

# Energy Tidbits

September 3, 2023

Produced by: Dan Tsubouchi

## RWE CEO “Worst-Case Scenario for the Energy Transition” as Offshore Wind Projects in EU and US have been Stopped

**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. RWE CEO says offshore wind projects in EU & US have been stopped, which is the “worst-case scenario for the energy transition when large projects that have already been awarded are not realised as planned”. ([Click Here](#))
2. Exxon's new outlook reminds “natural decline rate of existing oil production is approx. 7% per year”, which means about 7 mmb/d per year. ([Click Here](#))
3. Union work stoppages expected to start July 7 at Chevron's 2.1 bcf/d Gorgon LNG and 1.2 bcf/d Wheatstone LNG especially given no bargaining sessions are currently scheduled. ([Click Here](#))
4. Seems like Trans Mountain is pointing to a delay for the start up of the TMX expansion. ([Click Here](#))
5. Novak tells Putin that Russia has come to an agreement with OPEC+ partners on reducing oil supplies to foreign markets, details coming this week. ([Click Here](#))
6. Please follow us on Twitter at [\[LINK\]](#) for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.
7. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [\[LINK\]](#).

**Dan Tsubouchi**  
Chief Market Strategist  
dtsubouchi@safgroup.ca

**Ryan Dunfield**  
CEO  
rdunfield@safgroup.ca

**Aaron Bunting**  
COO, CFO  
abunting@safgroup.ca

**Ryan Haughn**  
Managing Director  
rhaughn@safgroup.ca

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**Natural Gas: +32 bcf build in US gas storage; now +484 bcf YoY surplus**

For the week of August 25, the EIA reported a +32 bcf build (above the expectations of a +27 bcf build), and a big YoY decrease compared to the +61 bcf build reported for the week of August 26, 2022. This is up from last week's build of +18 bcf, and down vs the 5-year average build of +49 bcf. Total storage is now 3.115 tcf, representing a surplus of +484 bcf YoY compared to a surplus of +513 bcf last week. Total storage is +249 bcf above the 5-year average, down from the +268 bcf surplus last week. Below is the EIA's storage table from its Weekly Natural Gas Storage report [\[LINK\]](#).

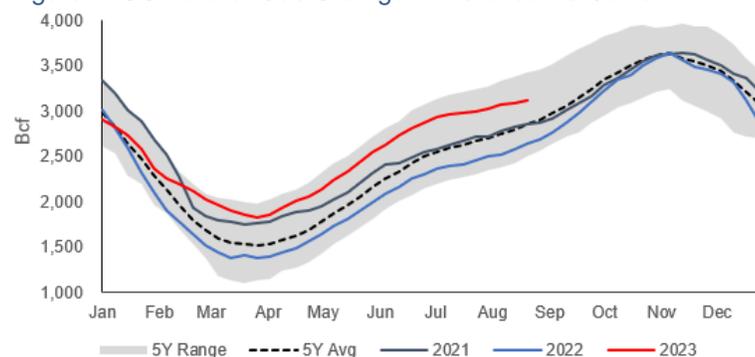
**US gas storage +484 bcf YoY surplus**

Figure 1: US Natural Gas Storage

Region	Stocks billion cubic feet (Bcf)				Year ago (08/25/22)		5-year average (2018-22)	
	08/25/23	08/18/23	net change	implied flow	Bcf	% change	Bcf	% change
East	751	731	20	20	612	22.7	680	10.4
Midwest	853	831	22	22	742	15.0	788	8.2
Mountain	213	206	7	7	156	36.5	178	19.7
Pacific	248	242	6	6	241	2.9	261	-5.0
South Central	1,050	1,072	-22	-22	880	19.3	959	9.5
Salt	249	260	-11	-11	185	34.6	224	11.2
Nonsalt	801	813	-12	-12	695	15.3	735	9.0
Total	3,115	3,083	32	32	2,631	18.4	2,866	8.7

Source: EIA

Figure 2: US Natural Gas Storage – Historical vs Current



Source: EIA, SAF

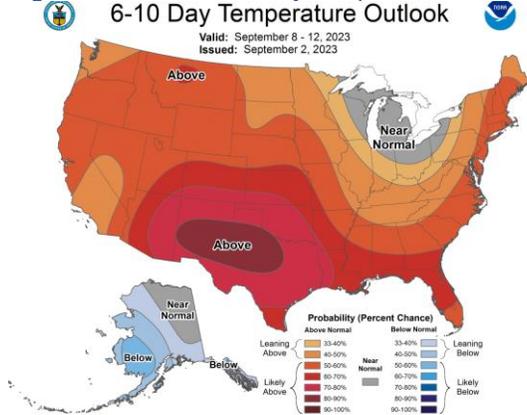
**Natural Gas: NOAA 8-14 day temperature outlook staying hot across most of Lower 48**

NOAA posts daily, around 1pm MT, an updated 6-10 day and 8-14 day temperature probability outlook. Yesterday, we tweeted [\[LINK\]](#) "Today's @NOAA updated 6-10 & 8-14 day temperature outlook covering Sept 8-16. Very hot pretty well across Lower 48 for next week. Then back to normal for NE US, with rest staying hot. Should provide support for #NatGas this week. #OOTT." NOAA expects it to be hot across almost all of the Lower 48 over the next week, and then staying hot pretty well everywhere except the NE US. Yesterday's NOAA 6-10 day [\[LINK\]](#) and 8-14 day outlook [\[LINK\]](#) are for the period Sept 8-16.

**NOAA 8-14 day outlook**

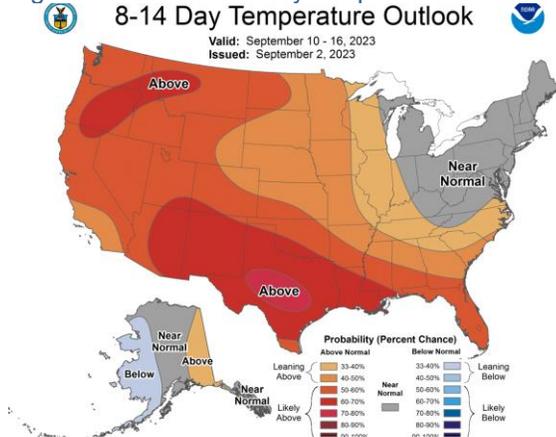
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Figure 3: NOAA 6-10 day temperature outlook Sept 8-12



Source: NOAA

Figure 4: NOAA 8-14 day temperature outlook Sept 10-16



Source: NOAA

### Natural Gas – Old Farmer’s Almanac calls for cold winter in the US

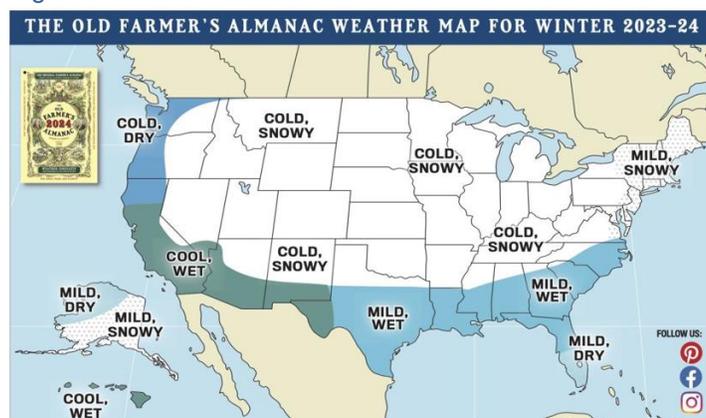
Our normal comment at this time of year is that it’s still early so long-term winter forecasts don’t have much of an impact on natural gas markets going into Labor Day. On Tuesday, the Old Farmer’s Almanac released its Winter Forecast 2023–2024. [\[LINK\]](#) The Old Farmer’s Almanac is forecasting “A winter wonderland! The 2024 Old Farmer’s Almanac predicts snow, seasonable cold, and all of winter’s delights! This winter’s forecast is sure to excite snow bunnies and sweater lovers alike, promising a whole lot of cold and snow across North America! Snowfall will be above normal across most snow-prone areas (except for the Pacific Northwest). Get prepared for oodles of fluffy white throughout the season! Keep a shovel at the ready early, especially in the Northeast and Midwest, where snow will arrive beginning in November with storms, showers, and flurries continuing through the start of spring. Along with above-normal snow, we’ll see normal to colder-than-normal temperatures in areas that typically receive snow. Expect just the right amount of chill in the air for an afternoon of

**Old Farmer’s Almanac calls for cold winter**

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adventurous snow sports or enjoying a big ol' mug of hot cocoa by a crackling fire. Only snowy New England and the Atlantic Corridor will enjoy winter temperatures which are milder than what's typical for their regions." Our Supplemental Documents includes the Old Farmers' Almanac release.

Figure 5: Old Farmer's Almanac Winter Forecast 2023-2024



Source: Old Farmer's Almanac

#### Old Farmer's Almanac uses solar science, weather patterns and meteorology

Here is what the Old Farmer's Almanac say on how they predict the weather. "By tradition, The Old Farmer's Almanac employs three scientific disciplines to make long-range predictions: solar science, the study of sunspots and other solar activity; climatology, the study of prevailing weather patterns; and meteorology, the study of the atmosphere. We predict weather trends and events by comparing solar patterns and historical weather conditions with current solar activity. Our forecasts emphasize temperature and precipitation deviations from averages, or normals. These are based on 30-year statistical averages prepared by government meteorological agencies. Read more about how we predict the weather."

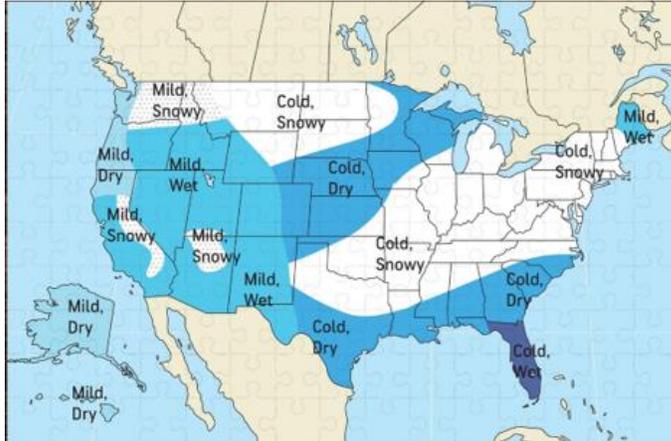
#### Last year's Old Farmer's Almanac called for cold winter 2022/2023 in the US

Here is what we wrote in our Sept 4, 2022 Energy Tidbits memo. "On Aug 31, the Old Farmer's Almanac released its 2022-2023 Winter forecast [\[LINK\]](#). The Old Farmer's Almanac is forecasting a cold winter for the eastern 2/3 of the US and a mild winter in the west 1/3 of the US. This should provide support for natural gas consumption. Looking at the regional assessments, it looks like a "tale of two winters" in the US during the colder months. They specifically highlight that winter temperatures will be colder than normal across most of the country in the northern and eastern states but milder at in western and southern regions. The Old Farmer's Almanac wrote "Winter temperatures will be colder than normal across much of the country between the East Coast and Rockies. Snowfall will be greater than normal from central New England through northern North Carolina, from the Lower Great Lakes and the Ohio and Tennessee Valleys into the southern Plains, from the northern Plains into eastern Washington, and across the higher terrain of the southern Rockies and California. Freezing temperatures will also bring above-

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average snow totals to most areas in the eastern U.S. that typically experience snowfall.”

Figure 6: Old Farmer's Almanac Winter 2022-2023 Forecast

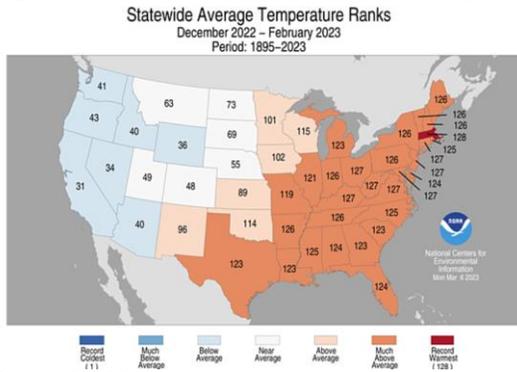


Source: Old Farmer's Almanac

**Winter 2022/23 was very hot**

At least as of now, NOAA is expecting a warmer than normal Dec/Jan/Feb, but the current forecast will not likely be close to winter 2022/23 (Dec/Jan/Feb) that was the 17<sup>th</sup> hottest in the last 128 years. Below is NOAA's statewide average temperature map for Dec/Jan/Feb 2022/23.

Figure 7: US 2022 JAS Statewide Average Temperature Map



Source: NOAA

**Natural Gas: US gas production flat for 4 mths, but June +4.2 bcf/d YoY to 102.8 bcf/d**  
 Apart from winter, the big negative to HH and AECO natural gas prices is the continued huge growth in US natural gas production. The two big picture US natural gas themes are unchanged this month with the release of June data – US gas production driven by shale/tight natural gas is up big YoY but relatively flat over the past four months. On Thursday, the EIA released its Natural Gas Monthly [LINK](#), which includes its estimated

**US gas production +4.2 bcf/d YoY in June**

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“actuals” for June’s dry gas production. Key items to note are as follows: (i) June’s production of 102.8 bcf/d was up +4.2 bcf/d YoY from 98.5 bcf/d in June 2022 and down -0.5 bcf/d MoM from May’s revised production of 103.2 bcf/d. (ii) US dry gas production is relatively unchanged over the past four months with March 102.7 bcf/d, April 102.4 bcf/d, May 103.2 bcf/d, and June 102.8 bcf/d. (iii) June is marginally down vs May, due to slightly lower MoM natural gas production in Texas (Permian) and Louisiana (Haynesville). Our Supplemental Documents package includes excerpts from the EIA Natural Gas Monthly.

Figure 8: US Dry Natural Gas Production

bcf/d	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Jan	56.0	60.0	66.0	65.3	66.8	73.4	73.6	70.6	78.7	89.4	95.1	92.8	95.3	101.8
Feb	57.2	58.8	67.0	65.4	68.4	73.8	77.3	71.5	80.4	90.0	98.1	86.2	94.5	101.8
March	57.3	61.5	65.0	65.3	68.9	74.1	73.8	73.2	81.3	90.6	94.6	92.3	95.4	102.7
Apr	57.6	62.3	64.8	66.1	70.5	75.2	73.7	73.3	81.2	91.0	92.9	93.2	96.5	102.4
May	58.0	62.4	65.0	65.9	70.2	74.1	72.9	73.3	82.1	91.7	87.8	93.0	97.7	103.2
June	57.2	62.1	64.6	65.8	70.5	74.0	72.2	74.0	82.5	92.0	88.4	93.2	98.5	102.8
July	58.2	62.5	66.3	67.1	72.0	74.2	72.8	74.7	84.2	92.5	89.8	93.7	98.5	
Aug	58.9	63.2	66.0	66.9	72.4	74.3	72.2	74.7	85.9	94.8	90.2	94.3	99.3	
Sept	59.1	63.1	66.4	66.8	72.4	74.7	71.7	76.0	87.3	94.7	89.5	93.6	100.5	
Oct	60.1	65.1	66.5	67.0	73.1	74.2	71.4	77.3	88.4	96.0	88.9	95.6	100.6	
Nov	60.1	65.9	66.6	67.7	72.6	73.9	72.0	79.8	89.9	96.7	92.0	97.0	101.0	
Dec	61.0	65.6	66.0	66.5	73.2	73.9	71.2	80.4	89.5	97.0	92.5	97.0	99.3	
Average	58.4	62.7	65.9	66.3	70.9	74.2	72.9	74.9	84.3	93.0	91.6	93.5	98.1	102.5

Source: EIA, SAF

**Natural Gas: US pipeline exports to Mexico new high at 6.8 bcf/d in June**

The EIA Natural Gas Monthly also provides its “actuals” for gas pipeline exports to Mexico [\[LINK\]](#), which were 6.8 bcf/d in June, up +0.5 bcf/d MoM from 6.3 bcf/d in May and is up +0.7 bcf/d YoY from 6.1 bcf/d in June 2022. The EIA doesn’t provide explanations for the numbers but the increase should be linked to some recent infrastructure increases. Mexico’s relatively unchanged domestic production over the past seven years has created the need for increased US pipeline exports as Mexico builds out its domestic natural gas infrastructure. Below is our table of the EIA’s monthly gas exports to Mexico.

**US pipeline exports to Mexico up MoM**

Figure 9: US Pipeline Exports to Mexico

bcf/d	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Jan	1.7	2.2	3.2	3.9	4.4	4.9	5.2	5.6	5.7	5.3
Feb	1.8	2.3	3.5	4.0	4.5	4.8	5.4	4.9	5.5	5.4
March	1.9	2.4	3.3	4.2	4.3	4.8	5.4	5.9	5.5	5.7
Apr	1.9	2.6	3.5	3.7	4.4	4.7	4.6	6.1	5.9	5.6
May	2.0	2.8	3.7	4.0	4.4	5.0	4.7	6.2	6.0	6.3
June	2.2	3.0	3.9	4.5	4.6	5.2	5.4	6.6	6.1	6.8
July	2.2	3.3	4.0	4.4	4.9	5.4	5.8	6.4	6.1	
Aug	2.1	3.3	4.3	4.4	5.0	5.4	6.0	6.2	5.8	
Sept	2.2	3.3	4.1	4.2	5.0	5.4	6.1	6.0	5.6	
Oct	1.9	3.2	4.2	4.2	4.9	5.5	6.0	6.0	5.5	
Nov	1.9	3.0	4.0	4.5	4.7	5.3	5.5	5.5	5.4	
Dec	2.1	3.2	3.6	4.4	4.5	4.9	5.3	5.4	5.1	
Average	2.0	2.9	3.8	4.2	4.6	5.1	5.5	5.9	5.7	5.9

Source: EIA, SAF

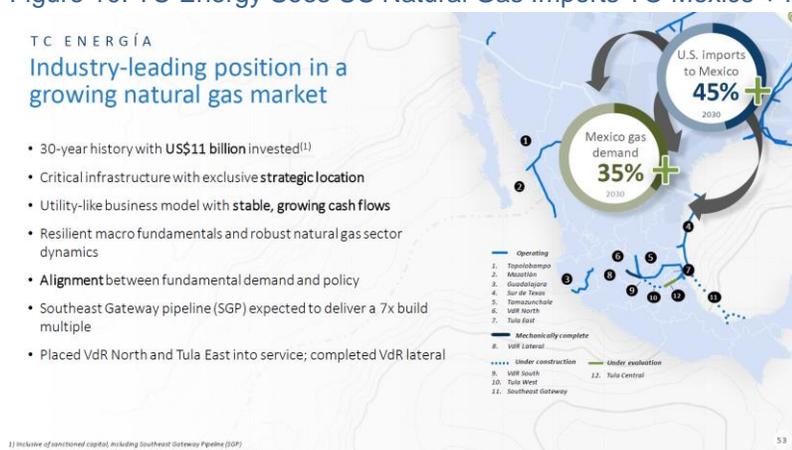
**TC Energy sees Permian natural gas +3 bcf/d to Mexico by 2030**

Here is what we wrote in our Dec 4, 2022 Energy Tidbits. “One overlooked upside to US natural gas in the 2020s is that the growth Mexico infrastructure projects are starting to kick in. Yesterday, we tweeted [\[LINK\]](#) “Positive for US #NatGas for 2020s. It’s not just increasing #LNG exports, it’s also Mexico. Mexico #NatGas demand from

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9 bcf/d to 12 bcf/d in 2030. @TCEnergy expects MEX #NatGas pipeline imports from Permian +45% from 6 bcf/d in 2022 to 9 bcf/d by 2030. #OOTT.” The growth in Mexico natural gas demand is a big plus to the Permian. For the last few years, every time we write on Mexico’s natural gas production, we say it is still stuck below 5 bcf/d and that any increase in Mexico natural gas demand has to be met by increasing natural gas or LNG imports. For the past 5+ years, other than a few months, Mexico gas production was below 5 bcf/d. Mexico’s natural gas demand growth and growing infrastructure was one of the key growth themes at TC Energy’s investor day on Tuesday. Mgmt’s slide deck included the below slide and mgmt said “We expect Mexican natural gas demand to increase by 3% per year across the country from 9 Bcf to 12 Bcf in 2030, with strategic government projects creating over 1 Bcf a day of incremental gas demand in the southeast alone by 2025. Now given Mexico’s limited natural gas production, this increase in demand will likely be served by supplies in the U.S. and more specifically the Permian as we believe Mexican imports from the Permian are likely to increase by 45% from 6 Bcf a day in 2022 to 9 Bcf by 2030.”

Figure 10: TC Energy Sees US Natural Gas Imports TO Mexico +45% to 2030



Source: TC Energy

### Natural Gas – PHMSA suspends any LNG by rail in the US

On Friday, the Pipeline and Hazardous Materials Safety Administration PHMSA (Department of Transportation) announced its “Hazardous Materials: Suspension of HMR Amendments Authorizing Transportation of Liquefied Natural Gas by Rail. A Rule by the Pipeline and Hazardous Materials Safety Administration on 09/01/2023.” [\[LINK\]](#) and “PHMSA, in coordination with the Federal Railroad Administration (FRA), is amending the Hazardous Materials Regulations to suspend authorization of liquefied natural gas (LNG) transportation in rail tank cars pursuant to a final rule published on July 24, 2020, pending the earlier of either completion of a companion rulemaking evaluating potential modifications to requirements governing rail tank car transportation of LNG, or June 30, 2025.” We read this lengthy rule posting. There are a range of items noted for the temporary suspension. The PHMSA notes that no LNG deliveries using the recommended DOT-113 tank cars have taken

PHMSA suspends approves LNG by rail

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place since the original June 2020 rule. No surprise the industry says no reason for the temporary suspension.

#### 06/19/20: PHMSA approves final rule for LNG by rail in the US

Here is what we wrote in our June 21, 2020 Energy Tidbits memo. *“On Friday, the Pipeline and Hazardous Materials Safety Administration PHMSA (Department of Transportation) announced its “U.S. Department of Transportation Issues Final Rule for the Safe Transportation of Liquefied Natural Gas by Rail Tank Car” [\[LINK\]](#) that authorizes the transport of LNG via rail in “DOT-113C120W9 (DOT-113) specification tank cars with enhanced outer tank requirements and additional operational controls.” In an oversupplied natural gas market in the US and around the world, its easy to overlook that anti pipeline means that some areas don’t have enough natural gas and that is why this rule is being put in place. Basically similar how do you get oil to a region without a pipeline – truck or rail. And a state like New York is apparently one of the key target markets for LNG based on Marcellus natural gas supply from Pennsylvania. However, New York and many other states are strongly opposed and raised objections to the PHMSA on this proposed rule with concerns on safety and risk of explosions. As of our 8am MT news cut off, we haven’t seen any significant state response on how they fight this, but we have to believe there will be some look (as we saw in the state of Washington with Bakken crude by rail) by the states as to how they can prevent LNG by rail through their state. It’s a good reminder also that the elections are just over 4 months away. New York has been strongly Democrat but Pennsylvania last time went for Trump in a very close race by 0.5% margin over Clinton whereas he trails Biden by 5% in current polling.”*

#### Natural Gas: US LNG exports down -7.6% MoM to 10.9 bcf/d in June; up +9.1% YoY

As a reminder, the US LNG export data is always available one to two weeks before it is included in the EIA’s Natural Gas Monthly report. Here is what we wrote in our August 20, 2023 Energy Tidbits memo. *“On Tuesday, the Department of Energy (DOE) posted its US LNG exports estimates for June 2023 [\[LINK\]](#). This is a reminder that the US LNG export data is available about two weeks prior to the more popularly referenced US LNG exports from the Natural Gas Monthly. The EIA is a group under the Department of Energy, and the Department of Energy posts its LNG Monthly about two weeks before the EIA’s Natural Gas Monthly. The data for LNG exports is either identical or just a rounding issue. On Tuesday, we tweeted [\[LINK\]](#) “US #LNG exports June/23 of 10.93 bfd, +9.1% YoY, -10.6% MoM. See 07/18 tweet, June expected lower due to higher maintenance. June/23 top 5 export markets: Dutch, France, Japan, China, Argentina June/22 top 5 export markets: France, Dutch, Spain, Argentina, Korea This DOE LNG data is posted 2 wks before same data in [@EIAgov](#) Natural Gas Monthly. #OOTT #NatGas”.* On Thursday, the EIA’s Natural Gas Monthly reported the same data, US LNG exports for June were 10.9 bcf/d, down -0.9 bcf/d MoM from 11.8 bcf/d in May and was up +0.9 bcf/d from 10.0 bcf/d in June 2022. The DOE LNG report includes more information on US LNG exports and our Supplemental Documents package includes excerpts from the DOE LNG report.

