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Energy Tidbits

June 12, 2022

Produced by: Dan Tsubouchi

Trafigura Sees *"a Tight Market for Commodities and Heightened Prices for Some Time to Come"*

Welcome to new Energy Tidbits memo readers. We are continuing to add new readers to our Energy Tidbits memo, energy blogs and tweets. The focus and concept for the memo was set in 1999 with input from PMs, who were looking for research (both positive and negative items) that helped them shape their investment thesis to the energy space, and not just focusing on daily trading. Our priority was and still is to not just report on events, but also try to interpret and point out implications therefrom. The best example is our review of investor days, conferences and earnings calls focusing on sector developments that are relevant to the sector. Our target is to write on 48 to 50 weekends per year and to post by noon MT on Sunday. The Sunday noon timing was because PMs said they didn't have research to read on Sundays and Sundays are a day when they start to think about the investing week ahead.

This week's memo highlights:

1. Trafigura's very bullish long-term outlook for oil, natural gas and metals [LINK]
2. Qatar names 1st partner, TotalEnergies, in its massive +6.5 bcf/d LNG expansion [LINK]
3. Rush to lock up long term LNG supply continues, now up to 9.09 bcf/d of long-term LNG supply locked up since July 1, 2021 [LINK]
4. Does Biden's expected visit to see MBS in Saudi Arabia mean JCPOA revival is dead? [LINK]
5. Biden's telling Exxon to "start paying your taxes" reminds oil and gas shouldn't be expecting any breaks even as US gasoline prices hit $5 [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 +97 bcf, storage now -398 bcf YoY deficit

YoY storage at -398 bcf YoY deficit

The YoY storage deficit started the winter at -282 bcf YoY at Oct 31 and is now -398 bcf YoY. The EIA reported a 97 bcf build (with 97 bcf build expectations) for the June 3 week, which was above the 5-yr average build of +79 bcf, and above last year's injection of +16 bcf. Storage is 1.999 tcf as of June 3, increasing the YoY deficit to -398 bcf, from -397 bcf last week and storage is -340 bcf below the 5-year average vs 337 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 (06/03/21)		Historical Comparisons: 5-year average (2017-21)	
Region	06/03/22	05/27/22	net change	implied flow	Bcf	% change	Bcf	% change
East	387	357	30	30	440	-12.0	448	-13.6
Midwest	445	420	25	25	543	-18.0	523	-14.9
Mountain	118	113	5	5	159	-25.8	141	-16.3
Pacific	206	195	11	11	275	-25.1	255	-19.2
South Central	843	817	26	26	980	-14.0	972	-13.3
Salt	251	248	3	3	302	-16.9	301	-16.6
Nonsalt	593	569	24	24	678	-12.5	670	-11.5
Total	**1,999**	**1,902**	**97**	**97**	**2,397**	**-16.6**	**2,339**	**-14.5**

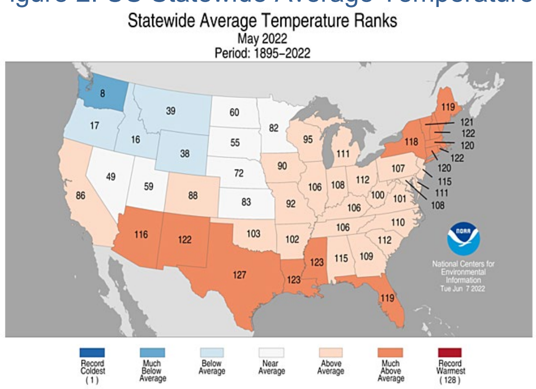
Source: EIA

Natural Gas – NOAA May weather recap showed above average temperatures

May weather recap

May typically isn't a huge month for weather related natural gas demand, but it should be a good May with warmer than usual temperatures in the US ie. there should be some air conditioning demand. On Monday, NOAA posted its recap of US weather for May [LINK] that showed May 2022 ranked in the warmest third of the 128-year record. So there was a slight benefit to natural gas demand. However, the major pull and reason for $8 HH gas prices is the increasing US LNG exports pulling more natural gas out of North America.

Figure 2: US Statewide Average Temperature Ranks May 2022



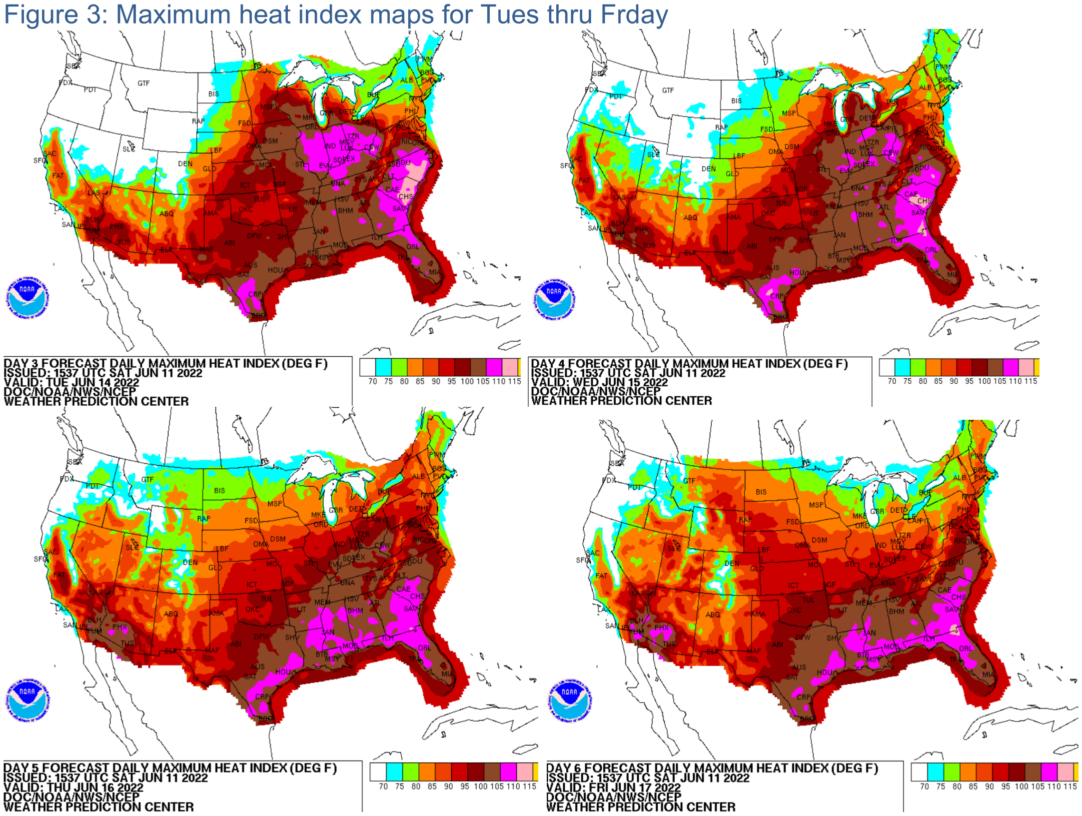
Source: NOAA

Natural Gas – Hot temperatures to continue across most of the US

Hot weather in US

It's been a good start to June for temperature driven natural gas demand. On Thursday, we tweeted [LINK] "*Continued hot weather expected across the US south & east. Thx @NOAA. #NatGas #OOTT*" and included NOAA's the latest maximum heat index maps for Sunday thru Wed. Here are the NOAA National Weather Service Maximum Heat Index Forecasts for Tues thru Fri as posted yesterday. [LINK]

Figure 3: Maximum heat index maps for Tues thru Frday



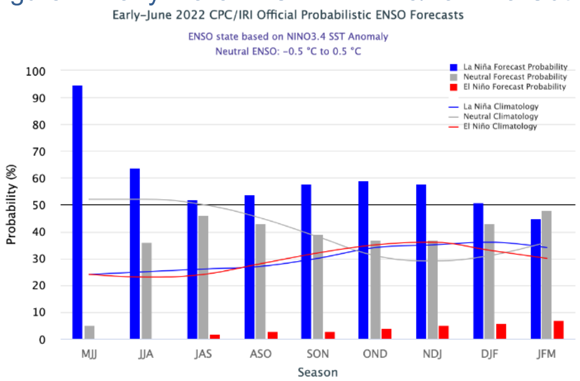
Source: NOAA National Weather Service

Natural Gas – 98% probability for La Nina/Normal conditions ie. a normal hurricane season

La Nina/El Nino conditions this summer

The CPC/IRI El Nino/La Nina outlook is issued on the 2nd Thurs of every month [LINK]. The new June forecast for JAS is 52% (was 56%) La Nina, 46% (was 39%) Neutral and only 2% (was 2%) for El Nino conditions. The new ASO forecast is 54% (was 58%) La Nina, 43% (was 38%) Neutral and 3% (was 4%) El Nino conditions. ASO is the peak period for Atlantic hurricane season. Again, weather is never 100% the same, but El Nino summers are normally associated with low Atlantic hurricane seasons, whereas neutral/La Nina conditions are more likely normal hurricane seasons. Below is the CPC/IRI official ENSO forecast.

Figure 4: Early-March NOAA El Nino/La Nina Outlook



Source: CPC/IRI

Natural Gas – EIA forecasts US gas production growth in 2022 and 2023

U.S. gas production +2.95 bcf/d in 2022

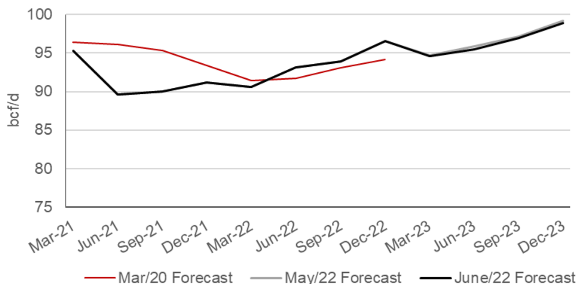
The EIA released its monthly Short Term Energy Outlook June 2022 [LINK]. The EIA revised down its 2022 and 2023 forecast for US natural gas production. (i) Please keep in mind that the rate of US natural gas supply growth is still a wildcard. The EIA's new forecast calls for big ramp up in US growth from today. They forecast 95.5 bcf/d in Q2/22, up 3.5 bcf/d to 99 bcf/d in Q4/22, and then up another 4 bf/d in a year to reach 103 bcf/d in Q4/23. So call it, up over 7 bcf/d in the next 18 months. That doesn't sound unreasonable given HH gas pries, but we remind all forecast models are based on assumptions. We think the next few months of actuals will be key to determining how much the US will grow its natural gas supply. We have been highlighting how US natural gas growth is only now getting back to Nov levels. The EIA's Q2/22 of 95.5 bcf/d is still below Q4/21 of 96.5 bcf/d. So it's too early to assume the growth is in the bag, but we should get a better comfort level over the next few months if we start to see the ramp up in Q3/22. (ii) The EIA forecast shows US natural gas above the Q4/19 peak of 96.58 bcf/d, with Q4/22 US natural gas of 98.94 bcf/d (up 2.36 bcf/d from peak). (iii) For 2021, the EIA did not revise US natural gas production, which is flat at 93.55 bcf/d. (iv) US natural gas production is expected to average 96.5 bcf/d in 2022 (97.71 bcf/d previously) and 2022 is up 2.95 bcf/d YoY. 2023 production estimates were released and see Q1/23 production entering at 99.94 bcf/d (100.25 bcf/d previously) and exiting in Q4/23 at 102.66 bcf/d (102.42 bcf/d previously) for a 2023 average of 101.57 bcf/d. (v) The EIA wrote *"We forecast U.S. dry natural gas production to average 95.7 Bcf/d in June and to average 97.9 Bcf/d in 2H22, which would be 2.7 Bcf/d (3%) more than in 2H21. We expect dry natural gas production to average 101.6 Bcf/d in 2023."*

Figure 5: EIA STEO US Natural Gas Supply Forecasts by Forecast Month

bcf/d	Q1/20	Q2/20	Q3/20	Q4/20	2020	Q1/21	Q2/21	Q3/21	Q4/21	2021	Q1/22	Q2/22	Q3/22	Q4/22	2022	Q1/23	Q2/23	Q3/23	Q4/23	2023
June-2022	95.29	89.59	89.99	91.15	91.49	90.59	93.15	93.86	96.53	93.55	94.61	95.48	96.9	98.94	96.5	99.94	101.3	102.3	102.7	101.6
May-2022	95.29	89.59	89.99	91.15	91.49	90.59	93.15	93.86	96.53	93.55	94.66	95.82	97.17	99.14	96.71	100.3	101.6	102.4	102.4	101.7
Apr-2022	95.29	89.59	89.99	91.15	91.49	90.59	93.15	93.86	96.63	93.57	95.41	97.01	97.94	99.23	97.41	99.72	100.6	101.4	101.7	100.9
Mar-2022	95.29	89.59	89.99	91.15	91.51	90.59	93.15	93.86	96.57	93.54	95.69	96.09	96.97	98.00	96.69	96.11	98.75	99.60	100.10	98.64
Feb-2022	95.29	89.59	89.99	91.15	91.51	90.59	93.15	93.86	96.69	93.57	95.43	95.54	96.26	97.12	96.09	97.11	97.57	98.34	98.84	97.97
Jan-2022	95.29	89.59	89.99	91.14	91.50	90.59	93.15	93.89	96.33	93.49	95.94	95.55	95.96	96.69	96.04	96.71	97.13	97.89	98.45	97.55
Dec 2021	95.29	89.59	89.99	91.14	91.50	90.48	93.20	94.01	95.59	93.32	95.22	95.35	96.1	97.21	95.97					
Nov 2021	95.29	89.59	89.99	91.14	91.50	90.48	93.20	94.52	94.94	93.29	95.41	96.00	97.12	98.18	96.68					
Oct 2021	95.29	89.57	89.99	91.14	91.50	90.30	92.89	93.32	93.65	92.54	94.38	95.41	97.12	98.69	96.40					
Sept 2021	94.80	89.68	89.83	91.15	91.36	90.30	93.05	92.64	92.70	92.18	93.17	94.54	96.25	97.59	95.40					
Aug 2021	94.79	89.68	89.83	91.15	91.35	90.29	92.49	92.67	93.11	92.15	93.34	94.15	95.51	96.47	94.88					
July 2021	94.79	89.68	89.83	91.15	91.35	90.31	92.88	93.17	93.80	92.55	93.65	94.10	95.16	95.82	94.69					
June 2021	94.79	89.68	89.83	91.15	91.35	90.53	92.26	92.63	93.26	92.18	93.13	93.48	94.31	94.81	93.93					
May 2021	94.79	89.68	89.83	91.15	91.35	90.09	90.75	91.34	92.03	91.06	91.97	92.54	93.60	94.36	93.12					

Source: EIA STEO

Figure 6: EIA STEO US Natural Gas Supply Forecasts by Forecast Month



Source: EIA STEO

Natural Gas – EIA STEO forecasts Nov 1, 2022 storage to be down 326 bcf YoY

EIA STEO storage forecast

The EIA STEO also forecasts US gas storage. Its forecast is positive for natural gas. (i) Winter 2021/22. US gas storage started winter 2021/22 at 3.66 tcf, which was down -283 bcf YoY. But the EIA now forecasts end of winter (March 31, 2022) at 1.4 tcf, which is -395 bcf YoY and ~14% below the 5-yr average. (ii) Summer 2022. The EIA forecasts start of winter 2022/23 storage at 3.33 tcf, which is -326 bcf YoY. The start of 2022/23 winter forecast is -4% below the 5-yr average. (iii) The EIA wrote *"U.S. natural gas inventories ended May at 2.0 trillion cubic feet (Tcf), which is 15% below the five-year average. We forecast that natural gas inventories will end the 2022 injection season (end of October) at just over 3.3 Tcf, which would be 9% below the fiveyear average."*

