I will let it go, but. The Chinese refining, you're right, if we take. Whether the market trades on gas/oil, I'm referring to gas/oil [??}, what we refer to as the east/west – so it's the difference between the price in Singapore and the price in Europe. Now that has reached this year so far minus $100 a ton to plus $20. And it's usually within a $20 a ton range. It's simply Sean, the arbitrage economics cannot be priced in because no one really knows what's going on because the world is so fractured. So people can get to work in some Chinese refiners but there's no one really trading those barrels for them so they're not able to take advantage of where the demand centres are. It's a messed up world. Mike said something about a $150 oil argument. And again I will come back to this. I've had this same conversation with a few people. I understand that as soon as recession hits, crude oil prices have to come off, it does follow a pattern. When we hit $147 in 2014, it quickly, quickly came down. I can't apply anything in my 22 years experience in the oil market to the supply issues that the world has got right now. Fundamentally, conomically, Mike is right but there is nothing I can say in terms of supply shock that doesn't make me think that oil is going one way and the world economy is going the opposite. It should follow. it should be linear, but it's converging, it's crossing.* "

Oil – BloombergNEF sees China oil demand slowly recovering

BloombergNEF released their "China Oil Markets Monthly" report for May which highlighted that demand recovery still has a long way to go in China. The report was subtitled *"Demand*

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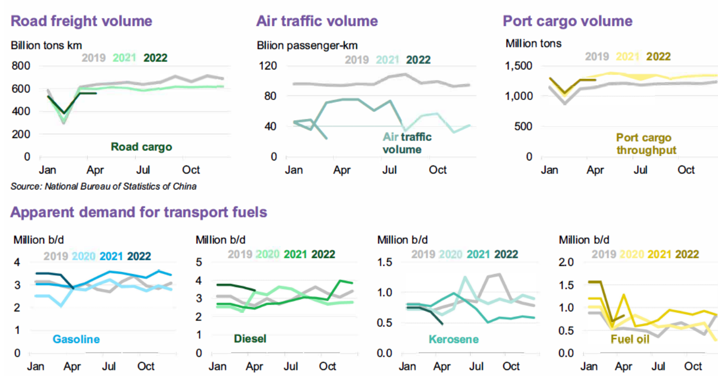
sees a slow recovery". Demand recovery has been uneven as Shanghai gradually lifts restrictions while Beijing imposes new ones. Road congestion reached January 2021 levels, providing some relief to the weak gasoline consumption. Jet fuel demand recovery looks to be the most challenging. Flight cancellations have been hovering around 70% across 20 of China's major airports for the past 5 weeks, indicating no sign of improvement over the last month. Refinery throughput dropped 11% YoY in April due to the reduced demand with run rates up slightly to 55% in mid May. Bloomberg expects refinery runs to remain sluggish in the coming weeks, requiring a lift of mobility restrictions before refiners can ramp up production. Fuel exports in April declined by 5% MoM as state refiners continue to be excluded from the surge in global refining margins. Crude oil imports are down 5% YoY, in line with the decline in refinery runs. Below is a chart indicating China's oil demand indicators. Our Supplemental Documents package includes the Bloomberg report.

Figure 37: China Monthly Oil Demand Indicators



Source: Bloomberg

Vortexa crude oil floating storage

Oil – Vortexa crude oil floating storage 93.69 mmb as of May 20, -17.49 mmb WoW

We are referencing the Vortexa global crude oil floating storage data posted on the Bloomberg terminal as of 1pm MT yesterday. And we 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 today are compared to the prior weeks Vortexa estimates posted on Bloomberg on May 14 at noon MT. (i) As of 1pm MT yesterday, Bloomberg has posted Vortexa crude oil floating storage estimate as of May 20 was 93.69 mmb, which is -17.49 mmb WoW vs immaterially revised May 13 of 111.18 mmb. Note May 13 was immaterially revised +0.32 mmb from the 110.86 mmb posted on Bloomberg as of noon MT on May 14. (ii) Please note that revisions for the last several weeks were much smaller than lately seen and not significant enough to highlight each week. (iii) However, other than the current week at 93.69 mmb as of May 20, the prior six weeks all point to crude oil floating storage being higher than seen a month ago, it's now in the +/- 105 mmb range and not the 90-100 mmb range ie. crude oil floating storage looks to be increasing. Again, we would think it isn't that surprising to see revisions given this coincides with the post Russian/Ukraine war period. (iv) May 20 estimate of 93.69 mmb is -128.12 mmb vs June 21, 2020 peak of 221.81 mmb. (v) Note that the below graph goes back 3 years and not just 2 years as floating

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oil storage was in the big ramp up period in late March/April/May 2020 as Covid started to have a huge impact. May 20 estimate of 93.69 mmb is +37.16 mmb vs pre-Covid of 56.53 mmb on May 20, 2019. Note May 20 estimate of 93.69 mmb is -100.69 mmb vs May 15, 2020 of 194.49 mmb. (vi) Below are the last several weeks of estimates made as of yesterday at 1 pm MT, May 14 at noon MT, and May 7 at noon MT.

Figure 38: Vortexa Floating Storage as of May 20 Posted on Bloomberg 1pm T Sat

Source: Bloomberg, Vortexa

Figure 39: Vortexa Estimates May 21 1pm MT, May 14 noon MT and May 7 noon MT

Est as of May 21, 1pm MT

FZWWFST VTXA Inde 05/19/2019 - 05/20/2022

	Date	FZWWFST VT... Last Px
Fr	05/20/2022	93690
Fr	05/13/2022	111.179k
Fr	05/06/2022	101.029k
Fr	04/29/2022	104.849k
Fr	04/22/2022	106.645k
Fr	04/15/2022	108.614k
Fr	04/08/2022	105.863k
Fr	04/01/2022	93843
Fr	03/25/2022	94703
Fr	03/18/2022	97726
Fr	03/11/2022	95861

Est as of May 14, noon MT

FZWWFST VTXA Inde 05/12/2019 - 05/13/2022

	Date	FZWWFST VT... Mid Px
Fr	05/13/2022	110.855k
Fr	05/06/2022	100.987k
Fr	04/29/2022	104.107k
Fr	04/22/2022	105.002k
Fr	04/15/2022	107.129k
Fr	04/08/2022	103.082k
Fr	04/01/2022	92019
Fr	03/25/2022	94393
Fr	03/18/2022	96587
Fr	03/11/2022	96533
Fr	03/04/2022	93377

Est as of May 7, noon MT

FZWWFST VTXA Inde 05/05/2019 - 05/06/2022

	Date	FZWWFST VT... Mid Px
Fr	05/06/2022	95392
Fr	04/29/2022	101.474k
Fr	04/22/2022	101.304k
Fr	04/15/2022	105.59k
Fr	04/08/2022	102.886k
Fr	04/01/2022	89972
Fr	03/25/2022	93433
Fr	03/18/2022	95012
Fr	03/11/2022	97174
Fr	03/04/2022	93921
Fr	02/25/2022	90235

