Energy Tidbits

May 23, 2021

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G7 Policymakers Make New Commitments On Energy Transition ie. Future Emissions Laws/Regulations That Are Coming

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. Overlooked is G7 policymakers made new commitments on Friday on the energy transition ie. future laws/regulations coming down the pipe (Click Here)

2. IEA's Net Zero pathway will be the energy reference scenario for global policymakers at COP-26 in Nov (Click Here)

3. Multiple signals last week all lead to a return to JCPOA in the next week or two. (Click Here)

4. All indications/actions from Biden administration point to Nord Stream 2 being completed and in-service in H2/21 (Click Here)

5. Bank of Canada Governor Macklem seemed to acknowledge Canada's energy transition will be costly (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 71 bcf, storage now -391 bcf YoY deficit

YoY storage at -391 bcf YoY deficit

The EIA reported a 71 bcf injection (vs 60 bcf injection expectations) for the May 14 week, which was below the 5-yr average injection of 86 bcf, and well below last year's injection of 81 bcf. Storage is 2.100 tcf as of May 14, increasing the YoY deficit to 391 bcf from 378 bcf last week and storage is now 87 bcf below the 5 year average vs 72 bcf below 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 (05/14/20)		Historical Comparisons: 5-year average (2016-20)	
Region	05/14/21	05/07/21	net change	implied flow	Bcf	% change	Bcf	% change
East	358	347	11	11	467	-23.3	392	-8.7
Midwest	472	458	14	14	573	-17.6	471	0.2
Mountain	135	131	4	4	123	9.8	128	5.5
Pacific	247	235	12	12	251	-1.6	236	4.7
South Central	888	857	31	31	1,078	-17.6	959	-7.4
Salt	280	269	11	11	344	-18.6	304	-7.9
Nonsalt	608	588	20	20	734	-17.2	656	-7.3
Total	**2,100**	**2,029**	**71**	**71**	**2,491**	**-15.7**	**2,187**	**-4.0**

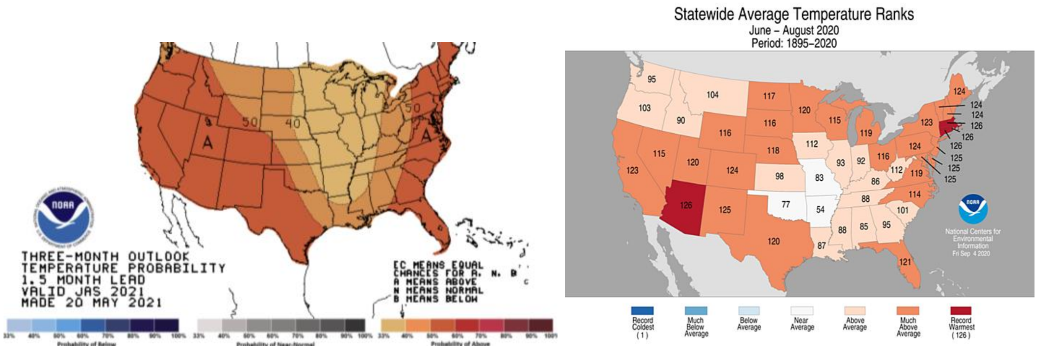
Source: EIA

Natural Gas – NOAA continuing to forecast a hot summer

NOAA forecasts a hot summer

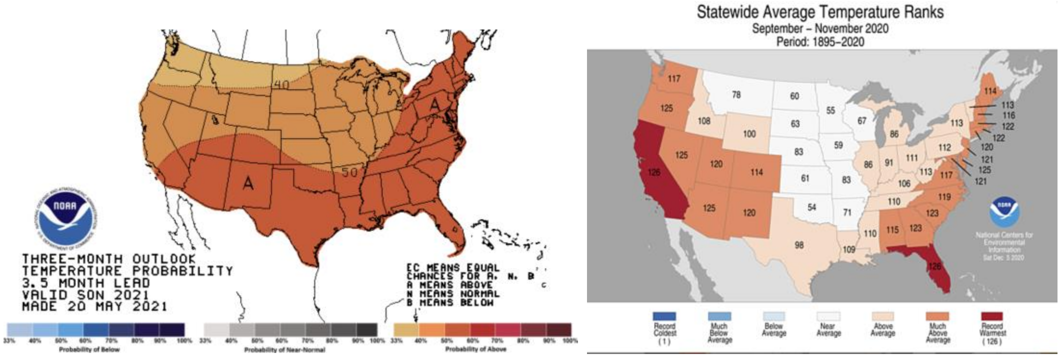
Winter 2020/21 had been tough for natural gas demand based on weather, and finished off with a very hot March, being the 14th warmest in the last 127 years and warm temps are expected to continue thru summer. However, for the summer, hot weather is good for natural gas demand and should provide some support level for HH prices. On Thurs, NOAA released its monthly update to its seasonal temperature forecasts [LINK]. NOAA is calling for above average temperatures in JJA continuing into warm temps in fall through SON. The summer temps are expected to hot but the YoY comp is to a very very hot summer. NOAA ranked JJA as the 4th hottest in the last 126 years, JAS 2020 as the 7th hottest in the last 126 years and ASO was 16th hottest in last 126 years. Its early, but the long range winter forecasts are for warmer than normal winter. Below are the new NOAA temperature probability maps for June/July/Aug and for Sep/Oct/Nov.

Figure 2: NOAA JJA Temperature Probability Forecast vs JJA 2020



Source: NOAA

Figure 3: NOAA SON Temperature Probability Forecast vs SON 2020



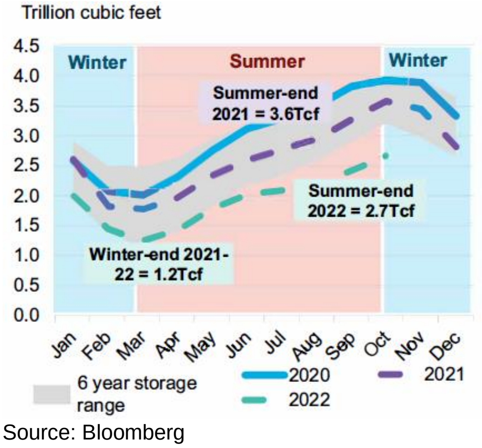
Source: NOAA

Natural Gas – Bloomberg expecting a 352 bcf YoY deficit to summer 2021 stocks

Bullish HH call from Bloomberg

Bloomberg released it's US Gas Monthly report on Tuesday which featured a bullish call for HH prices. (i) BNEF noted the significantly down YoY injections for April and May, but particularly April. In April, injections of 187 bcf were 119 bcf lower than 306 bcf in April 2020 however this can be partly attributed to the demand decline last year with the onset of covid. April demand had jumped ~4 bcf/d YoY mainly due to the increase in LNG exports and exports to Mexico. Tightness is expected to continue into May with an expected 61 bcf drop in injections. (ii) Production is expected to remain muted for the remainder of 2021 with BNEF expecting domestic production to average 92.8 bcf/d over the next 12 months. Below the 93.3 bcf/d of production needed to return stocks to the 5 year average. Higher than expected production growth is a risk to the strong HH prices. (iii) US LNG exports had reached a record high of 11.1 bcf/d in April with facilities running at near 100% utilization. With strong netbacks to Europe and Asia export markets, US exporters are expected to continue running at this utilization level with light maintenance to ensure they are shipping as many cargoes as possible. (iv) These factors are painting a bullish picture for HH with stocks expected to end summer 2021 at 3.569 tcf, 352 bcf below 2020 levels. Winter 2021/22 stocks are expected to end at 1.243 tcf, 538 bcf lower than March 2021. And the forecasted deficit widens in Summer 2022 with stocks expected to be 2.657 tcf, 912 bcf below summer 2021 end. Our Supplemental Documents package includes excerpts from the US Gas Monthly.

Figure 4: Natural Gas Inventory Forecast



Source: Bloomberg

Shale/tight gas flat thru June

Natural Gas – EIA, US shale/tight natural gas basically unchanged in Apr/May/June

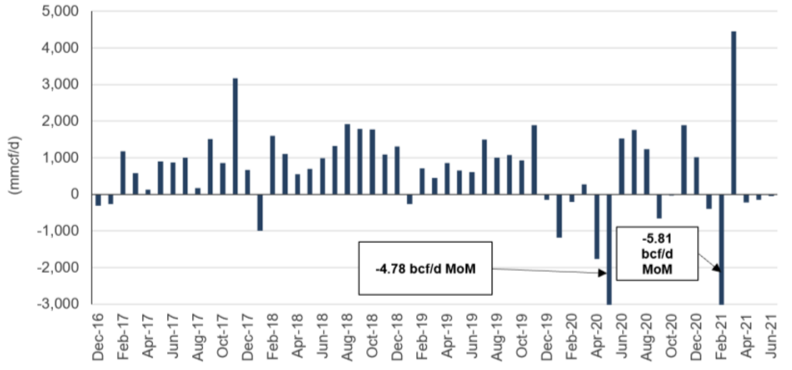
On Monday, the EIA issued its Drilling Productivity Report May 2021 [LINK], which is the EIA's forecast for oil and natural gas production from the major shale/tight oil and gas basins for the current month (in this case May) and the next month (in this case June). (i) The EIA is forecasting a marginal MoM growth in US shale/tight oil in May/June, and a marginal MoM decline in US shale/tight natural gas again, which seems off. That doesn't make sense to us that the oil volumes are growing more than the natural gas volumes in the oil plays with associated natural gas. As these plays mature, the gas to oil ratio increases plus there has been the big push on reducing flared gas. (ii) The EIA forecasts June at 83.569 bcf/d which is -0.054 bcf/d MoM (would have been +0.775 bcf/d MoM if not for the +0.830 bcf/d revision to May) and down 3.313 bcf/d from the Nov/19 peak of 86.884 bcf/d. (iii) Outside of MoM increases in Haynesville and the Permian, every US shale/tight play shows a decline MoM in June, with the largest declines coming from Bakken -0.055 bcf/d MoM and Appalachia -0.052 bcf/d MoM and Anadarko -0.050 bcf/d. (iv) Four basins are now up YoY with Appalachia +1.372 bcf/d YoY, Permian +1.313 bcf/d YoY, Bakken +0.736 bcf/d YoY and Haynesville +0.906 bcf/d YoY. Total US shale/tight natural gas production is +2.991 bcf/d YoY for June as the 4.756 bcf/d drop last May due to Covid related shut-ins had only recovered 1.499 bcf/d in June 2020. (v) Remember US shale/tight gas is ~90% of total US natural gas production. So whatever the trends are for shale/tight gas should be for the most part the trends for US natural gas in total. The qualifier "for the most part" is because at $3 HH, there has probably been some pure natural gas drilling in plays outside the big shale/tight plays. Below is our running table showing the EIA DPR data for the shale/tight gas plays, and the MoM changes in major shale/tight natural gas production. Our Supplemental Documents package includes the DPR.

Figure 5: Major Shale/Tight Play's Natural Gas Production

mmcf/d	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	June YoY	June less May
Anadarko	6,614	6,531	6,516	6,604	6,317	6,674	6,566	6,367	5,301	5,994	5,927	5,855	5,805	-809	-50
Appalachia	32,865	33,862	34,353	33,401	33,733	34,799	35,622	35,452	34,764	34,508	34,360	34,289	34,237	1,372	-52
Bakken	1,995	2,349	2,679	2,847	2,919	2,919	2,918	2,888	2,747	2,916	2,851	2,787	2,732	736	-55
Eagle Ford	5,771	5,883	6,009	5,918	5,777	5,735	5,700	5,730	4,808	5,731	5,658	5,596	5,564	-207	-32
Haynesville	11,851	11,395	11,381	11,531	11,566	12,008	12,306	12,347	11,718	12,381	12,514	12,639	12,757	906	118
Niobrara	5,242	5,408	5,477	5,471	5,359	5,385	5,348	5,213	5,118	5,059	5,011	4,964	4,923	-319	-41
Permian	16,240	16,905	17,145	17,121	17,193	17,229	17,299	17,370	15,100	17,411	17,449	17,494	17,553	1,313	59
Total	80,578	82,333	83,560	82,894	82,865	84,749	85,760	85,367	79,556	83,999	83,770	83,624	83,569	2,991	-54

Source: EIA, SAF

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



Source: EIA, SAF

Natural Gas – Woodside says it will sell its interest in Chevron Kitimat LNG

Woodside and Chevron both selling interest in Kitimat LNG

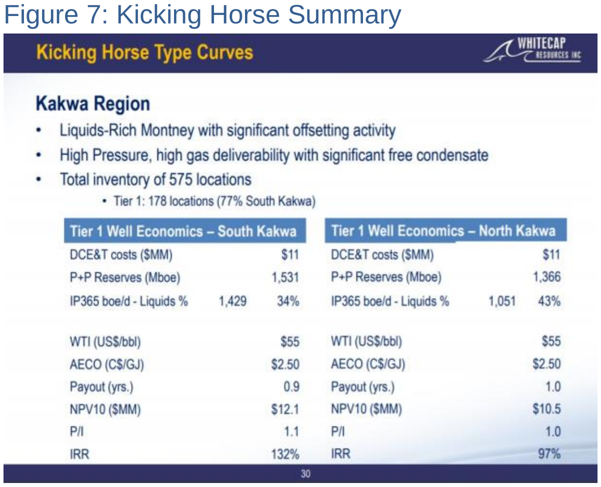
Woodside Petroleum announced on Tuesday [LINK] that they will be exiting their position in the Kitimat LNG project. Woodside holds a 50% non-operated participating interest in the project and the divestment of the interest also include the 480 km Pacific Trail Pipeline, however Woodside will retain their interest in the Liard Basin. Woodside wrote *"The Kitimat LNG proposal was designed to develop a new source of LNG to supply Asian markets in the latter part of this decade. However, we have decided to prioritise the allocation of capital to opportunities that will deliver nearer-term shareholder value".* Chevron had first announced they were divesting their 50% interest in Dec 2019 [LINK]. Chevron ahs yet to find a buyer for its interest in the project.

Natural Gas – Whitecap reminds liquids rich Montney gas is best in class economics

Montney assets instrumental in dividend increase

We continue to believe many US and Cdn investors aren't aware that the Montney gas plays with associated liquids are probably the best economics of any US or Cdn play. We highlighted this in our April 11, 2021 Energy Tidbits noting how the wells generated significant free funds flow and are the ideal wells for a dividend plus growth model. We used Whitecap's then disclosure of the new Montney wells acquired in its then announced Kicking Horse acquisition. We weren't surprised this week, when Whitecap announced it had closed the Montney Kicking Horse acquisition and that it was increasing its dividend by 8% with thse new assets.[LINK]. The first item noted in the dividend increase was "*with the exceptional Montney wells result*", which is why we tweeted [LINK] *""with the exceptional #Montney wells results" key for $WCP dividend increase. Overlooked Cdn Montney #NatGas with associated liquids likely best economics of any US/Can play with big free cash flow generation w/ payout ≤1 yr, and big NPV. #OOTT".* In Whitecap's new May 17, 2021 slide deck [LINK], they included the NPV10% for a tier 1 well in the acquired properties which are $12.1mm for south Kakwa and $10.5 for North Kakwa. Whitecap wrote *"Whitecap's tier 1 Montney inventory at Karr and Kakwa has very robust economics consisting of high productivity wells (IP365 1,100 – 1,400 boe/d) which drive quick project payouts (less than 1 year) and long term net asset value growth (NPV10 per well greater than $12 million) at US$55/bbl WTI and C$2.50/GJ AECO".* These Montney wells still produce well over 50% in the from of natural gas, but the condensate is a huge value upside. This contributes to the extremely quick payouts in the region at ~1 yr. We don't think there are many plays that have 1 year payout wells over a broad areal extent.

