

Energy Tidbits

May 30, 2021

Produced by: Dan Tsubouchi

Biden's Budget Is a Huge Hit to All US Oil & Gas Companies, Small to Big, Domestic to Multinational.

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. Biden's Friday budget is a huge hit to all US oil and gas companies, has to inevitably lead to less US oil and gas production in the future. ([Click Here](#))
2. Biden to restore state and tribal authority to "protect water resources", has to make it tougher for transporting oil/petroleum products across/under navigable water. ([Click Here](#))
3. New Mexico warns actions to come on need for bonded on the front end to ensure oil companies have covered future reclamation liabilities ([Click Here](#))
4. JCPOA agreement in principle coming in the coming days? ([Click Here](#))
5. Climate change side wins vs Exxon and Shell have to inevitably lead to even more capital reallocated from oil and gas to renewables/energy transition. ([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 115 bcf, storage now -381 bcf YoY deficit

The EIA reported a 115 bcf injection (vs 105 bcf injection expectations) for the May 21 week, which was above the 5-yr average injection of 91 bcf, and slightly below last year's injection of 109 bcf. Storage is 2.215 tcf as of May 21, decreasing the YoY deficit to 381 bcf from 391 bcf last week and storage is now 63 bcf below the 5 year average vs 87 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. [\[LINK\]](#)

YoY storage at -381 bcf YoY deficit

Figure 1: US Natural Gas Storage

Region	Stocks billion cubic feet (Bcf)				Historical Comparisons			
	05/21/21	05/14/21	net change	implied flow	Year ago (05/21/20)		5-year average (2016-20)	
					Bcf	% change	Bcf	% change
East	385	358	27	27	499	-22.8	419	-8.1
Midwest	499	472	27	27	602	-17.1	497	0.4
Mountain	144	135	9	9	131	9.9	134	7.5
Pacific	256	247	9	9	262	-2.3	245	4.5
South Central	931	888	43	43	1,102	-15.5	983	-5.3
Salt	296	280	16	16	348	-14.9	308	-3.9
Nonsalt	635	608	27	27	754	-15.8	675	-5.9
Total	2,215	2,100	115	115	2,596	-14.7	2,278	-2.8

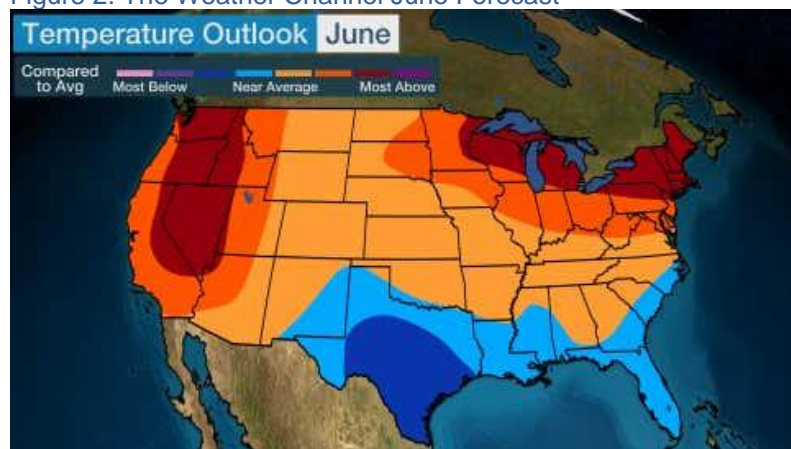
Source: EIA

Natural Gas – Warmer than normal June but not as hot as 2020

We continue to see near term forecasts for a warm US summer, which should provide support to HH gas prices. The Weather Channel posted an updated forecast for June temperatures on Friday [\[LINK\]](#) which is indicating near to above average temperatures for much of the US. Much above average temperatures are expected for the western states, where drought conditions are also expected to prevail, increases the wildfire risk. Much of the north east and great lakes states are also expected to have much above average temperatures. The southern states may avoid the heat, with near to below average temperatures expected. While June is expected to be hot, it likely will not be as hot as June 2020 which was the 24th hottest in the last 126 years [\[LINK\]](#).