Source: Bloomberg, Vortexa

Oil – BloombergNEF: Global oil inventories YoY deficit narrows

BNEF's global oil inventories

For those with a Bloomberg terminal we recommend flipping thru BloombergNEF's "Oil Price Indicators" weekly that comes out on Mondays as it provides good charts depicting near-term global oil demand and supply indicators. There is no question that there are increasing risks on the demand indicators with lockdowns in China, inflation, etc, but the key global oil and products stocks data point continues to be positive with a large deficit relative to the 2017-2019 average. However, we do want to watch as the YoY deficit is narrowing for crude and products from 107.6 mmb to 105.1 mmb. For the week ended May 10, land crude oil storage in tracked regions rose WoW at 544.9 mmb. The stockpile deficit against the five-year

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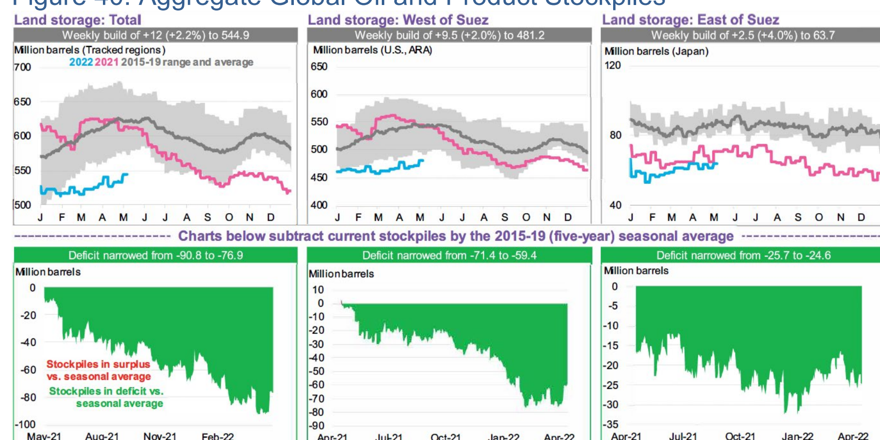
average (2015-19) narrowed from 90.8m mmb to 76.9m mmb. Total crude inventories increased by 1.4% to 645.4 mmb, including global floating inventories. Product stocks were up 0.4% WoW with the stockpile deficit against the 3-year average narrowing from 69.9 mmb to 67.9 mmb. Gas oil and middle distillate stocks have narrowed against their three-year average deficit (2017-2019) of 40.7 mmb to 36.2 mmb. Jet fuel consumption by international departures increased by 55,800 b/d WoW while consumption by domestic passenger departures increased by 36,300 b/d. The global mobility index strengthened over the past week to the highest level since March 2020. Below is a snapshot of aggregate global stockpiles. Our Supplemental Documents package includes excerpts from the BloombergNEF report.

Figure 40: Aggregate Global Oil and Product Stockpiles



Source: Bloomberg

Oil – UK consumer is finally starting to crack

Inflation taking a toll on UK consumers

It looks like the average UK person has reached the tipping point on inflation and energy costs. Bloomberg released an article on Wednesday [LINK] that highlighted the impact of soaring energy prices, pricier groceries, and rising interest rates on UK consumers. Gfk's measure of consumer confidence dropped to -38, a level which has not been seen since 2008. UK consumers are also at "peak pessimism," and the primary driver for this sentiment is the increase in prices for essential items such as groceries, for which 92% of consumers have seen a price increase in March and April. The article went on to highlight the weakening in total sales, which fell 0.3% in April. Growth in eating and drinking out also slowed to 2% in April, likely driven by higher menu prices. Consumer debit and credit card spending rose 18.1% YoY from April 2021, however this was primarily driven by holiday bookings. The article concluded with a projection for the future, emphasizing that the country's economic backdrop is set to worsen. While household energy bills rose for many in April, the true effect won't be felt until autumn, when homes need to be heated. At the same time, savings may be depleted by travel, and there's also the potential for further interest rate rises and any uptick in unemployment if inflation cools the red-hot labor market. Our Supplemental Documents package includes excerpts from the Bloomberg article.

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Oil – IATA calls on Asian governments to relax travel requirements

ITAT calls for relaxed travel requirements

International travel has recovered to 48% of 2019 levels, but Asian-Pacific countries with extensive travel requirements and restrictions have weighed down this recovery. Willie Walsh, The Director General of the International Air Transport Association (ITAT) spoke at the Changi Aviation Summit [LINK] on Tuesday, calling on the rest of Asia to follow the lead of countries like Singapore and remove the requirements for tests and quarantine for vaccinated travellers. They stated *"Regrettably, Asia continues to lag the recovery in 2021. International travel was only at 7% of where we were in 2019. And although it's improved to 17% in the first quarter of this year, there is still a long way to go. And to put it into context, international travel within this region, one of the biggest and most important international markets in the world, is only at 6% of where it was in 2019."* This highlights that Europe, North America and Latin America recovery has reached around 60% recovery, he goes on to express the IATA's support of the science behind the removal of testing and quarantine for unvaccinated travelers from areas of high population immunity. Walsh specifically called on Japan, seeming to give up on China and their pursuit of zero-COVID, stating "*It would be great to see countries like Japan take a bold decision and to remove restrictions on international tourists and rebuild the fantastic work that that country did in growing their tourism industry."* Our Supplemental Documents package includes the keynote address.

Oil – Positive for US trucking diesel demand if Port of LA is indicative of port activity

Record container send out from Port of LA

Last Sunday evening we tweeted [LINK] "*Positive for US trucking #Diesel demand. Biggest US port, @PortofLA sending out record container volumes 200,000 on rolling 30-day basis.Rail sendouts are triple the dwell time at port, points to big truck volumes ie. more diesel. Thx Gene Seroka @adsteel @GuyJohnsonTV #OOTT."* Bloomberg posted its interview with Port of LA Executive Director Gene Seroka [LINK], which then led us to look for other Seroka comments and we found his May 6 media briefing [LINK]. Seroka highlighted the Port of LA is sending out record container volumes on a rolling 30-day average and still thinks the peak is to come. The Port of LA is the biggest port and we would expect the other west coast ports to have similar issues ie. time to get rail containers off the dock. He also explained how China is working around the Shanghai slowdown. And interestingly, he noted the problems with sending out containers by rail and how it "*is not moving off our terminals fast enough. Rail boxes are currently waiting six days to get on a train. That's triple the dwell time compared to pre-pandemic days*". The record container send-outs will be positive to both trucking and rail. Our Supplemental Documents includes the transcript we made of excerpts from the Bloomberg interview an the May 6 Seroka media briefing.

Oil – US vehicle miles hit all time record month for March

US vehicle miles record

On Friday, we tweeted [LINK] "*Too bad US #Gasoline prices thru the roof is starting to impact driving demand. But at least coming off an all time record month for March for US vehicle miles driven. #OOTT*". Based on preliminary reports from the State Highway Agencies, travel during March 2022 on all roads and streets in the US was up +2.9% (+7.9 billion vehicle miles) from 2021 resulting in estimated travel for the month at 277.4 billion vehicle-miles. This total marks an all time record for travel volumes in March despite soaring gasoline prices which had yet to have an impact on driving demand. Travel for the current month, the cumulative yearly total, as well as the moving 12-month total on all roads and streets is shown below.