#### US June LNG exports

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Figure 11: US LNG Exports

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

Source: DOE, EIA

### Natural Gas: LNG 101, LNG Canada will drive multi-year M&A for Cdn natural gas

We had a number of discussions with oil people and investors on our item in last week's (Aug 27, 2023) Energy Tidbits memo on how LNG Canada will drive multi-year M&A for Canadian natural gas. Apparently, a number of desks highlighted their Cdn natural gas acquisition targets. Any discussions were in agreement with this multi-year M&A thesis. Here is what we wrote in last week's (Aug 27, 2023) Energy Tidbits memo. *"We were a little surprised that no one has focused on the reality of supplying natural gas for LNG projects –natural gas supply for LNG projects decline over time and there has to be a constant addition of new natural gas supply from drilling and/or acquisitions to keep the LNG plant full for 30 or 40 years. It's an obvious LNG 101. (i) We saw a good example of this on Monday and we tweeted [\[LINK\]](#) "Overlooked Cdn #NatGas upside > 2025. 🙌 #Total reminds #LNG needs ONGOING drilling AND M&A to offset #NatGas supply declines to keep delivering LNG capacity. #LNGCanada has 40 yr license. Phase 1 is 1.8 bcf/d. Phase 2 would add 1.8 bcf/d. Cdn NatGas M&A inevitable for yrs? #OOTT" (ii) Our tweet included the Aug 21 TotalEnergies announcement "Australia: TotalEnergies acquires a 26% interest in the Cash-Maple gas discoveries for the long-term supply of Ichthys LNG." [\[LINK\]](#) TotalEnergies was buying permits that can be developed to provide natural gas for its Ichthys LNG project. TotalEnergies also wrote "Thanks to this joint acquisition together with our partner INPEX, we are pleased to secure additional resources for the future supply of the Ichthys LNG plant. These resources will help us to meet the long-term demand of our customers in the Asia-Pacific region for LNG." (iii) LNG Canada has a 40-year export license. Its under construction Phase 1 is 1.8 bcf/d and is going to be supplied by relatively high decline Montney and other similar natural gas zones. We have already highlighted that we expect to see acquisitions of supply or tying up of gas supply via contract for Phase 1 startup. But then, there is the ongoing supply challenge. The TotalEnergies deal is a reminder that LNG Canada will be having ongoing acquisitions for decades. Then throw on top of that the potential (we still think likely) FID of Phase 2 of 1.8 bcf/d and it sets up the likelihood of a multi-year M&A need for natural gas to supply LNG Canada. Based on some of the comments on our tweet, we weren't surprised to see some of the dealers out speaking on this M&A likelihood this week. Our Supplemental Documents package includes the TotalEnergies announcement."*

Multi-year M&A  
for Cdn natural  
gas

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### Natural Gas: Oman LNG and Shell sign long-term LNG deal for ~0.11 bcf/d

### Long-term LNG deal

Recently we've seen shorter-term LNG deals (4 and 5 yrs) with quality buyers and have highlighted that we will watch this space to see if these deals are an indicator that the big rush to long-term LNG deals is ending. But this week, we saw another long-term LNG deal, which we expect has been in the works for some time ie. not impacted by last week's two shorter-term LNG deals. On Wednesday, Oman News Agency reported Oman LNG (Oman) announced they have entered a sale and purchase agreement with Shell (US) [\[LINK\]](#). The deal is set to begin in 2025, with Shell purchasing ~0.11 bcf/d. The term of the SPA extends through 2035. Senior VP and Country Chair of Oman Shell, Walid Hadi, commented "*hell is proud of the role it has played in Oman LNG to date, as a shareholder and a technical advisor since its inception. We are proud that we will now become Oman LNG's largest LNG purchaser as well as its largest private shareholder. This additional off-take term sheet signifies our deep commitment to continue pulling on all levers of Oman's energy system to address the pressing trilemma of sustainability, affordability, and security. Simultaneously, it serves as a pivotal step in the evolution of our hydrocarbon enterprise, steering it toward a future characterized by both low carbon emissions and financial viability*". Our supplement document package contains the Oman News Agency report.

### Oman LNG also did a 4-yr LNG deal but with govt of Oman trading arm

In addition to the 10-yr LNG deal with Shell, Oman LNG also did a shorter-term 4-yr deal with OQ Trading for 0.10 bcf/d beginning in 2026. We don't think this 4-yr deal fits the concern about a change in LNG buyer sentiment potentially shifting to shorter-term LNG deals because OQ Trading is the "*commodity trading vehicle of the Government of Oman*." It's basically an affiliated government company, although Oman LNG is a joint venture company only owned 51% by the Government of the Sultanate of Oman. The other joint venture owners are Shell 30%, TotalEnergies 5.54%, KOLNG 5%, Mitsubishi 2.77%, Mitsui 2.77%, Partex 2% and Itochu 0.92%. Oman LNG was established by a royal decree in 1994.

### Two recent shorter-term LNG deals, is rush to long-term LNG deals ending?

Our Aug 20, 2023 Energy Tidbits memo highlighted two recent shorter-term LNG deals. Here is what we wrote "*We don't want to look at a couple of shorter-term LNG deals and say that represents a sea change in perhaps the most important LNG global market trend in the last 2+ years – the abrupt shift from Asian LNG buyers in July 2021 to move from spot/short-term to long-term contracts following TotalEnergies force majeure at its Mozambique LNG that indefinitely backed up 5 bcf/d of LNG in Mozambique that was supposed to start come on stream over a five year period starting in 2024. (i) But there were two shorter-term LNG deals this week, which don't fit our longstanding thesis so it jumped out at us. Do they represent the start of a move by buyers and sellers away from long-term LNG contracts? Do they point to less concern on LNG supply shortage towards the end of the 2020s. There have been 17.08 bcf/d of long-term LNG deals since July 2021. And, TotalEnergies is expected to lift the force majeure at its Mozambique LNG, which will set in motion 5 bcf/d of LNG in Mozambique to probably start up in 2027. So maybe the start of a pivot. of a pivot. If it's a pivot, it points to an outlook of strong but not necessarily crazy LNG prices. Definitely something we will want to watch. (ii) On Monday we tweeted [\[LINK\]](#) "One off? or is rush to tie up late 2020s #LNG*

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*ending? ie. buyers expect restart #TotalEnergies Mozambique LNG leads to 5 bcf/d of MZ LNG post 2026? #OmanLNG to supply 0.4 mtpa to Germany's SEFE starting 2026. BUT on a 4-yr term. NOT the 10+ yr term common post Total Apr 2021 MZ force majeure. 17.08 bcf/d long-term LNG deals since 07/01/21, see SAF Group 08/13/23 Energy Tidbits [\[LINK\]](#) #OOTT.” Oman LNG announced a LNG supply deal of 0.4 mtpa starting from 2026 but it was only for a 4-year term. The 4-year term surprised us. We know German buyers have been looking for short-term LNG deals, but the major LNG suppliers have been holding out for traditional long-term LNG deals. So this deal jumped out at us. (iii) Yesterday, we tweeted [\[LINK\]](#) “Item to watch! Another shorter term #LNG deal: ADNOC 5-yr deal with JAPEX. Follows 🟡 OmanLNG 4-yr deal with DEU's SEFE. is the rush to tie up late 2020s LNG ending? ie. buyers expect restart #TotalEnergies Mozambique LNG leads to 5 bcf/d of MZ LNG post 2026? #OOTT #NatGas.” On Thursday, ADNOC Gas (UAE) signed a 5-yr LNG supply deal with Japan Petroleum Exploration starting in 2026. There was no disclosure anywhere of the volumes but they did say the agreement was valued at \$450-\$550mm. Our Supplemental Documents package includes ADNOC release and the Times of Oman reporting. The reason we did not include the Oman LNG release is that it didn't include the deal was only for a 4-year term.”*

#### **Asia was early to secure and hasn't stopped securing long term LNG supply**

Asian buyers were early to secure long term LNG supply and started to lock up long term LNG supply starting in July 2021. The LNG supply crunch for the 2020s was clear before Russia invaded Ukraine. Rather, it was clear in H1/21 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*

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*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 17.29 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 17.29 bcf/d of long-term LNG deals since July 1, 2021. 64% 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. Note in our non-Asian LNG deals will major LNG players (ie. Chevron, Shell, etc) buying for their LNG portfolio supply. China has been particularly active in this space, accounting for 65% of all Asian LNG buyers in long term contracts since July 1, 2021. Below is our updated table of Asian and Europe LNG buyers new long-term supply deals since July 1, 2021.

Figure 12: Long-Term LNG Buyer Deals Since July 1, 2021

Long-Term LNG Buyer Deals Since July 1, 2021							
Date	Buyer	Seller	Country	Volume	Duration	Start	End
	Buyer / Seller		Buyer / Seller	(bcf/d)	Years		
<b>Asian LNG Deals</b>							
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
Sep 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	Unipac	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	0.26	20.0	2026	2046
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
Jul 5, 2022	China Gas Holdings	NextDecade	China / US	0.13	20.0	2027	2047
Jul 20, 2022	PetroChina	Cheniere	China / US	0.24	24.0	2026	2050
Jul 26, 2022	PTT Global	Cheniere	Thailand / US	0.13	20.0	2026	2046
Jul 27, 2022	Exxon Asia Pacific	NextDecade	Singapore / US	0.13	20.0	2026	2046
Sep 2, 2022	Woodside Singapore	Commonwealth	Singapore / US	0.33	20.0	2026	2046
Nov 21, 2022	Sinopec	QatarEnergy	China / Qatar	0.53	27.0	2026	2053
Dec 26, 2022	INPEX	Venture Global LNG	Japan/US	0.13	20.0	n.a.	n.a.
Dec 27, 2022	JERA	Oman LNG	Japan/Oman	0.11	10.0	2025	2035
Jan 19, 2023	ITCOHU	NextDecade	Japan / US	0.13	15.0	n.a.	n.a.
Feb 7, 2023	Exxon Asia Pacific	Mexico Pacific Ltd	Singapore / Mexico	0.26	20.0	n.a.	n.a.
Feb 23, 2023	China Gas Holdings	Venture Global LNG	China / US	0.26	20.0	n.a.	n.a.
Mar 6, 2023	Gunvor Singapore Pte	Chesapeake Energy	Singapore / US	0.26	15.0	2027	2042
Apr 28, 2023	JERA	Venture Global LNG	Japan/US	0.13	20.0	n.a.	n.a.
May 16, 2023	KOSPO	Cheniere	Korea/US	0.05	19.0	2027	2046
Jun 1, 2023	Bangladesh Oil	QatarEnergy	Bangladesh/Qatar	0.24	15.0	2026	2031
Jun 21, 2023	Petro Bangle	Oman	Bangladesh/Oman	0.20	10.0	2026	2036
Jun 21, 2023	CNPC	QatarEnergy	China/Quatar	0.53	27.0	2027	2054
Jun 26, 2023	ENN LNG	Cheniere	Singapore / US	0.24	20.0	2026	2046
Jul 5, 2023	Zhejiang Energy	Mexico Pacific Ltd	China / Mexico	0.13	20.0	2027	2047
Aug 8, 2023	LNG Japan	Woodside	Japan / Australia	0.12	10.0	2026	2036
<b>Total Asian LNG Buyers New Long Term Contracts Since Jul/21</b>				<b>11.02</b>			
<b>Non-Asian LNG Deals</b>							
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
Mar 7, 2022	Shell	Venture Global LNG	US / US	0.26	20.0	2024	2044
Mar 16, 2022	NFE	Venture Global LNG	US / US	0.13	20.0	2023	2043
Mar 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	0.30	15.0	n.a.	n.a.
Jun 9, 2022	Equinor	Cheniere	Norway / US	0.23	15.0	2026	2041
Jun 21, 2022	EnBW	Venture Global LNG	Germany / US	0.20	20.0	2026	2046
Jun 22, 2022	INEOS Energy	Sempra Infrastructure	UK / US	0.21	20.0	2027	2047
Jun 22, 2022	Chevron	Venture Global LNG	US / US	0.26	20.0	n.a.	n.a.
Jun 22, 2022	Chevron	Cheniere	US / US	0.26	15.0	2027	2042
Jul 12, 2022	Shell	Mexico Pacific Ltd	US / Mexico	0.34	20.0	2026	2046
Jul 13, 2022	Vitol	Delim Midstream	US / US	0.07	15.0	n.a.	n.a.
Aug 9, 2022	Centrica	Delim Midstream	UK / US	0.13	15.0	2026	2041
Aug 24, 2022	Shell	Energy Transfer	US / US	0.28	20.0	2026	2046
Oct 6, 2022	EnBW	Venture Global LNG	Germany / US	0.26	20.0	2022	2042
Dec 6, 2022	ENGIE	Sempra Infrastructure	France / US	0.12	15.0	n.a.	n.a.
Dec 20, 2022	Galp	NextDecade	Portugal / US	0.13	20.0	n.a.	n.a.
Dec 20, 2022	Shell	Oman LNG	UK/Oman	0.11	10.0	2025	2035
Jan 25, 2023	PKN ORLEN	Sempra Infrastructure	EU/US	0.13	20.0	2027	2047
Jan 30, 2023	BOTAS	Oman	Turkey / Oman	0.13	10.0	2025	2035
Mar 27, 2023	Shell	Mexico Pacific Ltd	UK / Mexico	0.15	20.0	2026	2046
Apr 24, 2023	Hartree Partners LP	Delim Midstream	US / US	0.08	20.0	n.a.	n.a.
Jun 21, 2023	Equinor	Cheniere	Norway / US	0.23	15.0	2027	2042
Jun 22, 2023	SEFE	Venture Global LNG	EU/US	0.30	20.0	2026	2046
Jul 14, 2023	ONEE (Morocco)	Shell	Africa/US	0.05	12.0	2024	2036
Jul 18, 2023	IOCL	Adnoc	India/UAE	0.16	14.0	2026	2040
Jul 28, 2023	OMV	BP	Austria/UK	0.13	10.0	2026	2036
Aug 4, 2023	ConocoPhillips	Mexico Pacific Ltd	US/Mexico	0.29	20.0	2025	2045
Aug 22, 2023	BASF	Cheniere	Germany / US	0.10	17.0	2026	2043
Aug 30, 2023	Shell	Oman LNG	US / Oman	0.11	10.0	2025	2035
<b>Total Non-Asian LNG Buyers New Long Term Contracts Since Jul/21</b>				<b>6.27</b>			
<b>Total New Long Term LNG Contracts since Jul/21</b>				<b>17.29</b>			

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Source: SAF

### Natural Gas: Work stoppages to start Sept 7 at Chevron Gorgon and Wheatstone LNG

As of our 7am MT news cut off, it looks like the union's industrial action (work stoppages) on Chevron will be starting on Sept 7 unless there is a deal. On Friday, we tweeted [\[LINK\]](#) "*Potential Sept 7 start of staggered industrial action at Chevron AUS LNG: Gorgon 2.1 bcf/d, Wheatstone 1.2 bcf/d. Union voted down Chevron EA proposal. Collective bargaining didn't start during the vote. Chevron cancelled Wheatstone turnaround. #OOTT #LNG #NatGas.*" Our tweet included the latest Offshore Alliance Facebook postings, although we expect to see a posting tonight, which would be Monday daytime Perth time. There have been no collective bargaining sessions so far and none are currently scheduled so it seems impossible for any way to avoid the work stoppages. Our Supplemental Documents package includes the Offshore Alliance Facebook postings.

**Chevron LNG strike potential?**

### Work stoppages to start on Sept 7 at both Gorgon and Wheatstone

As a reminder Gorgon is 2.1 bcf/d and Wheatstone is 1.2 bcf/d. On Tuesday, Bloomberg posted the planned work stoppages for the Sept 7-13 period. Bloomberg wrote "*Workers at Chevron's Gorgon and Wheatstone LNG export plants are planning work stoppages of up to 11 hours a day over Sept. 7-13, according to people with knowledge of the matter. \* Unions plan the following work stoppages based on a document seen by Bloomberg \*\* Gorgon: 7 hours on Sept. 7, 10 hours on Sept. 8, 11 hours on Sept. 9, 10 hours on Sept. 10, 10 hours on Sept. 11, 10 hours on Sept. 12, 10 hours on Sept. 13 \*\* Wheatstone Downstream: 7 hours on Sept. 7, 10 hours on Sept. 8, 11 hours on Sept. 9, 10 hours on Sept. 10, 10 hours on Sept. 11, 10 hours on Sept. 12, 10 hours on Sept. 13 \*\* Wheatstone Platform: 3 hours on Sept. 7, 4 hours on Sept. 8, 4 hours on Sept. 9, 4 hours on Sept. 10, 4 hours on Sept. 11, 4 hours on Sept. 12, 4 hours on Sept. 13, 1 hour Sept. 14 \* Work stoppages will be split into one-hour periods spread through the day"*

### Natural Gas: Forecast well above normal temperatures through Sept in Japan

It has been really hot in Japan this summer and it looks like the hot weather will continue into the fall season. Every Thursday, the Japan Meteorological Agency updates its 30-day outlook [\[LINK\]](#). The August 31 update calls for much warmer than typical temperatures for the Sept 2 – Oct 1 period. The well above average temperatures are forecasted through the whole country, with every region having the highest probability-level of warm temperatures. The hot weather should keep demand on electricity for air conditioning and continue to pull on LNG stocks. Below is the JMA's 30-day temperature probability forecast for Sep 2 to Oct 1.

**Japan's 30-day temperature forecast**

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Figure 13: JMA Sep 2 – Oct 1 Temperature Probability Forecast



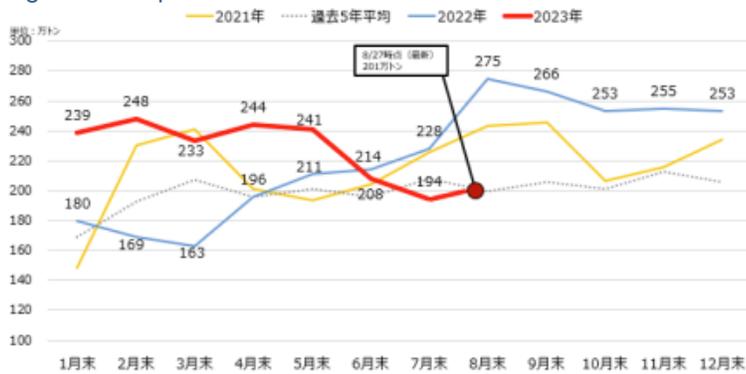
Source: Japan Meteorological Agency

**Natural Gas: Japan’s LNG stocks remain below 2022 but above 5-year average levels**

It’s been hot in Japan, and Japan has been drawing on its LNG stocks for power generation for the past few weeks and have taken LNG stocks below year ago and the 5-yr average. It meant that Japan will be starting to get some LNG cargos to increase LNG stocks. And this week, we saw a build, but Japan LNG stocks are still below 2022, 2021 average levels. On Wednesdays, Japan’s METI releases its weekly LNG stocks data [\[LINK\]](#). LNG stocks on August 27 were 96.5 bcf and are up +10.4% WoW from August 20 of 87.4 bcf, and just above the 5-year average of 96.1 bcf. METI did not comment on the MoM increase. Below is the Japanese LNG stocks graph from the METI weekly report.

Japan LNG stocks up +10.4% WoW

Figure 14: Japan LNG Stocks



Source: METI

**Natural Gas: Hot weather in western Europe this week**

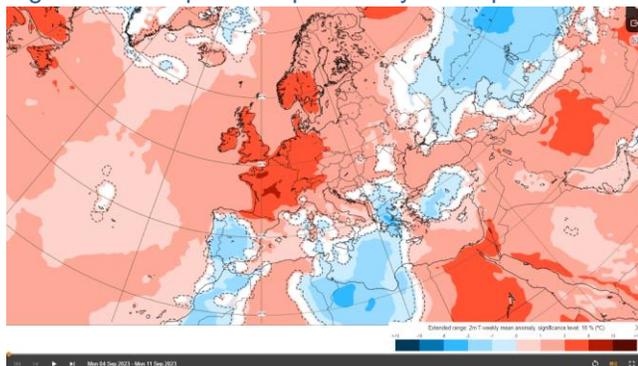
In most of western Europe, it was a relatively mild temperature week, but it looks like it is turning hot this week before turning back to more mild temperatures in two weeks. Western Europe is expected to be warmer than normal. Now that we are out of summer peak, we like to look to see what warmer than normal means in terms of actual temperatures. Last night, we checked AccuWeather daily forecasts for key cities. Paris and Rome are expected to have daily highs in the low 30C’s this week and Berlin daily highs in the high 20C’s this week.

Mild summer temps in Europe

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Below is the ECMWF forecast temperature probability maps for Sept 4-11 that was posted yesterday. [LINK](#).

Figure 15: Temperature probability for Sept 4-11

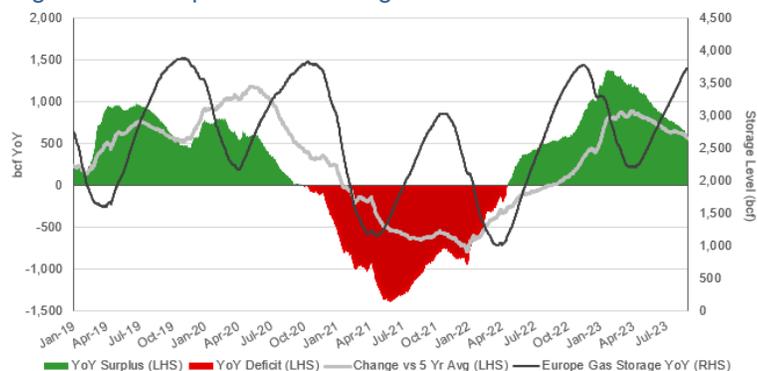


Source: ECMWF

**Natural Gas: Europe storage ~93% full, so should go into winter full or close to full**  
 Europe storage hit the 90% full level in August and continues to increase this week. So, Europe should be able to go into winter at full or close to full levels. Over the past several weeks, the hot weather and relatively low natural gas prices have led to a modest narrowing of the gas storage surplus relative to last year and the 5-year average. Although not putting risk to Europe storage being full or near full for the start of winter. This week, Europe storage increased by +0.94% WoW to 92.80% on August 30. Storage is now +12.48% greater than last year levels of 80.32% and is +12.09% above the 5-year average of 80.71%. The current storage is within the 5-year range, albeit at the top end of the range. Below is our graph of Europe Gas Storage Level.

Europe gas storage

Figure 16: European Gas Storage Level



Source: Bloomberg, SAF

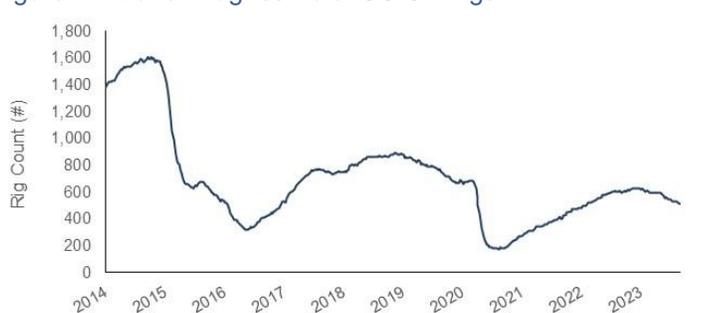
**Oil: US oil rigs flat WoW at 512 rigs on September 1, US gas rigs -1 WoW to 114 rigs**  
 On Friday, Baker Hughes released its weekly North American drilling rig data. (i) Total US oil rigs were flat WoW at 512 total rigs, and are -84 rigs YoY for the week of September 1. This

US oil rigs flat WoW

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is up +31 rigs from the 2022 low of 481 rigs in January. On a per basin basis, there were only minor +/- one rig WoW changes for the week of September 1. The Permian was down -1 rigs WoW to 316 rigs, Cana Woodford was +1 rigs WoW to 17 rigs, and Eagle Ford decreased -2 rigs WoW to a total of 48 rigs. The Permian is now at its lowest level since March 18, 2022 and is down -41 rigs from its recent high of 357 rigs on April 28, 2023. (ii) Gas rigs were down -1 rigs WoW at total of 114 rigs and have now decreased -48 rigs YoY. On a per basin basis, Marcellus decreased -1 rig WoW to 30 rigs. In contrast, Haynesville was flat WoW at 41 rigs, and the Below is our graph of total US oil rigs.

Figure 17: Baker Hughes Total US Oil Rigs



Source: Baker Hughes, SAF

**Oil: Total Cdn rigs down -3 rig WoW to 187 total rigs**

For the week of September 1, total Cdn rigs were down -3 rigs WoW to 187 rigs. BC was flat WoW, at a total of 19 rigs, after a modest reduction in wildfires last week. In contrast, Saskatchewan decreased -1 rig WoW for a total of 34 rigs. Cdn oil rigs were down -1 WoW to 115 rigs, and Cdn gas rigs decreased -2 rigs to 72 rigs. Cdn oil rigs are down -28 rigs YoY, while gas rigs are up +7 rigs YoY. Below is our graph of total Cdn oil rigs.