Figure 7: EIA STEO forecast US gas storage

	U.S. working natural gas in storage (billion cubic feet)					
	Storage	2016 - 2021				
	Level	Low	High	Range	Average	Deviation
Mar 2017	2062.5	1184.9	2062.5	877.6	1693.7	21.8%
Oct 2017	3816.5	3236.3	3928.5	692.2	3681.7	3.7%
Mar 2018	1390.3	1184.9	2062.5	877.6	1693.7	-17.9%
Oct 2018	3236.3	3236.3	3928.5	692.2	3681.7	-12.1%
Mar 2019	1184.9	1184.9	2062.5	877.6	1693.7	-30.0%
Oct 2019	3762.0	3236.3	3928.5	692.2	3681.7	2.2%
Mar 2020	2029.4	1184.9	2062.5	877.6	1693.7	19.8%
Oct 2020	3928.5	3236.3	3928.5	692.2	3681.7	6.7%
Mar 2021	1801.3	1184.9	2062.5	877.6	1693.7	6.4%
Oct 2021	3665.4	3236.3	3928.5	692.2	3681.7	-0.4%
Mar 2022	1401.5	1184.9	2062.5	877.6	1693.7	-17.3%
Oct 2022	3339.1	3236.3	3928.5	692.2	3681.7	-9.3%
Mar 2023	1572.7	1184.9	2062.5	877.6	1693.7	-7.1%
Oct 2023	3800.4	3236.3	3928.5	692.2	3681.7	3.2%

Source: EIA

Natural Gas – Freeport LNG 2.2 bcf/d export to be shut at least 3 weeks following fire

Freeport LNG fire

As of our 7am MT news cut off, we have not seen any formal comment from Freeport LNG on the Bloomberg report Friday that, at least to us, seems to point to longer than 3 week shut down of the 2.2 bcf/d facilily. (i) On Wednesday, we tweeted [LINK] "#FreeportLNG shut at least 3 weeks. Liquefaction capacity of 3 trains is ~2.2 bcf/d. Thx @MolinskiDan. #NatGas #LNG #OOTT". MarketWatch reported [LINK] that the company stated "*As a result of today's fire Freeport LNG's liquefaction facility is currently shut down and will remain shut down for a minimum of three weeks*". US natural gas prices fell sharply following initial reports of the incident, given it is the second largest liquefaction facility in the US. (ii) After taking a closer look at the aftermath of the incident on Thursday, we tweeted [LINK] *"#FreeportLNG. Note this thread of great images from @Ronh999. shows location of explosion and its key role in the supply chain for moving the LNG to tanks & then for tankers. Seems like a lot longer than 3 weeks for repairs and integrity testing? #LNG #NatGas #OOT"*. (iii) But then on Friday, Bloomberg reported on comments from the Pipeline and Hazardous Materials Safety Administration, who are investigating the incident. Bloomberg wrote "*A probe into the causes of Freeport LNG terminal explosion has found early indications of a leak from piping in the tank area of the facility, according to the Pipeline and Hazardous Materials Safety Administration. It's unclear how long the liquefied natural gas facility will remain shut down as the extend of damage is still being evaluated, PHMSA said in an emailed response to questions. It "will be a while" until the investigation is complete, the agency added."* We have not seen any formal Freeport LNG comments on this report. But the report is a good reminder that it's not just repair whatever damage and restart, there is a regulatory agency involved in the incident and will have to sign off. When we saw the "it will be a while", we tweeted [LINK] that it feels like the shutdown of the 2.2 bcf/c LNG facility will be for a more than 3 weeks. Our Supplemental Documents package includes the Bloomberg report.

Natural Gas – Two more long-term LNG supply deals

Two more long term LNG deals

The rush continues for LNG buyers locking up long term LNG supply as there has been 9.08 bcf/d of long term LNG supply locked up since July 1, 2021. We say continues because it started a year ago and was well underway before Russia invaded Ukraine. But no question it has accelerated post the invasion. 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. (1) Last Sunday, Energy Transfer announced [LINK] that China Gas Holdings Limited has entered into an LNG Sale and Purchase Agreement with Energy Transfer, related to its Lake Charles LNG project. Under the SPA, Energy Transfer LNG will supply 0.09 bcf/d of LNG per annum to China Gas on a free-on-board basis. The SPA is for a term of 25 years, and first deliveries are expected to commence as early as 2026. The SPAs will become fully effective upon Energy Transfer LNG taking final investment decision FID. (2) On Thursday, Cheniere Energy announced [LINK] that it has entered into a LNG SPA with Equinor ASA. This is a significant transaction as Equinor is doing this to lock up long term LNG supply for its portfolio of LNG supply, not for any end use. Under the SPA, Equinor has agreed to purchase approximately 0.23 bcf/d of LNG from Cheniere on a free-on-board basis for a term of approximately 15 years. The deliveries under the SPA will start in the second half of 2026 and reach the full 0.23 bcf/d in the second half of 2027. Half of the volume is subject to Cheniere making a positive FID to construct additional liquefaction capacity at the Corpus Christi LNG Terminal beyond the seven-train Corpus Christi Stage III Project. Our Supplemental Documents package includes the Energy Transfer and Cheniere releases.

Asia is still well in front of Europe in securing long term LNG supply

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 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 9.09 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 9.09 bcf/d of long term LNG deals since July 1, 2021. 73% of the deals have been by Asian LNG buyers, but we are now seeing rest of world locking up long term supply deals post Russia/Ukraine. And as seen in the Equinor deal, major LNG supply companies like Exxon, Shell and now Equinor are locking up long term LNG supply to add to their portfolios for LNG supply to others. Below is our updated table of Asian and Europe LNG buyers new long term supply deals since July 1, 2021.

Figure 8: Long Term LNG Supply Deals since July 1, 2021

Long-Term LNG Buyer Deals Since July 1, 2021							
Date	Buyer	Seller	Country Buyer / Seller	Volume (bcf/d)	Duration Years	Start	End
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.
May 24, 2022	Hanwha Energy	TotalEnergies	Korea / France	0.08	15.0	2024	2039
May 25, 2022	POSCO International	Cheniere	Korea / US	0.05	20.0	2026	2036
June 5, 2022	China Gas Holdings	Energy Transfer	China / US	0.09	25.0	2026	2051
Total Asian LNG Buyers New Long Term Contracts Since Jul/21				**6.67**			
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.
May 25, 2022	RWE Supply & Trading	Sempra Infrastructure	Germany / US	0.67	15.00	n.a.	n.a.
June 9, 2022	Equinor	Cheniere	Norway / US	0.23	15.00	2026	2041
Total Non-Asian LNG Buyers New Long Term Contracts Since Jul/21				**2.42**			
Total New Long Term LNG Contracts since Jul/21				**9.09**			
*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

More Asian LNG buyer deals are not yet public

Natural Gas – Platts "several more" Asian LNG purchases have not been made public

We repeat an item from last week's (June 5, 2021) Energy Tidbits as it was a good warning from Platts that there were more long term LNG deals soon to be announced. Here is what we wrote last week. "*There was great insight from Platts on Wednesday that points to a tight LNG market getting even tighter. We do our best to try to read reports and not just read the headlines to see if there are any different insights, either positive or negative. There was a good example of such a report on Wednesday in the Platts report "Global LNG contracting rush leaves Asian importers in tight spot" [LINK]. The theme of the report is much like many others in that there is a tight LNG market. But there was also a very interesting positive in the report. Yesterday we tweeted [LINK] "Race to lock up long term LNG supply. Sounds like more Asian #LNG buyer deals are coming. Note @SPGCILNG @ericyep comment "several* *more purchases by Asian firms have not been made public" "likely to materialize in the coming months". #NatGas #LNG looks good for 2020s. #OOTT."* Platt is saying there are several more Asian LNG long term buys that are likely to materialize in the coming months. Platts wrote *"The market has decidedly moved in favor of LNG sellers. The narrative being pushed by LNG producers, both US LNG exporters and oil-linked producers like the Middle East, is that if Asian buyers do not lock in volumes in the next few months for post-2025 supply, they will lose out to Europe. Some deals between South Korean importers and US LNG suppliers were announced at the World Gas Conference 2022 in Daegu last month, but several more purchases by Asian firms have not been made public. Counterparties are in various stages of negotiating more sale and purchase agreements, both new deals as well as old ones that are being finalized and which are likely to materialize in the coming months." Our Supplemental Documents package includes the Platts report."*

Natural Gas – Tanzania expects FID for Equinor/Shell ~2 bcf/d LNG project in 2025

Tanzania LNG potential

Yesterday morning, we tweeted [LINK] "*"We expect the final investment decision on the #LNG project to be reached in 2025" says Tanzania President at HGA sign w/ @Equinor & @Shell on its ~2 bcfd project. #NatGas #LNG looks strong thru 2030. Thx @business Fumbuka Ng'wanakilala. #OOTT."* Yesterday, Bloomberg reported on the signing event in Tanzania with Equinor and Shell on the potential $40 billion Tanzania LNG project. This signing is for a framework of some sort and is still years away from a FID. Bloomberg reported "*The latest signing precedes a Host Government Agreement which is expected by the end of this year, according to President Samia Suluhu Hassan. The so-called HGA sets out the technical, commercial and legal terms of the project. Developing the LNG-export project could start soon after a final investment decision within three years, and would come after about a decade of prolonged negotiations. Other companies involved include ExxonMobil, Pavilion Energy and Medco Energi."* Bloomberg also included a quote from Tanzania President Hassan who said "*We expect the final investment decision on the LNG project to be reached in 2025".* There is no indication of when first LNG could be produced, but if FID isn't until 2025, we would expect first LNG to be sometime after 2030. Our Supplemental Documents package includes the Bloomberg report.

FID in 2025 is years longer than Tanzania was hoping for in November

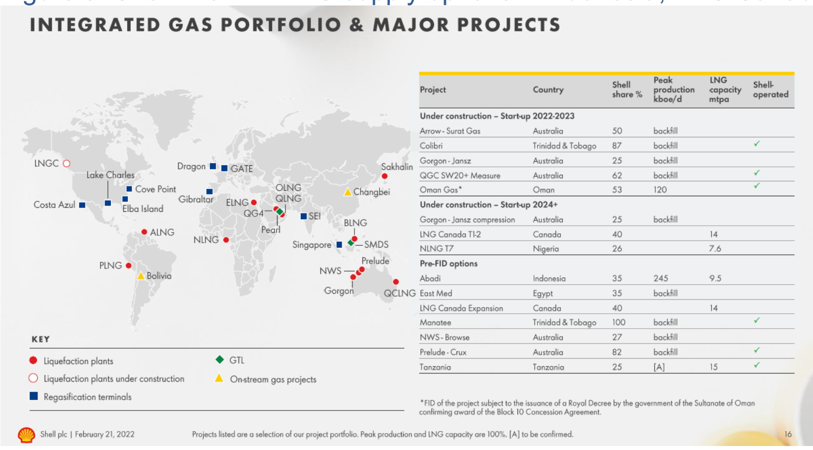
Tanzania had been hoping for FID as early in in 2022. Here is what we put in our Jan 23, 2022 Energy Tidbits. "*It sounds like Tanzania Energy Minister Makamba's confidence for a quick FID for the Tanzania LNG project won't be as quick as he expected. Earlier this morning, The East African [LINK] wrote "Tanzania LNG project talks drag on. Tanzania is moving cautiously in its lucrative natural gas deals with no end in sight of the Host Government Agreement (HGA) negotiations, which resumed recently but are set to take longer than expected." We checked Makamba's Twitter and he has not tweeted anything on the LNG potential since Nov 16. He was confident in Nov on an early FID. In our Nov 14, 2021 Energy Tidbits, we wrote "It's hard to believe, but it may well turn out that the under the radar Tanzania LNG may be the next major FID for a LNG supply project. We haven't wrote on Tanzania LNG in years but, Tanzania is certainly trying to get a FID on a $30b Tanzania LNG project done very soon in response to Shell/Equinor approaches made in the spring. On Monday, Tanzania Energy Minister, January Makamba, tweeted [LINK] "Today, I kicked-off negotiations for the $30bn Tanzania LNG project. The project will* *transform our economy. For the past two months, we've worked hard behind the scenes to get here. We're confident that a Final Investment Decision will come sooner than is traditionally the case." Tanzania is trying to get Shell & Equinor to move on an LNG project. Tanzania LNG went off the radar when Equinor wrote down its Tanzania investment in 2019. We shouldn't have been surprised that it came back to life in April following TotalEnergies stopping its Mozambique LNG and effectively delaying 5 bcf/d of Mozambique LNG projects. In April, Platts reported "Shell, Equinor urge Tanzania to act 'now' to conclude LNG project talks" [LINK] on this potential 1.3 bcf/d project. In April, Platts wrote "Shell and Norway's Equinor have urged the government of Tanzania to take immediate action to conclude talks on the country's planned LNG export facility, warning that the time to develop new gas resources was "limited." In an op-ed published April 13 in Tanzanian newspaper The Citizen, the country managers from the two majors said "critical decisions" on the project were needed now." Makamba is clearly saying Tanzania wants to make this happen."*

Natural Gas – Shell Tanzania progress, will Shell now get to LNG Canada Phase 2 FID?

LNG Canada Phase 2 FID

We have been and continue to be believers that Shell will FID LNG Canada Phase 2 in 2022 and reported on how we saw Shell showcasing LNG Canada in 2021 as the set up for the FID. And we think Shell's LNG news over the past month support the expectation for a LNG Canada Phase 2 FID in the coming months. Prior to Russia/Ukraine, we would have expected an October decision, but, post the even stronger LNG outlook post Russia/Ukraine, we think that could be moved forward to sometime before the Q2 is released on July 28. And, interestingly, with the Tanzania news yesterday, LNG Canada Phase 2 FID is the only new potential major LNG supply project for Shell that hasn't had any news or statement. (i) Yesterday morning, we tweeted [LINK] "*Hmm! Is @Shell #LNGCanada Phase 2 FID coming? 05/30 FID Crux backfill #NatGas supply for #PreludeFLNG . 05/12 #Inpex says FID Abadi LNG delayed till 2024/25. 06/11, potential FID Tanzania LNG in 2025. Only new LNG capacity left on its pre-FID is LNG Canada 1.8 bcfd Phase 2. #OOTT*." (ii) Our tweet included the below Shell chart showing its Feb 2022 Integrated Gas Portfolio & Major Projects. IN the last month, there have been developments on three of the pre-FID options including 2 of the 3 new capacity LNG projects. The only one without any public progress is LNG Canada Phase 2 expansion. (iii) On May 30, Shell went FID on its Crux project, which is backfill natural gas supply for its Prelude FLNG 0.47 bcf/d project offshore NW Australia. (iv) We had not previously highlighted the Inpex May 12 comments on the Abadi LNG project (Indonesia) that is one of the 3 potential new LNG capacity projects for Shell. On May 12, Energy Voice reported [LINK] "*Inpex's proposed Abadi liquefied natural gas (LNG) plant in the Masela Block offshore Indonesia, which has long struggled to gain traction, has been delayed even further with a final investment not targeted until the latter half of this decade. Significantly, the project looks increasingly unlikely to be developed*." And "*Inpex's managing executive director Daisuke Yamada told a news conference yesterday that Japan's biggest oil and gas explorer hopes to start production early in the 2030s, if a final investment decision is taken in the second half of this decade. Inpex said last August that it did not plan to take a final investment decision (FID) until around 2024-2025, two years later than previous guidance of 2022-2023. "We had to rethink plans after reports of Shell's withdrawal and growing decarbonisation trend…but we still want to make the Abadi as the second pillar of our LNG business following the Ichthys," Reuters reported Yamada saying. Shell is looking to* *sell its 35% stake in the Masela Block. But the sales process has struggled."* (v) Then yesterday's Tanzania's framework that Tanzania sees setting up a potential FID in 2025 for the Tanzania LNG. (vi) As a result, the only new LNG capacity project on Shell's Feb major project list that hasn't had any news/statement is LNG Canada Phase 2 FID.

Figure 9: Shell Pre-FID LNG supply options – Indonesia, LNG Canada, Tanzania



Source: Shell

Why has Shell said nothing on LNG outlook & LNG Canada Phase 2?