Figure 7: Kicking Horse Summary



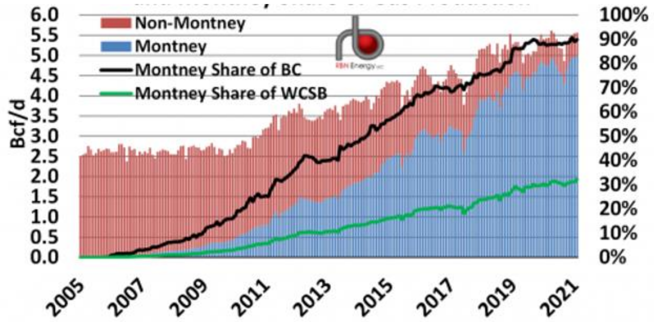
Source: Whitecap

Natural gas – RBN notes importance of BC Montney gas production

BC Montney gas production is 32% of WCSB production

As noted above, Whitecap's acquisition in the Montney is a perfect example of top-tier economics of the play. WCP's acquisition was on the more liquids rich Alberta side of the Montney, however RBN put out a good blog on Tuesday [LINK] detailing the importance of the BC side for WCSB gas production. Gas production the BC Montney ahs skyrocketed from 0 in 2005 to 5.0 bcf/d in Feb 2021, totalling 90% of BC gas production and 32% of WCSB gas production. This is a function of increased drilling but also of vastly increased per well productivity. The BC Montney wells typically reach peak production rates 3-4 months into production and these peak rates have grown from 0.91 mmcf/d in 2005 to 3.20 mmcf/d in 2015 and to 4.33 mmcf/d in 2020, four times higher than 2005. And based on preliminary results in 2021, that peak number could be closer to 5.0 mmcf/d. The higher production duration rates have also been improving significantly with wells 60 months in producing at 1.00 mmcf/d in 2016 vs 0.28 in 2005. Our Supplemental Documents package includes the RBN blog.

Figure 8: BC Gas Production Breakdown



Source: RBN

Natural Gas – India April natural gas production up 22.7% YoY to 3.12 bcf/d

India natural gas production +22.7% YoY and +1.9% MoM

Unfortunately, we are now in a period where YoY comparisons aren't necessarily relevant given 2020 was hit by the initial global wave of Covid causing interruptions in everything including oil and gas production. The theme for India LNG has consistently been that India natural gas production has been stagnate and that means that any increase in India natural gas demand leads to an increase in LNG imports. To date, India has not been able to turn around its domestic natural gas production. But India's Petroleum Planning and Analysis Cell released their monthly report for Apr natural gas and oil statistics on Wed [LINK]. India's domestic natural gas production was up 22.7% YoY from 2.54 bcf/d in April 2020 to 3.12 bcf/d, up 1.9% MoM from 3.06 bcf/d in March. The YoY increase is not necessarily reflective of significant growth, more so a return to pre-pandemic production, as April 2019 to March 2020 production averaged 3.02 bcf/d. India has consistently struggled to grow domestic natural gas production with 2018-2019 production averaging 3.18 bcf/d, declining to 3.02 in 2019-2020 and averaged 2.78 bcf/d 2020-2021. This means that until they can grow production, any incremental natural gas demand is likely to be met by increasing LNG imports. Our Supplemental Documents package includes excerpts from the PPAC monthly package.

Natural Gas – India April LNG imports up 45.6% YoY to 3.13 bcf/d, down 7.7% MoM

India LNG imports +45.5% YoY and -7.7% MoM

India is extremely price sensitive in terms of its LNG imports, which was exemplified in their 2020-2021 import data. India had ramped up exports from June to October 2020, taking advantage of low LNG prices to fill their stocks. Imports began to decline in November as

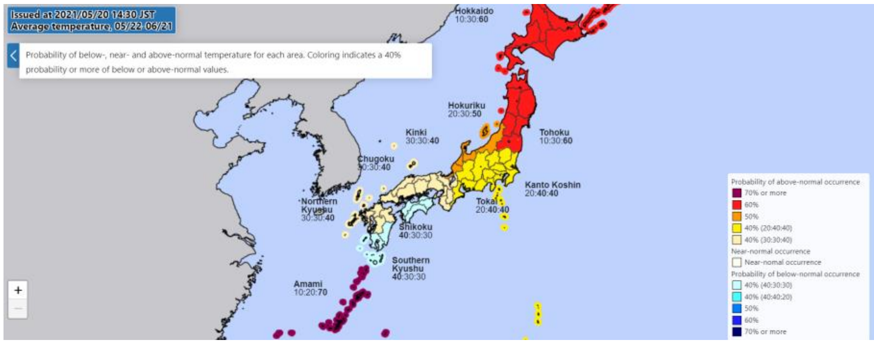
LNG prices began to rise, with the price trajectory ramping up in late Dec and reaching record levels January. This resulted in India LNG imports declining from a 2020-2021 peak of 3.836 bcf/d in Oct 2020 to just 2.814 bcf/d in Jan 2021. LNG imports have since normalized along with pricing, with import in Apr of 3.13 bcf/d, up 45.6% YoY but down 7.7% MoM from 3.39 bcf/d in Mar and 3.64 bcf/d in Feb as prices remain relatively elevated.

Natural Gas – Warm but not necessarily hot June for Japan

Warm June expected in Japan

The Japan Meteorological Agency issued its updated month ahead weather forecast for May 22 – June 21 on Thursday [LINK]. So far, May has been a hot month, lending some support for natural gas. Expectations for the balance of May and the bulk of June are for warm but not overly hot temperatures. Below is the current JMA forecast for the remainder of May and into June.

Figure 9: JMA Temperature Probability Forecast for May 22 – June 21



Source: Japan Meteorological Agency

Natural Gas – Japan LNG Imports in April 7.96 bcf/d, -4.3% YoY

Japan Apr LNG imports -4.3% YoY

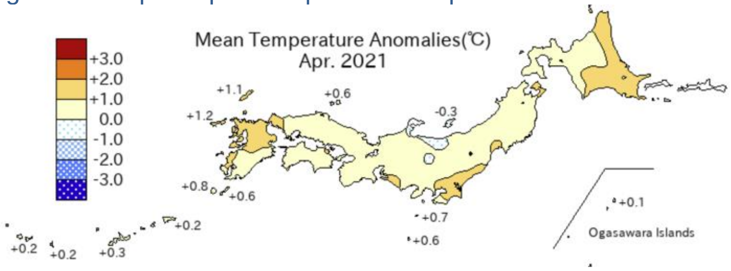
On Thursday, Japan Ministry of Finance released its April LNG import data on Monday [LINK]. Japan's April LNG imports were 7.96 bcf/d, down 4.3% YoY and down 27.87% MoM from 11.04 bcf/d in March. Though down YoY and MoM, the LNG imports outperformed vs thermal coal (-15.4% YoY). Japan was warmer than normal in April, but all of the daytime highs were in the 20-25 degree range, so not air conditioning weather. We believe the reason why LNG imports outperformed thermal coal was for continued inventory buildup in anticipation of a tight summer for electricity reserve. Below is a temperature map of April and our table that tracks Japan LNG import data.

Figure 10: Japan Monthly LNG Imports

bcf/d	2015	2016	2017	2018	2019	19/18	2020	20/19	2021	21/20
Jan	13.06	11.22	12.85	12.79	11.69	-8.7%	11.63	-0.5%	12.48	7.3%
Feb	13.26	12.30	13.36	14.23	12.61	-11.4%	10.99	-12.8%	13.84	25.9%
Mar	12.60	12.62	12.61	12.28	11.30	-8.1%	11.16	-1.2%	11.04	-1.1%
Apr	10.56	10.21	10.52	8.97	9.00	0.3%	8.31	-7.7%	7.96	-4.3%
May	8.91	8.55	9.66	9.92	8.62	-13.1%	7.09	-17.7%		
June	10.61	10.02	9.90	8.88	8.32	-6.3%	8.42	1.2%		
July	10.77	10.19	10.19	10.55	10.56	0.1%	9.35	-11.5%		
Aug	10.93	11.96	11.24	11.73	9.45	-19.5%	9.04	-4.3%		
Sept	11.06	10.67	9.31	10.04	10.30	2.6%	10.41	1.0%		
Oct	9.38	9.73	9.50	10.12	9.75	-3.6%	9.20	-5.7%		
Nov	10.71	12.07	10.26	10.15	10.03	-1.2%	9.63	-4.0%		
Dec	12.51	11.69	12.31	11.23	10.54	-6.2%	11.96	13.4%		

Source: Japan Ministry of Finance

Figure 11: Japan April Temperature Map



Source: JMA

Natural Gas – Japan will want to keep LNG tanks topped up this summer

Japan will want LNG this summer

Last week's (May 16, 2023) Energy Tidbits noted this item as it reminds there should be some positive support for LNG prices this summer from Japan especially if it's a hot summer. The low electricity reserve margin (way lower than in the US) means that Japan will be doing all they can to ensure there is max available electricity, which we believe will include LNG. On May 11, we tweeted [LINK] "*Japan will want to keep #LNG tanks topped up until worst is over. Japan summer peak power reserve only 3.7-3.8%. Positive for LNG & US LNG, less cargos redirected to refill EU storage. Imagine the AC bill if they had 0.5 mm visitors for olympics. Thx @SStapczynski #NatGas #OOTT*." The tweet was driven by the Bloomberg report that "*Japan's power supply is expected to be the tightest in "several years" this summer amid an outlook for warmer-than-normal weather and lower electricity output as some thermal facilities are shut, Minister of Economy, Trade and Industry Hiroshi Kajiyama said to press on Friday",* and "*Japan's nationwide peak power reserve rate, excluding Okinawa and Hokkaido, is expected to be 3.7%-3.8% this summer, according to NHK, citing the Organization for Cross-regional Coordination of Transmission Operators ** NOTE: The minimum level required by the Japanese government during peak demand times is 3%."* After our May 11 tweet, we saw the Platts report [LINK] on the METI press comments that reinforced our LNG comment writing "*Among possible measures, METI intends to request Japanese utilities to report their LNG as well as other fuel procurement plans for summer in June to scrutinize them, a METI source told S&P Global Platts*." Note that if any US areas have reserve margins below 10%, its generally considered some sort of critical situation. As we put in our tweet, it just means that Japan is likely to be having more LNG imports this summer to keep their LNG tanks full. Our Supplemental Documents package includes the Bloomberg @TheTerminal and Platts reports.

Natural Gas – China domestic gas production +7.0% YoY to 19.84 bcf/d

China domestic natural gas production trends higher YoY

The China National Bureau of Statistics released data for Natural gas production in April on Tuesday [LINK]. Natural gas production in April was up 7.0% YoY to 19.84 bcf/d and is down 5.7% MoM vs 21.04 bcf/d in March. January to April production volumes are +11.6% YoY, and +23.1% vs Jan-Apr 2019. We have been highlighting the theme of increasing domestic natural gas production and the negatives that brings for global LNG import volumes as China will no longer be the growth engine for YoY LNG increases as it was in the 2015-2019 period. LNG imports are less as domestic natural gas production moved to bigger YoY increases in 2019 and 2020, and there was the start up of the Power of Siberia natural gas pipeline from Russia to China.

Natural Gas – China LNG imports +32% YoY, pipeline gas imports +30.1% YoY

China natural gas imports

The China General Administration of Customs released their detailed breakdown of imports for April on Tuesday [LINK]. Pipeline natural gas imports reached 5.5 bcf/d in April, up 30.1%

YoY from 4.2 bcf/d in April 2020 and were up 14.7% MoM. Pipeline imports in 2021 have averaged 5.3 bcf/d, up from the 2020 average to April of 4.8 bcf/d. The release also included LNG import volumes with were +32.0% YoY to 10.77 bcf/d, up 23.3% MoM. We had noted in our May 9, 2021 Energy Tidbits that Bloomberg had expected strong April LNG imports due to strong industrial consumption along with their storage refill push. However, Bloomberg is expecting stronger pipeline gas imports vs LNG imports for May.

Figure 12: China LNG Imports

bcf/d	2016	17/16	2018	18/17	2019	19/18	2020	20/19	2021	21/20
Jan	3.84	39.3%	8.03	50.0%	10.20	27.1%	10.31	1.1%	13.15	27.6%
Feb	3.10	32.3%	6.84	66.9%	7.46	9.1%	7.26	-2.7%	9.52	31.1%
Mar	2.60	17.7%	5.04	64.5%	6.28	24.8%	6.49	3.3%	8.74	34.6%
Apr	3.00	14.7%	5.43	57.8%	7.27	34.0%	8.16	12.3%	10.77	32.0%
May	2.20	104.5%	6.39	41.9%	6.87	7.6%	8.10	18.0%		
June	3.51	38.2%	6.31	30.1%	7.25	14.9%	9.27	27.8%		
July	2.46	95.1%	6.40	33.4%	7.56	18.1%	7.79	3.1%		
Aug	3.54	37.4%	7.26	49.2%	8.04	10.8%	9.23	14.8%		
Sept	4.05	36.8%	7.00	26.3%	8.16	16.7%	9.17	12.4%		
Oct	2.85	93.0%	7.13	29.6%	6.26	-12.2%	7.78	24.3%		
Nov	4.26	52.6%	9.59	47.5%	10.42	8.7%	10.58	1.6%		
Dec	5.80	34.5%	9.75	25.0%	10.01	2.7%	11.76	17.5%		
Full Year Avg.	3.43	46.3%	7.10	41.2%	7.98	12.5%	8.83	10.6%	10.55	19.5%

Source: China General Administration of Customs

Figure 13: China Pipeline Imports

bcf/d	2016	2017	17/16	2018	18/17	2019	19/18	2020	20/19	2021	21/20
Jan	4.3	3.7	-13.5%	4.0	8.2%	5.0	24.9%	5.2	3.5%	4.9	-4.5%
Feb	5.0	4.4	-12.9%	5.0	15.6%	5.5	9.0%	5.7	3.8%	6.1	7.2%
Mar	4.2	3.6	-15.6%	4.2	17.7%	4.5	6.4%	4.2	-5.2%	4.8	12.8%
Apr	4.5	4.7	4.1%	5.5	17.7%	5.0	-9.3%	4.2	-15.5%	5.5	30.1%
May	3.2	3.9	23.2%	5.1	30.4%	4.8	-4.3%	4.0	-16.6%		
Jun	3.3	4.1	22.1%	5.3	31.2%	4.8	-10.3%	4.1	-15.0%		
Jul	3.2	4.1	25.5%	4.7	14.5%	4.7	0.0%	3.6	-23.3%		
Aug	1.7	3.9	133.5%	4.7	21.3%	4.9	3.1%	5.3	7.9%		
Sep	5.1	4.0	-22.3%	5.2	30.7%	5.0	-4.2%	4.7	-6.0%		
Oct	3.1	3.5	13.2%	4.2	20.6%	3.8	-8.1%	3.9	1.0%		
Nov	3.1	4.0	27.4%	5.1	26.8%	4.7	-6.9%	4.1	-13.0%		
Dec	3.6	4.4	22.7%	4.6	2.8%	4.7	3.9%	5.6	18.9%		

Source: China General Administration of Customs

Natural Gas – Looks like US is conceding on Nord Stream 2

Nord Stream 2 completion and Biden-Putin Summit could coincide

It looks like the predictions will come true for the two oil and gas issues to be resolved ahead of Biden's June trip to Europe and expected summit with Putin – Biden will back off and allow Nord Stream 2 to get completed and put in-service, and the US returns to the JCPOA. Its also a good reminder on Biden operating style – he doesn't go to summits to make deals, he makes his deals ahead of a summit. All the actions and comments this week from the Biden administration are indicating that Nord Stream 2 will be completed and put in-service. The key action was the administration removing the sanctions on the company completing Nord Stream 2 due to national security reasons ie. the relationship with Germany. TASS reported "*US refusal to impose sanctions on the Nord Stream 2 operator is a positive signal. This was announced to reporters on Thursday by the press secretary of the President of the Russian Federation Dmitry Peskov. "This is definitely a positive signal," he said*." Then in her Thursday press conference, Jen Psaki note the pipeline was 95% done when Biden took over and not realistic they could have stopped a pipeline in another country. And also the relationship with Germany for why national security issues involved. We expect this to be formally put to bed prior to the upcoming date in June to be determined Biden/Putin summit.