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Figure 41: Travel in Millions of Vehicle Miles All Road and Streets

Year	March	Year to Date	Moving 12-Month
2010	254,238	685,711	2,949,561
2011	253,124	690,378	2,971,933
2012	256,166	701,890	2,961,914
2013	253,026	698,248	2,964,927
2014	253,424	693,785	2,983,818
2015	258,017	708,735	3,040,606
2016	265,147	727,837	3,114,474
2017	268,343	736,587	3,183,158
2018	270,705	743,201	3,218,961
2019	272,379	753,097	3,250,222
2020	226,638	730,180	3,238,854
2021	269,426	713,493	2,886,935
2022	277,355	753,709	3,267,958
Avg.	**259,845**	**718,219**	**3,079,486**

Source: US Department of Transportation

Oil – Memorial Day holiday travel expected to reach 2017 levels

Memorial Day holiday travel expected up

There is no question that the US is still in their big post Covid travel push and that, at least so far, the high gasoline and airfare prices haven't had a big impact. The AAA Travel released their 2022 Memorial Day Holiday Travel Forecast [LINK] on May 17. They expect 39.2mm Americans to travel this Memorial Day, which is a YoY increase of 8.3%, bringing volumes almost in line with those in 2017. Share of car travel fell from 92.1% last year to 88.9% this year, a indication that higher prices at the pump are having an impact on how people choose to travel this Memorial Day. Don't forget, airfares are also up, but most would have booked Memorial weekend air travel months ago before the recent big airfare price increases. Air travel volume, which began to rally last Thanksgiving, will hit levels just shy of 2019 with 3 million people expected to take to the skies this Memorial Day weekend. In fact, the percentage of people traveling by air will surpass 2019 levels with 7.7% of travelers choosing air travel as their preferred mode (it was 7.5% in 2019). Our Supplemental Documents package includes the AAA release.

Oil – Sri Lanka PM says no foreign currency to buy fuel

Sri Lanka can't afford fuel

Everyone knows the expression "living paycheck to paycheck" and unfortunately, inflation is forcing more to this personal crisis. But in Sri Lanka's case, they are already in an energy crisis but it seems like their nation is surviving fuel tanker to fuel tanker. We don't think it's unfair to say that western media really don't give attention to a fighting crisis, food crisis or energy crisis in certain regions of the world. Otherwise, the Sri Lanka running out of money and can't afford to import fuel would be more in the news. Sri Lanka is a country with ~22 million population. On Tuesday, we tweeted [LINK] "*ICYMI, Sri Lanka PM's 5/16 blunt warning - foreign exchange reserves $7.5b in Nov 2019 now "challenge for the treasury to find USD 1 million", "at the moment, we only have petrol stocks for a single day", "daily blackout outages will increase to 15 hours a day" and more. #OOTT*." Prime Minister Ranil Wickremesinghe's speech to the nation was no question blunt. And had to be shocking to hear how Sri Lanka's foreign exchange reserves went from $7.5b in Nov 2019 to effectively zero today. It was a grim warning. They have made scrap[ed thru this week, and hopefully next week. Yesterday Newsfirst (out of Colombo) [LINK] reported "*The fuel stocks which were due to be managed for 10 days have been used up in 6 days, says the Minister of Power and Energy, Kanchana Wijesekara. Speaking during a media briefing held today (21), the Minister assured that they are receiving the necessary fuel stocks in the next two weeks, and usually with 40,000MT ship of Diesel, it is possible to manage for 10 days. However, the*

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Minister said that due to the high demand, this consignment has ended within 6 days. Moreover, he assured that the Ministry paid for a petrol and diesel cargo on Friday night, and is currently in the process of unloading those two consignments, with a third already yet to be unloaded. "Therefore, there is no need to worry about fuel stocks. We have been carrying out a plan since yesterday, to try and reduce the queues by Monday," he stated. When inquired on how fuel will be supplied for essential services, the Minister said that only ambulances are being considered as essential services that need fuel, as of currently." Basically not fuel for people for just some essential services. Our Supplemental Documents package includes the PM's speech. [LINK]

Oil & Natural Gas – Will Alberta Premier Kenney resignation help/hurt in 2023 election?

BC implements new O&G royalty system

Big news in Alberta was Premier Jason Kenney said he was stepping down as leader of the UCP party following the party only voting 51.4% in his support. We have to agree he didn't have much choice when only 51.4% of his party supports him. The next Alberta election is to be held one year away on May 29, 2023. Kenney led the party to a strong majority with 55% of the vote in the 2019 election beating the then NDP government led by Rachel Notley. Notley had won a majority government in 2015 with 41% of the vote defeating then a split right with Brian Jean's led Wildrose with 24% of the vote and Jim Prentice led Progressive Conservatives with 28% of the vote. It's too early to tell how the UCP leadership will play out, but there doesn't appear to be any one spotlight candidate as a front runner for the UCP leadership. Kenney was a good fighter for the oil and gas sector. The earlier spring polling had put the UCP with Kenney and the NDP with Notley in a toss up. No question, the look ahead for Alberta oil and gas will bring added risk with the potential return for the NDP. It will be an interesting year ahead in the race to be the next leader for the UCP and ultimately the race to be the next Premier in the May 29, 2023 election.

Electricity – Texas has 1.78x installed capacity vs peak demand but still worries

Texas installed electricity capacity vs peak demand

Think about how crazy it has been to see one of the big energy stories over the past week on the record temperature in Texas and how ERCOT (Electric Reliability Council of Texas) was asking people to cut back usage as there was the risk to the not having enough power during the heat wave. We hadn't thought about until we saw the Monday afternoon ERCOT release of its "*Seasonal Assessment of Resource Adequacy for the ERCOT Region (SARA) Summer 2022*" [LINK]. On Wednesday, we tweeted [LINK] "Understandable but crazy #ERCOT has had to ask conserve power. Yes, it's been record temp. But TX has 137,067 total installed #Electricity capacity or 1.77x ERCOT est summer peak demand 77,317 MW, but that incl interruptible capacity 35,195 MW wind & 11,342 MW solar #NatGas #OOTT." Yes, we call it pretty crazy, but understandable, that a state with installed electricity capacity that is 1.78x the estimated peak summer day has to warn on the risk for not enough power. This is crazy. But it reinforces how the power systems under energy transition will probably require about 2x the installed capacity, maybe more, maybe less, depending on how much nuclear/hydro is included in the electricity mix. Texas has zero nuclear and immaterial hydro generation. In ERCOT's May 16 seasonal assessment, in paragraphs 2 and 3 of the 5 paragraph Summary, ERCOT estimates summer 2022 peak demand of 77,317 MW, and ERCOT anticipates there will be 91,392 MW of resource capacity available during the summer peak demand hours. That's a reserve margin of 18.2%, which is a pretty good margin. And ERCOT writes ""*With continued economic growth across the state, ERCOT anticipates a summer 2022 peak demand of 77,317 MW, which accounts for load reductions based on an incremental rooftop*

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solar capacity forecast. This would be a new system-wide peak demand record for the region. ERCOT anticipates there will be 91,392 MW of resource capacity available during summer peak demandhours, which includes 473 MW of planned gas-fired, utility-scale solar and wind capacity. Additionally, ERCOT expects to have 2,035 MW of operational battery storage resources, which includes 283 MW of planned additions. While some of these battery storage resources may help meet customer demand, they are not currently included in ERCOT's capacity contribution for summer because they are not expected to provide sustained capacity for meeting system peak loads." But then we flipped to the page 2 table that shows there are 137,067 MW of installed capacity. That is 1.78x the summer peak demand. But it also means that only 66.7% of the installed capacity will be available during peak summer demand hours. Of the installed capacity of 137,067 MW, total installed wind is 35,195 MW. ERCOT estimates only 9,363 MW available during peak demand hours. And there is installed solar of 11,342 MW. ERCOT estimates 9,140 MW available during peak demand hours. (iii) Wind + solar is 44,337 installed capacity with 18,503 MW available during peak summer hours. Our Supplemental Documents package includes excerpts from the ERCOT May 16 summer assessment.

