SAF GROUP

Energy Tidbits

April 7, 2024

Produced by: Dan Tsubouchi

Will Markets See Iran's No Israeli Embassy is Safe Anymore as Taking Direct Military/Missile Attack on Israel Off the Table?

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. My 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 the review of investor days, conferences and earnings calls focusing on sector developments that are relevant to the sector. My target is to write on 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. Did Iran message this morning that its retaliation vs Israel is, at least for now, going to be more proportional against Israel embassies/consulates and not some sort of direct missile/military attack? [click here]

2. Was Ukraine's products pipeline attack a warning to Russia that they can do more damage to Russia's export capability if they want to? [click here]

3. China had positive net foreign direct investment in Jan and Feb, which is a positive vs negative flows out in 4 of the last 5 months to end 2023. [click here]

4. Kpler "*Chinese onshore oil stocks are actually very low. They drew down a lot over the first 3 months of this year*". [click here]

5. IATA Feb data shows both international and domestic air travel is now above pre-Covid. [click here]

6. Please follow us on Twitter at [LINK] for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.

7. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK].

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Natural Gas: -37 bcf draw in US gas storage; now +422 bcf YoY surplus

-37 bcf draw in US gas storage

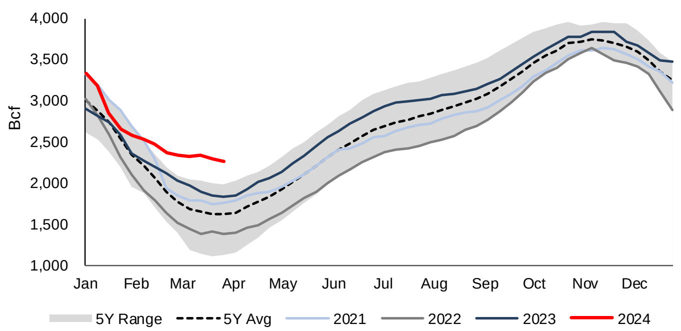
US natural gas storage continues to be above the top end of the 5-yr range. There was a draw from gas storage in the US this week. For the week of March 22, the EIA reported a -37 bcf draw. Total storage is now 2.259 tcf, representing a surplus of +422 bcf YoY compared to a surplus of +430 bcf last week. For this week, and the past few, total storage is above the top end of the 5-yr range. Total storage is +633 bcf above the 5-year average, down from the +669 bcf surplus last week. Below is the EIA's storage table from its Weekly Natural Gas Storage report [LINK].

Figure 1: US Natural Gas Storage

	Stocks billion cubic feet (Bcf)				Historical Comparisons: Year ago (03/29/23)		Historical Comparisons: 5-year average (2019-23)	
Region	03/29/24	03/22/24	net change	implied flow	Bcf	% change	Bcf	% change
East	363	387	-24	-24	337	7.7	298	21.8
Midwest	510	528	-18	-18	426	19.7	369	38.2
Mountain	162	166	-4	-4	81	100.0	88	84.1
Pacific	227	223	4	4	73	211.0	149	52.3
South Central	996	991	5	5	920	8.3	723	37.8
Salt	294	294	0	0	263	11.8	216	36.1
Nonsalt	701	698	3	3	657	6.7	507	38.3
Total	**2,259**	**2,296**	**-37**	**-37**	**1,837**	**23.0**	**1,626**	**38.9**

Source: EIA

Figure 2: US Natural Gas Storage



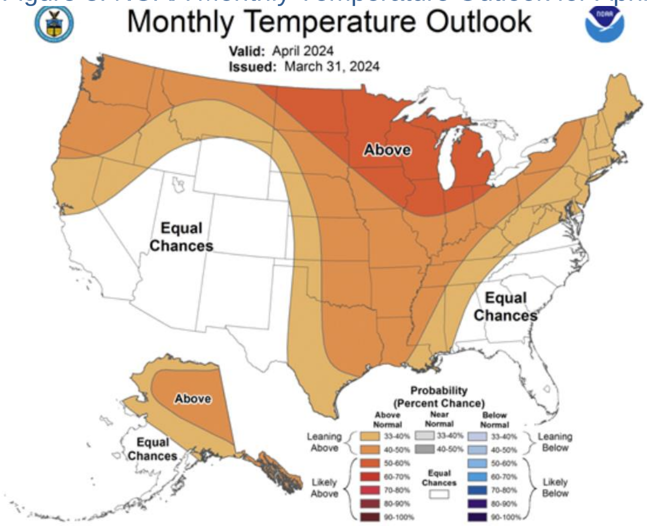
Source: EIA

Natural Gas: NOAA forecasts mild April temps, not hot or cold enough for gas demand

NOAA monthly temp outlook

April is the shoulder season for natural gas where there really isn't any strong weather related demand for natural gas. There are always exceptions but, as a norm, April is generally not cold enough to drive big natural gas home heating demand and generally not hot enough to drive big air conditioning demand. Its mostly what we have always called leave your windows open temperature. On Monday, we tweeted [LINK] "*April is shoulder season for #NatGas so no significant weather driven demand for #NatGas Generally it's leave the windows open temperature. Not cold enough to crank up the furnace or not hot enough to crank up the air conditioning. Thx @NOAA #OOTT*". NOAA's temperature forecast for April is warmer than normal for the northern half of the US and a slice of the Midwest. And then basically normal temperatures for the rest of the US. Below is the NOAA's updated April temperature outlook.

Figure 3: NOAA Monthly Temperature Outlook for April



Source: NOAA

Natural Gas: Liberals Wilkinson say Cdn LNG projects must run on clean electricity

Liberals on LNG and clean electricity

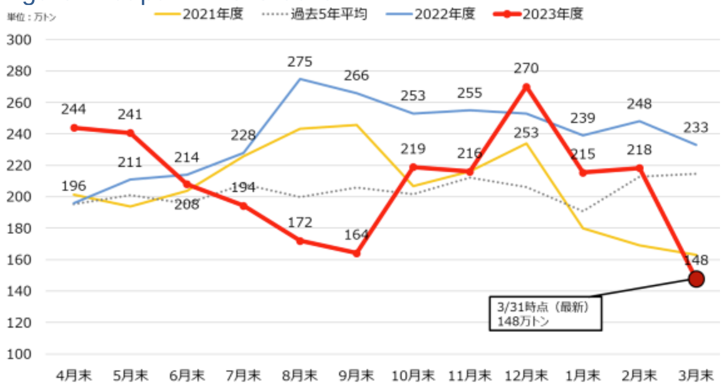
The headlines from Canada Natural resources Minister Wilkinson's interview last Sunday on CTV Question Period were that the Liberals won't invest in LNG facilities as that is the private sector role. However, we thought his more significant LNG comments were overlooked. Wilkinson said that LNG projects must reduced upstream methane AND they can't use natural gas for power, they have to use clean electricity ie. hydro. IF that is the case, then it's unlikely there can be enough clean electricity to power any new LNG projects. Here is part of the transcript we made of his comments. SAF Group created transcript of Energy and Natural Resources Minister Jonathan Wilkinson with CTV Question Period host Vassy Kapelos on March 31, 2024. [LINK] Items in "*italics*" are SAF Group created transcript. Wilkinson *"So, I mean, the pause in the US is actually so they can assess how it fits overall within the context of their commitments on climate. We actually did that years ago, so the Americans are actually following in Canada's footsteps, and what we have said is you have to do a lot to reduce emissions of methane in the upstream and we're bringing in place regulations to require 75% reductions. You have to actually liquefy using electricity, clean electricity, you can't just burn natural gas in order to liquefy or the carbon footprint that you leave is far too large."* And ""*So, we have said that the government is opposed to using government money to fund inefficient fossil fuel subsidies, we're the first country in the world to actually do that. We're not interested in investing in LNG facilities that's the role of the private sector they need to assess the business case and make the investments."* Our Supplemental Documents package includes the transcript we made of Wilkinson's comments.

Natural Gas: Japan LNG stocks down WoW, YoY, lowest in past three years

Japan LNG stocks down -2.6% WoW

Japan's LNG stocks are below 2023 levels and well below the 5-year average. On Wednesdays, Japan's METI releases its weekly LNG stocks data [LINK]. LNG stocks on March 31 were 71.1 bcf, down -2.6% WoW from Mar 24 of 73.0 bcf, and are down -36.5% YoY from 111.9 bcf a year earlier. Stocks are well below the 5-year average for the end of March of 102.8 bcf and is now the lowest it has been over past 3 years. We now know part of the reason why stocks have fallen so much recently: Japan LNG/natural gas consumption for electricity has been helped for the past month by unplanned coal plant outages. But as noted last week, Japan is shutting in some natural gas generation to conserve natural gas use and drain on LNG stocks. METI did not comment on the WoW decrease. Below is the Japanese LNG stocks graph from the METI weekly report.

Figure 4: Japan LNG Stocks



Source: METI

Japan's JERA suspends production at 4 natural gas plants to save LNG

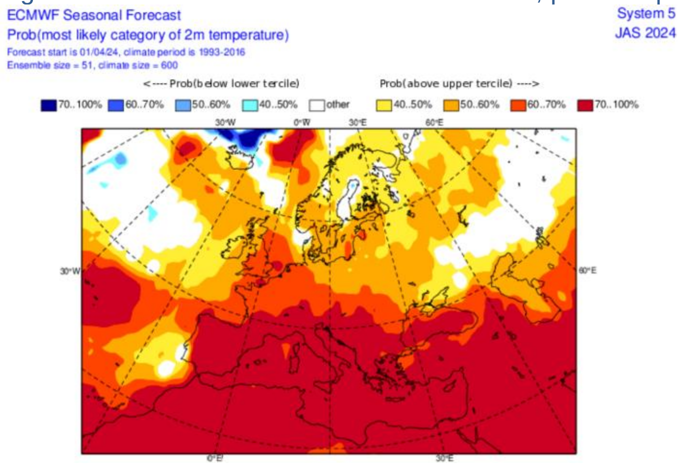
The low LNG stocks has led to shutting in some natural gas power generation to conserve LNG *stocks. Here is what we wrote in last week's (Mar 31, 2024) Energy Tidbits memo. "The low LNG stocks noted above have led to an immediate reaction in Japan – JERA is temporarily halting natural gas power generation at four natural gas plants to save drawing on its dwindling LNG stocks. On Friday, Reuters reported "Japan's biggest power generator JERA said it has suspended production at four of its gas-fired power stations and curtailed output at another plant from to secure sufficient LNG inventory. The move comes as a recent drop in temperatures in the Tokyo area boosted power demand while stormy weather caused delays in the arrival of LNG cargoes, causing a drop in LNG stock levels, a JERA spokesperson said.Operations were temporarily suspended at power plants in Futtsu, Yokohama, Kawasaki and Chiba, all near Tokyo, and curtailed at Higashi-Ohgishima."*

Natural Gas: ECMWF forecasts another hot summer in Europe

Forecasts warm summer in Europe

Yesterday, we tweeted [LINK] "*Won't really move TTF #NatGas prices for now but @ECMWF forecasts another warm summer (Jul/Aug/Sep) in Europe."* On Friday, the European Centre for Medium-Range Weather Forecasts (ECMWF) posted its update seasonal temperature forecast for Europe and calls for another warmer than normal summer for Europe. [LINK]

Figure 5: ECMWF Seasonal Forecast for JAS, posted Apr 5



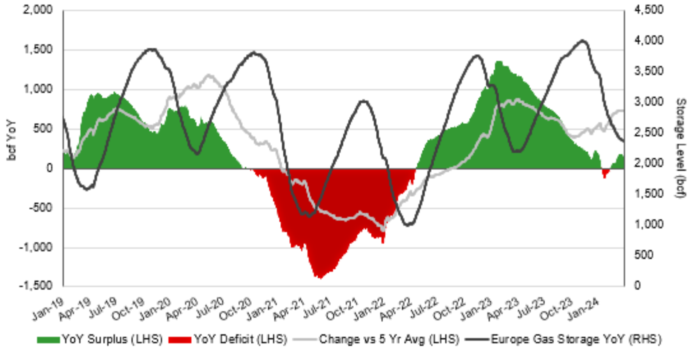
Source: ECMWF

Natural Gas: Europe storage builds WoW to 59.49%, YoY surplus widens

Europe gas storage

This week, Europe storage increased by 0.78% WoW to 59.49% on Apr 4 vs 58.71% on March 28. Storage is now +3.75% higher than last year's levels of 55.74% on Apr 4, 2023. Even though the YoY surplus is modest, there are no gas supply/demand fears for natural gas and LNG supply and the expectations seem mostly for storage to be full once again before going into the winter. Below is our graph of Europe Gas Storage Level.

Figure 6: European Gas Storage Level



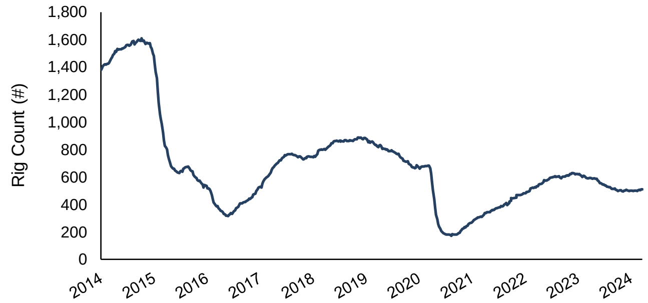
Source: Bloomberg, SAF

Oil: US oil rigs up +2 rigs WoW to 508 rigs, US gas rigs down -2 WoW at 110 rigs

US oil rigs up WoW

On Friday, Baker Hughes released its weekly North American drilling rig data. (i) Note, Baker Hughes has restored their old reporting format so we have been able to break out regional data, however they forgot to update the old format file with this week's rig data, so we aren't able to see the basin breakout by type of rig. (ii) Total US oil rigs were up +2 rigs WoW to 508 oil rigs as of April 5. US oil rigs went below 520 rigs on Aug 25 and has been around 490-510 rigs for the past several months. (iii) Note we are able to see the basin changes but not by type of rig. The major changes were Ardmore Woodford down -1 rig to 0 total, Cana Woodford +1 to 22 total rigs, Haynesville -2 rigs to 34 rigs, Permian +1 rig to 317 rigs, and others -1 rig to 98 total rigs. (iv) US gas rigs were down -2 rigs this week at 110 gas rigs.

Figure 7: Baker Hughes Total US Oil Rigs



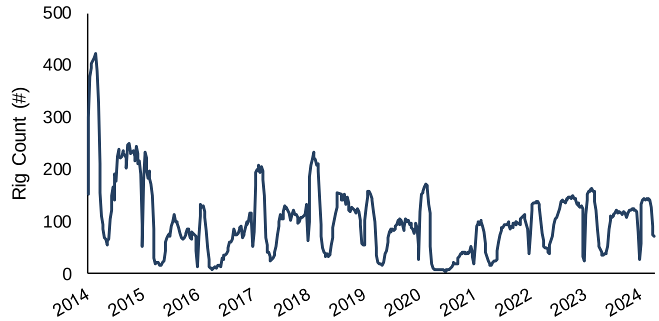
Source: Baker Hughes, SAF

Oil: Total Cdn rigs down -15 rigs WoW

Cdn total rigs down WoW

The last several weeks have seen total Cdn rigs decline drop from 231 in March to 136 this week as winter drilling season comes to an end. And we still expect to see continued declines thru April and we texpect another drop next week. For the week of April 5, as expected, total Cdn rigs were down big at -15 rigs WoW to 136 rigs. Cdn oil rigs were down -10 rigs WoW to 65 oil rigs and are up +13 rigs YoY. Baker Hughes did not update their old format report, so we weren't able to see the province breakouts.

Figure 8: Baker Hughes Total Cdn Oil Rigs



Source: Baker Hughes, SAF

Oil: US weekly oil production estimates flat WoW at 13.100 mmb/d

US oil production flat WoW

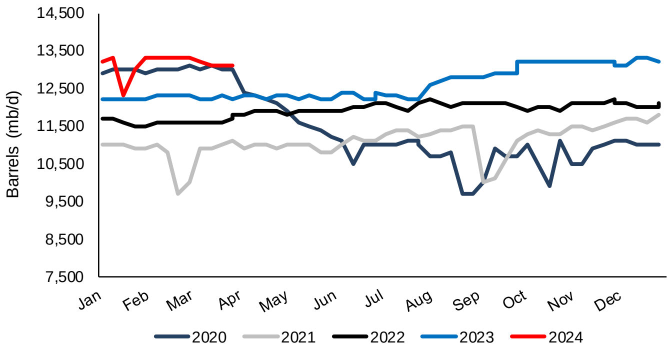
It's worth noting that the EIA has benchmarking has led to a revision downward in weekly oil estimates instead of what have been upward revisions. Here's what the EIA wrote on their website earlier this month: "*When we release the Short-Term Energy Outlook (STEO) each month, the weekly estimates of domestic crude oil production are reviewed to identify any* *differences between recent trends in survey-based domestic production reported in the Petroleum Supply Monthly (PSM) and other current data. If we find a large difference between the two series, we may re-benchmark the weekly production estimate on weeks when we release STEO. This week's domestic crude oil production estimate incorporates a re-benchmarking that decreased estimated volumes by 177,000 barrels per day, which is about 1.3% of this week's estimated production total".* On Mar 5, the EIA released its Mar STEO and they'd revised down Q1/24 production estimates to 12.91 mmb/d from 13.03 mmb/d in Feb's STEO, so this message is consistent. The latest Form 914 (with January actuals) was -0.416 mmb/d lower than the weekly estimates of 12.533 mmb/d. This week, the EIA's production estimates were flat WoW at 13.100 mmb/d for the week ended March 29. Alaska was flat WoW at 0.432 mmb/d. Below is a table of the EIA's weekly oil production estimates.

Figure 9: EIA's Estimated Weekly US Field Oil Production

	Week 1		Week 2		Week 3		Week 4		Week 5	
Year-Month	End Date	Value	End Date	Value	End Date	Value	End Date	Value	End Date	Value
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		
2023-Sep	09/01	12,800	09/08	12,900	09/15	12,900	09/22	12,900	09/29	12,900
2023-Oct	10/06	13,200	10/13	13,200	10/20	13,200	10/27	13,200		
2023-Nov	11/03	13,200	11/10	13,200	11/17	13,200	11/24	13,200		
2023-Dec	12/01	13,100	12/08	13,100	12/15	13,300	12/22	13,300	12/29	13,200
2024-Jan	01/05	13,200	01/12	13,300	01/19	12,300	01/26	13,000		
2024-Feb	02/02	13,300	02/09	13,300	02/16	13,300	02/23	13,300		
2024-Mar	03/01	13,200	03/08	13,100	03/15	13,100	03/22	13,100	03/29	13,100

Source: EIA

Figure 10: EIA's Estimated Weekly US Oil Production



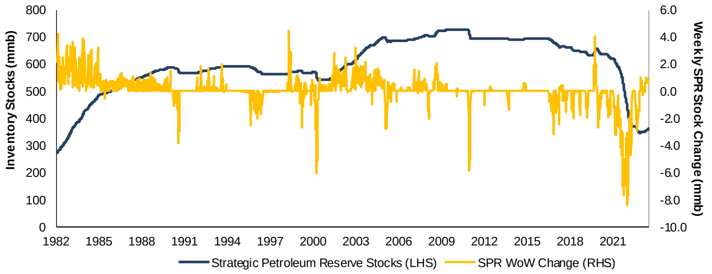
Source: EIA, SAF

Oil: US SPR less commercial reserve deficit widens, now -87.776 mmb

US SPR reserves

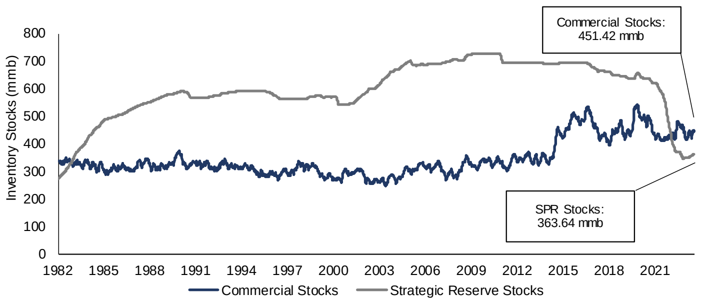
The US Strategic Petroleum Reserves (SPR) continues to be much lower than total US commercial crude oil reserves. The SPR went back below commercial for the first time since 1983 in the Sep 16, 2022 week. This week, there was a build on the SPR side, but the commercial build was bigger. The EIA's weekly oil data for March 29 [LINK] saw the SPR reserves increase +0.591 mmb WoW to 363.641 mmb, while commercial crude oil reserves increased +3.210 mmb to 451.417 mmb. There is now a -87.776 mmb difference between SPR reserves and commercial crude oil reserves. The below graphs highlight the difference between commercial and SPR stockpiles, along with the weekly changes to SPR stockpiles.

Figure 11: Strategic Petroleum Reserve Stocks and SPR WoW Change



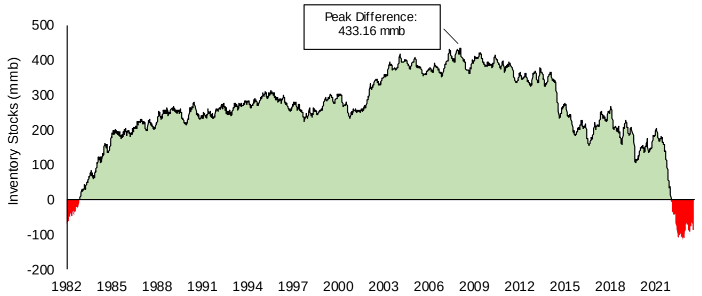
Source: EIA

Figure 12: US Oil Inventories: Commercial & SPR



Source: EIA

Figure 13: US Oil Inventories: SPR Less Commercial



Source: EIA

Oil: US cancels latest offer to buy oil to refill SPR

US SPR reserves

No one should have been surprised to see Bloomberg's Wednesday report "*US Cancels Latest Oil Reserve Refill Plan Amid High Prices. The Biden administration won't move forward with its latest plans to buy oil for the Strategic Petroleum Reserve amid rising prices. The Energy Department said it was "keeping the taxpayer's interest at the forefront" in its decision not to purchase as many as 3 million barrels of oil for a Strategic Petroleum Reserve site in Louisiana. The plan for the barrels to be delivered in August and September had been announced in mid-March. "We will not award the current solicitations for the Bayou Choctaw SPR site and will solicit available capacity as market conditions allow," the department said. "We will continue to monitor market dynamics."* As we have been noting, we have been skeptics about Energy Secretary Granholm's month ago comments that the Biden Administration would add back the huge SPR sales by the end of the year. Although, it seemed like she was leaving a big out to them in that they would only do so at much lower oil prices. However, at a minimum, she seemed to try to signal the markets they aren't planning to sell any SPR in 2024 or at least that is what she wants the market to think. Reserves are still down >270 mmb since Biden came into office..