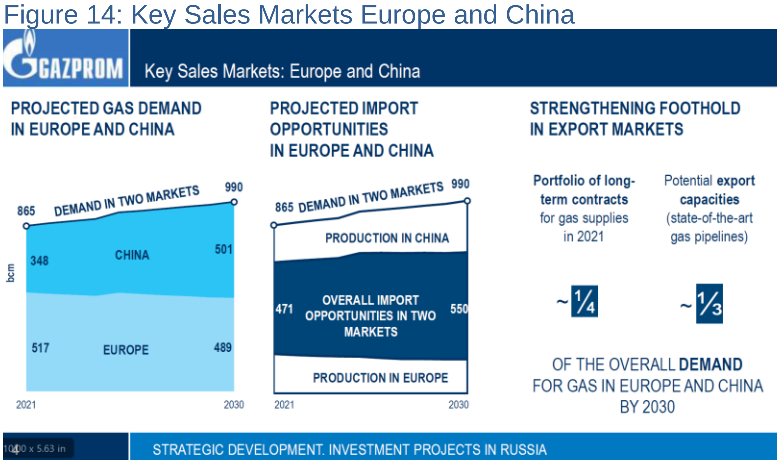
Natural Gas – Gas insights from Gazprom's Foreign Markets webcast

Gazprom market insights

There were some good natural gas insights from the Gazprom Foreign Markets webcast. We were glad we tuned in as they had simultaneous translation and actually tweeted a couple of times during the live webcast. The primary speaker was Elena Burmistrova, Deputy Chairman of the Gazprom Management Committee, and Director General of Gazprom

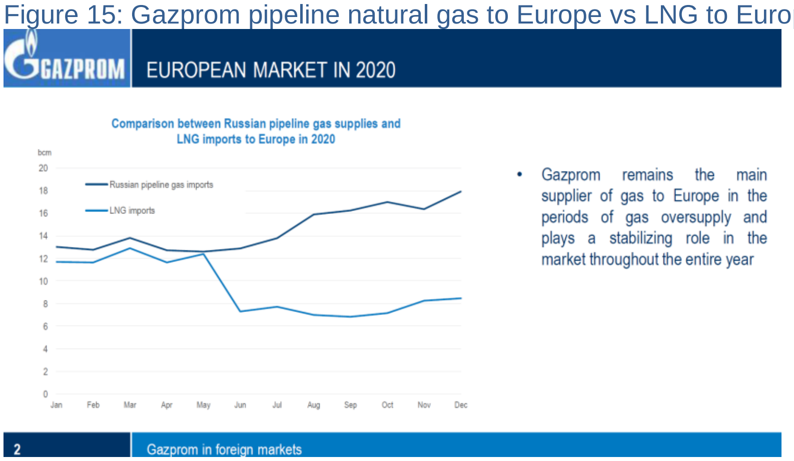
Export. (i) Our first tweet [LINK] was on Burmistrova's comments on the low Europe gas storage levels. In the Q&A, she noted that there was a late start to the Europe gas injection season with cold weather in April. And that they were still seeing offtakes in April instead of only injections. But the comment that caught our attention was she said the late start to the gas injection season meant the natural gas injections could continue past October. (ii) Our second tweet [LINK] was *"#Gazprom Q&A just finished. Wanting to capture more China #NatGas share. re extension of Power of Siberia 2, Soyuz Vostok #NatGas trunkline thru Mongolia to China. flew over Mongolia, preliminarily considered a route, now starting detailed feasibility".* The importance of China natural gas markets was shown in a separate Gazprom May 19 presentation in the below slide. (iii) On Nord Stream 2, she noted that as soon as Nord Stream 2 starts up, it can help fix the Europe gas shortfall. (iv) Her presentation also included prior Gazprom graph that they use to remind of the stability to Gazprom pipeline supplies to Europe vs LNG imports. Our Supplemental Documents package includes excerpts from the slide deck.

Figure 14: Key Sales Markets Europe and China



Source: Gazprom

Figure 15: Gazprom pipeline natural gas to Europe vs LNG to Europe



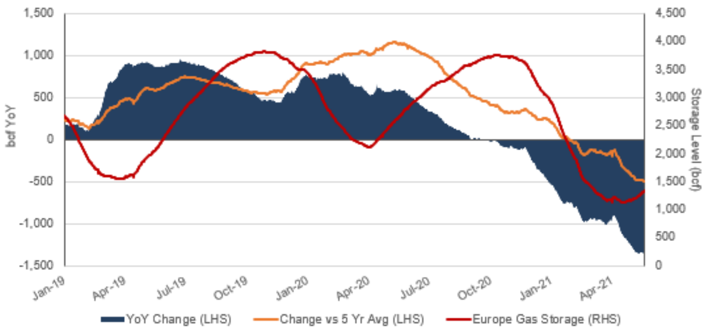
Source: Gazprom

Natural Gas – Europe storage 34.02% full vs 5 year average of 47.60%

Europe gas storage 34.02% full

We continue to see the set up for strong summer LNG price, which should support strong US LNG exports to Europe. It was cold through March and into April which had delayed the refill push in Europe and this is setting up support for summer prices. There was a big draw in Europe gas storage this winter so no surprise it was a good winter for LNG prices. Additionally, the significant YoY deficit in Europe gas storage at the end of winter indicates that there will be strong demand for European LNG imports during the refill push especially since Russia looks like it only plans to ship contract volumes via Ukraine to Europe ie. not sending above contract levels. This is a big positive indicator for US LNG exports this summer. 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. So massive draw vs last year and the last 5 years. Storage at Apr 1 of 28.90% had looked to be the bottom for withdrawal season as the storge level subsequently increased 2.06% to 30.96% on April 6. However, cold weather continuing into the second half of April had further delayed the refill push as flows switch from injections between April 1-6, to draws once again. This had resulted in the longest withdrawal season in history, supporting Europe LNG cargo prices. We are now seeing storage starting to slightly build, with storage as of May 20 being up 5.12% since April 19, which looks to be the bottom. Storage as of May 20 is 34.02%, 35.17% less than last year of 69.19% and 13.58% below the 5 yr average of 47.60%. Europe storage levels this summer will be the key item to watch for indications on LNG markets going into the winter. Below is our graph of YoY change in net LNG flows to NW Europe.

Figure 16: Europe Gas Storage Level



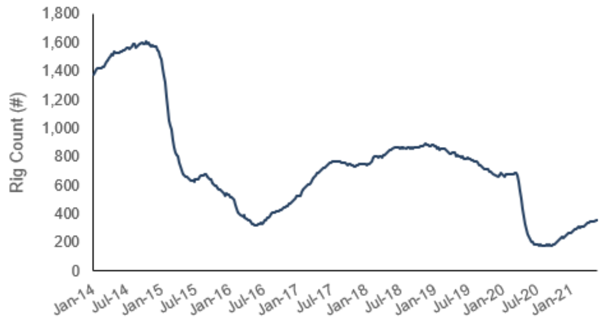
Source: Bloomberg

Oil – US oil rigs up 4 to 356 oil rigs

US oil rigs +4 this week

Baker Hughes reported its weekly rig data on Friday. We have been expecting to see modest increases to US oil drilling with the strong oil prices. US oil rigs were up by 4 rigs to 356 oil rigs as of May 21. The Permian was up by 1 to 230 rigs and is showing signs of ramping back up. Increases came from Ardmore Woodford (+1), Arkoma Woodford (+1), Canna Woodford (+2) and Permian (+1). There was one decrease this week at Eagle Ford (-1). Note that most of the increases are in minor basins that are controlled generally by privates and small companies so this additional drilling is due to WTI >$60. Oil rigs have been on a strong recovery path and are +184 off the bottom of 172 in the Aug 14 week US oil rigs hit their 2020 peak at 683 on March 13 and have since fallen by 327 to 356 oil rigs (-47.9%). Below is our graph of Baker Hughes US oil rigs.

Figure 17: Baker Hughes Total US Oil Rigs



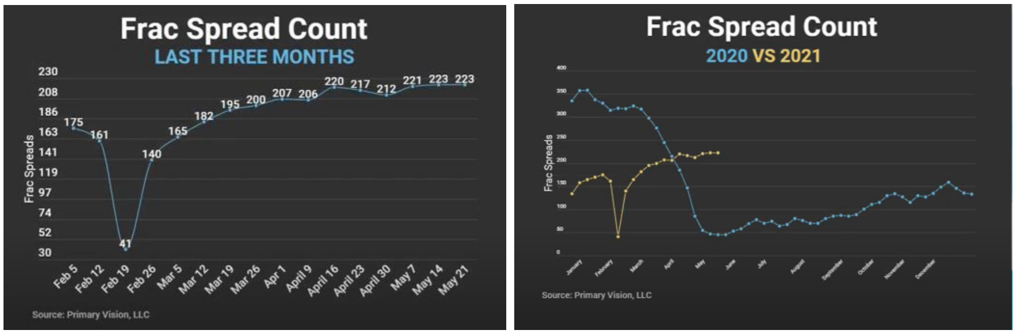
Source: Baker Hughes

Oil – Frac spreads unchanged at 223 for week ending May 21

Frac spreads unchanged at 223

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 flat at 223 for the week ended May 21. This is in line with his expectations and he still expects to see a slow grind higher, not a big jump but, should be up to 230 to 235 by the middle of June. Expects leadership to be driven by the Permian and the western Gulf (we assume he is referring to Eagle Ford). Rossano highlighted that the Bakken is going to need more activity, need more rigs, need more spreads to keep it production flat. He also expects the Anadarko and also the smaller basins where we should see 1 or 2 spreads come in. He believes the drilling rig increase is enough to stem decline in the Permian, not enough for growth but to keep flat. Below are his two key frac spread graphs.

Figure 18 Active Frac Spreads for Week Ending May 21, 2021



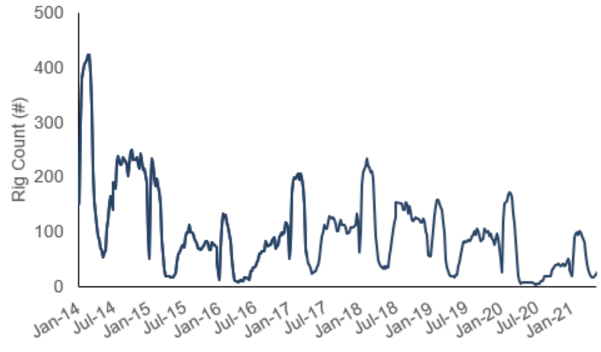
Source: Primary Vision

Oil – Total Cdn rigs down 1 to 58 total rigs and up 37 YoY

Cdn rigs -1 this week

Once again it looks like the first week of May was the trough for Cdn rigs during spring break up. Baker Hughes reported total Cdn rigs were up -1 this week to 58 total rigs. Canada experienced a minor decrease, but it was likely due to rain and snow impacting moves. Cdn oil rigs were flat at 25 rigs. Cdn gas rigs were down 1 to 33 gas rigs this week. Total rigs are now +45 since the June 26 all-time low. Cdn drilling has recovered YoY, a year ago Cdn oil rigs were 8 and Cdn gas rigs were 13 for a total Cdn rigs of 21, meaning total Cdn rigs are +37 YoY and total rigs are down 20 vs 2019. Below is our graph of Baker Hughes Cdn oil rigs.

Figure 19: Baker Hughes Total Canadian Oil Rigs



Source: Baker Hughes

Oil – US weekly oil production flat at 11.0 mmb/d

US oil production flat WoW

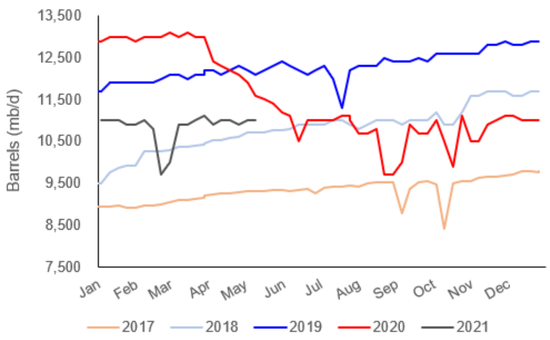
US oil production was flat at 11.0 mmb/d for the May 14 week. Lower 48 flat at 10.5 mmb/d. This puts US oil production down 0.5 mmb/d YoY, and is down 2.1 mmb/d since the 2020 peak of 13.1 mmb/d on March 13. The EIA May STEO revised down US oil production for the remainder of 2021 and is still not returning anywhere near the Q4/19 peak of 12.78 mmb/d, with Q4/21 US crude of 11.34 mmb/d (down 1.44 mmb/d from peak). YoY growth returns in 2022 with production averaging 11.84 mmb/d, +0.82 mmb/d YoY (was 11.86 mmb/d previously), with Q4/22 production of 12.21 mmb/d, ie still down 0.57 mmb/d from Q4/19. In the US oil production commentary, the EIA wrote "*We estimate that production outages were generally limited to February and that U.S. crude oil production rose to 10.9 million b/d in March and to almost 11.0 million b/d in April. Because the average price of West Texas Intermediate crude oil remains above $55/b in our forecast, we expect producers will drill and complete enough wells in the coming months to offset declines at existing wells*". The EIA DPR has the expectation of slight MoM increases in May and June. The EIA forecasts June at 7.733 mmb/d which is +26,000 b/d MoM. The EIA Form 914 actuals for February came in 563,000 b/d lower than the EIA weekly estimates for February, which was due to the brutal cold and snow of February dropping production abruptly.