The silence has been deafening on LNG Canada Phase 2 FID. There is always the argument that Shell hasn't said anything on LNG Canada Phase 2 FID because it won't be taking FID thereon. However, it doesn't make sense to us that Shell has been silent and was also silent on their LNG outlook in their Q1 earnings call on May 5. Here is what we wrote in our May 8, 2022 Energy Tidbits. "*We listened to the Shell Q1 call on Thursday and we were surprised there was very little from Shell on its LNG outlook and almost zero mention of LNG Canada and no mention or hint of any potential FID for LNG Canada Phase 2. (i) We were surprised nothing on a revised LNG outlook considering they had a very bullish LNG outlook in their LNG Outlook 2022 that done prior to the Russian invasion of Ukraine and Europe's urgency to switch to LNG to replace Russian pipeline gas. This has only been more bullish for anyone's LNG's pre Ukraine outlook, yet Shell made no mention of how this would impact their already bullish LNG outlook for the 2020s. (ii) There was zero mention of LNG Canada Phase 2 FID, which we found surprising. For the past several months, we have been highlighting the examples of Shell's showcasing of LNG Canada, which seemed like the set up to a FID of LNG Canada Phase 2. (iii) Plus our April 17, 2022 Energy Tidbits noted The Globe and Mail report "Shell eyes major expansion of B.C. natural gas project" [LINK]. Shell highlighted the need for more LNG and also made the first public comments we can recall that Shell is looking at now the decision on whether to go on LNG Canada Phase 2. The Globe and Mail reported on comments from Wael Sawan, the head of Shell's integrated gas and renewables division, and Susannah Pierce, Shell Canada President. On the need for LNG, The Globe and Mail wrote ""It raises the urgency for more LNG supply because Europe and the world desperately needs it," Wael Sawan, the head of Shell's* *integrated gas and renewables division, said in an interview. "There is a lot of capacity that has to be built up to be able to meet the growing LNG demand." Then on LNG Canada Phase 2, The Globe and Mail wrote "In our mind, we always wanted to be able to have that option to go into phase two," said Mr. Sawan, who visited Vancouver last week to attend the Globe Forum 2022 conference on sustainable business. "Now we need to be able to make sure that it makes sense on paper before we make that investment commitment." That would have seemed to be something that might be mentioned in the Q1 call. (iii) So why showcase LNG Canada for months and then admit they are looking at the expansion and then be silent? We have trouble believe they aren't going to FID LNG Canada Phase 2 given the key role for LNG in their lower carbon plan and how the LNG market has moved since their bullish Feb LNG Outlook 2022. Nothing is 100%, but our suspicion is that they were silent for a reason. We wonder if it's related to their stated desire to have gas supply in line with their LNG offtake obligations? And we don't think the silence means they won't FID Phase 2."*

Seems like Shell has been showcasing LNG Canada as prelude to Phase 2 FID
Here is what we wrote in our Feb 27, 2022 Energy Tidbits. "*We recognize that almost no one else has been believing Shell will FID LNG Canada Phase 2 this year, but we can't help still believe this following Shell's LNG Outlook 2022 and its Integrated Business Deep Dive webcast that followed the outlook webcast. We tweeted [LINK] "Was #Shell showcasing #LNGCanada or just highlighting its positives today? @Shell expects average IRR of 14-18% for its pre-FID projects, which includes #LNGCanada Phase 2. #LNGCanada "is set to deliver the lowest carbon intensity in the entire industry". #OOTT #NatGas #LNG". (i) Just like we have been highlighted over the past months, this week, Shell seemed to showcase LNG Canada on multiple fronts (i) Shell now plans assuming there is an LNG supply gap in mid 2020s and that this "focuses attention" on the need for more LNG supply FIDs. So they are saying there is a clear market need for someone to step forward. (ii) In the Integrated Gas comments, mgmt said they are making good progress on LNG Canada Phase 1 construction and first LNG cargos are on track for by the middle of this decade. (iii) LNG Canada is the lowest emissions LNG project in industry. This is making the case that if there is any LNG to be done in a world of reducing emissions, it is the lowest emissions and Shell says LNG Canada is the best. Mgmt said "But the long term role of gas depends on efforts to abate emissions and develop cleaner pathways for gas. This is why we continually try to reduce the carbon intensity of our new projects. Take LNG Canada currently under construction. It will run on hydropower and is set to deliver the lowest carbon intensity in the entire industry." (iv) Shell's pre-LNG FID supply projects that includes LNG Canada have high RORs. Mgmt said "For the pre-FID projects, we have an expected average internal rate of return of between 14% and 18%, and a unit technical cost below $5/mmbtu. With most of these projects clearly having lower costs than the average in the industry. These are good numbers, but you will understand that we strive to push the IRR to the higher end and to push the unit costs down even further." There were other items showcasing LNG Canada including pictures. It just feels like Shell continues to showcase LNG Canada, which we believe keeps pointing to them wanting to FID LNG Canada Phase 2 in 2022 and sooner rather than later. Our*

Supplemental Documents package includes excepts from the Shell Integrated Gas slide deck and transcripts we made of some of the Shell mgmt comments.

Shell wants enough gas supply to align with LNG Canada offtake obligations

The other reason why we have wondered by Shell is silent on LNG Canada Phase 2 is if it has anything to do with their stated desire to have enough gas supply to align with tier offtake obligations. In our April 10, 2022 Energy Tidbits, we noted Shell's reporting that it had done a transfer of its Montney shale gas assets from Upstream to its Integrated Gas group. At that time, we tweeted [LINK] "*Hmm! Clean up or set up? #Shell transfers ~50 kboed of Cdn shale assets from Upstream to Integrated Gas. Clean up for reporting? Or set up ahead of #LNGCanada Phase 2 FID? Should know by Q1 on 05/05. Would be big value to all Cdn #NatGas if FID another 1.8 bcf/d #LNG. #OOTT"*. Our tweet asks if this is simply a clean up transfer or does it represent a set up transfer for a future event for LNG Canada such as its Phase 2 FID. The other reason why we wonder if the transfer is a set up trade is that we have always wondered about Shell looking at potential acquisitions so they have enough natural gas supply to align with their offtake capacity. Here is what we wrote in our Feb 27, 2022 Energy Tidbits memo. "*We couldn't help tweet [LINK] "Buckle up, could be huge for Cdn #NatGas M&A. @Shell just said like to align equity #NatGas supply and offtake obligations, used #LNGCanada, Shell has 40% interest so would be 1.44 bcf/d if it FIDs #LNGCanada phase 2. It's why #LNGCanada Phase 2 is the must watch event #OOTT #LNG". Shell specifically said they want to have enough natural gas supply to align with their offtake obligations at LNG Canada. There was another excellent example of mgmt showcasing LNG Canada when they really didn't have to do so. In the Q&A, the analyst asks a general question if they will align their natural gas supply with their offtake obligations for any LNG project and then the analyst asked about the Coastal GasLink attack. The percentage question was not specifically directed at LNG Canada. However, mgmt took the opportunity to answer the supply question using LNG Canada. Mgmt replied "typically, what I would say, as much as possible, having access across the entire value chain in as close of a percentage as you can, helps ensure that wherever value might rate at any point in time, you are capturing that value. So in general. Take our LNG Canada investment that you just referenced in the second question, we would look to be able to at least assure ourselves that we are not caught up by vagaries of one part of the market. let's say the gas supply, but we would want to have enough on the gas supply equity side to be able to make sure if gas prices go up there, we benefit from them while maybe disadvantaging the midstream or vice versa depending on where prices go. So we are not in the game of necessarily taking undue risk. we are in the game of creating integrated value chains that we can leverage as part of the broader portfolio." Shell has 40% in LNG Canada. Phase 1 is 1.8 bcf/d so Shell equity gas supply is 0.72 bcf/d. Our tweet included the Shell disclosure on North America natural gas supply, they don't provide Canada/US split, but that is roughly equal to North America in Q4/2021. They have some GoM natural gas but don't know the split. Maybe half or a little more in Canada? Phase 2 is 1.8 bcf/d so another 0.72 bcf/d".*

A future Cdn natural gas supply squeeze

Natural Gas – LNG Canada Phase 1 sets up Cdn supply squeeze like in the US today
Yesterday, we also tweeted [LINK] a reminder that the under construction LNG Canada Phase 1 of 1.8 bcf/d sets up a similar natural gas supply squeeze as being seen today in the US. And this is just from the under construction LNG Canada Phase 1. We tweeted *"#LNGCanada Phase 1 is 1.8 bcfd already sets up Cdn #NatGas supply squeeze like in US. >10% of BC/AB #NatGas supply 16 bcfd ie. like US #LNG exports now ~12 bcfd vs ~100 bcfd total supply. LNG Canada Phase 2 adds another 1.8 bcfd. Cdn nat gas looks very good thru 2030. #OOTT*". The US currently exports ~12 bcf/d vs total US natural gas supply of ~100 bcf/d. LNG Canada Phase 1 is 1.8 bcf/d vs BC/Alberta natural gas supply of ~16 bcf/d. The math is very similar. LNG Canada and Shell have never been specific on the exact timeline but have noted that they expect first LNG by the middle of this decade ie. inferring late 2024. And our tweet reminded that LNG Canada Phase 2 is another 1.8 bcf/d for a total of the two phases being 3.6 bcf/d.

12-day strike action at Shell's Prelude FLNG

Natural Gas – Shell 0.47 bcf/d Prelude FLNG hit by 12-day industrial action
As of our 7am MT news cut off, we have not seen any indication from Shell on what will happen to operations at its 0.47 bcf/d Prelude FLNG. We would assume that LNG operations and loading have to be impacted, but we checked and haven't seen any Shell confirmation. We would assume that Shell will want to err on the safe side considering they just came off a 4-month shut down due to a fire. But you never know. On Friday, Reuters, and others similarly, reported "*Workers on Shell Plc's Prelude FLNG facility off Western Australia are set to begin 12 days of industrial action on Friday over a pay fight, a union alliance said on Thursday. Shell did not comment on what impact the mix of short work stoppages and bans on certain tasks, to run through June 21 might have on output at the 3.6 MMt-a-year LNG facility. "Shell recognises the entitlement of all workers to exercise their rights, including the right to participate in industrial action," a Shell spokeswoman said in emailed comments.The action comes two months after Prelude resumed shipping LNG after a four-month shutdown due to a major power failure. The Offshore Alliance, which combines the Australian Workers Union (AWU) and the Maritime Union of Australia, is pressing to stop Shell from hiring contract workers at lower pay than the company's own employees doing the same job."* The union, Offshore Alliance, had a series of Facebook posts on their formal complaint to the regulator, NOPSEMA,, which included "*Over 200 smoke detectors on the accommodation level + Main Deck (A, B and C Deck extending to H Deck) are not relaying to the Control Room and there is no capacity to take executive actions in response to fire/smoke on these levels", "Because of these failures, fire suppression systems are not operational as per the Safety Case and operational procedures", "Further to this, the Offshore Alliance has been advised that yesterday, an employee who has no panel operator experience, was engaged as a 'Panel Operator' during the offtake for a period of 3 hours. The employee had no experience and would not qualify for any deviation to allow them to operate",* and other items. This is not being called a strike but an industrial action. Apparently Offshore Alliance has provided a lit of <20 work items that won't be done by the workers during these 12 days. Our Supplemental Documents package includes the Reuters report and the Offshore Alliance Facebook postings.

Figure 10: Shell Prelude FLNG and Crux Backfill Natural Gas Supply Project

Source: Shell

Qatar starts naming partners in expansion

Natural Gas – Qatar names 1st partner in its massive LNG expansion - TotalEnergies

Earlier this morning, we tweeted [LINK] on the breaking news that Qatar has named the first international partner for its massive LNG expansion. TotalEnergies CEO Patrick Pouyanne was in Doha today for a signing. Qatar is supposed to name another partner this week, which should see another CEO making their way to Qatar for a photo op. This is a good win for TotalEnergies given their major LNG growth platforms are Russia (will be sold) and Mozambique (still under force majeure). This is not a surprise, rather TotalEnergies, ExxonMobil, ConocoPhillips and Shell have been the names mentioned as among the likely international partners for the LNG expansion. Bloomberg reported "*TotalEnergies SE became the first foreign company to win a stake in a multi-billion dollar project to boost Qatar's gas exports. Qatar is expanding production of liquefied natural gas amid a worldwide energy crunch. Global demand for the fuel is soaring as European nations race to wean themselves off Russian gas supplies in the wake of Moscow's attack on Ukraine. TotalEnergies will get a 6.25% equity stake in the first phase of the plan, state producer Qatar Energy said on Sunday. Known as North Field East, it will cost almost $29 billion and include the construction of four LNG liquefaction units, or trains. It will expand Qatar's annual capacity to 110 million tons by 2026 from 77 million. TotalEnergies will own 25% of a joint venture with Qatar Energy, with the venture in turn holding 25% of North Field East.*" Our Supplemental Documents package includes the Bloomberg report.

Qatar's LNG expansion is two Phases to add 6.5 bcf/d in total

Our tweet this morning [LINK] reminded that Qatar's expansion is two phases. We tweeted We tweeted "*Qatar names @TotalEnergies as 1st partner. Reminder Qatar's #LNG expansion is 2 phases. Phase 1 North Field East, adds 4.4 bcfd BY 2026. Phase 2 North Field South adds 2.1 bcf operational IN 2027. Current 10.1 reaches 16.6 bcfd. Thx @SimoneFoxman @V_Ratcliffe. #NatGas #OOTT*". (i) Phase 1: North Field East: increases existing LNG capacity from 77 to 110 million tons by 2026 ie. operational in 2025. This is an increase of 4.4 bcf/d from current 10.1 bcf/d to 14.5 bcf/d. (ii) Phase 2: North Field South: increases then 110 million tons to 126 million tons but won't be finished until 2027 ie. operational in 2027. This is an increase of 2.1 bcf/d from then current 14.5 bcf/d to 16.6 bcf/d. (iii) So total expansion of 6.5 bcf/d from current 10.1 bcf/d to 14.5 bcf/d sometime in 2025, and then to ultimate 16.6 bcf/d sometime in 2027.

Natural Gas – Pakistan asks for deferred payment plan for Qatar LNG

Pakistan wants a pay later LNG plan

It looks like Pakistan will, for the coming months, be struggling with minimal LNG imports and therefore continue to see running power outages. Pakistan is running out of foreign exchange reserves. We should have put this in a broader area, but Pakistan's near-term financial crisis continues to get worse with the increasing costs of LNG, oil, food, etc. This financial crisis, driven by fuel and food costs, is not just impacting smaller countries like Sri Lanka, but Pakistan with its 230 million people. Earlier this morning, we tweeted [LINK] "*Pakistan foreign exchange reserves <45 days imports, have requested deferred payment plan from Qatar for #LNG. Can't help think of more than markets when see poorer countries are getting hammered by the two essentials - food and energy prices and access. Thx @gibranp #OOTT."* Yesterday, Reuters reported [LINK] on its interview with Pakistan Finance Minister Ismail, and reported Pakistan's foreign exchange reserves are only enough for less than 45 days of imports. And that Pakistan has requested a deferred payment plan for LNG from Qatar. Reuters also wrote "*Petroleum Minister Musadik Malik, who was in Doha this week for talks with Qatari Minister of State for Energy Affairs and Qatar Energy chief executive Saad al-Kaabi, confirmed talks but said his government was exploring different "innovative" pricing and supply strategies in broad-based talks*." Our Supplemental Documents package includes the Reuters report.