CPPIB's new investment approach

Energy Transition – CPPIB's new investment approach worked big time in Q1 returns

Yesterday morning, we tweeted [LINK] "*Good for all Cdns, @cppinvestments put in Dec 15/21 "new investment approach" that incl #Oil #NatGas as a "strategic sector". Q1/22: TSX Composite +3.1%, DJIA -4.6%, Nasdaq -9.1%. $ARX +45.6%, $CNQ +45.5%, $TOU +45.0%. See SAF Group Dec 19, 2021 Energy Tidbits 👇. #OOTT"*. As happy as all Canadians should be with the CPPIB "new investment approach", we have to believe Canada Pension Plan Investment Board (CPPIB) is happy they announced their "*new investment approach*" in December because it highlighted its naming oil and gas as a "*strategic sector*" for investing. CPPIB released its annual report for the year ended March 31, 2022. Their Cdn public equities portfolio included 68 companies with a value of $8.352b at March 31 [LINK], and Canadian Natural Resources was the #2 equity at $1.705b, and CNQ was +44.8% in Q1/22. It's two other Cdn E&P were ARC Resources at $0.322b and ARC was +45.6% in Q1/22, and Tourmaline at $0.093b and TOU was +45.0% in Q1/22. These three Cdn E&P represented 25.4% of the Cdn equity portfolio value. And given the TSX Composite was only +3.1% in Q1/22 including oil and gas stocks, CPPIB must be very happy or relieved that they decided to call oil and gas a strategic sector. Our tweet included the below table.

Figure 42: CPPIB Cdn Publicly Traded Equity Holdings as of March 31, 2022

Equity Holding	Shares ('000)	Market Value (CAD $ millions)	% of Total Equity Exposure
ARC Resources	19,228	$322	3.9%
Canadian Natural Resources	22,020	$1,705	20.4%
Tourmaline Oil Corp	1,614	$93	1.1%
Other 65 companies		$6,232	74.6%
Total Equity Exposure		$8,352	100.0%

Source: Canada Pension Plan Investment Board

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CPPIB's "new" oil & gas investment approach from Dec 15, 2021
CPPIB made a major announcement on Dec 15, 2021 for their "new investment approach" that highlighted oil and gas being named a strategic sector for investing. Here is what we wrote in our Dec 19, 2021 Energy Tidbits. "*There was a significant positive to oil and gas investing this week and one that we expect others to follow, and this will lead to more long term investor capital allocation to oil and gas. On Wednesday, CPPIB announced its "new" investment approach in its release "CPP Investments highlights importance of decarbonizing hard-to-abate sectors in addressing climate change". [LINK] This is a significant change for a couple of reasons and one that we have been expecting based on the feedback we hear from long term investors. CPPIB calls it a "new investment approach" including on oil and gas. (i) CPPIB is a leader and is providing the messaging framework that we expect others to follow. Big long term investors like CPPIB have mostly all come out plans on how they taking their investment strategy to Net Zero. But, in discussions, more are realizing the Energy Transition isn't happening as fast as expected so their challenge is how to slow play their capital allocation to Net Zero. CPPIB provide the messaging on how they will do so. (ii) CPPIB now calls oil and gas a "strategic sector" and one for capital allocation. CPPIB said "helping businesses decarbonize is critical to addressing climate change, according to a recent perspective published by Canada Pension Plan Investment Board (CPP Investments). The perspective, "Investing to enable an economy-wide evolution to a low-carbon future," highlights the opportunity decarbonization presents for long-term investors, noting the need to address a particularly serious obstacle to decarbonization: strategic sectors that are essential, high-emitting and hard-to-abate. The perspective also outlines CPP Investments' new investment approach which aims to identify, fund and support companies that are committed to creating value by lowering their emissions over time, consistent with CPP Investments' time horizon advantage. "High-emitting companies that successfully navigate the economy-wide evolution to a low-carbon future will preserve and deliver embedded value for patient long-term investors like CPP Investments," said Deb Orida, Global Head of Real Assets & Chief Sustainability Officer. "This new investment approach complements the Fund's ongoing commitment to investing in companies that have the potential to develop innovative climate technologies around the world and furthers our existing capabilities in technologies that enable the energy evolution." Strategic sectors that are essential, high emitting and hard-to-abate within this investment approach include agriculture, chemicals, cement, conventional power, oil and gas, steel and heavy transportation. The successful decarbonization of these sectors is not only essential to meet wider net-zero ambitions, but also to sustain economic growth, stability and a responsible transition." Our Supplemental Documents package includes the CPPIB announcement."*

Energy Transition – BlackRock sees attractive returns from oil and gas

BlackRock on oil and gas stocks

No one should have been surprised by BlackRock Investment Stewardship (BIS) "*2022 climate-related shareholder proposals more prescriptive than 2021*" given the changing BlackRock views over the past several months with respect to investing under the energy transition. BlackRock's disclosure was much more specific than its Feb "how to invest n the Net Zero Transition". These were positive to oil and gas as BlackRock is coming out

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specifically saying they will be investing in "traditional" energy for attractive returns. And we would expect others to follow BlackRock's lead. We tweeted [LINK] "*1/2. Bullish for #Oil #NatGas stocks. #BlackRock is specific on investing in traditional energy stocks."This set of dynamics will - at least in the short-and medium-term - drive a need for companies that invest in both traditional and renewable sources of energy and ... OOTT"* and [LINK] "2/2 "... *we believe the companies that do that effectively will produce attractive returns for our clients." An even clearer message than 👇the Feb "how to invest in the #NetZero transition". More capital for #Oil #NatGas stocks & other institutional investors will follow #OOTT."* The new BIS views are pretty clear about "traditional" energy, which is oil and gas and perhaps most importantly, they expect these companies "*will produce attractive returns for our clients*". The BIS wrote ""*Importantly, in the context of voting on shareholder proposals regarding climate related risk, companies face particular challenges in the near term, given under investment in both traditional and renewable energy, exacerbated by current geo political tensions. In recent research , BlackRock noted that reducing reliance on Russian energy in the wake of the invasion of Ukraine will impact the net zero transition that is already underway. Net exporters of energy are likely to be required to increase production, while net importers are expected to accelerate efforts to increase the proportion of renewables in their energy mix. This set of dynamics will at least in the short and medium term drive a need for companies that invest in both traditional and renewable sources of energy and we believe the companies that do that effectively will produce attractive returns for our clients."* Our Supplemental Documents package includes the BlackRock BIS disclosure.