Figure 20: EIA's Estimated Weekly US Oil Production

Year-Month	Week 1		Week 2		Week 3		Week 4		Week 5	
	End Date	Value	End Date	Value	End Date	Value	End Date	Value	End Date	Value
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						

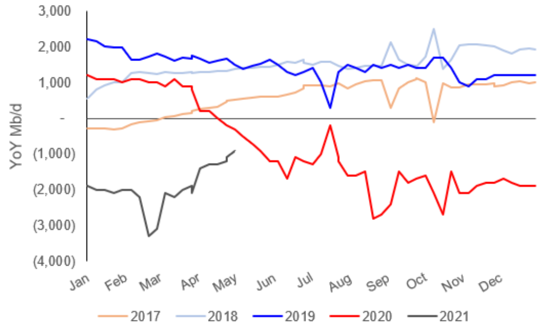
Source: EIA

Figure 21: US Weekly Oil Production



Source: EIA, SAF

Figure 22: YoY Change in US Weekly Oil Production



Source: EIA, SAF

US shale/tight oil production

Oil – EIA DPR continues to estimate relatively flat shale/tight oil production

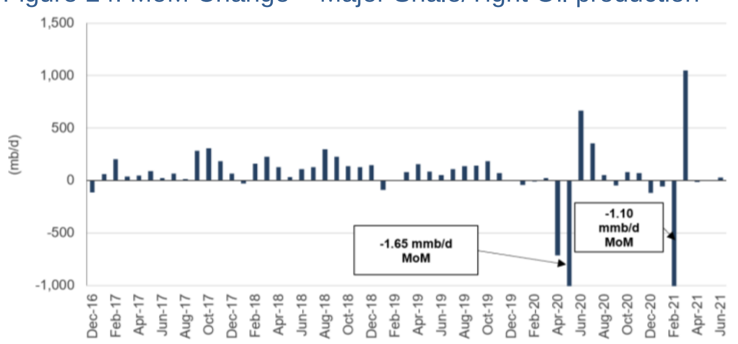
The EIA issued its Drilling Productivity Report May 2021 on Monday [LINK], which is the EIA's forecast for oil and natural gas production from the major shale/tight oil and gas basins for the current month (in this case May) and the next month (in this case June). (i) The takeaway for shale/tight oil is much the same as for natural gas – shale/tight oil production continues to be relatively flat. (ii) As noted earlier in the natural gas comments and for last month's forecast, something seems off with the EIA forecasts for May/June. For example, Bakken June vs May was down 0.67% MoM for oil but down 1.99% MoM for natural gas. Permian June oil vs May is +1.19% Mom whereas natural gas is +0.34%. We would have expected the opposite given these are associated gas plays and the increasing GOR as plays mature. (ii) Post the recovery in March from the Feb freeze, the EIA pushed out the beginning of MoM production increases to June rather than April in the previous DPR. (iii) The EIA forecasts June at 7.733 mmb/d which is +26,000 b/d MoM (would have been +121,000 b/d MoM if not for revisions to May) and down 1.425 mmb/d from the Nov/19 peak of 9.158 mmb/d. (iv) This month, most basins are down, with the largest increases coming from Permian at +324,000 b/d YoY, and Bakken at +170,000 b/d YoY in June and the largest decreases coming from Niobrara at -124,000 b/d and Anadarko at -103,000 b/d. Total US shale/tight oil production is now +0.290 mmb/d YoY. (v) Even before the massive capex cuts and shut-ins, the oil shale/tight production had built a narrative for 2020 that US oil production had peaked in Nov/19 at 9.158 mmb/d, expected to plateau H1/20 and then starting to decline later in 2020. We have to believe that narrative might change if we see a stronger pick up in activity with WTI $65. (vi) Note that shale/tight oil is approx. ~70% of total US production, so whatever the trends are for shale/tight oil are for the most part the trends for US oil in total. We say "for the most part" but oil is being more impacted by activity in oil plays outside the big shale/tight plays so there may be more growth from these "Others" areas that we highlight in the weekly Baker Hughes rig counts. Plus there are new production additions in 2021/2022 from the Gulf of Mexico. Below is our table of running DPR estimates of shale/tight oil production and our graph of MoM changes in major shale/tight oil production.

Figure 23: EIA - Major Shale/Tight Plays Oil Production

Thousand b/d	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	June YoY	June less May
Anadarko	459	473	438	413	406	420	425	409	313	382	370	358	351	-108	-7
Appalachia	134	133	133	137	130	122	126	128	122	126	126	127	128	-6	1
Bakken	900	1,066	1,184	1,235	1,242	1,237	1,203	1,166	1,106	1,129	1,117	1,104	1,097	197	-7
Eagle Ford	1,000	1,096	1,125	1,106	1,115	1,137	1,102	1,073	873	1,075	1,054	1,038	1,030	30	-8
Haynesville	34	34	33	34	34	34	35	33	26	32	32	32	32	-2	0
Niobrara	630	648	649	626	594	588	574	576	548	533	523	513	506	-124	-7
Permian	4,286	4,347	4,285	4,251	4,360	4,411	4,366	4,391	3,686	4,448	4,488	4,535	4,589	303	54
Total	7,443	7,797	7,848	7,802	7,880	7,950	7,831	7,776	6,674	7,725	7,710	7,707	7,733	290	26

Source: EIA, SAF

Figure 24: MoM Change – Major Shale/Tight Oil production



Source: EIA, SAF

Oil – EIA DUC's worked down by 177 in March

DUCs continue to work down

Our biggest concern in the past on EIA's Drilling Productivity Report [LINK] estimate of Drilled UnCompleted wells was that the data had been constantly revised and sometimes significantly. However, the EIA DUC data shows a clear trend since August of a continued work down of DUCs and we expect that trend is correct. The EIA estimates DUCs are down another 241 MoM in April, meaning a total of 1,707 DUCs have been worked down since the June peak of 8,544. Activity levels in US shale/tight basins is beginning to near the necessary threshold to maintain or grow production, with the DUC work down partially offsetting the impact of low rig counts. Also important to note that as per the NDPA presentation last Wednesday, they estimate there are only 395 economic DUCs at WTI $50 and 548 economic DUCs at $60 or so at April 30. These are both well below the EIA estimate of 647 DUCs as of April. Bakken DUCs were worked down 26 MoM and in 2021 DUCs have dropped ~23 per month. Below is our running table of the EIA Drilling Productivity Report DUCs.

Figure 25: EIA - Estimated Drilled UnCompleted Wells

Drilled UnCompleted \	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Apr YoY
Anadarko	1,021	1,019	1,016	1,009	1,003	977	957	937	920	907	887	876	856	835	-184
Appalachia	721	712	697	685	678	668	651	638	626	615	598	587	576	566	-146
Bakken	825	859	877	870	859	848	815	788	766	740	716	695	673	647	-212
Eagle Ford	1,318	1,360	1,376	1,368	1,351	1,314	1,259	1,220	1,187	1,148	1,119	1,104	1,080	1,057	-303
Haynesville	367	371	379	381	383	379	381	369	360	357	352	364	363	362	-9
Niobrara	800	793	792	796	785	789	773	719	669	627	581	536	497	458	-335
Permian	3,505	3,584	3,695	3,759	3,782	3,716	3,617	3,485	3,356	3,270	3,177	3,159	3,053	2,932	-652
Total	8,557	8,698	8,832	8,868	8,841	8,691	8,453	8,156	7,884	7,664	7,430	7,321	7,098	6,857	-1,841

Source: EIA, SAF

Oil –DAPL can keep operating while Army Corps completes environmental review

DAPL can keep operating

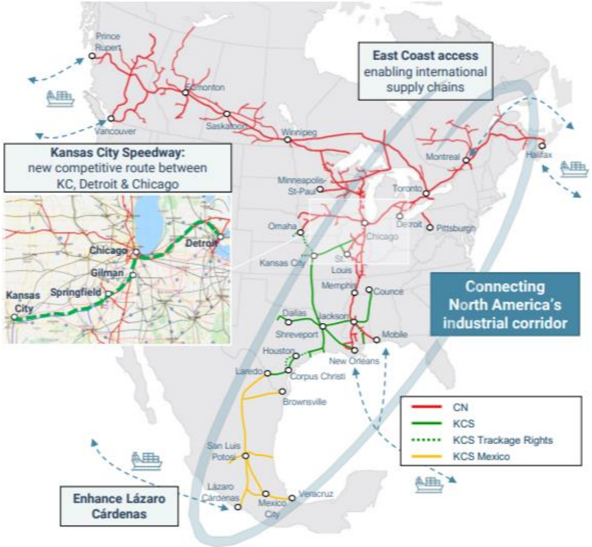
No one should be surprised by all the reports on Friday that US District Court Judge Boasberg ruled that Energy Transfer can continue to operate the Dakota Access Pipeline while the Army Corps of Engineers completes its additional environmental review. The review is generally believed to be done sometime by March 2022. There was always the risk that Boasberg could have ordered the pipeline to be shut down, but the expectation has been for this outcome. The Army Corps DAPL has a 570,000 b/d capacity.

Oil – Kansas City Southern and CN sign definitive merger agreement

KCS & CN sign definitive merger agreement

On Friday, CN and Kansas City Southern announced they entered *"into a definitive merger agreement to create the premier railway for the 21st century, bring together highly complementary networks to benefit customers and enhance competition.* [LINK] CP may not have come back with a topping bid, but believes there is completion risk and, on Friday, released "*CP Remains Ready to Re-engage with KCS; CP to Proceed with STB Application Process"* [LINK]. Below is CN's map of the proposed KCS/CN rail network.

Figure 26: CN and Kansas City Southern Rail Networks



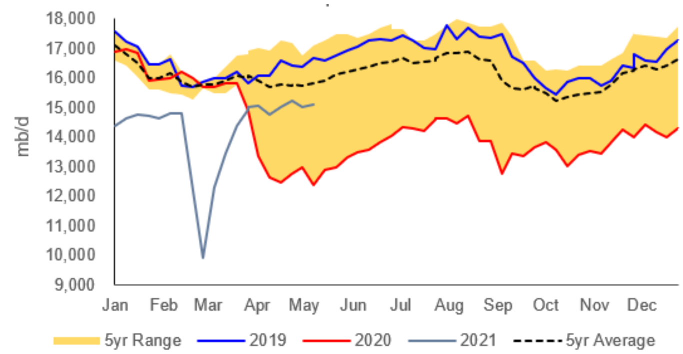
Source: CN

Oil – Refinery inputs +0.096 mmb/d YoY to 15.116 mmb/d

Refinery crude oil input still below 5 yr avg

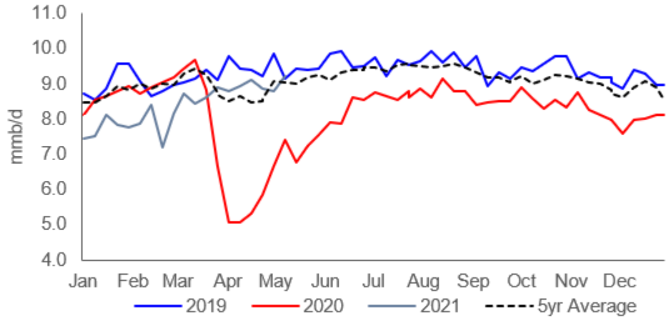
As expected, there were impacts to crude refinery input data this week due to the Colonial Pipeline shutdown. Colonial Pipeline moves gasoline, jet fuel and other products from Pasadena (Texas) to the eastern US. 5. Crude inputs to refineries were up this week and were +0.096 mmb/d to 15.116 mmb/d, and are +2.213 mmb/d YoY. Refinery utilization was up 0.2% this week, despite two refineries in the Gulf announcing reductions in operations last week. This was offset by East Coast refineries cranking up runs to the highest since June 2019 as a result of the closure of the Colonial Pipeline. Refinery utilization was 86.3%, which is +16.9% YoY. Total products supplied (ie. demand) increased this week, with a 1.789 mmb/d increase to 19.272 mmb/d, and motor gasoline supplied was up being +0.424 mmb/d to 9.224 mmb/d. Gasoline consumption in the US is expected to rise, with the EIA 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. We forecast that 2021 summertime gasoline consumption will average almost 8.8 million b/d, a 1.0 million b/d (13%) increase from 2020 but a 0.7 million b/d (7%) decrease from summer 2019". Below is our graph of crude inputs to US refineries and our graph of US motor gasoline supplied.

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



Source: EIA, SAF

Figure 28: US Motor Gasoline Supplied (mmb/d)



Source: EIA, SAF

Oil – Covid outbreaks at oil sands +1 this week to 18 sites

Oil sands covid troubles continue

The Fort McMurray area continues to be one of the hotspots for Covid in Alberta and this means that we aren't expecting any real breaks to the already extended oil sands turnaround season. The outbreaks at the facilities have led to delayed and extended turnarounds this spring from limited workforces, especially with turnarounds bringing trades from across Canada. Fort McMurray, where all major oil sands facilities are situated around has been one of the hotspots in Alberta and Canada. And basically all of the major Fort McMurray oil sands properties have been hit by Covid outbreaks. Last week's (May 16, 2021) Energy Tidbits noted our hope that we might have passed the peak for Covid in the oil sands. But the last week has seen an increase of one additional Covid outbreak in the oil sands. The Regional Municipality of Wood Buffalo (including Fort McMurray) posts a Covid update twice a week. The reports this week seem to show a slowing down of new outbreaks. The May 17 update added Civeo Beaver River Lodge after it had been removed in the May 13 update. The update on Thursday May 19 removed Civeo Beaver River once again but added Civeo McClelland Lake. There were 18 outbreaks included in the May 17 update, up 1 from 17 in the May 13 update. The Wood Buffalo May 19 Covid update is attached. [LINK]

Oil – Geelong and Lytton refineries to continue to 2027 with Australia incentives

Australia's refinery support plan

Got to recognize the Australia practicality approach, they don't want to be totally reliant on imported petroleum products, so they put together an incentive program to keep Australia's refiners from shutting down. Australia's refinery capacity had dwindled in early 2021 as Exxon and BP had announced plans to convert their operational refineries into import terminals due to a long terms view of poor economics. Viva Energy had been the only refinery to accept the governments short term subsidy payments while a longer term plan was worked out. On Monday, the government released its full Fuel Security Package (FSP) incentive program plans [LINK]. The program includes a variable Fuel Security Service Payment, a payment of up to $302mm for major refinery infrastructure upgrades from 2024 to 2027, and a $50.7mmpaymetn for the implementation and monitoring of the fuel security service payment and minimum stockholding obligation. The government wrote *"The variable FSSP has been costed up to AUD$2.047 billion to 2030 in a worst-case scenario".* Payments to the refineries will be based on margins, with no payments made if margins reach $10.20 per barrel and a maximum of 1.8 cents per litre if margins drop to $7.30 per barrel. This plan will be introduced into the Parliament in the coming weeks and is targeting implementation starting July 1, 2021. The plan seems to be well received by the remaining two refineries. Viva announced on Monday [LINK] that they would participate in the FSP. Viva wrote *"Viva Energy would make a six-year commitment to maintain refining operations through to 30 June 2027, with a further three-year option for the Company to extend until 30 June 2030".* And Ampol announced on Monday that they will continue to operate their Lytton refinery [LINK]. Our Supplemental Documents package includes the Australia release, Viva announcement and Ampol announcement.

Oil – US "net" oil imports down 0.587 mmb/d to 3.105 mmb/d

US "net" oil imports -0.587 mmb/d WoW

US "NET" imports were down 0.587 mmb/d to 3.105 mmb/d for the May 14 week. US imports were up 0.923 mmb/d to 6.411 mmb/d. US exports were up, being +1.510 mmb/d to 3.306 mmb/d. The WoW increase in US oil imports was driven by increases from Canada, Saudi Arabia and Mexico. (i) Canada was up this week, and was +0.882 mmb/d to 3.806 mmb/d for the May 17 week, which is now ~0.100 mmb/d above the average levels in Jan/Feb of 2020. Also note that PADD 2 imports were also up, being +0.157 mmb/d and Canada is almost all of this market. (ii) Saudi Arabia was up 258,000 b/d to 0.424 mmb/d this week. (iii) Colombia was up 47,000 b/d to 0.325 mmb/d this week. (iv) Ecuador was down 171,000 b/d to 80,000 b/d. (v) Iraq was down 36,000 b/d to 199,000 b/d. (v) Venezuela remained at 0 due to US sanctions. (vi) Mexico increased 258,000 b/d to 0.692 mmb/d.

