Energy Tidbits

Aug 8, 2021

Produced by: Dan Tsubouchi

Excellent Insights Into India's Energy Focus For The 2020s From Indian Oil's New Annual Report

Welcome to new Energy Tidbits memo readers. We are continuing to add new readers to our Energy Tidbits memo, energy blogs and tweets. The focus and concept for the memo was set in 1999 with input from PMs, who were looking for research (both positive and negative items) that helped them shape their investment thesis to the energy space, and not just focusing on daily trading. Our priority was and still is to not just report on events, but also try to interpret and point out implications therefrom. The best example is our review of investor days, conferences and earnings calls focusing on sector developments that are relevant to the sector and not just a specific company results. Our target is to write on 48 to 50 weekends per year and to post by noon mountain time on Sunday.

This week's memo highlights:

1. There are multiple oil, natural gas, LNG, energy transition insights into India's energy focus for the 2020s from the new Indian Oil annual report. (Click Here)
2. More support for bullish LNG outlook, Cheniere says "*begun to see the return of long-term LNG contracts and support of the construction of new liquefaction capacity*" (Click Here)
3. A good Rystad blog reminds that 47% of DUCs are "dead" DUCs ie. not likely to ever be completed (Click Here)
4. China's politburo reminds reducing carbon doesn't come at the expense of economic stability (Click Here)
5. A good RBN blog leads to the question can the world plant enough trees and protect enough forests to cover carbon offsets? (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 – Natural gas injection of 13 bcf, storage now -555 bcf YoY deficit

YoY storage at -555 bcf YoY deficit

The EIA reported a 13 bcf injection (vs 17 bcf injection expectations) for the July 30 week, which was below the 5-yr average injection of 30 bcf, and below last year's injection of 33 bcf. Storage is 2.727 tcf as of July 30, increasing the YoY deficit to 555 bcf from 523 bcf last week and storage is 17 bcf below the 5 year average vs 8 bcf above last week. The significant YoY deficit along with the forecasted hot summer will help support natural gas prices during the injection season. 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 (07/30/20)		Historical Comparisons: 5-year average (2016-20)	
Region	07/30/21	07/23/21	net change	implied flow	Bcf	% change	Bcf	% change
East	604	583	21	21	716	-15.6	655	-7.8
Midwest	719	702	17	17	828	-13.2	734	-2.0
Mountain	184	184	0	0	201	-8.5	184	0.0
Pacific	244	246	-2	-2	311	-21.5	287	-15.0
South Central	976	999	-23	-23	1,214	-19.6	1,053	-7.3
Salt	250	269	-19	-19	336	-25.6	276	-9.4
Nonsalt	726	729	-3	-3	877	-17.2	777	-6.6
Total	**2,727**	**2,714**	**13**	**13**	**3,269**	**-16.6**	**2,912**	**-6.4**

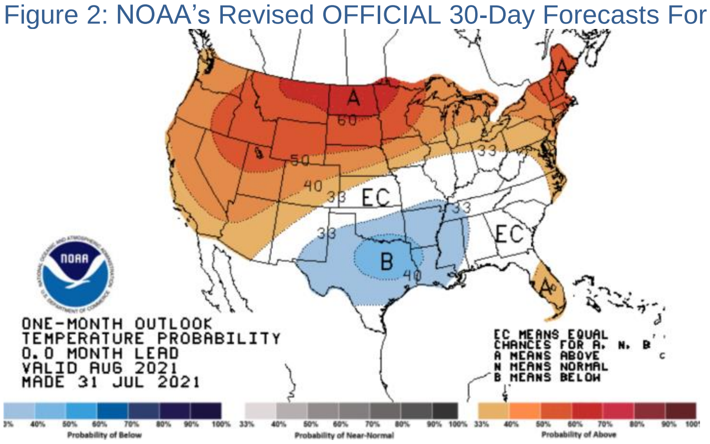
Source: EIA

Natural Gas – NOAA also sees a return to more normal temps in Aug

NOAA's updated Aug temp forecast

We aren't sure when NOAA's Climate Prediction Center posted this July 31 update [LINK] for their near term 30 day outlook for August but, we didn't see it when we checked midday on July 31. NOAA calls for continued warmer than normal weather in the north and west US, normal temps in SE and parts of central US, and below normal temps in Texas/Louisiana. Below is their updated map

Figure 2: NOAA's Revised OFFICIAL 30-Day Forecasts For August



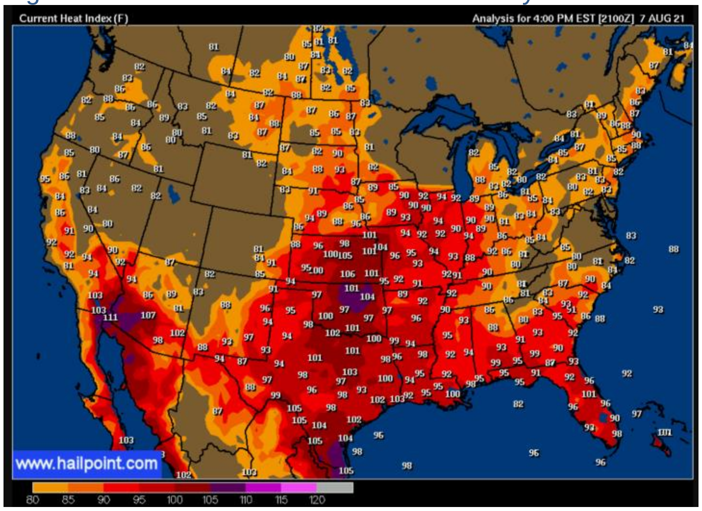
Source: NOAA

Natural Gas – NOAA also sees a return to more normal temps in Aug

NOAA's updated Aug temp forecast

Yesterday around 4pm, we checked the Texas heat temperatures and the ERCOT forecast of electricity supply/demand and resultant margin. The reason we check around then is that its just before renewable energy starts to decline and gives us the critical risk period at end of work day time. Below is our favorite link that we use to see hot it is in the US. Its provided by Wright-Weather LLC and is at [LINK]. Below is the map we used in our tweet [LINK] yesterday afternoon.

Figure 3: NOAA's Revised OFFICIAL 30-Day Forecasts For August



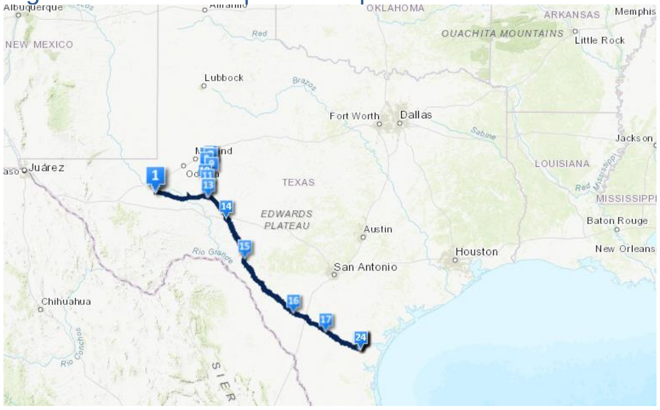
Source: NOAA

Added 2.0 bcf/d Permian capacity

Natural Gas – Whistler 2 bcf/d pipeline from Permian to Gulf Coast in service

The 2.0 bcf/d Whistler Pipeline, owned by MPLX LP, WhiteWater, and a JV between Stonepeak & West Texas Gas, began full commercial service on July 1st. This pipeline adds incremental natural gas transport capacity to the Texas Gulf coast from the Permian. Beginning at the Waha Header (1) in the Permian, the pipeline transports natural gas 250 miles down to Agua Dulce, a primary trading hub in South Texas with access to export markets. Ther is also a 50 mile lateral connecting to the Midland Basin. Below is the Whitewater map of the Whistler Pipeline's route [LINK] .

Figure 4: Whistler Pipeline Map



Source: WhiteWater Midstream

Big upside to 2022/23 HH & AECO prices

Natural Gas – Big upside to 2022/23 HH/AECO: Sabine Pass 6, Calcasieu Pass LNG

Our July 25, 2021 Energy Tidbits highlighted our view that there is big potential upside to 2022/23 HH and AECO gas prices from the start up of feed gas into Cheniere Sabine Pass

LNG Train 6 of 0.7 bcf/d and Calcasieu Pass LNG (1.3 bcf/d) around year end 2021 ie. an added >700 bcf of demand for US natural gas supply that could be exported in 2022. (i) On Thursday, Cheniere reported Q2 including "*Sabine Pass Train 6 early commissioning activities commenced with first fuel gas introduced in July. Project completion 89.6% with forecast Substantial Completion in 1H 2022."* This is consistent with feed gas starting in Q4/21 and likely early Q4/21. Note the timeline for Sabine Pass Train 5 was: Sept 2018, start feed gas. Nov & Dec 2018, 1st LNG commissioning cargoes. March 2019. (ii) We have not seen any timing changes in Calcasieu Pass LNG timeline. Our July 25, 2019 Energy Tidbits memo referenced the BloombergNEF and Platts views that start would be around year end 2021, which we interpreted start of feed gas. Our Supplemental Documents package includes the Cheniere Q2 call slides.

Natural Gas – Cheniere long-term LNG contracts are back & support new LNG capacity

Cheniere very bullish on LNG

Yesterday, we tweeted [LINK] on the key comment from Cheniere's Q2 call on Thursday. Mgmt said "*Global LNG market fundamentals continue to be extremely constructive and we've begun to see the return of long-term LNG contracts and support of the construction of new liquefaction capacity*". This is reversal of the last couple years wherein LNG buyers were avoiding long term contracts and moving to spot and short term LNG deals. And when long term LNG buyers were pushing to renegotiate lower long term deals ie. India with Qatar. This is right in line with our SAF Group July 14, 2021 blog "Asian LNG Buyers Abruptly Change and Lock in Long Term Supply – Validates Supply Gap, Provides Support For Brownfield LNG FIDs". There is no doubt Cheniere was playing stupid in Q2 on their bullish view on LNG markets following the TotalEnergies problems in Mozambique that ultimately led to them declaring force majeure in late April. We still don't know who they thought they were fooling by playing stupid on the LNG market in Q2, but our July 4, 2021 Energy Tidbits noted how they started to reveal their true view on the positive LNG outlook. Cheniere held its Q2 call on Thursday and there can't be any doubt that they are extremely bullish on the LNG outlook for the 2020s. And most of all, they highlighted that "*we've begun to see the return of long-term LNG contracts and support of the construction of new liquefaction capacity*". A return of buyers to long term contracts is what is needed to provide financing capability for new LNG liquefaction. And why we believe the return of Asian LNG buyers a month ago was the critical event to provide evidence of the massive change in LNG outlooks. On the call, Cheniere CEO Fusco said *"The fundamentals present in the LNG market are as good or better than at any time since I've been at Cheniere"*. Cheniere didn't provide a LNG supply gap graph, but in the Q&A, said they have been bullish on LNG markets for the first half of this decade and are even more bullish today. Mgmt said *"We've been fairly bullish on the markets in the first half of this decade and saw '21 as a transition year as we've touched on previous calls. It transitioned faster than we expected kind of across the board, Asia's rebound and demand growth and all of this investment that we saw in gas infrastructure and an LNG infrastructure and demand is playing out arguably faster than we expected and in the aggregate, U.S. came to the rescue second half of last year and first half of this year with additional volumes. But now everything is online obviously."* Speaking about the supply gap, Cheniere said *"We and everyone else are trying as hard as possible to bring this volume market, and the market is still tight, demand exceeded supply in Q2 which is why you saw the storage dynamics and the pricing dynamics that you mentioned and we are only entering this phase of the market. As Jack said, this is the first time that in his tenure at Cheniere, that he is in the bull part of the cycle for the sellers and long-term and mid-term commitments are accelerating as a result, right. It's not a surprise to anyone that this is playing out, but it is playing out a little bit faster and…our comfort level with '22 is that much higher".*

Natural Gas – Power failure leads PNG LNG “scrambling” to not miss LNG shipments

PNG LNG impacted by power failure

It doesn’t sound like it was a lengthy interruption, but Australia’s Financial Review on Tuesday reported how a power failure in Papua New Guinea has left the PNG LNG venture “*scrambling to resume operations to avoid missed shipments. A power outage at Oil Search's central processing plant in Kutubu in PNG's Southern Highlands region triggered a curtailment in production at the Hides gas plant and the LNG plant near Port Moresby, ExxonMobil said. "We understand that the power outage has been restored as of 26 July and are working to resume production over the coming days," a spokesman for the US giant that runs the PNG LNG venture told The Australian Financial Review. "We are working on mitigating actions to minimise impacts to PNG LNG production and marketing commitments." Oil Search, which would feel the biggest impact from any disruption to output, has not issued a statement on the problem, signalling it does not expect its guidance for production to be impacted. A spokesman said Oil Search "does not comment on the day-to-day operations of any assets we have". "The company will continue to keep the market informed in respect of the parameters that we provide guidance on, in line with our continuous disclosure responsibilities," the spokesman said. While the power failure occurred at an Oil Search plant at a different site, it has a knock-on impact on gas and LNG production at the Exxon-run facilities where production will only get back to normal once condensates production is restored.”* Our Supplemental Documents package includes the Bloomberg terminal posting of the Financial Review report.

Natural Gas – Woodside cost estimates only +5% to $12bn for Scarborough LNG

Woodside Scarborough will cost only 5% more

Woodside provided is updated capital cost estimate for the Scarborough LNG development this week. [LINK] Woodside wrote “*The updated cost estimate is US$12.0 billion (100% project, nominal), comprising $5.7 billion for the offshore component and $6.3 billion for the onshore component. The cost estimate is approximately 5% higher than the previous cost estimate announced in November 2019*.” The capital cost increase of +5% was viewed as less than expected. On Wed, Bloomberg reported “*The increase was “smaller than feared and does not jeopardize the project’s viability,” Saul Kavonic, resources analyst at Credit Suisse Group AG, said in a note. “Market concerns that costs could have increased closer to $13 billion, or threatened Scarborough viability, have kept some investors away from Woodside.”* We were a little surprised by the comment by Woodside Acting CEO Meg O’Neill in the Woodside press release, she said *“We have commenced the formal processes for selling down our interest in Pluto Train 2 and Scarborough as we target the investment decision later this year and these processes are supported by the updated cost Estimate.”* We would have thought she would just say how the FID decision was supported by the lower cost estimate and not include trying to get buyers interest in their sell down process. Our Supplemental Documents Package includes the Woodside release and Bloomberg report.