Pakistan is a reminder of developing country financial risk & therefore oil

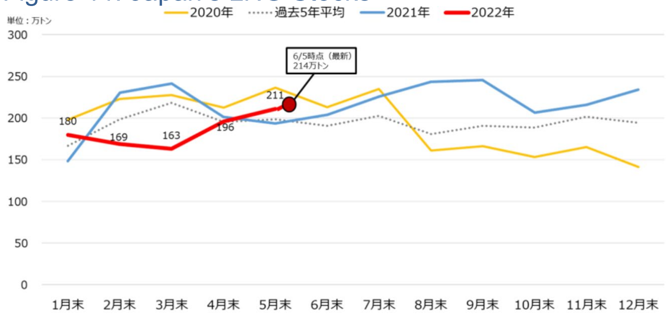
One of the many big global economy questions is will this be like the old days when poorer countries getting hammered didn't really spread to crash richer countries. The reality is that rich western countries are feeling the impact of high food and energy prices but don't have a supply shortage. Pakistan is dealing with energy shortages with regular rotating power outages. Sri Lanka has been scrambling to get some bare minimal (but way less than needed) fuel imports. There is a big difference between higher prices and no supply. Here is what we wrote in last week's (June 5, 2022) Energy Tidbits memo. "*Last week's (May 29, 2022) Energy Tidbits memo highlighted the reminder from Gita Gopinath (IMF, First Deputy Managing Director) on the fear that rapid increases in food prices are likely to develop balance of payment problems. We were reminded of that this week with the rapidly worsening financial problems in Pakistan, who are burning thru their foreign reserves . On Friday, Bloomberg reported "Pakistan's foreign exchange reserves fell below $10 billion, threatening to spill over into a fullblown economic crisis unless policy makers secure a loan from the International Monetary Fund. The stockpile decreased by $366 million in the week ended May 27 to stand at $9.72 billion, the central bank said in a statement on its website Thursday. That's roughly a 50% drop from August and enough to pay for less than two months of imports. The shortage of dollars could worsen as the nation forecasts its trade deficit will widen to a record $45 billion in the year ending June. Authorities have raised fuel and electricity prices, a key condition to unlock the remaining $3 billion of an existing loan by the multilateral lender. In addition to raising fuel prices, Pakistan will need to make further fiscal adjustments to narrow the* *budget deficit for fiscal year 2023 to secure the IMF loan, said Raphael Mok, head of Asia country risk at Fitch Solutions in Singapore. This will likely entail measures to boost tax collection and to reduce subsidies and capital expenditure, he said"*

Natural Gas – Japan's LNG stocks up +7.9% from last week

Japan LNG stocks +7.9% 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 June 5 were ~103 bcf, +7.9% WoW from 96 bcf and up from the 5-yr average of 95 bcf. Below is the LNG stocks graph from the METI weekly report.

Figure 11: Japan's LNG Stocks



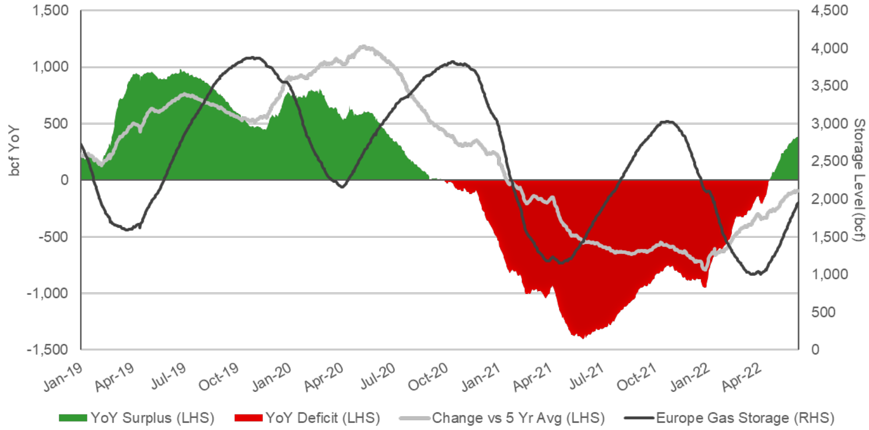
Source: METI

Natural Gas – Europe storage is now +9.78% YoY ie. 50.53% full vs 40.75%

Europe storage now 50.53% full

The urgency to refill Europe storage post Russia has worked. 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 9.78%. 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 June 8 is at 50.53%, which is +9.78% greater than last year levels of 40.75% and are -2.13% below the 5-year average of 49.98%. 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.

Figure 12: Europe Gas Storage Level



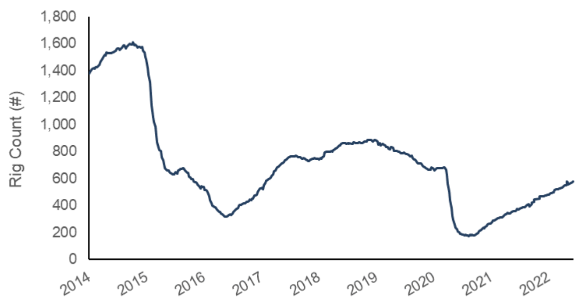
Source: Bloomberg

Oil – US oil rigs +6 WoW to 580 oil rigs at June 10

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 +6 WoW at 580 oil rigs. Oil rigs are +408 off the bottom of 172 in Aug14/2020 week. Permian was +3 at 344 rigs this week, and the 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 -103 to 580 oil rigs (-16%). US gas rigs were flat at 151. Although there were no US gas rig increases, Eagle Ford was +2 and it is a higher natural gas and NGLs cut oil play. Below is our graph of US oil rigs since January 1, 2014.

US oil rigs +6 WoW

Figure 13: Baker Hughes Total US Oil Rigs



Source: Baker Hughes

Oil – US frac spreads +4 to 283 for the week ending June 10

Mark Rossano (C6 Capital Holdings) held his weekly US frac spread recap for the week ending June 10 on the Primary Vision network. YouTube video is at [LINK]. For the week ending June 10, US frac spreads at the high point in the week were +4 to 283. This was

Frac spreads +4 to 283

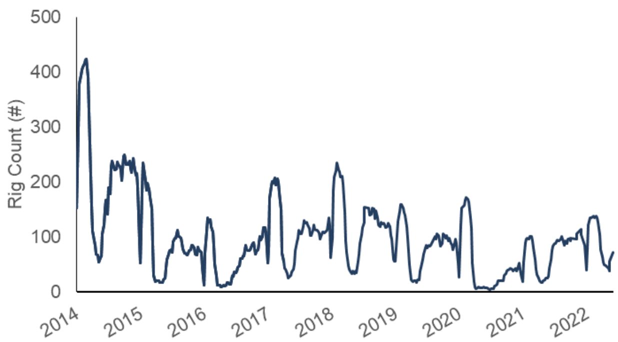
expected, basically a recapture of the small drop around the Memorial Day holiday. No increase in Permian, rather the other basins like the Western Gulf, Anadarko. Rossano still see frac spreads on track to get to 290 at the end of June and then onto 300 ie. have 20 days left in June and only 7 more spreads to get to 290. He also sees the on the ground buildup that supports getting to the levels. He expects to see frac spreads accelerate as get into the end of June and into July. Lastly, he doesn't expect the Freeport LNG force majeure having any impact on the frac spreads increase.

Oil – Total Cdn rigs +24 WoW at 141 total rigs, +48 rigs YoY

Cdn rigs +24 WoW

Total Cdn rigs were +24 total rigs this week at 141 total rigs Cdn oil rigs were +22 at 94 rigs. Cdn gas rigs were +2 at 47 gas rigs. Canada in the post spring break up period, which means there will be strong increases in rig counts through the summer. Total rigs are now +128 since the June 26, 2020 all-time low. Cdn drilling has recovered YoY, a year ago Cdn oil rigs were 59 and Cdn gas rigs were 34 for a total Cdn rigs of 93, meaning total Cdn oil rigs are +35 YoY and total rigs are +48 vs 2021.

Figure 14: Baker Hughes Total Canadian Oil Rigs



Source: Baker Hughes

Oil – US weekly oil production flat at 11.9 mmb/d

US oil production flat WoW

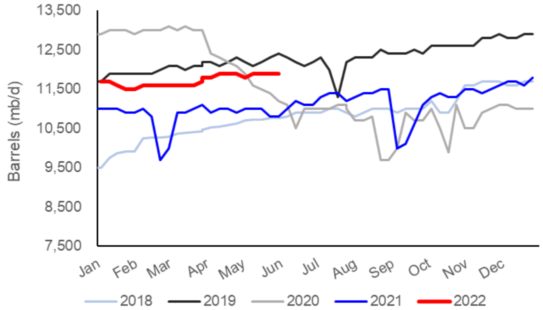
US oil production was flat at 11.9 mmb/d for the week ended June 3 for the third week in a row. Lower 48 production drove total production and was flat from last weeks level at 11.5 mmb/d this week, with Alaska having immaterial change. US oil production is up YoY at +0.9 mmb/d and is still down significantly at -1.2 mmb/d since the 2020 peak of 13.1 mmb/d on March 13. With WTI >$100 and HH over $8, we expect producers to maximize near term production adds, albeit under the continued capital discipline capex plans. Plus there has been a big drawdown in DUCs, which should be supporting some near term growth in production.

Figure 15: 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	05/20	11,900	05/27	11,900		
2022-Jun	06/03	11,900								

Source: EIA

Figure 16: US Weekly Oil Production



Source: EIA, SAF

Oil – EIA increases 2022 and 2023 oil production forecast

EIA forecasts US 2022 oil exit at 12.43 mmb/d

The EIA STEO slightly increased its forecast for US oil production for 2022 and 2023. The EIA notes that their forecasts are subject to greater uncertainty amid the rapidly evolving conflict in Europe, production decisions of OPEC+, and the rate at which U.S. oil and natural gas producers increase drilling. (i) Similar to our view on US natural gas growth, we also believe the first real test for growth in US oil production will be Q3/22 and to see if we start to see a ramp up in oil production. We have previously noted how the EIA's numbers for US tight/shale oil were basically flat for months and only started to show modest growth in June. It's why we think Q3/22 oil production will be the first real ramp up in oil production. (ii) The EIA forecast kept US crude expectations flat in Q4/21, still not returning anywhere near the Q4/19 peak of 12.88 mmb/d, with Q4/21 US crude of 11.63 mmb/d (down 1.23 mmb/d from peak). Q4/21 of 11.63 mmb/d is +0.76 mmb/d YoY vs Q4/20. Full year 2020 US oil production is flat at 11.28 mmb/d and is down 1.10 mmb/d YoY from 12.29 mmb/d in 2019. (iii) Full year 2021 also stayed flat at 11.19 mmb/d, which is down -0.09 mmb/d YoY from

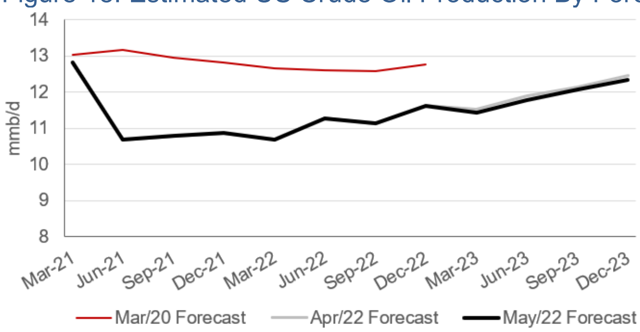
2020. (iv) The EIA forecasts a shift back to YoY growth in 2022 with production averaging 11.92 mmb/d, +0.73 mmb/d YoY (was 11.91 mmb/d previously), with Q4/22 production of 12.43 mmb/d, is still down -0.38 mmb/d from Q4/19. (v) The 2023 outlook projects crude production to begin Q1/23 at 12.64 mmb/d and close the year in Q4/23 at 13.33 mmb/d for an average of 12.97 mmb/d in 2023.

Figure 17: Estimated US Crude Oil Production By Forecast Month

(million b/d)	Q1/20	Q2/20	Q3/20	Q4/20	2020	Q1/21	Q2/21	Q3/21	Q4/21	2021	Q1/22	Q2/22	Q3/22	Q4/22	2022	Q1/23	Q2/23	Q3/23	Q4/23	2023
June-2022	12.81	10.68	10.79	10.87	11.28	10.69	11.28	11.13	11.63	11.19	11.45	11.71	12.08	12.43	11.92	12.64	12.82	13.07	13.33	12.97
May-2022	12.81	10.68	10.79	10.87	11.28	10.69	11.28	11.13	11.63	11.19	11.42	11.78	12.07	12.35	11.91	12.56	12.71	12.94	13.18	12.85
Apr-2022	12.81	10.68	10.79	10.87	11.28	10.69	11.28	11.13	11.63	11.19	11.52	11.90	12.15	12.46	12.01	12.73	12.88	13.02	13.17	12.95
Mar-2022	12.81	10.68	10.79	10.87	11.28	10.69	11.28	11.13	11.62	11.18	11.59	11.89	12.15	12.48	12.03	12.75	12.91	13.06	13.24	12.99
Feb-2022	12.81	10.67	10.79	10.87	11.28	10.69	11.28	11.13	11.69	11.20	11.67	11.86	12.06	12.27	11.97	12.46	12.54	12.63	12.75	12.60
Jan-2022	12.81	10.67	10.79	10.87	11.28	10.69	11.28	11.12	11.54	11.16	11.58	11.7	11.88	12.05	11.8	12.26	12.33	12.46	12.58	12.41
Dec-2021	12.81	10.67	10.79	10.87	11.28	10.69	11.28	11.11	11.63	11.18	11.67	11.72	11.91	12.09	11.85					
Nov-2021	12.81	10.67	10.79	10.87	11.28	10.69	11.28	11.07	11.47	11.13	11.69	11.77	11.97	12.16	11.90					
Oct-2021	12.81	10.67	10.79	10.87	11.28	10.69	11.28	10.98	11.13	11.02	11.54	11.64	11.78	11.96	11.73					
Sept 2021	12.81	10.67	10.79	10.87	11.28	10.69	11.28	11.06	11.28	11.08	11.42	11.58	11.81	12.06	11.72					
Aug 2021	12.81	10.67	10.79	10.87	11.28	10.69	11.22	11.26	11.30	11.12	11.46	11.62	11.86	12.11	11.77					
July 2021	12.75	10.81	10.81	10.90	11.31	10.70	11.20	11.17	11.34	11.10	11.54	11.72	11.95	12.20	11.85					
June 2021	12.75	10.81	10.81	10.90	11.31	10.70	11.04	11.17	11.38	11.08	11.55	11.67	11.88	12.05	11.79					
May 2021	12.75	10.81	10.81	10.90	11.31	10.65	10.97	11.12	11.34	11.02	11.51	11.68	11.96	12.21	11.84					

Source: EIA STEO

Figure 18: Estimated US Crude Oil Production By Forecast Month



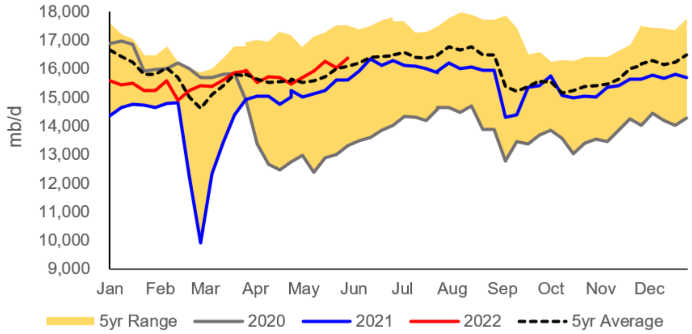
Source: EIA STEO

Oil – Refinery inputs +0.354 mmb/d WoW at 16.387 mmb/d

Refinery inputs up WoW

US refineries continue to run at higher YoY rates and this is the season that normally sees increasing processing volumes in Q2 every year. The EIA crude oil input to refinery data is for the week ended June 3. The EIA reported crude oil inputs to refineries up 0.354 mmb/d to 16.387 mmb/d for the week ended June 3 and are +0.790 mmb/d YoY. Refinery utilization was up to 94.2%, which is +2.9% YoY; refineries are exiting the planned maintenance season as summer demand ramps up. Note that hurricane season in the US is here, with the official start of the season on June 1. Total products supplied (i.e., demand) increased WoW, up 0.765 mmb/d to 20.227 mmb/d, and Motor gasoline was up 0.222 mmb/d at 9.199 mmb/d from 8.977 mmb/d last week. The 4-week average for Motor Gasoline was down -0.82 mmb/d YoY to 9.000 mmb/d. The 4-week average of Total demand was up 0.751 mmb/d YoY to 19.771 mmb/d.

Figure 19: US Refinery Crude Oil Inputs (thousands b/d)



Source: EIA

Oil – US "net" oil imports up 1.694 mmb/d WoW at 3.922 mmb/d

US "net" oil imports up WoW

US "NET" imports were up 1.694 mmb/d to 3.922 mmb/d for the June 3 week. US imports were down -0.064 mmb/d to 6.154 mmb/d. US exports were down -1.758 mmb/d to 2.232 mmb/d. The WoW decrease in US oil imports was driven by US's Top 10 imports by country which were up by 0.137 mmb/d from Top 10. Some items to note on the by country data. (i) Canada was up this week by 0.159 mmb/d to 3.603 mmb/d. (ii) Saudi Arabia was up 0.004 mmb/d to 0.349 mmb/d this week. (iii) Colombia was down -0.072 mmb/d to 0.143 mmb/d. (iv) Ecuador was up 0.211 mmb/d at 0.259 mmb/d. (v) Iraq was down 0.130 mmb/d to 0.196 mmb/d. (vi) Mexico was down -0.036 mmb/d to 0.711 mmb/d.