Recall BlackRock's Feb "How to Invest in the Net Zero Transition"

We say no one should be surprised by the BlackRock BIS this week as BlackRock has been pointing this way for several months. Here is what we wrote in our Feb 13, 2022 Energy Tidbits. "*Our January 23, 2022 Energy Tidbits featured the BlackRock CEO Larry Fink letter to CEOs and his interview on CNBC thereon that included his line "we will not survive with the society we are accustomed without hydrocarbons right now, we need to rapidly admit that." So no one should be surprised to have seen BlackRock come out last week with positive comments on oil and gas in their "A Framework for our clients: How to invest in the net zero transition". [LINK] We tweeted [LINK] "1/3. $BLK "how to invest in the #NetZero transition". "Increased demand for #FossilFuels in the restart of economic activity & impaired supply have driven up the price & use of #NatGas, #Oil & #Coal .. will be periods like this when traditional energy performs well... #OOTT", [LINK] "2/3 ... periods that should not be seen as counter to the transition, but as part of it. The speed and shape of the transition are deeply uncertain, and it will take decades to play out." #OOTT #NatGas." And [LINK] "3/3. "We believe an underappreciated opportunity for investors seeking to drive the transition lies in identifying carbon-intensive companies that are positioning themselves to lead decarbonization within their industries". Bullish for #Oil #NatGas stocks. #OOTT." BlackRock's how to invest in the net zero transition is positive for oil and gas stocks. Our Supplemental Documents package includes BlackRock's how to invest in the net zero transition. [LINK]*"

Energy Transition – BlackRock MTUM ETF rebalancing positive for oi land gas

BlackRock MTUM ETF rebalancing

On Wednesday we tweeted [LINK] *"Positive for #Oil #NatGas stocks. they will be big winners in #BlackRock iShares MSCI USA Momentum Factor ETF semi annual rebalancing. Reminds will also be wins as generalist PMs also rebalance to be market weight. Thx @WellsFargo*

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Christopher Harvey, @SamJPotter #OOTT." The rebalancing is a good reminder that there will be other sector allocation adjustments by other generalists. Bloomberg wrote "*BlackRock Inc.'s iShares MSCI USA Momentum Factor ETF (ticker MTUM) is facing its latest semi-annual rebalance, with the fund's underlying index due to start the process next week. Wells Fargo & Co. estimates a whopping 75% of the smart-beta product's holdings will be turned over in favor of sectors that gain from elevated inflation like value and energy, at the expense of technology names. At the same economically sensitive companies like banks will likely be slashed in favor of defensives like health care."* Bloomberg's report also included Wells Fargo table for the estimated rebalancing impact that estimates energy would move from its current 7.1% to 18.7%. Our Supplemental Documents package includes the Bloomberg report.

Figure 43: Wells Fargo's Expected Adjustments to MTUM's portfolio

	May 2022 Rebalance		
	current	*est*	Δ
Health Care	12.4%	27.6%	15.2%
Energy	7.1%	18.7%	11.5%
Staples	3.8%	17.7%	13.9%
Info Tech	31.1%	9.8%	(21.3)%
Financials	24.2%	7.3%	(16.9)%
Utilities	0.0%	6.8%	6.8%
Industrials	4.0%	4.0%	0.0%
Materials	1.9%	3.9%	2.0%
Real Estate	1.2%	3.0%	1.8%
Consumer Disc	8.5%	1.0%	(7.5)%
Comm Serv	5.5%	0.2%	(5.3)%

Source: Wells Fargo via Bloomberg

Energy Transition – G7 need to accelerate investments in oil and gas

G7 on accelerating oil and gas

We probably shouldn't have been surprised that the G7 Foreign Ministers communique last Sunday didn't get any real media coverage as they clearly say there is a need to accelerate investment in oil, natural gas and LNG. It's why yesterday, we tweeted [LINK] "*ICYMI. Why didn't the #G7 communique last Sun get media coverage? Probably because G7 Foreign Ministers said need accelerating investments in #Oil #NatGas #LNG. And it's not just RUS, the G7 acknowledge energy security was at risk before RUS UKR. #OOTT*." The G7 is specifically saying they recognize the importance of accelerating investment in upstream developments – upstream developments is oil and gas development. The communique said "[*Russia's war of aggression against Ukraine has reminded us of the importance of ensuring energy security while accelerating energy transition. In this context, we recognize the importance of accelerating investment in upstream developments, including in liquefied natural gas (LNG) projects, and promoting usage of clean energy with a view to decreasing our dependency on Russia's energy*". The other aspect of the G7 statement is that we have to give politicians credit for their ability to craft/draft their messaging to try to say things, but not say things. There was a great example last Sunday with the G7 Foreign Ministers communique. [LINK] . The big message has been to blame all the energy problems on Russia and there is no question that Russia's war on Ukraine and the west's response has been a catalyst for the big jump in energy prices since late Feb. However, Europe, in

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particular, was already in an energy crisis and didn't have energy security last fall. And this was acknowledged by the G7 Foreign Ministers, just not directly. It's why after seeing the G7 communique, we tweeted [LINK] "*1/2. Well crafted/drafted #G7 communique. G7 didn't say they had energy security before RUS/UKR, rather it "reminded us of the importance of ensuring energy security while accelerating energy transition", followed saying ..#OOTT #NatGas #LNG*", and [LINK] "*2/2. "In this context, we recognize the importance of accelerating investment in upstream developments, including in liquefied natural gas (LNG) projects," G7 says need more $$ in #Oil #NatGas production for energy security! Fits #1 2022 prediction. #OOTT*". Our Supplemental Documents package includes excerpts from the G7 communique. [LINK]

Energy Transition – Avoided oil from EVs +0.2 mmb/d YoY, now up to 1.5 mmb/d

Avoided oil from EVs

There are a couple of facts that are tough to argue by either the pro or con fossil fuel sides – the rapid growth of EVs leads to increasing amount of avoided oil consumption and the world's oil consumption is continuing to grow even with increasing EVs. We were reminded of these two points from BloombergNEF's "*Zero-Emission Vehicles Progress Dashboard*" on May 18. On Thursday, we tweeted [LINK] out their key slide on avoided oil consumption from EVs and wrote "*Food for thought. @BloombergNEF fcast EVs avoided oil use more than doubled since 2015 & now almost 1.5 mmbd. YoY 2021 growth rate in #EV avoided oil use is ~0.2 mmbd, increasing but small relative to @IEA OMR 2022 YoY 1.8 mmbd growth in #Oil demand. Thx @albertwycheung #OOTT.*" Our tweet attached the below BloombergNEF graph. BloombergNEF highlighted the growth in avoided oil from EVs. They wrote "*The adoption of electric vehicles and fuel cell vehicles avoided almost 1.5 millions of barrels of oil per day in 2021 – about 3.3% of total demand. The displaced demand is roughly equivalent to one-fifth of Russia's total oil and oil products exports prior to the war, and roughly double Germany's imports of Russian oil and products at the end of 2021. Avoided oil consumption has more than doubled in the past six years, up from ~725,000 barrels of oil per day in 2015.*" How much avoided oil from EVs is a matter of the assumptions in the estimate, but we don't think BloombergNEF's estimate of almost 1.5 mmb/d is unreasonable. But the other part that jumped out at us is that the growth in avoided oil in 2021 was approx. 0.2 mmb/d. And our tweet put that in perspective noting that the IEA forecast YoY demand growth in 2022 of +1.8 mmb/d. The IEA's forecast would build in some assumption for avoided oil from EVs. Assuming the IEA avoided oil impact is similar, it reinforces that the world is growing its oil demand at multiples of any YoY growth in avoided oil from EVs. Our Supplemental Documents package includes excerpts from the BNEF report