Natural Gas – More reminders why Mozambique delays will take longer

No surprise, infrastructure damage in Mozambique

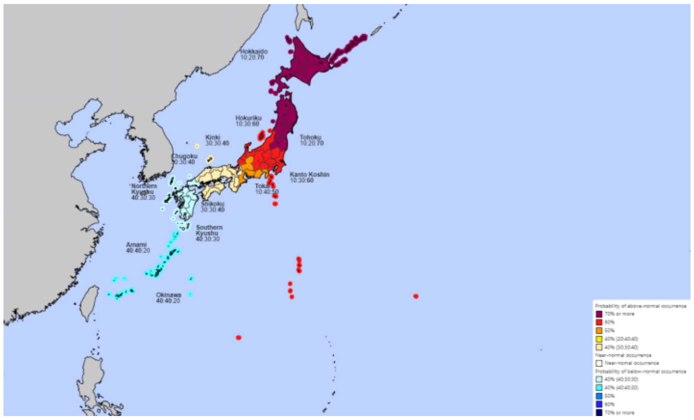
It is important to remember that the time lost in Mozambique LNG from the TotalEnergies force majeure is likely to longer (ie. 6 months) than the actual force majeure period. We have been highlighting how Mozambique has been a game changer to LNG markets since our April 28, 2021, we posted a 7-pg blog “*Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?*” [LINK]. Violence/fighting caused TotalEnergies to declare force majeure on its Mozambique Phase 1 of 1.7 bcf/d on April 27 but, this mean an further 3.3 bcf/d of Mozambique LNG would be delayed. Last week’s (Aug 1, 2021) Energy Tidbits noted TotalEnergies Q2 comment that they still expect at least a 1 year force majeure period. In our April 28 blog, we said that a 12 month delay would be more like an 18 month actual construction delay. TotalEnergies had to let services go, the project and the supporting area infrastructure was going to be at risk for 12 months, it just seems that there will be additional time just to get back to where they were when they stopped. This week, we saw a good example of this infrastructure problem. Since Mozambican and Rwandan forces expelled terrorists from 3 key regions in the north of Mozambique, Cabo Delgado director of Mozambique Electricity (EDM) Marquez was finally able to visit to assess the infrastructure repair needed to restore function to the region. Club of Mozambique [LINK] reported on Wednesday that they arrived to a "situation of total destruction". Marquez told the journalists that accompanied him *"As you can see, the substation is practically destroyed. The transformers, the reactors … everything. Almost nothing can be salvaged. Even the building is destroyed."* Northern Cabo Delgado, the location of TotalEnergie's suspended LNG project, has been without power since the town of Mocimboa da Praia was first occupied, about a year ago. Our Supplemental Documents package includes the Club of Mozambique report.

Natural Gas – Expectation for continued hot weather in Japan in Aug

JMA forecasting a very hot August

Anyone following the Tokyo Olympics knows it was even hotter and more humid this week at the Tokyo Olympics with events being moved (50 km racewalk) Hokkaido and events shifted to the evening (women's gold medal soccer to 9pm local time). It looks like the hot humid temperatures will continue into August and the weather in Japan will continue to be very supportive of the strong summer LNG prices. Weather always changes and there is no certainty of that the forecasts will be accurate. However, the last week saw a much warmer outlook for Japan for the next 30 days, and this week's updated look-ahead further supports those expectations. August temperatures are forecasted to be very hot throughout the country, especially in central and northern Japan, although the forecast for the south is for below normal temperatures. The Japan Meteorological Agency issued its updated month ahead weather forecast for Aug 7 – Sept 6 on Thursday [LINK]. Below is the current JMA forecast for the month of Aug.

Figure 5: JMA Temperature Probability Forecast for Aug 7 – Sept 6



Source: Japan Meteorological Agency

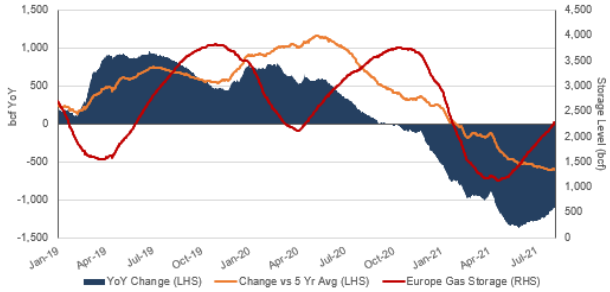
Natural Gas – Europe storage 58.10% full vs 5 year average of 74.35%

Europe gas storage 58.10% full

We always keep a close watch on the European gas storage levels as they are a great indicator of LNG markets going into the winter, and in turn an indicator for US LNG exports for rest of summer and fall. Lately, high Asian spot LNG prices are attracting LNG cargoes away from Europe. And it's not just Asian markets taking LNG cargoes away from Europe, its also surprisingly South America. Demand for LNG is also quite strong in Latin America because of droughts causing low hydro-generation in Brazil and a chilly winter in Argentina.

In fact, several LNG tankers bound to NW Europe from the US have been redirected. Even though Europe storage started off well behind 2020 levels, it has not been able to catch up due to the Asian LNG prices. Plus it has been hot in Europe so natural gas consumption has stepped up to fill the void from solar/wind. The continued significant YoY deficit in Europe gas storage sets up a push for Europe LNG imports this fall. It still looks strong for US LNG exports this summer/fall. Europe gas storage started the winter (Nov 1) at basically full levels at 94.66% and had dropped by 65.77% to be 28.89% at Apr 1. This 65.77% decline since Nov 1 compares to the 5 yr average that would be down 53.99% in the same period or to last winter that was only down 43.29% in the same period. We are now seeing storage starting to build, but the storage build is slow for the above reasons, with storage as of June 3 being up 9.64% since April 19, which looks to be the bottom. Storage as of August 4 is 58.10%, 28.10% less than last year of 86.37% and 16.25% below the 5 yr average of 74.35%. Europe storage levels will be the key item to watch for indications on LNG markets going into the winter. If storage levels to do not start to build at a faster rate, we are going to see a supply crunch heading into winter in Europe. Below is our graph of YoY change in net LNG flows to NW Europe.

Figure 6: Europe Gas Storage Level



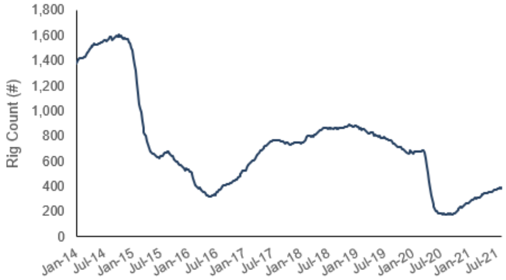
Source: Bloomberg

Oil – US oil +2 WoW at 387 oil rigs

Baker Hughes reported its weekly rig data on Friday. This week US oil rigs were up 2 rigs WoW at 387 rigs. Permian was flat at 243 rigs. . Increases came from Ardmore Woodford (+1), Cana Woodford (+1), Granite Wash (+1) and DJ-Niobrara (+1). Decreases came from Others (-2). We would have expected HH$4 would bring more gas rigs, but we suspect some of the oil rigs in areas like the Eagle Ford may be focused more on the gassier portions of the play. Oil rigs have been on a strong recovery path and are +215 off the bottom of 172 in the Aug 14/2020 week . US oil rigs hit their 2020 peak at 683 on March 13 and have since fallen by 296 to 387 oil rigs (-43.33%). Below is our graph of Baker Hughes US oil rigs.

US oil rigs +2 WoW

Figure 7: Baker Hughes Total US Oil Rigs



Source: Baker Hughes

Oil – Frac spreads -4 to 235 as of Aug 6

Frac spreads -4 to 235

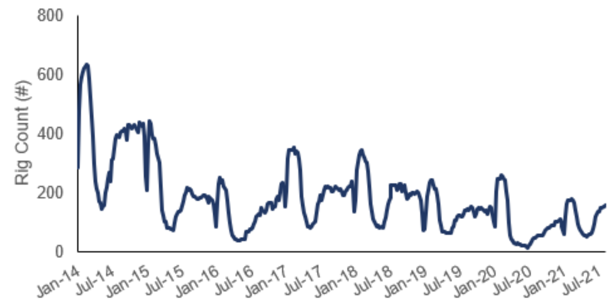
Every week, Mark Rossano (C6 Capital Holdings) posts a YouTube recap of frac spreads for the week on the Primary Vision Network. [LINK] US frac spreads were down 4 to 235 as of Aug 6, which follows a similar down 4 last week. He said that get these "*gyrations and movements'* and "*ebbs and flows*" normally in this end of July/Aug period. He noted Permian and Appalachian were pretty much held constant, but some "*adjustments*" in eastern Texas. Rossano highlighted the Permian continues to be very robust, continues to be strong and expects to see the acceleration as get thru Q3. Also expects Appalachia to pick up with $4 gas and low storage levels. Rossano noted that normally get this type of movement in spreads in the summer but thinks this will be like 2017 with an ascending move ie. this end of July is a pause point where spreads are in movement and need to have the ascending pattern like 2017. Note that he normally provides his graphs in this free YouTube recap/

Oil – Total Cdn rigs +3 to 156 total rigs and up 109 YoY

Cdn rigs +3 this week

Total Cdn rigs were +3 this week to 156 total rigs. Cdn oil rigs were +2 to 95 rigs. Cdn gas rigs were +1 to 60 gas rigs. Total rigs are now +142 since the June 26, 2020 all-time low. Canada continues to have a small modest increase, but likely being held back a little bit by tougher general logistics support with wildfires. Cdn drilling has recovered YoY, a year ago Cdn oil rigs were 13 and Cdn gas rigs were 34 for a total Cdn rigs of 47, meaning total Cdn rigs are +109 YoY and total rigs are up +16 vs 2019. Below is our graph of Baker Hughes Cdn oil rigs.

Figure 8: Baker Hughes Total Canadian Oil Rigs



Source: Baker Hughes

Oil – US weekly oil production flat at 11.2 mmb/d

US oil production flat WoW

US oil production was flat at 11.2 mmb/d for the July 30th week. Lower 48 down -0.1 mmb/d at 10.8 mmb/d. This puts US oil production up 0.2 mmb/d YoY, and is down 1.9 mmb/d since the 2020 peak of 13.1 mmb/d on March 13. The July STEO forecast slightly raised its US crude expectations thru 2021, however it is still not returning anywhere near the Q4/19 peak of 12.78 mmb/d, with Q4/21 US crude of 11.34 mmb/d (down 1.40 mmb/d from peak). In the US oil production commentary, the EIA wrote *"Higher oil price levels realized in 2021 drive increases in U.S. tight oil production in 2022. In addition, we expect more barrels from OPEC+ members to reach the market. We expect U.S. crude oil production to increase by 0.8 million b/d in 2022 and OPEC crude oil production to increase by 1.8 million b/d in 2022."* Additionally, on US rig counts, the EIA wrote *"The recent pace of rig deployment indicates that operators are adding rigs more slowly than during past periods when prices reached similar levels. If operators take a more cautious approach to rig deployment than we are expecting, crude oil production could be lower than in our forecast"*. The EIA DPR has the expectation of slight MoM increases in July/August. The EIA Form 914 May actuals were

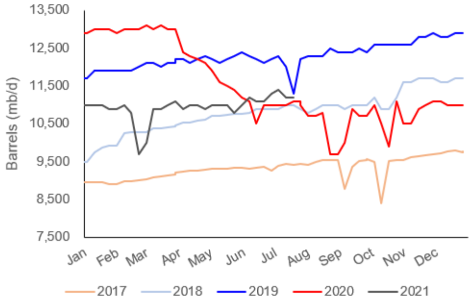
281,000 mb/d above the weekly estimates average of 10.950 mmb/d for May, following a similar trend from April's +201,000 mmb/d underestimate.

Figure 9: EIA's Estimated Weekly US 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
2019-Jan	01/04	11,700	01/11	11,900	01/18	11,900	01/25	11,900		
2019-Feb	02/01	11,900	02/08	11,900	02/15	12,000	02/22	12,100		
2019-Mar	03/01	12,100	03/08	12,000	03/15	12,100	03/22	12,100	03/29	12,200
2019-Apr	04/05	12,200	04/12	12,100	04/19	12,200	04/26	12,300		
2019-May	05/03	12,200	05/10	12,100	05/17	12,200	05/24	12,300	05/31	12,400
2019-Jun	06/07	12,300	06/14	12,200	06/21	12,100	06/28	12,200		
2019-Jul	07/05	12,300	07/12	12,000	07/19	11,300	07/26	12,200		
2019-Aug	08/02	12,300	08/09	12,300	08/16	12,300	08/23	12,500	08/30	12,400
2019-Sep	09/06	12,400	09/13	12,400	09/20	12,500	09/27	12,400		
2019-Oct	10/04	12,600	10/11	12,600	10/18	12,600	10/25	12,600		
2019-Nov	11/01	12,600	11/08	12,800	11/15	12,800	11/22	12,900	11/29	12,900
2019-Dec	12/06	12,800	12/13	12,800	12/20	12,900	12/27	12,900		
2020-Jan	01/03	12,900	01/10	13,000	01/17	13,000	01/24	13,000	01/31	12,900
2020-Feb	02/07	13,000	02/14	13,000	02/21	13,000	02/28	13,100		
2020-Mar	03/06	13,000	03/13	13,100	03/20	13,000	03/27	13,000		
2020-Apr	04/03	12,400	04/10	12,300	04/17	12,200	04/24	12,100		
2020-May	05/01	11,900	05/08	11,600	05/15	11,500	05/22	11,400	05/29	11,200
2020-Jun	06/05	11,100	06/12	10,500	06/19	11,000	06/26	11,000		
2020-Jul	07/03	11,000	07/10	11,000	07/17	11,100	07/24	11,100	07/31	11,000
2020-Aug	08/07	10,700	08/14	10,700	08/21	10,800	08/28	9,700		
2020-Sep	09/04	10,000	09/11	10,900	09/18	10,700	09/25	10,700		
2020-Oct	10/02	11,000	10/09	10,500	10/16	9,900	10/23	11,100	10/30	10,500
2020-Nov	11/06	10,500	11/13	10,900	11/20	11,000	11/27	11,100		
2020-Dec	12/04	11,100	12/11	11,000	12/18	11,000	12/25	11,000		
2021-Jan	01/01	11,000	01/08	11,000	01/15	11,000	01/22	10,900	01/29	10,900
2021-Feb	02/05	11,000	02/12	10,800	02/19	9,700	02/26	10,000		
2021-Mar	03/05	10,900	03/12	10,900	03/19	11,000	03/26	11,100		
2021-Apr	04/02	10,900	04/09	11,000	04/16	11,000	04/23	10,900	04/30	10,900
2021-May	05/07	11,000	05/14	11,000	05/21	11,000	05/28	10,800		
2021-Jun	06/04	11,000	06/11	11,200	06/18	11,100	06/25	11,100		
2021-Jul	07/02	11,300	07/09	11,400	07/16	11,400	07/23	11,200	07/30	11,200

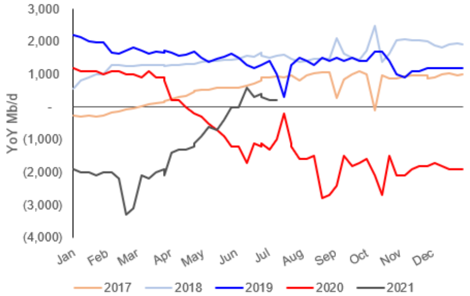
Source: EIA

Figure 10: US Weekly Oil Production



Source: EIA, SAF

Figure 11: YoY Change in US Weekly Oil Production



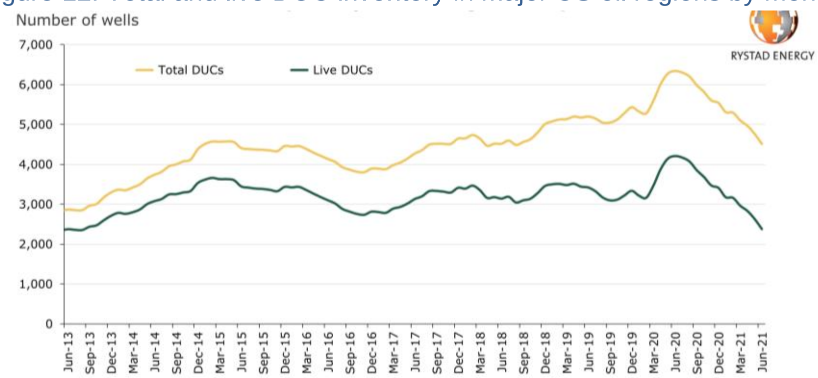
Source: EIA, SAF

Oil – Rystad estimates 47% of 4,510 DUCs unlikely to be completed

Rystad 47% of DUCs are unlikely to be completed

We still don't get why most investors and analysts talk about DUCs without the reality check that many of the DUCs will never be completed because the economics of fracing the well don't justify the capex ie. the wells aren't economic to complete. On Tuesday, we tweeted [LINK] "*Positive for #Oil. Overlooked big % of DUCs will never be completed ie. returns from fracing don't justify the capex. Add this to the reasons (ie. higher cost of capital) why US #Oil production growth should be modest. Thx @RystadEnergy Artem Abramov. #OOTT".* We recommend reading the Rystad blog "'*Live' DUC well inventory fell to lowest since 2013 as the US continues to frack more than it drills*" [LINK]. Rystad now estimates 4,510 DUCs at June 30, of which on 2,381 (53%) are live DUCs that are expected to be completed vs 2,129 (47%) are dead DUCs that won't likely to be completed. This is bullish for oil as it means that there are less DUCs for US oil growth and it means that US oil rigs becomes a better indicator of US oil growth potential for 2022 ie. they need to increase oil rigs to replenish the DUC inventory. To further support this bullish view on Oil, note Rystad's total DUCs at June 2021 is 4,510 (again noting only 2,381 are "live") vs the EIA's estimate of 6,252 DUCs. Rystad's live estimate of 2,381 DUCs is less than half of the EIA's estimate. Below is the Rystad graph from the blog. Our Supplemental Documents package includes the Rystad blog.