Oil: High gasoline prices hurt household consumption which is 70% of GDP

Gasoline prices hurt household consumption

We were reminded of why increasing US gasoline prices hurt US GDP with comments by Cameron Dawson (Newedge Wealth CIO) on Bloomberg Surveillance on Friday morning. Dawson's raised increasing gasoline prices as a risk to US GDP as gasoline prices flow thru to impact most other sectors. And the problem is that if gasoline prices keep rising, homeowners will have less cash for spending and less spending is less GDP as household spending is 70% of GDP. On Friday, we tweeted [LINK] *Higher US gasoline prices = less $$ for other household consumption. "If you have oil prices continue to move higher, that could pinch consumer spending. Household consumption rolls over, that's 70% of GDP, GDP forecasts roll over ...." @CameronDawson to @lisaabramowicz1 #OOTT."* Dawon reminded that 70% of the US GDP is driven by household consumption. So if gasoline prices start to flow thru costs, it mans households will have less to spend and less spending rolls over to US GDP. Our tweet included a video clip of Dawson's longer comment.

Oil: US national average gasolines prices +$0.05 this week to $3.59

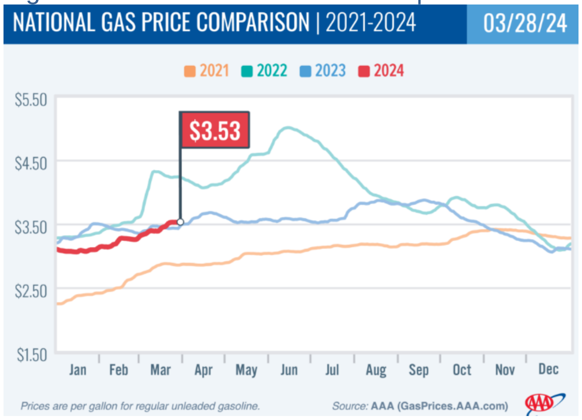
US gasoline prices

Yesterday, we tweeted [LINK] "*US gasoline prices creeping higher. California gas prices hit $5 last week, +$0.24 WoW to hit $5.32 today. US gas prices +0.05 WoW to $3.59. Gas prices normally seasonally increase into June. Biden doesn't want $4 gas in election year. Thx @AAAnews #OOTT."* Yesterday, AAA reported that US national average prices were $3.59, which was +$0.05 WoW, up $0.20 MoM and up $0.04 YoY. As of yesterday, the California average gasoline prices were +$0.24 WoW to $5.32, which is a $1.73 premium to the national average gasoline price of $3.59.

AAA "*Don't get April fooled by wobbling gas prices*"

US gasoline prices have been in a pause for the past few wee but we have reminded we are still early in the season for increasing US gasoline prices. AAA reminded this last week. Here is what we wrote in last week's (Mar 31, 2024) Energy Tidbits memo. "*On Thursday, AAA reminded that US gasoline prices are currently moving up and down but that they are expected to go higher. They posted a blog "Don't get April fooled by wobbling gas prices." [LINK]. AAA wrote "After an early spring surge,* *the national average for a gallon of gas spent the past week drifting up and down by a fraction of a cent before settling a penny higher at $3.53. But the break may be temporary, as gas pump prices will likely resume a spring increase." Our Supplemental Documents package includes the AAA blog.*

Figure 14: National Gas Price Comparison 2021-2024 (as of 03/28/24)



Source: AAA

Seasonal increase in US gasoline prices

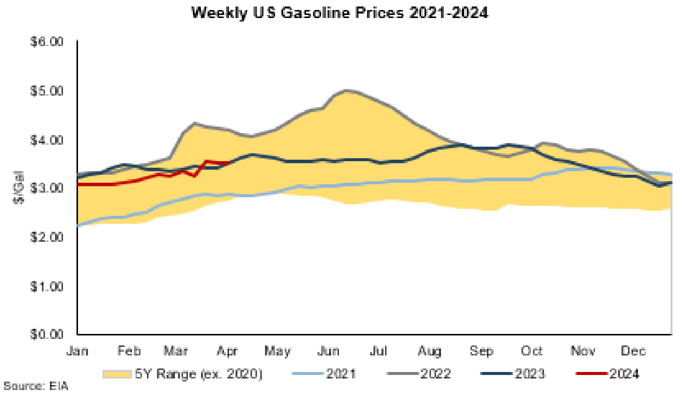
Oil: US gasoline prices normally start seasonal ramp up in March

Normally US gasoline prices increasein the run up to the start of the big driving season – Memorial Day weekend. On Mar 28, we tweeted [LINK] "*Gasoline 101. See 👇Mar 9 tweets. ~Mar 1 is when US gas prices start normal seasonal ramp up in driving post winter into the summer. Plus @NACSonline reminds switch to more summer blend fuels costs as much as $0.15 more to produce. Gas +$0.15 since Mar 9.* #OOTT."

Around Mar 1 is when gasoline prices normally start to ramp up

Here is what we wrote in our Mar 17, 2024 2024) Energy Tidbits memo on the normal seasonal increase in US gasoline pries. "*Yesterday, we tweeted [LINK] "Reminder March is normally when US #Gasoline prices start to seasonally ramp up. Like air travel, Presidents' Day marks start of increasing driving thru Labor Day. Plus May 1 is when the switch to more expensive summer blend gasolines to minimize evaporation. #OOTT." Gasoline prices are impacted by more than seasonal trends, in particular, refinery outages as seen in the recent gasoline price increases from the unplanned outage of BP Whiting. However, there are seasonal reasons why US gasoline prices normally increase from March thru at least Memorial Day. Key reason is that this is the normal seasonal pickup in driving. It's like the Delta Airlines CEO said last month, the recent Presidents Day weekend marks the start of their increase travel that goes right thru Labor Day. The second reason is that the switch to summer blend gasoline blend starts on May 1. Summer blend gasoline is more expensive to make and is higher quality to minimize emissions that evaporate into the air. Hot temperatures lead to more evaporation. And szCalifornia Gov Newsom allowed an early switch to winter blend to lower the price of gasoline and it worked. NACS (see following item) estimates summer blend gasoline can cost up to 15 cents per gallon* *to cost to produce."* Below is our updated US weeky gasoline price graph as of Thursday close.

Figure 15: US weekly gasoline prices



Source: EIA

Switch to summer blend gasoline can add 15₵/gallon to cost

Here is what we wrote in our Mar 10, 2024 Energy Tidbits memo on the reminder on why summer blend gasoline costs more than winter blend gasoline – it costs more to make. Here is what we wrote last week. "*Yesterday, we tweeted [LINK] "Summer blend #Gasoline is more expensive as production process takes longer & overall yield of gasoline per barrel of oil is lower. 02/28/24, 👇@NACSonline "these complexities add as much as 15 cents per gallon to the cost to produce these higher-grade fuels." #OOTT." Our tweet included the NACS (Association for Convenience & Fuel Retailing, originally founded as National Association of Convenience Stores) Feb 28, 2024 "Seasonal Gas Prices Explained. From refinery maintenance to consumer demand, seasonal fuel production affects gasolines prices at the dispenser." [LINK]. NACS led off "Traditionally, gasoline prices are at their lowest during the first week of February and then begin to climb, often peaking right before Memorial Day. Seasonal increases in demand plus a transition to unique fuel blends put pressure on gas prices each spring." And they highlighted how the switch to summer blend can add 15 cents a gallon to cost. NACS wrote "Summer-blend fuel is also more expensive to make than winter-blend fuel. First, the production process takes longer and, second, the overall yield of gasoline per barrel of oil is lower. These complexities add as much as 15 cents per gallon to the cost to produce these higher-grade fuels." Our Supplemental Documents package includes the NACS report."*

Oil: Crack spreads narrowed $0.28 WoW to $29.45

Crack spreads closed at $29.45

On Friday, we tweeted [LINK] "*321 crack spreads still high. WTI +$3.74 WoW to close $86.91. 321 crack spreads were -$0.28 WoW to $29.45, BUT crack spreads near $30 still provide big margins for refineries ie, big incentive to maximize runs & buying crude & support for WTI. #OOTT #Oil Thx @business."* The message fo the past two months is unchanged - crack spreads continue to be at high levels and certainly high enough to incentivize refineries to run as much crude as possible. Crack spreads closed at $29.45 on Apr 5, whyich was a narrowing of $0.28 WoW from $29.73 on Mar 29. Crack spreads around $30 are still big and a huge incentive for refiners to maximize crude runs. 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. And when crack spreads are around or over $30, it's a very big incentive to refiners to want more crude and produce more product. This week, crack spreads narrowed $0.28 WoW to $29.45 on Apr 5, which followed $29.73 on Mar 29, $32.20 on Mar 22, $33.00 on Mar 15, $29.61 on Mar 8, $31.11 on Mar 1, $30.61 on Feb 23, $25.23 on Feb 16, and $30.03 on Feb 9. Crack spreads at $29.45 are well above the high end of the more normal pre-Covid that was more like $15-$20, which is why we believe refineries continue to be incentivized to take more oil. And if refiners are incentivized to take more oil, it should provide positive near-term support for WTI.

Crack spreads point to near term oil price moves, 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 vs WTI that we put in our tweet where we marked the gaps where the crack spread normally drags up oil prices. The crack spread was $29;45 as of the Friday April 5, 2024 close.

Figure 16: Cushing Oil 321 Crack Spread & WTI Apr 5, 2014 to Apr 5, 2024

Source: Bloomberg

Oil: Trans Mountain apportioned by 24% for April

Trans Mountain apportionment

On Monday, Trans Mountain released an update [LINK] on its capacity for the month of April. Total system nominations are apportioned by 24% for April (March was 18%), meaning 24% of demand for the pipeline exceeds its capacity. This is for the existing Trans Mouintain pipeline. Trans Mountain has been running at full capacity and has seen regular monthly apportionment for over a decade. The increasing apportionment was expected as oil producers have been ramping up capacity ahead of the start of the 590,000 b/d TMX expansion. Our Supplemental Documents package includes the Trans Mountain release.

Oil: Trans Mountain's 590,000 b/d TMX expansion to start commercial operation May 1

TMX 590,000 b/d expansion

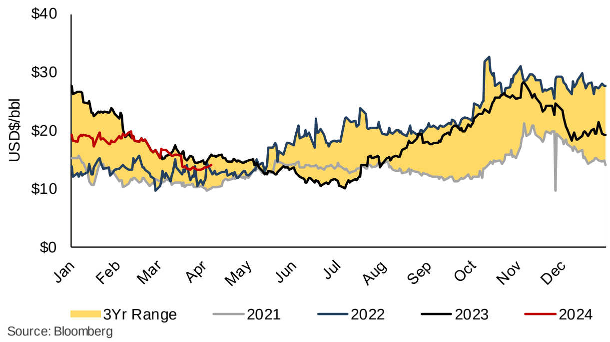
Early Wednesday evening, we tweeted [LINK] "*Positive for Cdn #Oil prices. 590,000 b/d TMX expansion starts commercial operation May 1! Canada's 1st direct access to global oil markets. #OOTT.*" This is the expected big good news for the Cdn oil industry – the start up of Trans Mountain's 590,000 b/d TMX expansion that will take western Cdn crude oil to the west coast for loadings on tankers to global markets. It is expected to be a boost to Cdn oil prices by narrowing the discount of Cdn oil prices to WTI mostly during periods that discount widens due to lower seasonal demand in the US. TMX will allow Cdn barrels to flow to international markets in these wider differential periods. NO one knows specifically how much the discount will narrow but the view still seems to be around $7, which we see as on an average basis with more or less a saving during different seasons. Trans Mountain's press release [LINK] said "*On March 29, 2024, Trans Mountain successfully completed the pipe pullback for the Mountain 3 Horizontal Directional Drill (HDD) in the Fraser Valley between Hope and Chilliwack, BC. To complete the Expansion Project, there are several remaining steps including obtaining outstanding approvals from the Canada Energy Regulator (CER). With the appropriate approvals and completion of remaining construction activity, Trans Mountain will commence transporting crude oil on the expanded system. The Commencement Date for commercial operation of the expanded system will be May 1, 2024. Trans Mountain anticipates providing service for all contracted volumes in the month of May. After commencement of operation of the Expansion Project, Trans Mountain will continue cleanup, reclamation, road and civil work.*"

Oil: Cdn heavy oil differentials widens slightly, ends week at $14.10/bbl

WCS differentials widens

Early in the year, every year, we start to remind that that Cdn WCS less WTI differentials normally narrow in late Feb thru May as US refiners maximize production of asphalt for annual paving season. Refineries have, for the most part, finished planned winter turnarounds and are moving to maximize production of summer grade fuels as well as asphalt ahead of the annual summer driving and paving season. As is said in Canada, there are two seasons in Canada – winter and paving season. Below is graph showing WCS-WTI differentials that shows this normal seasonal trend of narrowing WCS-WTI differentials from Feb thru May. The seasonal narrowing is in motion. The WCS less WTI differential closed on Apr 5 at $14.10/bbl, which was +$0.81/bbl WoW vs $13.29/bbl on March 29. These are both well below the Feb peak of $19.75. But the widening was likely due to factors such as the Exxon Joliet refinerythat runs on Cdn crude went down and there were excess Cdn barrels that should be alleviated in May 1 with the start of commercial operations at TMX.

Figure 17: WCS less WTI oil differentials to April 5 close



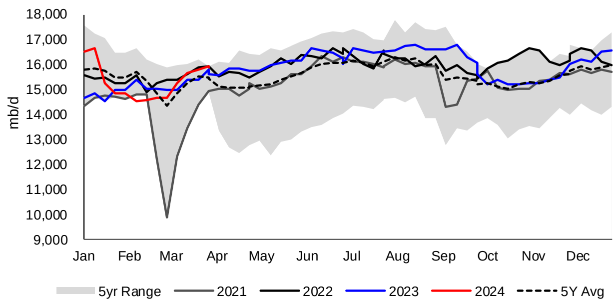
Source: Bloomberg

Oil: Refinery Inputs down -0.035 mmb/d WoW to 15.897 mmb/d, Joliet refinery is down

Refinery inputs -0.035 mmb/d WoW

There are always unplanned refinery items that impact crude oil inputs into refineries. And there are always different timing for refinery turnarounds ie. below we note Exxon's 250,000 b/d Joliet refinery going down for ~50 days turnaround. But, as a general rule, this is the normal seasonal ramp up in refinery runs following winter maintenance. On Wednesday, the EIA released its estimated crude oil input to refinery data for the week ended March 29 [LINK]. The EIA reported crude inputs to refineries were down -0.035 mmb/d this week to 15.897 mmb/d and are up +0.282 mmb/d YoY. Refinery utilization was down -10 bps WoW to 88.6%, which is -100 bps YoY.

Figure 18: US Refinery Crude Oil Inputs



Source: EIA, SAF

Oil: US net oil imports +0.074 mmb/d WoW as oil exports down -0.159 mmb/d WoW

US net oil imports

The EIA reported US "NET" imports were up +0.074 mmb/d to 2.596 mmb/d for the March 29 week. US imports were down -0.085 mmb/d to 6.618 mmb/d against exports which were down -0.159 mmb/d WoW to 4.022 mmb/d. (i) Venezuela weekly imports. We know why the EIA doesn't have any data in the row for Venezuela weekly oil imports but we still don't know if the weekly oil imports are off or if Venezuela is included in the weekly oil imports in the Others number. But we do know the EIA monthly data shows Padd 3 imports from

Venezuela >150,000 b/d. Give the EIA credit for putting out weekly oil import estimates, but it's a reminder that we have to be careful about using the weekly oil import estimates. Rather we need to make sure we go to the monthly data for oil imports. (ii) Top 10 was down -0.033 mmb/d. Some items to note on the country data: (i) Canada was up +0.222 mmb/d to 3.874 mmb/d. (ii) Saudi Arabia was down -0.017 mmb/d to 0.321 mmb/d. (iii) Mexico was down -0.262 mmb/d to 0.263 mmb/d. (iv) Colombia was up +0.173 mmb/d to 0.316 mmb/d. (v) Iraq was down -0.153 mmb/d to 0.091 mmb/d. (vi) Ecuador was up +0.137 mmb/d to 0.146 mmb/d. (vii) Nigeria was down -0.079 mmb/d to 0.136 mmb/d.

Figure19: US Weekly Preliminary Imports by Major Country

	Feb 2/24	Feb 9/24	Feb 16/24	Feb 23/24	Mar 1/24	Mar 8/24	Mar 15/24	Mar 22/24	Mar 29/24	WoW
Canada	3,539	3,999	3,669	3,766	3,632	3,458	3,735	3,652	3,874	222
Saudi Arabia	353	390	224	139	366	265	254	338	321	-17
Venezuela	0	0	0	0	0	0	0	0	0	0
Mexico	661	294	784	569	640	303	353	525	263	-262
Colombia	415	150	286	71	351	0	289	143	316	173
Iraq	0	43	226	240	176	93	252	244	91	-153
Ecuador	72	201	158	0	218	102	147	9	146	137
Nigeria	81	137	159	165	222	132	57	215	136	-79
Brazil	338	148	44	234	178	272	114	230	147	-83
Libya	0	63	92	65	0	66	0	88	117	29
Top 10	5,459	5,425	5,642	5,249	5,783	4,691	5,201	5,444	5,411	-33
Others	1,448	1,045	1,012	1,136	1,439	800	1,077	1,258	1,207	-51
Total US	**6,907**	**6,470**	**6,654**	**6,385**	**7,222**	**5,491**	**6,278**	**6,702**	**6,618**	**-84**

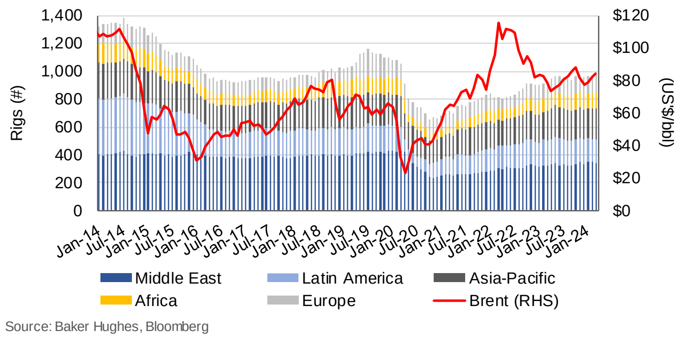
Source: EIA, SAF

Oil: Baker Hughes International rigs +13 MoM to 971 rigs in March

International rigs +13 MoM in March

To the most part, international drilling doesn't react quickly to moves in oil prices as most drilling isn't like US and Canada where there is also the largest drilling rig fleets to support any quick increases in rigs. On Friday, Baker Hughes posted its monthly update to international rigs, in total, that show rigs in March increased MoM. (i) Note that Baker Hughes provides its old format again, which lets us break out rig changes by country. (ii) Total international rigs increased by +13 rigs MoM to 971 rigs in March, and total rigs are now up +155 rigs from the recent low of 806 in April 2022. The MoM rig count is as follows: Africa +4 rigs, Asia-Pacific +10 rigs, Europe +4 rigs, Latin America flat, and the Middle East -5 rigs. The YoY rig count is Africa +18 rigs, Asia-Pacific +20 rigs, Europe flat, Latin America -18 rigs, and the Middle East +21 rigs. (iii) The biggest MoM changes by country are as follows: India and Indonesia up +5 rigs MoM to 50 and 82 rigs, respectively, Qatar -5 rigs to 9 total rigs, and Ecuador -4 rigs MoM to 5 total rigs. (iv) The biggest YoY changes by country are as follows: Libya +12 rigs YoY to 20 total rigs, Saudi Arabia +10 rigs YoY to 88 total rigs, while Colombia is down -15 rigs YoY to 19 rigs and Argentina is down -10 rigs YoY to 50 rigs. Note we are likely to see some near term rig declines in Saudi Arabia given their recent decision to not expand its MSC to 13 mmb/d (v) March's count of 971 rigs was +4% YoY from 930 in March 2023, and down -11% vs pre-Covid February 2020 of 1,085 rigs (March 2020 is when the pandemic kicked off). Below is our graph of international rigs by region and avg monthly Brent price.

Figure 20: Baker Hughes International Rig Count and Brent Price



Source: Baker Hughes, Bloomberg, SAF

Pemex Refinery Runs

Oil: Pemex refinery runs stays above ½ mark, lots of room left to increase throughput

It looks like Pemex is finally starting to ramp up oil processing at the new 340,000 b/d Olmeca (Dos Bocas) refinery because, as noted in the next item, Pemex has reported cancelled some oil export contracts. .So higher refinery runs in Mexico is a positive for Cdn oil as US Gulf Coast refineries will have to pay more to attract barrels to replace any lost Mexico oil. On Monday, Bloomberg reported that Pemex refinery runs exceeded the halfway mark in total capacity in February for the 3rd straight month in a row. Pemex's six refineries were running at a 57.5% utilization rate, down from 58.6% in January which was the highest in 6 years. Combined, Pemex's refineries can process 1.627 mmb/d of crude, but these figures don't include the Dos Bocas refinery, which was supposed to start up at the end of February. At 935,300 b/d, Pemex's refineries are up 16% YoY. Below is a summary of Pemex's refineries and utilization rates.

Figure 21: Pemex's Refinery Runs

Refinery	February (b/d)	m/m	y/y	Capacity use	NOTE
Cadereyta	165,208	-2.5%	25%	60.1%	
Madero	114,581	-2.5%	38%	60.3%	
Tula	251,240	40%	40%	79.8%	highest since April 2016
Salamanca	132,646	-2.4%	24%	60.3%	
Minatitlan	139,755	-1.3%	19%	49.0%	
Salina Cruz	131,824	-37%	-28%	39.9%	
Dos Bocas	not available				
Total	935,254	-2.0%	16%	57.5%	

Source: Bloomberg, Pemex

Oil: Pemex (Mexico) cancels some oil export contracts as refineries increase oil input

Mexico cancels some export contracts

We have been warning that Mexico is about to make significant cuts to oil exports in 2024 and it looks like it is now happening. It's interesting to see this is getting global attention given it has been predictable ever since Pemex started to build its new 340,000 b/d Olmeca (Dos Bocas) refinery. Pemex (Mexico) has reportedly canceled some export contracts with the ramp up in refined volumes in Mexico. This is the first real confirmation that Mexico is ramping up the processing at the new 340,000 b/d Olmeca (Dos Bocas) refinery as more crude oil input into Mexico refineries means less oil available for export. And there would be less Mexico crude coming to the Gulf Coast refineries. (i) On Monday, we tweeted [LINK] "*Less MEX #Oil to PADD 3 = Positive to Cdn oil. Pemex canceled some export contracts, incl to PADD 3, as 340 kbp Olmeca refinery ramps up. @lkassai. Plus Q2 start of 590 kbd Trans Mountain TMX expansion will move Cdn oil to Asia. Biden needs 👇155 kbd VEN oil to Padd 3. #OOTT.*" (ii) Our tweet included the Bloomberg Monday report "*Mexico to Halt Some Oil Exports, Further Squeezing Global Market. Mexico's state-controlled oil company plans to halt some crude exports over the next few months, a move that would cut supply from a tightening global market. Petroleos Mexicanos, also called Pemex, canceled contracts to supply its flagship Maya crude oil to refiners in the US, Europe and Asia, according to people with knowledge of the situation, who asked not to be named because the information is private.* " And "*US refiners are likely to bear the brunt of the cut in Maya exports. Fuelmakers including Valero Energy Corp, Chevron Corp and Marathon Petroleum Corp import 420,000 barrels of the heavy sour variety per day. In 2023, Maya exports reached 612,000 barrels a day.*" Our Supplemental Documents package includes the Bloomberg report.