Figure 29: US Weekly Preliminary Oil Imports By Major Countries

	Mar 19/21	Mar 26/21	Apr 02/21	Apr 09/21	Apr 16/21	Apr 23/21	Apr 30/21	May 07/21	May 14/21	WoW
Canada	3,418	3,666	3,414	3,367	2,901	3,492	3,232	2,924	3,806	882
Saudi Arabia	280	345	258	181	358	480	178	224	424	200
Venezuela	0	0	0	0	0	0	0	0	0	0
Mexico	618	494	635	739	451	608	467	434	692	258
Colombia	92	122	258	209	111	294	307	278	325	47
Iraq	105	88	245	223	34	270	41	235	199	-36
Ecuador	132	247	284	295	172	225	318	257	80	-177
Nigeria	161	86	161	129	71	119	95	157	73	-84
Kuwait	0	0	0	0	0	0	0	0	0	0
Angola	0	0	0	0	0	0	0	0	0	0
Top 10	4,806	5,048	5,255	5,143	4,098	5,488	4,638	4,509	5,599	1,090
Others	816	1,097	1,009	709	1,307	1,128	813	979	812	-167
Total US	5,622	6,145	6,264	5,852	5,405	6,616	5,451	5,488	6,411	923

Source: EIA, SAF

Oil – Venezuela PDV increasing production with diluents before China tax

PDV allocating diluents to production

It looks like Venezuela oil production should be up in May. Argus reported on Thursday morning [LINK] on Petróleos de Venezuela's increasing reliance on blendstocks to bolster its production of 16° API Merey. Merey is an bitumen-rich export blend that is derived from the Orinoco extra-heavy oil belt and is favored by Chinese refiners. Argus reported later that day [LINK] that a new Chinese tax measure has caused Venezuela to rush to load barrels for shipment over before it comes into effect. The tax measure of $30/bl on diluted bitumen reportedly took PDV by surprise, and was pushed by refiners in the Shandong province where most China OPEC imports go. This explains the increased allocation of diluents to Merey production in Venezuela, as after the tax comes into effect heavy sour oil will be squeezed out of the Shandong market. We tweeted [LINK]: *"Why Venezuela #Oil production should be up in May. Two good @ArgusMedia reports are linked: allocating limited diluent to blend to crank up production & scrambling to load on tankers to China ahead of new tax. #OOTT."* Venezeula's Chinese debt is backed by oil so PDV is highly motivated to export as much Merey as possible before this tax comes into effect. Our Supplemental Documents includes the two Argus reports.

Oil – Colombia production down ~55,000 b/d to 688,900 b/d due to blockades

Colombia output drop

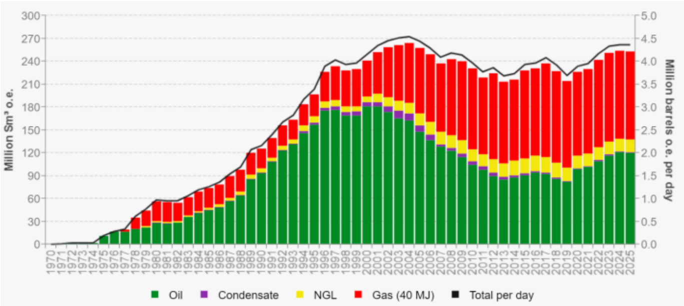
Colombia has been struggling to ramp up oil production post the covid induced low of 0.730 mmb/d in June 2020, with Jan-Mar production staying roughly flat at 0.745 mmb/d. And the anti-governmental protests that began on April 28 have exacerbated the issue of output growth. The protests have mainly taken the form of blockades on major roads and have caused production to drop. And on Wednesday Diego Mesa from the Ministro de Minas y Energía de Colombia tweeted [LINK] that production was down 688,900 b/d during the second week of May, down ~55,000 b/d from march of 745,000 b/d. Producers in Colombia are struggling to maintain output due tot the blockades. Bloomberg had also reported on this and wrote *"Economic costs to the oil, coal industries since the protests are around 230 billion pesos ($62 million), Mesa said".* Platts also reported on this [LINK] on Wednesday and included company specific declines from the protests. Geopark production has declined 12,000-15,000 b/d, Gran Tierra is down 5,250 b/d, and Parex is down 10,100 b/d.

Oil – Norway oil production of 1.725 mmb/d, 3.2% higher than forecast

Norway oil production

The Norwegian Petroleum Directorate released its April production figures [LINK] of 1.725 mmb/d of oil, which is -2.0% YoY and -2.8% MoM from March at 1.775 mmb/d. This was a deviation from the forecasted amount of 1.671 mmb/d, and 0.7% higher than the forecast so far this year. The story for Norway was that its oil production returned to growth in the last 3 years because of the Johan Sverdrup oil field and that Johan Sverdrup oil is expected to produce at higher than expected levels. Below is the NPD's historical and forecast production graph as of Feb 17 [LINK]. Our Supplemental Documents package includes the NPD update.

Figure 30: Historical and expected production in Norway, 1970-2025



Source: Norwegian Petroleum Directorate

Oil – Next OPEC+ meeting is Tues June 1

OPEC+ meeting June 1

We won't be surprised to see some date changes to the upcoming OPEC+ scheduled meetings. The current schedule is for the OPEC JTC meeting on May 31, the OPEC+ JMMC and full OPEC+ ministerial meetings to both be on Tues June 1. We have to believe that they won't end up with both meetings on the same date as the reality of Iran coming back to the market will likely require more discussion time.

Oil – OPEC says IEA's Net Zero pathway could add oil market instabilty

OPEC on IEA Net Zero

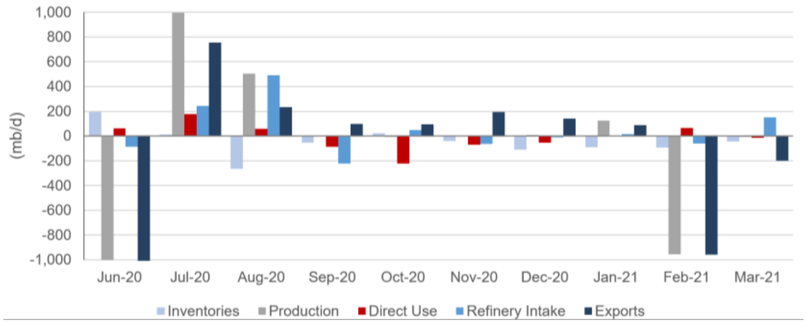
There wasn't any official release but Reuters [LINK], and others similarly, reported on an internal OPEC research document regarding the IEA's Net Zero pathway in particular the IEA commentary on not funding new oil, gas and coal projects if the world wants hit Net Zero by 2050. Reuters wrote "*"The claim that no new oil and gas investments are needed post-2021 stands in stark contrast with conclusions often expressed in other IEA reports and could be the source of potential instability in oil markets if followed by some investors," OPEC's report said. OPEC also said a scenario in the IEA's report could affect how companies invest and limit demand for oil. The producer group currently forecasts oil demand will recover strongly this year and continue rising until the 2030s. "While the NZE (net zero) Scenario seems overly ambitious in terms of assumptions and results, it will certainly influence investment decisions, which may curb demand (growth) for fossil fuels such as oil and gas, as many policymakers and oil & gas companies use the IEA's scenarios for their strategic planning," OPEC said."* Our Supplemental Documents package includes the Reuters report. Please note later in the memo, we note the new G7 commitments made Friday that we believe is more significant/impactful to company strategic planning than the IEA Net Zero scenario.

Oil – Saudi oil stocks 133.338 mmb at Mar 31, lowest level seen in 17 yrs tracking

JODI data for Mar

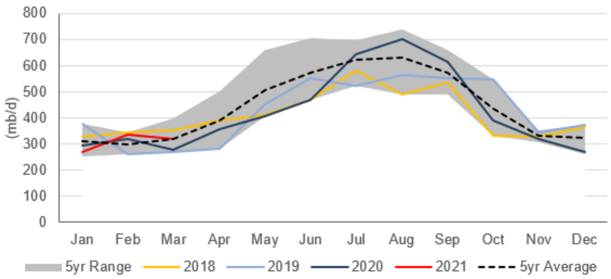
The JODI data for March was updated yesterday. There was no surprise or takeaway from the data, but it confirms Saudi was delivering on its voluntary cuts, with March being the second month of Saudi voluntary 1 mmb/d cuts. There were +99,000 b/d of unaccounted supply, which is up slightly from Feb, at +91,000 b/d, but Saudi oil inventory was down 1.237 mmb for the month. We would have thought this would be up if they had cheated and put it in inventory. (i) Production was -9,000 b/d MoM to 8.138 mmb/d due to March's continued voluntary cuts. Exports fell at a quicker rate than production, being -198,000 MoM to 5.427 mmb/d, likely due to the big +150,000 increase in refinery intake to 2.431 mmb/d. Direct use for electricity was down, being +16,000 b/d to 319,000 b/d. (ii) Inventories declined for the 5th consecutive month, declining -44,000 b/d from 134.575 in Feb to 133.338 mmb in Mar. Crude inventories continue to decline to historically low levels, as the last time crude inventories were below 150 mmb was in April 2004 at 149.8 mmb. (iii) Saudi used less oil for electricity in Mar vs Feb despite having higher average temperatures during the month, and March was higher YoY. Feb was 335,000 b/d (vs Feb 2020 of 318,000 b/d) and Mar was 319,000 b/d (vs Mar 2020 of 279,000 b/d). March was in line with the latest 5 yr average of 320,000 b/d. Below are the AccuWeather Temp maps for Riyadh for April and May MTD. Careful they are different scales but look for oil for electricity to ramp up in April and May. April is also above temps and note how hitting 40 in some days. But note May, 40+ daytime highs and 30 nighttime lows. This is moving into the peak period for oil for electricity. Below are our updated graphs for the Saudi JODI data for Mar.

Figure 31: MoM Saudi Inventories, Production, Direct Use, Refinery Intake & Exports



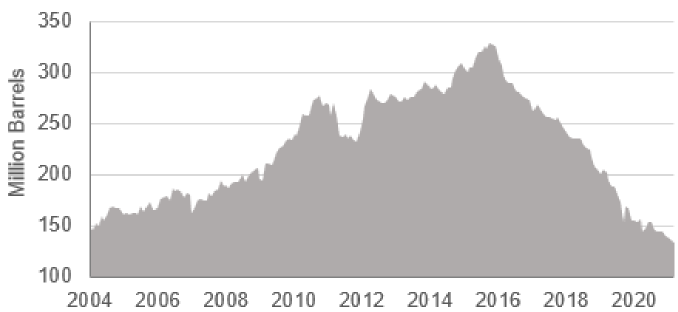
Source: JODI, Bloomberg

Figure 32: Saudi Arabia Direct Use of Crude Oil For Electric Generation



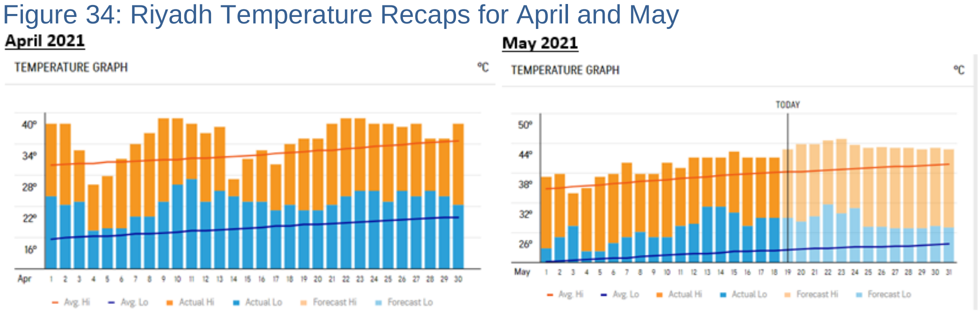
Source: JODI

Figure 33: Saudi Arabia Crude Oil Inventories (million barrels)



Source: JODI

Figure 34: Riyadh Temperature Recaps for April and May



Source: AccuWeather

Oil – JCPOA, as expected all the signs this week point to a near term deal

Potential JCPOA deal in May?

As expected, we saw a number of signals this week that the return to the JCPOA is pretty certain. We think its fair to say that the vast majority of oil watchers expect to see a return to the JCPOA happen in the next week or two. There were a range of comments and indicators supporting the expectation for the return to the JCPOA. As we have been saying, May is the make it or break it month for the JCPOA and it continues to look like the make it month. Early yesterday morning, we tweeted [LINK] on a new travel tidbit – Blinken's new trip to Israel on May 26, 27. We tweeted "*Prelude to #JCPOA? #Blinken to visit Israel. Reminds of #Biden approach to Senate, meet/explain to try to get bipartisan support, but go ahead w/o any Republican votes. Looks like May is make it, not a break it month for JCPOA. #OOTT.* When we heard of the new trip, it just seemed like a Biden approach to relationships – talk to Israel first before any official signing or a return to the JCPOA.

Oil – Iran changed its export grade of crude to pre-sanctions cocktail

Iran returns to pre-Sanctions crude

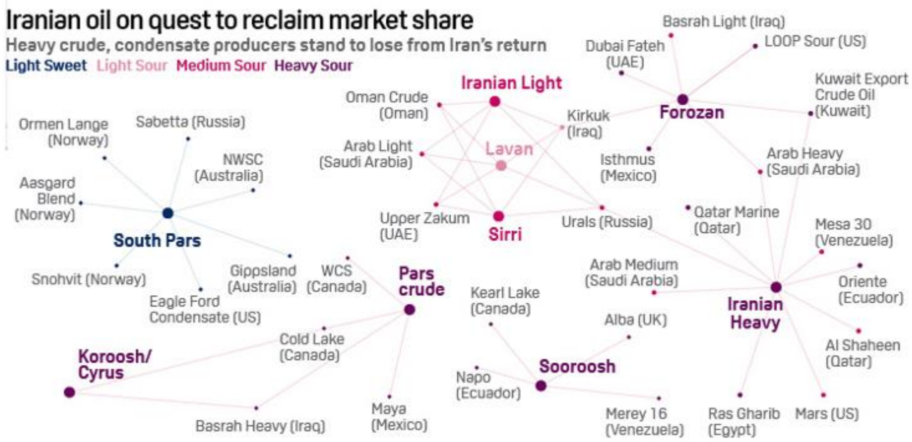
One of our morning news checks when we turn on our laptop every morning is to flip on the Gulf Intelligence Daily New Silk Road Live [LINK]. Prior to the all positive JCPOA reports later Wed and on Thurs, the early morning Wed podcast had a great indicator why Iran certainly expected the JCPOA deal to be done soon – Iran had changed the export grade of its crude oil to a cocktail that they were exporting pre sanctions and that was to start as early as next month. This was great insight from Dr. Sara Vakhshouri (SVB Energy International) and why, early Wed, we tweeted [LINK] "*Indicator #JCPOA deal is near. Iran changed export grade of crude #Oil to pre-sanctions cocktail. As usual @gulf_intel New Silk Road Live is a must listen to with guests with good insights, thx @SVakhshouri #OOTT".* Our Supplemental Documents package includes the transcript we made of her comments.

Oil – Excellent Platts infographic with Iran oil map and crude qualities

Excellent Platts Iran oil infographic

On Monday, we tweeted [LINK] on an excellent Platts infographic [LINK] and very timely given the momentum towards a return to the JCPOA. One graphic shows the various Iran crude qualities and the comparable global crude qualities that will be seeing increasing competition ie. Iran Pars will be competing against WCS, Maya, and others. The other graphic is an excellent Iran oil map showing fields, refineries, pipelines, refineries and ports. We recommend adding the infographic to reference libraries. Our Supplemental Documents package includes the Platts infographic.

Figure 35: Iran crude qualities vs competing global benchmarks



Source: Platts

Oil – India oil imports up 10% YoY to 4.47 mmb/d in April

This week, India's Petroleum Planning and Analysis Cell released crude oil import data for April [LINK]. Total crude oil imports increased 10% YoY in April to 4.47 mmb/d and increased from 4.33 mmb/d March. Crude imports for the 2020-2021 financial year were down 12.7% YoY. Petroleum products demand for April was +80.4% YoY to 4.15 mmb/d due to the low base of April 2020 and was down 6.7% MoM from 4.45 mmb/d in March. Given the covid situation in India this demand drop was expected. Refinery throughput in April was +35% YoY to 4.86 mmb/d but down from 4.97 mmb/d in March and in line with Feb of 4.87 mmb/d.