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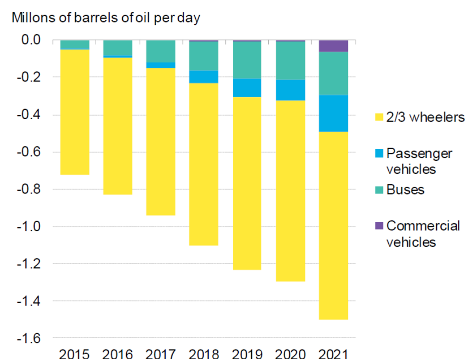
Figure 44: Oil demand avoided by EVs and FCVs



Source: BloombergNEF

Energy Transition – HSBC exec's controversial climate change comments

HSBC executive on climate change

How can we not mention the HSBC executive comments at the Financial Times conference on Friday after seeing the BNN Bloomberg report "*HSBC's Head of Responsible Investment Attacks Climate 'Nut Jobs'*". No question that got readers, but we hope people think about his comments more than calling people nut jobs. (i) On nut jobs, Bloomberg wrote ""*Climate change is not a financial risk that we need to worry about," Stuart Kirk said Thursday in a 15-minute presentation at a Financial Times conference. "There's always some nut job telling me about the end of the world. Kirk, whose role means he is responsible for integrating ESG risks and opportunities across asset classes at HSBC Asset Management, also took aim at former Bank of England Governor Mark Carney and other policy makers for talking up the risk from climate change. "I completely get that at the end of your central bank career there are still many, many years to fill in," he said. "You've got to say something, you've got to fly around the world to conferences, you've got to out-hyperbole the next guy. But I feel like it is getting a little bit out of hand."* (ii) Everyone has to acknowledge that the climate change leaders have been hugely successful in elevating fighting climate change to be the government, social and even investor priority. Kirk says it dramatically, but makes the point that this priority has come at too great of a cost using HSBC as an example. Bloomberg wrote "*I work at a bank that is being attacked by crypto, we've got regulators in the US trying to stop us, we've got the China problem, we've got a housing crisis looming, we've got interest rates going up, we've got inflation coming down the pipes, and I'm being told to spend time and time again looking at something that is going to happen in 20 or 30 years hence," he said. "The proportionality is completely out of whack."* (iii) Needless to say, HSBC has moved to disavow his comments. Our Supplemental Documents package includes the Bloomberg report.

Capital Markets – Will individual comp be impacted by vacation time at Goldman?

Goldman's new vacation policy

It appears that the Goldman Sachs investment banking analysts have been able to make changes to the Goldman culture. That is unbelievable to those of us who worked in investment banking in the 90's and 2000s probably up until a few years ago. There is no question that labor norms have changed in the past few years. That is clear when you see

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the report this week on Goldman Sachs new vacation policy/practice. Goldman is a leader in investment banking success and any changes to norms is significant. I state my bias as a former executive at a Cdn investment banking firm and someone involved in allocating the payout pools and partnership ownership. FT wrote how Goldman has implemented a new vacation policy, but what isn't clear from the FT report is if this will affect relative compensation. I have to believe there would never be any formal indication of that or it would seem to be a recipe for some action, but it's hard to see how it doesn't have some impact on value to the firm. I would not have wanted to be involved in what looks to be a furthering of what looks like a sea change in Goldman's culture. I don't call it work rules, because no investment banking firm has a written rule that people have to work xx amount of long hours. Last Sunday, the FT posted a report [LINK] "*Goldman Sachs says senior staff can take as much time off as they want*" based on an April 22 memo to staff. FT wrote "*Goldman Sachs was "committed to providing our people with differentiated benefits and offerings to support wellbeing and resilience". "As we continue to take care of our people at every stage of their careers and focus on the experience of our partners and managing directors, we are pleased to announce enhancements and changes to our global vacation program designed to further support time off to rest and recharge," it said." "Goldman Sachs has told its most senior bankers they will be allowed to take as much holiday as they want so they can "rest and recharge". Under a new "flexible vacation" scheme introduced from May 1, partners and managing directors will be free to "take time off when needed without a fixed vacation day entitlement", the Wall Street bank told staff in a memo last month. More junior bankers, who will still be entitled to take only a fixed number of paid days off, have been given a minimum of two extra days of holiday per year. Precise details of holiday allowances for each region would be communicated separately, the bank told staff. Employees at all levels will be required to spend at least three weeks away from work annually from 2023, including at least one full week of consecutive days off.".* Our Supplemental Documents package includes the FT report.

Goldman investment banking analysts got the ball rolling in Feb 2021

Power to the Goldman analysts who got this change in cultures rolling. Here is what I wrote in the March 21, 2021 Energy Tidbits memo. "*I feel like i have to state my bias as a former co-head of an investment banking group. Anyone who has ever worked in the investment dealer business and has known people at Goldman was likely shocked to see the apparently real "Investment Banking Division. Working Conditions Survey. Goldman Sachs & Co. LLC. February 2021", which is reportedly a survey of first-year investment banking analysts, 13 respondents. [LINK] Apparently, it is real and Goldman says they are listening to their concerns and taking multiple steps to address them. Bloomberg reported ""We recognize that our people are very busy, because business is strong and volumes are at historic levels," said Nicole Sharp, a spokeswoman for Goldman Sachs. "A year into Covid, people are understandably quite stretched, and that's why we are listening to their concerns and taking multiple steps to address them." The headline concerns were that they work 98 hours a week, on average, since Jan. That didn't necessarily surprise as I would have expected perhaps slightly lower ie. 90 hours a week, after all this is Goldman. What is interesting to investment bankers is the 13 analyst's situation recommendations. Anyone who has been an investment banker is chuckling at some of their recommendations such as no changes to a client deal pitch within 12 hours of*

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the meeting, don't schedule a client deal pitch unless at least 1 week to do the pitch, etc. Regardless, its good reading. I would be curious to how many analysts did not participate in the survey. It is important to remember that Goldman is considered the best and that the work is harder at the top investment dealers than at the less successful investment dealers. It's the people and the effort. Wouldn't it be amazing if these 13 analysts changed the culture of Goldman and, if so, what that will do to Goldman's status over time. Their success wouldn't change over night, but its just math. Lesser effort means a lesser product/performance over time. Our Supplemental Documents package includes excerpts from the reported survey. "

Must watch is Jim Cramer (former Goldman) on the Feb 2021 survey

We checked this week and this Jim Cramer clip is still posted. Here is also what we wrote in our March 21, 2021 Energy Tidbits "*If you didn't see it, its worth taking a look at the video clip that is included in this story. [LINK] The story notes some of his comments but one that is true is "Give me a break!" Cramer continued. "You go to Goldman Sachs because of the deal you make! You can make the money and then you can go do something great! " There is much more and worth a viewing."*