It's also why Biden will do all he can to keep Venezuela oil into the Gulf Coast

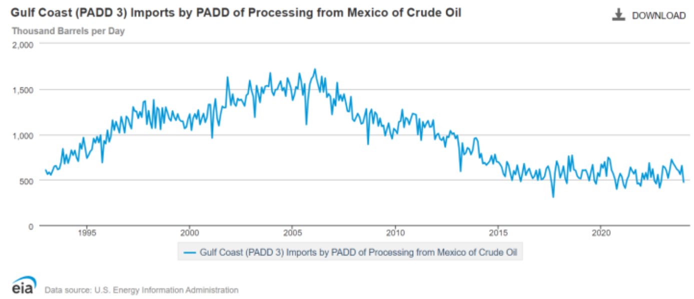
The loss of Mexico crude oil into the Gulf Coast couldn't come at a worse time given the startup of Trans Mountain's 590,000 b/d TMX expansion that will be moving Cdn crude to the west coast for tanker exports. Here is all what we wrote in last week's (Mar 31, 2024) Energy Tidbits memo. "*No surprise, Biden unlikely to reimpose oil sanctions on Venezuela.The US elections are now just over six months away on Nov 5, 2024. We have been highlighted gasoline and grocery prices as the key priorities for Biden. But gasoline prices may be #1 because Biden can indirectly influence gasoline prices by ensuring maximum oil on the market. And one of his direct levers on oil supply is oil sanctions on Venezuela. Our view is unchanged – Biden isn't going to reimpose oil sanctions even if he stopips the leading opposition candidate, Machado, from running. Yesterday, we tweeted [LINK] "Gasoline prices is Biden focus for Nov 5 election. "Biden Is Unlikely to Reimpose Oil Sanctions on Venezuela" "US officials are concerned that reverting to Trump-era sanctions that accelerated the decline of Venezuela's #oil production would raise the price of gas at US pumps" report @WSJForero @kejalvyas #OOTT." The WSj wrote [LINK] "Biden Is Unlikely to Reimpose Oil Sanctions on Venezuela. Nicolás Maduro of Venezuela has barred presidential candidates, but U.S. officials worry that new penalties would raise gas prices in a U.S. election year. The Biden administration is leaning away from reimposing sanctions on Venezuela's oil industry despite President Nicolás Maduro's moves to bar leading opposition candidates from the country's July elections, said people familiar with the matter. U.S. officials are concerned that reverting to Trump-era sanctions that accelerated the decline of Venezuela's oil production would raise the price of gas at U.S. pumps and prompt more migration from Venezuela as*

President Biden campaigns for re-election in November." The unnamed US officials said it clearly, they worry reimposing oil sanctions would raise US gasoline prices. Our Supplemental Documents package includes the WSJ report."

Cdn crude filled in when Venezuela & Mexico oil declined into Gulf Coast

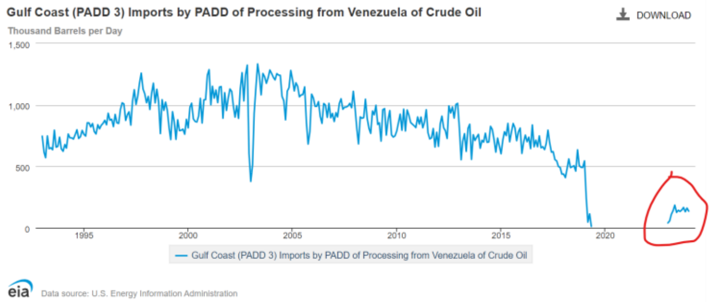
For a decade or more, we have highlighted how Cdn oil started going into the Gulf Coast refineries because it was needed by the refineries as Venezuela and Mexico oil into the Gulf Coast declined. Mexico's decline was driven by the huge drop in production as the super giant Cantarell oil field started to decline. So the Gulf Coast refineries needed to find replacement for Mexico and Venezuela crude quality and Cdn heavy/medium filled that void. Below are the EIA's current Gulf Coast Padd 3 oil imports from Canada, Mexico and Venezuela.

Figure 22: Gulf Coast Padd 3 oil imports from Mexico



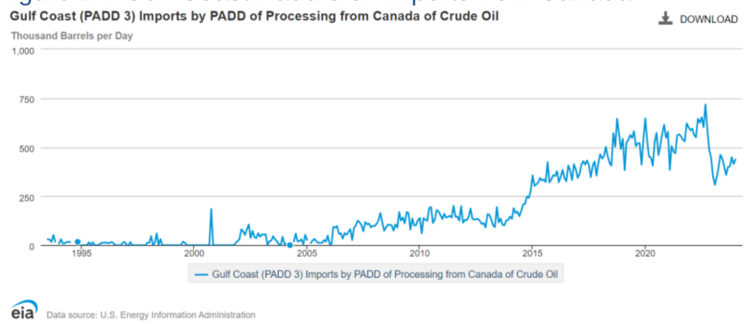
Source: EIA

Figure 23: Gulf Coast Padd 3 oil imports from Venezuela



Source: EIA

Figure 24: Gulf Coast Padd 3 oil imports from Canada



Source: EIA

Pemex platform fire

Oil: Pemex April oil exports likely hit by yesterday's fire at Akai-B oil platform

Yesterday, Pemex reported [LINK] "*Petróleos Mexicanos (PEMEX) reports that today, at 4:48 p.m., a fire broke out on one of the platforms of the Akal-B Process Center (Akal-B1), in the area where the pipelines that handle fuel gas for turbomachinery are located. The Emergency Response Plan (PRE) was immediately activated at the facility, bringing the fire under control at 5:04 p.m. PEMEX workers and 7 company workers (3 from DIAVAZ, 4 from COTER) were reported with non-serious injuries. They are sent to Ciudad del Carmen for evaluation.*" There is no Pemex statement on how this will impact production. Bloomberg reported "*Akal-B, which is part of the Cantarell production complex, produces 200,000 barrels per day of oil and 900,000 cubic feet of gas, the Reforma newspaper reported. The fire began where gas fuel pipes feed the platform's turbo machinery, Pemex said.*" We put this will likely hit Pemex oil exports in April. As a general rule, oil companies don't have redundant offshore equipment/processes to avoid uninterpreted production in the event of an unplanned fire. So the question is how much does this fire impact production and for how long.

Figure 25: Fire at Pemex Akai Bravo offshore platform in Campeche complex

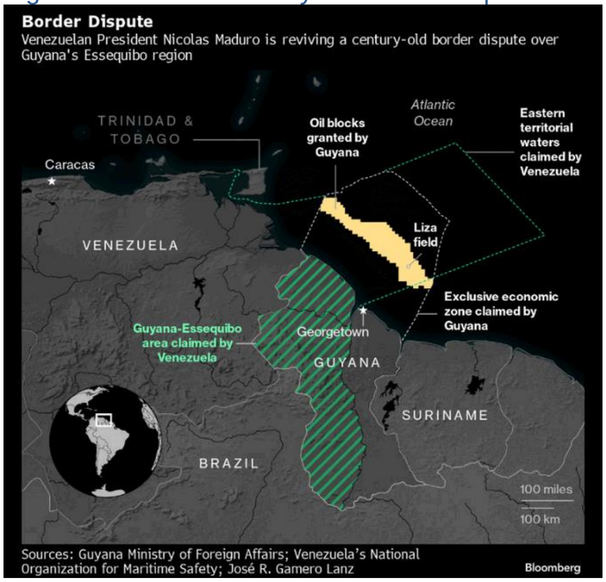
Source: Reforma

Oil: Venezuela signs into law its claim on Guyana's territory

Venezuela claim on Guyana lands

There was no surprise that, on Wednesday, Maduro signed into law the results of the Dec referendum on Venezuela's claim on Guyana lands. The key to this claim is that, if it ever took effect, would give Venezuela control of the massive new Guyana offshore oil discoveries and production. Needless to say, Guyana has never agreed with Maduro's claim. Bloomberg wrote "*Venezuelan President Nicolás Maduro's move to sign into law the results of a recent referendum laying claim to two-thirds of Guyana triggered fierce condemnation Thursday from the neighboring South American country's government. The text of the law was not immediately made public. Even so, Guyana's Ministry of Foreign Affairs vowed not to yield any land to Venezuela and called the move targeting Guyana's western Essequibo region an "egregious violation of the most fundamental principles of international law." In early December, Maduro held a referendum to claim sovereignty over the oil-and mineral-rich region that represents two-thirds of Guyana, arguing it was stolen when the border was drawn more than a century ago. On Wednesday, Maduro held a signing ceremony recalling the referendum as a "stellar and historic moment." "The decision of December 3, has now become the Law of the Republic, to form part of the legal structure of the internal political and institutional movement of our country," Maduro tweeted on Wednesday. "The decision made by the Venezuelans in the consultative referendum will be fulfilled in all its parts, and with this Law, we will continue the defense of Venezuela on international stages."* Below is the Bloomberg map that we included in or Dec 17, 2023 Energy Tidbits memo on the oil implications for Venezuela's claim on Guyana lands. Our Supplemental Documents package includes the Bloomberg report.

Figure 26: Venezuela/Guyana border dispute



Source: Bloomberg

Ukraine hits products pipeline

Oil: Is Ukraine warning Russia it can do more damage to Russian export capability
It didn't get much attention, albeit it is the weekend and the event itself didn't seem huge, but we thought there was a message behind the Ukraine bombing because we remember RBC Helima Croft's comment from last week. Yesterday, we tweeted [LINK] "*Was this a Ukraine warning shot they can do more damage to RUS export capability if they want? See 👇03/27 @CroftHelima potential risk. Bombs pipeline taking products from fuel depot to likely small tankers. But could have gone after major Black Sea export infra? #OOTT.*" Interfax reported "*In Rostov region of the Russian Federation, a pipeline used to pump petroleum products from a local oil depot to tankers in the area of the Azov Sea Port was blown up, the Defense Intelligence of the Ministry of Defense of Ukraine reported on Telegram. "On the night of April 6, 2024, in the area of the village of Azov (Rostov region) as a result of the explosion of a pipeline that pumped petroleum products from a local oil depot to tankers in the area of the Azov Sea Port, the loading of tankers with petroleum products was suspended for an indefinite period," the report says*." Ukraine blew up a pipeline that transports from fuel depot to probably smaller tankers. This seemed like a warning from Ukraine that they can do more damage to Russia's export capability if they want. Blowing up pipeline is always easier and faster to fix than blowing up something like key terminal loading equipment or even bombing all the tanks, which clearly Ukraine could do. If we accept this as reported, it doesn't sound like a major pipeline just a pipeline taking petroleum products from tanks at the fuel depot to the tankers a short distance away to the port. We just believe Ukraine could have done a lot more if they wanted to hit Russia's export capability, which is why it seems like a warning that they can really hit Russia exports if they want. And if Ukraine wants to go after Russia's export capability, it will be a major event for oil markets.

Helima Croft, multiple geopolitical risk premium items in coming wks/mths
Last week's (March 31, 2024) Energy Tidbits memo was titled "*Helima Croft "closely watching whether Ukraine moves at some stage to target actual [Russian] export facilities".* Here is what we wrote in last week's memo. "*We recommend reading a great food for thought oil comment from well regarded RBC Helima Croft on Wed, who identified a number of major potential geopolitical risk premium events for oil over the coming weeks and next few months. On Wed, we tweeted [LINK] "Must read from well plugged-in, not subject to hyperbole @CroftHelima. Multiple geopolitical risk premium events over the coming weeks/months, NOT years. #OOTT." (i) One of the key pluses to oil in the last few weeks has been Ukraine drone success hitting Russian refineries. Croft noted that this has Russian refineries down 650,000 b/d YoY n March. And it is important to note that this Ukraine focus on refineries is against the reported Biden request to Ukraine to not go after refineries. It raises the risk if Ukraine is going ahead against the US wishes.. Croft wrote "• There have been reports that the White House has tried to dissuade Kyiv from this strategy, fearing the energy price impact – we find this entirely credible based on our conversations. As we have repeatedly noted, the White House has sought to avert a Russian supply disruption and has shaped policy towards this end; including price caps designed as a release valve to ensure Russian barrels locked out of Europe would flow to Asia, or directly telling Ukraine to not target Black Sea oil tankers. However, with US assistance being held up in Congress, and Russia making battlefield gains, Ukraine and key regional allies appear to be questioning the utility of this energy bargain with Washington." (ii) Croft raises the risk that Ukraine will go after Russia oil export*

terminals. Croft wrote "Hence, we will be closely watching whether Ukraine moves at some stage to target actual export facilities to strike a deeper blow on the Russian balance sheet. We continue to contend that Ukraine seemingly has the capability to target the majority of export facilities in western Russia, which would put ~60% of Russia's crude exports at risk". (iii) Croft doesn't see OPEC ramping up production to help ease prices. Crost wrote "While OPEC is sitting on over 2 mb/d of spare capacity, we do not think the producer group would rush in to cool the rally and ramp up output given what transpired in the months immediately following the Russian invasion of Ukraine. Washington made unprecedented interventions in the market by releasing 180 mb from the SPR after the IEA and other market participants warned of a multimillion b/d Russian disruption that never materialized." (iv) There was more in the comment. Our Supplemental Documents package includes the Croft comment."

Oil: Ukraine can hit all Russia's export terminals on Baltic and Black Sea

Ukraine drones

There was a good reminder from the Ukraine that their drones can reach all Russia oil, petroleum products and LNG export terminals on the Baltic and Black Sea. On Tuesday, Ukraine hit its Taneco refinery, which was over 1,000 km from the border. We tweeted [LINK] "*Great map reminds Ukraine has capability to hit all Russia #Oil/#LNG export terminals on Baltic & Black Seas. This potential risk was on @CroftHelima 👇 03/27 Must Read temperature rising risks comment. Thx @SPGlobal Kelly Norways, Elza Turner #OOTT."* Our tweet included the Platts maps on the below Taneco drone strike.

Figure 27: Ukraine drone range and Russia refineries and terminals

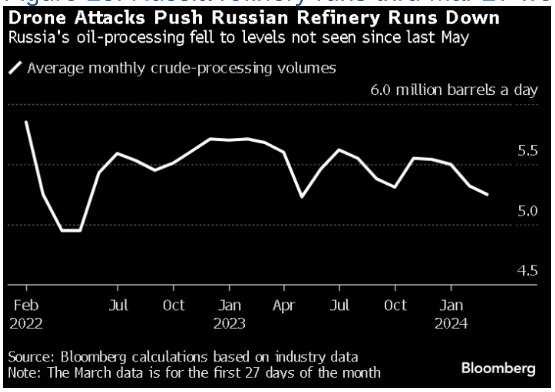
Source: Platts

Oil: Russian refineries oil processing up slightly after some drone strike repairs

Russia oil refinery runs

Ukraine drone attacks have already had an impact on Russian refineries even before this week's drone attacks. But now the question is how much Russian refinery capacity is offline and for how long. Then there is the question on much of the crude oil that normally flows to these disrupted refineries can be moved to other refineries or to export terminals. Rusdsia is doing all they can to move these oil volumes as evidence d by the reports of increasing oil and products being moved by rail. On Thursday, Bloomberg reported "*Russia's weekly crude processing picked up in late March after sinking to a 10-month low earlier in the month. The nation's refineries churned through an average of 5.13 million barrels a day March 21-27, according to a person with knowledge of industry data. That's almost 106,000 barrels a day more than they processed the previous seven days, according to Bloomberg calculations based on historical data".* The Ryazan refinery near Moscow that was hit on March 13th boosted runs by 85,000 b/d, and other smaller independent refineries picked up output this week which is keeping throughput elevated. Our Supplemental documents package includes the Bloomberg report.

Figure 28: Russia refinery runs thru Mar 27 week



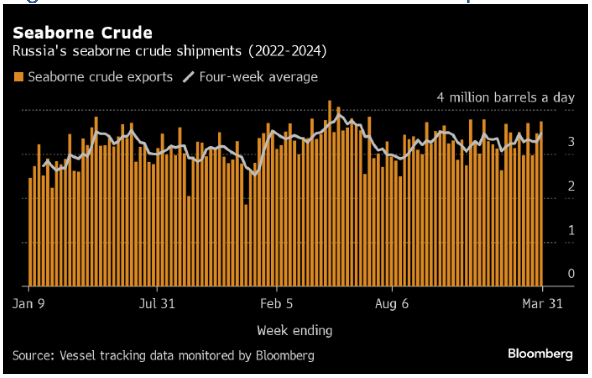
Source: Bloomberg

Oil: Russia oil shipments highest YTD, blows out target but overall Q1 average in-line

Russia oil shipments over commitment

We have been writing about how drone strikes reducing refinery capacity in Russia would free up raw crude for export assuming the crude oil volumes can be moved to export terminals. Perhaps this week's data is a reflection of that. And as noted above, there are reports of Russia moving more crude and products via rail. Bloomberg reported "*Russia's seaborne crude flows in the week to March 31 rose 270,000 barrels a day to 3.74 million, its highest level for the year so far. The less volatile four-week average also increased, up by about 190,000 barrels a day to 3.47 million to the most since November. Weekly shipments were about 150,000 barrels a day higher than the average seen in May and June, or about 450,000 barrels a day above Russia's first quarter target that is part of the OPEC+ alliance's broader effort to curb supplies and support prices. The four-week average was about 185,000 barrels a day above the target".* The 3.47 mmb/d is the highest so far this year, but on a quarterly basis Russia was pretty much in-line with their commitments: The average from Jan-Mar was only 16,000 b/d over the committed 300,000 b/d cut from the May-June 2023 average. Remember that Russia will be shifting towards a production-based cut rather than export control for their OPEC+ commitments this upcoming quarter. Our Supplemental Documents package includes the Bloomberg report.

Figure 29: Russia's seaborne crude shipments thru Mar 31 week



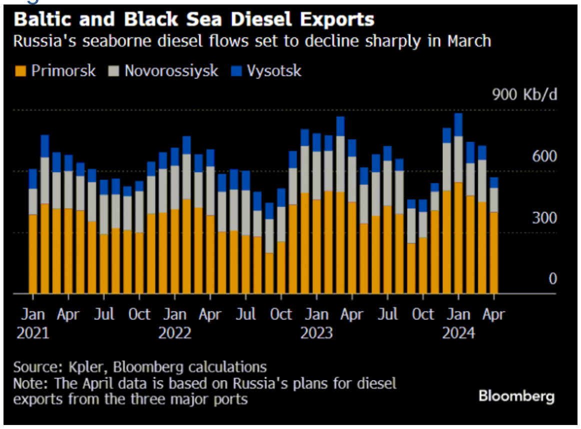
Source: Bloomberg

Oil: Russia to cut diesel exports by 155,000 b/d in April amid refinery outages

Russian diesel exports to drop this month

On Monday, we tweeted [LINK] "*Russia #Diesel loadings down 155,000 b/d MoM to 569,000 b/d in April from RUS 3 major Black & Baltic Sea ports. Drone hits on multiple RUS refineries is cutting diesel production so less available for export. Thx @ja_herron @Kpler #OOTT*". Russia has been getting hammered by Ukraine's drone strikes on key refineries, so we weren't surprised when Bloomberg reported on Monday that Russia is planning to slash their diesel exports from their key Baltic and Black Sea ports. Bloomberg wrote "*Diesel loadings from the nation's three major ports on the Black and Baltic Seas, including some volumes originating in Belarus, are set to fall to around 2.29 million tons this month, according to industry data seen by Bloomberg. That equates to just over 569,000 barrels a day, down 21% compared with actual daily exports of about 724,000 barrels from the same ports in March, calculations based on data from intelligence firm Kpler show*". Crude processing fell to a 10-month low in March as turnarounds combined with drone strikes have hindered the ability to process crude. Bloomberg was only able to see data regarding three major western ports and not smaller outlets elsewhere in the Baltics or Black Sea. Below is a chart of diesel exports by ship from Russia's western ports. Our Supplemental Documents Package includes the Bloomberg Report.

Figure 30: Russia's Baltic and Black Sea Diesel Exports



Source: Bloomberg

Oil: No surprises from OPEC+ JMMC meeting

OPEC+ JMMC meeting

OPEC+ held its 53rd Joint Ministerial Monitoring Committee (JMMC) meeting on April 3 in Vienna [LINK]. There were no surprises. As a reminder the JMMC is not a decision making group. Rather, it makes recommendations for the full ministerial meetings. The JMMC did not recommend any changes to the quotas. There was also the expected focus on compliance and Iraq and Kazakhstan re to cut back to compensate for overproduction. And the JMMC confirmed what Russia previously indicated – they would apply their voluntary adjustments to production rather than exports. Recall back in March that Russia announced in April they'd pull back 350,000 b/d from production and 121,000 b/d from exports, 400,000 b/d of production and 71,000 b/d of exports in May, and 471,000 b/d of production in June. So essentially now all those figures will apply to the wellhead. This is on top of the 500,000 b/d export cut they announced in April 2023 which keeps exports below the May-June 2023 average level until December 2024. The next JMMC meeting is June 1. Our Supplemental Documents package includes the OPEC release.

Oil: Bloomberg OPEC production +10,000 b/d MoM to 26.860 mmb/d in Mar

OPEC+ March production +10,000 b/d

On Tuesday, Bloomberg posted its monthly survey of OPEC production. (i) The Bloomberg survey estimates OPEC production was +10,000 b/d MoM to 26.860 mmb. (ii) Note that the new Feb of 26.850 mmb/d was revised +170,000 b/d vs originally reported last month of 26.680 mmb/d. The revisions were: Iran revised +70,000 b/d to 3.140 mmb/d (was 3.070), Saudi Arabia revised +60,000 b/d to 9.010 mmb/d (was 8.950), and Iraq revised +40,000 b/d to 4.200 mmb/d (was 4.160). (iii) The largest MoM changes in Mar vs Feb were: Iran was +40,000 b/d MoM to 3.170 mmb/d. Nigeria's recovery saw a setback and was -50,000 b/d MoM to 1.470 mmb/d, wiping out the +30,000 b/d gain they saw in Feb. Venezuela was +20,000 b/d MoM to 0.870 mmb/d. Below is the Bloomberg survey table.