Figure 12: Total and live DUC inventory in major US oil regions by month



Source: Rystad

Rystad highlighted this very point on Jan 25, 2021

This Is not the first time Rystad has highlighted this upside to oil prices. On Jan 25, 2021, we tweeted [LINK] on a very good Rystad blog "*Shale revival: US drilled but uncompleted wells already at pre-Covid-19 levels and await fracking*" [LINK] that was released that morning. At that time, Rystad estimated that there were 5,700 DUCs, including 3,528 "live" & 2,172 waiting to be abandoned. That means that 38% of the estimated wells were unlikely to be completed.

Oil – Plains doesn't expect much Permian oil production until later in 2022

Permian won't do much until later in 2022

Plains All American held its Q2 call on Tuesday, and one of headlines was their view that Permian oil production has been fairly flat since April and they do not expect for it to do much more for most of 2022. In the Q&A, mgmt said *"You know, we talked about the trajectory of Permian production. And as I said, we had the increase early in the year, we're actually seeing the stabilization of the production nnumbers in the Permian in really until the supply and demand balance gets a little tighter to continue the inventory on crude, what to see where demand goes and OpEx compliance. But really the inflection point we expect to be later in to 2022."*

Oil – Phillips 66 outlook on WCS differential

Philipps 66 expects WCS diffs to be $12-13 going forward

During Philips 66's Q2 earnings call, Mgmt was asked about their medium to long-term outlook for WCS differentials, especially in light of Enbridge's Line 3 replacement project coming online in Q4. Mgmt replied that while differentials have come off quite a bit, they are seeing something out of the ordinary occur- "*we've seen the WCS differential in the Gulf Coast weaken…about $2.5 over the past couple of quarters. And when that weaken so does the Hardisty WCS differential. You have to have an arm to get the barrels to the Gulf Coast, one of the reasons the Gulf Coast is weakening is because no exports… means that you have to have a weaker differential in WCS to get that WCS exported out of the US.* When it comes to Line 3 coming online, one would think that would help firm up differentials a bit due to the extra capacity, but mgmt explained that this may be a moot point as *"in the wintertime, we add diluent to crude, and that also increases the volume of crude that has to move. So, our view our forecast is that you will see the differential somewhere between $12.5 and $13.5 off of WTI going forward."*

Oil – Trudeau says he highlighted Line 5 to vs Biden thanked him for the smoke meat

Trudeau says he highlighted Line 5 with Biden

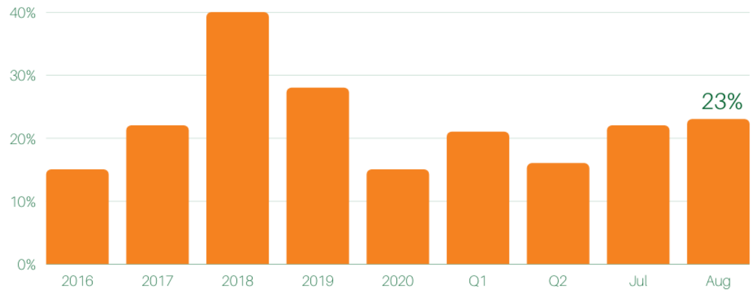
Last week's (Aug 1, 2021) Energy Tidbits reminded the Enbridge/Michigan mediator meeting is on Wed and we still have not seen any indications that either side is backing away from their position. And if so, the inevitable next steps after the planned Aug 31 end to mediation is likely to legal actions. (i) There really aren't a lot of coincidences in politics so no one should have been surprised to see Trudeau spoke to Biden on Monday and the Liberals read out said "*The Prime Minister highlighted the importance of Line 5 for Canada's energy security and reiterated Canada's support for a negotiated settlement between Enbridge and the State of Michigan. The Prime Minister and President agreed to continue to monitor developments closely."* We say no coincidence because last week's memo also noted the US State Dept July 23 release [LINK] on Secretary of State Blinken's call with Michigan Gov Whitmer that said "*Secretary Blinken and Governor Whitmer also discussed Enbridge Energy's Line 5, which crosses the U.S. border with Canada in Michigan and is the subject of litigation between the State of Michigan and Enbridge in U.S. domestic courts. Secretary Blinken noted that there is no formal bilateral process between the federal governments of the United States and Canada concerning Line 5."* Its hard not to see Blinken's statement forced Trudeau to come out and indicate he is working on the issue. (ii) The other interesting (and disappointing) part of Trudeau's approach is that he supports a negotiated deal between Enbridge and Michigan ie. it validates to some degree Michigan's right to force the shut down of Line 5. And for some reason, Trudeau didn't want to tell Biden that Michigan doesn't have the right to shut down Line 5 because of the Jan 28, 1977 Transit Pipelines Treaty. On May 2, we tweeted [LINK] "*"#Line5. wonder if @JustinTrudeau @SeamusORegan have been pushing @POTUS to honor US/Can 1977 Transit Pipelines treaty to squash @GovWhitmer attempt to shutdown $ENB Line 5 by May 12? #OOTT".* This treaty was specifically put in place to make sure that Can/US pipelines could not be interfered by state or city or local governments. It starts off quite clearly "*No public authority in the territory of either Party shall institute any measures, other than those provided for in Article V, which are intended to, or which would have the effect of, impeding, diverting, redirecting or interfering with in any any the transmission of hydrocarbons in transit".* The rest of the short treaty is in line with this intention. (iii) Interestingly, the Liberals said Trudeau highlighted this issue with Biden, whereas the White House readout of the call [LINK] didn't mention any discussion on Line 5. Rather the White House readout started off *"President Joseph R. Biden, Jr. spoke today with Justin Trudeau, Prime Minister of Canada to thank him for the gift of Montreal smoked meats sent in congratulations for the Tampa Bay Lightning's victory over the Montreal Canadiens for the Stanley Cup trophy*." Hmmm!. (iv) No one should be surprised that Trudeau doesn't want to really fight for Enbridge. Trudeau's position on dealing with Biden on energy issues that they don't agree on was also made clear by him – he isn't going to waste his time on items that Biden doesn't like. Our March 14, 2021 noted Trudeau's comments on NBC Meet the Press on Feb 28 on Keystone XL. The NBC transcript was "*TODD: Does this mean you're done asking for -- are you going to stop advocating for it here? Do you feel as if the Keystone pipeline is now dead? TRUDEAU: I think it's fairly clear that the U.S. administration has made its decision on that, and we're much more interested in ensuring that we're moving forward in ways that are good for both of our countries. I think there's so much we can do together that I don't spend too much time worrying about the tension points. It'll always come up in our relationship, but we'll work through them, particularly given the alignment on so many things that we're able to bring with this new administration."* Our Supplemental Documents package includes the Liberals and White House readouts of the Trudeau/Biden call and the 1977 Transit Pipelines treaty.

Oil – Trans Mountain apportioned by 23% for Aug, has been for a decade

Trans Mountain running at full capacity

On Thursday [LINK], Trans Mountain released an update on its capacity for the month of August. Total system nominations are apportioned by 23% for August, meaning 23% of demand for the pipeline exceeds its capacity. It seemed like the primary reason of the apportionment update was Trans Mountain reminding that Trans Mountain has been running at full capacity and has seen regular monthly apportionment for over a decade, which is a clear sign for a need for expansion. Because without expansion (ie. with a pipeline that is always apportioned), "*When a pipeline experiences significant and prolonged apportionment like in the case of the existing Trans Mountain Pipeline, it's one signal that more capacity is needed. Apportionment can bring with it a discounting of prices as producers compete to sell what they can through the pipeline before having to use another pipeline or other modes of transport to another, less profitable market. It can also mean the buyers at the end of the pipeline are forced to source their shortfall of supply from alternate, less desirable sources*." Below is a chart which shows the average apportionment since 2016. Our Supplemental Documents package includes the Trans Mountain release.

Figure 13: Trans Mountain Pipeline Apportionment



Source: Trans Mountain Pipeline

Trans Mountain explains how apportionment works on their pipeline

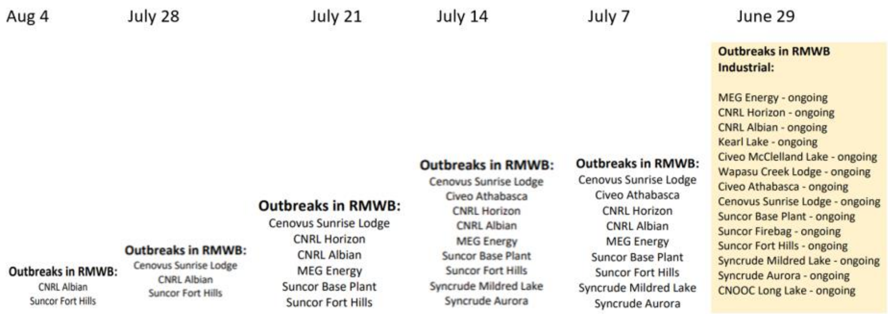
The also had a good Trans Mountain step-by-step guide on how apportionment works on their pipeline. Every month, shippers submit requests, or "nominations", for how much petroleum they want to ship through the pipeline. Based on nominations, TM then determines the available capacity, especially if there are any products that haven't completed transit by month's end. Then apportionment is calculated, forming part of their tariff and if shipper nominations > pipeline capacity, there is a % of apportionment.

Oil – Down to 2 remaining Covid outbreak facilities in oil sands facilities

As expected, the Covid outbreak areas in oil sands facilities continues to decline and clearly getting to zero should happen soon. Wood Buffalo is now down to one Covid update per week with the latest being as of Aug 4 [LINK]. This week, the Cenovus Sunrise Lodge was removed from the Covid outbreak list, which bring the list down to 2 remaining outbreak areas in oil sands – CNRL Albian and Suncor Fort Hills

Down to 2 oil sands Covid outbreak

Figure 14: Oil Sands Facilities With Covid Outbreaks at June 29,July 7, 14, 21 & 28 & Aug 4



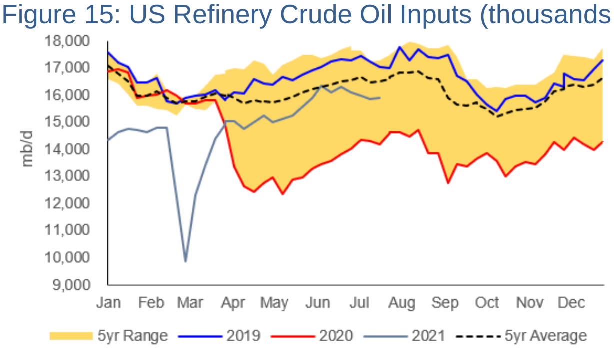
Source: Wood Buffalo

Oil – Refinery inputs +1.283 mmb/d YoY to 15.920 mmb/d, down 1.857 mmb/d vs 2019

Gasoline demand +0.451 mmb/d

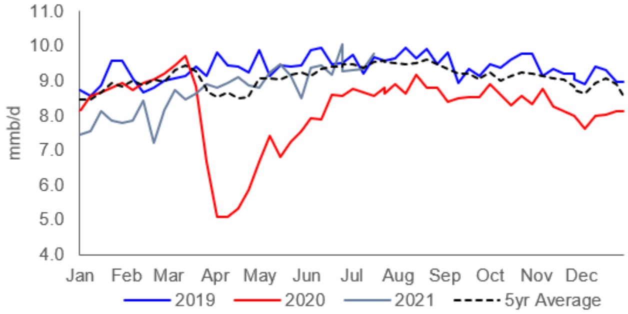
Crude inputs to refineries were up but basically flat this week and were +0.045 mmb/d to 15.920 mmb/d, and are +1.283 mmb/d YoY, and are -1.857 mmb/d vs 2019. Although there is increased fuel demand, inputs of crude oil at refineries are still well below norms for this time of year. Bloomberg's TopLive blog explains that this is due to US refiners turning to alternative feedstocks like VGO and unfinished oils to capitalize on the strong gasoline market and are moving away from heavier products at the moment. Refinery utilization was up by 0.2% this week at 91.3%, which is +11.5% YoY. Total products supplied (ie. demand) increased this week but was basically flat, with a +0.045 mmb/d increase to 21.168 mmb/d, and this week motor gasoline was up big, being +0.451 b/d to 9.775 mmb/d. For motor gasoline, the market has entered a period where demand will start to fall ahead of fall, so we expect demand to start levelling off at ~9.3 mmb/d, in line with seasonal trends. EIA expects gasoline demand to reach its peak this month, writing in their 2021 Summer Fuels Outlook [LINK] *"We forecast that gasoline consumption in 2021 will peak in August at 9.1 million b/d, which is up from 8.5 million b/d in August 2020 but down from the 9.8 million b/d in August 2019."* Below is our graph of crude inputs to US refineries and our graph of US motor gasoline supplied.