Figure 20: US Weekly Preliminary Oil Imports by Major Countries

(thousand b/d)	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	May 20/22	May 27/22	June 3/22	WoW
Canada	3,806	3,612	3,923	3,153	3,465	3,510	3,492	3,284	3588	3498	3444	3603	159
Saudi Arabia	534	333	573	328	255	438	554	306	420	588	345	349	4
Venezuela	0	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	641	731	619	763	488	391	553	693	832	872	747	711	-36
Colombia	72	284	216	49	332	364	313	276	365	218	215	143	-72
Iraq	489	82	71	155	266	242	181	326	242	282	326	196	-130
Ecuador	103	96	76	145	211	108	66	351	43	250	48	259	211
Nigeria	2	148	148	89	191	0	43	136	127	39	193	194	1
Kuwait	0	0	0	0	0	0	0	0	0	0	0	0	0
Angola	0	0	0	0	0	0	0	0	0	0	0	0	0
Top 10	5,647	5,286	5,626	4,682	5,208	5,053	5,202	5,372	5,617	5,747	5,318	5,455	137
Others	839	973	674	1,313	629	881	1,130	897	951	739	900	699	-201
Total US	6,486	6,259	6,300	5,995	5,837	5,934	6,332	6,269	6,568	6,486	6,218	6,154	-64

Source: EIA, SAF

Oil – Colombia oil production still below pre-Covid, April was 0.751 mmb/d

Colombia April oil & gas production

Colombia oil production remains stuck and really hasn't moved in the last two years and is still below pre-Covid levels despite stronger oil prices. Colombia oil production in April was basically flat MoM, only up 7,000 b/d to 0.751 mmb/d vs 0.744 mmb/d in March. Last Friday, Colombia Ministry of Mines and Energy released its April oil and gas production data [LINK]. The Columbian Ministry of Mines and Energy reported *"oil production in April of this year stood at 751,322 barrels per day on average (bopd), 0.78% more than that registered in the same month of 2021 when it was 745,488."* The increase in crude oil production was attributed to the reestablishment of production in the Floreña Mirador field. Note that Colombia wants to attract more capital to its oil sector. Our Jan 23, 2022 Energy Tidbits highlighted that week's Argus report [LINK], that Colombia's Mines and Energy Ministry expects to increase the oil production to 0.800 mmb/d in 2022, which were the same production goals the nation had entering 2021. The ministry hopes that 60 exploration wells will be drilled in 2022, up from the 34 wells drilled from Jan-Nov. A total of 112 upstream contracts will be in the exploration phase with agreed investments close to $4.11bn in 2022. Our Supplemental Documents package includes the Google Translate version of the Colombia release.

Figure 21: Colombia Oil Production

million b/d	2015	2016	2017	2018	2019	2020	2021	21/20	2022	22/21
Jan	1.036	0.986	0.860	0.860	0.899	0.884	0.745	-15.7%	0.740	-0.7%
Feb	1.030	0.955	0.864	0.823	0.893	0.878	0.746	-15.1%	0.740	-0.8%
Mar	1.023	0.917	0.804	0.856	0.885	0.857	0.745	-13.0%	0.744	-0.2%
Apr	1.029	0.915	0.857	0.865	0.891	0.796	0.745	-6.4%	0.751	0.7%
May	1.027	0.904	0.851	0.866	0.895	0.732	0.703	-3.9%		
June	1.010	0.888	0.857	0.864	0.892	0.730	0.694	-4.9%		
July	0.947	0.843	0.856	0.860	0.869	0.735	0.731	-0.5%		
Aug	0.968	0.827	0.858	0.866	0.883	0.742	0.748	0.8%		
Sept	1.009	0.859	0.851	0.869	0.879	0.749	0.744	-0.7%		
Oct	1.005	0.846	0.864	0.879	0.883	0.751	0.740	-1.5%		
Nov	0.990	0.855	0.851	0.883	0.880	0.761	0.747	-1.9%		
Dec	0.999	0.837	0.870	0.889	0.882	0.759	0.745	-1.8%		

Source: Bloomberg, Colombia Ministry of Mines and Energy

Oil – Ship-to-ship transfers of Russian oil now taking place in the Atlantic Ocean
The scramble to move Russian oil under sanctions continues to ramp up. On Monday, we tweeted [LINK] "*Desperate times call for desperate measures. @JLeeEnergy reports RUS oil tanker transfer in Atlantic, "Most transfers take place in sheltered waters, where the risks of oil spills are greatly reduced""This is the first transfer seen on the high seas. #OOTT.* Bloomberg reported "*Shippers of Russian crude are turning to unusual methods to move cargoes displaced from Europe over much longer distances to new customers. The most recent example is a ship-to-ship transfer in the middle of the Atlantic Ocean. The Aframax tanker Zhen I discharged its cargo into the supertanker Lauren II in waters 300 miles west of the island of Madeira, according to ship-tracking data monitored by Bloomberg. The transfer took place May 26 to 27. Moving cargoes onto larger vessels is not unusual, but what is far less common is the location where it happened. Most transfers take place in sheltered waters, where the risks of oil spills are greatly reduced. Russian cargoes have been transferred to bigger ships off Skaw in Denmark, in the western Mediterranean off the Spanish North African town of Ceuta, and even in the North Sea off Rotterdam. This is the first transfer seen on the high seas."* It's hard for anything to escape the eyes of satellites. This is not the normal operating practice but we wouldn't expect them to risk a ship-to-ship transfer when the Atlantic is under high waves/wind condition. Our Supplemental Documents package includes the Bloomberg report.

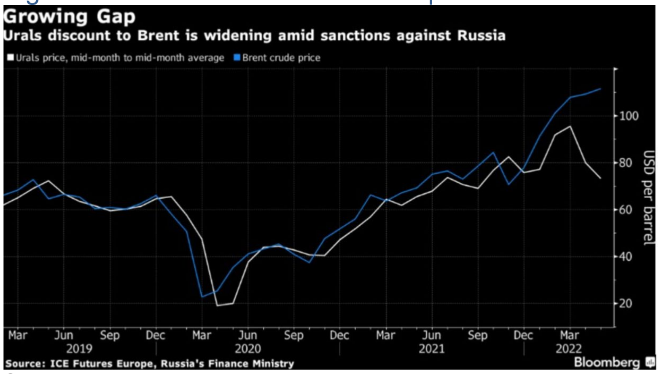
Oil – India reportedly looking to double imports of Russian oil for next six months
No one should have been surprised to see Bloomberg's Monday report "*India is looking to double down on its Russian oil imports with state-owned refiners eager to take more heavily-discounted supplies from Rosneft PJSC as international buyers turn down dealings with Moscow over its invasion of Ukraine. State processors are collectively working on finalizing and securing new six-month supply contracts for Russian crude to India, said people with knowledge of the companies' procurement plans. Cargoes are being sought on a delivered basis from Rosneft, with the seller set to handle shipping and insurance matters,*

India looking to double Russia oil imports

they said. These supply agreements, if concluded, will be separate and on top of shipments that India already buys from Russia via other deals." We expect that India and China know they are the only real game in town for Russia and are trying to take maximum advantage of getting as much cheap oil as possible. Our only surprise is that why only for six months? Russia would probably want to do a longer deal, but not at a hugely discounted price per barrel. We tweeted [LINK] "*Potential great deal for India: double down on RUS #Oil imports to take heavily-discounted #Rosneft oil & "cargoes are being sought on a delivered basis from Rosneft, with the seller set to handle shipping and insurance matters." Why only 6-mth deal? Thx @JournoDebjit #OOTT."* Our Supplemental Documents package includes the Bloomberg report.

Russia doesn't want to sell its oil at 30% to 40% discount
Last week's (June 5, 2022) Energy Tidbits memo highlighted the excellent May 30 op-ed by Leonid Fedun, who is Vice President & Director at Lukoil and a reported billionaire as he led the privatization of Lukoil years ago and reportedly owns 11% of the company. We tweeted on the op-ed [LINK] "*1/2 #Lukoil Fedun "Should we try to maintain pre-crisis export volumes by agreeing to 30% and sometimes even 40% discounts? At the same time, buyers, under the talk of an oil embargo, will try to institutionalize these discounts with the help of tariff regulation tools" #OOTT*". Fedun reinforced the market data that Russia is selling their oil at 30% or even a 40% discount. No wonder India and China want to get as much of this cheap Russian oil as possible. Then on May 31, we tweeted [LINK] "*RUS Urals blend $73.24/b mid-Apr to mid-May, 32% discount to Brent reports @ja_herron. This is #Lukoil Fedun's concern, see 👇 May 30 thread on his op-ed. It's why one way or another, expect RUS #Oil exports lower. Oil looks good for 2020s."* Our tweet included the below Bloomberg graph that is the Urals vs Brent prices that fits Fedun's statement that Russia is selling its crude at a 30-40% discount.

Figure 22: Russia Urals vs Brent oil prices



Source: Bloomberg

Oil – US says India has increased Russian oil imports from 0.1 to close to 0.8 mmb/d

India oil imports from Russia

There were some interesting India comments from Amoc Hochstein (US Senior Advisor for Energy Security, US State Dept) in his testimony at the Senate Foreign Relations Committee on Thursday. (i) India oil imports from Russia have increased from 100,000 b/d to close to

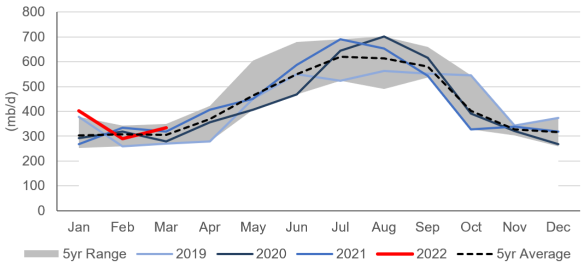
800,000 b/d. Hochstein said "*India, so you've seen the India numbers in the press. They've gone from less than 100,000 barrels a day on average Russian supply to close to 800,000".* (ii) US says they can't ban India from purchasing oil from Russia. Hochstein said "*So, obviously, the relationship with India is really critical from energy strategically in the region for a variety of reasons, and energy is just one of them. In my conversations with them, I've said, "Look, I -- we don't have secondary sanctions that can ban your purchases, but as you increase your purchases from Russia, I would ask to things: One, don't go too far and don't look like you're taking advantage of the pain that is being felt in European households and the United States*." (iii) We suspect anyone who has done or tried to do deals with Indian companies couldn't help chuckling at one of Hochstein's India comment. It's kind of like us armchair sports experts watching sports and believing we can give advice to the pros. Hochstein said that India "*Second, make sure you negotiate well because, if you don't buy it, nobody else is, so you have an advantage here."* India companies have a well deserved reputation has being great negotiators.

Oil – Saudi uses 300-400,000 b/d more oil for electricity every summer

Saudi summer oil use for electricity

For the last several years, we have highlighted this reminder that Saudi Arabia uses more than twice as much oil for electricity in the summer vs the winter. This means that increased production in the summer months doesn't mean increased oil exports. On Tuesday, we tweeted [LINK] *"Summer isn't just increased #Oil demand for driving season in northern hemisphere. It's also when Saudi uses 300-400,000 b/d more #Oil for electricity generation during summer heat. ie. less Saudi oil for export unless they reduce inventories. #OOTT".* April normally marks the start of the ramp up in Saudi domestic consumption in oil to generate electricity. Our May 22, 2022 Energy Tidbits highlighted the updated JODI data that included our monthly update of our Saudi Arabia's direct use of crude oil for electricity. Our tweet reminded that Saudi Arabia is likely to use ~700,000 b/d for electricity in peak summer months, which is +365,000 b/d vs March. Below is our monthly graph.

Figure 23: Saudi Arabia Direct Use of Crude Oil For Electric Generation



Source: JODI

Saudi's Abdulaziz has previously reminded of summer use of oil for electricity

We were talking about a blog we wrote two years ago, our June 11, 2020 blog "*Will The Demise Of Oil Take Longer, Just Like Coal? IEA and Shell Highlight Delays/Gaps To A Smooth Clean Energy Transition"* that was referenced in our June 14, 2020 Energy Tidbits memo. And that memo included Saudi Energy Ministers Abdulaziz's quotes on using more oil in the summer for electricity. In that memo we wrote ".In the OPEC+ press conference, Saudi Energy Minister Abdulaziz Salman was asked if Saudi would direct more July production to exports or refineries. AAS reply didn't mention those items specifically. Rather his answer was about how Saudi needs more oil for power generation in the summer time. AAS said "*One of the fundamental things that most of you know, that in the months of June, July, August and September, our domestic consumption in terms of utilities whether it be electricity or water, and with this unwinding of the lockdown our consumption domestically will increase in terms of liquids, be it crude burning, fuel oil and what have you. So a good chunk of what we will retrieve in July will go into domestic consumption, not refining. Domestic consumption whether it be in the form of crude burning or fuel oil.*"

Oil – Increasing signals Biden will be going to Saudi Arabia to meet with MBS

Biden setting stage for MBS meeting

We still have yet to see any formal Saudi response to all the clear signals that Biden wants to go to Saudi Arabia to kiss the ring of MBS. As we have noted it before, MBS must be enjoying watch the Biden have to back off his disdain for MBS in the hopes of having a reset of the relationship. What we don't know is what Saudi wants and what they will get by agreeing with the US for this relationship reset. The Biden Administration continues to send increasing signals that Biden will be going to Saudi Arabia to meet with Saudi Crown Prince Mohammed bin Salman as early as in July. The reality is that the Biden Administration clearly wants to make their views clear by going to media to write these reports. On Friday, CNN reported [LINK] "*Senior US officials have conveyed to Saudi Arabia that the US is prepared to move forward with a "reset" of the relationship, and effectively move on from the 2018 murder of Washington Post columnist Jamal Khashoggi in order to repair ties with the key Middle East ally, senior US officials tell CNN. The planning for a reset is a dramatic about-face for President Joe Biden, who came into office vowing to make Saudi Arabia a "pariah" over Khashoggi's murder. His administration also released an intelligence report last year that directly accused Saudi Crown Prince Mohammed bin Salman of orchestrating Khashoggi's killing. But officials say Biden, who is under immense pressure to crack down on Russia and lower domestic gas prices amid inflation that's rising at the fastest pace since 1981, has set aside his moral outrage to pursue warmer relations with the Kingdom amid the dramatic global upheaval spurred by the Kremlin's invasion of Ukraine. "Both sides have decided that for the sake of achieving peace and stability in the Middle East, we need to move past it," said one senior US official, referring to Khashoggi's murder. The Saudis, for their part, consider the Khashoggi case closed—and have made that clear to the US, officials said.*" And then last night, we retweeted the WSJ report [LINK] "*The White House plans to announce as early as Monday a trip by President Biden to Saudi Arabia, according to two officials with direct knowledge of the plans, a prospect that has prompted pushback from members of Congress critical of the kingdom and its leader.Mr. Biden will travel to Saudi Arabia next month as part of a broader trip to the region that includes a stop in Israel, the officials said. The agenda currently includes a meeting with Saudi Crown Prince Mohammed bin Salman, one of the officials said.*" Our Supplemental Documents package includes the CNN report.