**Cdn total rigs down WoW**

Figure 18: Baker Hughes Total Cdn Oil Rigs



Source: Baker Hughes, SAF

**Oil: US weekly oil production estimates flat WoW at 12.8 mmb/d**

Our Aug 13, 2023 Energy Tidbits memo highlighted the EIA increased their weekly US oil production estimates by +0.4 mmb/d and how we had been expecting such a big increase to

**US oil production flat WoW**

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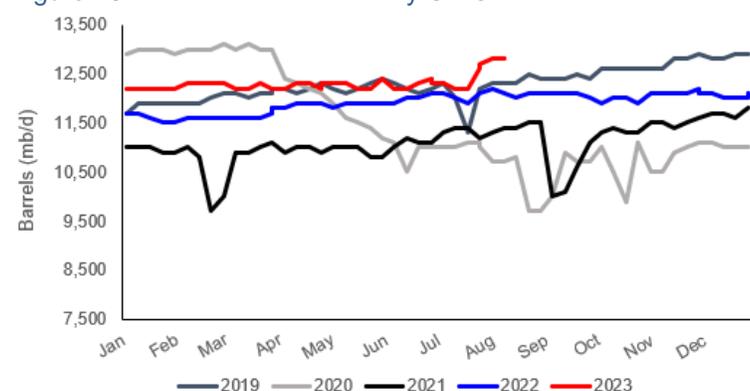
the weekly estimates. For months, we highlighted how the US weekly estimates were well below the EIA’s actuals as per its monthly Form 914. As a result the weekly estimates now seem more or less in line with the monthly actuals. The production estimates have continued to increase in August and has reached another post-pandemic high. This week, the EIA’s production estimates were flat WoW at 12.8 mmb/d for the week ended August 25 [\[LINK\]](#). The Lower 48 was also flat WoW at 12.4 mmb/d, and Alaska was flat at 0.402 mmb/d. Below is a table of the EIA’s weekly oil production estimates.

Figure 19: EIA’s Estimated Weekly US Field Oil Production

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

Source: EIA

Figure 20: EIA’s Estimated Weekly US Oil Production



Source: EIA, SAF

**Oil: EIA Form 914 – US June oil actuals +1.044 mmb/d YoY**

EIA Form 914 June

The reason why we highlighted for months the shortfall in the EIA weekly oil production estimates vs the EIA monthly actuals is that they understated the strong YoY growth in US oil production, which is >1 mmb/d YoY. As noted above, the EIA made a big +0.4 mmb/d increase adjustment to the Aug 4 week as a catch up to what has been a big difference between the monthly actuals and weekly estimates. So the big shortfall of the weekly estimates vs the monthly actuals will continue for the next month. On Thursday, the EIA

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released its Form 914 data [\[LINK\]](#), which is the EIA’s “actuals” for June US oil and natural gas production. The Form 914 actuals for June have production at 12.844 mmb/d, which is +524,000 b/d vs the EIA weekly estimates of 12.320 mmb/d. And because of this significant difference, the Form 914 May production is +1.044 mmb/d YoY. The actuals paint a picture of much stronger than expected YoY growth in US oil production.

Figure 21: EIA Form 914 US Oil Production (thousands b/d)

(thousands b/d)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2023	12,568	12,532	12,770	12,650	12,637	12,844						
2022	11,480	11,258	11,806	11,770	11,734	11,800	11,834	11,985	12,325	12,378	12,376	12,138
2021	11,137	9,916	11,351	11,318	11,390	11,366	11,392	11,276	10,921	11,564	11,782	11,678
2020	12,850	12,844	12,795	11,911	9,714	10,446	11,004	10,579	10,926	10,456	11,196	11,172
2019	11,871	11,652	11,911	12,145	12,153	12,216	11,896	12,479	12,584	12,805	13,000	12,980
2018	10,000	10,262	10,466	10,499	10,434	10,640	10,896	11,391	11,443	11,508	11,885	11,944
2017	8,874	9,094	9,164	9,101	9,185	9,110	9,246	9,250	9,516	9,668	10,085	9,983

Source: EIA

Figure 22: EIA Form 914 US Oil Production vs Weekly Estimates



Source: EIA, SAF

**Oil: Consolidation leads to efficiencies & means less spreads and rigs are needed**

We had the chance to speak to a few oil people about the comment in last week’s (Aug 27, 2023) Energy Tidbits memo on how consolidation within the big US shale/tight plays leads to efficiencies in operations and therefore less rigs and frac spreads are needed to get to the same level of production. Everyone agreed with that basic concept because the consolidator is bigger and will plan drilling and fracking programs and not one or two or three wells at a time. Plus, the big players mostly drill multi-well pads. So no disagreement with the efficiency point. However, they also all believe that the efficiency from consolidation won’t necessarily lead to higher production as the likely result of any consolidation is less overall wells, not the same amount of wells as before consolidation. So there may be more efficiencies but with lesser number of wells, not necessarily higher production. Here is what we wrote in last week’s (Aug 27, 2023) Energy Tidbits memo on this consolidation and efficiency point. “On Friday, we tweeted [\[LINK\]](#) “Good reminder from Mark that, when a Permian player consolidates within core area, drilling & fracking becomes more of a manufacturing process so there are increased efficiencies and that means less DUCs, rigs & spreads are needed. See 1:30 min mark. #OOTT.” Mark Rossano (C6 Capital Holdings) also reminded of the big advantage for industry in its consolidation because the consolidation is happening where buyers are generally adding more lands within their core areas – drilling

**Consolidation leads to more efficiency in drilling**

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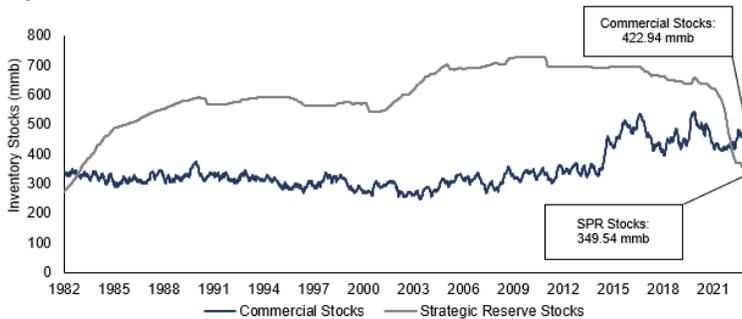
and fracking becomes more of a manufacturing process so there are increased efficiencies and that means less spreads and rigs are needed to accomplish the same results. So in this manufacturing mode, Rossano says “where you don’t need the same amount DUCs, you don’t need the same amount of rigs and spreads because you’re starting to see things move in a fairly steady clip. In the past, you’d have to lay down your stuff here, put it onto trucks, move it to the next location. But a lot of companies have now purchased in specific locations so they can run in straight lines, they can create those efficiencies.”

**Oil: US SPR reserves now -73.402 mmb lower than commercial crude oil reserves**

**US SPR reserves**

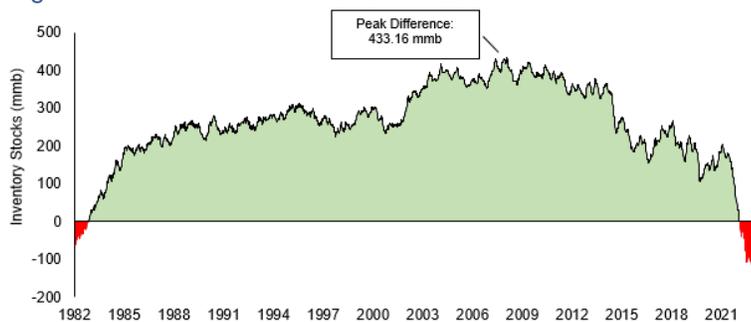
Oil in the US Strategic Petroleum Reserves (SPR) continues to be much lower than total US commercial crude oil reserves. The SPR went back below commercial for the first time since 1983 in the Sept 16, 2022 week. This deficit narrowed this week after a big draw in commercial oil stocks of -10.584 mmb, which puts commercial stocks at their lowest level since January. The EIA’s weekly oil data for August 25 [LINK](#) saw the SPR reserves up +0.594 mmb WoW with the US DOE repurchases increasing SPR reserves to 349.542 mmb, while commercial crude oil reserves decreased -10.584 mmb to 422.944 mmb. There is now a -73.402 mmb difference between SPR reserves and commercial crude oil reserves. The below graphs highlight the difference between commercial and SPR stockpiles.

Figure 23: US Oil Inventories: Commercial & SPR



Source: EIA, SAF

Figure 24: US Oil Inventories: SPR Less Commercial



Source: EIA, SAF

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**Oil: US gasoline prices flat this week at \$3.82, \$0.01 higher YoY**

AAA reported that US national average gasoline prices were \$3.82 yesterday, which was flat WoW and now \$0.01 higher than a year ago of \$3.81 on Sept 2, 2022. There is no question that the last thing Biden wants is US gasoline prices going higher, especially above the \$4 mark in 2024, the election year. Remember the panic in March 2022 when, eight months before the mid-term elections, US gasoline prices first went over \$4, and then over \$5 by the end of June before easing back before \$4 in Aug. Biden told Americans in Feb 2022 he was working to get gas prices down, and on March 30, announced they were going to release 180 million barrels from the SPR. It worked as a key factor for US gasoline prices going lower. It's now less than 15 months until the 2024 US elections. And US gasoline prices haven't been on a big ramp but moved higher over the past few months.

**US gasoline prices****Oil: Seems like Trans Mountain is pointing to a delay in its TMX expansion**

We have to believe Trans Mountain is setting the stage for a delay in its start up of TMX after reading the Q2 release on Wednesday. (i) On Wednesday, we tweeted [\[LINK\]](#) "Hmmm! Note 📌 *Trans Mountain's new Q2 language on #TMX start vs Q1 & Q4. Q2. "We are currently planning and targeting the commencement ....." Q1 & Q4, didn't use "currently", just "expected to ..." Hinting a new start date is coming given 📌 08/23 tweet challenge? #OOTT.*" (ii) Trans Mountain released its Q2 on Tuesday and it included an update on its TMX expansion project. Given the sensitivity on TMX cost and timing, we like to check to see if Trans Mountain is changing what they said. And, as noted in our tweet, they did change their description. And that makes it seem that there is a change in timing that is coming. (iv) Trans Mountain used the exact same language in its Q4 and Q1 releases. In the Q1/23, Trans Mountain said "*Trans Mountain anticipates mechanical completion of the Project to occur at the end of 2023 with commercial service expected to occur in the first quarter of 2024.*" In the Q4/22 release, Trans Mountain said "*Trans Mountain anticipates mechanical completion of the Project to occur at the end of 2023 with commercial service expected to occur in the first quarter of 2024.*" It's not just the timing is the same, its also the wording doesn't include any caveats. (v) The Q3/23 used different words and added the key caveat "currently" and introduces the concept that the startup date is their "target" date. Trans Mountain wrote "*We are currently planning and targeting the commencement of service on the expanded pipeline system near the end of the first quarter of 2024.*" When see "currently" and "target" as opposed to expected to, it seems like Trans Mountain is setting the stage for a delay. Our Supplemental Documents package includes the Trans Mountain comments on the TMX expansion from the Q2/23, Q1/23 and Q4/22 releases.

**Delay at TMX expansion?****TMX seems to leave open the possibility to be on time with micro-tunneling?**

On Thursday, Trans Mountain's filing seemed to leave open the possibility for it to still be on time even if they are forced to keep with the micro-tunneling. Up until the final clause 39, the filing was clearly painting a picture that continuing with micro-tunneling would result in delays to the project. Clause 15 "*Trans Mountain further notes that continuing with micro-tunneling would likely delay the in-service date for the TMEP, for the reasons described in Trans Mountain's response to CER IR No. 1.2.14 Each month of delay in the TMEP in-service date results in roughly \$200 million in lost revenues and roughly \$190 million in carrying charges for Trans Mountain. Trans Mountain's shippers and other parties relying on the TMEP will also incur losses with each month that the Project is delayed.*" Clause 25 "*If the risks*

identified in Trans Mountain's response to CER IR No. 1.2c18 materialize, they have the potential to delay tunnel completion by months or jeopardize Trans Mountain's ability to complete the tunnel at all." But we were surprised by the closing clause 39 in the filing as it seemed to infer there was the possibility of being on time even if they are forced to keep micro-tunneling. Clause 39 "Even if continuing with the micro-tunneling did not result in a delay to the Project, Trans Mountain is still of the view that it is not technically and economically feasible to continue with micro-tunneling, for the reasons described above." Up until this clause, we thought the filing was clearly saying continuing with micro-tunneling would result in project delays. Our Supplemental Documents package includes the CER filing.

### Looks like added costs/delays at Trans Mountain's TMX expansion

Last week's (Aug 27, 2023) Energy Tidbits memo highlighted the recent Aug 17 Trans Mountain CER filing on their tunnelling problems. Here is what we wrote last week. "Looks like added costs/delays at Trans Mountain's TMX expansion. On Aug 17, Trans Mountain filed with the CER that it has run into "significant technical challenges with micro-tunnelling" in a small portion of their construction. Trans Mountain hasn't disclosed how this will impact costs and timing for the TMX expansion, but it's hard to see how this will not have some impact on timing and costs unless there was slack built into costs and timeline. We just don't know by how much. (i) On Wednesday, we tweeted [\[LINK\]](#) "Looks like more Trans Mountain #TMX delays & higher capital costs. @CER\_REC filing. "encountering significant technical challenges with micro-tunnelling " .. made several unsuccessful, costly attempts ..." .. only feasible option is to change the construction .." #OOTT". Our tweet included excerpts from the Trans Mountain Aug 17 filing with the CER. (ii) Here are the more complete sentences of the excerpts from the CER filing. "Trans Mountain is encountering significant technical challenges with micro-tunnelling along an approximately 1.3-kilometre-long portion of the approved route, specifically with the micro-tunnel drive between pads 1 and 2." "Trans Mountain has made several unsuccessful, costly attempts to address the problem of upward RCJP migration to date." "jacking forces to move the tunnel forward. This may create significant delays in restarting tunnelling. • If the construction of the new shaft is successful and the tunnel commences forward progression, there remains approximately 800 metres of tunnel length to be constructed in medium to hard rock formations (with the potential to encounter other unfavourable construction conditions), which has its own material risk to the project and schedule. • Trans Mountain has determined that the only feasible option is to change the construction methodology for an approximately 1.3-kilometre-long segment to a combination of horizontal directional drilling (HDD) and conventional open trench." Our Supplemental Documents package includes the CER filing."

### Oil: Cdn WCS less WTI differentials narrowed \$1.75 to close at \$17.75 on Sept 1

It was a great May thru mid Aug for WCS less WTI differentials that were much narrower than normal. Normally WCS less WTI differentials start to seasonally widen in mid-May. But that didn't happen this year. WCS less WTI differentials were \$14.15 on March 31, which was the Friday before the Sun Apr 2 reports that OPEC+ was going to cut production effective May 1. The WCS less WTI differential was up and down but closed at \$14.65 on Apr 28, then

**WCS less WTI  
differentials**

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narrowed in May to 13.50 on May 31, narrowed in June to \$11.25 on June 30, widened in July to \$13.75 on July 31. But that changed in August, widening to \$15.50 on Aug 11, then last week to \$17.25 on Aug 18, and then widening to close at \$19.50 on Aug 25 before narrowing this week to close at \$17.75 on Aug 31, also Sept 1. This is not the norm and is linked to the global medium sour tightness and, in the US, the reducing Saudi oil exports to the Gulf Coast. The normal seasonal trend for WCS less WTI differentials that normally widen starting in mid-May. For perspective, a year ago, the WCS-WTI differentials last year were \$21.00 on Sept 1, 2022. Below is Bloomberg's current WCS-WTI differential as of Sept 1, 2023 close.

Figure 25: WCS less WTI oil differentials including Sept 1 close



Source: Bloomberg

### Oil: Big \$9 drop in crack spreads to \$30.49, signaling turnarounds to start

We remind that oil demand is driven by refiners and their ability to make money by processing oil and selling petroleum products. So crack spreads are a good indicator if refiners will be looking to buy more or less oil. This week, there was a big drop in US 321 crack spreads to \$30.49 to close on Sept 3, down from \$39.39 on Aug 25. Crack spreads at ~\$30 a higher than more normal pre-Covid that was more like \$15-\$20. There is still money to be made by refiners but we see the \$9 drop is a signal that refiners are soon to start turnarounds for winter fuels.

Crack spreads  
down this week

### Explaining 321 crack spread

People often just say “cracks”, which refers to the 321 crack spread. This is the spread or margin that refiners make from buying crude at a certain price and then selling the finished petroleum products at their respective prices. The 321 crack spread is meant to represent what a typical US refinery produces. It assumes that for every three barrels of crude oil, the refinery will produce two barrels of gasoline and one barrel of distillates. So the crack spread is based on that formula and worked back to a crack spread per barrel. Below is the current 321 crack spread, which was \$30.49 as of the Friday Sept 1, 2023 close.

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Figure 26: Cushing Crude Oil 321 Crack Spread Sept 1, 2013 to Sept 1, 2023



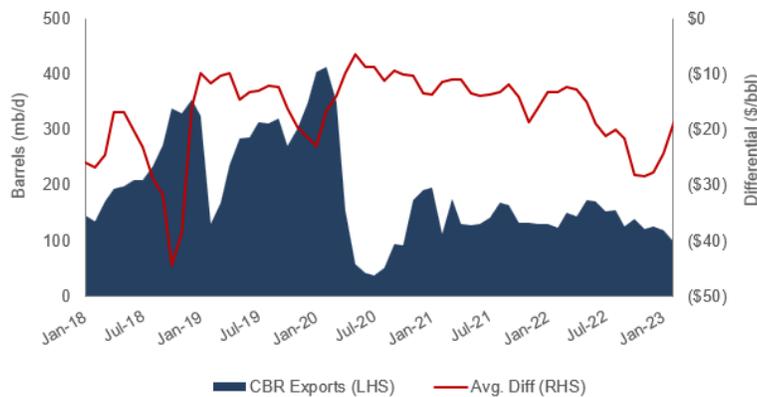
Source: Bloomberg

**Oil: Cdn crude by rail exports at 102,735 b/d in June, down -39.7% YoY**

The Canadian Energy Regulator (successor to NEB) reported Canadian crude by rail exports were up +23,988 b/d MoM to 102,735 b/d in June vs the 78,747 b/d in May [\[LINK\]](#). This puts export volumes at -67,499 b/d YoY (-39.7%) vs June 2022 of 170,234 b/d. CBR volumes are +63,868 b/d since the Covid low of 38,867 b/d in July 2020. The WCS–WTI differential still provide the price incentive for crude by rail to the Gulf coast. But May and June have been impacted by oil sands maintenance. The CER doesn't provide any explanation for the MoM changes, but the modest MoM increase was likely linked to the slightly less maintenance impact. Below is our graph of Cdn crude by rail exports compared to the WCS–WTI differential.

**Cdn crude by rail down YoY in June**

Figure 27: Cdn Crude By Rail Exports vs WCS Differential



Source: Canadian Energy Regulator, Bloomberg

**Oil: EIA estimate total Cdn crude by rail imports down MoM to 54,600 b/d in June**

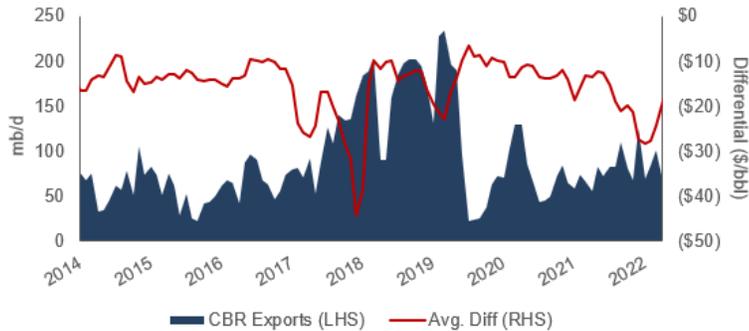
On Monday, the EIA posted its monthly “U.S. Movements of Crude Oil by Rail” [\[LINK\]](#), which includes the EIA data on US imports of Cdn crude by rail. EIA estimates total US imports of Cdn crude by rail was 54,600 b/d in June, which was down -28,948 b/d MoM from 83,548 b/d in May. US imports of Cdn crude by rail into PADD 3 (Gulf Coast) were 33,700 b/d in June, which is down -37,623 b/d MoM from 71,323 b/d in May. The EIA did not comment on the

**EIA Cdn crude by rail imports**

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MoM changes. Below is our graph of Cdn CBR exports to the Gulf Coast and WCS differential over time.

Figure 28: Canada CBR Exports top US Gulf Coast vs WCS Differential



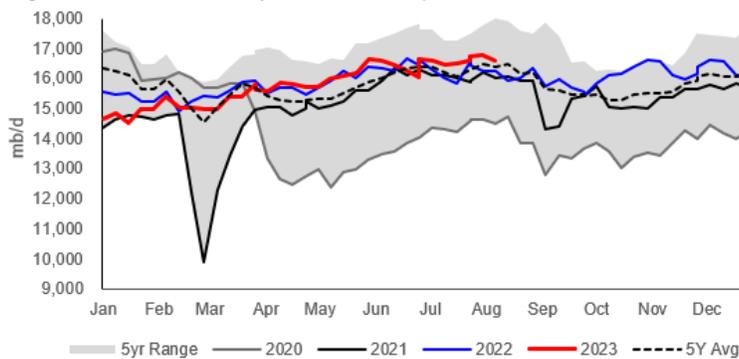
Source: EIA, Bloomberg

**Oil: Refinery inputs down -0.173 mmb/d WoW to 16.603 mmb/d**

There are always unplanned issues that impact crude oil inputs into refineries, but refineries around the world follow seasonal patterns for their maintenance. We'll normally see refineries come out of turnarounds in late March/early April to start their ramp up in refining of summer blend fuels, which typically peaks in Aug/early Sept. So we should be starting to see a seasonal decline in crude oil inputs into refineries as refiners turnaround to prepare to shift to more winter fuel blends. Plus we started to see a big drop in the crack spreads this week so there isn't the compelling incentive for refineries to keep to keep refining as much as possible. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended August 25 [\[LINK\]](#). The EIA reported crude inputs to refineries were down -0.173 mmb/d this week to 16.603 mmb/d and are up +0.365 mmb/d YoY. Refinery utilization was down -1.2% WoW to 93.3%, which is +0.6% YoY. We are likely hitting the seasonal peak in refining in the next few weeks.

**Refinery inputs down -0.173 mmb/d WoW**

Figure 29: US Refinery Crude Oil Inputs



Source: EIA, SAF

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## US net oil imports

**Oil: Something still isn't right in the EIA weekly oil imports by country data**

The reason why we continue to highlight this error is that no one can tell if it's only the EIA allocating imports incorrectly by country or if the EIA is understating oil imports. But it's the same commentary as the last few months that something doesn't look quite right in the EIA weekly oil imports by country data. It looks like something is off in the EIA's estimates of weekly oil imports by country data but, the reason we highlight this is that we just don't know if the total US crude oil imports are wrong or if it's just that the EIA has incorrectly allocated import volumes to the wrong country. Perhaps this is part of the reason for the big weekly plug in its oil supply and demand estimates. (i) For some reason, the EIA weekly data does not include any oil imports from Venezuela in their weekly reporting of US oil imports by country. Yet we have seen Chevron importing oil from Venezuela into its and other PADD 3 Gulf Coast refineries starting in Jan. What we don't know if the EIA has just allocated to some other country. We have been highlighting how Chevron has steadily increasing US Gulf Coast (PADD 3) imports from Venezuela every month in 2023. And the EIA reports oil imports from Venezuela in its monthly data but for reason not in these weekly estimates. (ii) US "NET" imports were down -0.586 mmb/d to 2.089 mmb/d for the August 25 week. US imports were down -0.316 mmb/d to 6.617 mmb/d. US exports were up +0.270 mmb/d to 4.528 mmb/d. The WoW increase in US net imports was driven mostly by "Top 10". The Top 10 was down -0.384 mmb/d. Some items to note on the country data: (i) Canada was down -0.427 mmb/d to 3.405 mmb/d. (ii) Saudi Arabia was up +0.241 mmb/d to 0.462 mmb/d. (iii) Mexico was down -0.343 mmb/d to 0.437 mmb/d. (iv) Colombia was up +0.005 mmb/d to 0.295 mmb/d. (v) Iraq was down -0.051 mmb/d to 0.232 mmb/d. (vi) Ecuador was up +0.136 mmb/d to 0.328 mmb/d. (vii) Nigeria was up +0.055 mmb/d to 0.144 mmb/d.