Figure 15: US Refinery Crude Oil Inputs (thousands b/d)



Source: EIA, SAF

Figure 16: US Motor Gasoline Supplied (mmb/d)



Source: EIA, SAF

Fire at Mexico's largest refinery

Oil – Fire yesterday at Pemex's largest Salina Cruz refinery

As of 7am MT news cut off , we have not seen any official word from Pemex on what will be the impact to operations from the fire that broke out early Saturday morning at the Mexico's largest refinery – the Salina Cruz refinery. There were many reports and Twitter video of the fire, but we are awaiting official word from Pemex. Most times, it seems surprising how quickly refineries get back to full throughput following a fire. But the reason we note this is that if there is any extended impact to the Salina Cruz refinery, it would mean less Mexico crude refined domestically and more crude available for export ie. to the Gulf Coast. Salina Cruz has a capacity of ~330,000 b/d but, in June, processed 219,060 b/d. Below is the most recent Pemex oil throughput by refinery [LINK].

Figure 17: Pemex June 2020 Crude Oil Input by Refinery

Pemex Transformación Industrial
Sistema Nacional de Refinación
Elaboración de productos petrolíferos por refinería
Estructura vigente a partir de 2000
(miles de barriles diarios)
OBSERVADO-MENSUAL Jun/2021

Descripción	Mbd	Total	Cadereyta	Madero	Minatitlán	Salamanca	Salina Cruz	Tula
Total		648.423	127.928	6.537	99.685	75.028	219.060	120.184

Source: Pemex

US "net" oil imports +0.510 mmb/d WoW

Oil – US "net" oil imports up 0.510 mmb/d to 4.528 mmb/d

US "NET" imports were up 0.510 mmb/d to 4.528 mmb/d for the July 30 week. US imports were down by -0.075 mmb/d to 6.432 mmb/d. US exports were down, being -0.585 mmb/d to 1.904 mmb/d. As we mentioned above, this is the lowest exports have been since early May, which may be tied to increased output from OPEC+ on top of a pretty narrow spread between Brent and WTI. The WoW decrease in US oil imports was driven by decreases in Canada and Ecuador. Some items to note on the by country data. (i) Canada was down this week, and was -0.248 mmb/d to 3.549 mmb/d for the July 30 week, which is now ~0.15 mmb/d below the average levels in Jan/Feb of 2020.   (ii) Saudi Arabia was down slightly by 12,000 b/d to 0.351 mmb/d this week. (iii) Colombia was basically flat again this week, -3,000 mmb/d to 0.141 mmb/d this week and has been hovering between 0.140-0.144 mmb/d for the past month. (iv) Ecuador was down by 122,000 b/d at 46,000 b/d. (v) Iraq was down -63,000 b/d to 82,000 b/d. (v) Venezuela remained at 0 due to US sanctions. (vi) Mexico was basically flat, up by 13,000 b/d to 0.634 mmb/d.

Figure 18: US Weekly Preliminary Oil Imports By Major Countries

	May 21/21	May 28/21	June 04/21	June 11/21	June 18/21	June 25/21	July 02/21	July 09/21	July 16/21	July 23/21	July 30/21	WoW
Canada	3,549	3,147	3,971	3,644	3,435	3,282	3,744	3,480	3,611	3,476	3,228	-248
Saudi Arabia	277	188	144	381	555	565	316	347	359	363	351	-12
Venezuela	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	661	702	423	764	878	747	408	648	797	621	634	13
Colombia	71	185	137	143	340	139	154	140	144	144	141	-3
Iraq	184	163	173	305	151	142	229	182	480	145	82	-63
Ecuador	229	226	122	96	29	260	0	95	171	168	46	-122
Nigeria	29	169	264	169	183	33	142	187	195	55	212	157
Kuwait	0	0	0	0	0	0	0	0	0	0	0	0
Angola	0	0	0	0	0	0	0	0	0	0	0	0
Top 10	5,000	4,780	5,234	5,502	5,571	5,168	4,993	5,079	5,757	4,972	4,694	-278
Others	1,273	851	1,404	1,244	1,372	1,238	882	1,142	1,340	1,535	1,738	203
Total US	6,273	5,631	6,638	6,746	6,943	6,406	5,875	6,221	7,097	6,507	6,432	-75

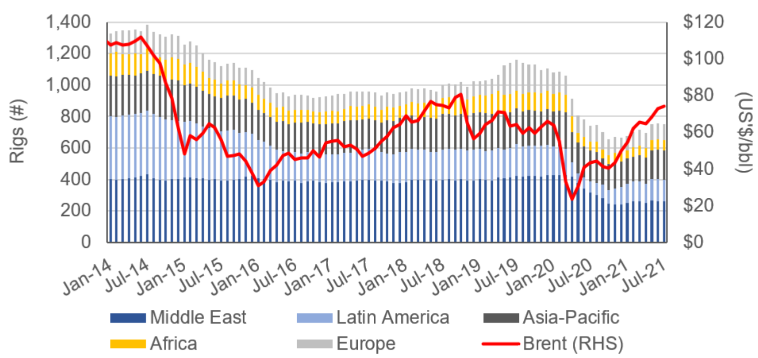
Source: EIA, SAF

Oil – Baker Hughes International rigs -7 MoM to 751 rigs in July

Indonesia hits 7-yr highs, Argentina & Colombia remain strong

We didn't see any major oil or natural gas takeaways from Baker Hughes updated international rig counts for July on Friday which showed a small decrease from last month's count. International activity had been increasing modestly and May showed a large increase. July is up +1% YoY, but still down 35% vs July 2019. Total international rigs decreased 7 MoM to 751 in July. The MoM decrease was mainly driven by a 9 rig decrease in Latin America and a -6 decrease in Europe, erasing last month's gains in both regions. The rig counts in Argentina and Colombia remain strong, with both increasing +1. The largest decrease in Latin America was Brazil and Ecuador, which were both -3, followed by Mexico and Peru, both -2. Within Europe, Norway had the largest decrease at -4 followed by the UK Offshore at -2 and Italy at -1 MoM. APAC showed a +4 increase, driven by Indonesia (+4) ramping up big this month, hitting 7-yr highs due to natural gas for LNG. Africa had a +3 increase which was driven by increases in Libya and Nigeria, both +2. Below is our graph of international rigs by region and avg monthly Brent price.

Figure 19: Baker Hughes International Rig Count and Brent Price



Source: Baker Hughes, Bloomberg

Oil – Colombia June production 694,151 b/d, down 4.9% YoY and 1.3% MoM

Colombia output down MoM

Colombia oil production continues to be hit by the protests. On Tuesday, Colombia Ministry of Mines and Energy reported on June oil and gas production [LINK]. Our May 23, 2021 Energy Tidbits noted how the anti-governmental protests had hit oil production in May. The protests started April 28, and Colombia had reported that production had been hit by ~55,000 b/d by the second week in May. The impact of the protests would have been very small on April data, however there was a demonstrated impact on the May data and it was down 5.6% MoM. We are continuing to see these effects in the June data, coupled with issues due to mechanical failiures. Colombia reported that June 2021 oil production was 694,151 b/d, down 4.9% YoY from 729,905 b/d in June 2020, and down 1.3% MoM vs 703,478 b/d last month. The Ministry of Mines and Energy of Colombia said *"The decrease in production occurred mainly in the Rubiales (Puerto Gaitán, Meta), Costayaco (Villagarzón, Putumayo), Moriche, Jazmín, Girasol (Puerto Boyacá, Boyacá), Floreña and Pauto Sur (Yopal, Casanare) fields, due to mechanical failures in the wells and the different blockages that occurred in the country and that prevented the proper functioning of the production facilities.."* The country reported drilling 3 exploratory wells in June. Our Supplemental Documents package includes the Google Translate version of the Colombia release.

Figure 20: Colombia Oil Production

million b/d	2015	2016	2017	2018	2019	2020	20/19	2021	21/20
Jan	1.036	0.986	0.860	0.860	0.899	0.884	-1.7%	0.745	-15.7%
Feb	1.030	0.955	0.864	0.823	0.893	0.878	-1.6%	0.746	-15.1%
Mar	1.023	0.917	0.804	0.856	0.885	0.857	-3.1%	0.745	-13.0%
Apr	1.029	0.915	0.857	0.865	0.891	0.796	-10.6%	0.745	-6.4%
May	1.027	0.904	0.851	0.866	0.895	0.732	-18.2%	0.703	-3.9%
June	1.010	0.888	0.857	0.864	0.892	0.730	-18.2%	0.694	-4.9%
July	0.947	0.843	0.856	0.860	0.869	0.735	-15.4%		
Aug	0.968	0.827	0.858	0.866	0.883	0.742	-15.9%		
Sept	1.009	0.859	0.851	0.869	0.879	0.749	-14.8%		
Oct	1.005	0.846	0.864	0.879	0.883	0.751	-14.9%		
Nov	0.990	0.855	0.851	0.883	0.880	0.761	-13.5%		
Dec	0.999	0.837	0.870	0.889	0.882	0.759	-14.0%		

Source: Bloomberg, Colombia Ministry of Mines and Energy

Oil – Russia crude production ~65,000 b/d above their July quota

Russia production increased for the first time in three months

Russian oil output increased in July after increased quotas from the OPEC+ alliance. On Monday, Bloomberg reported Russian crude and condensate production in July was about 10.46 mmb/d, up 41,000 b/d from June production. The official Russian data doesn't split out crude vs condensate, but if Russia's condensate production is in line with June, about 900,000 b/d, crude output would be 9.56 mmb/d, ~65,000 b/d above their 9.495 quota. Russia has been allowed to add back a small amount of production each month since Jan, but output was actually down between May and June. Russia has agreed to raise its output by 100,000 b/d each month starting in August, along with the rest of the alliance's agreement to return 400,000 b/d of supply to the market each month. Their compliance in June was 96%, up from 94% in May and 91% in April. Our Supplemental Documents package includes the Bloomberg report.

Oil – Wait and see what "message" is sent collectively or separately by Israel to Iran

What will be the message to Iran?

It looks like we are in a bit of a wait and see period. Wait to see what collective action is taken against Iran for the Mercer Street tanker drone attack and then wait and see if Israel sees the need to take separate direct response to Iran. Israel has a clear track record in that they do what they say and they are saying there will be a harsh response. Last week's (Aug 1, 2021) Energy Tidbits highlighted what looked like a clear warning that Israel believes a harsh response was needed to Iran's drone attack on the Mercer Street petroleum products tanker and Israel PM saying "*I declare unequivocally: Iran is the one that carried out the attack on the ship" "We, in any case, have our own way to relay the message to Iran" #OOTT*". On Friday, U.S. Central Command backed slightly away from saying definitively that Iran directly conducted the drone attack. CENTCOM was clear that "*U.S. experts concluded based on the evidence that this UAV was produced in Iran."* But didn't say definitively Iran launched the missile, rather CENTCOM said "*The distance from the Iranian coast to the locations of the attacks was within the range of documented Iranian one-way* *attack UAVs."* Also on Friday, IRNA (Iran's official news agency) reported [LINK] on comments from Iran's Ambassador and deputy to the Permanent Mission to the UN *"The Israeli regime also continues to brazenly threaten to use force against regional States. Again, yesterday its defense minister threatened to use force against Iran. Iran warns against any such adventurism and miscalculations. Yet, Iran will not hesitate to defend itself and secure its national interests."*Our Supplemental Documents package includes the CENTCOM statement [LINK] and some of the supported pictures posted by CENTCOM [LINK], and the IRNA report.

Figure 21: Mercer Street location when attacked

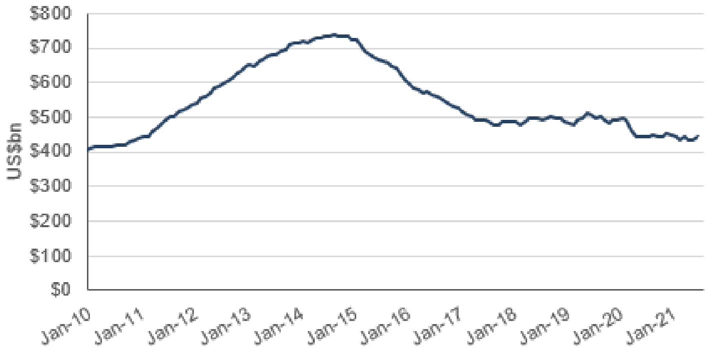
Source: FleetMon.com

Oil – Saudi nest egg, its net foreign assets +9.23b MoM in June

Saudi net foreign assets up from 11-year low

June was a good month for Saudi Arabia's Net Foreign Assets or what we call their nest egg to help them thru the Energy Transition. Saudi is far from going broke, but what was a huge nest egg was being depleted at a rapid pace over the last 7 years down to a very big nest egg. This depletion is why we have been highlighting that the primary financial theme for Saudi Arabia in the 2020s is getting Other People's Money to fund as much of their Vision 2030 as possible. Saudi Arabia saw a significant decline in their net foreign assets in 2020, but also since the peak in 2014. The decline in 2020 was fueled by low oil prices a long with higher spending. This is a driving factor for the Saudi's want/need for higher oil prices and, perhaps just as significantly, the increasing of OPM in funding the future of Saudi Arabia. April and May saw Brent average $64 and $68 respectively, but this failed to stabilize Saudi Net Foreign Assets. In fact, Saudi net foreign assets declined in May despite the better oil prices. Finally, likely due to even higher oil prices in June (Brent's median price was over $73/bbl), net foreign assets rose +$9.23bn MoM, up from the previous 11-year low, but still -$969mm YoY. The peak was $737.0b on Aug 31/14, which means the decline is still $295.2b, a massive decline. Our thesis is unchanged, there is a bottom level. They likely don't want to go below $400b, which is why there has been this huge and increasing push to use OPM across the Saudi industry and government. This fits what we call the #1 financial theme for Saudi Arabia in the 2020s – the increasing use of Other People's Money. And not just in Saudi Aramco, although we do expect to see more equity and bond sales from Aramco. Below is our graph of Saudi Arabia net foreign assets.

Figure 22: Saudi Arabia Net Foreign Assets



Source: Bloomberg

Oil – Aramco H1, no special dividend, stronger for longer oil prices

Aramco H1 results this morning

Earlier this morning, Saudi Aramco reported its H1/21 results and, no surprise, it was as the analysts will say tomorrow "great quarter". (i) Aramco does not report full financials or hold its conference call until tomorrow, but held a media call today. (ii) Earlier, this morning, we tweeted [LINK] "*#Aramco Q2/21 Free cash flow $22.58b funds $18.75b dividend, brings H1/21 FCF $40.86b vs $37.5b div. No special dividend, but @PaulWallace123 @MattMartin128 report CFO "We'll advise later this year whether we'll be sticking to the ordinary dividend or doing otherwise". #OOTT"* First time since Covid that Aramco's free cash flow more than covers the dividend. No special dividend announced today, but the CFO says will advise later in the year. One other thought comes to mind on why Aramco isn't rushing out to increase its dividend to appease public investors – they don't feel the same pressures for public investors, rather are going to focus on creating the best value for Saudi Arabia. (iii) Saudi sees the opportunity for mid/long term oil prices. They continue to work to boost oil capacity from 12 to 13 mmb/d and then see others cutting capex to add mid/long term oil productive capacity. We also tweeted [LINK] "*Stronger for longer #Oil prices. #Aramco to boost productive capacity to 13 mmb/d. Bloomberg @PaulWallace123 @MattMartin128 report Aramco CEO Nasser "with less investment that we see from other producers globally, this creates an opportunity". #OOTT".* (iv) Oil demand. Platts reported [LINK] on CEO Nasser comment on the media call writing "*"Our expectation that recovery will continue, yes variants are having a certain impact; however we are seeing more openings of economies and we expect by year end the demand will be around 99 million b/d," he said. "There is strong economic recovery that we see and demand rebound especially from the US and China and we expect it to be at a 100 million b/d next year as a forecast for total demand".* (v) No change to $35b capex program for 2021 at this time. In the Q4 release on March 21, Aramco cut its budget to $35b from prior guidance of $40-45b. (vi) Continue to look at deals to use Other People's Money. We have been highlighting that the major financial theme for Saudi Arabia in the 2020s is increasing use of Other People's Money. The big Q2 transaction was the oil pipelines sale/leaseback. Platts reported "*The company is also considering investment transactions similar to the $12.4 billion deal clinched with a host of investors led by EIG for a 49% stake in newly formed Aramco Oil Pipelines Co. Under the deal announced April 9, Aramco Oil Pipelines Co., a newly formed unit of the state oil company, will lease usage rights in Aramco's stabilized crude oil pipeline network for 25 years, in exchange for a tariff paid by Aramco for the crude flows through the network, backed by volume commitments. "We are working on a good number of deals," Nasser said, without being more specific."* Our Supplemental Documents package includes the Saudi Aramco H1 release, H1 non-IFRS report, Bloomberg reporting, and Platts reporting.