Figure 31: Bloomberg Survey OPEC production in March (mb/d)

	March Estimate	Feb. Output		Net Change	Pct Change	Estimated Capacity
Total OPEC	26,860	26,850		10	0.0%	33,460
Algeria	910	910		0	0.0%	1,060
Rep. Congo	240	250		-10	-4.0%	300
Equatorial Guinea	60	60		0	0.0%	120
Gabon	230	200		30	15.0%	220
Iran	3,180	3,140	r	40	1.3%	3,830
Iraq	4,170	4,200	r	-30	-0.7%	4,800
Kuwait	2,430	2,430		0	0.0%	2,820
Libya	1,130	1,140		-10	-0.9%	1,200
Nigeria	1,470	1,520		-50	-3.3%	1,600
Saudi Arabia	9,040	9,010	r	30	0.3%	12,000
UAE	3,130	3,140		-10	-0.3%	4,650
Venezuela	870	850		20	2.4%	860

Source: Bloomberg

Oil: Did Iran just signal their retaliation won't be a direct military attack vs Israel

Iran general on retaliation

Is it misdirection or did Iran just signal it wouldn't take any direct military action against Israel in the region and that any retaliation against Israel will, at least for now, be against an Israel embassy or consulate? If so, this would at least for now take a big fear on oil that there Iran will launch some sort of military attack vs Iran. There was breaking news this morning on what seems like Iran messaging. It didn't come from the Supreme Leader or the President or the Foreign Minister but from a general, who seemed to point where Iran's retaliation against Israel is likely to come. And most importantly, where they aren't supposedly going to target. That is, assuming he Is not just trying to misdirect their intentions. Earlier this morning, we tweeted [LINK] "*Breaking! Will #Oil market see this as Iran taking direct military attack vs Israel off the table for now? ie. less price tension. Iran media "No Israeli embassy is safe anymore; resistance ready to strike: Top Iran general" Yes an attack on embassies/consulates is still an attack but would seem proportional, or is it misdirection? #OOTT.*" Below we highlighted the Supreme Leader and President warning they will be retaliating. We have trouble believing this general would be in state media seeming to narrow the retaliation messaging if he didn't have approval from above. We are writing this as of 7:30am MT so we will have to wait until this evening how oil markets interpret the general's comments. Our Supplemental Documents package includes the PressTV report.

Oil: Tipping point? How/when Iran retaliates to Israel bombing its consulates

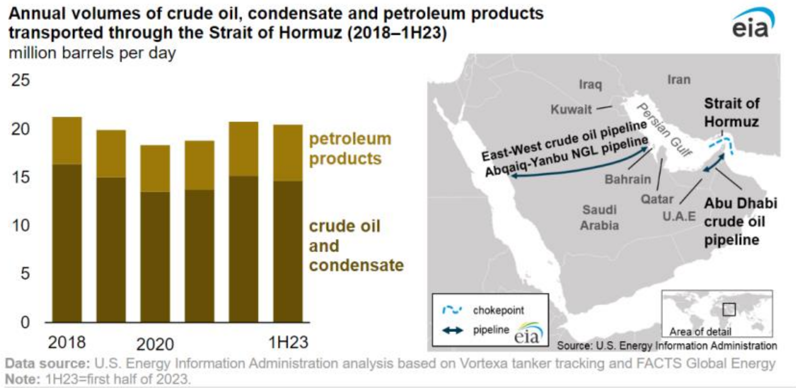
Israel bombs Iran consulate

Please note we wrote this item as of last night before we saw the above PressTV report this morning. Oil markets are intently watching what Iran does in retaliation to Israel, but we are surprised that the world on an overall basis doesn't seem as concerned on what is next. Who knows what Iran will do but they have warned they will be retaliating. And then the question because what does Israel then do in response? Oil markets this week were primarily driven by increased geopolitical risk following Israel's bombing of Iran's consulate in Damascus to kill some major IRGC leaders. We should note that Israel, as is their practice, did not confirm or deny the attack. As of our 7am MT news cut off, the world is still waiting for how Iran will retaliate. (i) On Monday morning, we tweeted [LINK] "*Breaking! How/what will Iran do in retaliation? @AJEnglish "Israeli strikes have hit Syria's capital, Damascus, in an attack on Iran's consulate and the ambassador's residence, killing at least six people, according to the*

Syrian Observatory for Human Rights" #OOTT." The Israeli airstrike reportedly killed 16 including IRGC Brigadier General Mohammad Reza Zahedi and several other IRGC officers. (ii) Iran warns US must also be held accountable. On Monday dinner time, we tweeted [LINK] "*Breaking! Increasing geopolitical risk Iran/Israel/US. Iran message to US via Swiss re Israel bombing of Iran consulate in Syria. "important message was sent to the US govt as a supporter of the Zionist regime, the Foreign Minister said, "America must be held accountable." #OOTT."* (iii) Iran states "*this cowardly crime will not go unanswered*". On Tuesday Iran's Supreme Leader and President separately stated there will be retaliation. On Tuesday, we tweeted [LINK] "*Iran Supreme Leader "The evil regime will be punished by our brave men". Iran President "this cowardly crime will not go unanswered". Per state media. How/when will Iran retaliate vs Israel? Brent currently +$1.50 to $88.92. #OOTT."* Our Supplemental documents package include the Iran Foreign Minister, President and Supreme Leader comments.

There are no workarounds to fully compensate for the Strait of Hormuz closure
The reason why the Strait of Hormuz is considered the most important chokepoint for oil and LNG is that there isn't a workaround, to the most part, if the Strait of Hormuz becomes closed. The Red Sea/Bab el Mandeb can be worked around, it just means a much longer voyage. Here is what we wrote in our Nov 26, 2023 Energy Tidbits memo. *"To dated, the market has been focused on the Strati of Hormuz risk as it is the most important world oil chokepoint. We have been more worried to date on interruptions via the Red Sea and Bab el Mandeb but have also been noting how the Strait of Hormuz is more significant to supply if any interruption. And we have been included the EIA's latest Strait of Hormuz blog, which is four years old. But on Tuesday, the EIA updated its Strait of Hormuz blog "The Strait of Hormuz is the world's most important oil transit chokepoint" [LINK]. "The Strait of Hormuz, located between Oman and Iran, connects the Persian Gulf with the Gulf of Oman and the Arabian Sea. The Strait of Hormuz is the world's most important oil chokepoint because large volumes of oil flow through the strait. In 2022, its oil flow averaged 21 million barrels per day (b/d), or the equivalent of about 21% of global petroleum liquids consumption. In the first half of 2023, total oil flows through the Strait of Hormuz remained relatively flat compared with 2022 because increased flows of oil products partially offset declines in crude oil and condensate." "Between 2020 and 2022, volumes of crude oil, condensate, and petroleum products transiting the Strait of Hormuz rose by 2.4 million b/d as oil demand recovered after the economic downturn from the COVID-19 pandemic. In the first half of 2023, shipments of crude oil and condensates dropped because OPEC+ members implemented crude oil production cuts starting in November 2022. Flows through the Strait of Hormuz in 2022 and the first half of 2023 made up more than one-quarter of total global seaborne traded oil. In addition, around one-fifth of global liquefied natural gas trade also transited the Strait of Hormuz in 2022." Our Supplemental Documents package includes the EIA blog. "*

Figure 32: Crude oil, Condensate & Petroleum Products Flows Thru Strait of Hormuz



Source: EIA

Figure 33: Volumes thru the Strait of Hormuz 2018-1H23

Volume of crude oil, condensate, and petroleum products transported through the Strait of Hormuz (2018–1H23)
million barrels per day

	2018	2019	2020	2021	2022	1H23
Total oil flows through Strait of Hormuz	**21.3**	**19.9**	**18.3**	**18.8**	**20.8**	**20.5**
Crude oil and condensate	16.4	15.0	13.5	13.7	15.2	14.7
Petroleum products	4.9	4.9	4.8	5.1	5.6	5.8
World maritime oil trade	**77.4**	**77.1**	**71.9**	**73.2**	**75.2**	**76.3**
World total petroleum and other liquids consumption	**100.1**	**100.9**	**91.6**	**97.1**	**99.6**	**100.3**
LNG flows through Strait of Hormuz (billion cubic feet per day)	**10.3**	**10.6**	**10.4**	**10.6**	**10.9**	**10.8**

Source: EIA

Oil: Houthis Leader continues operations in Red & Arabian Seas & into Indian Ocean

Houthis leader

It seemed like a relatively quiet week on the Houthis vs US/UK/Israel front. There were Houthis drone attacks and US/UK bombing of Yemen but it seemed less significant this week. But one constant is the Houthis leader regular lectures to the people. On his Thursday speech, Saba [LINK] reported "*He went on to say, "Our front in Yemen continues military operations in the Red and Arabian Seas, all the way to the Indian Ocean." He stated that the Yemeni operations in just a month amounted to 34 operations carried out with 125 ballistic and winged missiles and drones, and the total number of ships targeted reached 90 ships, amid American and British admission of their complete inability to stop the attacks."* But there is no change to our overall takeaway that there doesn't seem to be any end or de-escalation to the Houthis attacking ships and US/UK hitting the Houthis.

Oil: All of Saudi Arabia & UAE are in range if Houthis can hit Eilat, Israel

Houthis can hit all of Saudi and UAEW

Here is what we wrote in last week's (Mar 31, 2024) Energy Tidbits memo. "*On Mar 21, we tweeted [LINK] "ICYMI. 1st time a Houthi missile wasn't shot down by IDF missile defense systems and hit near Eilat in southern Israel. IDF says no damage/injuries. Reminds if Houthis can hit Israel, their missiles can reach all of Saudi Arabia and UAE. Thx Calcmaps,*

@manniefabian #OOTT." *Our tweet on the Houthi missile getting thru the Israeli defense system also included the reminder that if the Houthis can hit Eilat in Southern Israel, aoo fo Saudi Arabia and the UAE are in range of Houthi missiles. That shouldn't surprise as Houthis, in prior years, did hit long distance in Saudi Arabia and UAE. Our tweet included the below radius map for the long-distance Houthi missile at Eilat assuming that the missile was launched a little north of Sana'a.*

Figure 34: Approx radius assuming Houthi cruise missile was a little north of Sana'a

Source: Calcmaps

Oil: No production update from Libya NOC since the political infighting

Libya oil political infighting

Last week's (Mar 31, 2024) Energy Tidbits memo highlighted the political infighting within Libya's oil sector and we haven't seen a production update since Mar 21, when the Libya National Oil Corporation tweeted that oil production was 1.241 mmb/d. Other than the short protest that shut in Sharara oil field, Libya's oil production has been stable at ~1.2 mmb/d for the past several months. But we have to wonder if the political infighting at the top is causing any trickle-down impact on Libya oil operations. Last week's (Mar 31, 2024) Energy Tidbits highlighted the suspension of Libya Oil Minister Aoun for undisclosed reasons and the accusation of Libya NOC Chair Bengdara of conflict of interest. We will have to see if the the infighting at the top leads to more.

Oil: Positive net monthly foreign direct investment into China for Jan/Feb

Positive net monthly FDI

Yesterday, we tweeted [LINK] "*Positive indicator for China. Net monthly foreign direct investment +5.33b in Feb and +$3.89b in Jan. Reversed negative flows in four or five prior mths in H2/23. Still a way to go but positive. Thx @business #OOTT."* This was a reversal of what happened to end 2023 with four of the last five months seeing negative net monthly direct investment in China. It may only be Jan and Feb but it is a positive. Our tweet include the below Bloomberg graph and we also included a table showing the actual net monthly foreign direct investment by month for the last two years. Here are the Bloomberg table of of net monthly foreign direct investment that was +$5.33b in Feb, +$3.89b in Jan, -$0.84b in Dec, -$1.96b in Nov, -$0.59b in Oct, -$2.07b in Sept and -$1.35b in Aug. Below is the Bloomberg graph, which we added the notation is in US$.

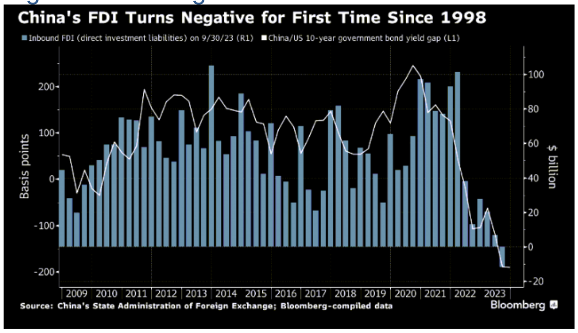
Figure 35: China net monthly foreign direct investment

Source: Bloomberg

11/08/23: 1st net outflow of net foreign direct investment in China

Here is what we wrote in our Nov 12, 2023 Energy Tidbits memo. "*There is a big negative to the China recovery that we haven't been tracking – the net inflow or outflow of foreign direct investment in China. And likely because it never got much attention because there has always been a net inflow. FDI is significant as foreign companies disproportionately contribute to trade, generated more tax revenue and urban employment. But this week, we saw the first ever net outflow of FDI since records have been kept in 1998. On Wednesday, we tweeted [LINK] "Here's why China recovery is slow. Huge exodus in foreign direct investment in China & more FDI flowing out for 1st time. Q3/23 saw $11.8b outflow, vs recent $101b in Q1/22. Foreign co's drive disproportionate trade, tax revenue & urban employment. Thx @business #OOTT." Bloomberg wrote "China is struggling in its attempt to lure foreigners back as data shows more direct investment flowing out of the country than coming in, suggesting companies may be diversifying their supply chains to reduce risks. Direct investment liabilities in the country's balance of payments have been slowing in the last two years. After hitting a near-peak value of more than $101 billion in the first quarter of 2022, the gauge has weakened nearly every quarter since. It fell $11.8 billion in the July-to-September period, marking the first contraction since records started in 1998." Our Supplemental Documents package includes the Bloomberg report."*

Figure 36: Foreign Direct Investment in China



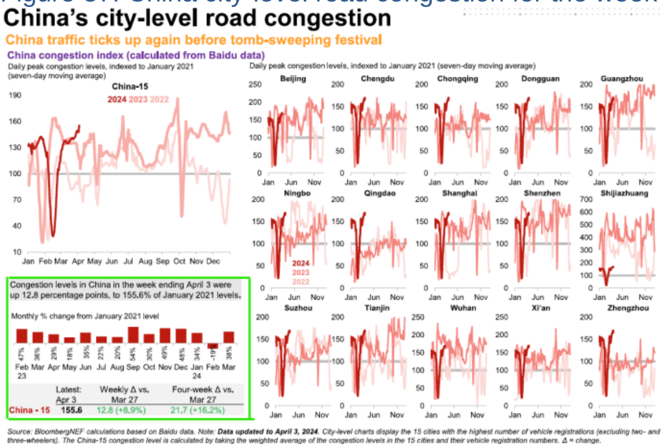
Source: Bloomberg

Oil: Baidu China city-level road congestion up WoW before tomb-sweeping festival

China city-level traffic congestion

It's only one indicator but it is positive to see the Baidu city-level road congestion continue to increase. More driving activity in cities is a good indicator. On Thursday, BloombergNEF posted its Global Road Traffic Indicators Weekly Apr 4 report, which includes the Baidu city-level road congestion for the week ended Apr 3. Note that this data ends one day before China's "Tomb-Sweeping" festival, a day where people go to visit the graves of their loved ones and tidy up their tombs. We expect to see the drop in next week's data as a result of this. We have been seeing an uptick in Chinese road congestion over the past month, and this week there was a +8.9% WoW increase in congestion levels across select Chinese cities. Baidu city-level road congestion was +1280bps WoW to 155.8% of Jan 2021 levels. Below is the BloombergNEF key graph.

Figure 37: China city-level road congestion for the week ended Apr 3



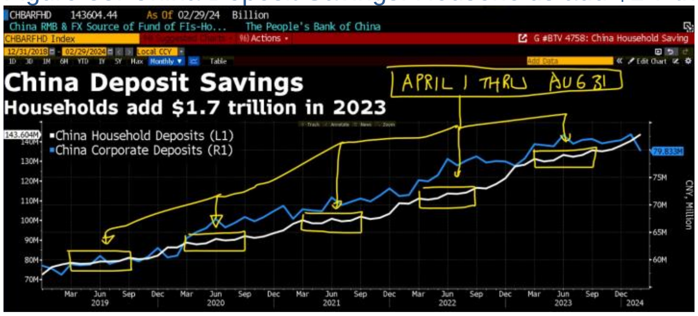
Source: BloombergNEF

Oil: Chinese household savings up in Feb but normally spend more Apr 1-Aug 31

Chinese spend more Apr 1 – Aug 31

One of the big negatives to the Chinese economy recovery has been that Chinese households haven't been confident enough to jump in and spend their savings. And Chinese households keep increasing savings. But at the same time, there are periods every year when households spend more such as high season from Apr 1 thru Aug 31. On Thursday, we saw the BloombergTV chart with the title "*China Deposit Savings: Households add $1.7 trillion in 2023*". The Bloomberg graph was for 15 years. And it's clear household savings keep going up. But over a 15-yr graph, it's hard to see seasonal impacts so we shortened it to a 5-yr graph and tweeted [LINK] "*Boost to China economy coming Apr 1? Yes, households continued to add to savings in Feb. But don't forget Apr is start of high season and Chinese households normally increase spending every Apr 1 thru Aug 31. Thx @business. #OOTT."* Our tweet included our revised time period graph, which shows how Chine households tend to slow down savings (and therefore spend more) every April 1 thru Aug 31.

Figure 38: China Deposit Savings: Households add $1.7 trillion in 2023



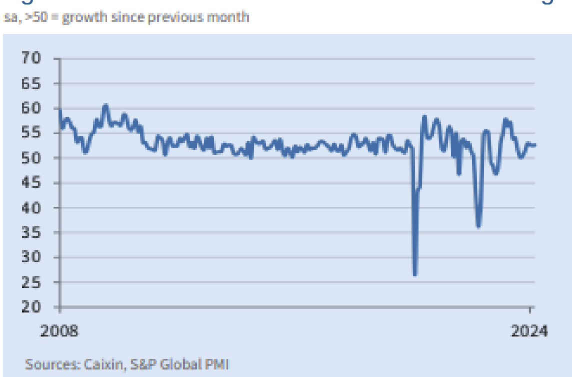
Source: BloombergNEF

Oil: Caixin Manufacturing PMI at 52.7 in March, up +0.2 MoM

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 earlier the same day or the day before the Caixin Manufacturing PMI data that we track. We have focused on the Caixin Manufacturing PMI as it is viewed as more of a leading indicator for how the China recovery is doing as it is a more of a smaller Chinese company who are export-oriented PMI and exports have been the big driver of China for the past 20 years. The Caixin Manufacturing PMI for March was released at 6:45pm MT Wednesday night [LINK]. The seasonally adjusted headline Caixin PMI was 52.7 in March, up from February' 52.5. This is the 15th month in a row of increased services activity. Commenting on the official manufacturing PMI on Saturday, we tweeted [LINK] "*5th straight month of expansion for China smaller & export oriented firms. China Caixin Manufacturing PMI Mar 51.1 (est 51.0), Feb 50.9, Jan 50.8, Dec 50.8, Nov 50.7, Oct 49.5. "incoming new orders, incl export orders, grew at accelerated rates...".*" Our Supplemental Documents package includes Caixin Manufacturing PMI report.

Caixin Manufacturing Mar PMI 52.7

Figure 39: China Caixin General Manufacturing PMI



Source: Caixin, S&P Global

China official Manufacturing PMI at 50.8 in Mar, 1st expansion since Sept

Here is what we wrote in last week's (Mar 31, 2024) Energy Tidbits memo on the official China manufacturing PMI. "*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 earlier the same day or the day before the Caixin Manufacturing PMI data that we track. We have focused on the Caixin Manufacturing PMI as it is viewed as more of a leading indicator for how the China recovery is doing as it is a more of a smaller Chinese company who are export-oriented PMI and exports have been the big driver of China for the past 20 years. However, early this morning, we tweeted [LINK] "Positive for #Oil. 1st expansion in official China Manufacturing PMI since Sept. Mar 50.8 (survey 50.1). Feb 49.1. Jan 49.2. Dec 49.0. Nov 49.4. Oct 49.5. Sep 50.2. More smaller export oriented firm Caixin Manufacturing PMI is tonight. Thx @business. #OOTT #Oil." It caught our eye that it was the first expansion since Sept for the official PMI, whereas the Caixin PMI had been in expansion since Nov. The Caixin PMI comes out tonight but assuming it is still in expansion, it would mean that the manufacturing PMIs for larger domestic firms and smaller export-oriented firms are both in expansion. The qualifiers is that Sept at 50.2 was the only expansion month n the official PMI since last Mar so one month is not a trend. But it would seem to be at least an indicator that the economy is stabilizing."

Figure 40: China official Manufacturing PMI

Source: Bloomberg

Oil: Bloomberg's multiple bullish oil charts

Bullish oil charts

It was a strong week for oil with WTI +$3.74 WoW to $86.91, and Brent +$3.69 WoW to $91.17. And to be fair, it's not just oil, it's other commodities. On Friday morning, we tweeted [LINK] "*Oil Bulls will like these charts. "Oil's Under-the-Hood Signals Tell Tale of Very Bullish Market" by @business @yongchang_chin @Devikakrishnak @alexlongley1 #OOTT."* Our tweet included the charts from Bloomberg's report "*Oil's Under-the-Hood Signals Tell Tale of Very Bullish Market"*, which included *"a rundown of the main indicators that are painting a more rosy picture for bulls."* Bloomberg provided charts to show (i) $100 Options. "*Call options, which profit when prices rise, are trading at a rare premium to bearish puts, and volumes for protection against a spike in prices — even beyond $100 — have surged."* (ii) Surging spreads. "*The spread between the nearest two December contracts, a favored trade for speculators, is back to the widest since October*." (iii) Technical Signs. "*Brent's technical picture looks much more solid. On Thursday, the global benchmark's 50-day moving average topped its 200-day counterpart for the first time since August."* (iv) Funds Buying. "*Money managers have been piling into oil as indicators improve, with positioning in Brent at the most bullish in more than a year and in US crude at the most in about five months."* (v) ETF Inflows. *"Broad-based commodity exchange-traded funds pulled in cash in March for the first* *time in five months."* (vi) Product Margins. "*As crude prices advance, traders are increasingly focused on the profits refineries make from turning crude into fuels. Gasoline has been the runaway product in recent months, with benchmark futures about 33% higher this year, as refining margins also rally above seasonal averages."* Our Supplemental Documents package includes the Bloomberg report.