Figure 30: US Weekly Preliminary Imports by Major Country

(thousand b/d)	Jun 9/23	Jun 16/23	Jun 23/23	Jun 30/23	Jul 7/23	Jul 14/23	Jul 21/23	Jul 28/23	Aug 4/23	Aug 11/23	Aug 18/23	Aug 25/23	WoW
Canada	3,339	3,570	3,776	3,611	3,385	3,698	3,203	3,691	3,466	3,505	3,832	3,405	-427
Saudi Arabia	677	146	460	313	444	426	242	427	330	285	221	462	241
Venezuela	0	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	845	808	758	882	526	1,004	830	760	667	901	780	437	-343
Colombia	184	148	222	287	153	215	287	290	296	75	290	295	5
Iraq	252	102	216	122	134	259	273	235	305	304	283	232	-51
Ecuador	54	203	67	157	144	207	216	175	142	363	192	328	136
Nigeria	132	204	96	192	189	91	229	94	237	307	89	144	55
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	5,483	5,181	5,595	5,564	4,975	5,900	5,280	5,672	5,443	5,740	5,687	5,303	-384
Others	898	980	985	1,474	905	1,274	1,087	996	1,239	1,418	1,246	1,314	68
Total US	6,381	6,161	6,580	7,038	5,880	7,174	6,367	6,668	6,682	7,158	6,933	6,617	-316

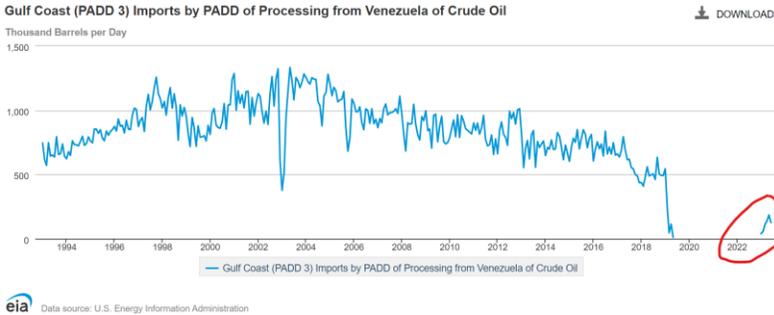
Source: EIA, SAF

**EIA shows imports from Venezuela in its monthly import data.**

The reason why we have been highlighting the EIA weekly estimates of oil import data by country is that they haven't shown oil imports from Venezuela despite knowing that Chevron has been importing oil from Venezuela starting in Jan. In our May 7, 2023 Energy Tidbits memo, we started to highlight the EIA's monthly actuals starting to show oil imports from Venezuela at then end of April. On Thursday, the EIA posted its monthly actuals for June that continue to show PADD 3 (Gulf Coast) oil imports from Venezuela were 126,000 b/d vs 185,000 b/d in May, 140,000 b/d in April, 109,000 b/d in March, 58,000 b/d in February and 40,000 b/d in Jan.

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Figure 31: Gulf Coast PADD 3 Crude Oil Imports From Venezuela to June 30, 2023



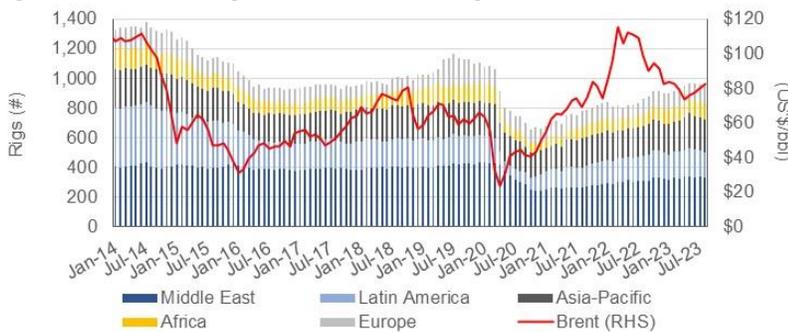
Source: EIA, SAF

**Oil: Baker Hughes International rigs -9 MoM to 952 rigs in August**

On Friday, Baker Hughes posted its monthly update to international rigs, in total, that show rigs in August decreased MoM. (i) Total international rigs decreased by -9 rigs MoM to 952 rigs in August, and total rigs are now up +146 rigs from the recent low of 806 in April 2022. (ii) Abu Dhabi, Colombia, and Norway had the largest MoM increases of +5 to 56 rigs, +6 to 30 rigs, and +4 to 22 rigs, respectively. In August Ukraine’s rigs continue were flat at 46 rigs and is +23 rigs YoY from 23 rigs in August 2022 post the Russia invasion. In contrast, Mexico, Australia, Turkey and Kuwait had the largest MoM decreases of -5 to 51 rigs, -4 to 19 rigs, and -5 to 17 rigs, respectively. (iii) Libya, Saudi Arabia, and China are up +12 rigs, +18 rigs, and +9 rigs YoY. The largest YoY decreases were realized by Turkey, Kuwait, and the United Kingdom which had declines of -6 rigs, -5 rigs, and -4 rigs, respectively. (iv) August’s count of 952 rigs was +11% YoY from 860 in August 2022, and down -19% vs pre-Covid July 2019 of 1,162 rigs. The YoY rig count is as follows: Africa +31, Asia-Pacific +24, Europe +34, Latin America +13, and the Middle East +26. (v) Rig counts continue to be solid in the major Persian Gulf countries but remain below pre-Covid levels. Since February 2022, Saudi Arabia has added +18 rigs to 86 active rigs in August 2023, while UAE (Abu Dhabi) added +5 rigs and Iraq added +8 rigs each over the same period. Below is our graph of international rigs by region and avg monthly Brent price.

**International rigs -9 MoM in August**

Figure 32: Baker Hughes International Rig Count and Brent Price



Source: Baker Hughes, SAF

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### **Oil: Mexico's new Olemeca refinery finally begins producing refined products**

We remind that a positive to Cdn heavy/medium crude is the start up of Pemex's Olemeca refinery. Mexico's oil production has been stuck so any increased refining in Mexico should lead to a direct reduction in oil exports including to the Gulf Coast. And any less Mexican crude oil to the Gulf Coast means less competition for Cdn heavy/medium crude into the Gulf Coast. No one should be surprised to see more delays in the start up of refinery operations at the Olemeca (formerly known as Dos Bocas) refinery is finally now producing refined products at some undisclosed rate. On Friday, Reuters reported [LINK](#) "Mexico's Dos Bocas refinery is set to produce an average of 290,000 barrels of gasoline per day (bpd) by the end of the year, President Andres Manuel Lopez Obrador said on Friday. Speaking at the presentation of an annual report on his administration, Lopez Obrador said the refinery will begin producing refined petroleum products this Friday, without providing any specifics. "Today, petroleum products will begin to be produced at the new Dos Bocas refinery," he said at the event in southern Mexico. The refinery was formally inaugurated in July 2022 and received its first crude oil shipment in July of this year." This looks to be a little less than expected in May when Mexico expected it would hit its full 340,000 b/d capacity by Sept 15. But it still means less Mexican crude oil exports. Our Supplemental Documents package includes the Reuters report.

**Olemeca refinery finally begins producing product**

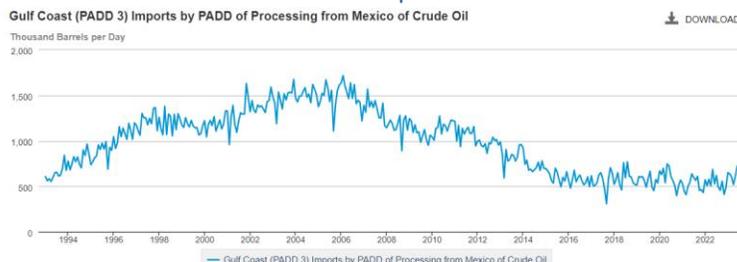
### **Key 2023 oil theme, Mexico should significantly reduce oil exports to PADD 3**

Pemex has been late on Olemeca refinery startup, but it is starting to ramp up and the impact will be more significant at the end of 2023. Here is what we wrote in our May 7, 2023 Energy Tidbits memo. "There are three 2023 themes that are impacting Cdn heavy/medium differentials apart from the normal seasonal trends: negative is increasing Venezuela oil into PADD 3 Gulf Coast, positive is decreasing Mexico oil into PADD 3, and OPEC+ cuts that are typically focused on heavy/medium crude. For now, it is looking like the biggest impact if increasing Venezuela oil into PADD 3 but declining Mexico oil exports into PADD 3 should start this summer. We remind that a key theme for Cdn oil in 2023 will be Mexico significantly reducing its oil exports. Here is what we wrote in our Dec 25, 2022 Energy Tidbits memo. "Yesterday, we tweeted [LINK](#) "Key #Oil theme for 2023 - Mexico refines more oil in its plan to cut exports to zero! Positive to Cdn oil ie. less MEX oil to Gulf Coast. AMLO: Olemeca refinery to hit 170 kbd July 1, full 340 kbd Sept 15. In Nov, Pemex exported 894 kbd incl 499 kbd to Gulf Coast. #OOTT." One of our key oil themes for 2023 is that Mexico expects to cut oil exports down to zero over the next 12 to 18 months. This was supposed to be happening around now, but the big delay and cost overruns at the new Olemeca (Dos Bocas) refinery pushed that back a year. The stoppage of oil exports wasn't just Olemeca it was the capital put into trying to improve operations to more consistent refinery production at its existing refineries. Our tweet referenced the AMLO tweets on how Olemeca should refine 170,000 b/d July 1, and then an additional 170,000 b/d on Sept 15. AMLO's goal has been to eliminate all Mexico oil exports by adding the new Olemeca refinery and putting capital to increase the capacity utilization of Pemex's existing refineries. And by the added and improved refinery utilization, Mexico could then be able to process all Mexico oil production and therefore eliminating exports. And if Mexico eliminates oil exports, it is a positive for Cdn oil going to the Gulf Coast (PADD 3)." Note our May 7, 2023 Energy Tidbits memo had the then current EIA graphs, but below are the EIA

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current graphs posted Aug 31 showing Gulf Coast (PADD 3) oil imports from Mexico and Canada with data thru June 30. Please note the graphs have different vertical scales.

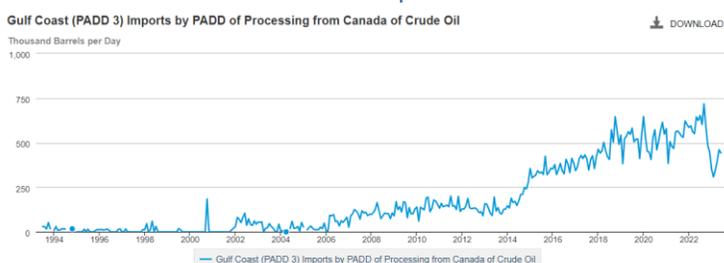
Figure 33: Gulf Coast PADD 3 crude oil imports from Mexico



Data source: U.S. Energy Information Administration

Source: EIA

Figure 34: Gulf Coast PADD 3 crude oil imports from Canada



Data source: U.S. Energy Information Administration

Source: EIA

### Mexico oil production including partner volumes back below 1.6 mmb/d

The reason why we expect reduced Mexico oil exports with the startup of Olemeca refinery is that Mexican oil production has been stuck around 1.6 mmb/d for the past three years. Here is what we wrote in last week's (Aug 27, 2023) Energy Tidbits memo on this. *"On Friday, Pemex posted its July 2023 oil production data. [LINK](#) Pemex does not provide any commentary on the data, but reported July oil production, including partners, was 1.573 mmb/d, which was -7.9% YoY and -2.2% MoM. The big picture story remains the same - Mexico (Pemex) oil production is stuck around 1.6 mmb/d for the last three years. Pemex has been unable to grow Mexico oil production, which means that any increase in Pemex Mexico refineries will result in less Mexico oil for export including to the US Gulf Coast. And it also means that if Mexico has refinery issues in a month, there will be more Mexico oil for export in a month. Below is our table tracking Pemex oil production."*

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Figure 35: Pemex (Incl Partners) Mexico Oil Production

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

Source: Pemex

**Oil: Military coup at OPEC producer Gabon**

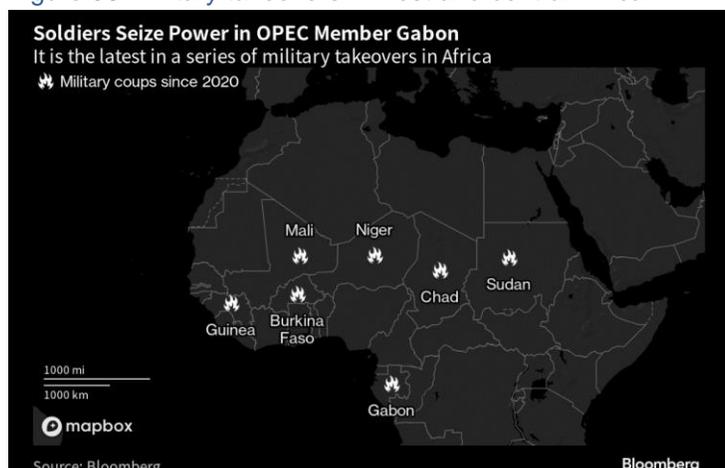
It's only been a few days but, so far, the military coup in Gabon is holding. Early Wed morning, we tweeted [LINK](#) on the breaking news "Military coup in Gabon. Gabon is #OPEC member, but only producing 200,000 b/d. The latest in the military coups across central Africa. See 📌 @business map per @katarinah reporting. #OOTT [LINK](#)." The group of 12 Gabonese military who announced the coup against President Ali Bongo and immediately closed all borders. Ali Bongo's family has ruled Gabon for 55 years. The group is led by General Brice Oligui Nguema, who is the head of the elite Republican Guard. Yesterday, they announced that borders were reopening immediately and that Oligui will be sworn in on Monday as "transitional President". Our tweet reminded that Gabon is an OPEC member and is producing about 200,000 b/d so its production level is not material to oil markets.

Gabon is  
~200,000 b/d

**Gabon is the 7<sup>th</sup> military coup in west/central Africa since 2020**

Gabon is the 7<sup>th</sup> military coup in west/central Africa since 2020 with the latest a month ago in the Niger. Our tweet included the below Bloomberg map showing the military coups in west/central Africa since 2020.

Figure 36: Military takeovers in west and central Africa



Source: Bloomberg

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**Oil: Nigeria says oil + condensate production is up to 1.67 mmb/d**

Early this morning, OGN reported [\[LINK\]](#) "Nigeria is pumping 1.67 million barrels of oil and condensates per day, compared with just under a million barrels some months ago, due to security improvements in the producing Niger-Delta region, the head of the state-oil firm NNPC said. Mele Kyari, NNPC's group chief executive, said President Bola Tinubu has "re-engineered the security approach. We've already seen very significant changes in our production environment." Africa's top oil producer recorded an average daily oil output of 1.22 million barrels per day (mmbpd) in the second quarter of 2023, the National Bureau of Statistics said a week earlier. Large-scale oil theft from pipelines and wells has hobbled the country's output and crimped exports in recent years, damaging Nigeria's finances and leaving Tinubu with one of his biggest challenges." The 1.67 mmb/d is for oil + condensate and we don't have the splits between oil vs condensate. But the IEA's Oil Market Report Aug 2023 estimates Nigeria's oil only production had dropped from 1.24 mmb/d in June to 1.10 mmb/d in July. So we don't know exactly how much oil production is up vs July, but, if the head of NNPC is correct, we would expect Nigeria has to be adding at least a 200,000 b/d to oil supply.

**Nigeria oil + condensate production is up**

**Oil: Novak, Russia agrees with OPEC+ to reduced supply to markets, details this week**

As of our 7am MT news cut off, we have not seen any reports of what Russia and Saudi Arabia have agreed on for cuts beyond September, but Russia Deputy PM Novak replied to Putin's question that Russia did agree with OPEC+ partners on reducing oil and that the details will be released this week. The expectation has been for Saudi Arabia to continue its voluntary 1 mmb/d cut. On Thursday, Interfax reported [\[LINK\]](#) "Novak: Russia has reached agreement with OPEC+ on new reduction in oil exports, details next week. Russia and OPEC+ countries have reached their latest agreement on reducing Russian oil supply to world markets, Deputy Prime Minister Alexander Novak said during a meeting between President Vladimir Putin and cabinet ministers on the Krasnoyarsk Territory's development. Asked by the head of state whether it had been possible to come to an agreement with OPEC+ partners on reducing oil supplies to foreign markets, Novak said: "Yes, we did, but we will announce the main parameters next week, publicly." Novak said on August 30 that Russia and OPEC+ partners were discussing the possibility of Russia extending the cut in its own oil exports into October. For the first time, Russia announced a voluntary 500,000 bpd reduction in shipments to the world market starting August 1. In September, it was decided to reduce shipments by 300,000 bpd. Novak said the average level in May-June would serve as the basis for the reduction in supplies to international markets."

**Russia agrees with OPEC+**

**Oil: Drone attack on Pskov, right on Russia's Baltic Sea by Estonia/Latvia border**

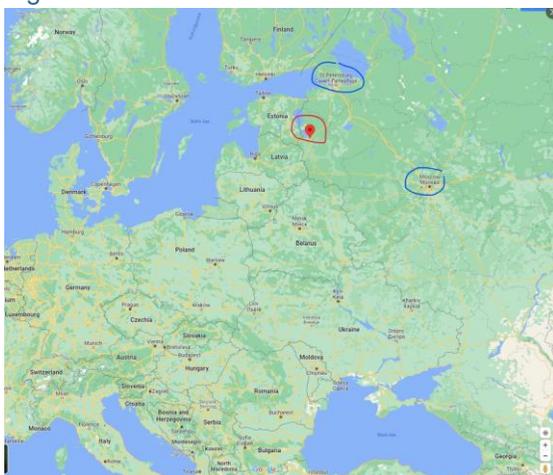
We have to wonder if Ukraine was trying to get the war expanded by its drone attack on Pskov. It was part of the largest drone attack on Russia in the war. On Wednesday, we tweeted [\[LINK\]](#) "Ukraine reminds Russia everything is in reach and drones can hit beyond Moscow. Drone attacks at Pskov airfield. Pskov is basically on the Baltic Sea, at border with Estonia and Latvia. #OOTT #Oil. [\[LINK\]](#)." Our tweet included a Google Map showing that Pskov is basically at the Baltic Sea and right at the intersection of borders with Estonia and Latvia. And any spillover into Estonia and Latvia could trigger NATO obligations to defend. The Washington Times reported "Ukrainian drones hit the Russian city of Pskov and

**Drone attack at Pskov**

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*attempted attacks elsewhere in what appears to be the largest drone attack against Russia so far in its war against Ukraine. Several drones hit an airport in Pskov in northwest Russia, over 370 miles away from the Ukrainian border, possibly the furthest Russian target from the Ukrainian border hit so far in the war. Additionally, Russian authorities reported the downing of drones over the regions of Moscow, Ryazan, Kaluga, Bryansk, and Oryol, per TASS. Simultaneously, air and water-born drones attempted to hit the Russian Black Sea Fleet in Sevastopol, Crimea. All the attacks occurred in the early morning hours of Wednesday, local time. Russian authorities claim that all drones were intercepted, with the exception of those that hit Pskov, which damaged four IL-76 transport aircraft. Two of the aircraft appear to be severely damaged; a source told TASS that a fire started by the drones fully engulfed two of them.”*

Figure 37: Pskov in Russia



Source: Google Maps

### Spillover into Estonia or Latvia could trigger NATO Article 5

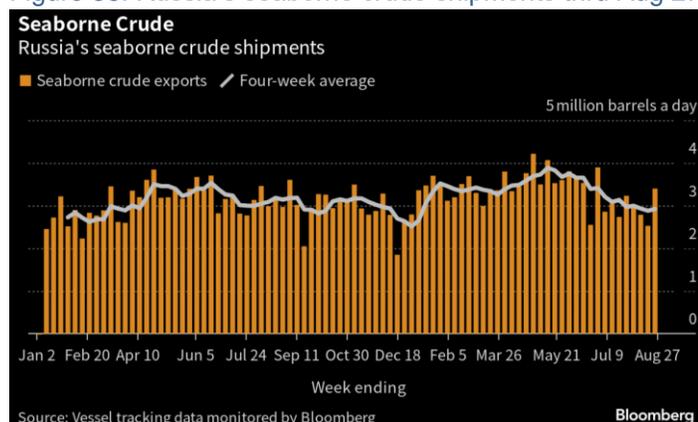
The reason why we wondered if Ukraine was trying to get the war to spill over into Estonia or Latvia is that both countries are members of NATO. And if there was a spillover into Estonia or Latvia, it would trigger NATO Article 5. NATO's write up of Article 5 [\[LINK\]](#) says "*The principle of collective defence is at the very heart of NATO's founding treaty. It remains a unique and enduring principle that binds its members together, committing them to protect each other and setting a spirit of solidarity within the Alliance. • Collective defence means that an attack against one Ally is considered as an attack against all Allies. • The principle of collective defence is enshrined in Article 5 of the North Atlantic Treaty. • NATO invoked Article 5 for the first and only time in its history after the 9/11 terrorist attacks against the United States. • NATO has taken collective defence measures on several occasions, including in response to the situation in Syria and the Russian invasion of Ukraine. • NATO has standing forces on active duty that contribute to the Alliance's collective defence efforts on a permanent basis*". Our Supplemental Documents package includes NATO's Article 5 writeup.

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**Oil: Crude oil shipments recovered at Russia Black Sea export terminal Novorossiysk**  
 Russia crude oil shipments were back up this week and it looks like the fire/explosions at Russia’s main Black Sea oil export terminal at Novorossiysk were on oil/fuel oil in barrels and not in storage tanks that are used to loading tankers. And with the fire/explosions in oil or fuel oil in barrels and not in the storage tanks, it looks like there is no impact to the tanker loading capacity. (i) On Tuesday, we tweeted [\[LINK\]](#) “Russian #Oil shjpmnts from major Black Sea port of Novorossiysk recovered WoW reports @JLeeEnergy. Recovered since Aug 18 fire/explosion interruptions reportedly hit oil/fuel in stored barrels & not the big tanks that are used to load tankers. Thx @JLeeEnergy. #OOTT”. (ii) Bloomberg’s weekly recap of Russian oil shipments wrote “Shipments of Russian crude from Novorossiysk also rebounded, with three tankers loading Russian crude. Shipments were running back in line with the loading program for the port by the end of the week, having fallen behind during the previous seven days.” (iii) As a result, Russia’s overall oil shipments were up WoW. Bloomberg wrote that the WoW to weekly shipments was +880,000 b/d WoW, and the WoW increase to the four-week average was +40,000 b/d. And Bloomberg wrote “Despite last week’s jump, the figures support the notion that Moscow is now honoring a pledge to keep supply off the global market alongside its allies in the OPEC+ producer coalition. Russia initially said it would cut oil production in retaliation.” Our Supplemental Documents package includes Bloomberg’s weekly Russian seaborne crude flows report.

**Russia seaborne crude flows down**

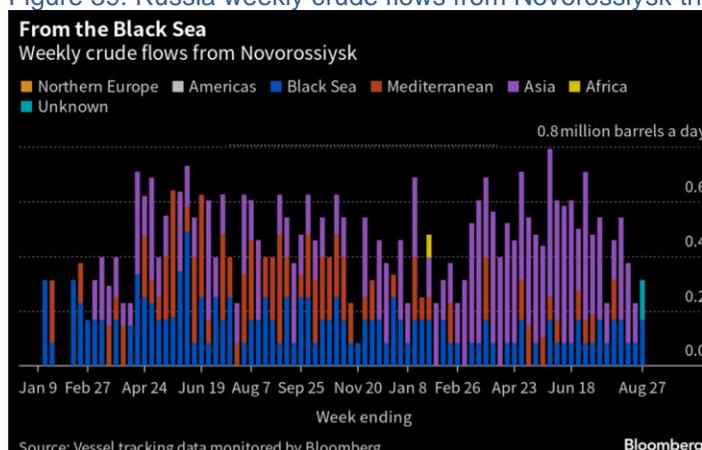
Figure 38: Russia’s seaborne crude shipments thru Aug 27 week



Source: Bloomberg

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Figure 39: Russia weekly crude flows from Novorossiysk thru Aug 27 week



Source: Bloomberg

#### 08/05/23: Ukraine warned Russia Black Sea oil port now “war risk area”

It's been two weeks and we still haven't seen the cause of the fire/explosion at Novorossiysk that reportedly hit oil/fuel oil in barrels and not the oil storage tanks used for tanker loading operations. But we remind that Ukraine warned, on Aug 5, that Novorossiysk and other major Russian Black Sea ports were now “war risk areas”. Here is what we wrote in our Aug 6, 2023 Energy Tidbits memo. “Big development in the Russia/Ukraine war yesterday morning that should impact commodities, including oil, when markets open on Monday. Early yesterday morning, we tweeted [\[LINK\]](#) “Buckle up! Ukraine hits Russian #Oil tanker & warns 6 Russian ports are now in “war risk area”. @business. Including major RUS Black Sea #Oil export port Novorossiysk. See great 📌 @JLeeEnergy graph, still loading ~0.4 million b/d. #OOTT.” There were two big developments yesterday morning. First, a Ukraine drone attack on a Russia oil tanker, which is the first case of any ship/tanker carrying commodities being attacked in the war. Second, and even more significantly, Ukraine declare the water area around six Russian Black Sea ports are now in a “war risk zone”. And these six ports include Russia's Black Sea oil port at Novorossiysk. The six ports are Anapa, Novorossiysk, Gelendzhik, Tuapse, Sochi, Taman. Our tweet included Bloomberg's Aug 1 update of Russian seaborne oil shipments, which included the below graph that shows crude oil shipments from Novorossiysk have been about 400,000 b/d. It's not just crude oil that is at risk. Ukraine isn't necessarily saying exactly what will be attacked but we have to believe that the Ukraine declaration has to impact the volume of ships and also the cost of insurance, if available, for any ships.”