Figure 23: Saudi Aramco H1/21 Free Cash Flow

	Second quarter				Half year			
	SAR		USD*		SAR		USD*	
All amounts in millions unless otherwise stated	2021	2020	2021	2020	2021	2020	2021	2020
Net cash provided by operating activities	112,733	46,310	30,063	12,349	212,032	130,377	56,542	34,767
Capital expenditures	(28,076)	(23,432)	(7,487)	(6,248)	(58,826)	(51,172)	(15,687)	(13,645)
Free cash flow	84,657	22,878	22,576	6,101	153,206	79,205	40,855	21,122

* Supplementary information is converted at a fixed rate of U.S. dollar 1.00 = SAR 3.75 for convenience only.

Source: Saudi Aramco

Oil – Is US backing away from a broader deal with Iran & back to no nukes focus

US State Dept lengthy Iran comments

Last week, we said it would be extremely difficult for the US to sign off on a return to the JCPOA in light of Mercer Street drone attack. We still believe that, but we have a little bit of a hesitation after reading the lengthy commentary from US State Dept spokesperson Ned Price on Iran at the Thursday press briefing. What struck us was that this was a lengthy commentary on one subject relative to what is normally done in terms of length on a subject at a press briefing. And when see a lengthy commentary, we always wonder if this is to distract from what isn't in the lengthy commentary ie. talk for a long time about something so people don't focus on what you didn't say. Because it was a lengthy commentary, we have to wonder if the US is prepared to bend a little to get the JCPOA return? After reading Price's lengthy commentary, it seems like they are very worried about where Iran is on nuclear progress and recognize its really a now or never to get a JCPOA done. And what seemed a little different from the last two months (ie. absent from his lengthy commentary) is that they didn't link in the JCPOA leading to the broader stronger deal that would deal with missiles etc. It seemed noticeable by its absence. The return to JCPOA was one of Biden's moon shots for 2021. When we read this, it seems like a softening of the US position from the last 2-3 months where they started to relink the theme of a broader deal. And their justification is that Iran continues to get closer to break out to nuclear. Surely Iran sees this. Our Supplemental Documents includes the Bloomberg transcript of the Price Iran comments.

Oil – Libyan could boost oil production by 200,000 b/d by year-end

OMV sees Libya oil growth in 2021

Libyan oil output has been dampened by technical and maintenance issues as of late due to a lack of funds allocated to the oil sector. In fact, on April 19, the National Oil Corporation had to declare force majeure [LINK] at its 111,000 b/d Hariga port in easter Libyal. The NOC wrote in a statement "*It is noteworthy that what has been received to date is less than 2% of the needs of the corporation and its companies to achieve the [production] targets set for the year 2021"*, referring to the capital allocated to it by the Central Bank of Libya. Platts reported on Wednesday [LINK], however, that outlook for Libyan crude output has improved. OMV, Austrian company active in the nation, believe that Libya has the potential to increase production by as much as 200,000 b/d by the end of the year. Vladimir Langhamer, MD of supply and trading at OMV said *"There is, I would say, another really 100,000-200,000 b/d that can come out of that if everything ends up correctly. They have a potential for more, but it needs time and it needs investments."* OMV noted that oil production in Libya was at full capacity during the entire last quarter, and had recovered from force majeures and attacks earlier this year. There are risks to this forecast, as the country is holding its elections later this year on Dec 24, which could destabilize the country, leading to volatile output. The NOC hoped to produce up to 1.45 mmb/d, but in the past two months its production has been averaging around 1.15-1.20, so it is doubtful these targets are met. Even if OMV's forecast does come to pass, this would mean about 1.40 mmb/d at its upper limits, which still would be shy of the NOC's targets.

Oil – Vortexa floating storage +13.5% WoW to 92.13 mmb

Vortexa floating storage

Prior to last week, our reporting on the Vortexa floating crude oil in storage data was always a week late because we would use Bloomberg's early Monday morning reporting on the Vortexa data as of the prior Friday. We didn't realize until last weekend that Bloomberg updated the Friday floating storage data on the terminal sometime on Saturday. As a result, we can report the floating storage data as of the most recent Friday, in this case as of Aug 6. Yesterday, we tweeted [LINK] "*Not all higher #OPEC oil being absorbed. Note Vortexa crude #Oil in floating storage 92.13 mmb on 08/06, up vs 86.31 mmb 07/30, which was originally est at 81.15 mmb. Also +16.10 mmb vs recent 06/25 trough 76.03 mmb. Thx @Vortexa @TheTerminal. #OOTT".* At 92.13 mmb at Aug 6, floating storage is down 58% from the June 26, 2020 peak of 220.35 mm but, still above pre covid of 52.13 mmb on Aug 5, 2019. Below is a graph of the Vortexa Global Floating Storage Level over the past year.

Figure 24: Vortexa Global Floating Storage Level (1 yr)

Source: Bloomberg, Vortexa

Oil – Caixin General Manufacturing PMI down to 15-month low in July

Caixin PMI hits 15-month low

The big positive for oil to start 2021 (aside from vaccine news) was the strong and timely recovery out of Covid in China and its related recovery in oil/products demand. The China growth story was showing accelerated recovery in manufacturing in 2021 with the PMI showing the strongest increase in new work for five months in May. However, the recent uptick in COVID-19 cases, coupled with supply chain difficulties caused the Caixin China General Manufacturing PMI data to edge down to a three-month low in June, and this month the July PMI reading has continued downwards to the lowest reading in 15 months [LINK]. Nonetheless, the index remains in expansionary territory. We recommend reading the short release as opposed to just seeing the headlines as there is more color on China. The press release said *"Market supply continued to expand, while demand began to come under pressure. The job market remained stable, as did the quantity and stock of purchases. Enterprises were cautious about increasing staff and purchasing raw materials. China's official second-quarter economic figures were in line with expectations, but the Caixin China manufacturing PMI in July and relevant data suggested the recovery of the economy is not yet solid. The economy is still facing huge downward pressure, and we need to ensure entrepreneurs' confidence."* Our Supplemental Documents package includes the Caixin release.

Oil & Natural Gas – Insights into India's energy for 2020s from Indian Oil annual report

India Oil annual report

There were some excellent oil, natural gas, LNG and energy transition insights for India in the 2020s from the India Oil Corp 2020/21 annual report posted on Aug 3. [LINK] Here are some of the key items to highlight. (i) Key reminder they aren't doing Net Zero, and they recognize they need fossil fuels. (ii) Pg 16. Reminds that India is still in the early stages of increasing living standards to its people and this gets reflected in a realistic view of energy for the future. They don't say its specifically that they can't rely on moving to renewable, rather they talk about the need to have "traditional offerings like coal, oil and natural gas." (iii) Pg 21. Reminds that their priority is to meet the needs of the energy growth. Didn't say it as directly as our July 24 below, but the same concept. Ie. "*For a country like India with high energy appetite, the path towards energy transition will involve balancing our enthusiasm for the future with the reliability of the old order."* (iv) Pg 161. Reminds India plans to double it refining capacity by 2025. Pg 18, refinery expansion is "*the cornerstone*" of IOC's growth strategy. (v) Pg 46. Natural gas to move from 6% to 15% of India energy mix. Included in the point above that India targets natural gas from 6% of energy mix to 15% by 2030. (vi) Pg 162, IOC reminds of the point from fall 2019 and our SAF Group Oct 23, 2019 blog *"Finally, Some Visibility That India Is Moving Towards Its Target For Natural Gas To Be 15% Of Its Energy Mix By 2030".* IOC writes "*India's natural gas sector is transforming rapidly, propelled by a highly ambitious policy to double its share in this decade. Critical policy support in the form of reforms such as rationalisation".* (vii) Pg 47. IOC's plans to double its LNG regasification terminals from 9.18 MMT (1.2 bcf/d) in 2021 to 13.18 MMT (1.7 bcf/d) in 2025 to 18.18 MMT (2.4 bcf/d) in 2030. (viii) Pg 158. IOC estimates global oil demand is +1.3 mmb/d from pre Covid 2019 to 2026. (ix) Pg 10. Ol supply risk. IOC writes "*The falling and lacklustre upstream investment pose a risk to oil supply availability in the future. As per the IEA, the spare capacity cushion will slowly erode in the absence of fresh upstream investments. By 2026, global effective spare production capacity (excluding Iran) could fall to 2.4 mb/d, its lowest level since 2016."* (x) Pg 159. Global natural gas demand in 2021 to be above pre Covid 2019. (xi) Pg 160/161. IOC says "*the competitiveness of renewables continues to improve".* (xii) Pg 170. Biofuels and Hydrogen seem to be two priorities for India and IOC. (xiii) Pg 172. CCS is crucial to IOC energy transition and needs "*collaboration on a global scale*". Our Supplemental Documents package includes the highlight items plus full quotes we made of the IOC annual report and our SAF Group Oct 23, 2019 blog.

Figure 25: IOC Chairman On Energy Security

Dan Tsubouchi
@Energy_Tidbits

IOC Chair why 1/3 increase to India #Gasoline #Diesel output "consumption is going from leaps and bounds and energy security is primary concern for me, which may not be the concern to the developed world". Why @POTUS @JustinTrudeau will ask #G7 to pay more than fair share #OOTT pic.twitter.com/UdoYAfo8Rp
2021-07-24, 7:35 AM

Source: SAF Group

Oil & Natural Gas – High prices + less capex = cash taxes coming for producers

Cash taxes are coming for E&P

There was a good reminder from the Pioneer Natural Resources Q2 call on Tuesday on something that will soon be hitting pretty well most E&P companies in Canada and the US – starting to pay higher cash income taxes. This is the result of high oil and gas prices and lesser levels of capex. In the Q&A portion of the Pioneer call, mgmt replied "*Hey Paul, I'll kick it off and I'll turn it over to Scott. I mean if you look at our current NOL balance, it's approximately $8 billion. If you consider the increase in commodity prices and the forward strip and the expectation for substantial free cash flow profile, that Scott* *and Richard spoke to, our cash tax time frame did accelerate into 2023. So that's based on the current strip and our free cash flow generation. So slight acceleration, but good based upon the free cash flow profile. If you look at our current portion of taxes, those are state related. So that's kind of where we sit as it pertains to cash tax payer and the profil on a go-forward basis".*

Oil & Natural Gas – Is FERC opening the door for challenges to approved infra projects

FERC Chairman Glick's comments

We read FERC's release multiple times and we are hope we are wrong in our concern after reading FERC Chairman Richard Glick's quotes in the release. We worry that it looks like Glick is suggesting that the door is wide open for environmentalists to challenge any recent FERC decisions or, certainly, the decisions during the Trump administration where he or others on the FERC board didn't agree. The release was titled "*Appellate Court Remands Brownsville Channel LNG Orders to FERC*" [LINK] FERC wrote ""*As I said in my dissents when FERC approved these projects nearly two years ago, neither the Natural Gas Act nor the National Environmental Policy Act permit FERC to assume away the impacts of building and operating any natural gas facilities," Chairman Glick said. "This decision clearly demonstrates that the Commission has the authority and obligation to meaningfully analyze and consider the impacts from GHG emissions and impacts to Environmental Justice communities. Moreover, failure to do so puts the Commission's decisions – and the investments made in reliance on those decisions – in legal peril."* Glick may be talking about this specific Brownsville decision, but we worry that its an argument that can be easily looked at any other recent decision where they might have been a split FERC decision. For some reason, it feels like this was the intention of his statement. If it wasn't intentional, FERC needs better drafting of its statements. Our fear is that its seems like an invitation to look at FERC decisions on projects that were approved in the last few years but that aren't yet in service. If we were environmentalists, we would be looking for FERC approved projects that Glick may have been against a decision, make the argument that FERC didn't do the quality/level of work required, and try to get the project halted. We hope we are wrong. Our Supplemental Documents package includes the FERC release.

Oil and Natural Gas – sector/play/market insights from Q2 calls

Sector insights from Q2 calls

As usual, we ran out of time this weekend to write up more of the Q2 calls this week. It was the busy week for earnings. This is our favorite time each time of each quarter as it is quarterly reporting and this is when we get the best insights into a range of oil and gas themes/trends, sectors and plays. The big service companies have finished Q2 reporting, the supermajors were this week as were many of the large US and Cdn producers. As a reminder, our Energy Tidbits memo does not get into the quarterly results, forecasts or valuation. Rather the purpose of highlighting a company is to note themes/trends and plays that will help shape a reader's investment thesis to the energy sector. In the conference calls, we also tend to find the best insights from the Q&A portion as opposed to the prepared remarks. Plus we tend to get the best E&P sector insights from services, pipelines, refineries and utilities and that was the case again this week.

BP – Another European oil doesn't want to give credit to oil for the great Q2

There must be a lot of investor and social pressure on the European supermajors to do their best to not give any credit to oil. Last week, it was Shell's Q2 and we tweeted [LINK] "*What's missing from #Shell CEO CFO 4-pg message on Q2 +38% to dividend, $2b share buybacks? Any credit that it was driven by strong #Oil #NatGas #LNG price or they expect continued strong #Oil #NatGas #LNG prices in for why have confidence in strength of cash generation. #OOTT*". This week, it was BP's Q2 and we tweeted [LINK] "*Straight talk under #EnergyTransition era? #bp CEO on* *dividend increase + share buyback in Q2 & to 2025 due to "confidence in the underlying performance of the business, confidence in the balance sheet". just can't highlight they now see #Oil prices stronger thru 2020s. #OOTT".* To be fair, CEO Looney did make specific comments noting strong oil prices. There is different messaging under the Energy Transition, the European supermajors will not just explain it the way it like in Q2 – the great financial results were driven by strong oil and gas prices. Rather they will talk like BP CEO. Our Supplemental Documents package includes the CEO/CFO comments. Our Supplemental Documents package includes the Bloomberg report on the BP CEO comments on Bloomberg TV.