Figure 41: Brent and WTI Dec-Dec spreads are the strongest since October

Source: Bloomberg

Kpler: very low China oil stocks

Oil: Kpler "Chinese onshore oil stocks are actually very low"

There were bullish near-term oil comments on China from Kpler on Tuesday morning – they see China onshore oil stocks are very low and they expect China's oil imports to be steady at 9-10 mmb/d during spring refinery maintenance. Early Tuesday morning, we tweeted [LINK] "*Positive for #Oil. "Chinese onshore oil stocks are actually very low. They drew down a lot over the first 3 months of this year". "flows to China over the whole maintenance period will be pretty steady between 9-10 mmb/d" @kpler @mattwright8 to @sean_evers @gulf_intel #OOTT."* Our tweet included the transcript we made of Wright's comments. SAF Group created transcript of comments by Matthew Wright (Senior Freight Analyst, Kpler) with Sean Evers (Founder and Managing Partner Gulf Intelligence) on Gulf Intelligence Daily Energy Markets April 3 podcast. [LINK] Items in "*italics*" are SAF Group created transcript.
At 12:00 min mark, Evers "… *China isn't as bad as the headlines in the first quarter were kind of indicating. Pre China new year, there was a lot of bearish narrative around China's recovery. Generally it looks like its obviously not stellar but it's clearly not in the doghouse. What are we seeing from a shipping point of view coming around China, any of the flows that give us some indication as to the health of the Chinese economy?"* Wright "*Yeah, very good question. I think you're right. Yes, there's still some real issues in the property sector but they've really invested into manufacturing and into industry which are actually sort of greater use, have a great use of oil products. So, we're heading into Chinese peak refinery maintenance season over the spring and, actually, crude exports to China haven't declined as much as you would perhaps have seen in other years. And part of the reason for this is Chinese onshore oil stocks are actually very low. They drew down a lot over the first 3 months of this year. So there is good reason to suspect that crude flows to China over this whole maintenance period will be pretty steady between 9 to 10 million barrels a day, which is going to support the market. That is a very important outflow from the Middle East in particular.*"

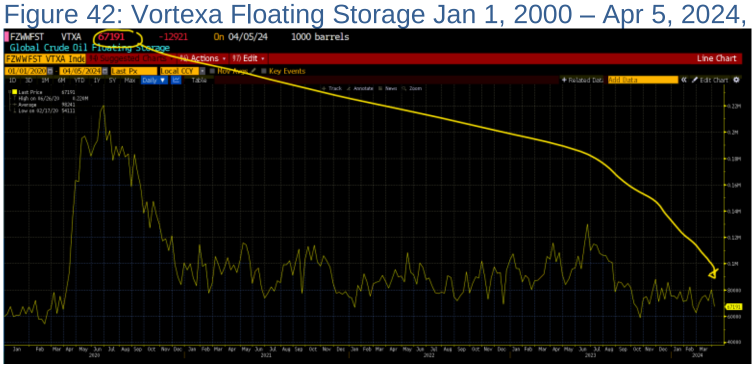
Vitol, not building oil stocks in key pricing centers = more backwardation
Vitol also had a bullish global oil stocks comment recently. The key to oil markets in Q1 has been the OPEC+ cuts have worked and global oil stocks are not being built in what is the seasonally low oil consumption quarter. Here is what we wrote in our March 24, 2024 Energy Tidbits memo. "*There was a straightforward comment from Vitol's Kieran Gallagher (Managing Director for Vitol Bahrain E.C.) on how global oil stocks in key pricing centers aren't really building and that means more backwardated oil prices. Gallagher was speaking on the tightening oil market and highlighted how onshore inventories aren't increasing in key oil pricing regions. Gallagher was speaking on the Gulf Intelligence Daily Energy Markets podcast on Thurs [LINK] hosted by Sean Evers (Founder and Managing Partner). On Thursday, we tweeted [LINK] "OPEC+ cuts are working. "means we're not really building [Oil stocks} in the pricing centers. And when we're not really building anything in the pricing centers, the market become more backwardated" @vitolnews Kieran Gallagher to @sean_evers #OOTT." Our tweet included a transcript we made of his comments. Items in "italics" are SAF Group created. At 5:10 min mark, Gallagher "What I would say is that the fundamentals have a got a touch tighter. We're seeing continuing attacks on Russian refineries. We're seeing the latest on the local refinery took out another 150 kbd. We're seeing supportive transport fuels market. We're seeing a lot more oil on water being rerouted around the Cape. All of these things taken together, along with the geopolitical risk, means we're not really building in the pricing centers. And when we're not really building anything in the pricing centers, the market becomes more backwardated". Evers "What does that mean for clarification, building in the pricing centers for the non-initiated". Gallagher "We're not building any stocks really. And that's being a factor. We are seeing a growth in oil on water but on land stocks, we're not really seeing that growth."*

Oil: Vortexa crude oil floating storage est 67.19 mmb at Apr 5, -12.92 mmb WoW

Vortexa floating storage

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 Mar 30 at 9am MT. (i) Yesterday, we tweeted [LINK] *"#Oil floating storage 67.19 mmb Apr 5/ Big revision up in Mar 29 but prior 3 wks revised down. Last 7 wks ave 71.7 mmb ie. floating normalizing at lower levels as refiners/tankers have worked in longer trips and OPEC keeps cuts thru Q2 . Thx @vortexa @business #OOTT."* (ii) As of 9am MT yesterday, Bloomberg posted Vortexa crude oil floating storage estimate for Apr 5 at 67.19 mmb, which is -12.92 mmb WoW vs revised up Mar 29 of 80.11 mmb. Note Mar 29 was revised +14.55 mmb vs 65.56 mmb originally posted at 9am on Mar 30. (iii) It seems like oil floating storage/longer tanker travel has mostly sorted out to a new normal. It's been over two months for refineries and tankers to work thru the longer tanker trips into deliveries/schedules, which seemed to return oil to storage that was used to fill in as deliveries took longer. If the oil delivery system has now adapted to the longer tanker travel, it makes sense that a world of longer tanker travel is likely to have floating storage at lower (ie. closer to 70 mmb as opposed to >80 mmb) levels. (iv) Revisions. Big upward revisions to Mar 29 but the prior three weeks had sizeable negative revisions. There is no commentary provided, we have to wonder if the last four weeks of sizeable revisions are related to uncertainty of timing when Russian crude tankers were not being accepted. Here are the revisions compared to the estimates originally posted on Bloomberg at 9am MT on Mar 30. Mar 29 revised +14.55 mmb. Mar 22 revised -8.25 mmb. Mar 15 revised -4.48 mmb. Mar 8 revised -5.26 mmb. Mar 1 revised -0.33 mmb. Feb 23 revised +0.11 mmb. Feb 16 revised +0.69 mmb. (v) There is a wide range of floating storage estimates for the past seven weeks, but a simple average for the past seven weeks is 71.67 mmb vs last week's then seven-week average of 72.11 mmb. (vi) 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 data as of Saturday mornings around 9am MT. (vii) Note the below graph goes back to Jan 1, 2020 to show the run up to Covid and then how Covid started to impact Covid in March/April 2020. (viii) Apr 5 estimate of 67.19 mmb is -62.92 mmb vs the recent June 23, 2023 high of 130.11 mmb. Recall Saudi Arabia stepped in on July 1, 2023 for additional cuts. (ix) Apr 5 estimate of 67.19 mmb is -48.46 mmb YoY vs Apr 7, 2023 of 115.65 mmb. (x) Below are the last several weeks of estimates posted on Bloomberg as of 9am MT Apr 6, 9am MT Mar 30, and 9am MT Mar 23.

Figure 42: Vortexa Floating Storage Jan 1, 2000 – Apr 5, 2024, posted Apr 6 at 9am MT



Source: Bloomberg, Vortexa

Figure 43: Vortexa Estimates Posted 9am MT on Apr 6, Mar 30, and Mar 23

Posted Apr 6, 9am MT

Date	Last Px
Fr 04/05/2024	67191
Fr 03/29/2024	80112
Fr 03/22/2024	71769
Fr 03/15/2024	75740
Fr 03/08/2024	74242
Fr 03/01/2024	69932
Fr 02/23/2024	62655
Fr 02/16/2024	67326
Fr 02/09/2024	82188
Fr 02/02/2024	72050
Fr 01/26/2024	70976

Mar 30, 9am MT

Date	Last Px
Fr 03/29/2024	65555
Fr 03/22/2024	80020
Fr 03/15/2024	80224
Fr 03/08/2024	79497
Fr 03/01/2024	70261
Fr 02/23/2024	62552
Fr 02/16/2024	66636
Fr 02/09/2024	81819
Fr 02/02/2024	71738
Fr 01/26/2024	70623
Fr 01/19/2024	80077

Mar 23, 9am MT

Date	Last Px
Fr 03/22/2024	66242
Fr 03/15/2024	71169
Fr 03/08/2024	77934
Fr 03/01/2024	73160
Fr 02/23/2024	61646
Fr 02/16/2024	65869
Fr 02/09/2024	81294
Fr 02/02/2024	72191
Fr 01/26/2024	70168
Fr 01/19/2024	80331
Fr 01/12/2024	74127

Source: Bloomberg, Vortexa

Oil: Vortexa crude oil floating storage WoW changes by regions

Vortexa floating storage by region

Bloomberg also posts the Vortexa crude oil floating storage in 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, last week's Mar 29 in total, was revised a big +14.55 mmb. Asia was revised +10.08 mmb and Other was revised +6.33 mmb vs the estimates posted as of 9am Mar 30 for Mar 29. (ii) As noted above, Mar 29 of 67.19 mmb was -12.92 mmb WoW vs revised up Mar 29 of 80.11 mmb. The major WoW changes by region were Asia -11.55 mmb WoW, Other -5.76 mmb WoW, West Africa +2.38 mmb WoW and Europe +2.37 mmb WoW. (iii) Apr 5 of 67.19 mmb is -62.92 mmb vs the summer June 23, 2023 peak of 130.11 mmb. Recall Saudi Arabia started its voluntary 1 mmb/d production cuts on July 1, 2023. The major changes by region vs the summer June 23 peak are Asia -42.94 mmb and Other -26.45 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 Mar 29 that was posted on Bloomberg at 9am MT on Mar 30.

Figure 44: Vortexa crude oil floating by region

Vortexa Crude Oil Floating Storage by Region (mmb)				Original Posted	Recent Peak	
Region	Apr 5/24	Mar 29/24	WoW	Mar 29/24	Jun 23/23	Apr 5 vs Jun 23
Asia	30.07	41.62	-11.55	31.54	73.01	-42.94
Europe	12.33	11.68	0.65	9.68	6.21	6.12
Middle East	7.48	5.11	2.37	7.43	6.76	0.72
West Africa	7.33	4.95	2.38	5.94	7.62	-0.29
US Gulf Coast	0.92	1.93	-1.01	2.48	1.00	-0.08
Other	9.06	14.82	-5.76	8.49	35.51	-26.45
Global Total	67.19	80.11	-12.92	65.56	130.11	-62.92
Vortexa crude oil floating storage posted on Bloomberg 9am MT on Apr 6						
Source: Vortexa, Bloomberg						

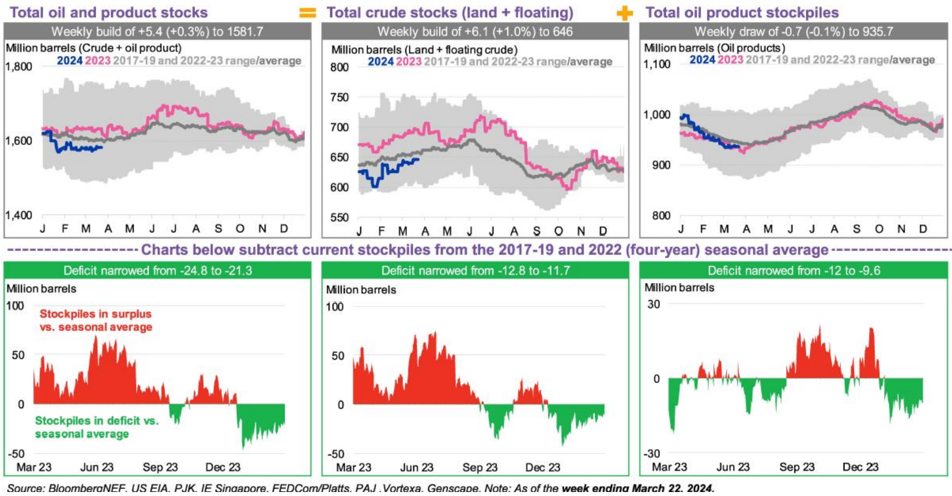
Source: Bloomberg, Vortexa

Oil: BNEF – global oil and product stocks deficit narrows to -10.8 mmb

Global oil and products stocks

Please note that the BloombergNEF global oil and products stocks estimate are for the week ending March 22, which is a week earlier than the normal EIA US oil inventory data that is for the week ending Mar 29 which was a build of +3.21 mmb. On Monday, 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 + 2022-2023, and other times using a five-year average 2017-2019 + 2022-2023. In both cases they do not include 2020 and 2021 in the averages. (ii) The global stockpile for crude oil and products deficit narrowed from -13.7 mmb to -10.8 mmb deficit for the week ending Mar 22. (iii) Total crude inventories (incl. floating) increased +0.3% WoW to 646.0 mmb, while the stockpile deficit narrowed from -12.8 mmb to -11.7 mmb. (iv) Land crude oil inventories increased +1.1% WoW to 566.2 mmb, narrowing the deficit to -19.7 mmb against the five-year average (2017-2019 + 2022-23). (v) The gas, oil, and middle distillate stocks decreased -0.6% WoW to 154.7 mmb, with the deficit against the four-year average narrowing from -13.8 mmb to -13.6 mmb. Jet fuel consumption by international departures for the week of Apr 8 is set to increase by +232,400 b/d WoW, while consumption by domestic passenger departures is forecast to rise by +27,800 b/d WoW. Below is a snapshot of aggregate global stockpiles.

Figure 45: Aggregate Global Oil and Product Stockpiles



Source: BloombergNEF

Oil: IATA air passenger data for Feb, both domestic and international above pre-Covid

Feb air travel up vs pre-Covid

On Thursday, the International Air Transport Association (IATA) released air passenger data for February 2024 [LINK]. (i) The key message from the data was that both international and domestic travel was above pre-Covid. Overall air travel was +5.7% vs pre-Covid, which included international air travel +0.9% vs pre-Covid and domestic air travel +13.7% vs pre-Covid. (ii) Total traffic in February, measured in revenue passenger kilometers (RPK), rose +21.5% YoY. Please note the IATA splits out total market air travel into international travel vs domestic travel. (iii) For February 2024, total global RPKs were +21.5% vs February 2023 levels, but that was split between International RPKs +26.3% vs February 2023 and Domestic RPKs +15.0% vs February 2023. (iv) Willie Walsh, IATA's Director General, commented "*The strong start to 2024 continued in February with all markets except North America reporting double-digit growth in passenger traffic. There is good reason to be optimistic about the industry's prospects in 2024 as airlines accelerate investments in decarbonization and passenger demand shows resilience in the face of geopolitical and economic uncertainties. It is critical that politicians resist the temptation of cash grabs with new taxes that could destabilize this positive trajectory and make travel more expensive. In particular, Europe is a worry as it seems determined to lock in its sluggish economic recovery with uncompetitive tax proposals".* Our Supplemental Documents package includes the IATA report.

Figure 46: February 2024 Air Passenger Market

Air passenger market in detail - February 2024

	World share[1]	February 2024 (% year-on-year)			February 2024 (% ch vs the same month in 2019)			
		RPK	ASK	PLF (%-pt)	RPK	ASK	PLF (%-pt)	PLF
TOTAL MARKET	***100.0%***	**21.5%**	**18.7%**	**1.9%**	**5.7%**	**5.8%**	**-0.1%**	**80.6%**
International	*60.1%*	26.3%	25.5%	0.5%	0.9%	1.2%	-0.3%	79.3%
Domestic	*39.9%*	15.0%	9.4%	4.0%	13.7%	13.7%	0.0%	82.6%

[1]% of industry RPKs in 2023

Source: IATA

Oil: IATA, global air cargo Feb was 3rd consecutive month of double-digit YoY growth

Feb Air cargo +11.9 YoY

We look at international air cargo as the data that affirms the level of export orders and trade. On Wednesday, the International Air Transport Association (IATA) announced cargo data for the month of February. [LINK]. The IATA wrote "*Industry-wide air cargo demand continued the momentum from previous months in February and registered the third consecutive month of double-digit year-on-year (YoY) growth in cargo tonne-kilometers (CTKs) with 11.9%. International CTKs expanded by 12.4% YoY globally, supported by all regions. The annual growth was championed by carriers from Africa and the Middle East,"* One other key factor for the increasing air cargo is increasing international passenger flight as the belly of air passenger planes will be used for air cargo in addition to passenger luggage. IATA wrote "*Industry-wide air cargo capacity, measured by available cargo tonne-kilometers (ACTK), increased by 13.4% YoY, largely due to the continued expansion of international passenger belly-hold capacity."* Our Supplemental Documents package includes the IATA report.

Figure 47: February 2024 Air Cargo Market

Air cargo market in detail - February 2024

	World share[1]	February 2024 (% year-on-year)				February 2024 (% year-to-date)			
		CTK	ACTK	CLF (%-pt)	CLF (level)	CTK	ACTK	CLF (%-pt)	CLF (level)
TOTAL MARKET	*100.0%*	**11.9%**	**13.4%**	**-0.6%**	**45.1%**	**15.0%**	**13.9%**	**0.4%**	**45.4%**
International	*86.6%*	12.4%	16.0%	-1.6%	51.2%	15.9%	17.1%	0.2%	50.3%

Note 1: % of industry CTKs in 2023

Source: IATA

Oil: Asia/Pacific international Feb air travel up MoM, boost from Chinese New Year

Asian Pacific air traffic in Feb

Last Wednesday, the Association of Asia Pacific Airlines released its February traffic results [LINK] which is comprised of aggregate data across a total of 40 Asia Pacific airline carriers. (i) Air travel. International passenger air travel on the 40 airlines is up big YoY, but still well below 2019 levels. The AAPA reports preliminary Feb 2024 travel figures were up 56.7% from Feb 2023. The AAPA wrote "*Preliminary February 2024 traffic figures released today by the Association of Asia Pacific Airlines (AAPA) showed strong growth in both international air passenger and air cargo demand. Passenger markets were boosted by a surge in leisure travel during the Lunar New Year festive period, while air cargo demand grew as a result of business and e-commerce activity. In aggregate, 27.0 million international passengers were carried by Asia Pacific airlines in February, a 56.7% increase from the 17.3 million recorded in the same month last year. Traffic reached 89.2% of 2019 levels. In revenue passenger kilometre (RPK) terms, demand rose by 54.4% year-on-year, reflecting relative strength of regional routes. Available seat capacity expanded by 53.1%, leading to a marginal 0.7 percentage point increase in the average international passenger load factor to 81.6% for the month".* (ii) Air cargo was up at +10.2% YoY, but the load factor fell 550 bps, measured in Freight Tonne Kilometres (FTK). Meanwhile, headline capacity expanded +20.8%, which was why the load factor fell (more belly space than freight). iii) Subhas Menon, Director General of the AAPA, said "*During the first two months of the year, Asian carriers saw continued robust growth in international passenger markets, with 54 million passengers carried, an increase of 53% compared with the corresponding period in the previous year. The strong demand came on the back of 27 March 2024 Issue 2024: 5 continued /- Page 2 ongoing network expansion by carriers, with load factors at levels seen before the pandemic…The same period saw a*

16% increase in international air cargo demand, progressing the recovery recorded since the last quarter of 2023. Healthy growth in e-commerce transactions fuelled a rise in demand for speedier air transport. Additionally, there were also indications of a modal shift from sea to air due to the Red Sea crisis". Below is a snapshot of the APAA's traffic update.

Figure 48: APAA Preliminary International Air Traffic Data

International	Feb-24	Feb-23	% Change
Passengers (Thousand)	27,039	17,259	+ 56.7%
RPK (Million)	96,595	62,546	+ 54.4%
ASK (Million)	118,347	77,278	+ 53.1%
Passenger Load Factor	81.6%	80.9%	+ 0.7 pp
FTK (Million)	5,123	4,648	+ 10.2%
FATK (Million)	8,947	7,404	+ 20.8%
Freight Load Factor	57.3%	62.8%	- 5.5 pp

Source: AAPA

Oil: Look for more to follow Vitol and say jet fuel consumption back to 2019 levels

More to call higher jet fuel consumption

After seeing the above IATA monthly data for Feb that showed both international and domestic air passenger travel was above pre-Covid, we tweeted [LINK] "*Positive for #Oil. Look for more to follow @vitolnews Gallagher's 👇 03/21 call that jet fuel consumption back to 2019. @IATA Feb passenger data, both international & domestic are above 2019. Plus greater share of less fuel efficient domestic volume. #OOTT,"* As noted below, on March 21, Vitol came out two weeks ago with their view that jet fuel consumption had returned to 2019 levels. But we should start to see more follow that call post the IATA's release this morning of Feb 2019 air passenger data. Everyone will rightly focus on the below table that shows total market RPK is +5.7% vs Feb 2019 with both international +0.9% and domestic +13.7% being above Feb 2019. Total air passenger being +5.7% vs 2019 gives room to account for some replacement of older planes with newer more fuel-efficient planes. The caveat to that being is that the older planes from the big companies tend to get sold to smaller companies and not necessarily junked. But there is also one overlooked reason for higher jet fuel consumption, all things being equal, is that shorter flights are less fuel efficient due to take-offs and landings allocated over shorter distances. And what people are not likely do is look at the share. In Feb 2024, it was 60.1% international vs 39.9% domestic. We went back to the Feb 2019 data and the splits were 63.9% international vs 36.1% domestic. So shows the increasing share of less fuel-efficient shorter haul trips. A greater proportion of less fuel-efficient shorter haul trips is a positive for jet fuel demand.

Figure 49: Air passenger market in detail – February 2024

Air passenger market in detail - February 2024

	World share[1]	February 2024 (% year-on-year)			February 2024 (% ch vs the same month in 2019)			
		RPK	ASK	PLF (%-pt)	RPK	ASK	PLF (%-pt)	PLF
TOTAL MARKET	*100.0%*	**21.5%**	**18.7%**	**1.9%**	**5.7%**	**5.8%**	**-0.1%**	**80.6%**
International	*60.1%*	26.3%	25.5%	0.5%	0.9%	1.2%	-0.3%	79.3%
Domestic	*39.9%*	15.0%	9.4%	4.0%	13.7%	13.7%	0.0%	82.6%

[1]% of industry RPKs in 2023

Air Passenger Monthly Analysis – February 2024 1

Source: IATA

Figure 50: Air passenger market overview – February 2019

Air passenger market overview - February 2019

	World share[1]	February 2019 (% year-on-year)				% year-to-date			
		RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]	RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
TOTAL MARKET	***100.0%***	**5.3%**	**5.4%**	**-0.1%**	**80.6%**	**5.9%**	**5.9%**	**0.0%**	**80.1%**
International	*63.9%*	4.6%	5.1%	-0.4%	79.5%	5.3%	5.5%	-0.1%	79.7%
Domestic	*36.1%*	6.4%	5.8%	0.5%	82.4%	6.9%	6.8%	0.1%	80.8%

[1]% of industry RPKs in 2018 [2]Year-on-year change in load factor [3]Load factor level

Source: IATA

Here's why Vitol's jet fuel consumption back to 2019 call looks right

Here is what we wrote in last week's (Mar 31, 2024) Energy Tidbits memo as to why Vito's jet fuel consumption back to 2019 levels looks right. "*We had a number of readers note our item last week on Vitol's saying they are seeing jet fuel now back at 2019 levels. One of our readers is a former commercial/private pilot and reminded us of some jet fuel basics as to why the Vitol can make sense given international air travel still hasn't come back. It's why on Thursday we tweeted [LINK] "Here's why #JetFuel can be back to 2019 level per @vitolnews 👇03/21. @IATA cargo +2.8% vs 2019. @IATA passenger "ASKs" only -0.5% vs 2019 despite slow long-haul recovery. So more shorter flights with higher relative fuel consumption ie. takeoffs/landings over shorter distance & fly at lower altitudes. #OOTT." Our March 10, 2024 Energy Tidbits memo noted the IATA March report with air passenger and air cargo data for Jan. The air cargo component is straight forward – air cargo FTK (freight tonne kilometers) in Jan were +2.8% vs Jan 2019. Passenger ASKs in Jan were -0.5% vs Jan 2019. But our pilot friend explained that there was probably more jet fuel for passengers even with long-haul international air travel still not back. He had two reminders. Short-haul flights are less fuel efficient than a longer haul flight because the heavy fuel usage part of takeoff and landings are spread over a shorter distance. His other reminder is that domestic short-haul flights normally fly at lower altitudes so less fuel efficiency. So this is why there can be less ASKs but the lesser percentage of long-haul international flights is why jet fuel consumption can be more. Our Supplemental Documents package includes the IATA air passenger and air cargo data March release including the data for Jan."*

Vitol, global jet fuel consumption reached pre-Covid level, going higher in Q2

Here is what we wrote in our March 24, 2024 Energy Tidbits memo. "On Thursday, we tweeted "*Bullish for near term #Oil. "we're seeing jet fuel now back to averaging around 6.9 million barrels per day over the last 4-weeks, which is back to 2019 levels" "we see growth in Q2, which brings it up to record highs" @vitolnews Kieran Gallagher to @sean_evers* #OOTT." Gallagher is Managing Director for Vitol Bahrain E.C. and was speaking on the Gulf Intelligence Daily Energy Markets podcast on Thurs [LINK] hosted . His comments on jet fuel were straightforward – global jet fuel consumption is back to pre-Covid levels and will be hitting new record levels in Q2. Our tweet included a transcript we made of his comments. Items in "*italics*" are SAF Group created transcript. At 17:00 min mark, Gallagher "*We're seeing jet fuel now back to, averaging around 6.9 million barrels per day over the last 4-weeks, which is back at 2019 levels*". Evers "*which of course is a global number*".