#### Oil: No confirmation, but Saudi Arabia expected to extend 1 mmb/d voluntary cut

As of our 7am MT news cut off, we have not seen any reports confirming Saudi Arabia will be extending its 1 mmb/d voluntary cut thru Oct. However the expectation has been for Saudi Arabia to continue the 1 mmb/d thru Oct. And based on the Novak comments noted above, it sounds like the Russia and Saudi Arabia announcements will be right after the other.

**Saudi 1 mmb/d  
voluntary cuts**

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**Oil: Low Saudi oil shipments to US in Aug = lower US oil inventories in Sept/Oct**

We remind that the best and quickest way for Saudi Arabia to impact global oil prices is to cut oil shipments to the US. The US is the only area with widely accepted weekly oil inventory changes so if the Saudis ship less to the US, it will show up in the EIA weekly oil inventory data. (i) On Friday morning, we tweeted [\[LINK\]](#) “Reminder quickest way for Saudi to impact #Oil prices is cut exports to US so it shows up in weekly US oil inventory data. Saudi cut crude shipments to US to 81,000 b/d in Aug vs 430,000 b/d in July. Provide support to Sept/early Oct prices. #OOTT @JLeeEnergy @bwingfield.” And [\[LINK\]](#) “could have been clearer. low saudi oil shipments in aug = approx 40 days later less saudi oil landing on US = less in EIA weekly oil inventories on sept and early oct = support to sept and early oct prices. #OOTT.” (ii) Our tweet included the below Bloomberg table with Bloomberg estimates from tanker loading data that Saudi oil exports to the US was down to only 81,000 b/d in Aug vs 430,000 b/d in July, 350,000 b/d in June and 306,000 b/d in May. When we saw the very low Saudi shipments to the US, we automatically thought that should show up in lower US oil inventories in Sept and early Oct. We still use an average ~40 days voyage from Saudi to the Gulf Coast. That moves around and may be impacted by the active tropical storm/hurricane activity in the Atlantic Ocean that normally causes tankers to take a longer more circuitous route. Our Supplemental Documents package includes the Bloomberg report.

**Saudi oil shipments to US**

Figure 40: Saudi Arabia key crude flows to selected destinations (000s of b/d)

Destination	Aug.	July	June	May
China	1,274	1,522	1,608	1,613
S. Korea	613	973	956	785
India	569	552	659	832
Japan	543	828	828	796
US	81	430	350	306
Egypt	65	645	533	806
Unknown	780	0	0	0
All destinations	5,552	6,266	6,657	6,551

Source: Bloomberg

**US oil imports from Saudi in Aug fit the approx. 40-day lag to Saudi loadings**

As noted above, we still use an ~40 day assumption for the typical Saudi tanker to get to the US Gulf Coast. The reason we put our second tweet on being clearer was because of a question on our first tweet that asked if there were some timing issues given the latest EIA data was that the US imported 462,000 b/d from Saud in the week ended Aug 25. We tweeted back our table of US weekly oil imports (see earlier in the memo) that notes the other weeks of US oil imports from Saudi were 225,000 b/d for Aug 18 week, 285,000 b/d for Aug 11 week and 330,000 b/d for Aug 4 week, which is roughly 325,000 b/d. And that the Bloomberg table was 306,000 b/d for May and 350,000 b/d for June. So the Aug oil imports from Saudi Arabia basically tracked the Saudi crude oil shipments for May and June. Our reply to the question was [\[LINK\]](#) “Yes, look at last 4 weekly imports that line up well with Saudi shipments assuming 40ish days voyage. July average from Saudi ~325 mbd. Vs May loadings 306 mbd and June loadings 350 mbd.”

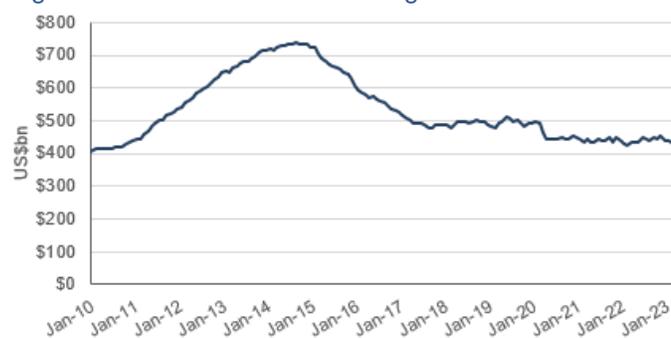
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## Saudi net foreign assets

**Oil: Saudi nest egg, its net foreign assets were down \$16.4b MoM in July**

On Monday, the Saudi Central Bank (SAMA) released its Monthly Statistical Bulletin for the month of July [\[LINK\]](#). We continue to believe the #1 financial theme for Saudi Arabia in the 2020s will be their continued, and likely increasing, use of Other People's Money as they try to transition their country to MBS's Vision 2030. We believe this has been obvious with how Saudi Arabia's net foreign assets dropped by 45% or \$329.9b over the last nine years. We are surprised that markets and oil watchers didn't seem to pay attention to the Saudi net foreign assets data i.e., what we call their nest egg to help them their push to MBS's Vision 2030. There was a -\$16.4b MoM decreased to \$407.1b vs \$423.5b in June, and \$422.8b in May. Saudi net foreign assets at July 31 were down to \$407.1b, which is a decline of 45% of \$329.9b over the last 8 years & 11 months from its peak of \$737.0b on Aug 31, 2014, to \$407.1b on July 31, 2023. That is an average of \$3.1b per month for the last 107 months since the peak. Part of the MoM decline is the impact of Saudi Arabia's voluntary 1 mmb/d cut, but that would only be about \$2.5b of the \$16.4b MoM decline Brent averaged ~\$80 in July vs ~\$75 in June. The other factor over the last several years is that Saudi Arabia has been moving more capital to its PIF (Public Investment Fund) but those would generally be into less liquid assets. Saudi Arabia is far from going broke but there has been a huge decline in the last 8 years and 11 months, but it is still a big nest egg. This net foreign asset depletion is why we have been highlighting that the primary financial theme for Saudi Arabia in the 2020s is getting Other People's Money (OPM) to fund as much of their Vision 2030 as possible. And no question, accessing OPM has helped to slow down and temporarily pause the decline in net foreign assets. Below is our graph of Saudi Arabia net foreign assets updated for the July 31 data.

Figure 41: Saudi Arabia Net Foreign Assets



Source: Bloomberg

**Saudi Arabia is getting \$9.7b in Saudi Aramco dividends in Sept**

In its recent Q2 release on Aug 7, Saudi Aramco announced “*Company intends to distribute performance-linked dividends over six quarters from Q3 2023. First distribution of approximately \$9.9 billion in Q3 2023 based on combined full-year 2022 results and half-year 2023 results.*” This will be ~\$9.7b to Saudi Arabia, who owns 98.2% of Saudi Aramco split 94.2% by the Saudi Arabia government and 4.0% owned by the Public Investment Fund.

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**WSJ “Saudi Arabia’s Aramco Considers Selling \$50 Billion in Shares”**

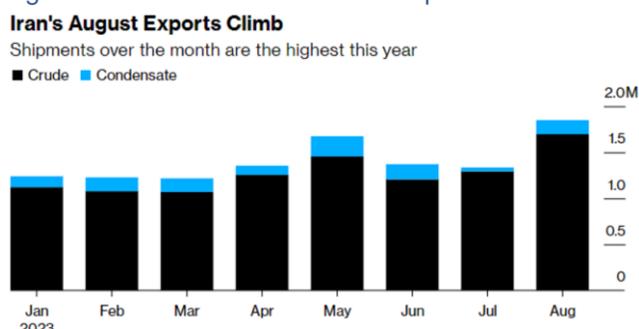
If the WSJ is right, it looks like there is a near term big capital injection of \$50 billion. On Friday, the WSJ reported “Saudi Arabia’s Aramco Considers Selling \$50 Billion in Share.” [LINK](#) “The kingdom is considering selling a stake of as much as \$50 billion, people familiar with the potential deal said, an amount that would be the largest offering in the history of capital markets. After monthslong consultations with advisers, the kingdom has decided to host any new Aramco offering on the Riyadh exchange to avoid legal risks associated with an international listing, according to Saudi officials and other people familiar with the plan. A final decision hasn’t been made on the timing of the deal, but some of the people familiar with the transaction say the kingdom could offer the shares before the end of the year.”

**Oil: Iran ramped up oil exports in Aug, more to come in Sept/Oct**

Yesterday, we tweeted [LINK](#) “Iran ramped up #Oil exports in Aug & more to come in Sept. @TankerTrackers Iran shipments look up ~0.4 mmb/d crude oil only MoM. Recall Iran adding ~0.6 mmb/d in Aug/Sept. See 📌 SAF Group Aug 13/23 Energy Tidbits. Maybe 0.3 mmb/d to come? Thx @alexlongley1 @AlaricN #OOTT.” Our reminder is that Iran may have ramped up its oil exports in Aug but there is more to come in Sept and Oct. On Thursday, Bloomberg reported on the below TankerTrackers data on Iran crude oil and condensate shipments for the first 30 days of Aug. Bloomberg reported “Shipments of Iranian crude and condensate climbed to 1.85 million barrels a day in August, according to TankerTrackers.com Inc., which provides data on oil cargoes to governments, insurers and other institutions. That represents a pullback from the first 20 days of August, when exports topped 2 million barrels a day. Figures for the earlier period were likely inflated by sales of barrels in storage, according to TankerTrackers’s co-founder Samir Madani.” We estimated that the crude oil portion was up approximately 0.4 mmb/d MoM. Our Supplemental Documents package includes the Bloomberg report.

**Iran oil exports  
+0.4 mmb/d in  
Aug**

Figure 42: Tanker Trackers: Iran shipments of crude oil and condensate



Source: Tanker Trackers  
Note: Figures cover first 30 days of August  
Source: Bloomberg, TankerTrackers

**Can or will anyone stop Iran from adding ~0.6 mmb/d to oil markets in H2/23?**

Here is what we wrote in last week’s (Aug 27, 2023) Energy Tidbits memo. “It took 10 days but oil markets started to recognize Iran is ramping up its oil production in

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August and September. On Tuesday, we tweeted [\[LINK\]](#) “Iran’s ramping up its #Oil production and exports is getting more attention. See 📌 SAF Group Aug 13, 2023 Energy Tidbits memo for more on how they see adding ~600,000 b/d in the next couple months. Available at news/insights section of SAF website [\[LINK\]](#) #OOTT.” Our tweet included a link to our Aug 13, 2023 Energy Tidbits memo that was titled “Can or Will Anyone Stop Iran Adding ~600,000 b/d to Oil Markets in Next Few Months?” Here is what we wrote in that memo. “We still believe one of the major oil risks over the coming months is Iran increasing supply and exports. Here is what we wrote in last week’s (Aug 13, 2023) Energy Tidbits memo. “Iran looks to be an overlooked risk to oil prices in H2/23 and not because of sanctions removal. Rather because they are adding oil production capacity and we don’t know who will or can stop them from adding the new oil capacity to oil markets. (i) Earlier this morning, we tweeted [\[LINK\]](#) “Near term Oil hold back. Another Iran reminder today that at 3.2 mmb/d & to exceed 3.3 mmb/d by late Aug. Vs #OPEC MOMR Secondary Sources had Iran at 2.828 mmb/d in July. Who can or will stop Iran from adding up 0.6 mmb/d to #Oil markets in next few mths? #OOTT.” It follows our tweet yesterday [\[LINK\]](#) “Who can or will stop Iran from adding up to 0.6 mmbd to #Oil markets over coming mths? Iran not subject to #OPEC quota. US negotiating with Iran on prisoners & releases of Iranian funds. See 📌 08/09/23 thread - Iran is #oil supply risk in H2. #OOTT @DanialRahmat12.” Our Aug 8, 2023 tweet was [\[LINK\]](#) “Iran near term #Oil supply adds! Given #Biden doesn’t have any stroke over #MBS & tapped SPR, wonder if he effectively turns a blind eye as he sees this as a replacement for an SPR release to try to help keep a lid on oil/#Gasoline prices for 2024. Thx @DanialRahmat12! #OOTT. “ (ii) On Wednesday, Tehran-based analyst, Danial Rahmat, tweeted [\[LINK\]](#) “CEO of #NIOC: Iran’s crude prod. to increase by 150 k b/d in a week. By the end of Sep. 100k b/d will be added and output will reach 3.5 mil. b/d. In H2, about \$8 b deals will be signed to develop 2 joint fields. #OOTT @Energy\_Tidbits @sean\_evers @FrankKaneDubai @imannasseri.” Rahmat was reporting on comments by National Iranian Oil Company managing director, Khojasteh mehr, at a press conference in Tehran on Aug 9. (iii) Later PressTV (Iran state media) reported on Khojasteh mehr’s comments on the press conference. [\[LINK\]](#) “Iran will reach a milestone oil production figure of 3.5 million barrels per day (bpd) in late September, according to the CEO of state oil company NIOC, despite sanctions imposed on the country by the US. Mohsen Khojasteh Mehr said on Wednesday that Iran’s oil output will increase by 150,000 bpd within the next week and by another 100,000 bpd by the end of the month to September 22 to reach a total of 3.5 million bpd. The figure would be a major increase from 2.2 million bpd of oil production reported in August 2021 when the current administrative government led by President Raeisi took office, said Khojasteh Mehr. He said the growth in oil output will entirely serve Iran’s plans to increase its oil exports.” Earlier this morning, our tweet attached the Irna (state media) reporting [\[LINK\]](#) on Iran oil minister saying today that oil production was 3.2 mmb/d and to surpass 3.3 mmb/d by the end of August. (iv) Iran is saying they can hit 3.5 mmb/d in late Sept. Based on this week’s OPEC Aug MOMR Secondary Sources production for Iran of 2.828 mmb/d in July, this is an add of >600,000 b/d. We think this is a significant item as we don’t see who will or can block Iran from adding these barrels to global markets. Iran is one of three countries not subject to OPEC+ quotas so isn’t held back by OPEC+ in

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*increasing production and exports. (v) In theory, Iran is under sanctions but US has turned a blind eye to stopping Iran oil exports. And given the late week breaking news of a potential US/Iran prisoner swap and release of Iran's blocked funds in South Korea, it's hard to see the US stepping up to enforce sanctions. Plus there is the political reality that it's only 15 months to the US 2024 Presidential election. Our Aug 9 tweet said "Given #Biden doesn't have any stroke over #MBS & tapped SPR, wonder if he effectively turns a blind eye as he sees this as a replacement for an SPR release to try to help keep a lid on oil/#Gasoline prices for 2024." US gasoline prices keep inching up. Biden used the SPR to keep a lid on prices in the run up to the 2022 mid-term elections. He doesn't have that cushion now so he can look at Iran's new capacity as a bit of SPR replacement to keep a lid on oil prices. Our Supplemental Documents package include the PressTV report."*

### **Bloomberg: US officials privately acknowledge relaxing sanctions on Iran oil**

Here is another item from last week's (Aug 27, 2023) Energy Tidbits memo. "Our only surprise from Bloomberg's Friday reporting was that Biden Administration officials privately acknowledge to Bloomberg that they have been relaxing the sanctions on Iran's oil. Everyone knows it's happening based on the increasing Iran oil production and exports but it is still surprising to see the officials acknowledge so to Bloomberg. On Friday, Bloomberg reported "While Iran and the US make wary diplomatic overtures, a return to their lapsed nuclear agreement remains a distant prospect. But for world oil markets, a pact is already taking effect. Months of secretive diplomacy between the two nations have yielded progress on prisoner exchanges, the unblocking of frozen assets and possibly even Iran's enrichment of uranium. They also seem to have produced an informal arrangement on oil flows. US officials privately acknowledge they've gradually relaxed some enforcement of sanctions on Iranian oil sales. Tehran has restored production to the highest level since the ban kicked in five years ago and is shipping its most crude to China in a decade. Iranian officials are confident they'll pump even more soon."

### **Oil: Kurdistan says Iraq hasn't taken "any practical steps" to get a deal with Turkey**

There is still no visibility to when Kurdistan/Iraq oil exports might resume Ceyhan terminal in Turkey. And Kurdistan says clearly it is in Iraq's court and Baghdad hasn't taken "any practical steps" to get a deal done. On Tuesday, Rudaw (Iraq news) reported [\[LINK\]](#) on comments from Safeen Dizayee (head of Kurdistan's Department of Foreign Relations). Rudaw wrote "Turkey supports the resumption of exporting the Kurdistan Region's oil, the Kurdistan Region is definitely very eager, and Baghdad, officially, say they are ready but they have not really taken any practical steps yet," Safeen Dizayee, head of the KRG's Department of Foreign Relations, told reporters on Tuesday. "The arbitration court ordered Turkey to pay a penalty of \$1.5 billion in damages to Baghdad for allowing the KRG to independently export its oil between 2014 and 2018. Dizayee said it was "mathematically illogical" for Baghdad to cost itself and Erbil five billion dollars in protest to not receiving \$1.5 billion from Ankara." Our Supplemental Documents package includes the Rudaw report.

**Kurdistan oil  
still shut in**

### **Will Kurdistan/Iraq agree to Turkey's terms to restart oil exports?**

Last week's (Aug 27, 2023) Energy Tidbits highlighted the firsts disclosure we have seen on what Turkey wants to restart the pipeline. Here is what we wrote last week

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*“Up until Friday, we haven’t seen any specifics on what Turkey wants to allow the restart of Kurdistan/Iraq oil via Ceyhan. But on Friday morning, we saw the first report albeit without naming the Turkish officials, of what Turkey wants in any deal. (i) We tweeted [LINK](#) “Best reporting what Turkey wants to resume Kurd #Oil export via Ceyhan. Won't pay \$1.5b damages, wants Kurd to pay Baghdad. Contracts to help build out of power plant & other infra. Iraq/Kurd resolve their % oil splits. Exports could resume quickly. Reminder shouldn't be big hit to Oil markets ASSUMING Iraq keeps complying with #OPEC quota. Thx @SelcanHacaoglu @TurkWonk #OTT.” (ii) Our tweet included the Bloomberg report “Turkey Seeks Iraq Revenue-Sharing Deal to Restart Oil Exports.” (iii) We noted that a deal to restart shouldn't have any big impact on oil exports to world markets assuming Iraq complies with its OPEC quota as it has been producing close to its quota. (iv) Note that Bloomberg says Turkish officials says oil exports could resume quickly once a deal in place. “The pipeline running from Kirkuk to Turkey’s Mediterranean port of Ceyhan remains operational and Iraqi crude exports could start quickly once there is a deal in place, the Turkish officials said, adding that Turkey aims to resolve the conflict as soon as possible.” (v) Big one for Turkey. It wants Kurdistan to pay the \$1.5b that Turkey was ordered to pay Iraq. we have been assuming this \$1.5b payment would somehow be reduced in the negotiations with Iraq. But Bloomberg reports it's not a reduction, any payment is a non-issue. Bloomberg writes ““Turkey halted flows through a twin-pipeline in March after an arbitration court ordered it to pay about \$1.5 billion in damages to Iraq for transporting oil without Baghdad’s approval. Ankara has no intention of paying the fine and is asking the Kurds to pay it to Baghdad as they were the benefactors, the officials said.” (vi) Not a Turkey holdup but a separate issue between Iraq and Kurdistan to resolve is that Turkey wants Iraq and Kurdistan to agree who gets what of the oil revenues split. Bloomberg writes “Baghdad has asked Turkey to collect the money from oil exports and transfer it to Iraq after deducting 12.6% of the share allocated to the KRG, said the officials, speaking on condition of anonymity. The KRG, however, has told Turkey that it wants to claim the entire revenue from exports via its territory, arguing that it has been unable to collect funds from separate Iraqi oil exports, they said.” (vii) One other Turkey negotiating point. It isn't called a negotiating point but Turkey has been wanting a comprehensive agreement on issues with Iraq and that oil was part of their issues. So we have been assuming the oil deal would be wrapped into other negotiating items. Or the other negotiating items wrapped around the oil deal. One item that comes out of Bloomberg is that “Ankara is offering the Kurdistan Regional Government, or KRG, as well as the central government in Baghdad help in building power plants and other infrastructure.” The offer sounds like Turkey wants some big contracts for its companies. Our Supplemental Documents package includes the Bloomberg report.”*

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

Earlier this morning, the Libya National Oil Corporation tweeted [LINK](#) “Crude oil production reached 1.2 million barrels per day, and condensate production reached 50 thousand barrels per day during the past 24 hours.” The update is right in line with the ~1.2 million barrels per day stable level of production Libya has had for the past several months.

**Libya oil stable  
at 1.2 mmb/d**

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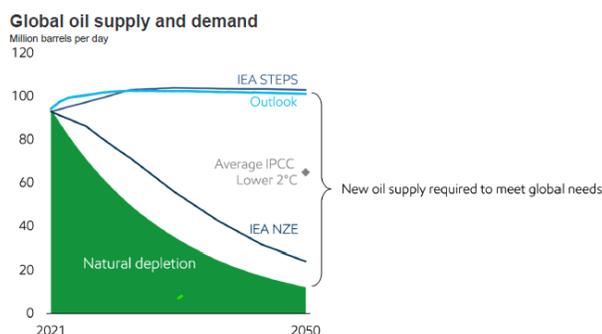
**Oil: Exxon reminds “natural decline rate of existing oil is approx. 7% per year”**

On Monday Exxon issued its “Global Outlook – Our view to 2050”, which is their annual long-term outlook for energy. There is something for everyone on energy. The first thing we checked was if Exxon has changed its view on global oil decline rates as we consider global oil decline rate one of the most important fundamentals to shape oil prices thru the 2020s.

(i) On Monday, we tweeted [LINK](#) “Key factor why #Oil looks good for 2020s. #Exxon today “natural decline rate of existing oil production is approx 7% per yr.” WTI was \$52 on 06/17/19, when Exxon warned on 7% decline. See 📌 SAF 06/20/19 blog. “Exxon’s Math Calls For Overall Global Oil Decline Rate of ~7%, A Very Bullish Argument For Post 2020 Oil Prices” #OOTT.” (ii) In the new outlook to 2050, Exxon said “Today’s new outlook to 2050 is “The natural decline rate of existing oil production is approximately 7% per year. Significant investment is needed to offset this decline and meet the projected demand growth.” (iii) Exxon first highlighted global oil decline rates at a sellside conference on June 18, 2019. WTI had closed at ~\$52 prior to that presentation that also used a global oil decline rate of ~7%. So their assumption on a 7% decline rate is unchanged. (iv) Our tweet included an excerpt from our June 20, 2019 blog “Exxon’s Math Calls For Overall Global Oil Decline Rate of ~7%, A Very Bullish Argument For Post 2020 Oil Prices”. This was prior to Russia/Ukraine. We thought the 7% was a very bullish argument for oil prices, which were \$52 at that time. Below is Exxon’s graph from the new view to 2050.