Pioneer Natural Resources – Plans to have 5% Permian growth

Pioneer Natural Resources held its Q2 call on Tuesday. (i) Earlier in the memo, we noted Pioneer's comment on increasing cash income taxes. (ii) One of the big items of note in the call was cost inflation. They see cost inflation affecting the oil and gas in mid single digits for 2021 but growing to about 10% in the back half of 2021. *"So we're still going to be highly focused on getting efficiency gains, but I do think inflation is going to play a part in our '22 capital budget"*. (iii) A good reminder for all public companies – it's been too long since companies sat face to face with investors. In the Q&A, mgmt said *"Obviously the conferences, it's sort of hard to get feedback during those virtual conferences, we like to do it in one-on-one meetings. So you're going to see the Pioneer team over the next 8 to 10 weeks travel throughout the U.S. and talking to shareholders."* (iv) Pioneer is moving to 15,000 ft horizontal as their preferred length. This is the reality for efficiency, as longer horizontals are the way to go. It's a reminder when looking at assets that the contiguous land blocks have more attractiveness from an efficiency perspective, but also from a future sales perspective. iv) Pioneer had to remind investors that simulfracs use twice the water, and consequently water availability is the key to where they deploy simulfac. Mgmt said in Q&A *"one of the questions I get quite often because of the great success we've seen on simulfrac is why not convert all of our fleets to simulfrac, and there's a couple of things limit that…we want to make sure that we're efficiently deploying capital and we're getting the bang for the buck, so water logistics is probably the single most impactful thing that we look at to deploying simulfrac."* (vi) This quarter, Pioneer is starting to move multiple rigs to the Delaware basin. All the activity has been in the Midland basin and will continue to as such for the vast majority, but at least now some are moving to Delaware. Mgmt said *"In terms of our Delaware plans, we are moving multiple rigs into the Delaware Basin this quarter and the team is looking forward to bringing the same efficiency gains that we've achieved in the Midland Basin to the Delaware with a goal of further improving well returns especially given the higher oil cut and lower royalty burden in our Delaware acreage."* (vii) Note their plan is to have Permian growth of 5% and are expecting to deliver a mid teens total return. Our Supplemental Documents package includes the Pioneer Natural Resources Q2 Call Transcript.

Oil & Natural Gas – NOAA still calling for an above-average hurricane season

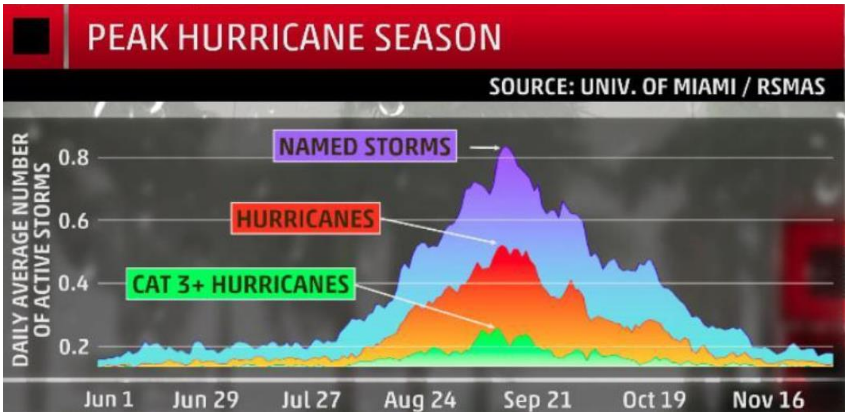
65% chance for an above-average hurricane season

The NOAA issued its annual midseason update on Wednesday [LINK], and atmospheric and oceanic conditions are conducive for an above-average hurricane season. Rick Spinrad, NOAA administrator said, *"After a record-setting start, the 2021 Atlantic hurricane season does not show any signs of relenting as it enters the peak months ahead."* The latest outlook expects 15-21 named stores, including 7-10 hurricanes. Of those hurricanes, 3-5 could become major hurricanes (Category 3,4, or 5 with winds 111 mph or greater). This includes the 5 named storms that have already formed, with Hurricane Elsa being the earliest 5th named storm on record. The likelihood of an above-average hurricane season currently sits at 65%. Our Supplemental Documents package includes the NOAA updated forecast.

Just moving into peak Atlantic hurricane season now

Its been quiet in the past few weeks for any significant tropical storm/hurricane activity in the Atlantic overall and moreso for the Gulf of Mexico. But we remind that its still a few weeks away from the normal peak of Atlantic hurricane season. Our prior Energy Tidbits have noted before how peak Atlantic hurricane season is in the Aug/Sept/Oct. Below is graphic we first last summer on a Aug 28, 2018 Weather Channel report that had a good graphic (see below) and wrote [LINK] "*Historically speaking, September has recorded the most Atlantic hurricane formations since 1851 with 404. That's an average of two or three forming in the month every year, according to NOAA. August ranks second with 245 hurricanes, and October ranks third with 205. The period between Aug. 20 and Oct. 10 accounts for 60 percent of all Atlantic Basin hurricanes and 75 percent of all major hurricanes (Category 3 or stronger) in that basin, according to Dr. Phil Klotzbach, a tropical scientist at Colorado State University*." We double checked the Weather Channel link this weekend and it still works.

Figure 26: Atlantic Peak Hurricane Season

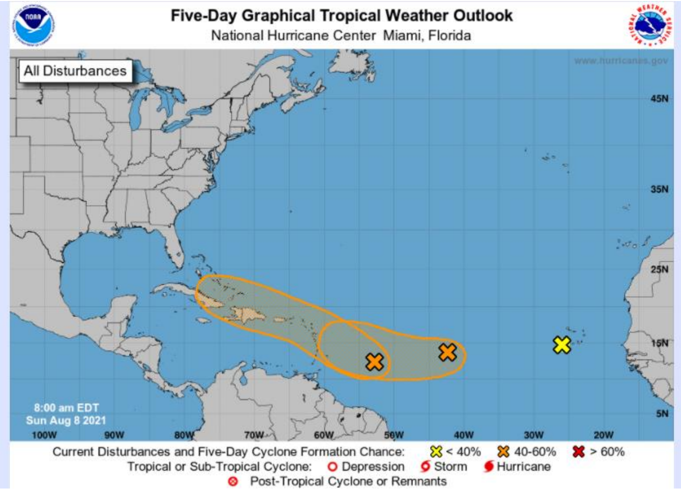


Source: Weather Channel

NHC notes some potential tropical storm/hurricane activity coming

Its still early, but the National Hurricane Center's Five-Day Graphical Tropical Outlook [LINK] as of 6am ET this morning notes a couple potential storms brewing that could ultimately move into the Gulf of Mexico. As of now the two closest disturbances are estimated to have a 40-60% probability for cyclone formation chance.

Figure 27: NHC Five-Day Graphical Tropical Weather Outlook at 6am ET Aug 8



Source: National Hurricane Center

Oil & Natural Gas – Earlier reminder Chinese New Year is early in 2022

Chinese New Year is Feb 1

We won't be mentioning this again for a at least a couple months but we wanted to give an early warning that there will some different factors this winter impacting China's oil and natural gas demand and import patterns. First, Chinese New Year (also known as Spring Festival) is almost two weeks earlier this year falling on Feb 1 vs Feb 12, 2021. The public holidays is for 1 week, ie. from Jan 31 to Feb 6, 2022. But the spring festival is 16 days, which in theory should be from Jan 31 thru Feb 14. But things seem to wind down ahead of New Years ie. in late Jan. Secondly, with the closing of the Tokyo Olympics, it's a reminder that the next winter Olympics is in Beijing from Friday Feb 4 thru Sun Feb 20, 2022. Normally, there is a demand surge in the month ahead of Chinese New Year so that will be earlier this winter. But one wildcard will be to expect more factor, steel, etc shut downs ahead of and thru the Olympics in the Beijing region to keep pollution/smog down. Its what happens for when the party meets so any international coverage shows as clear a sky as possible. But given there will be an even bigger global audience, we expect an even bigger pressure to try to have clear sky. And it will also mean China will reduce coal power around Beijing unless absolutely necessary, which means a boost for LNG for power in the lead up to and during the Olympics.

Electricity - California drought shuts down 750MW hydro power plant

Drought shuts down California hydro plant

We have been highlighting how the drought conditions in the western US will lead to increased natural gas demand for power generation. Our July 11, 2021 Energy Tidbits highlighted the EIA blog [LINK] that the drought conditions would lead to summer hydroelectric generation down significantly, 19% less than last year. In the first four months of 2021, hydroelectric generation has been 37% less vs 2020 and 71% less than 2019. On Friday, we tweeted [LINK] on another specific example "*#NatGas power generation in California to increase this summer. #LakeOroville hydro plant shut down for 1st time ever due to low lake water levels. Capacity 750MW power for ~0.5 million homes, but typically runs at ~400MW.*" The Sacramento Bee reported on Thursday [LINK] that for the first time since it was first operational in 1967, the Hyatt Hydropower plant was forced to shutdown due to low lake levels at Lake Oroville. Lake Oroville is just ¼ full which is well below normal. As for natural gas demand, it will certainly be supported as a result. Last time California had a drought, it led to hydroelectricity's total power generation share falling from 49% in 2011 to

34% in 2015, which pushed natural gas' share from 24% to 37% in the same years. In order to avoid rolling blackouts like last year, California will certainly have to lean of natural gas to fill the gap. Our Supplemental Documents package includes the Sacramento Bee report and the EIA July blog.

Energy Transition – BHP sees EVs being ¼ of all LDV sales globally by 2030

BHP: EVs reached inflection point in 2020

On Tuesday, BHP's Eduard Haegel spoke at the Diggers and Dealers Mining Conference in Australia. There was no transcript or video posted, so we only had the slide deck. [LINK] (i) The primary focus of the presentation was on nickel in the energy transition, but BHP's lead in was on EVs. BHP believes "*Electrification is a firmly entrenched trend*" "*• 2020 was an inflection point for EVs – 3.2m units sold globally, up 44% from 2.2m units in 2019 and representing 4.3% of all light-duty vehicle (LDV) sales • EVs are expected to make a quarter of all LDV sales globally by 2030, with leaders like Europe seeing penetration rates in excess of 40%."* Some may think this is conservative, but we would remind that BHP is looking at a global basis ie. including developing countries. (ii) Nickel. We have mining partners at SAF Group so leave any detailed insight to them. BHP's presentation was all about nickel and how nickel demand will grow hugely from batteries. BHP forecasts "*Primary nickel demand expected to grow by 1,300 kt in the next decade • Today, Nickel makes up ~80% of metals in lithium-ion battery cathodes like NMC811 • Primary nickel demand from batteries expected to rise by ~700 kt in the next decade."* Our Supplemental Documents package includes excerpts from the BHP slide deck.

Energy Transition – Replacing 24/7 baseload with renewable = price spikes

Not Ready for Prime Time

We believe the "Energy Transition is Not Ready for Prime Time" will be one of the growing Energy Transition themes for 2021 and 2022. It will show up in results, actions, and warnings that the "Energy Transition is not Ready for Prime Time". Some will be direct, but many will be indirect or unsaid examples. The big energy stories in Europe and the US this summer are high electricity prices and warnings to watch power usage. The big blame, especially in Europe, is given to high natural gas prices. No question, high natural gas prices are an important factor. But we think the reason is simple. On Friday, we tweeted [LINK] "*Positive to #NatGas #LNG in 2020s. OECD's steady replacement of 24/7 #Coal #Nuclear baseload with variable #Renewable means OECD #Electricity prices spike/shortage risk when supply/demand gets tight. China/India just increase coal. #Electricity will cost more in #EnergyTransition".* The reality is that the OECD countries are leading in the push to Net Zero, whereas China, India and others are still a long way away from reaching their peak in carbon emissions. Over the last decade, the bp data shows that the OECD countries policy push to reduce coal and nuclear power has worked, and their policy push to increase renewables has also worked. As a results, over the last decade, the reduction in electricity generated in OECD from traditional baseload 24/7 coal and nuclear electricity generation has basically been offset by increase in unpredictable and not 24/7 electricity generation from wind and solar. Taking 24/7 baseload power out means that whenever supply/demand is tight, the swings are huge and that is what we are seeing this summer. Our Supplemental Documents package includes the detailed bp table showing electricity generation by fuel by region and is worth a look.

Energy Transition – Biden finally focusing on fuel efficiency to reduce emissions

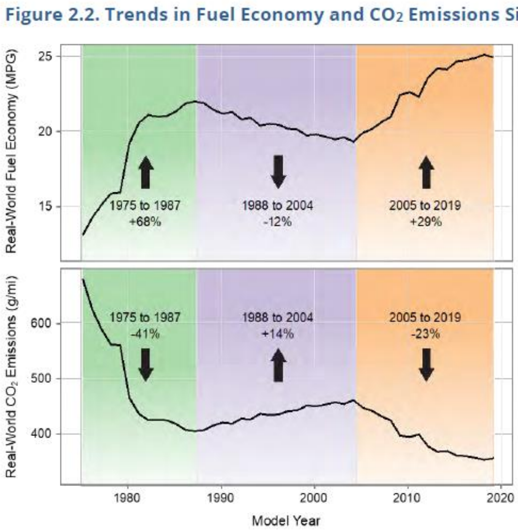
Biden focuses on fuel efficiency

As usual EVs get the headlines, but Biden's target to increase EV sales by 2030 also included a huge potential emissions reduction move – fuel efficiency standards on ICE vehicles. We have been noting our surprise that Biden hasn't given increased fuel efficiency standards on ICE vehicles a real priority but he finally proposed something significant this week. Our April 4, 2021 Energy Tidbits highlighted this concern that energy conservation and improving efficiency of energy use wasn't given a priority. Our surprise is that Biden became a US Senator in 1973, just in time for the Arab Oil Embargo in Oct 1973 that changed the world of energy and led to the election of Jimmy Carter in 1976. And Carter was responsible for pushing energy efficiency including increasing fuel efficiency in cars. And he was very successful in reducing emissions. This week, he finally got around to what we believe is the biggest no brainer if he wants to reduce emissions – increase fuel efficiency standards for cars. Although it is annoying in his selective view of savings to consumers. He is right you will save money by paying less for gasoline, but he forgets that the cars will cost more. The White House Fact Sheet wrote "*In addition, and consistent with the President's Day One Executive Order, the Environmental Protection Agency (EPA) and U.S. Department of Transportation (USDOT) will announce how they are addressing the previous administration's harmful rollbacks of near-term fuel efficiency and emissions standards. Through these coordinated notices of proposed rulemaking, the two agencies are advancing smart fuel efficiency and emissions standards that would deliver around $140 billion in net benefits over the life of the program, save about 200 billion gallons of gasoline, and reduce around two billion metric tons of carbon pollution. For the average consumer, this means net benefits of up to $900 over the life of the vehicle in fuel savings*." Our Supplemental Documents package includes the White House Fact Sheet. [LINK]

Carter's energy conservation/efficiency worked

The push on energy conservation worked as it led to less energy consumption per capita. Carter won the Nov 2016 election and took office in Jan 2017. Carter's big push was on energy efficiency and conservation, and its also forgotten that he was the one who led to big expansion in coal and in the first substantial tax incentives for shale oil that set the stage for US shale/tight oil and gas growth in the last decade. To be fair, Nixon also started some energy conservation such as implementing a national high speed limit of 55 mph whereas prior to that there wasn't a national standard, but most states were 70 or 75 mph. But the point is that it worked. And we would expect lower consumption would have led to lower emissions. Our May 2, 2021 Energy Tidbits wrote "*For someone who wants to reduce emissions, we previously said its kind of annoying that Biden didn't go back to the Obama playbook and the Carter playbook and put a priority on restoring increasing fuel economy limits for cars/trucks because its clear that increasing fuel economy can materially reduce emissions. Looks like Biden will finally get at fuel economy. The EPA did a big repot in Jan "The 2020 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975". [LINK] The EPA graphs are pasted below and shows how it all started with post Jimmy Carter election in 1976. If you look at the numbers behind the graphs. Obama did well also. If you look at the data. Obama elected in 2008. From 2007 thru 2016, he reduced CO2 by ~17%, and fuel economy increased by 20%. Gains under Trump were small*."