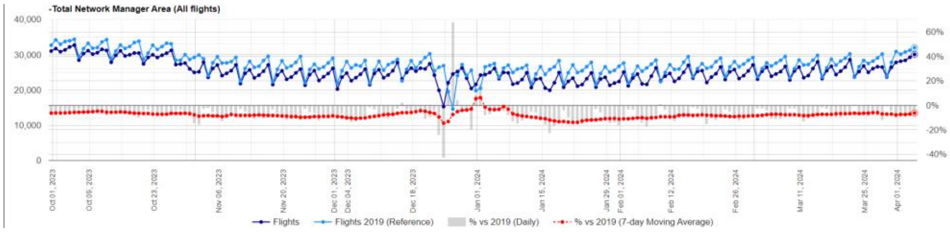
Gallagher "*It's a global number. And at 6.9, you know we see growth in Q2 which brings it up to sort of record highs.*"

Oil: Europe airports daily traffic 7-day average is -6.2% below pre-Covid levels

Other than over Christmas, European daily traffic at airports continues to be stuck below pre-Covid levels. As of our 7am MT news cut off, the latest Eurocontrol daily traffic at Europe airports shows the 7-day rolling average to the end of Apr 4 was up small WoW at -6.2% (was -7.0%) below pre-Covid 2019 levels. Eurocontrol updates this data daily and it is found at [LINK]

Europe airports daily traffic

Figure 51: Europe Air Traffic: Daily Traffic Variation to end of Apr 4



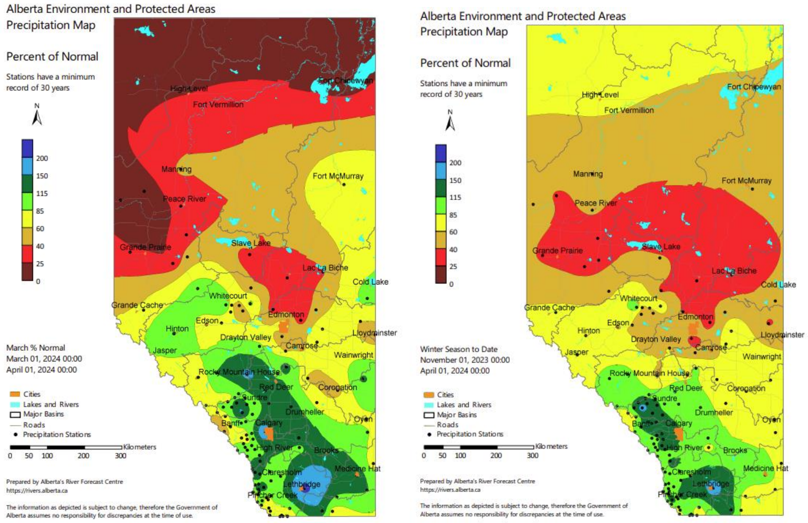
Source: Eurocontrol

Oil & Natural Gas: Low Alberta snowfall this winter sets wildfire & water use risk

There was finally some reasonable snowfall in March in southwest Alberta but it's been a winter of very low snowfall across most of Alberta. And tha tis a set up for a tough wildfire season and potential water use restrictions. On Friday, we tweeted [LINK] "*Bad setup for 2024 wildfire season in Alberta. Nov 1/23 thru Mar 31/24 precipitation is <60% of norm for half of Alberta incl a sizeable portion <40% of norm. Also could impact water access for oil & gas. #OOTT*". Alberta posted the % of normal accumulated snowfall for March and the updated Nov 1 thru Mar 31 winter maps. There was solid snowfall across southern Alberta in Mar but very small snowfall across northern Alberta. However, the accumulated snowfall from Nov 1 thru Mar 31 is very low for all of Alberta except a strip along the Foothills. This is why we have seen road bans coming March. Below are the Alberta % of normal precipitation maps for the month of Mar and Nov 1 thru Mar 31.

Alberta Precipitation report

Figure 52: Alberta % of Normal Precipitation For March 2024 and Nov 1/23 thru March 31/24



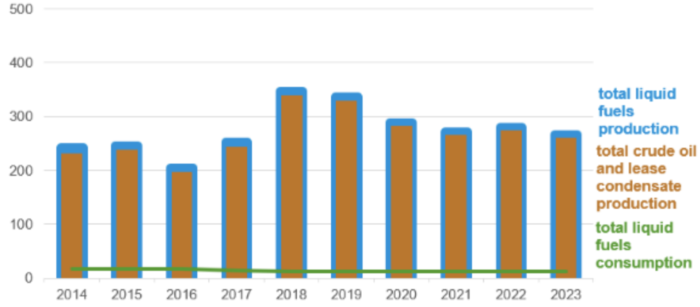
Source: Alberta River Forecast Centre

Oil & Natural Gas: Congo (Brazzaville) Country Brief

EIA's country brief on the Congo

We continue to recommend adding the EIA's country analysis briefs to reference libraries as good quick references, in this case its updated EIA country executive summary [LINK] on the Congo (Brazzaville). While the Republic of the Congo (not to be confused with the Democratic Republic of the Congo) is a big producer of crude among sub-Saharan peers, they are OPEC's smallest member. Between 2014 and 2023, the Congo averaged 273,000 b/d of crude production, peaking at 347,000 b/d during 2018. It is estimated they have 1.8b barrels of proved crude reserves as of the beginning of 2024, almost all of which is offshore. They also have an estimated 10 tcf of natural gas reserves but output is small due to underdeveloped infrastructure. The Congo has very limited downstream infrastructure, with their only operational refinery (La Congolaise de Raffinage) able to handle a mere 21,000 b/d of throughput. The government did sign an agreement with a Chinese investment firm to build a 110,000 b/d refinery to satisfy domestic needs. Our Supplemental Documents Package includes the EIA brief.

Figure 53: Congolese crude production vs. liquid fuels consumption 2014-2023 (mb/d)



Source: EIA

Oil & Natural Gas: Klotzbach hurricane forecast "will be extremely active"

Above-average hurricane activity

On Thursday, Phil Klotzbach and his team at Colorado State University posted their forecast for the 2024 Atlantic hurricane season [LINK]. The new forecast points to an above average hurricane season. forecast that was for a near-average hurricane season. They now estimate there will be 23 named storms this season, with 11 having the potential to become a hurricane. The forecast commented "*Current El Niño conditions are likely to transition to La Niña conditions this summer/fall, leading to hurricane-favorable wind shear conditions. Sea surface temperatures in the eastern and central Atlantic are currently at record warm levels and are anticipated to remain well above average for the upcoming hurricane season. A warmer-than-normal tropical Atlantic provides a more conducive dynamic and thermodynamic environment for hurricane formation and intensification. This forecast is of above-normal confidence for an early April outlook. We anticipate a well above-average probability for major hurricanes making landfall along the continental United States coastline and in the Caribbean. As with all hurricane seasons, coastal residents are reminded that it only takes one hurricane making landfall to make it an active season. Thorough preparations should be made every season, regardless of predicted activity.*" Our Supplemental Documents package includes excerpts from the update April 4 Klotzbach forecast.

Figure 54: Klotzbach updated 2024 Atlantic Hurricane Forecast

Forecast Parameter and 1991–2020 Average (in parentheses)	Statistical Forecast	Final Forecast
Named Storms (NS) (14.4)	24.9	23
Named Storm Days (NSD) (69.4)	130.8	115
Hurricanes (H) (7.2)	13.6	11
Hurricane Days (HD) (27.0)	60.4	45
Major Hurricanes (MH) (3.2)	7.0	5
Major Hurricane Days (MHD) (7.4)	19.5	13
Accumulated Cyclone Energy (ACE) (123)	269	210
Net Tropical Cyclone Activity (NTC) (135%)	283	220

Source: Colorado State University

Oil & Natural Gas: Taiwan Earthquake is 3rd Earthquake so far in 2024 over 7.0M

3 >7.0M earthquakes YTD

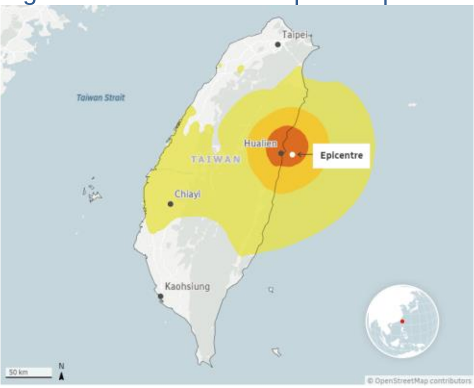
On April 2nd, Taiwan got a 7.2M earthquake [LINK], which killed 9 people and injured over 1,000 people. This was their strongest earthquake in over 25 years, and it originated about 18km offshore. Their last big earthquake was 7.6M in 1999, and that killed over 2,400 people. Tremors were so strong, buildings in Hualien collapsed. With the 7.5M earthquake on Jan 1 in Japan and the 7.0M Jan 22 earthquake in China, this Taiwan earthquake brings the YTD 2024 total of earthquakes over 7.0M to 3. Here's what we wrote in our Jan 1, 2024 Energy Tidbits Memo: "*With 19 earthquakes over 7.0 in magnitude, 2023 was a relatively big year for big earthquakes. While there were no earthquakes over 8.0 magnitude, 2023's earthquakes were particularly deadly, where Turkey and Syria reported a combined death toll of over 50,000 people [LINK] from the February 6th 7.8 magnitude quake. To put in perspective, the casualties of the 2011 Japanese earthquake and tsunami was roughly 20,000 people (9.1 magnitude). There was also the Morocco earthquake in September which, while only 6.8 magnitude, claimed over 2,800 lives [LINK]. Earthquakes >7.0 magnitude are not common. Since Jan 1, 2017, there have been 92 earthquakes >7.0 or about 15 per year. The biggest impact of the earthquakes this year on the energy markets was during the Turkey quake,* *where the Ceyhan export hub that normally exported over 700,000 b/d of Iraqi and Azerbaijan oil was temporarily shut down following a leak in the pipe [LINK]*". Below is our table of earthquakes >7.0 since Jan 1, 2017, and a map of the Taiwan earthquake's range.

Figure 55: Earthquakes above 7.0M since Jan 1, 2017

Earthquakes With 7.0+ Magnitude									
Country	2017	2018	2019	2020	2021	2022	2023	2024	Total
Indonesia	-	1	3	-	3	-	6	-	13
Japan	-	-	-	-	2	1	-	1	4
Papua New Guinea	1	2	1	1	-	1	1	-	7
US	-	2	1	2	1	-	1	-	7
Mexico	2	1	-	1	1	-	-	-	5
Peru	-	2	3	-	1	1	-	-	7
Russia	1	1	-	2	-	-	-	-	4
New Zealand	-	-	1	1	2	-	2	-	6
Vanuatu	-	-	-	-	1	1	2	-	4
New Caledonia	1	2	-	-	1	-	2	-	6
Fiji	-	2	-	-	-	2	-	-	4
Philippines	1	1	-	-	1	1	1	-	5
China	-	-	-	-	1	-	-	1	2
Cuba	-	-	-	1	-	-	-	-	1
Ecuador	-	-	1	-	-	-	-	-	1
Greece	-	-	-	1	-	-	-	-	1
Guatemala	-	-	-	-	-	1	-	-	1
Haiti	-	-	-	-	1	-	-	-	1
Honduras	-	1	-	-	-	-	-	-	1
Iran	1	-	-	-	-	-	-	-	1
Pakistan	-	-	-	-	1	-	-	-	1
Philippines	-	-	-	-	-	1	-	-	1
Solomon Islands	-	-	-	-	2	1	-	-	3
South Georgia Islands	-	1	-	-	-	-	-	-	1
Taiwan	-	-	-	-	-	-	-	1	1
Turkey	-	-	-	-	1	-	2	-	3
Tonga	-	-	-	-	-	1	2	-	3
Venezuela	-	1	-	-	-	-	-	-	1
Total	**7**	**17**	**10**	**9**	**19**	**11**	**19**	**3**	**95**
Source: Wikipedia, USGS									

Source: USGC, Wikipedia, SAF

Figure 56: Taiwan Earthquake Epicentre



Source: CBC, USGS

Energy Transition: Liberty CEO reminds big emissions win was natural gas for coal

Liberty Energy CEO

We recognize that the climate change side will ignore Liberty Energy CEO Chris Wright but that is too bad as he often just has common sense solutions that have proven to be the most effective in reducing emissions. On Tuesday, Hart Energy posted its interview with Wright. The headlines were on the need to look at climate change realistically and that his "*goal is to get the world more energy sober*" and that "*It just energy's complicated*." Buthe also had a simple reminder that the big decline in the emissions in the US ifrom replacing coal with natural gas. Wright said "*Yes. I mean, look, 60% of the decline in emissions in the U.S. and we have larger and absolute terms decline in emissions than any country on earth. Most of the biggest component of that is just natural gas, mostly by market forces displacing coal in the power sector, because if you change things in hydrocarbons since they're large, you can have a big impact. So yes, getting natural gas as growing part of the energy system, producing oil and natural gas in cleaner and lower impact ways. Those are quite meaningful, and in fact, in the next decade or two, they're going to be the biggest movers in reducing greenhouse-gas emissions. But equally importantly, I would say more importantly is to reduce air pollution. So traditional biomass burning wood and dung indoors, burning coal in an uncontrolled way, uncontrolled for pollutants, not just greenhouse-gas emissions. Those are things we can address and we can affix as the world gets more. I think our number one goal should be clean air and more energy, and maybe the third goal is reduce greenhouse-gas emissions from that cleaner better energy.*" Our Supplemental Documents package includes the Wright interview.

09/20/23Sunak highlights UK GHG down 50% since 1990, its natural gas

Liberty Energy CEO Wright's comments on coal replacing natural gas being the driving force to reducing US emissions also applies to what happened in the UK. The UK's big success in reducing emissions is from replacing coal with natural gas . Here is what we wrote in our Sept 24, 2023 Energy Tidbits memo. "*One of the advantages of following data for years is that items jump out that may not be of interest to others. It didn't get any headlines from UK PM Sunak's Wednesday speech but we were reminded of how important natural gas has been to the UK in the last 30 years. On Wednesday, we tweeted [LINK] "Thank you #NatGas. Today, UK PM Sunak brags UK leadership in the fastest reduction in GHG since 1990. See 👇01/01/20 tweet. #1 reason for GHG reduction is #NatGas from 0.1% of #Electricity mix in 1990 to 38.4% in 2019, same 38.4% in 2022. #NatGas is needed for longer. .#OOTT." For almost four years, we have highlighted how increasing natural gas power generation to replace coal generation has been the biggest factor to the UK reducing emissions. This week's tweet linked to our Jan 1, 2002 tweet and item in our Jan 3, 2020 Energy Tidbits memo on natural gas increasing from 0.1% of the fuel source for UK electricity in 1990 to 38.4% in 2019. Renewables increase was strong but less than natural gas plus natural gas was needed to provide 24/7 power to replace 24/7 coal power. Here is the transcript we made of Sunak's comments "At 5:50 min mark. Sunak ".. that's especially true because we are so far ahead of every other country in the rest of the world. We've had the fastest reduction in greenhouse gas emissions in the G7. Down almost 50% since 1990. France 22%. The US, no change at all. China, up by 300%. And when our share of global emissions is less than 1%, how can it be right that British citizens are now being told to sacrifice even more than others."*

Natural gas was the big winner in UK's electricity fuel mix for 1990 thru 2019

Comparing UK's electricity by fuel for 2019 vs 1990, Zero carbon electricity was +24.1% of the energy mix from 24.4% to 48.5%. That was strong, but much less than natural gas that was +38.3% of the energy mix from 0.1% to 38.4%. Here is what we wrote in our Jan 5, 2020 Energy Tidbits memo that highlighted the *UK*

National Grid's Jan 1 press release "Britain hits historic clean energy milestone as zero carbon electricity outstrips fossil fuels in 2019" [LINK] that highlighted "2019 was the cleanest year on record for Britain as, for the first time, the amount of zero carbon power outstripped that from fossil fuels for a full twelve months. This historic milestone comes as we enter the mid-point between 1990 and 2050 – the year in which the UK has committed to achieve at least a 100% reduction in emissions based on 1990 levels. Data released by National Grid shows a combination of wind farms, solar and nuclear energy, alongside energy imported by subsea interconnectors, delivered 48.5% of Britain's electricity in 2019 compared to 43% generated by fossil fuels. The remaining 8.5% was generated by biomass." It was a short release but, in their excitement on reaching this milestone, they failed to mention the big winner in the last 30 years power transition was natural gas. Our Jan 1, 2020 tweet [LINK] said "Until challenge is solved to provide reliable, available, affordable power for all power requirements (ie. making steel), #NatGas is big winner in transition to clean energy. UK 1990-2019 power mix, #NatGas from 0.1% in 1990 to 38.4% to 2019 market share."

Figure 57: UK Power Generation By Fuel 2019 Vs 1990

Generation source	Coal + Other	Gas	Nuclear	Wind + Solar + Hydro	Biomass & Waste	Imports	Fossil fuels	Zero carbon	Biomass & Waste
1990	75.0%	0.1%	18.8%	2.3%	0.0%	3.8%	75.5%	24.4%	0.1%*
2019	2.1%	38.4%	16.8%	26.5%	8.2%	8.0%	43.0%	48.5%	8.5%

*Note actual figure is 0.02% rounded to 0.1%.
Source: National Grid (UK)

KIA cuts global EV demand forecast

Energy Transition: KIA makes big cut to global EV demand 2024 & 2025 forecasts
KIA is one of the global leaders in EVs but demand being less than expected is causing the to have similar big strategic shifts as others with adding hybrids and moving to smaller/cheaper EVs. KIA held its CEO Investor Day on Friday. (i) KIA made a big cut to its forecast for global EV demand for 2024 and 2025 in its CEI investor day on Friday. But their rationale is demand hit is temporary and they actually end up with higher global EV demand in 2030. On Friday, we tweeted [LINK] "*KIA cuts Global EV demand forecast for 24/25. 2024 revised -1.1 mm to 13.5 mm (was 14.6). 2025 revised -0.8 mm to 18.4 mm (was 19.2). Back to prior in 2026. 2030 revised +0.5 mm to 40.9 mm (was 40.4). How can IEA not lower its fcast EVs displace ~5.5 mmb/d of oil by 2030? #OOTT.*" The CEO said "*recent forecasts of EV demand suggest that while the long-term demand through 2030 will rem ain largely unchanged, the short-term growth from 2024 to 2026 is expected to slow.*" KIA reduced global EV demand forecast by 1.1 mm in 2024 and by 0.8 mm in 2024. And said "*our analysis suggests that this temporary slowdown will be caused by global economic downturn, EV subsidy cuts and insufficient charging infrastructure resulting in delayed customer influx.*" They don't say there is any change customer preferences for EVs. (ii) Expanding hybrids. KIA is doing what we saw Ford announce this week – a big expansion of hybrids. They are increasing from five a year ago to 6 models in 2024, 8 models in 2026 and 9 models by 2028. (iv) Launch of new mass EVs ie. cheaper. KIA stressed this as the second strategy,

"*beginning with the launch of EV3 this years, additional models such as EV2, EV4 and EV5 will be introduced in major markets, for a total of 6 mass-market models.*" Our Supplemental Documents package includes excerpts from the KIA slide deck.

Figure 58: Changes in EV Market

Source: KIA

China Q1 car sales

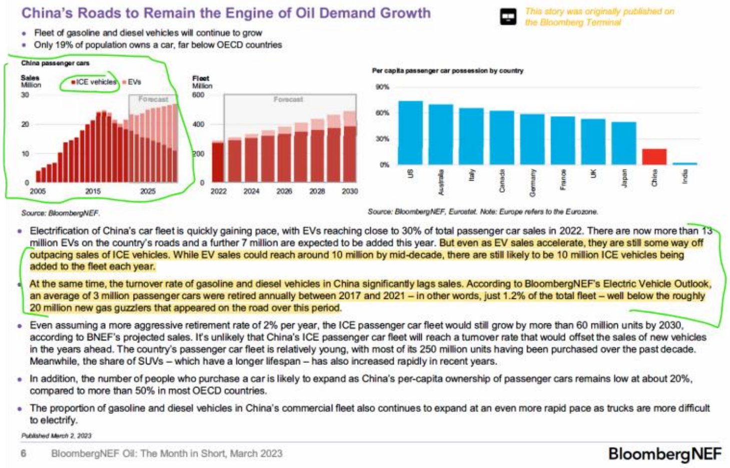
Energy Transition: China NEV sales increasing but still a lot less than ICE sales

Earlier this morning, we tweeted [LINK] "*Big China EV/Hybrid sales in Q1 but still a long way to go to catch up to ICE. NEV = EV + PHEV + HEV. Mar: Total 1.7 mm. NEV 0.70 mm. ICE 1.0 mm. Q1/24: Total 4.84 mm. NEV 1.76 mm. ICE 3.08mm. Fits 👇03/30 tweet thesis. #OOTT.*" There is no question that China is the global leader in EV sales. On Wednesday, Xinhua reported on China March car sales. They only reported NEV in total. New Energy Vehicles are the total of EVs + PHEVs+ HEVs. But as we have previously reported, hybrids are rowing at taking market share from EVs in China. The takeaway is that NEV sales continue to show strong YoY growth but are still way less than ICE vehicles. On Wednesday, Xinhua reported [LINK] " *China's passenger vehicle sales stood at 1.7 million units in March, up 7 percent year on year, or 54 percent month on month, industry data showed. In the first three months of this year, passenger vehicle sales totaled 4.84 million units, surging 13 percent year on year, according to the latest data from the China Passenger Car Association. During the period, China's new energy vehicle (NEVs) sales rose 34 percent year on year to 1.76 million units. In March alone, the country's NEV sales reached 698,000 units, up 28 percent year on year, or 80 percent month on month, the association added.*"

China & EU reasons why EVs don't displace as fast as aspirations

Our tweet this morning said the March China car sales fit our 03/30 tweet thesis. Here is what we wrote in last week's (Mar 31, 2024) Energy Tidbits memo. "*Yesterday, we tweeted [LINK] "it's a yr ago, but @BloombergNEF reminds in 👇04/26/23 tweet why EVs don't displace #OIl as fast as aspirations. China has big EV adds BUT also has big NET ICE adds. China ICE retirements are low as its ICE fleet is young. Only a dent in EU road fuel demand by 2030. #OOTT." This was a tweet from a year ago, but they are two EVs themes from BloombergNEF that don't get any attention. (i) No question China is leading the way in terms of number of EV sales. But a year ago, BloombergNEF reminded that China has a relatively young ICE vehicle fleet so retirements aren't large. Plus China may have big EV sales but it* *also has big ICE sales such that net ICE adds (sales less retirements) are still adding more net ICE than EV adds. BloombergNEF wrote "But even as EV sales accelerate, they are still some way of outpacing sales of ICE vehicles. While EV sales could reach around 10 million by mid-decade, there are still likely to be 10 million ICE vehicles being added to the fleet each year." (ii) Earlier we included the reminder from Norway, the EV leader in Europe for the last decade, that Norwegians buy EVs as a 2nd or 3rd vehicle. Last year, BloombergNEF posted the below charts under the header "EVs and Energy Cuts will only dent Europe's Oil Demand by 2030. Europe's policies to cut fuel use and the rapid uptake of electric vehicles might suggest an imminent and weighty decline in oil demand, but the downward trajectory remains sluggish. Oil demand in the region is likely to fall by only 10% to 15% up to 2030, according to BloombergNEF analysis". And "European road fuel demand to only fall by 300,000 b/d by 2030."*

Figure 59: China's Roads to Remain the Engine of Oil Demand Growth



China's Roads to Remain the Engine of Oil Demand Growth

This story was originally published on the Bloomberg Terminal

- Fleet of gasoline and diesel vehicles will continue to grow
- Only 19% of population owns a car, far below OECD countries

Source: BloombergNEF.