June expected to be warmer than normal

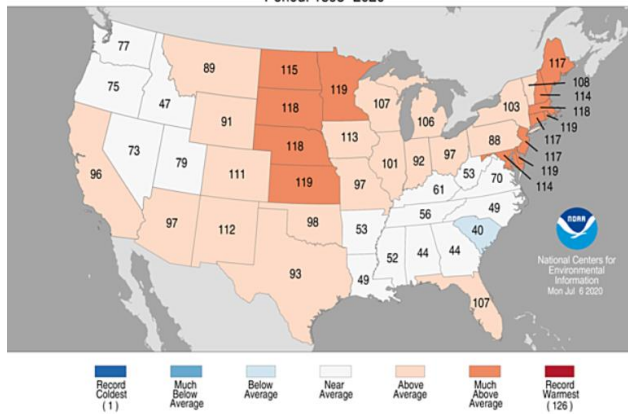
Figure 2: The Weather Channel June Forecast



Source: The Weather Channel

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Figure 3: NOAA June 2020 Recap
Statewide Average Temperature Ranks
June 2020
Period: 1895–2020



Source: NOAA

Natural Gas – US Mar gas production down 2.2 bcf/d YoY, +6.0 bcf/d MoM

US gas production has fully recovered since the Feb freeze-off. EIA released its Natural Gas Monthly on Friday [\[LINK\]](#), which includes its estimates for “actuals” for March gas production. US gas production in Mar was 92.3 bcf/d, up 6.0 bcf/d MoM from February of 86.3 bcf/d. Prior to the Feb freeze, the YoY deficit in US dry natural gas production had been declining, with Jan at -2.8 bcf/d YoY, but Feb saw a YoY decline of -8.4 bcf/d. March’s YoY decline of 2.2 bcf/d should restart the declining trend in the deficit. These YoY declines should be gone in the next couple months, and then flip to YoY increases thru the summer given covid had dropped 2020 production drastically beginning in May. Below is our running table of US dry natural gas production along with our graph of US dry gas production by year. Our Supplemental Documents package include excerpts from the EIA Natural Gas Monthly.