Oil – White House, increasing oil supply is not part of any US discussions with Saudi

US doesn't talk oil supply with Saudi

White House Press Secretary Jean-Pierre certainly got a response from the press corps at her Monday briefing with her comments that US doesn't raise increasing oil supply when it has discussions with Saudi Arabia. On Monday, we tweeted [LINK] "*Surprise! What will*

#Biden talk with #MBS if they meet? See👎, @PressSec says oil or gas prices are "not the conversations that we have with Saudi Arabia" and "not a part of our agenda when we have a discussion with them." #OOTT". Here are the excerpts from the White House transcript [LINK]. We checked them for accuracy against the video of the press conference [LINK]. At 22:35 min mark of video. "*Q And one more on Saudi. What evidence can the White House point to that repairing relations with Saudi Arabia will lead to reduced gas prices here in the United States? MS. JEAN-PIERRE: Well, when it comes to oil or gas prices, that's something that OPEC-Plus deals. We do not get involved in any of that. That is not the conversations that we have with Saudi Arabia. And I know they — OPEC-Plus made an announcement last week, on Friday, and we welcome that announcement. But that is not a part of our agenda when we have a discussion with them."* At 25:51 min mark, "*Q I just want to get back to what you said a minute ago with Saudi Arabia. I mean, finding more oil and getting that to market is such a key part of the broader strategy with Russia right now. When OPEC-Plus made that announcement, you put out a statement saying, "We recognize the role of Saudi Arabia…in achieving this consensus." You're saying, when the President, when senior administration officials are talking to people in Saudi Arabia, the question of oil production never comes up? MS. JEAN-PIERRE: I'm saying it's not — it's not the — it's not the focus; it's not the — on the agenda, right? That's something for OPEC-Plus to decide. Clearly, Saudi Arabia chairs that. And so, we just want to be very clear on that. And I was asked the same question last week, and I pretty much said the same thing. And so, that's — you know, I'm just going to leave it there."* And then yesterday, Bloomberg reported "*Any trip to Saudi Arabia would be for a "larger meeting" on regional security, Biden told reporters Saturday at the end of a trip to California."*

Oil – Surely Biden going to kiss the ring of MBS points to no Iran JCPOA?

Is JCPOA dead if Biden goes to see MBS?

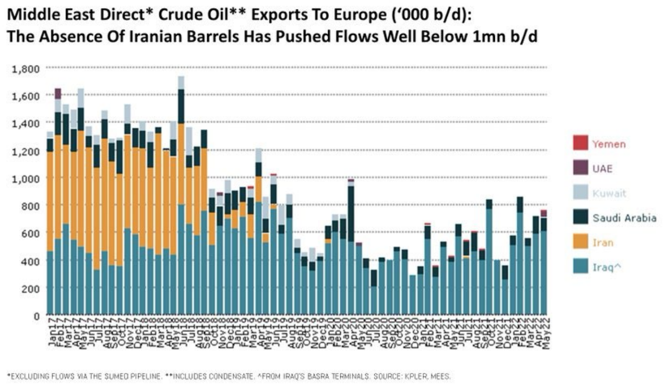
When the US started testing the waters for Biden going to Saudi Arabia to meet MBS, we thought this must be a signal Biden is going to hold off on a JCPOA. In our May 22, 2022 Energy Tidbits we wrote "*Is Biden setting up the case for keeping Iran's full oil off the market or making a bad Saudi We have 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*." Also at that time, it seemed like Biden was testing the waters on an MBS meeting and we said he didn't need to test the waters if he wanted to go and repair the relationship. He could just go. So if he was testing the waters, we wondered if this might be a last minute message to Iran 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, its now almost a month later and the US is past testing the waters and is guiding to Biden going to Saudi Arabia.

Oil – Reminder Iran oil is a great replacement for Europe banning Russian Urals oil

Iran can replace Russia oil to Europe

A picture is worth a thousand words or every picture tells a story (Rod Stewart) and that was clear from a great MEES graph. The graph clearly shows how Iran oil would seamlessly fit in to fill in and replace any banned Russia oil in Europe. On Friday, we retweeted a MEES tweet [LINK] "*Amid a historic market dislocation, MEES examines the potential for an influx of Middle Eastern crude into Europe in the second half of 2022. Read it here: [LINK].*" It's too bad the linked MEES report "*Middle East Crude Trade: Preparing For A Pivot To Europe?*" [LINK] is under paywall, but the MEES tweet included the below graph. The MEES graph splits Middle East crude oil exports from Jan 2017 to Europe split by producing country. MEES reminds that, until Iran sanctions, Iran was the largest Middle East crude oil supplier to Europe. MEES doesn't provide the actuals, but it looks like Iran was shipping 600,000 to 800,000 b/d in 2017. Interestingly, no one has really stepped in to fill the void, rather Middle East oil exports to Europe are basically the same other than no Iran. The graph is why we tweeted [LINK] "*Hmmm! Thx @MeesEnergy for good graph, Iran used to be a big #Oil supplier to Europe. Reminds that Iran would be a good substitute for banned Russia oil in Europe. #OOTT.*"

Figure 24: Middle East Direct Crude Oil Exports to Europe ('000 b/d)

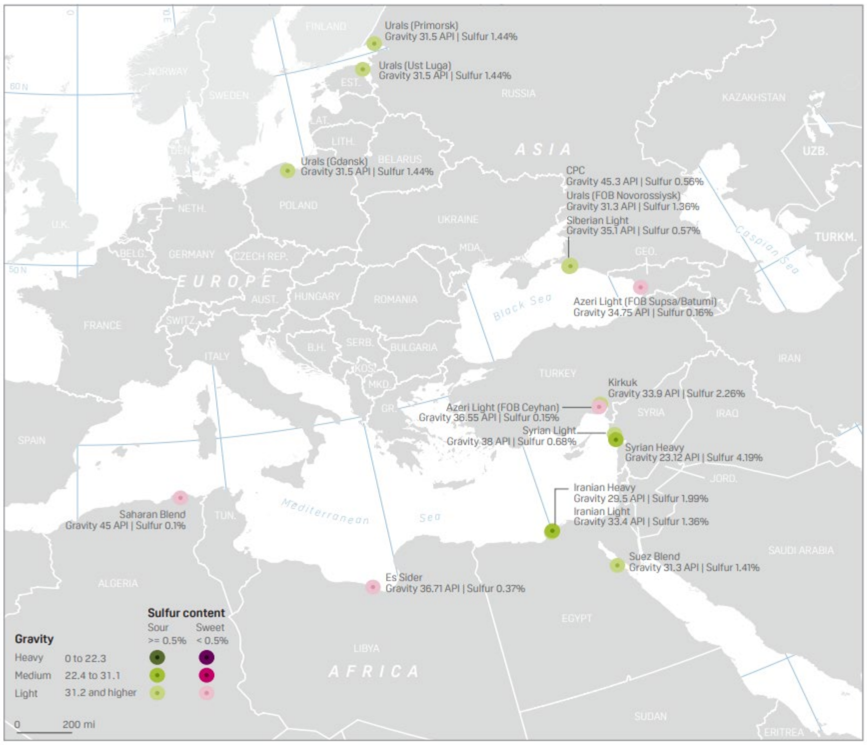


Source: MEES

Iran's oil would be a good crude quality replacement for Urals crude to Europe

Here is what we wrote in our March 9, 2022 Energy Tidbits. "*On Wednesday, we tweeted [LINK] on a good reminder from the Gulf Intelligence daily Podcast [LINK] that Iran's crude oil quality would be a good replacement for Russian Urals crude oil to Europe. We tweeted "#JCPOA. Good reminder from @gulf_intel podcast. Matt Stanley @starfuels reminds Iran light matches API and H2S very well and is a good substitute RUS Urals. See below @SPGlobalPlatts crude specs map. #OOTT". Our tweet included the below Platts map that noted crude qualities for Russia were Urals (Primorsk) 31.5 API 1.44% H2S, Urals (Ust Luga) 31.5 API 1.44% H2S, and Urals Gdansk 31.5 API 1.44% H2S, which compares to Iranian Light 33.4 API 1.36% H2S.*"

Figure 25: Platts Specifications Guide Europe and Africa Crude Oil



Source: S&P Global Platts

Source: Platts

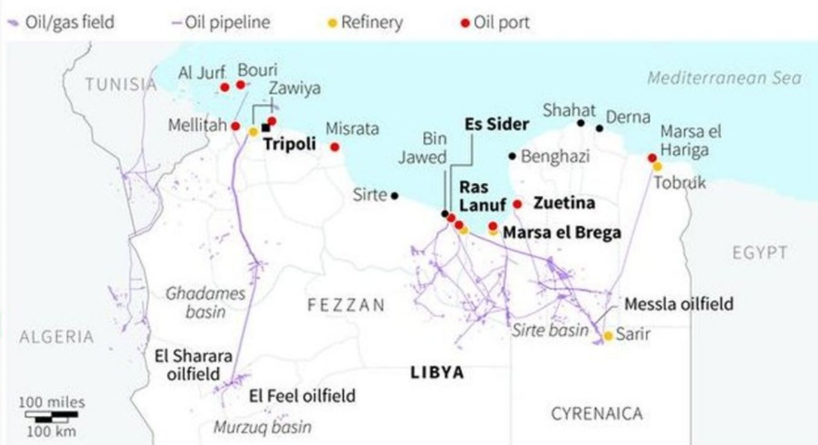
Oil – Libya's Sharara oilfield halts production again, Es Sider/Ras Lanuf ports closing

More Libya oil interruptions

We have yet to see the Libya National Oil Corporation provide an update to how much Libya is producing and if it still expects to export over 600,000 b/d in June. We continue to believe the risk to Libya oil production is for more interruptions given the still undecided timing for elections and the increasing domestic conflicts. (i) On Monday, Bloomberg reported [LINK] production at Sharara had once again been interrupted after less than 24 hours of operation. Production was halted after gunmen stormed the field and forced workers to stop operation. This comes less than a day after the field resumed production at approx. 180,000 b/d following a two-month halt. (ii) On Thursday, Bloomberg reported "*Libya's two key eastern oil ports were shut down by protesters as a wave of disruptions continues to hit the OPEC member. Protesters entered the Es Sider port, the nation's largest oil terminal, and Ras Lanuf and instructed workers to halt operations, according to two people with knowledge of the situation. A tanker that's currently at Ras Lanuf will be allowed to complete loading 600,000 barrels and then the port will be shut down and ships will be prevented from entering, the people said, asking not to be identified because they weren't authorized to speak to media. The shutdowns are the latest in a series of disruptions to hit Libya's energy sector amid a worsening political crisis.*" (iii) We haven't seen the reports of what happened overnight, but Friday night reportedly had some armed clashes within Tripoli.

Figure 26: Libya Ports, Major oilfields and Terminals map

SAF Group Compiled Libya Ports & Terminals Status



Source: Bloomberg, HFI Research, SAF

https://safgroup.ca/news-insights/

Source: SAF Group

Oil – India petroleum products consumption in May was +23.8% YoY

India fuels consumption +23.8% YoY

Earlier this morning, India's Petroleum Planning & Analysis Cell posted its excel of India's petroleum products consumption for May 2022 [LINK]. There was strong YoY increase with overall fuels consumptions +23.8% YoY, but the comparison is back to when India was still being hit by Covid impacts. May petroleum products consumption was up small, +0.4% MoM vs April. Like all areas of the world, the big question is how will the recent jump in oil and fuel prices impact India's petroleum products consumption. India has a fiscal year ending March 31. We pasted in the PPAC April and May data from a separate excel into the fiscal year ended March 31, 2022 table to show the by petroleum product line items.

Figure 27: India's Petroleum Product Consumption May 2021 thru May 2022

('000 Metric Tonnes)

CONSUMPTION OF PETROLEUM PRODUCTS as on 09.06.2022													2022	2022	
PRODUCTS	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	TOTAL	APR	MAY	May YoY %
LPG	2162	2251	2370	2324	2363	2481	2347	2479	2567	2398	2475	**28330**	2164	2165	**0.1%**
Naphtha	1253	1194	1215	937	1149	1260	1232	1099	1437	1125	1136	**14277**	1085	908	**-27.5%**
MS	1991	2409	2630	2692	2598	2750	2645	2816	2473	2550	2908	**30849**	2797	3017	**51.5%**
ATF	268	257	315	379	409	479	504	552	456	435	543	**5008**	553	598	**123.5%**
SKO	136	136	130	129	132	125	123	119	126	117	114	**1494**	72	68	**-50.3%**
HSD	5533	6195	6135	5609	5516	6618	6513	7303	6374	6511	7704	**76687**	7203	7285	**31.7%**
LDO	77	94	77	83	85	90	65	93	92	85	82	**1020**	52	54	**-29.5%**
Lubricants & Greases	320	316	329	364	381	461	353	454	316	380	536	**4570**	357	352	**10.0%**
FO & LSHS	417	500	469	516	544	559	511	565	543	530	590	**6255**	523	535	**28.3%**
Bitumen	662	575	435	312	408	663	554	780	831	884	944	**7874**	762	703	**6.1%**
Petroleum coke	1064	1064	1317	1020	1030	1326	1086	1740	1849	1570	1717	**15772**	1308	1235	**16.0%**
Others	873	849	1175	949	1275	952	1123	967	989	979	1085	**12099**	1324	1348	**54.4%**
TOTAL	**14758**	**15842**	**16598**	**15314**	**15889**	**17763**	**17057**	**18968**	**18050**	**17564**	**19834**	**204233**	**18200**	**18269**	**23.8%**

Source: India PPAC

Oil – Trafigura's bullish outlook for oil and natural gas and metals

Trafigura's bullish energy and metals outlook

We recommend reading Trafigura's commodity recap and outlook that was in its H1/2022 report released on Friday. We tweeted [LINK] " *"tight market for commodities & heightened prices for some time to come", need significant investment to meet future energy needs as well as #EnergyTransition. see 👇Must Read @Trafigura H1 outlook. Very bullish for #Oil #NatGas in 2020s. Thx @@saadrahim. #OOTT"* and [LINK] *""In both energy & metals markets, inventories are extraordinarily low by historical standards & will struggle to meet any sustained rebound in demand", one of many other @Trafigura @saadrahim quotes. Bullish for #Oil #NatGas for 2020s. #OOTT [LINK]".* This outlook is very bullish for oil and gas for the 2020s and there are too many quotes to list. One key item is that Trafigura sees the need for significant investment to meet future energy needs and the energy transition. It isn't just give capital for the energy transition. One of Trafigura's key quotes was "*Looking ahead, we see no let-up in the challenging market conditions. Global supply chains remain disrupted and the geopolitical situation will continue to be turbulent. Commodity inventories are at perilously low levels across metals and energy markets as demand continues to outstrip supply, following a sustained period of structural under-investment in natural resources production over several years. In terms of demand, we are not yet seeing a slowdown in physical demand for oil and metals – all of which points to a tight market for commodities and heightened prices for some time to come. Significant investment will be required to produce, process and transport energy, minerals and metals to meet future needs and support the ongoing energy transition."* Our Supplemental Documents package includes excerpts from the Trafigura commodity outlook.