Source: BloombergNEF, Eurostat. Note: Europe refers to the Eurozone.

- Electrification of China's car fleet is quickly gaining pace, with EVs reaching close to 30% of total passenger car sales in 2022. There are now more than 13 million EVs on the country's roads and a further 7 million are expected to be added this year. But even as EV sales accelerate, they are still some way off outpacing sales of ICE vehicles. While EV sales could reach around 10 million by mid-decade, there are still likely to be 10 million ICE vehicles being added to the fleet each year.
- At the same time, the turnover rate of gasoline and diesel vehicles in China significantly lags sales. According to BloombergNEF's Electric Vehicle Outlook, an average of 3 million passenger cars were retired annually between 2017 and 2021 – in other words, just 1.2% of the total fleet – well below the roughly 20 million new gas guzzlers that appeared on the road over this period.
- Even assuming a more aggressive retirement rate of 2% per year, the ICE passenger car fleet would still grow by more than 60 million units by 2030, according to BNEF's projected sales. It's unlikely that China's ICE passenger car fleet will reach a turnover rate that would offset the sales of new vehicles in the years ahead. The country's passenger car fleet is relatively young, with most of its 250 million units having been purchased over the past decade. Meanwhile, the share of SUVs – which have a longer lifespan – has also increased rapidly in recent years.
- In addition, the number of people who purchase a car is likely to expand as China's per-capita ownership of passenger cars remains low at about 20%, compared to more than 50% in most OECD countries.
- The proportion of gasoline and diesel vehicles in China's commercial fleet also continues to expand at an even more rapid pace as trucks are more difficult to electrify.

Published March 2, 2023

6 BloombergNEF Oil: The Month in Short, March 2023 BloombergNEF

Source: BloombergNEF March 2023

Figure 60: EVs and Energy Cuts will only dent Europe's oil demand by 2030

EVs and Energy Cuts Will Only Dent Europe's Oil Demand by 2030

This story was originally published on the Bloomberg Terminal

- European road fuel demand to only fall by 300,000b/d by 2030
- Retreating chemical output is unlikely to cut much oil demand

- Europe's policies to cut fuel use and the rapid uptake of electric vehicles might suggest an imminent and weighty decline in oil demand, but the downward trajectory remains sluggish. Oil demand in the region is likely to fall by only 10% to 15% up to 2030, according to BloombergNEF analysis. As domestic production stagnates, the continent will remain dependent on external suppliers, swapping Russia for the Middle East and the US.
- Europe has a history of reducing its fuel consumption. Oil demand in European nations that are members of the Organisation for Economic Co-operation (excluding Turkey) fell to 12.6 million barrels per day in 2022 from 15.2 million b/d in 2005, driven by a heavy curtailment of residual fuel and other products in shipping and industries. The coming years could see a continued fall at a similar pace — declines of about 150,000 b/d annually.
- Road transport accounts for some 40% of Europe's oil demand. With EVs making up 23% of Europe's total passenger car sales in 2022, electrification is making a dent in fuel consumption. But total annual car sales hover around 15 million units compared to a fleet of about 295 million, meaning a major impact is going to take time. BNEF's Electric Vehicle Outlook 2022 expects fuel consumption in Europe's passenger car segment to fall by some 300,000 b/d by 2030 compared to 2022
- Retreating chemical production could subdue naphtha, LPG and ethane demand in Europe. In 2015, those products together made up some 2.24 million b/d of demand, which fell to 2.0 million b/d in 2022 amid a 15% decline in chemical production. Taking a more extreme scenario and assuming that chemical output remains around an average of 70% of its 2015 levels over the next decade, this would lower demand by another 250,000 b/d or so compared to 2022.

Published March 28, 2023

10 BloombergNEF Oil: The Month in Short, March 2023 BloombergNEF

Source: BloombergNEF March 2023

Ford's shifting EV strategy

Energy Transition: No surprise, Ford delays big SUV for 2 yrs due to demand

Anybody who listed to Ford CFO John Lawler at the US sellside conference on Marc 26 would not have been surprised to see Ford's Thursday press release "*Ford Updates EV, Hybrid Plans, Readies Manufacturing Plants*", in particular on the pushing back for 2 years the timing of the launch of its big US SUVs. (i) On Thursday, we tweeted [LINK] "*Will large EVs fade away before they take off? Today, Ford delays launch of big E-SUVs from 2025 to 2027 due to demand. 👇03/29 tweet, Ford CFO "we're going to have some large EVs as well, but they're going to be very limited in the scope and the number"."* (ii) Ford's release highlighted that it was pushing back its new large SUV by 2 years to 2027 due to demand. Ford CFO didn't specifically say that but he was clear that large EVs were gong to be "*very limited in the scope and the number*." On Thursday, Ford wrote "*Preparations continue for the market launch of Ford's all-new three row electric vehicles at the assembly complex in Oakville, Ontario, which the company said it will re-time to 2027 from 2025. The additional time will allow for the consumer market for three-row EVs to further develop and enable Ford to take advantage of emerging battery technology, with the goal to provide customers increased durability and better value."* (iii) Ford is expanding its hybrids across all its line and, most importantly, it doesn't sound very transitional to do this. On Thursday, Ford wrote *""Ford is expanding its hybrid electric vehicle offerings. By the end of the decade, the company expects to offer hybrid powertrains across its entire Ford Blue lineup in North America*". That doesn't sound like Ford only assumes hybrids are transitional or only around for several years. Raher they are working to position to have hybrids across the entire Ford Blue line by 2030, which points to them thinking hybrids are here for the long term. (iv) Note the reason we highlight this transitional point is that Ford CFO, on March 26, was positive on hybrids, but his words didn't suggest it's for the next couple decade. On March 26, the CFO said "*Yeah, they're ambitious in challenging I would say that. That's for sure. But I do think that EPA has been working with us to better construct the ramp for those consistent with how we're seeing EVs come in and what we're seeing in the marketplace. But by no means, they are ambitious and challenging. But one of the things that is important for us is that we continue to have hybrid technologies. We continue to invest in them. We've been* *building hybrids for 20 years. And we never pulled back from them. And we see that as an important part of that bridge and that transition over the next, let's say, five years. As we move through the rest of the decade of how you meet that compliance. But we're going to continue to provide HEVs, plug-in hybrids, battery-electric vehicles, exciting products where our customers are going to love that will allow us to meet those requirements."* (iv) There were other items in the Ford release. Our Supplemental Documents package includes the Ford release.

Ford CFO made us wonder will large EVs fade away before they take off?

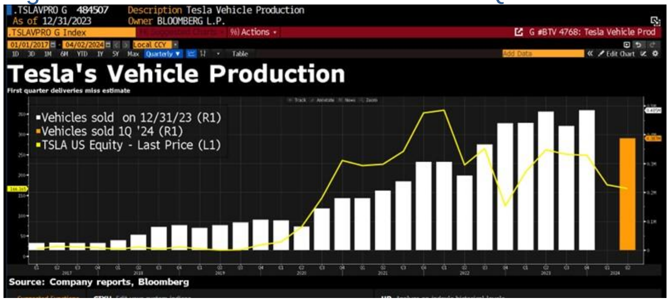
When we saw the Ford CFO March 26 comments, we couldn't help wonder about the viability of large EVs like E-SUVs. Here is what we wrote in last week's (March 31, 2024) Energy Tidbits memo. *"It must be old news to the analysts and industry reports covering Ford but we were surprised Ford CFO John Lawler's comments t a US sellside conference on Tuesday didn't get more attention. There were some surprising "really?" moments in his comments but also what looked to be some significant changes to their EV strategy. (i) On Friday, we tweeted [LINK] "Will large EVs fade away before they take off? No surprise, Ford CFO "Growth is much less than what we thought" "moving into the early majority. & the early majority is much less forgiving, & pricing is an issue" BUT "we're going to have some large EVs as well, but they're going to be very limited in the scope and the number. #OOTT." (ii) There was a lot in the Lawler's comments included some expected but also some unexpected. (iv) Ford is now using what Lawler calls an "early majority", which we assume means there is a late majority. (v) Really? In the "really" category, we remain shocked how Ford has been surprised that pricing is an issue after moving from the early adopters. This is what has caused the huge mismatch in the reality of demand vs the demand expectations built into Ford's growth plans. This wasn't a new 2023 item, it was common feedback and survey responses. Lawler said "And I think we're in the transition between the early adopters that were much more willing to deal with some of the ancillary items that come with EVs, charging range, and things like that. We're moving into the early majority. And the early majority is much less forgiving, and pricing is an issue." (vi) Lawler states the obvious on EV sales "Growth is much less than what we thought." (vii) Ford sees large EVs will be "very limited in the scope and the number of top hats that we have". This is the point that we didn't see highlighted post Lawler's comments. The reporting focused on Ford's concern that the "real competition where we see it is the low-cost EVs from China as well as Tesla". But if you read beyond the China headline, Ford sees a limited future for larger EVs and the future is is small low-cost EVs. This was not the original EV strategy. Lawler said "Yeah, well, we definitely need to work to match capacity with demand. And demand is much lower than the industry expected when it comes to EVs. And when we look at that, prices came down dramatically. Growth is much less than what we thought. So we are right-sizing our capacity and the investments that we're putting into EVs. One of the first movers in the market is that we don't believe the game is going to be really fought in one with larger vehicles. We think it's going to be in the smaller, more affordable vehicles. And that's why we started the group out in California, which is a group of highly successful EV engineers, designing a new platform for us in a much different way. And it'll allow us to have that low-cost affordable EV platform where we can create multiple top hats off of that. And I think* *that's where we're really going to start to see the traction because the real competition where we see it is the low-cost EVs from China, as well as Tesla. And so, we're working towards that future. Now, of course, we're going to have some large EVs as well, but they're going to be very limited in the scope and the number of top hats that we have. So we're thinking about it in that way. And one of the things about the segmentation that's different, clearly, is everybody gets to see exactly where we are in EVs." (viii) Pickups aren't made for working users. As noted earlier, Ford CEO Farley warned the F-150 Lightning really wasn't good for working pickup truck users. Lawler didn't specifically say that, but noted on two occasions that they can't put a big enough battery to allow for high duty towing. (ix) We couldn't help think of tiny homes when we saw Lawler talk about the their upcoming ability to have way more interior space in a small exterior. Tiny homes can pack a lot in them bit that doesn't mean the majority want to live in one. We have to wonder if Ford's upcoming small EVs with a lot packed in them will attract broad buying. this will attract broad buying. Lawler said "So it's about that smaller platform. Now, the great thing about EVs is when you look at the design footprint, the way you can think about it is that the exterior size of an Escape could be the interior size of an Explorer because you don't have the package limitations of the front, right? Our Supplemental Documents package includes excerpts from the transcript of the Ford CFO comments."*

Energy Transition: How will Tesla's big Q1/24 sales miss impact EV forecasts?

Big Tesla Q1 sales miss

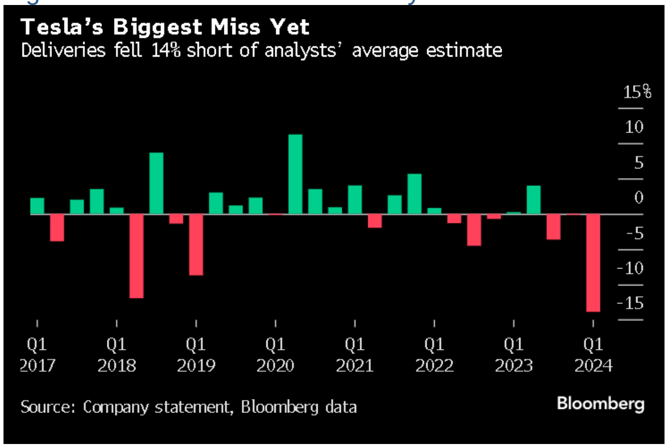
One of the big energy transition news this week was the huge miss in Tesla's Q1/24 sales vs the recently lowered analyst estimates and down QoQ vs Q4/23. (i) On Thursday, we tweeted [LINK] "*Peak #Oil Demand pushed back? Surely IEA has to lower its EV growth rate in its upcoming Global EVs Outlook 2024 and its forecast that EVs displace ~5.5 mmb/d of oil demand by 2030. Or can they ignore EV global leaders, Tesla & BVD, both having big QoQ sales declines? #OOTT."* We have said for months that we expect the IEA and other agencies to lower their forecasts for EV sales growth and timing of that growth. If they haven't been planning to do so, surely the Tesla sales miss, even if a relatively short pause, has to be the factor that leads them to reduce their EV growth rate forecasts. When the top brand is stumbling, even if temporary, it isn't a good sign for the group. On Tuesday, we tweeted [LINK] "*ICYMI. Tesla shares down ~5%, delivered 386,810 vehicles in Q1/24, big miss vs analyst estimates, which were lowered in last two weeks. Tesla has the big big cost advantage relative to other EV makers but it's a sign of a tough EV market when the top brand is hit. #OOTT."* (ii) Even its strongest supporters were caught off guard. Perhaps the most known sellside analyst on Tesla is Dan Ives (Wedbush Securities) who was widely reported writing *"Let's call this as it is: While we were anticipating a bad 1Q, this was an unmitigated disaster 1Q that is hard to explain away," "We view this as a seminal moment in the Tesla story for Musk to either turn this around and reverse the black eye 1Q performance. Otherwise, some darker days could clearly be ahead that could disrupt the long-term Tesla narrative."* (iii) Elon Musk says it was a tough quarter for all EV players. Very early Wed morning, Musk replied to a tweet about replacing the board. Musk tweeted [LINK] "*He's such an idiot that he can't even tell he's an idiot. BYD sales dropped by 42% from last quarter. This was a tough quarter for everyone."* Idiot name calling aside, Musk's point is that it was tough quarter for all EV players, which has to play into a lowering of all EV growth forecasts. Surely, the IEA and other agencies can't ignore Q1/24 as a nothing burger. Below are the Bloomberg Tesla charts included with our tweet.

Figure 61: Tesla Vehicle Production thru Q1/24



Source: Bloomberg

Figure 62: Tesla deliveries vs analyst estimates



Source: Bloomberg

Energy Transition: Will govts/IEA admit the #1 factor for peak oil demand isn't working

Peak oil demand

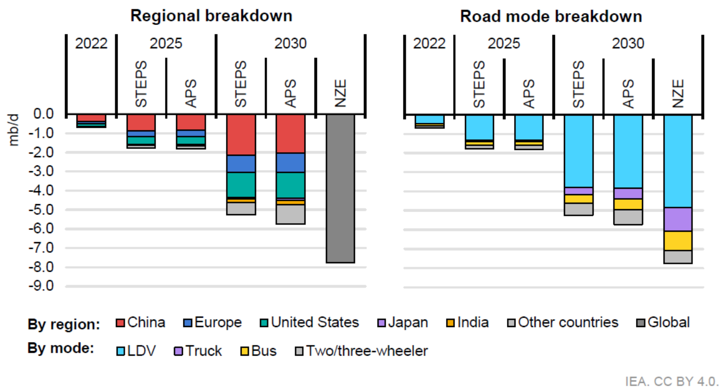
Here is what we wrote in last week's (Mar 31, 2024) Energy Tidbits memo. "*We believe April could be a key month for the mid to long term view of oil as we should see the IEA push back their timing for peak oil demand. ie. oil is needed for longer. The IEA normally releases its annual global EVBs outlook in April and we have been saying since the April 2023 report that the IEA has been using overly optimistic assumptions for their forecast that EVs will displace ~5.5 mmb/d of oil consumption by 2030. It is their key factor for why they forecast peak oil demand will be by 2030. (i) It is important to remember that our view was assuming the IEA's EV sales growth forecast was accurate. And, as highlighted again by Ford CFO on Tuesday, EV sales growth is less than expected. We have to believe the IEA has no choice but to significantly reduce its forecast for EV sales growth starting in 2024 and for all years. And lower EV sales has to lead to lower oil displaced by EVs in the IEA's peak oil demand forecast. (ii) In addition, we still believe the IEA should be changing their overly optimistic assumption on EVs displacing mileage driven by ICE. On Tuesday, we tweeted [LINK] "IEA's peak oil demand by 2030 is more than how many & how quick EVs are sold. A huge overlooked ass. in IEA's peak oil demand before 2030 is 👇04/26/23 tweet. The IEA assumes every new EV displaces the distance driven by an ICE. ie. infers an ICE is* *effectively junked. #OOTT." Our tweet included one of the 7-part tweets on April 26, 2023 on the IEA's then new global EVs outlook. This tweet (3/7) included this rationale. On Apr 26, 2023, we tweeted "3/7. Oil bulls also note KEY assumption to @IEA #EVs replacing 6 mmbd is that distance travelled by EVs basically replaces the distance an ICE or hybrid would have driven. ie. infers a new EV is added to fleet, an ICE is effectively retired from fleet. #OOTT." Our tweet included what we thought was overlooked – the assumptions to their forecast. The key assumption was "Box 3.2 How much oil really gets displaced by electric vehicles? Oil displacement through the use of EVs can be estimated by assuming that the distance (total kilometres) travelled by EVs by segment each year would have otherwise been travelled by ICE vehicles or hybrid electric vehicles (HEVs) (based on the stock shares of each). In the case of PHEVs, only the distance covered by electricity gets included. The stock average fuel consumption of gasoline and diesel vehicles determines the total liquid fuel displacement, where the biofuel portion is taken out of the estimate based on regional blending rates. As a result, it can be estimated that in 2022, the stock of EVs displaced 700 000 barrels of oil per day. This method of estimation assumes that EVs replace ICE or hybrid vehicles of the same segment, as opposed to some other means of transport, i.e. an electric car replaces an ICE car."*

04/30/23 memo: Will EVs displace ~6 mmb/d of oil as IEA forecast this week?

Our view on IEA's Global EVs forecast is not new. Rather we have highlighted our concern on their forecast for EVs to displace ~5.5 mmb/d of oil by 2030 since last April. Here is what we wrote in our Apr 30, 2023 Energy Tidbits memo on the IEA's report. "*The most important assumption on when peak oil demand hits is how quickly the accelerating share that EVs have of all new car sales leads to a big decline in oil consumption. The IEA forecasts EVs will displace nearly 6 mmb/d of oil demand by 2030 if governments deliver on their stated policies. And says that EVs displaced 700,000 b/d of oil demand in 2022. We had a 7-tweet Twitter thread that reminded that the displacement is all about forecast assumptions. We agree that EVs have to displace some oil demand, but we question the primary assumption and therefore believe this nearly 6 mmb/d displacement is too optimistic. (i) On Wed, the IEA released its major report "Global EV Outlook 2023: Catching up with climate ambitions". [LINK]. There is no question it is an excellent report with a lot of data and global EV insights. We recommend adding to reference libraries. (ii) We tweeted [LINK] "1/7. @IEA Global EVs Outlook 2023. #Oil Bears and Bulls will both love it! Oil Bears and western leaders like headline, EVs to be 60% of total car sales in 2030, EVs to displace nearly 6 mmbd of oil by 2030, already displaced 0.7 mmbd in 2022. #OOTT." We expect western leaders will just run with the nearly 6 mmb/d displacement and not worry about the key assumption. (ii) Oil bears assume this nearly 6 mmb/d means the IEA expects oil demand to be down ~6 mmb/d by 2030. But we reminded in our tweet [LINK] "2/7. Oil bulls remember @IEA World Energy Outlook Oct/22 incl EVs to be 50% of total car sales in 2030, and IEA forecast #Oil demand to increase 0.8%/yr this decade to peak around 103 mmbd n mid 2030s." The IEA's flagship annual report World Energy Outlook in Oct 2022 assumed EVs would be 50% of total car sales in 2030, so less than its new forecast of 60% in 2030. But even including a 50% assumption, the IEA WEO forecast oil demand to keep increasing in the 2020s and not peak until the mid 2030s at ~103 mmb/d. (iii) Here is the key assumption to displacing ~6 mmb/d that most probably didn't read. We are* *big believers that it is important to look at the key forecast assumption on pg 132. We tweeted [LINK] "Oil bulls also note KEY assumption to @IEA #EVs replacing 6 mmbd is that distance travelled by EVs basically replaces the distance an ICE or hybrid would have driven. ie. infers a new EV is added to fleet, an ICE is effectively retired from fleet. #OOTT." The IEA wrote "How much oil really gets displaced by electric vehicles? Oil displacement through the use of EVs can be estimated by assuming that the distance (total kilometres) travelled by EVs by segment each year would have otherwise been travelled by ICE vehicles or hybrid electric vehicles (HEVs) (based on the stock shares of each)." Basically, the IEA assumes the EV effectively replaces the distance driven by an ICE vehicle. (iv) We don't believe this effective one-for-one replacement in terms of distance driven has proved out so far. We tweeted [LINK] "4/7. But for many, an EV is a 2nd or 3rd car. Norway is recognized leader in terms of EVs penetration. 03/22 tweet. Yet #EVs distance driven 22.6% in 2022. EVs were >80% of new car sales in 2022, been 60% for ~4 years. [LINK] #OOTT". (v) On March 25, Equinor highlighted this EVs are 2nd or 3rd cars in Norway. We tweeted [LINK] "5/7. In Norway, EVs are 2nd or 3rd cars! 03/25 Equinor explains why Norwegians #EV mileage is low relative to new car sales. "We've bought an EV instead of taking the bus, or it becomes the second or the third car" says @EWaerness [LINK] #OOTT." (vi) Absent governments mandating ICE vehicles get junked, the other key factor is that ICE vehicles are lasting longer. We tweeted [LINK] "6/7. A concept everyone has experienced - ICE vehicles are lasting longer. 03/31. @BloombergNEF. at least in China, ICE vehicles retirements are at a very low level even in the face of increasing EV and ICE sales. #OOTT." (vii) It is important to remember that the IEA forecasting a 60% EV share of total car sales means a displacement of nearly 6 mmb/d in 2030 is not an IEA forecast that says its oil demand forecast will be reduced by 6 mmb/d. It's WEO Oct 2022 assumed EVs were 50% of total car sales in 2030 and didn't see peak oil demand until the mid 2030s. So the incremental 10% EV sales penetration, by itself, isn't likely to move its peak oil demand closer by very much. Our last tweet [LINK] "7/7. #Oil Bears and western leaders will love @IEA EVs headlines on increasing EV sales and oil displacement. #Oil Bulls (Saudi Arabia) will love the IEA report and think this won't have much impact on @IEA forecast for peak oil demand around 103 mmbd in mid 2030s. #OOTT." (viii) EVs are having an impact on oil and energy, but it isn't a one-for-one replacement. Plus we wonder if it's just additive on an "energy" basis in what it does to the demand for natural gas and other forms of reliable electricity to power the new EV ecosystem. Our Supplemental Documents package includes excerpts from the IEA Global EVs Outlook report."*

Figure 63: Oil displacement by region and mode, 2022-2030

Figure 3.13. Oil displacement by region and mode, 2022-2030



Notes: STEPS = Stated Policies Scenario; APS = Announced Pledges Scenario; NZE = Net Zero Emissions by 2050 Scenario; LDV = light-duty vehicle. Oil displacement based on internal combustion engine (ICE) vehicle fuel consumption to cover the same mileage as the EV fleet.