India April crude imports up 10% YoY

Oil – Vortexa floating storage -3.7% WoW, down 37.6% YoY

We continue to expect that India's massive covid outbreak will reducing India oil imports an that this will likely lead to increasing floating oil storage cargos. And this is likely reflective in the WoW increase in APAC floating storage from Vortexa. Bloomberg reported on Vortexa floating oil data that showed a WoW decrease of 4.10 mmb or -3.7% WoW to 106.03 mmb on May 14 from 110.13 mmb on May 7. There was a 2.80 mmb upwards revision to the previous weeks data meaning the WoW decrease vs the original would be 1.30 mmb. Floating storage is down 50.99% since the June 19, 2020 peak of 216.38 mmb. The US Gulf Coast was down 76% this week to 629,000 bbl, Europe was up 140% WoW to 6.45 mmb. As noted above, APAC floating storage will struggle to decline with eh drop in demand from India, APAC storage increased 1.1% to 82.00 mmb, the highest since February. Our Supplemental Documents package include the Bloomberg Vortexa report.

Vortexa floating storage

Figure 36: Vortexa Global Floating Storage Level (5yr)

Source: Bloomberg, Vortexa

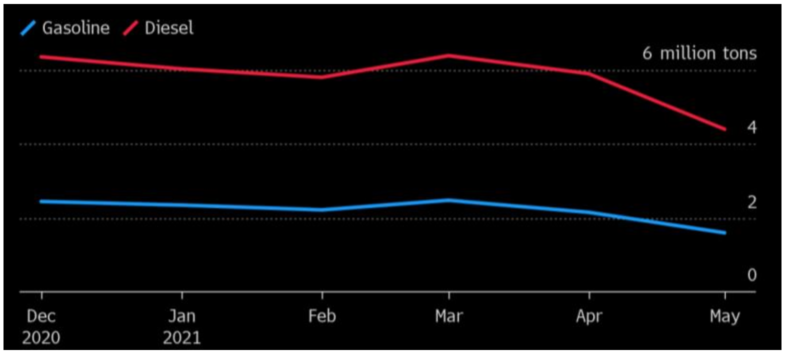
Oil – Bloomberg Oil Demand Monitor, Europe's mobility has turned a corner

We recommend reading the weekly Bloomberg terminal Oil Demand Monitor for a good recap of key oil demand indicators around the world. India's coronavirus outbreak continues to be the main detractor to global demand recovery as nearly all states are under some form of lockdown and the situation has deteriorated further in the past couple of weeks. As a result, gasoline sales in the first half of May were down 27% from 2019 and were only down 4% in April vs 2019. Diesel, a more important fuel for India, also experienced a significant reduction in demand, and sales were down 29% from 2019 levels, while April and March sales were only down 10% and 5% respectively vs 2019. Conversely, oil demand in China continues to rebound strongly. China processed a record amount of crude oil since the start of 2021, up 12% since the same period in 2019 prior to the outbreak. Refinery utilization rates are only ~7% below a year ago and are +8% vs 2019. The demand story in Europe continues to be positive, with upswings to toll road volumes this past week. France in particular saw a

Bloomberg's Oil Demand Monitor

significant increase, with toll volumes being down just 10% vs the equivalent 2019 week. The vaccination rate is continuing to increase in Europe, and as of this week around 32% of EU citizens and 54% of UK citizens have had at least one dose of a coronavirus vaccine. However, UK air travel is still lagging significantly, with airline capacity down 82% vs the equivalent 2019. US interstate highway traffic was just 3-5% below 2019 levels this week. Our Supplemental Documents package includes the Bloomberg Oil Demand Monitor.

Figure 37: India Fuel Sales



Source: Bloomberg

Oil – Airlines opening up more long haul flights

Airlines opening up more long-haul flights

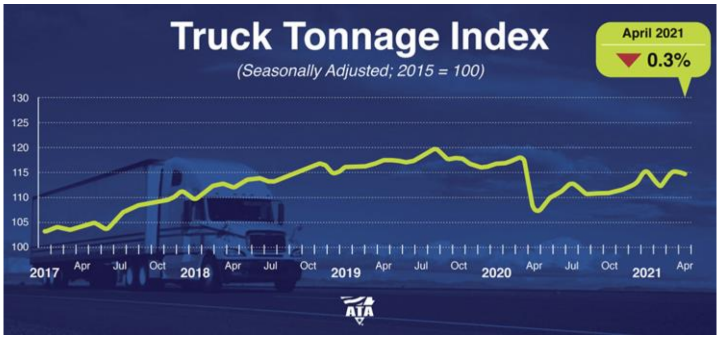
One clear indicator of the beginning of the return to normal is multiple airlines adding long haul flights in anticipation of summer vacation. United Airlines announced on Monday [LINK] that it will add more than 400 flights to its July schedule and will operate a domestic schedule just 20% shy of its July 2019 schedule. The includes many long-haul international flights, including resuming daily service to Athens from New York/Newark and 4 flights a week to Dubrovnik. Increased travel demand is showing, with United's bookings for summer travel up 214% vs 2020. Jet Blue is also adding long-haul flights [LINK], announcing on Wednesday it will start daily flights between JFK and London Heathrow on Aug 11. Delta has resumed flights to Reykyavik from JFK and has plans to resume flying to Iceland from Minneapolis later this month [LINK]. As Italy reopens to tourists, United, Delta and American Airlines are adding flights to Rome and Milan and Delta plans to add non-stop flights to Venice from New York and Atlanta later in the summer [LINK]. According to NPR [LINK], many airlines are also adding new domestic routes to capitalize on the pent-up demand for leisure travel in the interim while business travel recovers. In particular, airlines are increasing service to airports near national parks as international destinations remain limited.

Oil – April truck tonnage -0.3% MoM, up 6.9% YoY

Truck tonnage index -0.3% MoM in Apr

One of the many shortages impacting the supply chain is labor and that includes trucking. Our May 2, 2021 Energy Tidbits noted the CNN report [LINK] of the risk of gasoline shortages this summer due to the lack of gasoline tank truck drivers. The shortage of tank truck drivers is part of the bigger overall shortage of truck drivers. The US is accelerating out of Covid with the removal of most Covid restrictions with the big ramp up in vaccinations, but it is also exposing the supply chain shortages. This shows up in the monthly trucking data. Trucking tonnage serves as an important economic indicator for the U.S. economy. It has remained resilient throughout 2020 and into 2021, showing substantial improvements. After a large revision to the March data, the April index declined only slightly, and no particular reason was cited. On Tuesday, the American Trucking Association released its monthly Truck Tonnage Index which decreased 0.3% MoM in April after a 2.3% MoM increase in March which had been revised up from a decrease of 5.1% as previously reported [LINK]. The April reading is +6.9% YoY vs Mar of -2.4% YoY. The ATA wrote *"The outlook is solid for tonnage going forward as the country approaches pre-pandemic levels of activity, with strong economic growth in key areas for trucking – including retail, home construction and even manufacturing,"* said ATA Chief Economist Bob Costello. *"Additionally, the index increased on a year-over-year basis for the first time since March 2020. Part of the reason for the gain was due to an easy comparison with when the index fell significantly in April 2020. But I'm expecting increases, albeit smaller than April's, on a year-over-year basis going forward. Trucking's biggest challenges are not on the demand side, but on the supply side, including difficulty finding qualified drivers."* Our Supplemental Documents package includes the ATA monthly update.

Figure 38: Truck Tonnage Index



Source: American Trucking Association

Oil – Shipping supply chain stress will help marine fuel oil demand

Airlines opening up more long-haul flights

There was a good CNBC Squawk Box interview on Friday with Gene Seroka of the Port of Los Angeles. He was reviewing how they are making progress in reducing the backlog of ships with the average wait time down to 6.7 days from 7.9 days in March. To illustrate the backlog, he noted the ratio of loaded imports to exports is almost 4.3:1, vs the normal ratio of 2.5:1. We tweeted [LINK] on how this helps demand for marine fuel oil. Seroka noted that because of the rush to get unloaded, many container ships are not doing their norm or waiting for the containers to be reloaded for a return voyage. Rather, he said ""*As a more recent phenomena were the liner shipping companies are evacuating empty containers as a priority vs to get ready for the next round of imports back to the US*". Sending back ships even with empty containers is a plus to marine fuel demand.

Oil & Natural Gas – NOAA expecting above average hurricane season

NOAA expects 13 – 20 named storms

The nominal start to Atlantic hurricane season is June 1 and the forecasts have all been for above average hurricane activity. On Thursday, the NOAA released its forecast for the 2021 hurricane season running June 1 – Nov 30 [LINK]. NOAA is expecting a 60% chance of an above-normal hurricane season, 30% chance on near normal, and 10% chance of below normal. Forecasts for an above average hurricane season is a reminder to to be prepared for supply interruptions in the Gulf Coast. The NOAA wrote *"For 2021, a likely range of 13 to 20 named storms (winds of 39 mph or higher), of which 6 to 10 could become hurricanes (winds of 74 mph or higher), including 3 to 5 major hurricanes (category 3, 4 or 5; with winds of 111 mph or higher) is expected".* The NOAA also reminded of correlation between active hurricane seasons and La Nina/Neutral conditions, the NOAA wrote *""ENSO-neutral and La Nina support the conditions associated with the ongoing high-activity era," said Matthew Rosencrans, lead seasonal hurricane forecaster at NOAA's Climate Prediction Center.*

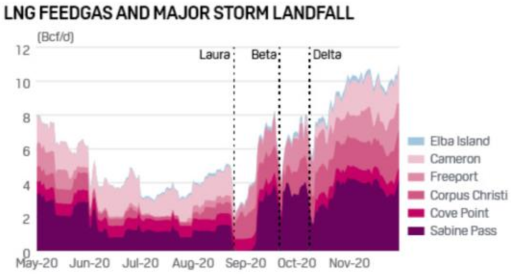
"Predicted warmer-than-average sea surface temperatures in the tropical Atlantic Ocean and Caribbean Sea, weaker tropical Atlantic trade winds, and an enhanced west African monsoon will likely be factors in this year's overall activity". Our Supplemental Documents package includes the NOAA forecast.

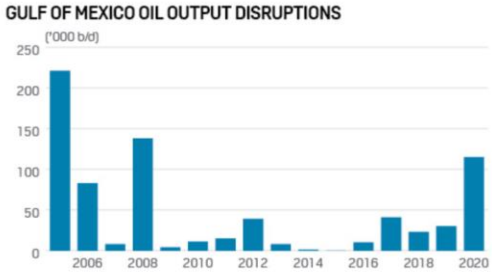
Oil & Natural Gas – Good Platts infographic on 2020 record hurricane season

Platts infographic on 2020 record hurricane

On Thursday, Platts posted a good infographic [LINK] on the 2020 Atlantic hurricane season. Platts noted that this year's forecasts for an above average hurricane season are "*not expected to be as active as the record-setting 2020 season, which saw 30 named storms, including 13 hurricanes, six of which became major hurricanes. It was the most disruptive season for US oil production in the past 12 years, suppressing US Gulf of Mexico crude output by around 115,000 b/d. US Gulf Coast refiners and LNG terminals suffered multiple but mostly short-lived disruptions. However, Sempra Energy's Cameron LNG in Louisiana didn't export a cargo for more than a month after hurricane damage suffered in late August."* Below are two graphs from the infographic. The infographic includes an excellent map that with all the hurricane paths. Our Supplemental Documents package includes the Platts infographic.

Figure 39 – July/Aug/Sept Precipitation Forecast





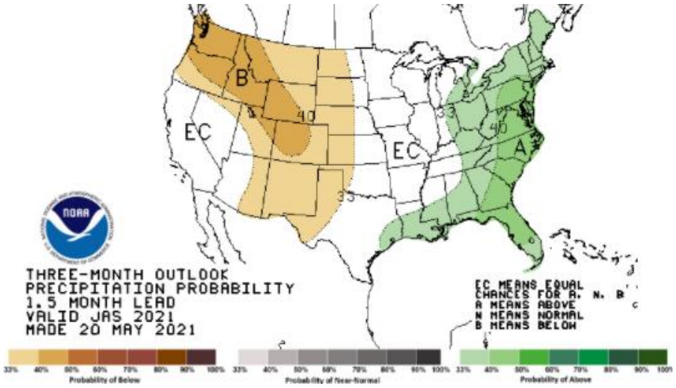
Source: Platts

Electricity – West drought conditions not helped by NOAA precipitation forecast

West drought conditions not helped by NOAA precipitation forecast

One of the big risks getting increasing attention as we move into wildfire season is the drought conditions in the west and increasing wildfire risk. The other impact from drought is low hydro. Last week's (May 16, 2021 Energy Tidbits) memo highlighted NERC's May 13th release "*Electric–Gas Interdependencies, Potential Summer Energy Shortfalls are Focus of Board Discussions"* [LINK] which noted concerns in California "*Of greatest concern in the high-risk category is California, where up to 11 GW of additional transfers are expected to be needed in late afternoon to offset reduced solar output. This is in contrast to 1 GW of transfer needed on a normal peak day*." Earlier in the memo, we noted NOAA's updated seasonal outlook, which also includes its precipitation forecast [LINK]. The NOAA's precipitation forecast certainly does not bode well for the west drought conditions. JJA, JAS and ASO all call for below-average precipitation for the Western US. We tweeted on Thursday [LINK]: "*…Hope NOAA is wrong on precipitation forecast, #Drought conditions in west need rain to reduce #Wildfire risk. #OOTT #Electricity."*

Figure 40 – July/Aug/Sept Precipitation Forecast



Source: NOAA

Energy Transition – Bank of Canada admits the energy transition will be costly

Bank of Canada on energy transition

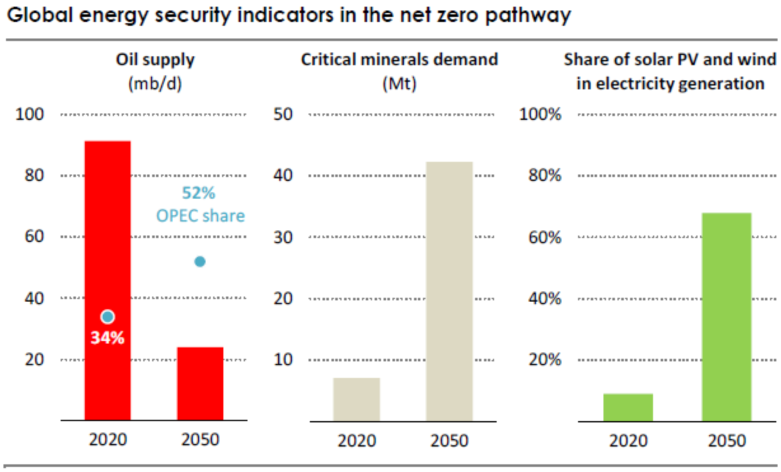
On Thursday, the Bank of Canada Governor Tiff Macklem held the press conference on the release of the major 58-pg report "*Financial System Review – 2021*" [LINK]. The BoC highlighted 6 key vulnerabilities including "*Vulnerability 6: Mispricing of assets exposed to climate-related risks".* The headline from this was "*This can leave investors and financial institutions exposed to sudden losses in the value of carbon-intensive assets in the transition to a low-carbon economy."* Most assumed that this was directed at oil and gas. The press conference was interesting as Macklem highlighted items like risks to households in British Columbia exposed to natural disasters. Its worth reading the BoC write up of this vulnerability. We can understand its politically difficult for them to come out and clearly say the energy transition is going to drive up energy costs. We suspect partly because if they did so, they would have to build in their inflation risks of having higher energy costs be embedded in pretty well everything. But they at least seem to acknowledge the energy transition will be costly ie. energy costs will be going up, even if they don't directly say so. The BoC noted the importance of moving early on the energy transition and concludes the writeup of this vulnerability saying "*In sum, earlier action can lead to a more orderly and less costly transition to a low-carbon economy*." They may not say it, but when we read moving early can make it "less costly", that certainly implies the energy transition will lead to higher energy costs. Our Supplemental Documents package includes the BoC write up on this vulnerability.