US Mar gas production down 2.2 bcf/d YoY

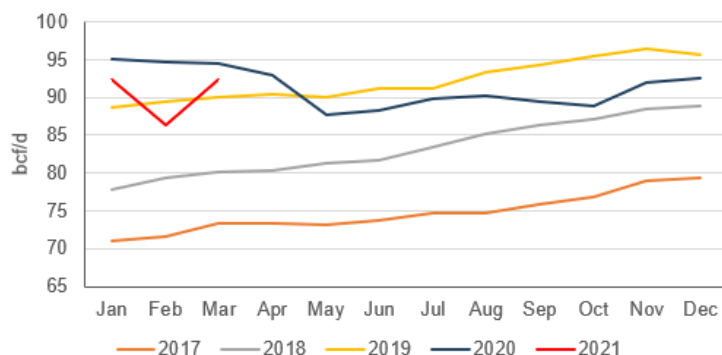
Figure 4: US Dry Natural Gas Production

bcf/d	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Jan	56.0	60.0	65.9	65.3	67.8	72.6	73.8	71.0	77.9	88.6	95.1	92.3
Feb	57.3	58.8	65.2	65.9	67.5	73.7	74.7	71.6	79.4	89.4	94.7	86.3
March	57.3	61.5	65.1	65.4	68.2	74.1	74.0	73.3	80.2	89.9	94.6	92.3
Apr	57.6	62.3	65.4	66.0	68.6	75.0	73.8	73.4	80.4	90.4	92.9	
May	58.0	62.4	65.6	66.3	69.5	74.2	73.5	73.3	81.3	89.9	87.8	
June	57.2	62.1	65.4	66.3	69.8	74.3	72.5	73.8	81.8	91.2	88.4	
July	58.3	62.5	65.8	67.0	70.6	74.3	73.1	74.7	83.4	91.3	89.8	
Aug	58.9	63.2	65.4	67.0	71.6	74.3	72.3	74.7	85.2	93.3	90.2	
Sept	59.1	63.1	66.2	67.2	71.7	75.0	71.9	75.8	86.4	94.2	89.5	
Oct	60.1	65.1	66.5	67.6	72.2	74.1	71.4	76.9	87.2	95.4	88.9	
Nov	60.1	65.9	66.6	68.6	73.1	74.1	72.1	79.0	88.6	96.4	92.0	
Dec	61.0	65.6	65.8	66.6	74.7	74.0	71.2	79.5	88.9	95.6	92.5	
Average	58.4	62.7	65.7	66.7	70.4	74.1	72.8	74.8	83.4	92.2	91.4	

Source: EIA

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Figure 5: US Dry Natural Gas Production



Source: EIA

Natural Gas – US LNG exports increase 2.7 bcf/d MoM to 10.2 bcf/d in Mar

The other big support for US gas prices, other than the Feb freeze, has been stronger YoY US LNG exports. US LNG Exports in March have recovered since the February freeze off. The EIA Natural Gas Monthly also reported “actuals” for US LNG exports, which were 10.2 bcf/d in March, which is +2.4 bcf/d YoY and was up 2.7 bcf/d from February of 7.6 bcf/d. Note our table rounds to one decimal and the actual is 10.248 bcf/d for Mar. As expected, March showed a recovery over the low in Feb and reached a new record for monthly LNG exports. We expect this trend to continue in April with flows to April 30 averaging 11.4 bcf/d. Below is our table of EIA’s monthly LNG exports.

US Mar LNG exports +2.4 bcf/d YoY

Figure 6: US LNG Exports (bcf/d)

(bcf/d)	2016	2017	2018	2019	2020	2021
Jan	0.0	1.7	2.3	4.1	8.1	9.8
Feb	0.1	1.9	2.6	3.7	7.8	7.6
March	0.3	1.4	3.0	4.2	7.9	10.2
Apr	0.3	1.7	2.9	4.2	7.0	
May	0.3	2.0	3.1	4.7	5.9	
June	0.5	1.7	2.5	4.7	3.6	
July	0.5	1.7	3.2	5.1	2.7	
Aug	0.9	1.5	3.0	4.5	3.6	
Sept	0.6	1.8	2.7	5.4	5.0	
Oct	0.1	2.6	2.9	5.7	7.2	
Nov	1.1	2.7	3.6	6.3	9.4	
Dec	1.3	2.7	4.0	7.1	9.8	
Full Year	0.5	1.9	3.0	5.0	6.5	
Full Year bcf	186	708	1,084	1,817	2,390	

Source: EIA

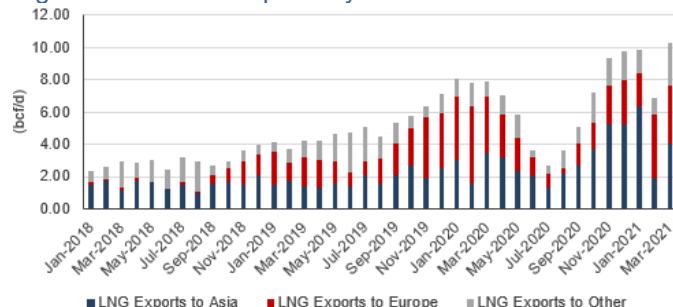
Natural Gas – US Mar LNG exports top destinations favoured Asia