**Global oil decline rate of ~7%**

Figure 43: Global oil supply and demand



Source: 2022 IEA World Energy Outlook; IPCC: AR6 Scenarios Database hosted by IIASA release 1.0 average IPCC C3: “Likely below 2°C” scenarios; ExxonMobil Analysis

Source: Exxon, August 28, 2023

**06/01/23: Exxon CEO “people continue to forget about the depletion curve”**

Here is what we wrote in our June 4, 2023 Energy Tidbits memo. “The focus of investor attention on the Exxon sell-side presentation on Thursday was on their shale oil potential. So overlooked was their regular and, at least annual, reminder that there is a 7% annual depletion/decline rate in global oil production. This is on a global basis so would work in the very high decline rates in US shale oil and essentially zero decline rate in oil sands mining. It means that, on average, the world has to add another 7 mmb/d of oil production to stay offset decline and stay flat. This is the challenge for growing global oil supply especially in the face of the well understood underinvestment in the oil and gas upstream. And Exxon says that if you’re not investing, the market will be short at some point in time. Exxon CEO Darren Woods

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said “So you can call it being stubborn. Our focus on it is a disciplined approach to understanding what the business required and sticking to it, because the facts didn't change. And with time, the facts were proven right. And it's not, wasn't that we were somehow magical in understanding it. It's basic math and understanding depletion curves and where the rest of the industry is. I'll tell you something else that's happening right now. If you look at, people continue to forget about the depletion curve and that every barrel of crude that you produce, or every ton of LNG that you produce is that much less supply available to the world. And you have to replace that, even if demand is flat So think about a 7% depletion curve. Maintaining volumes flat means you have to grow production by 7% to offset the decline. That's huge growth. People don't appreciate that. And the bigger the demand, that 7% becomes bigger, the bigger the hole that you're digging every year. If you look at where the demand for oil and gas is today, you look at a depletion and then you look at the investment going into the industry, the industry as a whole is under-investing in those resources. So whatever your view of demand is, and I said before, if we go back in time, what we typically miss is supply. No matter what your view of demand and where that's going to be at, that depletion curve eventually catches up to that demand equation. And if you're not investing, you will find the market gets short at some point in time. And my view is we're in that point in time today. The industry is under-investing. You hear that coming out of OPEC in Saudi Arabia, they're making that point. I think many people can see that maybe thinking it's self-serving, but the reality is that's an Issue.”

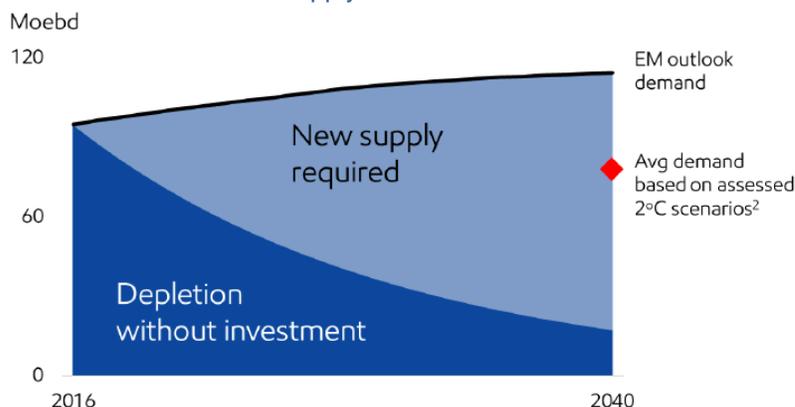
#### **06/18/19: Exxon used a global oil production supply base decline of ~7% per yr**

Before Covid and Russia/Ukraine, we have been highlighting that the base oil decline rate was a key reason why oil should be strong for the 2020s. And we were reminded of this them by Exxon on June 18, 2019. Here is what we wrote in our June 23, 2019 Energy Tidbits memo. “Exxon's bullish argument for post 2020 oil prices, global oil decline rate of ~7%. Exxon presented at a sellside conference this week, and we believe Exxon presented a very bullish argument for oil prices beyond 2020 which was overlooked because most readers only flip thru a slide deck and don't listen to or read transcripts of management's spoken words. Exxon's spoken words highlighted one of the forgotten (and perhaps most important) oil supply/demand concerns for post 2020 – the mid term challenge to replace increasing rate of overall global oil declines. And what is eye opening is Exxon's estimated overall global oil decline rate, which is way higher than any we can ever remember seeing. We posted a blog on Thurs evening titled “Exxon's Math Calls For Overall Global Oil Decline Rate Of ~7%, A Very Bullish Argument For Post 2020 Oil Prices”. Our blog said “Its impossible to tell from the small oil supply/demand graph in the slide deck, but Exxon's spoken words says long term oil demand is 0.7% per year and then “When you factor in depletion rates, the need for new oil grows at close to 8% per year and new gas at close to 6% per year.” Exxon may not specifically say what the global decline rate is, but their math is that the world needs new oil supply to grow annually at close to 8% to meet the 0.7% annual increase in oil demand and offset declines ie. an overall global decline rate of approx. 7%. This is an overall global oil decline rate for OPEC and non-OPEC”. BP's estimate of overall global oil decline rate is 4.5% and we expect most are probably assuming something

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around 5%, certainly not above 6%. No one should be surprised by the increased decline rate given that high decline US shale and tight oil have increased by ~2.5 mmb/d in the last ~2 years. But an implied ~7% overall global oil decline rate is way higher than expectations. There is a big difference between needing to offset oil declines of ~7 mmb/d vs declines of ~4.5 mmb/d ie. an additional 2.5 mmb/d of new oil supply every year. Even if the implied difference was to 6%, it would still be an additional 1.5 mmb/d of new oil supply and that would also be very bullish for post 2020 oil. We recognize that the 2019/2020 oil supply demand story is the need for OPEC+ to keep cuts thru 2020, but Exxon's math implying ~7% overall global oil decline rate sets up a very bullish view for oil post 2020. We believe the reality to replace oil declines post 2020 is overlooked." Our Supplemental Documents package includes our June 20, 2019 blog.

Figure 44: Exxon Estimated Oil Supply/Demand



Source: Exxon June 2019

### Saudi Aramco CEO reminds global oil “depletion of 5% to 7%” per year

Saudi Aramco had its Q2 call on Monday and the headlines were on their boosted dividend. The beauty of time zones is that, given the time zones, Bloomberg posted the transcript early Monday morning and, in the Q&A, Saudi Aramco CEO Nasser reminded of the key fundamental reason why we have been positive on oil for the 2020s especially in the face of the underinvestment – the overall decline rate of the global oil production base is 5% to 7%. That is an overall average decline rate for the global oil production that takes into account the high decline rate on the US's 12 mmb/d, but also no or very little decline rate for oil sands mining. (i) On Monday morning, we tweeted [\[LINK\]](#) “#Oil 101. Decline rates. Every barrel produced has to be replaced just to keep production flat. #Aramco CEO "considering the depletion of 5% to 7% and you need to have huge investment just to maintain the current decline that we see in existing mature fields" Oil looks good for 2020s! #OOTT.” Saudi Aramco is saying there is a global decline rate of 5% to 7%, which means that every year, if there is no reinvestment, the 100 mmb/d global production base would decline by 5 to 7 mmb/d. Or that means the world needs to add 5 to 7 mmb/d of new production additions just to keep production flat. (ii) In the Q&A, CEO Nasser said

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the low end of demand growth requires an additional 1.5 mmb/d of new oil supply. And then he reminds about the base decline in the global oil production base. Nasser said *“By the way that we view the market, we think demand will grow in the mid to long term. Don't forget, we are a company that always focused on the long term, the signals that we're getting are just in the slides as I mentioned earlier. If you are talking about the 103 to 104 million barrel in the second half of this year based on different forecasts, And this is not with a full economic recovery from different countries because they are at different levels and China is still picking up growth potential. And as I said, also, there is a lot of potential growth in the aviation industry, and as economy improve going forward, there will be additional demand and even if we consider the low end at 1.5% increase in the 100 million barrel system, we are talking about 1.5 million to 1.7 million barrels of additional demand and considering the depletion of 5% to 7% and you need to have huge investment just to maintain the current decline that we see in existing mature fields at that level, you need a huge investment and to meet that growth, 1.5 even at the low end to 1.5% you need really significant investment and you need to be prepared.”* (iii) Saud Aramco's 5% to 7% is in line with what most others use as the base global decline rate and what we have been highlighting for years

#### **10/31/22: UAE's Dr. Al-Jaber says global oil declines at 5 mmb/d per year**

Dr. Sultan bin Ahmed Al-Jaber is CEO of the Abu Dhabi DNOC and is the president designate for the upcoming COP28 in UAE. He is the top oil executive in the UAE. His view on global oil decline rates is much the same as Saudi Arabia. Last year, Oct 31, 2022, we tweeted [\[LINK\]](#) *“Global #Oil declines at ~5% per year so the world's oil companies must add new production capacity or use up existing spare capacity of 5 mmb/d just to keep global oil production capacity flat. This builds in high US shale declines where the treadmill runs way faster. #OOTT.”* Here is what we wrote in our Nov 6, 2022 Energy Tidbits memo. *“We believe an overlooked basic of the global oil supply picture is the decline rate of the current oil production base of 100 mmb/d. It is a theme that we have highlighted for years and certainly before Covid. ADIPEC 2022 was this week in Abu Dhabi. One of the highlighted Monday speeches was by Abu Dhabi DNOC CEO HE Dr Sultan bin Ahmed Al Jaber. He reminded “now is not the time to point out that long-term under-investment in oil and gas has made a difficult situation even worse, as the data is clear.” But al Jaber also reminded of the basics of oil supply – the existing oil production base declines so if the world produces 100 mmb/d today, those same producing assets will be producing a lesser amount in one year. Al Jaber said “if we zero out hydrocarbon investment due to natural decline, we would lose 5 million barrels per day of oil each year from current supplies.” Al Jaber is using an approx. 5% decline rate, on average, across the existing global oil production base ranging from oil sands, to OPEC to deepwater to shale. The 5% global oil decline rate tends to be on the lower end of what we normally see of 5% to 7%.”*

#### **Oil: Foreign investors net selling China so Aug was a bad month for China stocks**

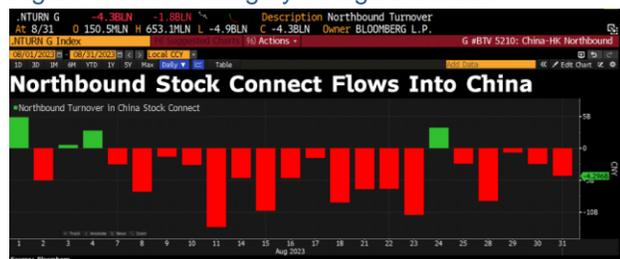
This week, we lost track of the several China tweaks to try to stem its economic decline, but the story in August was a month of weak China economy and markets. We tweeted a couple of times this week on Bloomberg's highlighting “Record selling in mainland China stocks”.

**China stocks hit hard in Aug**

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Our last tweet was on Thursday [\[LINK\]](#) “Chinese stocks underperform by big margin as foreign investors have record net outflows in mainland China stocks:” #Oil normally is weaker when Chinese economy & markets are weaker. But Brent is up small for the month. Thx @business. #OOTT.” It’s not that complicated – more sellers than buyers and price goes down in any market. Our tweet included the two below Bloomberg graphs “Northbound stock connect flows in China’ and “Chinese stocks underperform by big margin. Gauge fell over 8% vs -1.5% for S&P 500 in August.”

Figure 45: Net selling by foreign investors



Source: Bloomberg

Figure 46: Chinese stocks underperform by big margin



Source: Bloomberg

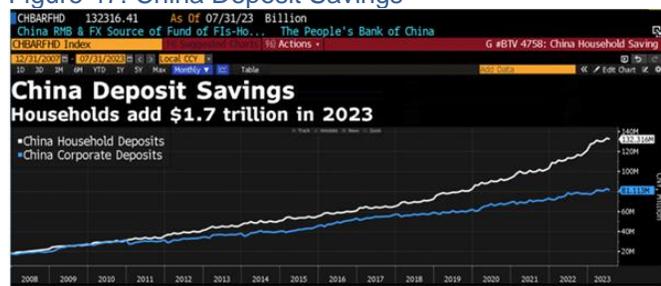
**Oil: Chinese households keep increasing savings**

On Thursday night, we tweeted [\[LINK\]](#) “Is this a good indicator that there is still more risk than reward to near term China economy? Xi and politburo haven't yet been able to convince the Chinese people that it's time to spend the pent up savings! Thx @business. #OOTT.” Earlier on Thursday night (MT), Bloomberg TV showed the below graph “Canada Deposit Savings: Households add \$1.7 trillion in 2023.” That is a big increase and the Chinese spending their savings was, earlier in the year, expected to be a catalyst for revving up the Chinese economy. We have seen the Chinese consumer step up, but not as much as expected to spend their savings. However, we have to believe that Chinese households still increasing savings is an indicator that they are still being cautious about the China recovery.

**A bad week for China capital flows**

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Figure 47: China Deposit Savings



Source: Bloomberg

### Waiting for \$2 Trillion in excess China savings to be allocated in the reopening

As noted above, earlier in the year, Chinese spending their excess savings was expected to be a big catalyst in the China reopening. Here is what we wrote in our Jan 22, 2023 Energy Tidbits memo. “We believe there has been an overlooked factor in China’s reopening – Chinese have accumulated significant excess savings during Covid much like was seen in the US, and that a reopening will see Chinese spend just like has been spend in the US in an extra stimulus. In China’s case, there is \$2 Trillion of excess savings waiting to be spent in the reopening. We have been saying that we don’t see why people in China won’t be responding to China’s reopening the same way people in all major countries responded when their countries reopened. On Tuesday night, we were watching Bloomberg Asia open and immediately tweeted on comments by Hong Kong Exchange CEO Aguzin. We tweeted [\[LINK\]](#) “1/2. \$2 Trillion in EXCESS savings in China to be allocated in the reopening. @HKEXGroup CEO @aguzin “Something important around Covid also that I want to make sure people know. Over the last 2 yr, savings in China which traditionally size ~20% of disposable income... #OOTT” and [\[LINK\]](#) “2/2 .. It is very very high. But over the last 2 yr, that jumped to >30% so there’s ~\$2 trillion EXCESS savings in the system in China. \$2 trillion. Now with the reopening that will have to be reallocated somewhere. Thx @haslindatv @aguzin #OOTT.” We made a transcript of Aguzin’s comments “Something important around Covid also that I want to make sure people know. Over the last 2 years, savings in China which traditionally size around 20% of disposable income. It is very very high. But over the last 2 years, that jumped to over 30% so there’s about \$2 trillion excess savings in the system in China. \$2 trillion. Now with the reopening that will have to be reallocated somewhere. To travel, to purchase things, so that is a very significant amount. I hope a good chunk of that comes to the capital markets”

### Blackstone CEO Schwarzman reminds \$2.5T US Covid savings drove economy

Here is another item from our Jan 22, 2023 Energy Tidbits memo. “We were reminded of the significance of China \$2 Trillion in excess savings waiting to be allocated by comments from Blackstone CEO Schwarzman in his Bloomberg interview from Davos. Schwarzman highlighted how there was \$2.5 Trillion in excess savings in the US during Covid, half has been spent, which has been an extra stimulus to the US economic and there is still another half waiting to be spent. On Thursday morning, we tweeted [\[LINK\]](#) “Hmm! Overlooked China extra stimulus? US

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economy "quite good shape": #Blackstone Schwarzman \$2.5T in excess savings during Covid, spent half, "an extra stimulus". China \$2T in EXCESS savings to be spent on reopening. see 📌 @aguzin tweet last night. Thx @DavidWestin #OOTT."

### Oil: China scheduled domestic flights +0.2% WoW, summer travel season is over

On Tuesday, we tweeted [\[LINK\]](#) "China "summer travel season comes to an end". China scheduled domestic flights +0.2% WoW to 104,932. How low will flights go in Sep/Oct with weak economy/consumer? Currently expect -2.5% over next 4-wks to 102,276. How much lower? Thx @BloombergNEF Claudio Lubis. #OOTT." (i) On Tuesday, BloombergNEF posted its Aviation Indicators Weekly Aug 29, 2023. (ii) The peak of summer holiday travel is now over so the key concern for Chinese scheduled domestic flights is what happens to air travel in Sept and Oct ie how much does it decline given all the negative China economic and capital flows news in the past few weeks. And it doesn't seem like China's rush over the last week to shore up the economy are focused on items like domestic air travel. Rather they seem focused on more fundamental items like trying to save the real estate market. China domestic scheduled flights were +0.2% WoW to 104,932 flights, but the look-ahead to the next weeks is to decline -2.5% to 102,276 flights. BloombergNEF noted China data indicating that H1/23 domestic flights were -12% vs pre-Covid H1/19. (iii) China scheduled domestic flights +0.2% WoW to 104,932 flights for Aug 22-28 week, compared to 104,716 flights for Aug 15-21 week, 104,823 flights for Aug 8-14, 104,000 flights in Aug 1-7 week, and 104,436 flights in July 25-31 week. Domestic flights have leveled off over August as expected, which reflects the peak of summer holiday travel season has come to an end in Aug. At 104,932 flights for Aug 22-28 week, that is still 12.0% below what was expected at the end of March for April of 119,180 flights. (iv) BloombergNEF noted that H1/23 scheduled domestic flights were down -12% vs pre-Covid H1/19. BloombergNEF wrote "284 million air passenger trips were handled in the first half of the year, according to the Civil Aviation Administration of China (CAAC). This is around 88% of the 2019 level over the equivalent time period." (v) BloombergNEF's updated schedule domestic flights over the next four week is expected to drop -2.5% over the next four weeks to 102,276 "as the summer travel season comes to an end". The 102,276 over the next four weeks is below last week's then 4-week look-ahead of 104,067 flights scheduled domestic flights. The next 4-weeks scheduled domestic flights of 102,276 flights is -14.2% below what was expected at the end of March for April of 119,180 flights. (vi) Also note how it was clear that the outlook tipped negative right after the March 28 -Feb 3 week with lesser China recovery and the then worries about a new Covid peak to hit China at the end of June. The BloombergNEF March 28 report reported that the March 21-27 weeks flights were 89,513 flights and they forecast massive jump to 119,180 flights over the then next 4-weeks. Then the next week, March 28-Apr 3 week had made a huge WoW jump from 89,513 flights to 95,624 flights, but then the following week was down to 91,567 flights. And scheduled domestic flights didn't get back to March 21-27 until the end of June. Below is our running WoW changes from the prior BloombergNEF reports and the BloombergNEF charts from August 29 and March 28, and our listing of WoW changes from the prior BloombergNEF reports.

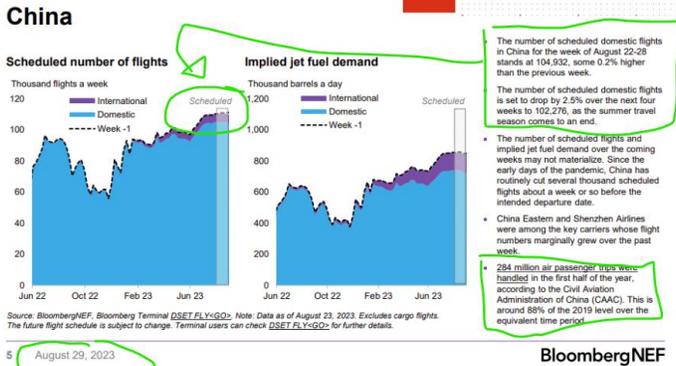
### China scheduled domestic flights

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Figure 48: China scheduled domestic flights from BNEF Aviation Indicators Weekly reports

Aug 22-28: +0.2% WoW to 104,932 flights  
 Aug 15-21: -0.1% WoW to 104,716 flights  
 Aug 8-14: +0.8% WoW to 104,823  
 Aug 1-7: -0.4% WoW to 104,000  
 July 25-31: +0.4% WoW to 104,436  
 July 18-24: +1.3% WoW to 104,011  
 July 11-17: +2.8% WoW to 102,709  
 Jul 4-10: +2.4% WoW to 99,904  
 Jun 27-Jul 3: +1.9% WoW to 97,572  
 Jun 20-26: +3.4% WoW to 95,724  
 Jun 13-19: -0.9% WoW to 92,568  
 June 6-12: -1.2% WoW to 93,328  
 May 30-Jun 5: +0.2% WoW to 94,486  
 May 23-29: -0.1% WoW to 94,321  
 May 16-22: -2.8% WoW to 94,417  
 May 9-15: basically flat at 97,049  
 May 2-8: +2.8% WoW to 97,087  
 Apr 25-May 1: +0.04% to 94,471  
 Apr 18-24: +2.1% WoW to 94,138  
 Apr 11-17: +0.7% WoW to 92,231  
 Apr 3-10: -4.2% WoW to 91,567  
 Mar 28-apr 3: +6.8% WoW to 95,624  
 Mar 21-27: +1.5% WoW to 89,513  
 Mar 14-20: -0.6% WoW to 88,166  
 Mar 7-13 week: -0.8% WoW to 88,675  
 Feb 27-Mar 3 week: -2.6% WoW to 89,430  
 Feb 21-27 week: +0.0% WoW to 91,828  
 Feb 14-20 week: -0.5% WoW to 91,561  
 Feb 7-13 week: -0.7% WoW to 92,007  
 Jan 31- Feb 6 week +10.9% WoW  
 Jan 24-30 week -9.2% WoW to 83,500  
 Jan 17-23 week +7% WoW to 91,959  
 Jan 10-16 week +20% WoW to 85,910  
 Jan 3-9 week: -5.3% WoW to 71,642  
 Dec 27-Jan 2 week: -5.6% WoW to 75,652  
 Source: BloombergNEF

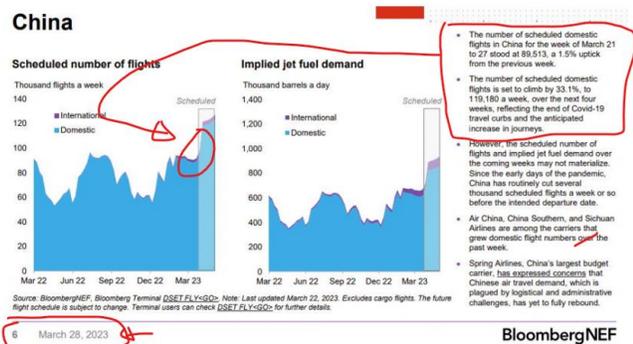
Figure 49: China scheduled domestic air flights as of Aug 29



Source: BloombergNEF

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Figure 50: China scheduled domestic air flights as of March 28



- The number of scheduled domestic flights in China for the week of March 21 to 27 stood at 89,513, a 1.5% uptick from the previous week.
- The number of scheduled domestic flights is set to climb by 33.1%, to 119,180 a week, over the next four weeks, reflecting the end of Covid-19 travel curbs and the anticipated increase in journeys.
- However, the scheduled number of flights and implied jet fuel demand over the coming weeks may not materialize. Since the early days of the pandemic, China has routinely cut several thousand scheduled flights a week or so before the intended departure date.
- Air China, China Southern, and Sichuan Airlines are among the carriers that grew domestic flight numbers over the past week.
- Spring Airlines, China's largest budget carrier, has expressed concern that Chinese air travel demand, which is plagued by logistical and administrative challenges, has yet to fully rebound.

Source: BloombergNEF

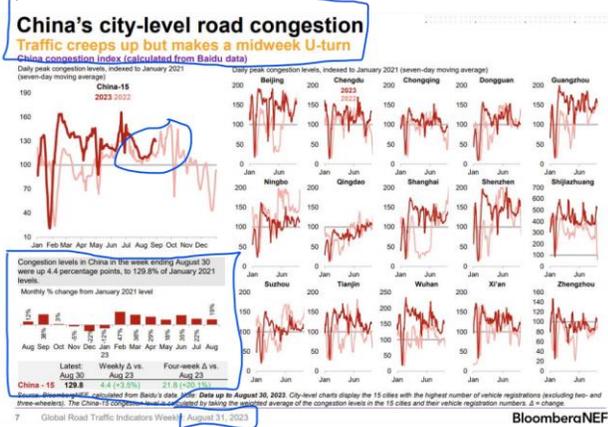
**Oil: Baidu China city-level road congestion up again but midweek U-turn**

BloombergNEF describes it as “Traffic creeps up but makes a midweek U-turn” “Traffic recovers from seasonal low.” (i) On Thursday, we tweeted [\[LINK\]](#) “China summer holidays ended so 4th consecutive WoW increase in Baidu city-level road congestion. City-level road congestion +4.4% WoW to 129.8% of Jan/21 levels. But “makes a midweek U-turn”. Still waiting on Sep/Oct expected big ramp up. Thx @BloombergNEF #OOTT.” (ii) BloombergNEF posted its Global Road Traffic Indicators Aug 31 report, which includes the China Baidu city-level road congestion data for week ended Aug 30. (iii) For the week ended Aug 30,2023, Baidu data for China city-level road congestion was +4.4% WoW to 129.8% of Jan 2021 levels. It’s the 4th consecutive weekly increase so it supports the expected increase in city road congestion now that summer holiday season has ended and people are returning to cities and back to work. The one caveat is that BloombergNEF notes there was a surprise “midweek U-turn”, which lessened the WoW increase to +4.4%. The key question remains how much of a jump will there be in Sept/Oct city-level road congestion. The top 15 cities in Aug thru Aug 30 are 115% of Aug 2021 levels, which is better YoY than Aug 2022 that was 106% of Aug 2021 levels. (iv) BloombergNEF provided its specific by city numbers for Aug, which is for 30 days of Aug so almost all of Aug. For the top 15 cities in aggregate, Aug 2023 so far are 115% of Aug 2021 levels, whereas Aug 2022 was 106% of Aug 2021 levels. Of the top 15 cities, 8 are up YoY and 7 are down YoY. Our tweet included the below graph and table from the BloombergNEF Global Road Traffic Indicators Aug 24 weekly report.