Figure 28 Fuel economy vs CO2 emissions



Source: EPA

Energy Transition – Can the world plant enough trees to support the carbon offsets?

1.2 million trees planted = one LNG cargo

We remind that planting trees and protecting forests will be the most popular ways for companies to earn carbon offsets. There was a good food for thought comment from RBN Energy this week that led us to tweet [LINK] "*Can the world plant enough trees to generate the accelerating (exponential?) increase in tree planting #CarbonOffsets? Great food for thought math @RBNEnergy @Housley_RBN need 1.2 mm trees to offset entire carbon impact of 1 #LNG cargo. #EnergyTransition".* RBN posted a great blog on the topic [LINK], *"A Matter Of Trust - Assessing The Energy Industry's Carbon-Related Initiatives"*, where it discussed some of the recent projects by O&G companies for reducing/offsetting their emissions. RBN specifically highlighted Shell's carbon-neutral LNG. Shell shipped the world's first two shipments of carbon-neutral LNG to buyers in Japan (Tokyo Gas) and South Korea (GS Energy) in July 2019. Shell can call the LNG "carbon neutral" as it offset the ~240,000 MT of GHG emissions from each of those cargos with the equivalent amount of carbon offsets (~240,000 credits in this case). To secure these offsets, Shell has assembled a portfolio of projects to a) avoid the generation of CO_2 or b) remove CO_2 from the atmosphere. RBN tweeted about the blog [LINK] *"In Monday's blog, we said the lifecycle emissions of each LNG cargo would be about 240,000 MT of CO2 equivalent. At 5 trees per ton of CO2e, using tree planting to offset the entire carbon impact of one shipment would take an estimated 1.2 million trees."* But RBN begs the question: can it really be proven that the equivalent CO2 was prevented/removed by these projects? RBN makes a good point – it's certainly possible to make an accurate assessment of the CO2 emitted due to the LNG shipments, but it is a lot more difficult to measure how much CO2 is a) not released into the atmosphere by preventing deforestation in part of the 4-million-acre park in Peru b) absorbed by trees planted due to conservation efforts. Other questions come up too, like what happens if a wildfire destroys a protected forest? When are the offsets generated? Another key issue raised was double counting. We had to think, how can there not be double counting? Or else, the world would have to be covered with replanted trees for all the carbon offsets needed for all the LNG cargos. Granted, there are independent verification programs like the Verified Carbon Standard to act as gatekeepers and set standards, but many concerns remain. Regardless, it is clear that planting trees/tree conservation will be a big opportunity and a big capital allocation theme for North American and global companies. Our Supplemental Documents Package includes the RBN blog.

Energy Transition – Shell's carbon offsets is from planting trees & protecting forests

Shell's forestry projects

Carbon offsets will be one of the biggest near term growth areas for the energy transition, and the priority is planting trees and protecting forests. There was a good example of planting trees and protecting forests being the most popular way to earn carbon offsets by a recent BloombergNEF July 9 report "*Shell Has Ramped Up Its Use of Carbon Offsets Dramatically*". BloombergNEF wrote "*Since the beginning of 2018, the oil major has retired nearly 5.2 million carbon offsets on the Verified Carbon Standard (VCS), the largest voluntary offset registry. Some 4.9 million of this total, or 95% has come since the beginning of 2020. All of the offsets Shell has purchased off of the VCS have come from forestry projects, primarily in Peru, Indonesia and China. In February, the company retired almost 1.2 million offsets from the Cordillera Azul project in Peru, with its investment going to protect 1.6 million hectares of forest.*" Our Supplemental Documents package includes the BloombergNEF report.

Energy Transition – Less than 3 mths to COP-26 Glasgow, climate pledges to ramp up

Climate pledges to ramp up

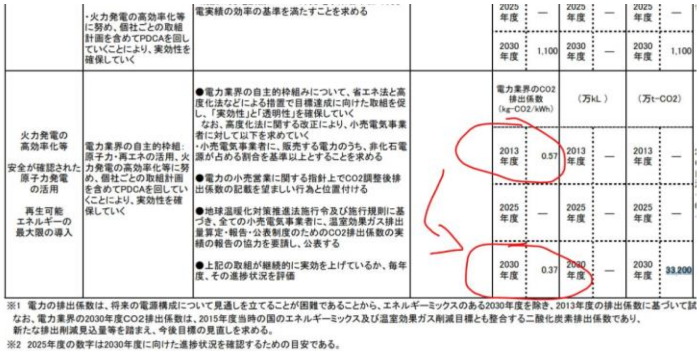
We are now in the countdown to COP-26 Glasgow with less than 3 months to go until the Nov 1 start, which is why we will keep seeing an increase in the emissions reductions pledges, commitments, actions, especially from countries and large companies. None of these want to be climate shamed. On Thursday, we tweeted [LINK] "*Expect #Exxon and a wave of Govt/Company #NetZero #CarbonNeutral #ReducingEmissions #EnergyTransition commitments/pledges to accelerate post Labor Day. Its less than 3 mths to @COP26 Glasgow starts Nov 1. #OOTT".* Big companies, especially ones like Exxon, that are considered to be behind their peers in emissions reductions plans will have to put out something. It won't be just climate shaming, it is now becoming an expectation from investors. So no one should have been surprised to see the WSJ exclusive report "*Exxon Considers Pledging 'Net Zero' Carbon by 2050"* [LINK]. "*Exxon Mobil Corp. is considering a pledge to reduce its net carbon emissions to zero by 2050, according to people familiar with the matter, in what would amount to a significant strategic shift by the oil company."* And "*To date, Exxon has instead pledged to reduce its so-called carbon intensity, or emissions as a proportion of total energy produced. It is unclear exactly what a new Exxon net-zero pledge would entail, but what is currently being considered would apply to the emissions directly produced by Exxon's assets and stemming from the energy the company uses, the people said. That is known in climate disclosure as scope 1 and 2 emissions."* We expect Exxon will make some sort of increased climate change pledge but we have trouble believing it will be as clear or as strong as the European supermajors like Shell. Our Supplemental Documents package includes the WSJ report.

Energy Transition – Nuclear can cut Japan's emissions by 35% by 2030

Nuclear is key to Japan's emissions

Our July 25, 2021 Energy Tidbits highlighted the Japan's new energy mix targets for 2030, which are hit LNG the hardest, even harder than coal. The big winners were nuclear and renewables. On July 20, we tweeted on the winners and losers [LINK] "*Great thread to read. Negative to #LNG for 2020s. Japan new 2030 target for power generation sees big cut to electricity from LNG #NatGas. To 2030, share of power generation, #Renewable +18-20%, LNG -17%, #Coal -13%. #Nuclear +14-16% will be key for 24/7 power. Thx SStapczynski".* On Wednesday, we retweeted [LINK] another Bloomberg Stephen Stapcznski tweet [LINK] "*This is why Japan still wants to restart all of its nuclear reactors. A new government study found that Japan's power sector can reduce emissions by 35% by 2030 (from 2013 levels) if nuclear and renewables make up half of total electricity generation".* Stapczynski included the below Japan graph noting the 35% reduction.

Figure 29: Japan, nuclear can reduce emissions by 35% by 2030



	・火力発電の高効率化等に努め、個社ごとの取組計画を含めてPDCAを回していくことにより、実効性を確保していく	電実績の効率の基準を満たすことを求める	2025年度	—	2025年度	—	2025年度	—
			2030年度	1,100	2030年度	—	2030年度	1,100
火力発電の高効率化等 安全が確認された原子力発電の活用 再生可能エネルギーの最大限の導入	電力業界の自主的枠組:原子力・再エネの活用、火力発電の高効率化等に努め、個社ごとの取組計画を含めてPDCAを回していくことにより、実効性を確保していく	●電力業界の自主的枠組みについて、省エネ法と高度化法などによる措置で目標達成に向けた取組を促し、「実効性」と「透明性」を確保していく なお、高度化法に関する改正により、小売電気事業者に対して以下を求めていく ・小売電気事業者に、販売する電力のうち、非化石電源が占める割合を基準以上とすることを求める ●電力の小売営業に関する指針上でCO2調整後排出係数の記載を望ましい行為と位置付ける ●地球温暖化対策推進法施行令及び施行規則に基づき、全ての小売電気事業者に、温室効果ガス排出量算定・報告・公表制度のためのCO2排出係数の実績の報告の協力を要請し、公表する ●上記の取組が継続的に実効を上げているか、毎年度、その進捗状況を評価	電力業界のCO2排出係数 (kg-CO2/kWh)		(万kL)		(万t-CO2)	
			2013年度	0.57	2013年度	—	2013年度	—
			2025年度	—	2025年度	—	2025年度	—
			2030年度	0.37	2030年度	—	2030年度	33,200

※1 電力の排出係数は、将来の電源構成について見通しを立てることが困難であることから、エネルギーミックスのある2030年度を除き、2013年度の排出係数に基づいて試
なお、電力業界の2030年度CO2排出係数は、2015年度当時の国のエネルギーミックス及び温室効果ガス削減目標とも整合する二酸化炭素排出係数であり、
新たな排出削減見込量等を踏まえ、今後目標の見直しを求める。
※2 2025年度の数字は2030年度に向けた進捗状況を確認するための目安である。

Source: Bloomberg

China economic stability is underlying principle

Energy Transition – China's carbon reduction goal ranks behind economic stability

We have to believe that no one expects China, India, etc to move to anywhere near a believable Net Zero commitment for or at COP-26 Glasgow. Rather, the question is what lesser commitment will they make and will it be believable? And what is different vs G7 countries, is that China is making sure China and the world knows that China is not going to go after emissions reductions at the cost of economic stability. China's Politburo specifically stated it wants to put an end to "whirlwind campaigns" to reduce carbon. Last week, China's Politburo met and made sure China and the world knows the priority ranking. On Monday, we tweeted [LINK] "*China Politburo urged putting an end to "whirlwind campaigns" for carbon reduction, but wants plan to achieve #Carbon peak by 2030. Polituro principle is pursuing progress while ensuring stability. Demise of #Oil #NatGas to take longer than #EnergyTransition aspirations. #OOTT.*" China's official news for The People's Republic of China reported [LINK] reported on the Political Bureau of the Communist Party of China Central Committee meeting on July 30 to study and analyze the current economic circumstances. They wrote first on the underlying principle "*To ensure sound economic work for the second half of 2021, the meeting stressed upholding the underlying principle of pursuing progress while ensuring stability, and the full, accurate and comprehensive implementation of the new development philosophy.*" Economic stability is the key priority. And then later, it said on the Polituro ""*It urged putting an end to "whirlwind campaigns" for carbon reduction and resolutely curbing the pell-mell development of high-energy intensity and highly pollutive projects.*" Our Supplemental Documents package includes the China state news agency release.

China likely has an idea of the cost to get to carbon neutral and doesn't like it

We have to believe that, different from the US, Australia, Canada and others, China either has some rough idea of what it will cost to reduce emissions and doesn't like it, or they aren't prepared to let China go into some big emissions reduction plan without knowing the cost. Our June 27, 2021 Energy Tidbits noted Energy Secretary Granholm's senate committee exchange with Senator Kennedy that led to our tweet caused us to tweet [LINK] "*US can't control what CN IN actually spend to be #CarbonNeutral, but politics aside, shouldn't #Biden admin have a rough estimate of how many $trillions to get US to carbon neutral? How can anyone say #EnergyTransition won't cost more? #NatGas #OOTT".* Their June exchange starts with Kennedy asking Granholm how many trillions it will cost to get the world to carbon neutral, she doesn't have a number, he asks hundreds of trillions and she replies "*it would be a lot, for sure*" with a smile. We don't think we are been bias by saying most people think she is a well liked person and we suspect she probably that might be enough to change questions. However, it was Kennedy so he comes back asking how much the energy department thinks it will cost to make the US carbon neutral? Granholm replies, "*again, it would be a lot*", Kenney asks "*hundreds of trillions*?", Granholm "*I don't know about hundreds of trillions but it would a lot of money"*, Kennedy "*it'd be in the trillions*", Granholm "*Yes*", Kennedy "*mid trillions*?", Granholm "*I don't know*". We recognize Kennedy is trying to play at gotcha you in getting Granholm to commit to an estimate but, the more we thought about it, we thought it was a good question – shouldn't the Biden administration have some even really rough idea of what they think it will cost? Because without some rough cost with many unproven assumptions, how can they continue to argue that estimates or even calls that the energy transition will be expensive are incorrect or based on old thinking? Didn't Granholm take away their credibility to say that in the future. The gotcha you question may not have worked the way Kennedy wanted, but really did work in a different way. The US isn't alone, our July 25, 2021 Energy Tidbits noted the Australian Deputy Prime Minister challenging his Prime Minister that he wants to know the costs of the energy transition. Its hard for people to be against reducing emissions but, our concern is that people should at least know what the energy transition means to them.

Energy Transition – Korea setting up SPR equivalent for critical minerals/rare earths

Korea to build critical minerals stockpiles

There was a good food for thought Argus report on Thursday "*South Korea to increase stockpiles of rare metals"* [LINK] as to why there is likely an additional leg of demand for critical metals (copper, zinc, cobalt, etc) and rare earths over and above an already strong decades long demand outlook. Argus reported "*South Korea has announced plans to raise its stockpiles of critical metals such as cobalt, nickel and rare earths that are used in key emerging industries including electric vehicle (EV) batteries and renewable energy. The government has set a target to increase its stockpiles to cover 100 days of consumption, up from 56.8 days currently, the country's ministry of trade, industry and energy (Motie) said today. It did not give a target date. South Korea will build new facilities and expand existing ones to achieve this goal. State-run firm Korea Resources (Kores) will manage the stockpiles, Motie said."* We thought the title could have calls it *"critical metals*" and "*rare earths"* because copper and nickel are included. It also would have been linked more to the IEA's recent report (see the following item). Critical metals and rare earths are the oil of the 70s. The arab oil embargo led to creation of the IEA and the IEA member countries committing to have 90 days of strategic petroleum reserves. But because that was a supply cut off, it forced governments to look to reduce oil consumption ie. small cars like the Honda Civic started to take off, increased fuel efficiency standards, etc. This is a little different in that it is a predictable demand driven cycle as the govts are putting the world, not just one region, on a path of decades acceleration in items like EVs that rely on critical metals and rare earths. At the same time, western countries are making it tougher for mining. We have to believe that there will be other manufacturing countries that will take a similar approach. Our Supplemental Documents package includes the Argus report.