Oil – Energy Aspects, high oil prices "*could easily be with us for a decade"*

Oil is a structural story not a cyclical story

There were some good reminders on why to be bullish oil for the 2020s from Energy Aspects Amrita Sen on CNBC Squawk Box on Friday morning. We tweeted [LINK] "*Positive for #Oil. Govts have thrown SPR at this problem & it just gets absorbed. Oil is a structural story, not a cyclical story. prices need to go higher to curtail demand, happy to hear #Goldman has come around to @EnergyAspects views says @ea_amrita to @BeckyQuick. #OOTT".* There were a few comments to note. (i) She highlighted how govt release of strategic oil reserves are being absorbed by the market. Sen said "*The problem we have, we've talked about it before as well, the lack of spare capacity, the lack of inventories. Governments have thrown SPR at this problem and that's just been absorbed. And even with that, inventories continue to draw down*." (ii) Sees strong oil prices for 2020s as this is not your normal cyclical oil supply/demand setup. Sen didn't say this, but she is reminding that this Is not the normal "*the best cure for high oil prices is high oil prices*" ie. high oil prices drives a quick rapid escalation in E&P spending and then a quick oil supply response. Rather she says this is a "structural story" that will take years to fix. Sen said "*We've been saying this for some time that this is a structural story, it's not a cyclical story. And this is very important for everybody to understand because the reason we are here today and really nothing to do with Russia, we were at $95 oil price, crude prices well before the invasion. We would have gotten to a hundred regardless, maybe six months later. This is to do with years of underinvestment. And we were going to get to $100 precisely because of that, but now, even with these price signals, I'm in Calgary right now seeing producers in Canada, there is so little incentive, whether it be here, whether it be in the US, to reinvest because of ESG concerns. So the market is not functioning as it should. That is why this is a structural story. And could easily be with us for a decade*." (iii) And of course, how could we not note the shade she threw at Goldman Sachs

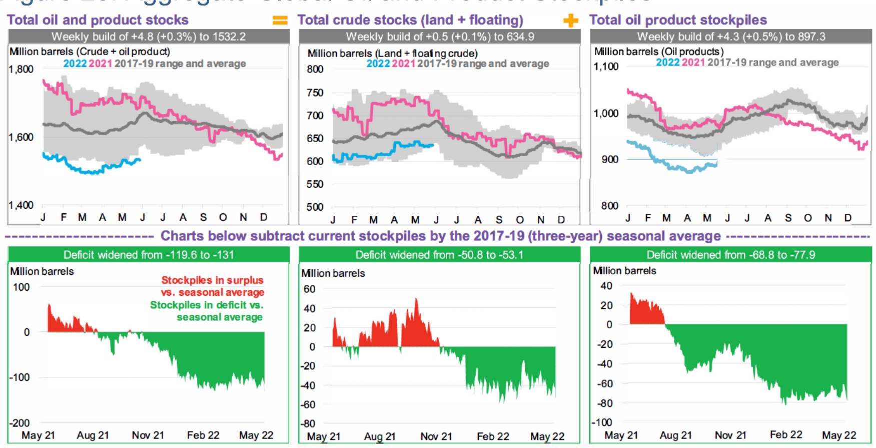
Jeff Currie. Becky Quick asked Sen is she agrees with Currie's view that it may be a 10 year super spike period. Sen replied "*I think Jeff's come around to our views, I'm happy to hear that*.". Our Supplemental Documents package includes the transcript we made of Sen's comments.

Oil – BloombergNEF: global oil stocks continue to be supportive of oil prices

BNEF's Oil Price Indicators

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. The key global oil and products stocks data continues to be positive with a large deficit relative to the 2017-2019 average. The YoY deficit widened for crude and products from 119.6 mmb to 131.0 mmb. The stockpile deficit against the five-year average (2015-19) widened from 86.1 mmb to 89.2 mmb. Total crude inventories decreased by 0.1% to 634.9 mmb, including global floating inventories. Product stocks were up 0.2% WoW with the stockpile deficit against the 3-year average widening from 68.8 mmb to 77.9 mmb. Gas oil and middle distillate stocks have widened against their three-year average deficit (2017-2019) of 32.5 mmb to 37.8 mmb. Jet fuel consumption by international departures increased by 60,700 b/d WoW while consumption by domestic passenger departures decreased by 62,000 b/d. The global mobility index weakened over the past week, dropping by 1.2% driven by falling activities in Europe and the Americas. Below is a snapshot of aggregate global stockpiles. Our Supplemental Documents package includes excerpts from the BloombergNEF report.

Figure 28: Aggregate Global Oil and Product Stockpiles



Source: Bloomberg

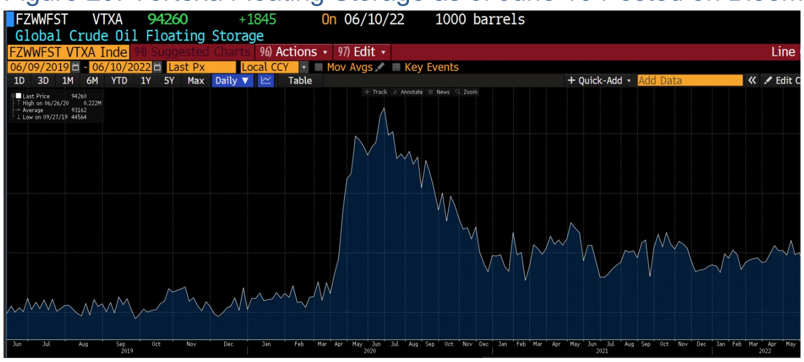
Oil – Vortexa crude oil floating storage 94.26 mmb as of June 10, +1.84 mmb WoW

Vortexa crude oil floating storage

We are referencing the Vortexa global crude oil floating storage data posted on the Bloomberg terminal as of noon MT yesterday. Note that these estimates get revised over the course of the week and the revisions can go back months. We do not check daily for the revisions, so our comments today are compared to the prior weeks Vortexa estimates posted on Bloomberg on June 11 at noon MT. (i) As of noon MT yesterday, Bloomberg posted Vortexa crude oil floating storage estimate as of June 10 was 94.26 mmb, which is +1.84

mmb WoW vs upwardly revised June 3 of 92.42 mmb. Note June 3 of 92.42 mmb was revised +4.7 mmb from the 87.72 mmb posted on Bloomberg as of noon MT on June 4. (ii) There were revisions to the last several weeks of estimates vs those posted at noon MT on June 4, But most were within a couple mmb, other than the May 13 estimate that was revised +3.76 mmb. (iii) Also remember Vortexa revises these weekly storage estimates on a regular basis and we do not track the revisions through the week. (iv) June 10 estimate of 94.26 mmb is -127.41 mmb vs June 26, 2020 peak of 221.67 mmb. (v) Note that the below graph goes back 3 years and not just 2 years as floating oil storage was in the big ramp up period in late March/April/May 2020 as Covid started to have a huge impact. June 10 estimate of 94.26 mmb is +45.40 mmb vs pre-Covid of 48.86 mmb on June 10, 2019. Note June 10 estimate of 94.26 mmb is -11.89 mmb YoY from 106.15 mmb on June 11, 2021. (vi) Below are the last several weeks of estimates made as of yesterday at noon MT, June 4 at noon MT, and May 29 at 6am MT.

Figure 29: Vortexa Floating Storage as of June 10 Posted on Bloomberg noon MT yesterday



Source: Bloomberg, Vortexa

Figure 30: Vortexa Estimates June 11 noon MT, June 4 noon MT, and May 29 6am MT

Est as of June 11, noon MT

FZWWFST VTXA Inde — 06/09/2019 - 06/10/2022

	Date	FZWWFST VT... Last Px
Fr	06/10/2022	94260
Fr	06/03/2022	92415
Fr	05/27/2022	99911
Fr	05/20/2022	98358
Fr	05/13/2022	110.132k
Fr	05/06/2022	97831
Fr	04/29/2022	102.054k
Fr	04/22/2022	102.07k
Fr	04/15/2022	106.081k
Fr	04/08/2022	99352
Fr	04/01/2022	92359

Est as of June 4, noon MT

FZWWFST VTXA Inde — 06/02/2019 - 06/03/2022

	Date	FZWWFST VT... Last Px
Fr	06/03/2022	87719
Fr	05/27/2022	100.524k
Fr	05/20/2022	99092
Fr	05/13/2022	106.368k
Fr	05/06/2022	96040
Fr	04/29/2022	100.888k
Fr	04/22/2022	101.224k
Fr	04/15/2022	106.867k
Fr	04/08/2022	101.242k
Fr	04/01/2022	91669
Fr	03/25/2022	90456

Est as of May 29, 6am MT

FZWWFST VTXA Inde — 05/26/2019 - 05/27/2022

	Date	FZWWFST VT... Last Px
Fr	05/27/2022	98794
Fr	05/20/2022	99945
Fr	05/13/2022	107.943k
Fr	05/06/2022	96610
Fr	04/29/2022	101.589k
Fr	04/22/2022	102.899k
Fr	04/15/2022	106.256k
Fr	04/08/2022	102.156k
Fr	04/01/2022	91461
Fr	03/25/2022	91549
Fr	03/18/2022	95244

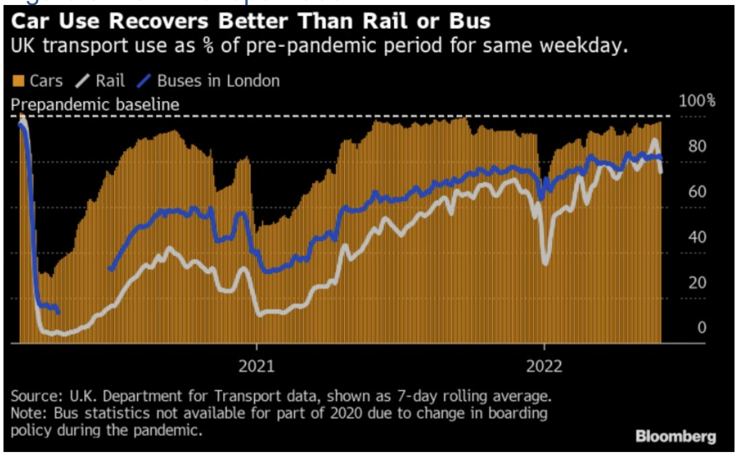
Source: Bloomberg, Vortexa

Oil – Bloomberg Oil Demand Monitor: fuel use near normal except China and aviation

Bloomberg's Oil Demand Monitor

We recommend reading the weekly Bloomberg terminal Oil Demand Monitor for a good recap of key oil demand indicators around the world. Oil demand is essentially back to normal in many key consuming nations. Aviation fuel remains the slowest to recover, with Chinese flights gradually building up again as strict coronavirus travel restrictions ease. US oil product demand was about 4% higher than the same week of 2019, even with gasoline and jet fuel down by 3% and 16%, respectively. Bloomberg stated "*A general post-pandemic recovery in demand is coinciding with concern about a reduction in oil and natural gas supply from Russia as well as OPEC's unwillingness, or inability, to make up the difference. That's pushing oil back toward the March highs reached soon after Russia's invasion of Ukraine, with Brent crude now trading above $120 a barrel, hurting developing nations the most.*" Car usage in the UK remains slightly below pre-pandemic levels while truck traffic is a little higher. The below chart shows that rail and bus use has never managed to equal the recovery in car use, when compared against a pre-Covid baseline. Another sign of demand recovery is the pace at which US refineries are working. Last week some 16.39 million barrels a day of crude oil was processed in US plants, the most since January 2020. The global number of seats offered by airlines on planes for the week ahead climbed above 95 million after stalling near 90 million for most of May. That figure is still 18% lower than the equivalent 2019 level of about 116 million a week. North East Asia, which includes China, saw the biggest weekly increase, followed by Eastern Europe and North America. Our Supplemental Documents package includes the Bloomberg Oil Demand Monitor.

Figure 31: UK Transport Use



Source: Bloomberg

Oil – Some road bumps on the reopening of Beijing and Shanghai

Beijing and Shanghai roadbumps

Last weekend's reports were all on the positive for the reopening of Beijing and Shanghai, but that is reversed to close the week, or at least as of our 7am MT news cut off. (i) Beijing. Yesterday, we tweeted [LINK] "*Beijing Covid watch back on. "The sporadic outbreak that started at a bar in Beijing is at a rapidly spreading stage and the transmission risk remains high, said a Beijing health official on Sat" reports Global Times. #Oil #OOTT* ." The rapidly spreading stage was the description used by Global Times, China state media. Whereas western media were using the terms explosive. Regardless, most will interpret the Global

Times commentary as a warning. And while we may not expect the use of the term lockdown, we would expect to see increased restrictions on people in parts of Beijing. (ii) Shanghai was undergoing testing in many of their city districts this weekend, which meant temporary lockdowns. As of our 7am MT news cut off, we have not seen reports of any updates to the mass testing. But Shanghai was locking down seven districts this weekend for mass Covid testing, which is the first big restrictions since the reopening two weeks ago. The districts with temporary lockdown are Pudong, Huangpu, Jing'an, Xuhui, Hongkou, Baoshan and Minhang. Minhang alone was over 2 mm people. The bottom line is that the reopening is being interrupted by more mass testing in districts.

Oil – Shenzhen's hotel business was back to normal about 90 days after it reopened

Intercontinental Hotels CEO on China reopening

As we are seeing in Shanghai this weekend, China's zero Covid policy continues to cause stops and starts to the reopening. But China is no different than the US and, when it reopens, people quickly get back to normal. We saw data to support that in CNBC's Wednesday interview with IHG (Intercontinental Hotels) CEO Keith Barr. We tweeted [LINK] "*Re Beijing/Shanghai reopening,"what gives me confidence, If you remember when Shenzhen shut down in southern China, business went away, but in about 90 days after it reopened, business was back to normal" @IHGCorporate CEO to @SaraEisen. Pent up China travel to return. #Oil #OOTT.* We created a transcript of Barr's key comments on CNBC Closing Bell on June 7, 2022 [LINK]. At 1:30 min mark. "*Barr "… the only real big challenge right now is of course Greater China". Eisner "what is it like there? you've got how many hotels there?" Barr "we have 600 hotels open, another four, five hundred in development right now". Eisner "are they open at this point?" Barr "we have the vast majority are open, but some are quarantine hotels. But I talk to the team regularly, Shanghai has reopened, Beijing just reopened. We are seeing our bookings come back. What gives me confidence, If you remember when Shenzhen shut down in southern China, business went away, but in about 90 days after it reopened, business was back to normal. And so when restrictions are lifted across China, it's going to be a really strong market again"*

Oil – US national average gasoline prices hit $5 yesterday, diesel hit $5.77

US gas prices hit $5

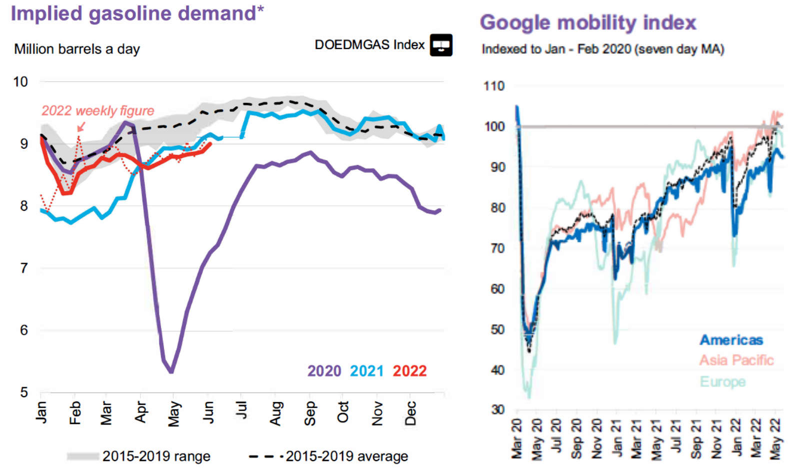
The steady and strong ramp up in US gasoline prices continues to set new all time records. Yesterday, we tweeted [LINK] "*New addition to this day in history websites. @AAAnews report US national average regular unleaded #Gasoline prices hit $5.00, premium $5.67 and #Diesel $5.77. All time highs. Should hear more of #Biden's new tag line "Exxon, start paying your taxes" #OOTT [LINK]*." Our reminder is that the AAA headline number of US national average gas prices hitting $5.004 is for regular unleaded gasoline. Premium unleaded hit $5.67, diesel hit $5.77. The AAA gas prices page allows you to drill down to the state level. For example, California average prices for June 11 were $6.43 for regular unleaded, $6.75 for premium unleaded, and $6.99 for diesel. Our Supplemental Documents package includes the AAA national average picture for yesterday.

Oil – US mobility metrics down sharply, but gasoline demand surged last week

US oil demand indicators

Another of our favorite BloombergNEF reports is their U.S. Oil Indicators Weekly report, which showed some good news and some bad news this week. On the positive, BNEF reported US gasoline demand surged dramatically after the tepid growth seen in recent weeks. The closely watched four-week average rose above 9 mmb/d for the first time this year, bringing demand closer to typical seasonal levels. On the negative, BNEF reported that mobility metrics their sharp decline across the North America, sliding below 70% of 2019 levels for the first time since January. Our Supplemental Documents package includes excerpts from the BloombergNEF report.