Capital Markets – Goldman's Blankfein It's going "to be quite difficult and oppressive"

Recession indicators from Goldman

Last Sunday, there was a blunt warning from Lloyd Blankfein (Goldman) on CBC's Face the Nation [LINK] on how inflation is going to be a big hit. We tweeted [LINK] "*Buckle up. "it's going to be quite difficult and oppressive" "for individuals and certainly the individuals at the bottom quartile of the pie sharing", companies & consumers should be prepared for a recession says @lloydblankfein on fighting inflation. Thx @margbrennan. #OOTT"*. He highlighted that there was too much growth and stimulus through the pandemic that created a lot of liquidity, leading to the current levels of inflation. On what is needed from the Fed right now, Blankfein stated *"what you have to do is, you have to slow down that demand. You have to slow down the economy. And so they're going to have to raise rates. They're going to have to curtail, hopefully reduce the number of positions that are unopened, because they — and increase the size of the labor force."* He goes on to say that some of the inflation we are seeing today is transitory and will go away, but some will be with us for a while, and it will be especially difficult and oppressive for those individuals at the *"bottom quartile of pie sharing"*. From Blankfein's perspective, the risk of recession is very high, and it is crucial that the Fed continues to use its very powerful tools correctly. On the bright side, he says that this looks a lot different from the last financial crisis which took over 10 years to recover from. This is going to be hard for people's savings, but at least they have savings, starting in a much better place than people during the financial crisis. He ends his statement with, *"If I were running a big company, I would be very prepared for it. If I was a consumer, I would be prepared for it. But it's not baked in the cake"*. Our Supplemental Documents package includes the Face the Nation transcript.

Capital Markets – More indicators of cooling of hot US home market

Indicators of cooling US home market

On Tuesday, we tweeted [LINK] *"Big MoM and YoY drop in National Association of Home Builders/Wells Fargo Housing Market Index. 1st time HMI dropped below 70 since June 2020. Thx @TeddyGambino @zerohedge for flagging. #OOTT"*. The National Association of Home Builders (NAHB) Housing Market Index (HMI) rates the relative level of current and future single-family home sales. This index dropped to 69 in May from 77 in April, marking

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the fifth straight month of declines from the peak of 84 in December 2021. This drop is an indication that builder confidence is slowing, and the housing market is beginning to slow. This is due to affordability challenges, rising interest rates, price increases for materials, and home prices. NAHB's chief economist stated [LINK], "*The housing market is facing growing challenges. Building material costs are up 19% from a year ago, in less than three months mortgage rates have surged to a 12-year high, and, based on current affordability conditions, less than 50% of new and existing home sales are affordable for a typical family. Entry-level and first-time home buyers are especially bearing the brunt of this rapid rise in mortgage rates."* Our Supplemental Documents package includes the NAHB/Wells Fargo Housing Market report.

Capital Markets – Real estate losses have a bigger impact on middle/working class

Real estate hits middle and working class

There was a good reminder about middle and working class families are hit hard by real estate, moreso than the crashing stock market. Bloomberg''s report yesterday "*A $5 Trillion 'Wealth Shock' Is Cracking Americans' Nest Eggs*". Bloomberg wrote ": *A plunge in wealth since the start of 2022 that JPMorgan Chase & Co. estimates totals at least $5 trillion -- and could reach $9 trillion by year-end. So far, the richest Americans have borne the brunt, with US billionaire fortunes down almost $800 billion since their peak amid the sharp losses in stocks, crypto and other financial assets. But surging interest rates are also starting to rattle the housing market, where middle- and working-class families have the bulk of their wealth*." "*US spending has been lifted in recent years by owners tapping the enhanced values of their homes for cash. The practice of home equity extraction likely came to a halt this year. More than 40% of refinancings in the final quarter of last year saw homeowners pull cash out of their homes. Real estate is far more evenly distributed than financial wealth. The top 1% owns more than half of U.S. holdings of stocks and mutual funds, and the bottom 90% owns less than 12%, according to Federal Reserve estimates. By contrast, in real estate the bottom 90% owns more than half of the total, while the top 1% holds less than 14%."* Our Supplemental Documents package includes the Bloomberg report.

Capital Markets – Tesla dropped from S&P ESG 500 Index, but Exxon Mobil included

S&P ESG 500 Index rebalance

On Thursday, we tweeted [LINK] ""The (Re)Balancing Act of the S&P 500 ESG Index". #Exxon made the largest 10 constituents, #TeslaStock was on list of largest 10 companies left out of the S&P 500 ESG Index Post-Rebalance as had "disqualifying S&P DJI ESG Score". #OOTT #EnergyTransition". The S&P 500 ESG Index uses environmental, social and governance data to rank companies and reflect the evolving sentiments of a sustainably minded investor. Its criteria include hundreds of data points per company that pertain to the way businesses affect the planet and treat stakeholders beyond shareholders - including customers, employees, vendors, partners, and neighbors. This year, Tesla was left out of the index due to a disqualifying S&P DJI ESG score. A company's S&P DJI ESG score is the weighted average of all criteria scores ranging from 0-100, which results from S&P Global's annual Corporate Sustainability Assessment. Tesla's score was weighed down this year due to a decline in criteria level scores related to Tesla's (lack of) low carbon strategy and codes of business conduct, along with reported racism and poor working conditions reported at Tesla's factory in California. Meanwhile, Exxon Mobile was among the 308 new constituents that were selected for inclusion in the index. This a is product of how S&P calculates the DJI ESG scores, weighing companies relative to peers in their sector. Thus, with a bit of

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disclosure and goal-setting relative to peers, a high-carbon company like Exxon can score well. Our Supplemental Documents package includes excerpts from the S&P article.

Capital Markets – Biden, make wealthiest corps pay their fair share = lower inflation

We had to feel for new White House Press Secretary Karine Jean-Pierre on her first daily briefing on Monday. She was asked on Biden's inflation comments and unfortunately didn't come off well. Fox news Peter Doocy referenced Biden's May 13 tweet [LINK] "*You want to bring down inflation? Let's make sure the wealthiest corporations pay their fair share"* and asked "*how does raising taxes on corporations reduce inflation*?" Jean-Pierre flipped thru her briefing binder and made the standard line on how Biden has been working on getting the wealthiest to pay their fair share, working on it every day "*when we talk about inflation and lowering cost*s". Doocy goes back and asks "*But how does raising taxes on corporations lower the cost of gas, the cost of a used car, the cost of food for everyday Americans?"* Jean-Pierre then goes back to read from briefing book on her fairer tax code. Doocy goes back a third time on this. We suspect her briefing team will be changing her answers for future questions on Biden's tweet. The 3:10 min video clip is at [LINK]. Our Supplemental Documents package includes the White House transcript for this exchange.[LINK]

White House defends Biden's inflation tweet

Demographics – Teen Babysitters Are Charging $30 an Hour Now, Because They Can

It makes sense. If employers, especially small business owners and service industry employers, are having to pay up to get employees at all levels, then it makes sense that parents are having to pay up to get babysitters. And that doesn't include the normal paying for food while babysitting. On Thursday, the WSJ reported [LINK] "*Teen Babysitters Are Charging $30 an Hour Now, Because They Can Sitter shortage has parents treating teenagers like VIPs; 'order anything you want for dinner"*". The WSJ isn't saying that all babysitters get $30 an hour but used some examples of those that do. But the basic concept is that it's an extremely tight labor market for young people. The WSJ wrote "*A tight labor market is creating one of the best summer-job markets for teens in years. Businesses facing a pandemic hiring crunch are scouring teen job fairs and offering bonuses and flexible schedules to young people. A daycare worker shortage is leaving parents scrambling to make alternative arrangements. Unemployment among teenagers is at its lowest level in decades."* Our Supplemental Documents package includes the WSJ report.