China city-level traffic congestion

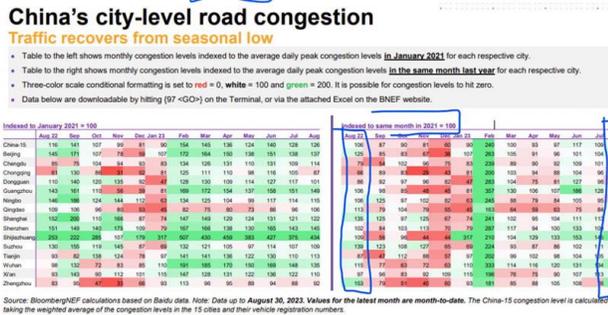
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Figure 51: China city-level road congestion for the week ended Aug 30



Source: BloombergNEF

Figure 52: China city-level road congestion for the week ended Aug 30.



Source: BloombergNEF

**Oil: Caixin Manufacturing PMI at 51.0 in Aug, but warns on the outlook**

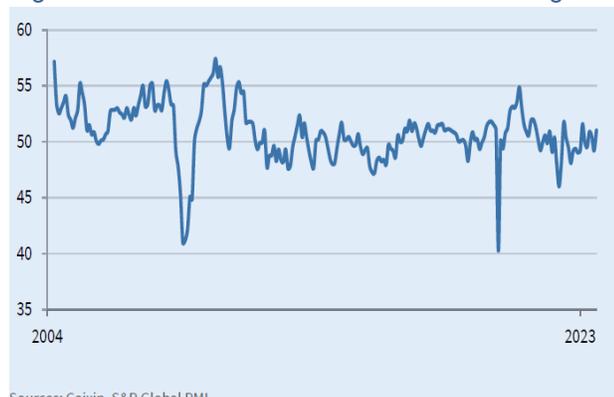
On Thursday, we tweeted [LINK](#) "Positive as China Caixin Manufacturing PMI Aug 51.0 beats Est 49.0, July 49.2, June 50.5, May 50.9, Apr 49.5, Mar 50.0, Feb 51.6, Jan 49.2. BUT warns "Looking ahead .... the problem of insufficient internal demand & weak expectations may form a vicious cycle for a longer period of time. Combined with the uncertainty in external demand, the downward pressure on the economy may continue to increase." Thx @SPGlobalPMI. #OOTT". As a reminder, there are two China manufacturing PMI data from S&P Global that come out each month. The Official Manufacturing PMI that normally comes out the day before the Caixin Manufacturing PMI data that we track. We have focused on the Caixin PMI as we view it more as a leading indicator for how the China recovery is doing as it is a more export-oriented PMI and export have been the big drive of China for the past 20 years. The Caixin Manufacturing PMI for Aug was released at 7:45pm MT on Thursday night [LINK](#). The Aug number was positive as it was 51.0 in Aug, a beat vs estimates of 49.0 and July of 49.2. It was the highest PMI since Feb. So the takeaway for anyone who just looked at the number is a positive. But our tweet included what we saw was a big warning at the end of the writeup. The warning was "Looking ahead, seasonal impacts will gradually

Aug PMI 51.0, but warning on the outlook

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subside, but the problem of insufficient internal demand and weak expectations may form a vicious cycle for a longer period of time. Combined with the uncertainty in external demand, the downward pressure on the economy may continue to increase.” So positive on the Aug PMI beat and the highest PMI since Feb, but also a big warning as they look ahead. Below is a snapshot of the Caixin general manufacturing PMI. Our Supplemental Documents package include excerpts from the PMI.

Figure 53: China Caixin General Manufacturing PMI



Sources: Caixin, S&P Global PMI

Source: S&P Global

### Oil: Vortexa crude oil floating storage at Sept 1 was 82.15 mmb, -1.91 mmb WoW

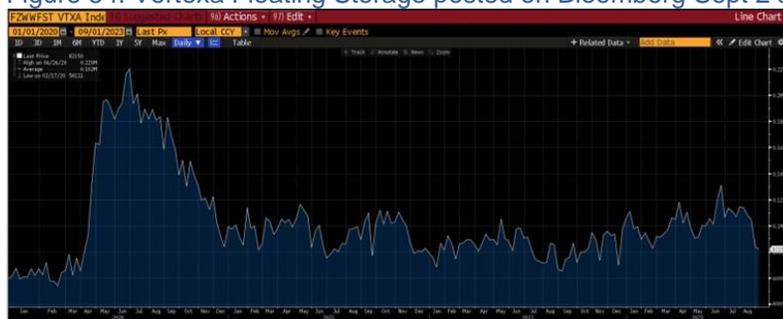
We are referencing the Vortexa crude oil floating storage data posted on the Bloomberg terminal as of 9am MT yesterday. Note that these estimates get revised over the course of the week and the revisions can go back months. We do not check daily for the revisions, so our comments on the new estimates are compared to the prior week's Vortexa estimates posted on Bloomberg on Aug 26 at 9am MT. (i) Despite the upward revision to Aug 25, we now have two consecutive weeks of floating storage below 85 mmb and the new sept 1 of 82.15 mmb is down a whopping 48.88 mmb vs the recent June 23, 2023 peak of 131.03 mmb. (ii) As of 9am MT yesterday, Bloomberg posted Vortexa crude oil floating storage estimate for Sept 1 at 82.15 mmb, which is -1.91 mmb WoW vs upwardly revised Aug 25 of 84.06 mmb. Note Aug 25 of 84.06 mmb was revised +3.75 mmb vs 80.31 mmb originally posted at 9am on Aug 26. (iii) Revisions. Other than the +3.75 mmb revision to Aug 26, there were a mix of upward and downward revisions that were +/- 2 mmb. The revisions from the estimates posted yesterday at 9am MT vs the estimates posted on Bloomberg at 9am MT on Aug 26 are as follows: Aug 25 revised +3.75 mmb. Aug 18 revised -0.18 mmb. Aug 11 revised -1.21 mmb. Aug 4 revised +1.79 mmb. July 28 revised +2.04 mmb. July 21 revised +1.30 mmb. July 14 revised +1.16 mmb. (iv) There is a wide range of floating storage estimates for the past seven weeks, but a simple average for the past seven weeks is 102.07 mmb vs last week's then seven-week average of 105.96 mmb. The drop is due to adding a the low 82.15 mmb for Sept 1 to the 7-week average. (v) Also remember Vortexa revises these weekly storage estimates on a regular basis. For example, when most report on the Vortexa data on Monday morning, they will be reporting on different estimates. We do not track the revisions through the week. Rather we try to compare the first posted storage estimates on a consistent week over week timing comparison. Normally we download the

### Vortexa floating storage

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Vortexa data as of Saturday mornings around 9am MT. (vi) Note the below graph now goes back to Jan 1, 2020 and not just three years as floating storage in Apr 2020 had started to reflect the Covid impact. (vii) Sept 1 estimate of 82.15 mmb is -138.16 mmb vs the Covid peak of 220.31 mmb on June 26, 2020. (viii) Sept 1 estimate of 82.15 mmb is +16.54 mmb vs pre-Covid Feb 28, 2020 of 65.61 mmb. (ix) Sept 1 estimate of 82.15 mmb is +16.70 mmb YoY vs Sept 2, 2022 of 65.45 mmb. (x) Below are the last several weeks of estimates posted on Bloomberg as of 9am MT Sept 1, 9am MT Aug 26, and 9am MT Aug 19.

Figure 54: Vortexa Floating Storage posted on Bloomberg Sept 2 at 9am MT



Source: Bloomberg, Vortexa

Figure 55: Vortexa Estimates Posted Sept 2 9am MT, Aug 26 9am MT, Aug 19 9am MT

Posted Sept 2, 9am MT		Aug 26, 9am MT		Aug 19, 9am MT																			
FZWWFST VTXA Inde 94.0 Su		FZWWFST VTXA Inde 94.0 Su		FZWWFST VTXA Inde 94.0 Su																			
01/01/2020 - 09/01/2023		01/01/2020 - 08/25/2023		01/01/2020 - 08/18/2023																			
ID	3D	1M	6M	YTD	1Y	ID	3D	1M	6M	YTD	1Y	ID	3D	1M	6M	YTD	1Y						
Date		Date		Date		Date		Date		Date		Date		Date		Date							
Last Px		Last Px		Last Px		Last Px		Last Px		Last Px		Last Px		Last Px		Last Px							
Fr	09/01/2023					Fr	08/25/2023					Fr	08/18/2023					Fr	08/11/2023				
	82150						80314						95321						110.233k				
Fr	08/25/2023					Fr	08/18/2023					Fr	08/11/2023					Fr	08/04/2023				
	84056						105.222k						109.534k					Fr	07/28/2023				
Fr	08/18/2023					Fr	08/11/2023					Fr	08/04/2023					Fr	07/28/2023				
	105.039k						109.279k						109.534k						110.553k				
Fr	08/11/2023					Fr	08/04/2023					Fr	07/28/2023					Fr	07/21/2023				
	108.074k						111.806k						102.657k						107.813k				
Fr	08/04/2023					Fr	07/28/2023					Fr	07/21/2023					Fr	07/14/2023				
	113.596k						112.657k						107.813k						107.813k				
Fr	07/28/2023					Fr	07/21/2023					Fr	07/14/2023					Fr	07/07/2023				
	114.702k						105.57k						107.813k						114.87k				
Fr	07/21/2023					Fr	07/14/2023					Fr	07/07/2023					Fr	06/30/2023				
	106.866k						109.817k						114.87k						104.206k				
Fr	07/14/2023					Fr	07/07/2023					Fr	06/30/2023					Fr	06/23/2023				
	110.974k						115.064k						104.206k						127.016k				
Fr	07/07/2023					Fr	06/30/2023					Fr	06/23/2023					Fr	06/16/2023				
	113.323k						106.307k						127.016k						115.986k				
Fr	06/30/2023					Fr	06/23/2023					Fr	06/16/2023					Fr	06/09/2023				
	106.441k						129.814k						115.986k						98412				
Fr	06/23/2023					Fr	06/16/2023					Fr	06/09/2023										
	131.033k						117.33k																

Source: Bloomberg, Vortexa

**Oil: Vortexa crude oil floating storage WoW changes by regions**

Bloomberg also posts the Vortexa crude oil floating storage in the key regions, but not all regions of the world. The regions covered are Asia, Europe, Middle East, West Africa and US Gulf Coast. We then back into the “Other” or rest of world. (i) As noted above, Aug 25, in total, was revised +3.75 mmb. The main revision in a region vs the originally posted (as of 9am Aug 26) floating oil storage for Aug 25 was Other +4.18 mmb. All other revisions were <1 mmb. (ii) Total floating storage was -1.91 mmb WoW. The largest WoW change was Europe -2.30 mmb. All other WoW changes were very small. (iii) As noted above, Sept 1, in total, was down a whopping 48.88 mmb vs the recent June 23, 2023 peak of 131.03 mmb.

Vortexa floating storage by region

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The major changes by region vs the recent June 23 peak are Asia -35.56 mmb, Other -15.04 mmb and West Africa +4.46 mmb. (iv) Below is the table we created of the WoW changes by region posted on Bloomberg at of 9am MT yesterday. Our table also includes the “Original Posted” regional data for Aug 25 that was posted on Bloomberg at 9am MT on Aug 26.

Figure 56: Vortexa crude oil floating by region

Vortexa Crude Oil Floating Storage by Region (mmb)			Original Posted		Recent Peak	
Region	Sep 1/23	Aug 25/23	WoW	Aug 25/23	Jun 23/23	Sep 1 vs Jun 23
Asia	37.80	38.09	-0.29	37.87	73.36	-35.56
Europe	4.96	7.26	-2.30	7.79	6.54	-1.58
Middle East	7.36	7.17	0.19	6.84	9.08	-1.72
West Africa	8.42	8.39	0.03	8.17	3.96	4.46
US Gulf Coast	1.48	1.59	-0.11	2.26	0.92	0.56
Other	22.13	21.56	0.57	17.38	37.17	-15.04
Global Total	82.15	84.06	-1.91	80.31	131.03	-48.88

Vortexa crude oil floating storage posted on Bloomberg 9am MT on Sept 2  
Source: Vortexa, Bloomberg

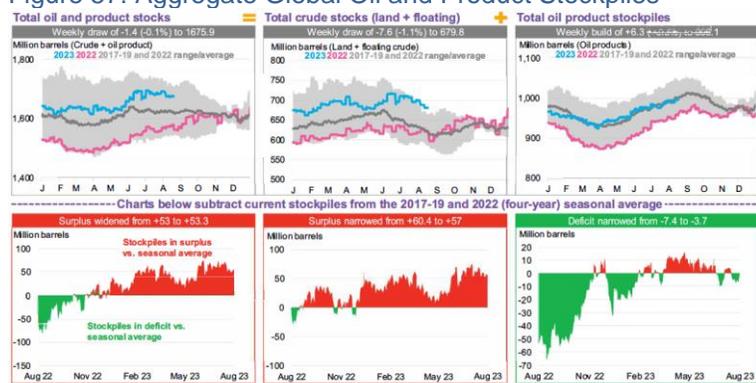
Source: Bloomberg, Vortexa

### Oil: BNEF – global oil and product stocks surplus widened WoW to 53.3 mmb

Please note that the BloombergNEF global oil and products stocks estimate are for the week ending August 18, which is a week earlier than the EIA US oil inventory data that is for the week ending August 25. So, the BloombergNEF global oil stocks data won't include the US crude oil inventory draw of -10.58 mmb for the week ending August 25. On Tuesday, BloombergNEF posted its “Oil Price Indicators” weekly, which provides good charts depicting near-term global oil demand and supply indicators. (i) Note BloombergNEF uses different periods to determine the surplus/deficit, sometimes using a four-year average for 2017-2019 + 2022, and other times using a five-year average 2016-2019 + 2022. In both cases they do not include 2020 and 2021 in the averages. (ii) The global stockpile for crude oil and products surplus widened from 53.0 mmb to 53.3 mmb for the week ending August 18, widening the surplus by 0.3 mmb against the four-year average (2017-2019 + 2022). (iii) Total crude inventories (incl. floating) decreased by -7.6 mmb WoW to 679.8 mmb, narrowing the surplus from +60.4 mmb to +57.0 mmb against the four-year average (2017-2019 + 2022). (iv) Land crude oil inventories decreased by -5.4 mmb WoW to 573.2 mmb, widening the deficit to -6.7 mmb against the five-year average (2016-2019 + 2022). (v) Floating oil inventories decreased by 24.3 mmb, narrowing the surplus from 46.3 mmb to 25.8 mmb against the five-year average (2016-2019 + 2022). (vi) The gas, oil, and middle distillate stocks increased by +2.2 mmb WoW to 151.8 mmb/d, with the deficit against the four-year average narrowing to -20.7 mmb. Jet fuel consumption by international departures for the week of September 4 is set to decrease by -8,200 b/d WoW, while consumption by domestic passenger departures is forecast to decrease by -16,700 b/d WoW. Below is a snapshot of aggregate global stockpiles.

### Global oil and product stocks

Figure 57: Aggregate Global Oil and Product Stockpiles



Source: BloombergNEF

**Oil: Asia Pacific Airlines July air traffic results show stalling air cargo volume**

**Asian Pacific air traffic in July**

On Monday, the Association of Asia Pacific Airlines released its July traffic results [\[LINK\]](#) which is comprised of aggregate data across a total of 40 Asia Pacific airline carriers. (ii) Air travel. International passenger air travel on the 40 airlines is up big YoY, but still well below 2019 levels. The AAPA reports preliminary July travel figures “showed further growth in international passenger markets, buoyed by the steady resumption of travel within the region and beyond. The gradual relaxation of travel restrictions by China, the region’s largest passenger market, also drove growth in demand. Overall, 27.2 million international passengers were carried by Asia Pacific airlines in July, a robust 146.6% increase compared to the same month last year”. (iii) Air cargo is stalling out, which is an indicator for the global economy. The AAPA wrote “international air cargo markets remained under pressure, amid prevailing weakness in global trade activity. Demand, as measured in freight tonne kilometres (FTK), fell by 0.6% year-on-year in July, marking the seventeenth consecutive month of decline. The ongoing restoration of flights led to an increase in belly-hold cargo space, contributing to an 8.4% expansion in offered freight capacity. As a result, the average international freight load factor declined by 5.5 percentage points to 60.9% for the month.” Below is a snapshot of the APAA’s traffic update.

Figure 58: APAA Preliminary International Air Traffic Data

International	Jul-23	Jul-22	% Change
Passengers (Thousand)	27,227	11,042	+ 146.6%
RPK (Million)	94,730	45,624	+ 107.6%
ASK (Million)	113,216	56,956	+ 98.8%
Passenger Load Factor	83.7%	80.1%	+ 3.6 pp
FTK (Million)	5,566	5,599	- 0.6%
FATK (Million)	9,145	8,436	+ 8.4%
Freight Load Factor	60.9%	66.4%	- 5.5 pp

Source: APAA

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**Oil: China Airlines (Taiwan) passengers 50% of pre-Covid, weaker cargo demand**

China Airlines CEO

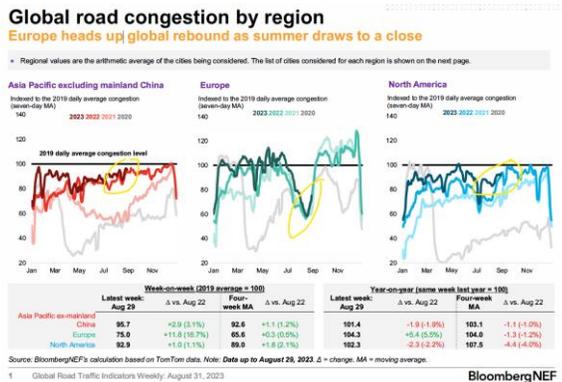
We have been highlighting how there is record oil demand in 2023 despite the weak China economy and air travel not recovered from Covid. China Airlines CEO's comments on passenger and cargo volumes are in line with the above Association of Asia Pacific Airlines update. On Thursday, we tweeted [LINK](#) "#Oil demand is record in 2023 despite lagging air travel. China Airlines (Taiwan) CEO to @YvonneManTV. Passenger volume vs pre-Covid. H1/23 at 50%, "very confident" H2/23 to 70-80% . Hit 100% in 2025. Cargo, big win in 2021/22, "demand for cargo is not as high as before". #OOTT." Our tweet included a clip from China Airlines (Taiwan) CEO Shing-Hwang on Bloomberg TV. Shing-Hwang compared passenger volumes to pre-Covid levels and said H1/23 was at 50%, H2/23 should hit 70-80% and reach 100% in 2025. Shing-Hwang didn't give % for air cargo. Cargo was the big win for China Airlines in 2021 and 2022 and Shing-Hwang said that "demand for cargo is not as high as before."

**Oil: TomTom city road congestion, Europe heads up global rebound as summer ends**

Global city road congestion

On Thursday, BloombergNEF posted its Global Road Traffic Indicators Weekly report, which recaps traffic indicators in all the major economic regions of the world i.e., mobility indicators like TomTom. For the week ending August 29, BloombergNEF described the week as "Europe heads up global rebound as summer draws to a close". North American, European, and Asia Pacific (ex-China) city-road congestion levels increased WoW by +1.12%, +16.7%, and +2.9%, respectively. Note these are indicators of road congestion at the city level and tracks the major cities in each region. So, we have been expecting to see declines over the summer holiday season, but a return to increased city-level road congestion in Sept and Oct. It's worth noting that TomTom data on city road congestion levels now reflects daily average congestion compared to peak congestion previously. The change in methodology took effect from January 19.

Figure 59: Global road congestion by region



Source: BloombergNEF

**Oil & Natural Gas: Cdn banks lending in half to oil and gas since Covid**

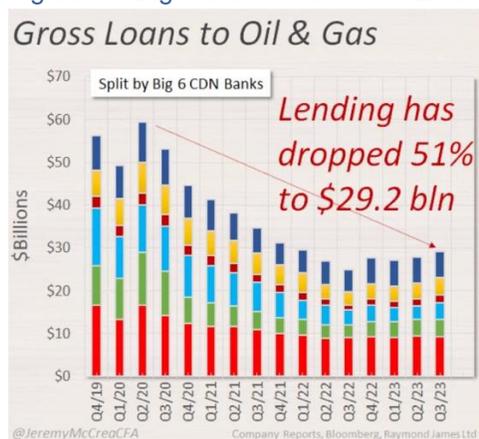
Cdn banks lending to oil and gas

We know it's not a direct analogy but we couldn't help think of the expression "necessity is the mother of invention" when thinking about how strong the Cdn oil and gas producers have emerged over the past few years despite the big 6 Cdn banks cutting their loan books in half

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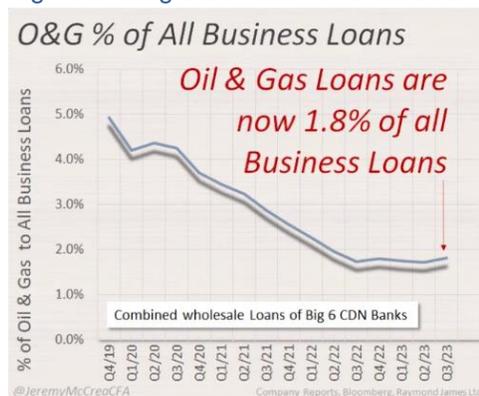
in this period. On Friday, Raymond James analyst Jeremy McCrea tweeted [LINK](#) “Less willingness to lend; or less need to borrow - Either way, there’s been a remarkable drop in debt used by Oil & Gas operators from the big 6 Canadian banks– down 51% since 1Q20 #energy #oilandgas”. And [LINK](#) “Overall, Oil & Gas loans make up only 1.8% of all wholesale lending now (and down from 5% just a few years ago). Lower leverage is clearly a trend, which should ultimately give better flexibility come bank line reviews and ability to expand 2024 capex spending #oott #lending.”

Figure 60: Big 6 Cdn banks Gross Loans to Oil & Gas



Source: Raymond James

Figure 61: Big 6 Cdn banks: Oil & Gas Loans % of All Business Loans



Source: Raymond James

**Oil & Natural Gas: Hurricane Idalia reminds fast moving means less time to dump rain**

On Wednesday, we tweeted [LINK](#) “#Idalia @NHC\_Atlantic 5am ET update. About to make landfall as Category 4 at 130 mph. Massive storm surge. Nothing is positive about a Cat 4 but hopefully being fast moving at 18 mph means less water being dumped on people. Please stay safe as possible. #OOTT.” There was major storm surge and flooding but the one relief was that Idalia moved at high speed so it didn’t linger long over any areas so didn’t dump as

**Idalia was a fast moving storm**

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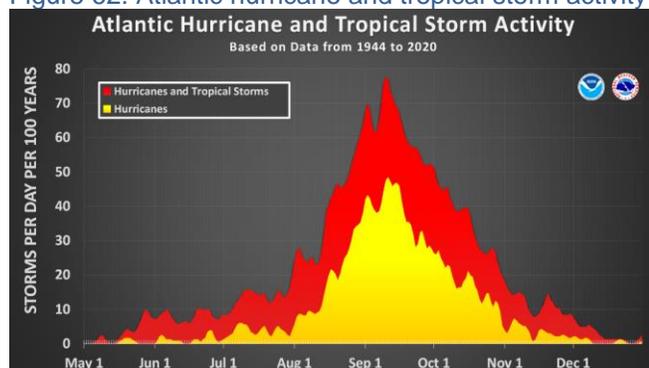
much rain as would happen with a slower moving hurricane. T wasn't good but could have been a lot worse.

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

No two hurricane seasons are identical and there will always be items that make a hurricane season not the norm. But, our Aug 6, 2023 Energy Tidbits memo reminded that 90% of Atlantic hurricanes come after Aug 1, and the peak is normally mid-Sept. We reminded that July and early Aug may well be the hottest time of the year, but 90% of Atlantic hurricanes typically come after Aug 1. So August normally marks the start of the ramp up of hurricane season with high hurricane activity typically from mid-Aug thru mid-Oct with a normal peak in mid-Sept. Below is NOAA's graph showing the distribution of Atlantic hurricanes and tropical storms based on data from 1944 to 2020. [\[LINK\]](#)

**Peak hurricane season is mid-Aug to mid-Oct**

Figure 62: Atlantic hurricane and tropical storm activity by month



Source: NOAA

### Oil & Natural Gas: Big increase in BC wildfires, small increase in Alberta wildfires

Alberta wildfires continue to decline but BC wildfires were up again this week. As of 7pm MT last night, there were 82 Alberta wildfires including 4 Out of Control, which compares to a week ago at 81 Alberta wildfires including only 1 Out of Control. In BC, there was a small decline in number of wildfires but it doesn't seem like it with all the people being forced out of their homes. As of 7pm MT last night, there were 436 BC wildfires including 199 Out of Control, which compares to a week ago at 371 BC wildfires including 155 Out of Control.