Energy Transition – IEA Net Zero is key pathway for global policymakers at COP-26

IEA Net Zero pathway

Like everyone else, we couldn't wait to read the IEA's "Net Zero by 2050: a Roadmap for the Global Energy Sector" on Tuesday morning. The headlines on oil and natural gas have been very well reported by analysts and major news agencies. And over the coming weeks, we will be writing on focused topics from the report. But for the purpose of todays memo, we want to highlight some of the key concepts/perspectives. (i) This will be the major energy discussion piece for world policymakers at COP-26. This is not a forecast, rather a scenario that the IEA was requested by the UK President for COP-26 to lay out a pathway to get to Net Zero. But the IEA is considered the major global il and natural gas agency so this pathway will be viewed as the expert opinion on what needs to done with respect to energy to hit Net Zero. (ii) The IEA is not an oil agency or at least has pivoted away from its founding mandate. It will be lost in the message, but you have to give the IEA credit for maintaining its status as the global oil agency while having pivoted to position itself for a new longer term mandate as the Net Zero expert. For example, the original IEA mandate included "*a plan to prepare* *participating countries against the risk of a major disruption of oil supplies and to share available oil in the event of an emergency".* Oil watchers would all think the IEA Net Zero pathways increases the risk of a major disruption. (iii) Even if you believe the IEA pathway is impossible, it shouldn't be ignored. No different than Biden's plan to have all US electricity be carbon pollution free by 2035, the key is that the global policymakers will use most of the IEA pathway as the direction of path for the world. It is why we have always said the energy transition is happening, it just won't be as fast or as smooth or as inexpensive as the aspirations. Biden can't get to his electricity goal, but even if he gets 1/3 of the way there, it has a material impact on the future value of natural gas in the 2020s. Please refer to our July 28 2020 blog "*Biden To Put US On "Irreversible Path to Achieve Net-Zero Emissions, Economy-Wide" Is a Major Negative To US Natural Gas in 2020s*" [LINK] (iv) Oil and gas companies should be considering the IEA pathway in their long term strategic planning now. No one expects the IEA pathway to be adopted 100% but a lot of it will be used by policymakers and enough for oil and gas companies to develop their view of risk scenarios. Plus, we have to believe capital providers will be asking oil and gas companies how the IEA pathway affects their strategic plan. (v) The IEA avoided the Kerry misstep that 50% of the emissions reductions will come from technologies that still have to be developed. Note Kerry tried to do the backtrack here and has changed his messaging since then. Rather, the IEA notes the same big 3 energy solutions to hit Net Zero from 2030 to 2050 - advanced batteries, hydrogen and CCS. Last week's (May 16, 2021) Energy Tidbits memo highlighted the JAPEX2050 comment that CCS is the last mile to get to emissions from last week is conceptually what the IEA is doing. The IEA acknowledges that almost 50% of the emission cuts have to come from technology advancements. But note the IEA doesn't say from technology that hasn't been developed or identified. Rather the IEA notes the key to post 2030 emissions reductions can be accomplished by "*widespread use of technologies that are not on the market yet*". Ie. technologies known, under development but not put in widespread use. They need advancements and widespread deployment "" *But in 2050, almost half the reductions come from technologies that are currently at the demonstration or prototype phase. In heavy industry and long-distance transport, the share of emissions reductions from technologies that are still under development today is even higher. The biggest innovation opportunities concern advanced batteries, hydrogen electrolysers, and direct air capture and storage. Together, these three technology areas make vital contributions the reductions in CO2 emissions between 2030 and 2050 in our pathway".* (vi) We will much more to say on detailed items in the coming months in the leadup to COP-26. Our Supplemental Documents package includes some excerpts from the IEA pathway.

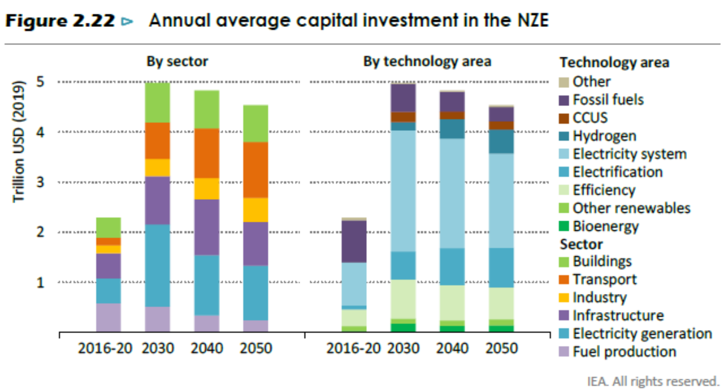
Figure 41 – Global Energy Security Indicators in IEA Net Zero Pathway



Note: mb/d = million barrels per day; Mt = million tonnes.

Source: IEA

Figure 42 – Annual average capital investment in IEA Net Zero



Capital investment in energy rises from 2.5% of GDP in recent years to 4.5% by 2030; the majority is spent on electricity generation, networks and electric end-user equipment

Source: IEA

Energy Transition – New G7 commitments = less oil & gas capex/more supply risk

G7 warns on stranding high carbon assets

Believe it or not, there was a more significant immediate emissions consideration this week than the IEA's Net Zero pathway – the new G7 30-pg communique on Friday that incluces new commitments by G7 policymakers. They may not be laws yet, but they are what the G7 policymakers are committed to enact as laws/regulations. These G7 policymakers new commitments should be considered by oil and gas companies right now. We haven't seen any other views yet with similar concerns so we don't know if analysts will share our concerns on the G7's new energy transition commitments outlined in the 30-pg communique on Friday. (i) We believe the new commitments will cause companies to re-evaluate and reconsider capital allocation to major oil and gas capital expenditures in US and Canada. This is why we believe the G7 30-pg communique is more significant to oil and gas companies in 2021 than the IEA outlining the scenario of what is required to get to Net Zero. (ii) It is also significant to oil and gas investors as it increases the probability, some like us say expectation, for an oil and gas supply crunch in the 2020s. Less capital being reallocated means less future supply capacity. (iii) Even before we look at the specific new commitments on emissions, the G7's warning on the risk to stranding high carbon assets is enough to reduce capex. The communique is all about accelerating progress towards Paris emissions targets. And the G7 is saying they recognize there will be casualties (stranded assets) by this accelerated push towards Paris. The big clear warning to oil and gas is that the G7 is openly "*recognising the risk of stranded assets associated with high carbon investments*" with their work to accelerate progress towards Paris. That's a clear warning that they realize their actions will strand high carbon assets. Here is the critical full sentence "*To accelerate progress towards achieving our Paris Agreement goals, we need to harness the significant opportunities for sustainable development – including green jobs and sustainable, resilient growth – by making investments in the recovery from COVID-19 that are aligned with pathways towards our respective enhanced Nationally Determined Contributions (NDCs) and 2050 net zero commitments, recognising the risk of stranded assets associated with high carbon investments*." (iii) How can boards approve major oil and gas capex projects knowing the government has committed to accelerating progress toward Paris and is saying there is risk of stranding oil and gas assets? Maybe its okay in Europe for any countries that are part of the Energy Charter Treaty (see our Feb 28, 2021 Energy Tidbits) that deals with compensation in this type of scenario but we aren't aware of any such compensation plan in Canada or the US. (iv) Shouldn't this cause boards to at least consider stranded assets without compensation in their economic valuation for a project? Without compensation, that would cause some reduction in expected longer term cash flows and in terminal valuation.

Energy Transition – And the new G7 commitments raise oil & gas capital concerns

G7 new commitments on emissions

In addition to the G7 warning on risk to stranding assets noted above, there are many specifics in the 30-pg G7 communique that should cause additional reasons for oil and gas companies to at least take a second look at capex allocation. This reinforces why we believe the G7 new commitments are more impactful in 2021 than the IEA outlining the scenario to reach Net Zero. (i) There is a lot to digest in the G7's Friday 30-pg communique on new commitments from the G7 countries (Canada, France, Germany, Italy, Japan, UK, US and also the EU). It is not an easy read and we suspect that is why most will only read the short press release. (ii) The initial headlines were almost all about stopping financing for coal staring in 2021. Its understandable that the headline come from the press release and most didn't read the 30 page communique. Its why yesterday morning, we tweeted [LINK] on the coal headline. No question the G7 want to get rid of coal power but it is disappointing their press release wasn't accurate compared to the detailed communique. Release says G7 will end all new finance for coal power by the end of 2021. The communique details this but all references are for unabated coal ie. where coal doesn't have CCS or other potential abatements. (iii) These G7 commitments are a reminder that the Liberals of items to expect as the Liberals accelerate their emissions actions in the run up to COP-26 Glasgow in Nov. Most still don't appreciate how setting 2030 targets and the Liberals making it law to stay on track to emissions means the Liberals have no choice (in their minds) but to step up climate change actions. (iv) Note the G7 says "*We reaffirm our commitment to the elimination of inefficient fossil fuel subsidies by 2025 and encourage all countries to adopt this commitment*". How broadly will this be interpreted? Does it mean basic items like CCA deductions for natural gas plant be gone? (v) There is a clear push away from natural gas as a long term transition fuel. Again remember, Canada is committing to this. The communique says "*We recognise that natural gas may still be needed during the clean energy transition on a time-limited basis and we will work to abate related emissions towards overwhelmingly decarbonised power systems in the 2030s*." This fits to Liberals latest goal for 90% electricity with no emissions. Also means that CCS will ultimately be needed for natural gas production. If CCS is needed, what parts of the western Cdn natural gas can't do this? (vi) The G7 don't say that the emissions reduction past 2030 relies on massive quick adoption of emerging, still costly technologies like CCS and hydrogen, but kind of hint around that. The communique says "*We also recognise the need to accelerate innovation this decade to meet our net zero goal by 2050 or sooner. This includes scaling up demonstrations and the early deployment of zero and negative carbon technologies*". (vii) It may not jump out, but it seems like a bias away from nuclear. This has to be the European emphasis away from nuclear. The nuclear industry will be annoyed by the G7 calling its "*low carbon energy*". The communique says "*Those countries that opt to use it reaffirmed the role of nuclear energy in their energy mix. Those countries recognise its potential to provide affordable low carbon energy and contribute to the security of energy supply as a baseload energy source*." Whereas the Nuclear Energy Institute (and all others) say "*Nuclear is carbon-free. It is the largest source of carbon-free electricity in the United States and protects our air quality by generating electricity without other harmful pollutants like nitrogen oxide, sulfur dioxide, particulate matter or mercury*." We know the 30-pg communique is a grind but there is much more in it than in the short press release. Our Supplemental Documents package includes the G7 release and the first 18 pages from the 30-pg communique.

Energy Transition – UK EV ramp up likely slower than expected

UK EV ramp up likely slower than expected

We continue to see indications that the adoption of EVs will not be as fast as expected in the energy transition. The UK is ahead of Canada and the US with their policy to not allow any new ICE vehicle sales starting in 2030 so they are basically on a 8.5 year countdown. Most cars seem to last longer so buying cycles are longer. The UK Office of Gas and Electricity Markets (OFGEM), the UK's independent energy regulator reported on research it had conducted on EV adoption [LINK]. It found that almost one in four (24%) consumers plan to buy an EV or plug-in hybrid in the next 5 years. This is not a glass half full or half empty result. Rather, it could have been phrased as 3 in 4 are resisting buying an EV in the next 5 years, despite knowing the only option they will have in 8.5 years is to buy an EV. OFGEM said 59% of those who said they were unlikely to get an EV in the next 5 years said the price being too high was a barrier, and 38% were reluctant due to concerns about short battery life and range. 36% worried they would have nowhere to charge their EV close to home. Price is clearly an issue, but the other factors link to the common concerns slowing adoption in the US – how and where to charge. EV companies need to get the price down, but the broader issue is that drivers have to be able to drop their concerns on battery life and ability to charge. Our tweet [LINK] reminded that these hesitations mean the adoption on rate of EVs will be slower than expected as well as it will be a longer time before Peak Oil demand is reached. Our Supplemental Documents package includes the OFGEM study.

Energy Transition – Car and Driver expects electric Ford F-150 base at $42k

Ford introduces Electric F-150

We wouldn't have mentioned this item if we hadn't seen the OFGEM study that noted the biggest issue holding back drivers from going EV is price. But we have to wonder if Ford's introduction of its electric F-150 will be a catalyst for a big pick up in EV sales. Car and Driver [LINK] estimates "*The F-150 Lightning will be on sale in the spring of next year with a base version starting around $42,000 and the XLT at $55,000 (the MSRPs are $39,974 and $52,974, plus a yet-to-be-announced mandatory delivery charge). Pricing for the other trims is still TBD, but we expect the Lariat to come in around $59,000 and the Platinum around $70,000. Ford says the price will approach $90,000 fully loaded.*" But it sounds like the pricing is going to be decent. When we ask independent contractors who drive F-150's if they would go electric. They note price as an issue, but also that they will wait to make sure there isn't a risk of the battery being able to deliver a couple days of work on the job in Ontario or

Alberta. However, we would expect the electrified F-150 will appeal to fleets, no different than other commercial fleets for EVs and, of course, also the Urban Cowboy. Regardless, we have to look at something like a decently priced electrified F-150 as being a potential catalyst to crank up electric sales.

Energy Transition – New climate law in Spain to end fossil fuel production by 2042

New climate law in Spain to end fossil fuel production by 2042

Last Sunday, Spain joined the movement of governments in increasing emissions targets with it committing to a 23% reduction in emissions by 2030 from 1990 levels [LINK]. The Spanish parliament has voted in favor of the climate law, a decade in the making, which alongside the emissions target makes large strides towards ending fossil fuel and production in Spain. It will have essentially zero impact on global oil markets or Spain oil imports Spain also included that all production of fossil fuels on Spanish land must end by December 31, 2042. It is irrelevant to oil market as Spain produces well under 100,000 b/d. Effective immediately, it also bans any new coal, gas, and oil exploration and production permits. The sale of fossil fuel vehicles in the country will be also banned by 2040 and Spain has pledged a goal of 74% renewable energy generation for the country by 2030. Spain is far behind other European countries in terms of emissions cuts and exceeded its emission cap by over 20% under the Kyoto Protocol. Its emissions have only just dropped below 1990's emissions levels, as unlike the UK or Germany, its emissions actually rose between 1990-2007.

ESG – BHP brings in daily booze limits on mine sites

BHP brings in daily booze limits on mine sites

BHP Group instated a new policy on alcohol at its mine sites, which, no surprise, didn't get a great reception from miners. Reuters reported on the policy and the subsequent backlash on Friday [LINK]. The new policy limits mine site workers to 4 drinks per day and banned miners from drinking past 9:30 pm including in their room, and reported said it would search belongings for stashes of liquor if needed. The Western Mine Worker's Alliance (WMWA) fought back, and told BHP in a letter that the policies were concerning and infringed on employees' basic rights to privacy and enjoyment in non-work hours. Roulstone of the Australian Worker's Union said: "*If there are issues with some staff, they need to be managed, rather than penalising all the rest of the workers*". BHP countered, saying the policy was in line with national health guidelines.