It's a seller's market for babysitters

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

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

@Energy_Tidbits on Twitter

LinkedIn – Look for quick energy items from me on LinkedIn

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

Look for energy items on LinkedIn

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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.

Good shot for a Cdn team to make the Stanley Cup Finals

It was a good news/bad news last weekend. Bad news that the Toronto Maple Leafs lost game 7 to the Lightning. Good news that the Calgary Flames and Edmonton Oilers made it thru, but are playing each other. At least that means either the Flames or Oilers will make it to the Western Conference finals where a win means they are playing for the Stanley Cup. The last time a Cdn team has been in the Stanley Cup finals was in 2011, when the Vancouver Canucks lost to the Boston Bruins.

Does any sports league have a better last day than English Premier League?

We don't understand why other professional sports leagues take their cue from the English Premier League on how to end the regular season? The EPL creates a better last day of the regular season than anyone. We recognize that it's also because there is no playoffs and has the huge advantage of one time zone. But even still, the North American pro leagues could still generate bigger interest in their last day of the regular season by following the EPL model. Today, is the last day for the 2021/22 EPL and every match starts at the same time, in this case 9am MT. So it creates huge scoreboard watching and channel flipping for those that have full EPL access to see who will be 1st (Manchester City or Liverpool), who will avoid relegation (Burnley or Leeds), or who will get the 4th Champions League spot (Tottenham or Arsenal) and who will get the final Europa League spot with the other getting the lower Europa Conference spot (Manchester United or West Ham). And none of these teams play each other so it brings a spotlight on 8 matches today. Our news cut off is 7am MT so we are going to print before the matches.

Wonder what the return of Russia's "Moskvich" car will look like after 30 yrs

On Tuesday, TASS reported [LINK] on the status of Renault's Moscow auto plant. TASS reported "*Renault, whose Moscow plant was handed over to the city authorities, does not have the right to buy the enterprise, Denis Manturov, head of the Ministry of Industry and Trade, told reporters. At the same time, the transaction, according to him, was completed "for the ruble." "Yes, it's true," the minister replied to the question about the impossibility of Renault to buy the plant.He clarified that it was a deal "for the ruble", and not nationalization. "No. Nationalization is when the state makes a unilateral decision to take the asset into state ownership. This decision was agreed by Renault itself," Manturov said."* The part that caught our interest was TASS then writing "*As Moscow Mayor Sergei Sobyanin noted in his personal blog, the plant, which became the property of the capital, will produce cars under the Moskvich brand, and Kamaz will become the main technological partner of the revived Moscow plant. It is planned that at the first stage the production of cars with an internal combustion engine will be launched, and in the future, electric cars."* The last model year for the Moskvich was 1991. That's why we will be interested to see the first models for the Moskvich. Will they just be a minor tweak to the Renaults or will they bring back memories of the the last Moskvich. And, as everyone knows,

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Russian cars in that era were far from stylish. Don't forget the Berlin wall only fell in November 1989.

Figure 45: Moskvich 1991

Source: Turbo Guru

NFL saying *"the best ability is availability*"

It certainly looks like the world of investment banking has had a sea change. As opposed to 10 years ago, when a deal opportunity came up or a client called for some M&A advice, it was all hands on deck to support the client's decision making or advisory requirements. It was like the popular NFL saying '"*the best ability is availability*". Or as a senior commodities trader described their business also had to have all hands on deck, he said the saying was if we can do without you for three weeks, we can do without you.

Former NFL head coach Bill Parcells sayings

We always see sports leaders views translate well into what makes businesses the best in their space. Bill Parcells is often noted as to saying the best ability is availability but we couldn't find him saying that anywhere. However, we did Inspiring Quotes with a Bill Parcells page [LINK] and note a few. Parcells was considered old school tough coach but also one that the players repected. "*I have always felt like you really don't have a genuine confidence unless you demonstrate the ability to do something. You can talk about it, but you have to demonstrate it." "A good teacher creates an environment which allows the student to succeed." "Knowledge is confidence. And confidence lets you play fast." "Resourceful coaches strive to have more ways to win than the other team." "If I have affected someone in a positive way, that means a lot to me." "My job is to call attention to the things that I think are the difference between winning and losing. If I can't do that then I have failed as a coach." "Losers assemble in small groups & complain, winner assemble as a time & find ways to win." "To succeed over the long haul, leaders must stay true to their vision, their core philosophy. But to flourish in a given situation, they must also be flexible in strategy and opportunistic in tactics."*

Victoria Day holiday in most of Canada tomorrow

Victoria Day is celebrated on the Monday before May 25th every year and is a statutory holiday in most of Canada tomorrow to celebrate Victoria Day, or what became known as the May long weekend as kind of the start to summer season. The history though was to honor Queen Victoria's birthday. Queen Victoria (1837-1901)

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was the ruler of the British Empire, including Canada, from June 20, 1837 until her passing on Jan 22, 1901. Travel was different in that era and Queen Victoria never visited Canada, although her father lived for almost 10 years in Halifax and Quebec City. We don't' remember exactly when it happened, but in the 60s, it was also celebrated by fireworks and also firecrackers. So Victoria Day also was known to kids as firecracker day.

NFL's Elias on what makes great NFL players & why winning is important

As noted above, we always see sports leaders views translate well into what makes businesses the best in their space. There was a great reminder of this last week that we didn't have time to include. NFL Senior Director of Player Engagement Keith Elias on Good Morning Football on May 11, 2022 [LINK]. Elias primary role is working with NFL players transition in their post playing career, which is known to be tough for many players. (i) Making other players great. Great business leaders, especially in the financial services sector, make other players play great. Talking about Peyton Manning's rookie year, note he started his career with the Giants. '*I remember first of all, his presence. Not unlike Michael Strahan. His presence is even bigger than his performance. It's the same thing with Peyton. Players are either great or help other players become great*. *and Peyton was like that. when you got in the huddle, you would not let yourself disappoint him. "* (ii) Unfinished business is when player play on losing teams. I used the same lines for the last 25 years as to what I I think is a key factor for grads – join a winning team. It's not just more fun when you are winning, but it also means that you don't have unfinished business. Rather you keep building on those winning skills. And inevitably, your teams are more likely consistent winners. Elias was asked about examples as a lot of players have really struggled with stuff in this transition. Elias "*if a guy plays 2 years or 10 years, we find out that they always leave with unfinished business right. There are some things that everyone wants to win the Super Bowl and go in the Hall of Fame, but how rare is that*." Elias had some other good comments.

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