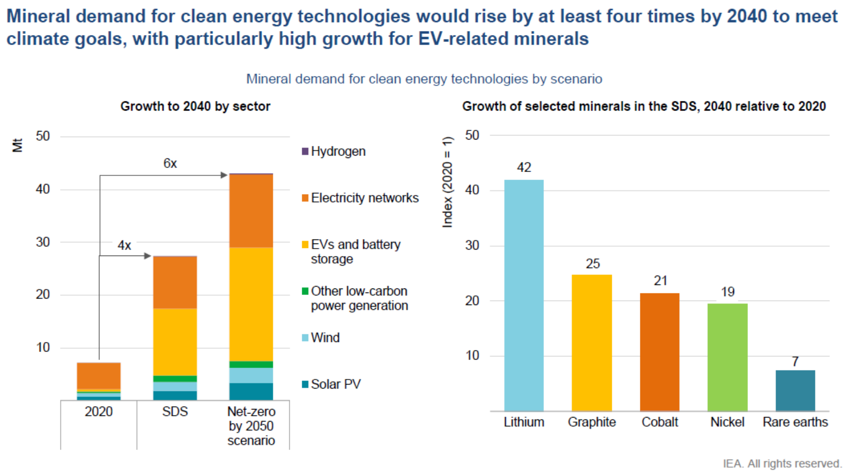
Biden did not mention critical minerals supply chain in his EV push this week

We always look for careful wording and omissions from major policy announcements and there was a good example in Biden's new EV push. The White House Fact Sheet looks to have been very carefully drafted to focus on the manufacturing supply chain for EVs but not mention the need to have supply chain of critical minerals for EVs. The White House writes "• *Financing the retooling and expansion of the full* *domestic manufacturing supply chain*." Note how they are very careful to not specify batteries. They are also careful to not use words like critical minerals but note how China has cornered the global supply chain for batteries – that certainly infers critical minerals. White House writes "*Seeing this shift, countries are sprinting to lead. For example, China is increasingly cornering the global supply chain for electric vehicles and batteries with its fast-growing electric vehicle market. By setting clear targets for electric vehicle sale trajectories, these countries are becoming magnets for private investment into their manufacturing sectors – from parts and materials to final assembly*". Our concern for the US EVs push is that this careful drafting is to make sure they don't lead on mining hopes.

IEA warned on the critical minerals risk for the energy transition

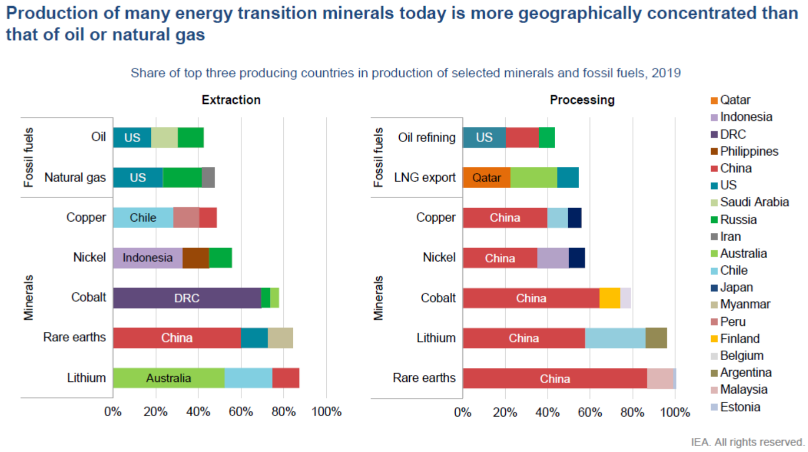
Our May 9, 2021 Energy Tidbits highlighted the IEA"s May 5 major report "*The Role of Critical World Energy Outlook Special Report Minerals in Clean Energy Transitions*" [LINK] that warned the world is behind on where it needs to be on critical minerals for the energy transition. The IEA release starts off "*Supplies of critical minerals essential for key clean energy technologies like electric vehicles and wind turbines need to pick up sharply over the coming decades to meet the world's climate goals, creating potential energy security hazards that governments must act now to address, according to a new report by the International Energy Agency."* The messaging isn't in any doubt here and why we tweeted [LINK] "*Path to #EnergyTransition is clear, but demise of #Oil #NatGas won't be as quick as aspirations. Another @fbirol warning not on track to meet #NetZero aspirations. this time critical minerals raising risk of delayed or more expensive #EnergyTransition. Great report @IEA . #OOTT".* This is a good report to read and for reference libraries. There are a huge amount of good insights and perspective report. One perspective example is that coal revenues will still be almost double energy transition minerals revenues in 2030. Its not just a potential shortage of critical minerals, it's the concentration of minerals sources that will cause increased security risks ie. China in the below chart. Its why the IEA recommendations include "*as well as voluntary strategic stockpiles in some instances*". Our Supplemental Documents package includes excerpts from the IEA Executive Summary from the report.

Figure 30: Critical Minerals demand



Source: IEA

Figure 31: Extraction and Processing of Fossil Fuels and Critical Minerals



Source: IEA

IEA was formed to make sure countries had strategic reserves of oil
The Argus report on Korea is a reminder of why the IEA was formed. In the May report, the IEA warned on the risk of security of supply. The critical minerals report has 6 recommendations and one includes "*4. Enhance supply chain resilience and market transparency. Policy makers need to explore a range of measures to improve the resilience of supply chains for different minerals, develop response capabilities to potential supply disruptions and enhance market transparency. Measures can include regular market assessments and stress-tests, as well as strategic stockpiles in some instances*." Strategic stockpiles caught our attention. Its why we tweeted [LINK] "*Hmm! @IEA 's recommendations incl "as well as voluntary strategic stockpiles in some instances". IEA was formed from #ArabOilEmbargo 73/74, members committed to 90 day strategic oil reserves. IEA doesn't see same no gas for cars, but more expensive, delayed #EnergyTransition #OOTT"* As we have noted before, the IEA was created following the Arab Oil Embargo after the Arab producers shut out the west. And one of the key requirements for membership was that memos committed to have 90 day strategic oil reserves. Its also why the US created the Strategic Oil Reserves. Every year we remind on the Arab Oil Embargo and include the below picture that reminds of the block long line ups to get gasoline when the embargo hit. It was the game changer for energy for decades to come.

Figure 32: Gas station line up during Arab Oil Embargo 1973-74

Source: Time

Capital Markets – Canada posts big trade surplus in June due to oil

Canada posts largest trade surplus since 2008

Canada posted its largest trade surplus in almost 13 years in June, which was much to the surprise of everyone from analysts polled by Reuters to the chief economist at Canada's export development agency. We would have thought most would expect a great month given the price of oil. We tweeted following the Reuters report [LINK], *"Canada unexpectantly posts trade surplus. what's the surprise? US imports ~3.5 mmb/d Cdn #oil. WCS prices in June +$5.50 MoM & $27.50 YoY which is $0.6b Mom and $2.9b YoY. Pretty obvious reminder to @JustinTrudeau how important oil is to CAN economy. #OOTT".* Reuters reported on Thursday [LINK] that Canada had posted a trade surprise of C$3.24bn for the month of June, as exports were leapt by 8.7% due to higher shipments of oil and automobiles. In fact, according to Stats Canada [LINK], exports hit a record high of C$53.76bn in June, posting their largest increase since July 2020. Peter Hall, chief economist at Canada's export development agency said *"This is a very pleasant surprise. International supply chains are becoming less encumbered and ... fundamental underlying demand that has been with us all the way along is actually manifesting itself in growth".*

Capital Markets – SEC approves Nasdaq's disclosure on board diversity

Nasdaq's board diversity disclosure approved

There is no question that there has been an increasing push on US and Cdn companies for diversity at the board level. It took 8 months for the SEC to rule, but no one should be surprised that, on Friday afternoon, the SEC announced it had "*voted to approve Nasdaq's proposed rule changes requiring issuers to disclose certain information about the diversity of the company's board*". The WSJ had a good summary [LINK] writing "*Under the proposal, Nasdaq-listed companies would need to meet certain minimum targets for the gender and ethnic diversity of their boards or explain in writing why they aren't doing so. For most U.S. companies, the target would be to have at least one woman director, as well as a director who self-identifies as a racial minority or as lesbian, gay, bisexual, transgender or queer. Companies would also be required to disclose diversity statistics about their boards. Nasdaq found in a review conducted before submitting its plan late last year that more than three-quarters of its listed companies wouldn't have met its proposed requirements".* Our Dec 6, 2020 Energy Tidbits highlighted when Nasdaq made file the proposal with the SEC on Dec 1, 2020 [LINK]. In our Dec 6, 2020 memo, we noted that large eastern Canadian companies have already started on this broader board diversification on visible minorities or as the Liberals describe them as racialized Canadians. Our Supplemental Documents package includes the SEC release, WSJ report and what we originally wrote in our Dec 6, 2020 Energy Tidbits.

Demographics – Return to office would cause 1 in 5 to quit immediately

Angus survey on WFH

There is no question that there is a difference in how people who work from home vs their bosses on some items, in particular the level of productivity But apart from that debate, Angus Reid put out an interesting study on Wednesday [LINK] on the opinions of those who WFH on their experience and the future transition back to the office. There is legitimate debate on the level of productivity depending on who is being asked. So, no surprise that, of the overall population of WFM polled, 71% of people say their productivity at home was good or great, but half of those aged 18-24 said their productivity was "awful" or "challenging". Our immediate thought on the 18-24 is that part of it must be that they don't have their homes and likely either at home with mom & dad or share an apartment. But for the part that isn't really a debate is what do WFH people feel if they are told to return to the office. For the future move back to office, of those still working from home, a considerable group (29%) would rather remain WFH, and almost half (44%) would rather do a hybrid structure. Many of those polled are very reluctant to return, with a quarter saying they would return to the office "begrudgingly" and likely start looking for another job. 1 in 5 would lean toward quitting immediately. This attitude is even more widespread in the ages 18-34, where 50% of this age group says they are likely to reconsider their employment.

Demographics – IRS lists the names of any wealthy American who leaves the country

IRS names wealthy Americans that leave

We didn't realize this until we saw the Axios report on Thursday "*Wealthy people are renouncing American citizenship"* [LINK] that noted the IRS quarterly listing of the names of all Americans with more than $2 million in global assets who have renounced their citizenship [LINK]. The IRS site names every individual who fits in this category. The IRS is not saying these people broke the law or haven't paid taxes. We wonder if they believe this will be like wealth shaming and deter others with modest wealth to leave the country. Axios noted "*The number of Americans who renounced their citizenship in favor of a foreign country hit an all-time high in 2020: 6,707, a 237% increase over 2019. Between the lines: While the numbers are down this year, that's probably because many U.S. embassies and consulates remain closed for COVID-19, and taking this grave step requires taking an oath in front of a State Department officer. Why it matters: The people who flee tend to be ultra-wealthy, and many of them are seeking to reduce their tax burden. New tax and estate measures proposed by the Biden administration could, if implemented, accelerate this trend."*

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

@Energy_Tidbits on Twitter

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

LinkedIn – Look for quick energy items from me on LinkedIn

Look for energy items on LinkedIn

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

Misc Facts and Figures.

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

Kudos to all of Team Canada at the Tokyo Olympics

As of 7am MT news cut off, the closing ceremony at the Tokyo Olympics looks like close to the end as they have done the hand over to Paris for Paris 2024, and the IOC has spoken. We think that everyone in Canada has to be proud of these athletes who competed well and were great representatives of our country. There were so many great performances and stories in all the athletes whether they won a medal or not. There were so many that were so close to medaling, who are going to be hugely motivated for Paris 2024. From a medal perspective, it was the most successful summer games ever other than the 1984 Los Angeles games that was the year of the eastern bloc boycott by 14 countries led by Russia and East Germany. Canada's final medal count was 7 Gold, 6 Silver and 11 Bronze for a total medal count of 24, and overall ranking of 11th.

Figure 33: Canada's medal count at summer Olympics

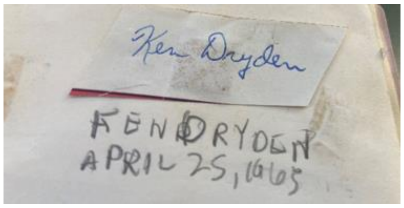
Canada Medal Counts at Summer Olympics						
Games	**Athletes**	**Gold**	**Silver**	**Bronze**	**Total**	**Rank**
1984 Los Angeles	407	10	18	16	44	6
2020 Tokyo	370	7	6	11	24	11
2016 Rio de Janeiro	314	4	3	15	22	20
1996 Atlanta	303	3	11	8	22	21
2008 Beijing	332	3	9	8	20	20
1992 Barcelona	295	7	4	7	18	11
2012 London	281	2	5	11	18	27
1908 London	87	3	3	10	16	7
1928 Amersterdam	69	4	4	7	15	10
1932 Los Angeles	102	2	5	8	15	12
2000 Sydney	294	3	3	8	14	24
*In 1984 Los Angeles was teh eastern bloc boycott by 14 countries led by Russia & East Germany						
Source: Wikipedia, CBC						

Source: Wikipedia, CBC

Happy Birthday Ken Dryden

Its Happy Birthday to one of the all time great Canadian hockey goalies, Ken Dryden, who was born on Aug 8, 1967. He was a great goalie for the Montreal Canadians, but also was in goal for the decisive Game 8 in the September 1972 Summit Series between Canada and Russia. Besides it being his birthday, below is his autograph when he played for the Etobicoke Indians (Junior B) in 1964-65 season. It was on April 25, 1965 and I am pretty sure it was an away game playing the Kitchener Green Shirts in the final. Went to the game with my friends Dave and Pat Regan, the sons of the Etobicoke Indians coach Larry Regan. Like all kids who looked up to hockey players, had to get autographs on the program from all the Etobicoke Indians hockey players including Key Dryden.

Figure 34: Ken Dryden, Etobicoke Indians 1964-65 Season



Source: SAF Group

Two of the Tokyo Olympics commercials on CBC to highlight

We recognize that the Super Bowl commercials get the most coverage but, what is cool about the Tokyo Olympics commercials on CBC was that many of the commercials were more about athletes and had an inspirational message and not a product video. A couple to mention. Toyota's "*It Could be You*" [LINK] one scene shows a para-athlete fencer clip from her start to competing saying "*you will never get anywhere unless you take that first step. This was mine, then you take another and the next thing you know, this is you"*. The commercial ends "*because you don't need to be amazing to start but, you need to start to be amazing*". Petro-Canada's commercial [LINK] on Marissa Papaconstantinou, para-athlete runner on her coach's words after tearing one then another hamstring "*I know its hard right now, but it all gets easy later"*.

How does Chinese Shein crank out clothes so cheaply?

We would love to know what Cdn apparel companies think about Chinese clothes manufacturers and how they can produce, sell, ship and deliver to North American end customers as cheaply as they do? We have no idea, but we just can't help wonder when we saw the WSJ Monday report "*How Shein Became the Chinese Apparel Maker American Teens Love*" "*With $5 crop tops and $15 full-length dresses, the Chinese apparel company Shein is winning over America's younger shoppers and offering proof that a clothing company from China can build a brand with traction in the West".* [LINK] We are sure there is an explanation, but it certainly reminds of the differences in rules, regulations, obviously labor costs, etc and the challenge for Cdn/US companies to compete anywhere close on price.