Capital Markets – IFIC: Mutual funds and ETF assets +2.0% in April

Mutual Fund & ETF assets increase MoM

Last Friday, the IFIC (Investment Funds Institute of Canada) reported [LINK] mutual funds and ETF sales for April. IFIC does not provide any commentary on the numbers but, given the strong market performance since the end of Jan dip, it is not surprising to see an increase. For April, the IFIC reported *"Mutual fund assets totalled $1.88 trillion at the end of April 2021. Assets increased by $37.3 billion or 2.0% compared to March 2021. Mutual funds recorded net sales of $9.0 billion in April 2021. ETF assets totalled $288.0 billion at the end of April 2021. Assets increased by $10.0 billion or 3.6% compared to March 2021. ETFs recorded net sales of $5.5 billion in April 2021."* Our Supplemental Documents package includes the IFIC release.

Capital Markets - Saudi Arabia sells off all Suncor holdings

Saudi Arabia sells off all Suncor holdings

The Financial Post reported on Tuesday [LINK] Saudi Arabia's Public Investment Fund sold off all 51 million of its shares of Suncor. It instead doubled down on its strategy of investing in video-game makers, including Activision, Electronic Arts and Take-Two, raising holdings of US stocks by ~20% to US$15.4bn. Its video game holdings were US$3.3bn at the end of Q4 and have since jumped to US$6bn during Q1. The fund is chaired by Crown Prince Mohammed, who is reportedly a big fan of video games. Typically, excess oil revenue was reinvested by the Saudi central in more stable assets like US Treasury Bills, but their strategy has since shifted to be more opportunistic in an effort to grow its assets to support Vision 2030. Yasir Al Rumayyan, governor of the fund said back in December*: "The crown prince always talked about how we missed an opportunity in 2008 to invest in international markets, so we were ready*" [LINK]. The fund plans to grow its assets to over US$1.1tn by 2025.

Demographics – Are more retirees not spending enough?

Are retirees spending enough?

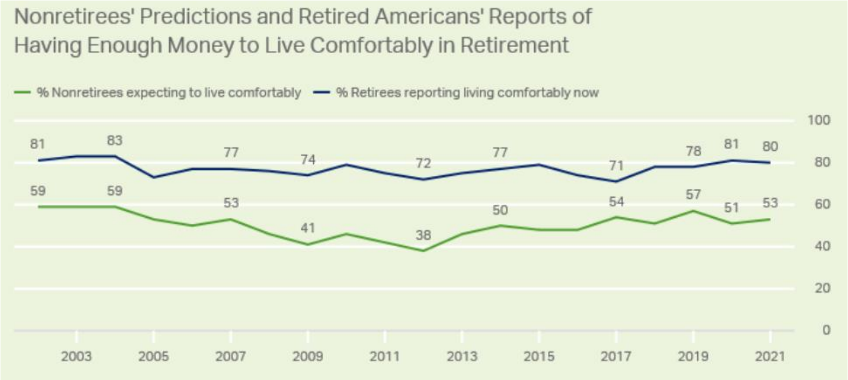
I don't know who sent this link [LINK] to me but the ATB March 22, 2021 blog "*Spending during retirement*" but it really does describe most of my baby boomer friends. ATB writes "*Many people live relatively modest lifestyles for decades in order to accumulate wealth. Frequently, one of two things happens: either they feel uncomfortable about spending or they get a little too comfortable and run the risk of depleting their retirement assets."* Going back pre 2008 financial crisis, there were many then late 40's boomers retiring and there were many who were spending big. They were fine but then the financial crisis hit hard and then they were spending big but with nest eggs down dramatically. But that tended to be the catalyst to remind retirees that the nest egg can be hit harder than expected. As a result, it seems that more of my retired friends have flipped to the category of not spending enough to use up their nest eggs. And if anything, vast majority have come out better post Covid as many put capital to work after Covid crashed markets remembering the returns that were made once the 2008 financial crisis hit.

Demographics – 80% of US retirees have enough to live comfortably

Retires feel good about money

On Tuesday, Gallup reported on the results from its annual Economy and Personal Finance survey (conducted April 1-21) with the "*U.S. Retirees' Experience Differs From Nonretirees' Outlook*". [LINK] Gallup's highlights were "*80% of retirees have ample retirement money; 53% of nonretirees expect to; Retirees more reliant on Social Security than nonretirees plan to be. Nonretirees most likely to think 401(k) will be major retirement income source".* It was interesting that Covid did little to change retirement expectations. Gallup wrote "*The economic fallout from the coronavirus has done little to alter these views, especially in comparison to the much more notable downturn in nonretirees' expectations during and immediately after the 2007-2009 Great Recession."* Part of the reason is noted above that nonretirees aren't counting on Social Security as much as retirees. Its actually worse for nonretirees when you look at some of the splits. No surprise, 75% of nonretirees with annual household income >$100,000 think they will have enough money to live comfortably in retirement vs 49% for those $40,000 to <$100,000 and only 33% for those <$40,000. Notwithstanding these expectations, the expected mean retirement age of nonretirees has dropped from 66 to 64 years, and the actual age of retirees has increased from 60 to 62 years.

Figure 43 – Retirees and Nonretirees on living comfortably in retirement



Source: Gallup

Demographics – Top best and worst countries for expats

Top best and worst countries for expats

InterNations released their Expat Insider 2021 survey results [LINK], which is conducted annually in an effort to shed light on the expat experience. This year specifically, the survey results highlight what living and working in a foreign country was like during the pandemic. 4 factors make up a country's overall ranking: Quality of Life, Ease of Settling In, Personal Finance and Working Abroad. The top 3 best places for expats in 2021 were Taiwan, Mexico and Costa Rica. Canada made it to the top 10 at #9, while the US ranked 34th. Some of the worst places to live and work abroad include Russia, South Africa, Italy and Kuwait. We were a little surprised by Italy being the 2nd worst. It's one of the must haves for Americans for holiday so we would have assumed it was better rated. Below is a table of the Top 10 Best & Worst countries for expats.

Figure 44 – Top 10 Best & Worst Countries for Expats

Rank	Top 10 Best	Top 10 Worst
1	Taiwan	Kuwait
2	Mexico	Italy
3	Costa Rica	South Africa
4	Malaysia	Russia
5	Portugal	Egypt
6	New Zealand	Japan
7	Australia	Cyprus
8	Ecuador	Turkey
9	Canada	India
10	Vietnam	Malta

Source: InterNations

Demographics – US taxation pushes expats to renounce citizenship

US taxation pushes expats to renounce citizenship

Another survey on expat opinion came out last Wednesday, conducted by Greenback Expat Tax Services [LINK]. The survey focus primarily on the financial side of living and working abroad, in particular taxation. 69% of those surveyed don't think they should be paying US taxes while living abroad and as a result, many expats have at least considered renouncing their US citizenship (64%), and 4% are already planning to renounce. Almost half (42%) cited the reason was the burden of filing US taxes while abroad including dealing with the Foreign Account Tax Compliance Act. Other reasons included disappointment with the US government, difficulty working with foreign banks as an American citizen, as well as no longer having strong ties to the US. When it comes to COVID-19, 87% said they chose to stay abroad during the pandemic and 6 in 10 disapproved of how the US government handled the crisis. The shift to remote work wasn't as pronounced for expats as 18% already worked remotely prior to the pandemic. However, the change is seeming to stick with expats. 10% plan to make remote work permanent post-pandemic and 38% are planning on adopting a hybrid model.

Demographics – Canadian housing much less affordable than the US

Canadian housing much less affordable than the US

Oxford Economics released a research briefing on Tuesday [LINK] on housing affordability in North America. The brief used Housing Affordability Indices (HAI), which measures home prices relative to the median household income nationally. It showed that the US is much more affordable than Canada. We are surprised by the results that only show NYC being more affordable than Vancouver, Toronto, Hamilton and Ottawa. Its just probably that we always think of Manhattan and not an overall New York City. The overall US HAI was 0.66 in Q1/21, meaning the median single family home price was 34% lower than what a median income household could afford while for Canada the HAI was at 1.34. Only 4/10 of the most affordable cities in the US/Canada are in Canada, while the top 3 least affordable cities are all Canadian. We were not surprised to see Vancouver and Toronto as the top least affordable cities but seeing Hamilton as 3rd most expensive was a surprise. Housing affordability in Canada has worsened considerably over the last decade – in Q1 2021, the typical home in Canada was 34% more expensive than what the median household income could afford.

Figure 45 – North American Cities Ranked by Housing Affordability

Most affordable		Least affordable	
City	HAI (Q1 2021)	City	HAI (Q1 2021)
Chicago	0.60	Vancouver	1.67
Columbus	0.62	Toronto	1.53
Quebec City	0.64	Hamilton	1.50
Atlanta	0.65	San Jose	1.49
Raleigh	0.67	LA	1.40
Edmonton	0.67	Ottawa	1.29
Dallas	0.67	Seattle	1.06
Winnipeg	0.68	NYC	1.00
Nashville	0.76	Montreal	1.00
Calgary	0.78	Miami	0.99

Source: Oxford Economics, Haver Analytics

Manhattan apartment vacancy rate now 11.6% vs 2.42% in April 2020

We still have trouble believing NYC is more affordable than four Cdn cities, but it has been feeling the pinch since Covid. On Thurs, the WSJ report "*Manhattan's Apartment-Vacancy Rate Is Stubbornly High"* [LINK] wrote "*The borough's apartment vacancy rate rose in April to 11.6%, up from 2.42% one year ago, according to a report from appraisal firm Miller Samuel and brokerage Douglas Elliman. Median rent fell on both a monthly and annual basis. The data show that landlords are struggling to keep their buildings full. Many landlords have had to drop prices and offer incentives, like eliminating broker fees or offering multiple months of free rent, to get units off their hands. Manhattan's tumbling rents and highest vacancy rate in years* *reflect the exodus of tenants from the borough during the worst of the pandemic. New arrivals have been slow to take their place."*

Demographics – 7 in 10 US white collar workers still WFH

Gallup released a poll on Monday on the proportion of workers in the US in April 2021 that are continuing to telework [LINK] which has not shown much change since the start of the pandemic in the proportion of white collar workers continuing to work remotely. Back in April 2020, 83% of white collar workers worked remotely, and since, the number has only fallen to 72% in April 2021. However, participants were polled in April, before the CDC's announcement that fully vaccinated people can forgo masks and vaccines are now distributed more broadly. We should start to see steady drops over the summer for white collar as vaccines are more broadly distributed and people return to office with the biggest drops happening in the fall. In total 51% of those polled were working remotely, down from 69% at the beginning of the pandemic. The decline was mainly due to blue collar workers which proportion dropped from 19% in April 2020 to 14% in April 2021.

Poll shows 7 in 10 white collar workers still WFH

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

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

@Energy_Tidbits on Twitter

LinkedIn – Look for quick energy items from me on LinkedIn

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

Look for energy items on LinkedIn

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.

Once again, Cdn golfer Corey Connors shows up in the majors but not on TV

My big push on the memo is from after lunch Friday thru Sunday morning, which means I can normally leave sports on in the background as the market is closed. I don't watch golf every week but always turn on when the Canadians are in the hunt as is the case this week with Corey Connors once again playing well in a major, this time the PGA Championship. But we have to wonder what it is with the CBS coverage of the PGA Championship yesterday and why they almost never showed Cdn Corey Connors who is sitting tied for 10th at -1 going into the final round. He was tied for 6th until he bogeyed 18 to drop back. They showed multiple coverage of the big names sitting behind him and then would show his playing partner, Gary Woodland (-2) but then cut away before Corey played. I think they showed maybe 2 of his shots over the 4 hours. He is probably too far back to win with too many golfers in front, but I really hope he lights it up like his -5 1st round so CBS is forced to show him like had to be done in when he led after the 1st round. I will be routing for

Corey, but then my second choice has to be Phil Mickelson with a one shot lead at -7 at the age of 50!

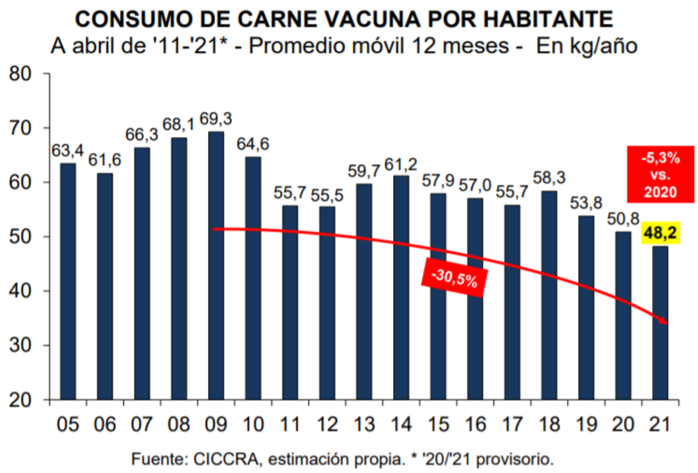
Port of LA is not short labor, rather has "additional work opportunities"

The other part of the supply chain stress is increased costs from labor shortages. One other interesting comment from the CNBC Squawk Box Gene Seroka interview. Seroka was asked about labor and he said "…. *and we began a mass vaccination program here in our international cruise center in the Port of Los Angeles and these dock workers have been averaging 5 ½ to 6 days a week on the job, incredible work since the pandemic began".* We went to the Port of Los Angeles website and noted their May 13 release on April volume breaking another record [LINK] that quoted Seroka on the April volume saying "*This volume surge has resulted in additional work opportunities for dockworkers, truckers, warehouse employees and others*."

Argentina beef consumption continues to drop to record lows

On Tuesday, Buenos Aires Times reported [LINK] on President Alberto Fernandez comments to justify Argentina's 30-day ban on all beef exports. Argentina is the 5th largest beef exporter in the world. BAT reported ""*The meat issue has got out of hand. The prices rise month by month without justification. We need to get it under control," the president told Radio 10 in an interview, saying it was necessary to "impose order on those who export." "We cannot see how the prices grow without any justification, or that the price of meat prices and consumption drops," he argued."* BAT also reported on inflation "*But they also face one of the most elevated consumer price indexes in the world. Inflation hit 4.1 percent in April, according to the INDEC national statistics bureau, and the cost of living has increased 46.3 percent in the last 12 months. Over the same period, cuts of beef have increased 65.3 percent, according to the IPCVA industry group*." People can't afford beef and it is showing up in record low beef consumption. We couldn't help look at the Argentina beef eating trends after seeing the report. We went to CICCRA (Camara de la Industria Y Comercio de Carnes Y Derivados de la Republica Argentina),who posts monthly beef statistcis. Their current May report [LINK] has the below graph that shows the moving 12 month average of beef consumption per person in kgs/year. It shows Argentina's beef consumption is at record lows of 48.2 kg/person/year.

Figure 46: Argentina beef consumption in kg per person per year



Source: CICCRA

Last summer Cdn election was July 8, 1974 when Trudeau won a majority

We thought there was the potential for a pre-summer June election following the Liberals a potential pre-summer election call, but the resurgence of Covid and even tougher lockdowns across Canada hasn't been kind to governments including the Liberals. The April 19 budget was viewed as a potential election budget, but the budget was supported by the NDP and Bloc. However the slow roll out of vaccine, increased lockdowns has led to the Liberals in a steady small slide down in popularity since the April 19 budget, falling from 37.3% on April 26 down to 36.3% on May 16. As a result, no surprise there hasn't been any chatter about a potential election. And as a rule, ruling parties avoid summer elections to avoid ruining people's holidays. The last summer election was July 8, 1974. The election was the result of the then Liberal minority govt led by Pierre Trudeau had their May budget defeated when the NDP removed their support and voted with the Conservatives to vote down the budget and force a summer July 8, 1974 election. Trudeau wasn't blamed for the election and ended up going from a minority govt with 109 seats to a majority government with 141 seats. As a matter of process, the call for an election ends up with a minimum 36-day period to a maximum of 50 days.