Source: IEA

03/25/23: Equinor chief economist Norwegians bought EVs as 2nd or 3rd cars

We continue to believe the one of the biggest flaws in the IEA and other EV forecass is that they assume an EV being sold displaces the mileage driven of an ICE, which inherently assumes the EV is the principal and perhaps only car. Norway has been the EV leader in Europe for the last decade and that isn't the case in Norway. Here is what we wrote in our March 26, 2023 Energy Tidbits memo. "*The Equinor Chief Economist Wareness comment to the FT also supported the above item on how Norwegians aren't using their EVs as much as would be expected given the massive penetration of new car sales over the past several years. Yesterday, we tweeted [LINK] "Here's why Norwegians #EV mileage is low relative to new car sales. "We've bought an EV instead of taking the bus, or it becomes the second or the third car" says @EWaerness. many other reality check energy transition views in his @FT interview [LINK] #OOTT." Waerness says that Norwegians really have bought EVs as their 2nd or 3rd cars and not the principal car. Whereas historically car buyers buy new cars as a principal car other than the wealthy who have more than a couple cars. The FT wrote "Norway's experience with electric vehicles provides an example, Wærness suggested. Subsidies to buy battery-powered cars had rapidly increased their number, and Norway has been repeatedly cited as an example of how quickly customers could switch to EVs. But the overall car fleet had swollen too, Wærness said. "We've kept a lot of the diesel cars and gasoline cars, and we've added EVs, and it took 10 years before gasoline demand went down," he said. "We've bought an EV instead of taking the bus, or it becomes the second or the third car."*

Energy Transition: JERA's ammonia demonstration project is driven by natural gas

JERA's ammonia project is based on natural gas

On Monday, JERA (Japan's largest power generation company) was widely praised by the climate change side for starting its moving ahead on its "*Start of Demonstration Testing of Fuel Ammonia Substitution at JERA's Hekinan Thermal Power Station: The World's First Demonstration Testing of 20% Ammonia Substitution at a Large-Scale Commercial Coal-*

Fired Thermal Power Plant". JERA is starting its demonstration project to blend in Ammonia to replace 20% of the coal at its thermal coal Unit #4 at the Hekinan thermal power station. (i) On Monday, we tweeted [LINK] "*More Ammonia = More #NatGas. JERA tests 20% Ammonia substitution at Coal thermal power plant. Says Ammonia is means of transporting Hydrogen. BUT recall 👇01/21/22, hydrogen must be produced from another substance. JERA forgot to highlight the hydrogen is coming from #NatGas. #OOTT.*" (ii) Note the key part of the JERA release "*Ammonia is an efficient, low-cost means of transporting and storing hydrogen. In addition to the role as an energy carrier, it can also be used directly as a fuel in thermal power generation*". JERA is clear that ammonia is a means to transport hydrogen. (iii) But JERA did not say in the press release what energy source is being used to make the hydrogen that ultimately become ammonia for transport. (iv) Our tweet included our Jan 21, 2022 tweet that reminded the EIA writing hydrogen is "an energy carrier that must be produced from another substance". (iv) JERA omitted or forgot to include the hydrogen for this demonstration will be produced from natural gas. Our tweet included the Japan Times report on the JERA announcement that reminded the hydrogen will come from natural gas. (v) We understand why companies want to get the climate change seal of approval and forget to include that the project only works by having natural gas. However, we think it is important to remember that the JERA project is driven by natural gas as the starting point ie. More Ammonia = More Natural Gas. Our Supplemental Documents package includes the JERA release and the Japan Times report.

Energy Transition: Energy loss in converting natural gas to hydrogen to ammonia

Energy losses from natural gas to hydrogen

Another of the overlooked parts of the JERA ammonia replacing 20% of coal is that there are energy losses in converting natural gas to hydrogen to ammonia works and ammonia that burns clean. We did not put that in our tweet. We have been fortunate that, for the most part, the comments we get on our tweets on Twitter/X are meant for constructive dialogue or for pointing out other items to consider on a tweet. A good example was on the JERA, when a Twitter follower replied "Stacked losses/inefficiencies are what kill so many energy storage concepts, few understand this". If this was a follower with a real name, we would have sent an direct message to make sure we understood his point. But we interpreted it as a reminder that there is a loss of energy take a joule of natural gas to make it into a lesser amount of hydrogen to make that into a lesser amount of ammonia. The end result is to start with so much energy from natural gas and end up with a lesser % of that starting point by the time JERA uses the ammonia to replace coal. The US Dept of Energy Alternative Fuels Data Center website's "*Hydrogen Basics*" reminds of this energy loss in converting natural gas to hydrogen and it also reminds that the losses are more when converting wind and solar to hydrogen. [LINK] The DOE AFDC doesn't say how much energy is lost. But we found a paper "*Energy and the Hydrogen Economy*" [LINK], not authored by any DOE people, that is posted on the AFDC website that suggests 10% loss for natural gas to hydrogen. Note this is not a DOE authored paper. But they suggest 10% losses, which seems reasonable. That is just the energy loss in converting natural gas to hydrogen and doesn't' include the loss converting from hydrogen to ammonia. The bottom line is that there is a loss of energy in the process to use ammonia for power generation instead of using the starting natural gas for power generation. Our Supplemental Documents package includes the DOE Hydrogen Basics and the excerpt from the Energy and the Hydrogen Economy paper.

Energy Transition – EIA reminds hydrogen is an energy carrier, not an energy source

Hydrogen is an energy carrier not a source

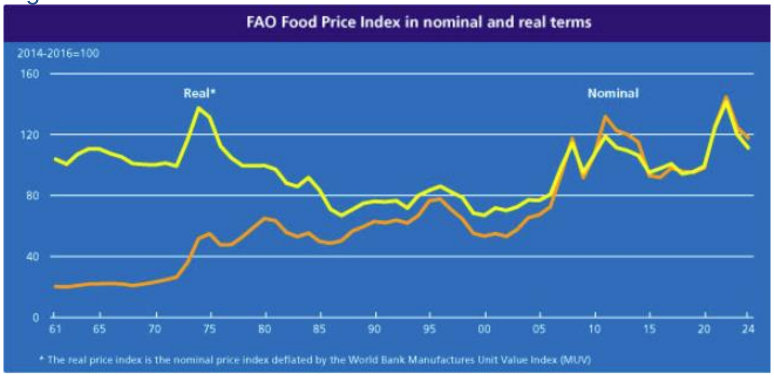
Our above tweet on the JERA ammonia demonstration project included our Jan 21, 2022 tweet that reminded a Hydrogen 101 basic – Hydrogen is not an energy source. We continue to see many overlook that hydrogen is not an energy source and forget or omit that hydrogen is an energy carrier that is produced from an energy source like natural gas. Here is what we wrote in our Jan 23, 2022 Energy Tidbits memo on this Hydrogen 101 basic. "*On Friday, we tweeted [LINK] ""takes more energy to produce #hydrogen (by separating it from other elements in molecules) than hydogren provides when it is converted to useful energy" "an energy carrier that must be produced from another substance". nice to see @EIAgov give facts not fiction. #OOTT #NatGas." This follows the new Jan 20 update from the EIA "Hydrogen explained". Hydrogen is considered one of the must be a significant contributor to any and all plans to get to Net Zero. Our view is unchanged, we understand why the Net Zero side pushes it for items like heavy industry, but it seems to get overlooked that hydrogen is not an energy sources like natural gas or solar. Rather it is an energy carrier. The EIA stuck to the basics on hydrogen and didn't politicize their message in their Jan 20 update on hydrogen. The EIA explained this concept clearly. "Hydrogen is an energy carrier Energy carriers allow the transport of energy in a usable form from one place to another. Hydrogen, like electricity, is an energy carrier that must be produced from another substance. Hydrogen can be produced—separated—from a variety of sources including water, fossil fuels, or biomass and used as a source of energy or fuel. Hydrogen has the highest energy content of any common fuel by weight (about three times more than gasoline), but it has the lowest energy content by volume (about four times less than gasoline). It takes more energy to produce hydrogen (by separating it from other elements in molecules) than hydrogen provides when it is converted to useful energy. However, hydrogen is useful as an energy source/fuel because it has a high energy content per unit of weight, which is why it is used as a rocket fuel and in fuel cells to produce electricity on some spacecraft. Hydrogen is not widely used as a fuel now, but it has the potential for greater use in the future". Our Supplemental Documents package includes the EIA Jan 20 update Hydrogen explained. [LINK]*

Capital Markets: UN FAO Food Price Index +1.1% MoM in March, -7.7% YoY

UN food price index up MoM

The UN Food Price Index is a monthly food commodities measure and not an index of consumer food prices or food prices in grocery stores. However, increases or decreases in food commodity prices should eventually work their way into grocery prices. The UN Food Price index has been gradually decreasing since the middle of 2023 but was up in March 2024. On Friday, the UN posted its monthly update of its FAO Food Price Index [LINK] titled "*FAO Food Price Index ticks up in March, mostly driven by higher world vegetable oil prices".* Note that the index is calculated on a Real Price basis. The FFPI averaged 118.3 points in March, up +1.1% MoM from 117.0 points in February, and is down -7.7% YoY. The FFPI reported most categories increased in March. The Vegetable Oil Index was up big at +8.0% MoM and was flat MoM YoY. The Dairy Price Index was up +2.9% MoM but down -8.2% YoY. The Cereal Price Index was down –2.6% MoM which is -20.0% YoY. This was due to maize export prices cratering following good harvests in South America and cheap Ukrainian exports getting out of the Black Sea. Russia is also expected to have a good crop this year. The Meat Price Index was up +1.7% MoM and -1.5% YoY. The Sugar Price Index was down -5.4% MoM and still up +4.8% YoY. Sugar prices would have been worse if the Brazilian Real didn't depreciate as much as it did against the dollar. Overall, this month's decrease was driven by one or two categories, and after looking closer we can see the spots of resistance still residing in the index.

Figure 64: UN FAO Food Price Index



Source: UN Food and Agricultural Organization

Capital Markets: USDA Consumer Price Index Feb for food +0.6% MoM, +3.2% YoY

USDA CPI for food +3.2% YoY

We recognize that the USDA consumer food price index is a much better indicator for grocery store prices than the UN's food commodity price index. But we still continue to believe the actual prices at the grocery stores are way higher than indicated by the USDA. And we highly doubt anyone who buys groceries would think grocery prices are only up 3.2% YoY. Last Friday, the USDA posted its January Consumer Price Index for food [LINK], which reported the all-items Consumer Price Index (CPI) was +0.6% MoM and +3.2% YoY in Feb. The +3.2% YoY increase in the Consumer Price Index has a relative weighting for the various food categories. Beef and veal were flat MoM, +7.4% YoY, and are expected to increase +2.7% over 2024, farm-level vegetables are +8.9% MoM, +1.4% YoY, and expected to stay flat over 2024, retail eggs are +8.4% MoM and -17.0% YoY after a flu outbreak affected 4.5mm chickens in December, and wholesale pork prices are -4.6% MoM, +8.3% YoY and are expected to increase +6.1% over 2024. It is important to note the USDA said that the "*Food prices are expected to continue to decelerate in 2024 compared to recent years. In 2024, all food prices are predicted to increase 2.5 percent, with a prediction interval of 0.6 to 4.5 percent. Food-at-home prices are predicted to increase 1.6 percent, with a prediction interval of -1.3 to 4.5 percent, and food-away-from-home prices are predicted to increase 4.1 percent, with a prediction interval of 2.9 to 5.2 percent.*"

Capital Markets: CTV/Nanos survey, 32% of Cdns blame grocery stores for food prices

Cdns blame grocery stores

Loblaw may say it's not their fault but Cdn continue to blame grocery stores for high food prices. That shouldn't surprise last year's well publicized meetings with the major grocery stores that pushed them to lower grocery prices. The grocery stores have been Cdns target and continue to be so. Yesterday, CTV reported [LINK] on a survey conducted by Nanos on their behalf. Nanos hasn't posted the results on its website as of our 7am MT news cut off. CTV reported "*32 per cent of Canadians blame grocery stores for rising food prices, more than any other reason: Nanos. Canadians are more likely to blame grocery stores for rising food prices than any other reason, according to a survey conducted by Nanos Research for CTV News. The survey took place earlier this week and involved more than 1,000 Canadians*

18 and older." And "*Survey respondents also blamed the food manufactures themselves for increased food prices, as well as weather events, the Trudeau government, the carbon tax or a combination of everything.*

Loblaw says don't blame grocers for escalating grocery prices

Loblaw has been vocal on its earnings call saying the grocer, at least Loblaw, is not responsible for the inflation of grocery prices over and above inflation. It's others in the supply chain. Here is what we wrote in our Feb 25, 2024 Energy Tidbits memo on the Loblaw Q4 call. "*On Thursday, Loblaw held its Q4 call, which was the first earnings call led by recently new CEO Per Bank. Bank may have been less direct than prior CEO messaging but the point was the same – don't blame the grocers if grocery price escalation is much higher than inflation. Bank didn't specifically say who but he has to be referring to the food and product suppliers who are to blame. On Thursday, we tweeted [LINK] "Who's responsible for >inflation grocery store prices? Loblaw says not the grocer, rather look at others in grocery supply chain. "once again, our internal inflation was lower than grocery CPI, while our food gross margin is still below pre-Covid levels" Loblaw Q4 call." Bank reminded that their internal inflation was lower than grocery CPI ie. blame others in the supply chain to get groceries to consumers. Our tweet included the excerpt from the transcript where Bank said "Canadians continue to seek greater value as they face challenging and persistent inflationary pressures and we are committed to delivering that. Once again, our internal inflation was lower than grocery CPI, while our food gross margin is still below pre-COVID levels. Food price increases in our stores are as low as they have been over the past two years. We are pushing back whenever we can on suppliers cost increases, and we are finding more ways to be efficient to keep prices low for our customers. Our colleagues are doing a great job to reduce costs and be more efficient, allowing us to reinvest back into the business and help offset inflation."*

Capital Markets: Precision volume/price jumped on Tuesday

Precision Drilling shares

We rarely mention individual stock performance but we were watching BNNBloomberg Market Call on Tuesday and heard, near the end of the show, Ninepoint's Eric Nuttall go thru his top picks. His third pick was Precision Drilling and he disclosed that he had bought 9.9% of Precision over the past few months and why he sees big upside. We forgot about his call until Tuesday night and we pulled up the chart and saw how there was an immediate jump up in volume and price right after his call. That is why we tweeted [LINK] ""*This is just a ridiculously inexpensive name" @ericnuttall re Precision Drilling on @BNNBloomberg just <1pm ET. Don't normally see such an immediate jump in volume & price. PD shares +4.3% basically all after his call. FYI, he disclosed bought 9.9% over past few mths. #OOTT."* The only reason we tweeted and included this in the memo is that we don't normally see such an immediate reaction to a call made on TV. Noted Precision shares ended up +10.0% to close on Friday post the Nuttall call.

Figure 65: Precision Drilling share price/volume on Tues Apr 2

Source: Bloomberg

Twitter: Thank you for getting me to 10,000 followers

In January, I went over 10,000 followers on Twitter/X. I really appreciate the support and, more importantly, some excellent insights and items to look at from Twitter followers. It helps me do a better job. For new followers to our Twitter, we are trying to tweet on breaking news or early views on energy items, most of which are followed up in detail in the Energy Tidbits memo or in separate blogs. Our Twitter handle is @Energy_Tidbits and can be followed at [LINK]. We wanted to use Energy Tidbits in our name since I have been writing Energy Tidbits memos for over 20 consecutive years. Please take a look thru our tweets and you can see we aren't just retweeting other tweets. Rather we are trying to use Twitter for early views on energy items. Our Supplemental Documents package includes our tweets this week.

@Energy_Tidbits on Twitter

LinkedIn: Look for quick energy items from me on LinkedIn

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

Look for energy items on LinkedIn

Misc Facts and Figures.

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

Four Cdn PGA stars in this week's Masters

The Masters is always the most viewed PGA tournament by a wide margin and has the smallest field. There will be a lot of golf fans watching including Cdn golf fans as there are four Cdn PGA stars in the field. Mike Weir, who Cdns remember beat Len Mattiace in a playoff to be the first and only Cdn male major champion. People forget Weir had a great 2003 season also winning the Nissan Open and the Bob Hope Chrysler Classic. Corey Connors is making his 7th Masters appearance and has been close with T-6 in 2022, T-8 in 2021 and a T-10 in 2020. Adam Hadwin is making his 4th Masters appearance and has been playing well in 2024 with T-6 in La Quinta in Jan, T-4 in Los Angeles in Feb, and a T-5 in Tampa in March. Nick Taylor is making his 2nd Masters appearance and won the WM Phoenix Open in Feb.

Cdn Mike Weir's Masters 2003 win was amidst a Who's Who in golf

Prior Masters winners are invited to play and that includes Cdn Mike Weir. No one expects Weir to win but also some of the other older prior champs. There are six prior winners from 20 or more years ago in the field Fred Couples 1992, Jose Maria Olazabal 1994, Tiger Woods (his first was 1997), Vijay Singh (2000), Mike Weir (2003 and Phil Mickelson (his first was 2004). Look at the Weir's win and we still believe it should be a Jeopardy question. Between the two of them, Tiger Woods and Phil Mickelson had five Masters wins within a six-year period and their run was only interrupted in 2003. That was Mike Weir. What is even more impressive on that win is the list of winners before him and right after. It is a Who's Who in Golf. Here is the 25 yrs of winners:

Figure 66: Masters winners 1983-2009

1983	Seve Ballesteros	1992	Fred Couples	2001	Tiger Woods
1984	Ben Crenshaw	1993	Bernard Langer	2002	Tiger Woods
1985	Bernhard Langer	1994	Jose Maria Olazabal	2003	Mike Weir
1986	Jack Nicklaus	1995	Ben Crenshaw	2004	Phil Mickelson
1987	Larry Mize	1996	Nick Faldo	2005	Tiger Woods
1988	Sandy Lyle	1997	Tiger Woods	2006	Phil Mickelson
1989	Nick Faldo	1998	Mark O'Meara	2007	Zach Johnson
1990	Nick Faldo	1999	Jose Maria Olazabal	2008	Treero Immelman
1991	Ian Woosnam	2000	Vijay Singh	2009	Angel Cabrera

Source: Wikipedia

Solar eclipse glasses scam

Parts of Ontario are in the path for total solar eclipse tomorrow. So no surprise, once again, there is another solar eclipse glasses scam. Yesterday CTV News ran a story on solar eclipse glasses inadvertently being sold by Home Hardware. The key tip off – the glasses say NASA approved and NASA does not approve any specific brand of solar viewing glasses.

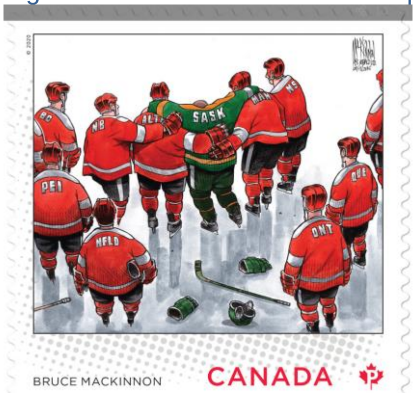
Figure 67: Solar eclipse glasses sold at Home Hardware, Perth Ontario

Source: CTV

6th anniversary of tragic Humboldt Broncos hockey team bus crash

Yesterday, we saw a few (and clear less each year) TV news reminder stories that it was the 6th anniversary of the tragic Humboldt Broncos Junior hockey team bus crash that killed 16 people and injured 13 others. The hockey team's bus was hit by a semi that ran a stop sign at 4:50pm local time. We had an interesting memorial to the team in our Oct 10, 2021 Energy Tidbits, which highlighted the unveiling of a commemorative stamp from Canada Post. We then wrote "*On Friday, Canada Post "unveiled a stamp paying tribute to Bruce MacKinnon of The Chronicle Herald (Halifax) [LINK], one of the country's most thoughtful, talented and respected editorial cartoonists. MacKinnon had his first editorial cartoon published in his hometown weekly paper in Antigonish, Nova Scotia, when he was just 14. After he drew weekly cartoons for the Herald, the paper hired him full time in 1986. Since then, he has drawn roughly 8,000 cartoons – but it is their quality that has won him numerous accolades". MacKinnon is noted for his political cartoons but, like other cartoonists, also moves to more powerful serious themes, such as on the tragic Humboldt Broncos bus crash that will be a new Canada stamp."*

Figure 68: Bruce MacKinnon stamp



Source: Canada Post

Did Yellen want to show off her skillful use of chopsticks?

We had to chuckle at the Global Times (China state media) report yesterday [LINK] that reported on US Treasury Secretary Yellen's dining out Guangzhou. Global Times reported "*As US Treasury Secretary Janet Yellen continued her journey to China with the aim at improving US-China ties this week, what drew massive public attention was her first meal and her skillful use of chopsticks at a local Cantonese restaurant."* And "*The staff at Tao Tao Ju, the esteemed restaurant nestled in the heart of Guangzhou's Tianhe district, noted her adeptness in using chopsticks and her preference for an open dining setting. "She insisted in sitting in the hall area instead of the private room in the hope of experiencing more of the atmosphere here," a staff member added, according to the newspaper. "And she ordered very representative Cantonese dishes."* Unfortunately, the only posted pictures or short videos didn't really show a close up on her hands holding and using the chopsticks as we wanted to see how far down the chopsticks she had to go to use them. As most know, the lower down the hands go on the chopsticks, the easier it is to use them.