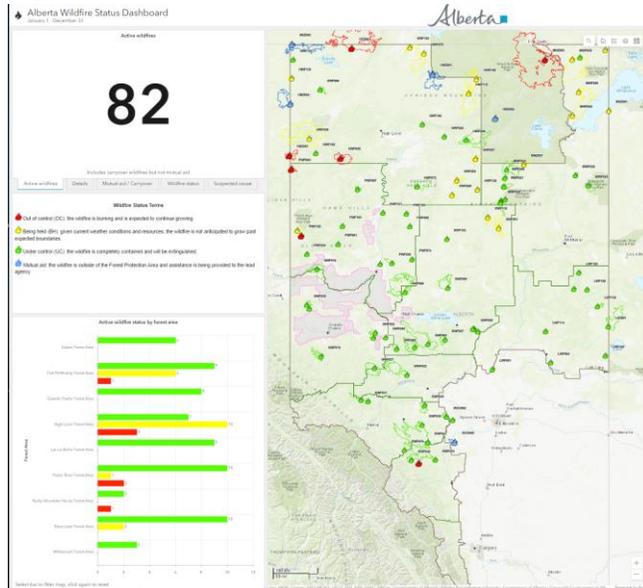
**BC and Alberta Wildfires**

### Links to Alberta and BC wildfire status maps

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

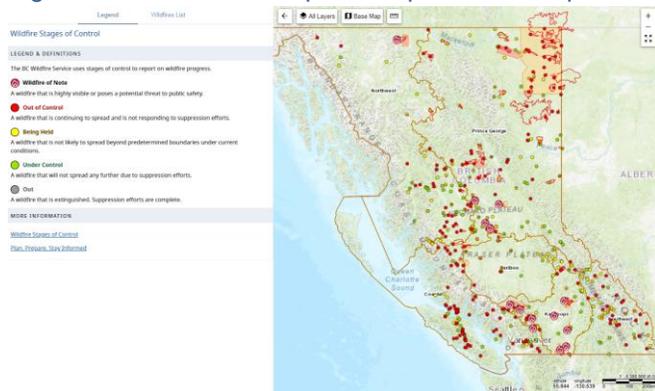
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Figure 63: Alberta wildfire map as of 7pm MT on Sept 2



Source: Alberta Wildfire Status Dashboard

Figure 64: BC wildfire map as of 7pm MT on Sept 2



Source: BC Wildfire Service

**Energy Transition: RWE CEO says “worst-case scenario for energy transition “ as “offshore wind projects in EU & US have been stopped”**

We have to wonder if governments are hearing wind developers and OEMs insisting the economics are working for wind generation, in particular offshore wind, or if they are just ignoring it and hoping for the best. Sooner or later, governments will have to make changes or accept what is clearly happening – wind projects aren’t proceeding as approved and planned. There is a pause in wind, in particular offshore wind, in EU and US in 2023 and no visibility to unlock that pause. We have been highlighting this issue and clearly wind developers and OEMs don’t see any changes coming to get a restart. (i) On Wednesday, we

**Offshore wind projects have been stopped**

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tweeted [\[LINK\]](#) "WOW! Must read 📌 RWE CEO post "... #OffshoreWind projects in EU & US have been stopped, mainly citing cost increases" "worst case scenario for the #EnergyTransition when large projects that have already been awarded are not realised as planned". #NatGas needed for longer. #OOTT." (ii) Our tweet included a LinkedIn post by RWE CEO Markus Krebber last week "is there a perfect storm brewing in the offshore wind industry?" Krebber had a very clear message that the offshore wind industry is stuck in 2023 and it needs a lot from governments if they want offshore wind to get unstuck. And Krebber warned that offshore wind being stuck is the "worst-case scenario" for the energy transition. Krebber said "In recent weeks, for the first time, offshore wind projects in Europe and the U.S. have been stopped, mainly citing cost increases. In other news, turbine manufacturers were once again in the red in their latest quarterly reports, with losses running into billions. This is not good news, it's in fact the worst-case scenario for the energy transition when large projects that have already been awarded are not realised as planned. Happening at a time when the entire offshore industry has to scale up to achieve expansion targets, this quickly calls into question the achievement of climate protection goals." Krebber then goes thru five actions and says clearly "This development must serve as a wake-up call for policymakers to adapt the regulatory framework to market realities." The Krebber LinkedIn post is short and worth a read. Our Supplemental Documents package includes the Krebber LinkedIn post.

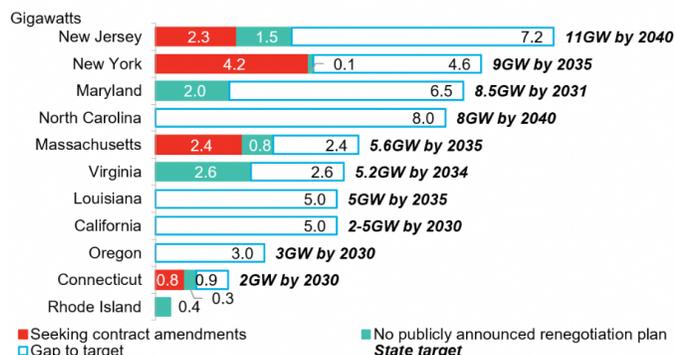
#### **Over ½ of US offshore wind projects face delays**

Here is what we wrote in our July 16, 2023 Energy Tidbits memo. "Wind generation and the big offshore wind projects are key to the Energy Transition. And no question, over the past few years there have been a number of major offshore wind projects announced including offshore the US east coast. But it isn't enough to have a project announced, the project has to get done and done on time. There have been some offshore wind project cancellations and project developers leaving projects. And there are also many offshore projects in delay limbo as the project developers seek to renegotiate the deals to get satisfactory returns due to big cost increases. These projects are in limbo. We have been reporting on this lack of returns to OEMs and project developers. In the, BloombergNEF estimates that more than half of all offshore wind projects are now delayed and there could be more projects delays on top of that. On Monday, we tweeted [\[LINK\]](#) "Over 1/2 of US #OffshoreWind face delays as "developers such as Avangrid, Shell-Ocean Winds, BP-Equinor & Orsted-Eversource have cited deteriorating economics due to rising costs in trying to renegotiate or cancel contracts" reports @atinjai. #NatGas power will be needed for longer. #OOTT." Our tweet included the below BloombergNEF graph and wrote "New York state has a target to add 9 gigawatts of cumulative offshore wind capacity by 2035 and contracted 4.36GW of projects in its two concluded solicitations. But renegotiation attempts mean that 95% of the contracted capacity is at risk of delays. Neighboring Massachusetts sees 75% of contracted capacities being delayed by renegotiation attempts. In Connecticut it's 73%. New Jersey, which is targeting of 11GW, risks delays to 60% of its contracted pipeline. About 9.7GW of US offshore wind projects, or just over half of the 17.8GW total contracted, face delays, and more projects may soon face the same fate. Developers such as Avangrid, Shell-Ocean Winds, BP-Equinor and Orsted-Eversource have cited deteriorating economics due to rising costs in trying to renegotiate or cancel contracts." Our Supplemental Documents package includes the BloombergNEF report.

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Figure 65: Status of contracted offshore wind capacity and targets across US states

## Status of contracted offshore wind capacity and targets across US states



Source: BloombergNEF, news reports, company petitions

Source: BloombergNEF

**bp confirmed it is renegotiating its NE US offshore wind projects**

Our Aug 6, 2023 Energy Tidbits memo highlighted how bp confirmed they are renegotiating their wind projects in the above BloombergNEF table. Here is what we then wrote “bp partners with Equinor on offshore wind projects offshore Massachusetts and New York, noted in the above BloombergNEF chart. In its Q2 call this week, bp confirmed it is renegotiating its NE US offshore wind projects due to insufficient returns. Mgmt said ““Then on offshore wind, clearly inflation has impacted offshore wind projects and in an area where the PPAs are not inflation linked or index linked and where we don't see an integration benefit per se, then obviously those projects are challenged and that's the case in the East Coast of the United States. What I can tell you categorically is that our returns threshold are sacrosanct, meaning we will not develop projects that don't meet our returns threshold, which is why we are in the midst of renegotiating those PPA contracts in the East Coast with our partner Equinor. Added to that, I would say that it points to why our strategy going forward is to do offshore wind only where we see an integration benefit, i.e. we don't want to generate electrons just for electrons sick or to ultimately put into a 20 or PPA, we want to generate electrons where we can do something with the electron add value to the electron like we do today with an oil and gas molecule. So our expectation is that we do offshore when just as you've seen in Germany where there is a direct integrated link to our business, where we can take the electron, we can high-grade it converted into a molecule, converted into a power in somebody's car, give it to our trading business whatever. That's the evolution of the offshore wind strategy and it is in part based on the learnings of the last two or three years.”

**Vattenfall stops UK offshore wind project with 40% cost increases**

A good example of major EU offshore wind projects that are approved being stopped is in the UK. Here is what we wrote in our Aug 6, 2023 Energy Tidbits memo.

“Offshore wind is facing a big pause year in 2023 and the question will be how long

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will the pause last? The pause is caused by wind developers being hit by cost increases so not being able to see the economics in the project. As a result, many projects are either being stopped, cancelled or being renegotiated. On Monday, we tweeted [\[LINK\]](#) "Not just US #OffshoreWind needs renegotiation. ~40% cost increases = @VattenfallGroup stop Norfolk Boreas offshore wind "in its current form" & also Vanguard East & West in Norfolk Zone. NZ is 3,600 MW & 68% of its key EU projects. #NatGas will be needed for longer. #OOTT." This is another clear example of offshore wind not happening as expected. Vattenfall (Sweden) reported Q2 on July 20, which included its announcement that it is stopping development of its biggest wind project in Europe – their Norfolk Zone offshore wind project offshore UK. They have been hit with cost increases up to 40%. Higher inflation capital costs affect entire energy sector "but the geopolitical situation has made offshore wind and its supply chain particularly vulnerable". In the Q2, Vattenfall wrote "Higher costs, especially in offshore wind power. Although demand for fossil-free electricity is greater than ever, the market for offshore wind power is challenging. Higher inflation and capital costs are affecting the entire energy sector, but the geopolitical situation has made offshore wind and its supply chain particularly vulnerable. Overall, we see cost increases up to 40%. This development affects future profitability and means that Vattenfall makes an impairment for wind power in Norfolk, UK, with a total impact on earnings of SEK 5.5 billion. We have decided to stop the development of Norfolk Boreas in its current form and not take an investment decision now due to mentioned factors, which triggers the impairment. We will examine the best way forward for the entire Norfolk Zone, which in addition to Boreas also includes the Vanguard East and West projects." Note Vattenfall says it is stopping it "in its current form", which looks like political talk for the project won't go ahead unless there is a renegotiation. Also note this is basically stopping its entire Norfolk Zone and not just the Norfolk Boreas project that is part of the Norfolk zone. The Norfolk Zone is their biggest wind project in Europe that is 3,600 MW or 68% of its main projects in Europe total of 5,330 MW. Below is the slide from their March 29, 2023 Corporate Factbook. Our Supplemental Documents includes an excerpt from the Vattenfall Q2."

Figure 66: Vattenfall "Main projects in our 5 core countries"

Main projects in our 5 core countries

Country Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
NL - Hollandse Kust Zuid 1-4	1,520	-	X	-	51	2023	Under construction, Partnering with BASF
DK - Vesterhav	344	FIT	X	50,000hrs	100	2023/2024	Under construction
UK - South Kyle	240	-	N/A	-	100	2023	Under construction
NL - Windplan Blauw	77	SDE+	X	15 yrs	100	2023	Under construction
UK - Battery@Ray	20	-	-	-	100	2023	Under construction
<b>In construction</b>	<b>2,201</b>						
UK - Norfolk projects	3,600	CID	-	15 yrs	100	2027-2029	Norfolk Boreas received CID in AR4, Norfolk Vanguard is preparing for CID bid in AR5
UK - Scotwind	750	CID	-	-	50	2030	Under development with consenting and permitting progressing to ensure participation in the CID bid, JV with Fred Olsen
GE - N-7.2 (Global Tech II)	980	-	-	-	100	2027	Development rights received in September 2022, FID planned for 2023
<b>In development (in mature stage)</b>	<b>5,330</b>						

\* The project has been sold but Vattenfall will build and operate the wind farm



Source: Vattenfall March 29, 2023 Corporate Factbook

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## California to enhance energy affordability

### Energy Tidbits: California's "enhance energy affordability" is natural gas storage

It's a good thing California has natural gas infrastructure so they can go back to using it more to help them "enhance energy affordability". We have to give credit to the California Public Utilities Commission for their ability to not give natural gas any credit in their press release title "*CPUC Takes Action to Enhance Energy Affordability For Ratepayers in Southern California: Progress continues in reducing reliance on natural gas and phasing out Aliso Canyon.*" [\[LINK\]](#). So no credit to natural gas in the energy affordability, rather telling Californians that they are making progress to reduce reliance on natural gas and phasing out their Aliso Canyon natural gas storage. It's a carefully crafted press release. It says they will be injecting higher levels of natural gas into storage in natural gas injection season to save on the costs this winter by having more natural gas in storage. Sounds like a simple traditional natural gas storage approach. It says they are putting more natural gas storage to save against winter price increases and they seem to infer it doesn't mean more natural gas will be consumed. They get around that by saying "*this decision does not impact how much natural gas will be consumed*". They aren't saying they expect more or less natural gas to be consumed this winter, but they recognize increasing natural gas in storage and having more natural gas to be used should help on energy affordability. Given California is in a reducing fossil fuels consumption world, it just makes us wonder if there is another reason given California has had to back off its get rid of natural gas plans over the past few years. Can certainly understand why Gov Newsom wants to have as low energy costs as possible just in case there is the opportunity for a run for the Democratic nomination for President as most consider him the frontrunner if Biden has to drop out. The opening sentence of the release was "*The California Public Utilities Commission (CPUC) acted this week to enhance energy resiliency and protect ratepayers in Southern California from potential volatile wholesale natural gas prices this upcoming winter season. Today, the CPUC increased the inventory levels of natural gas at the Aliso Canyon Natural Gas Storage Facility up to the safety limit set by the state's Geologic Energy Management Division to guard ratepayers from the type of natural gas price spikes that occurred last winter*". Our Supplemental Documents package includes the CPUC release.

### 08/17/20: Gov Newsom's major address on solar/wind shortfalls

California is leading the US in moving to an electricity system driven by solar and wind and that has been the primary driving force for Gov Newsom. No one can dispute that is California's objective. We certainly don't, nor do we doubt the western countries are all doing what they can to move on the energy transition to move to Net Zero. But what we see is an energy transition that is taking longer, costing more and is a bumpy/rocky road. And our focus for energy research is what is happening to energy not what is aspired for energy. Because what is happening on the energy transition has driven our key thesis for oil and gas for the past several years – they will be needed for way longer than aspired by the energy transition. On Aug 17, 2020, Gov Newsom made a major address that highlighted some of the shortfalls of solar and wind. Here is what we wrote in our Aug 23, 2020 Energy Tidbits memo. "*California's power crisis reminds on renewable shortfalls. Last week's (Aug 16, 2020) Energy Tidbits highlighted the California electricity crisis that led to forced rotating blackouts on Friday and Saturday nights. We hadn't planned to write again on the blackouts until we saw California Governor Newsom's major address on Monday on the electricity crisis. It was an eye opener and we had to listen to the*

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*replay to make sure we heard it correctly. Its why we tweeted [LINK] on Monday "Need reality check on #solarenergy for reliability. Surprise, from CA @GavinNewsom, not an oilman. CA will be diligent "to guarantee protocols, processes, forecasting that's more sober, around the potency of solar". #NatGas will be needed. See SAF Group created transcript below". And why posted our 7-pg blog "Time To Pay Attention, Electricity Crisis Leads To California's Reality Check On Renewable Energy Shortfalls To Deliver Reliable Electricity" on Wed. No question its time for everyone on both sides of the clean energy push to pay attention when a renewable energy advocate of the North American leader in the energy transition makes a emergency public address to highlight shortfalls in solar/wind and that changes are needed if they want to provide reliable energy. It seems like the rotating blackouts have exposed the shortfalls in California's energy mix related to solar power capacity inefficiencies, wind power inconsistencies, insufficient battery storage, insufficient natural gas power reserve, and less import potential after July. And a planning issue as these are all well known risks. It can't be easy for Newsom, a strong renewable energy advocate, to acknowledge these items. The world's economy has taken a huge hit and government's debt has massively increased from COVID-19 impact. But that hasn't seemed to deter the world's energy transition. Its why Newsom's underlying message should be noted by both sides. This is real data, real life impact, and its reaffirms that the energy transition will be bumpier and take longer than aspirations and expectations. This should not be a surprise. And its not a warning of doom from anti climate change people. This is not just a California issue, it's a world issue. 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" highlighted the recent IEA reports that the world is behind in its energy transition. Newsom's reality check comments is more than a pause, rather he realizes they need to take a step back in items like phasing out natural gas if California is to have reliable, but expensive, electricity. It also means oil and natural gas should surprise to the upside post 2020. But most of all, its time for governments, companies and investors on both sides of the energy transition to pay attention." Our Supplemental Documents package includes our Aug 19, 2020 blog and our June 11, 2020 blog.*

#### **09/01/20: California extended gas plants life as needed for grid reliability**

The Newsom Aug 17, 2020 major address was followed up two weeks later by a California backtrack on its natural gas phase out was on Sept 1, 2020. Here is what we wrote in our Sept 6, 2020 Energy Tidbits memo. "On Tuesday, we tweeted [\[LINK\]](#) "California's 1st step on reality check on renewable shortfalls. Extends life of 4 gas plants "needed to provide more energy grid stability and reliability, as additional energy and storage resources are built over the next three years". It should not have surprised anyone that California having to do a reality check on its renewable energy capacity to provide reliable electricity has forced them to take actions contrary to their clean energy aspirations. It needs to be able to deliver reliable electricity and therefore needs to add more capacity, in this case from natural gas. On Tuesday, the California Water Resources Board extended the life of its 4 remaining natural gas plants because they were "needed to provide more energy grid stability and reliability". . The CWRB said "Today the State Water Resources Control Board

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*approved an amendment to its Once-Through Cooling (OTC) Policy for four power plants along the coast. The amendment extends compliance or phase-out dates for the facilities, all of which use ocean waters for cooling as part of the power generation process. The amendment is responsive to a request by the state's energy, utility, and grid operators and regulators to maintain, for a definitive period, four OCT plants as power choices. The plants are needed to provide more energy grid stability and reliability, as additional energy and storage resources are built over the next three years".*

### **Aug 2021: California extends natural gas generation life by five years**

Here is an excerpt from our Aug 22, 2021 Energy Tidbits memo on how California then extended the life of its natural gas plants for five years and not just to get them thru the immediate power generation risk. "We recognize that this is a terrible year for California with the massive wildfires and drought along the west coast, which has really put California's power security at risk. No question it is a brutal year. But we also think its important to look at their recent 2-step natural gas actions and recognize its more than just dealing with 2021, rather its an acknowledgement that they need natural gas for longer. (i) Step 1 was to increase natural gas generation thru Oct 31. The purposed for this was to get California thru the 2021 wildfire season risk. On Aug 2, we tweeted [\[LINK\]](#) "#NatGas power generation to increase thru Oct 31 as CA to pay large energy users to move to backup generation ie #NatGas. #EnergyTransition greenwashing? @GavinNewsom critical times causes forgot to say wildfires don't just hurt transmission, also cut #Solar generation efficiency." On July 30, California proclaimed a state of emergency that will see them pay large energy users to go to their backup generation, so positive for natural gas as these large energy users get paid to go to their natural gas power. Interestingly, Gov Newsom's release went on about their moving to clean energy and its almost an after thought that they are allowing these emergency measures. And clearly no mention of natural gas being the backup power. (ii) Step 2 was this week's approval for 5 natural gas power generators for up to 5 years. The expectation is that these 5 new natural gas generators will be in place before the end of Sept to help provide more support for this 2021 wildfire season, but the part that seemed to be overlooked is that these are approved for 5 years. So while this is being messaged as needed to provide power support for 2021, the reality is that this is being put in place for the next 5 years."

### **Energy Transition: Tesla has cut prices Model S by 29% & Model X by 34% in 2023**

Elon Musk is changing the cars for people business in many ways. When sales/deliveries drop, he doesn't give some minor dealer incentives, he cuts prices and cuts price big time. Could you ever imagine any traditional car company taking prices by 29% to 34% on a >\$100,000 car? But Musk saw the deliveries dropping and has aggressively cut prices on his Model S and X in 2023. Model S started the year at \$104,990 and, as of Sept 1, is now down to \$74,990. Model started 2023 at \$120,990 and, as of Sept 1, is now down to \$79,990. Below are the charts from auto blog's Friday report "*Tesla discounts Model S by \$30,000, and Model X by \$41,000*". [\[LINK\]](#)

**Massive Tesla price cuts**

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Figure 67: Tesla's Many Model S and X Price Tweaks

**Tesla's Many Model S and X Price Tweaks**

A recap of changes to the company's high-end cars

	Model S	Model X
<b>Start of the year</b>	<b>\$104,990</b>	<b>\$120,990</b>
Jan. 12	\$94,990	\$109,990
March 5	\$89,990	\$99,990
April 6	\$84,990	\$94,990
April 20	\$87,490	\$97,490
May 11	\$88,490	\$98,490
Aug. 14	\$78,490	\$88,490
<b>Sept. 1</b>	<b>\$74,990</b>	<b>\$79,990</b>

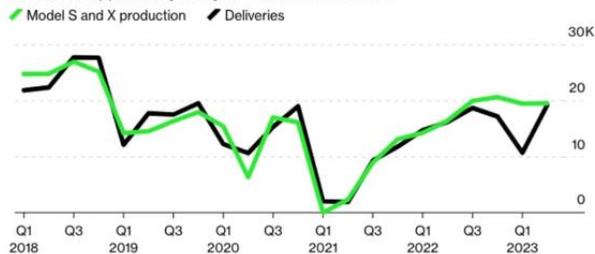
Source: Tesla's website

Source: autoblog

Figure 68: Tesla Model S and X production and deliveries

**Tesla's Model S and X Show Their Age**

Deliveries dipped early this year to an 18-month low



Source: Company statements

Source: autoblog

**Demographics: 47% Cdns live paycheck-paycheck, 60% household finances are good**

We were a little surprised to see the answers to a couple of questions in the new Leger poll questions on the State of Household Finances. [\[LINK\]](#) The first question was on the state of your own household finances and 60% said they were good vs 36% poor and 4% not sure. But then a subsequent question on are you currently living paycheck to paycheck and 47% said Yes, 51% said No, and 3% Don't know/Refusal. We would thought a tighter correlation between living paycheck to paycheck and state of household finances. Leger also provided by province splits. Leger also provided the same data for it US survey. US Household finances 64% good, 31% poor and 5% not sure. US living paycheck to paycheck 46% yes, 48% no and 7% don't know/refusal. Our Supplemental Documents package includes excerpts from the Leger poll.

Leger poll on household finances

**Twitter: Look for our first comments on energy items on Twitter every day**

For new followers to our Twitter, we are trying to tweet on breaking news or early views on energy items, most of which are followed up in detail in the Energy Tidbits memo or in separate blogs. Our Twitter handle is @Energy\_Tidbits and can be followed at [\[LINK\]](#). We

@Energy\_Tidbits on Twitter

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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**

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

**Look for energy items on LinkedIn**

### **Misc Facts and Figures**

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

#### **Farmers' Almanac vs Old Farmer's Almanac**

Last week's (Aug 27, 2023) Energy Tidbits memo highlighted the Farmers' Almanac winter forecast and this week's memo highlighted the winter forecast from the Old Farmer's Almanac. Two pretty similar names but the difference is that the Farmers' Almanac started over 200 years ago in 1818, whereas the Old Farmer's Almanac started in 1792. The Old Farmer's Almanac started life as the Farmer's Almanac but added the old in 1832. We have to believe there weren't strict naming rights in 200 years ago, when the Farmers' Almanac started up in 1818 using the same name as the original Farmer's Almanac.

#### **Phillies left fielder Kyle Schwarber has 38 home runs vs 37 singles**

Was watching highlights of Friday's MLB games and they showed Philadelphia Phillies left fielder Kyle Schwarber who went 1 for 4 on Friday night with a home run. And by doing so, that put him on the season with 488 at bats, 38 home runs vs 37 singles. There aren't many in MLB history who have hit more home runs than singles in a season. For the batting average, MLB uses 502 minimum plate appearances to qualify for the top batting. At that level, there have only been two players who have done so. Home run kings Mark McGwire (five times) and Barry Bonds (in his 73 home run season). Schwarber should get enough plate appearances.