Figure 32: Implied gasoline demand, TSA checkpoint traffic



Source: BloombergNEF

Oil & Natural Gas – Biden says "*Exxon, start investing, start paying your taxes*"

Biden goes after Exxon

We just can't dismiss Biden's comments as simply passing blame on others for the inflation and gasoline prices because the mid-terms are now less than 5 month away. Rather, we have to look at his comments as raising the risk for potential election promises to help the Democrats running over the coming months. And one thing is clear, he needs to make sure he has others besides Putin to blame and be another villain. And no surprise, probably the #1 villain, apart from Putin, will be the oil and gas sector. Part of Biden's Friday comments were rhetoric such as telling Exxon to start paying their taxes, but we also have to at least consider the potential for him to work on a surprise initiative to try to tax stock buybacks as he believes stock buybacks should be taxed. On Friday, we tweeted [LINK] "*"#Exxon, start investing, start paying your taxes" and "the reason they're [$XOM] not drilling is they're buying back their own stock — which should be taxed, quite frankly" says #Biden. #Oil #NatGas sector to be THE prominently featured villain in Dems mid-terms messaging. #OOTT.*" Our Supplemental Documents package includes excerpts from Biden's comments.

Oil & Natural Gas – Reuters: Repsol potential sale of 25% of oil & gas unit to EIG

Repsol may sell 25% of its oil and gas

We don't normally write up corporate M&A rumors/chatter but there were a couple of interesting angles to note from the Reuters Tuesday report "*EXCLUSIVE Spain's Repsol in talks to sell 25% of oil and gas unit to EIG, sources say*" [LINK]. Reuters wrote "*EIG Global Energy Partners is in early discussions with Repsol (REP.MC) to buy a slice of the Spanish company's oil and gas exploration and production business, three sources with knowledge of the matter told Reuters. The U.S. fund is seeking to purchase up to 25% of Repsol's so-called upstream business, the sources said, in a deal that would give the Spanish group cash for its plans to build clean energy capacity such as solar plants and wind farms.*" (i) The first angle is that EIG must strongly believe in the long term outlook for oil and natural gas as this would be a huge deal for them. We tweeted [LINK] "*Think of @EIGGlobalEnergy side! Must strongly believe demand & strong prices are here to stay for #Oil #NatGas if make a $14-18b investment in #Repsol upstream. A huge deal, #EIG website says committed $40.1b to energy sector over its 40-yr history #OOTT."* (ii) Second, it would be a way for Repsol to make a big dent in its emissions reductions commitment by effectively selling 25% of its oil and gas emissions. Repsol would also be monetizing under an outlook of strong oil and gas prices, but it would go a long way to hitting its emissions reductions targets. The easiest way for an oil and gas company to reduce emissions is to sell oil and gas assets. Our Supplemental Documents package includes the Reuters report.

Energy Transition – No surprise, 1st Ford F150 Lightnings showing range shortfalls

Ford F150 Electric issues

We recognize that the first F150 Lightning EV pickups buyers put their orders long, long ago, but, for anyone who has put their order in, or hasn't pulled their order, over the last couple months, they can't say they weren't warned by Ford CEO Jim Farley that the F150 electric isn't suited for regular pickup truck users. It's really only for urban cowboys. On Thursday, CNBC's Brian Sullivan tweeted [LINK] "*The guy with one of the first F150 electrics said his range dropped by 50% while towing a trailer. Rivian reviews the same. That's simply not tenable for many pickup owners."* We retweeted [LINK] "*For sure, see 👎 #Ford CEO Jim Farley warned on Apr 26 that #F150Lightning wasn't good for heavy users ie. ranchers, contactors, or people that towed. But perfect for urban cowboy & commuting to work. #OOTT".* Our retweet included the transcript we made of the Ford CEO April 26 comments. See the below item, there is no doubt that Ford CEO Farley warned on the performance shortfalls of the F150 Lightning. But he did it in a Bloomberg interview and not in the brochure.

Ford CEO's Apr 26 warning on F150 Lightning performance shortfalls

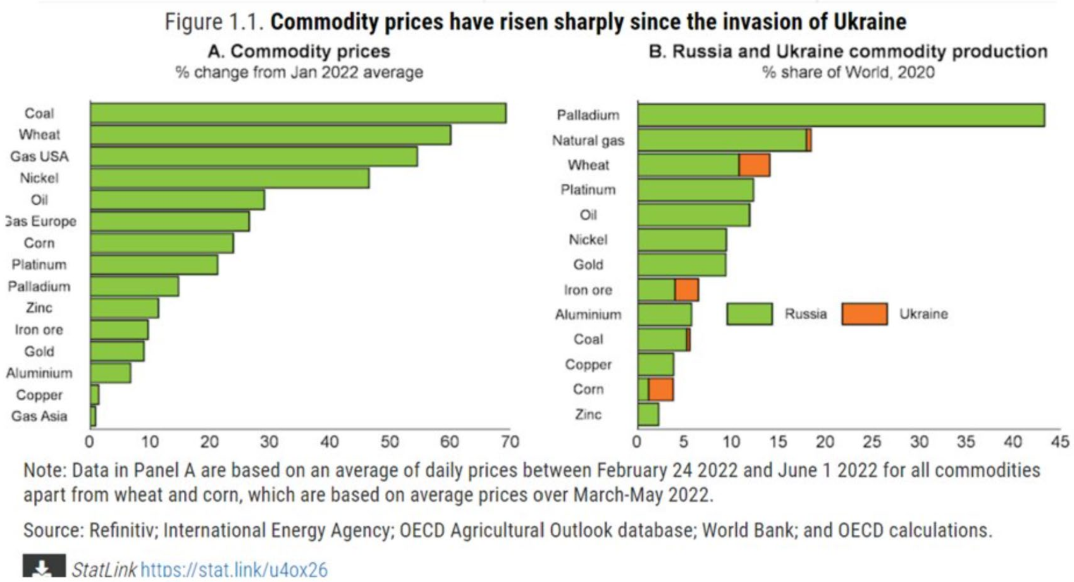
Here is what we wrote in our May 1, 2022 Energy Tidbits. ""*We thought there was a throwing water on the fire reality check on EV trucks from Ford CEO Jim Farley on Tuesday. We had missed his comments but one of our Twitter followers flagged it for us after seeing our Wednesday morning tweet [LINK] "GM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

Capital Markets – OECD reminds of Russia/Ukraine impact on global commodities

Russia/Ukraine impact on global commodities

We still believe the ultimate impact of Russia/Ukraine and the world's response thereto is still a long way from being finalized, which is why we tweeted [LINK] "*Good reminder graph of RUS/UKR % share of World commodity production & commodity price % change from Jan 2022. Lots more good charts @OECD Economic Outlook, June 2022. #Oil #NatGas #LNG #OOTT."* Our tweet included the below charts from the OECD's Wednesday posting of its "*Economic Outlook, June 2022: The Price of War*" [LINK]. No surprise, like all economic forecasts post Russia/Ukraine, there is lowering of expected GDP growth. In this case, the OECD lowered its 2022 world GDP growth by ~1.5% to 3%. The OECD wrote "*The world is paying a heavy price for Russia's war in Ukraine. It is a humanitarian disaster, killing thousands and forcing millions from their homes. The war has also triggered a cost-of-living crisis, affecting people worldwide. When coupled with China's zero-COVID policy, the war has set the global economy on a course of slower growth and rising inflation - a situation not seen since the 1970s. Rising inflation, largely driven by steep increases in the price of energy and food, is causing hardship for low-income people and raising serious food security risks in the world's poorest economies."* Our Supplemental Documents package includes excerpt from the report.

Figure 33: Commodity Prices, Russia and Ukraine commodity production



Source: OECD Economic Outlook, June 2022 https://www.oecd.org/economic-outlook/

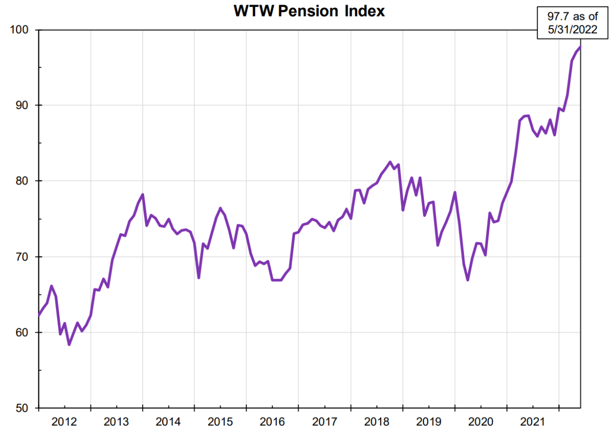
Source: OECD

Capital Markets – WTW, pensions are stronger with higher discount rate on liabilities

WTW Pension Finance Watch

On Monday, Willis Towers Watson's posted its Pension Finance Watch May 2022 [LINK], which looked a lot like last month's report. It reminded that the math involved in assessing the strength/security of a pension is what input variables are used. Our May 8, 2022 energy tidbits memo, said "*Some might think with markets and returns down in 2022, the strength of a pension is probably less than it was at year end 2021. But that is not the case. The reason is that higher long term interest rates increase the discount rate to value the pension liabilities over time. And this higher discount rate more than offsets the negative returns in 2022. The math makes sense, it just feels like kicking the can down the road. But it reminds that it is important to look at what discount rates are used.*" It was essentially the same story for May. WTW stated *"The WTW Pension Index continued to increase in May to the highest level it has seen since March 2002, despite continued volatility during the month. Modest investment returns combined with reduction in liabilities due to increases in discount rates contributed to raising the end-of-May index to 97.7, an increase of 0.7% for the month."* Our Supplemental Documents package includes the WTW Pension Finance Watch for May.

Figure 34: WTW Pension Index



Source: Willis Towers Watson

Starbucks CEO search

Capital Markets – Starbucks limits CEO candidates to only external candidates

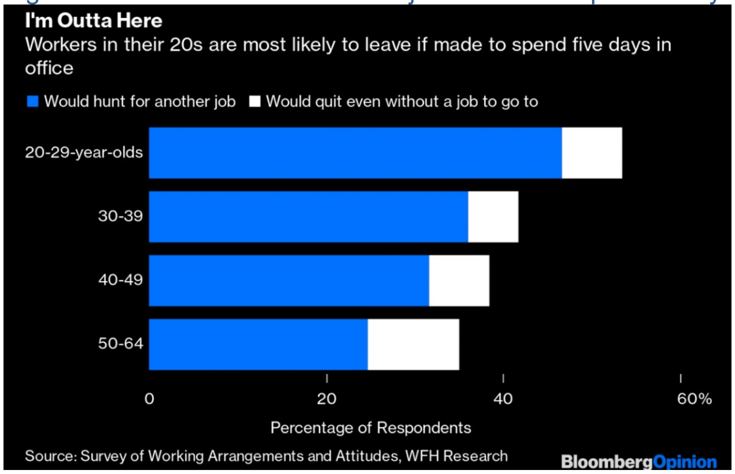
I don't follow the analyst coverage of Starbucks so haven't seen what they have said about the WSJ report that "*Starbucks is considering only external candidates for its next chief executive officer, as interim CEO Howard Schultz said the company needs to add new talent and skills to its senior leadership rank*". But as someone who has been involved in senior management of oil and gas companies and investment dealers, it seems like a move that will lead to less top performers at all levels. No one can disagree that it is a way to get new blood at the very top and senior levels of the organization. But it is also an even better way for your good people to leave early as they will feel there isn't the same upside potential. And the reality is that it's the good people that leave because they can leave. Our Supplemental Documents package includes the WSJ report. [LINK]

Working from home vs the office

Demographics –Young workers more likely to quit if forced to spend 5 days in office

We realize that there are different work expectations/obligations from different generations, but the reality is that the changing labor market is the key reason for different work approaches. This isn't from media, it's from the business leaders and we are seeing it in areas that many thought would never change ie. investment banking. Young professionals are in huge demand and have options. And this is why we believe we see reports such as Bloomberg's "*A recent study by consultants McKinsey & Co. found that workers aged 18 to 34 were 59% more likely to leave than 55- to-64-year-olds if their employer didn't offer a hybrid work arrangement."* Young workers have more options to move for better compensation. There isn't that much of a difference within the age groups but younger people have more options. There is much more in the Bloomberg opinion piece. Our Supplemental Documents package includes the Bloomberg report.

Figure 35: Would hunt for another job if made to spend 5 days in office



Source: Bloomberg

Demographics – Hong Kong is still #1 most expensive location in the world

On Tuesday, ECA International released annual Cost of Living ranking [LINK] that ranked the most expensive locations for overseas workers. Hong Kong has maintained its position as the most expensive location in the world, bolstered by higher prices and a stronger currency over the past year. The ECA stated "*Year on year price rises of 3%, as measured by our basket of goods and services, are higher than we typically see in Hong Kong, but are lower than rates in similar cities both within the region and globally. Rather, it has been the strength of the Hong Kong dollar, which is pegged to the US dollar, in the past year which has enabled it to maintain its position as the most expensive location worldwide as other currencies have weakened."* High inflation pushed New York and London up the rankings to second and fourth respectively. Geneva came in at third while Tokyo dropped to fifth despite higher than usual inflation. Many locations in Asia have witnessed above-trend rates in inflation in the past 12 months, such as Sri Lanka which rose 23 places from last year. Most locations in the EU have dropped after an unsteady period for the Euro. The ECA stated "*Nearly every major Eurozone city saw a drop in the rankings this year as the euro performed worse in the last 12 months than the US dollar and British pound. The euro's weakness was mainly caused by market expectations of the ECB raising interest rates more slowly than its peers.*" Our Supplemental Documents package includes the ECA report.

ECA International cost of living ranking

Figure 36: Top 10 Most Expensive Locations for Overseas Workers

Location	2022 global ranking	2021 global ranking
Hong Kong	1	1
New York	2	4
Geneva	3	3
London	4	5
Tokyo	5	2
Tel Aviv	6	7
Zurich	7	6
Shanghai	8	9
Guangzhou	9	10
Seoul	10	8

Source: EIU

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

@Energy_Tidbits on Twitter

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

LinkedIn – Look for quick energy items from me on LinkedIn

Look for energy items on LinkedIn

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

Misc Facts and Figures.

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

Cabbage-gate is new Australia PM Albanese's crisis

We could not find the video but it sounds like new Australia Prime Minister Anthony Albanese was putting some humor into his comments on the shortage of lettuce in parts of Australia. Australia media reports heads of iceberg lettuce are going for A$10-12, which is about the same in Cdn dollars. The "crisis" is because some Australians are upset by KFC's decision to mix cabbage and lettuce instead of just using lettuce as a way to reduce costs. Albanese was well reported saying "*this is a crisis. My son loves KFC and when he hears about this, he is going to be devastated. It's extreme. Cabbage isn't the same as lettuce. That's just wrong. I'll put is on the list for the Cabinet meeting today. Cabbage-gate*".

Wed June 15 is Beer Day Britain, also Magna Carta Day

There should be more than usual raise a pint pictures on Wed, which is Beer Day Britain celebrated annually on June 15. We didn't realize it was also Magna Carta Day until we were on the Beer Day Britain website [LINK], who wrote "*Beer Day Britain is an annual celebration on June 15th for all beer lovers and it celebrates all beer including traditional ales, mainstream lagers, and limited edition craft beer and everything in between no matter where it is brewed or who owns the brewing company. June 15th is significant because that is also the date Magna Carta was sealed in 1215. The great charter mentions ale in Article 35. 'Let there be throughout our kingdom a single measure for wine and a single measure for ale and a single measure for corn…..' Ale was so important in England in 1215 that it was cited in one of the most significant legal documents in history. Today beer and pubs are still central to British life and seven out of 10 drinks sold in a pub are beer.?*

Reagan's "Mr Gorbachev, tear down this wall" was on June 12, 1987

One of the all time memorable lines from a President's speech was on June 12, 1987, when President Ronald Reagan spoke to then West Berliners in front of the Brandenburg Gate in West Berlin telling then Soviet Union leader to tear down the Berlin wall. It took 2 ½ years, but the Berlin wall did come down on Nov 9, 1989. This was during the cold war and Mikhail Gorbachev was then the final leader of the Soviet Union (USSR). Reagan's memorable line was at the end of this paragraph "*There is one sign the Soviets can make that would be unmistakable, that would advance dramatically the cause of freedom and peace. General Secretary Gorbachev, if you seek peace, if you seek prosperity for the Soviet Union and Eastern Europe, if you seek liberalization: Come here to this gate! Mr. Gorbachev, open this gate! Mr. Gorbachev, tear down this wall!".* Our Supplemental Documents package includes the full Reagan speech.

Figure 37: President Reagan at Brandenburg Gate on June 12, 1987

Source: Ronald Reagan Library