The US Dept of Energy also posts a DOE LNG Monthly report [\[LINK\]](#) that has more details on LNG exports by cargo. Increasing US LNG exports has been a significant driver of HH strength in 2021 with exports reaching record highs. LNG exports in March reached 10.2 bcf/d in March, a 50.1% MoM increase from 7.6 bcf/d in February and +30.1% YoY over 7.9 bcf/d in March 2020. LNG exports to Asia dominated the top 5 with South Korea receiving the most at 1.04 bcf/d, China the third most at 0.92 bcf/d, and Japan the fourth most at 0.89 bcf/d. Within the top 5 was also France at 0.98 bcf/d and Netherlands at 0.78 bcf/d. Our Supplemental Documents package includes excerpts from the DOE LNG Monthly.

March export volumes reach record of 10.2 bcf/d

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Figure 7: US LNG Exports by Destination



Source: EIA

Natural Gas – US pipeline exports to Mexico +1.5 bcf/d MoM to 5.9 bcf/d in Mar

Once again, we saw a complete recovery from the Feb freeze off in the March pipeline exports to Mexico. The EIA Natural Gas Monthly also provides its “actuals” for gas pipeline exports to Mexico, which were 5.9 bcf/d in March, -0.5 bcf/d YoY and up 1.5 bcf/d MoM from 4.4 bcf/d in January. We are starting to see the beginning of increasing US pipeline exports to Mexico post the Texas big freeze impact. Mexico natural gas production remains stuck below 5 bcf/d and the completion of new pipeline infrastructure such as the Wahalajara system [\[LINK\]](#) increases US penetration further into Mexico. Below is our table of the EIA’s monthly gas exports to Mexico.

US Mar pipeline exports to Mexico +1.5 bcf/d MoM

Figure 8: US Pipeline Gas Exports To Mexico (bcf/d)

bcf/d	2014	2015	2016	2017	2018	2019	2020	2021
Jan	1.7	2.2	3.2	3.9	4.4	4.9	5.2	5.6
Feb	1.8	2.3	3.4	4.1	4.5	4.8	5.2	4.4
March	1.9	2.4	3.3	4.2	4.3	4.8	5.4	5.9
Apr	1.9	2.6	3.5	3.9	4.4	4.7	4.6	
May	2.0	2.8	3.7	4.2	4.4	5.0	4.7	
June	2.2	3.0	3.9	4.5	4.6	5.2	5.4	
July	2.2	3.3	4.0	4.4	4.9	5.4	5.8	
Aug	2.1	3.3	4.3	4.4	5.0	5.4	6.0	
Sept	2.2	3.3	4.1	4.2	5.0	5.4	6.0	
Oct	1.9	3.2	4.2	4.3	4.9	5.5	6.0	
Nov	1.9	3.0	4.0	4.5	4.7	5.3	5.5	
Dec	2.1	3.2	3.7	4.4	4.5	4.9	5.3	
Full Year	2.0	2.9	3.8	4.2	4.6	5.1	5.4	

Source: EIA

Natural Gas – RBN doesn’t see LNG Canada Phase 2 as a probably FID

The global LNG market in 2020 had seen some extreme lows as well as highs which have carried on from the latter half of 2020 and continued to strengthen in 2021. RBN posted a good blog on Thursday [\[LINK\]](#) providing an overview of the remaining LNG facilities in early developments stages that hadn’t been abandoned and has ranked them by likelihood of reaching FID. RBN’s overall view is that “*the pandemic may have forced a culling of the proposed projects, but those near the top now have a clearer path ahead. In fact, several projects could realistically achieve FID in the next few years.*” Not surprisingly, RBN noted that Kitimat LNG has a high likelihood of being fully cancelled with both initial developers attempting to sell their 50% stakes in the project. Another project that is very unlikely to continue to FID is Jordan Cove in Oregon, which had been officially placed on hold in late April due to regulatory hurdles. However, despite the turbulent 2020, there remains a relatively robust pipeline of new projects that have a good chance of reaching FID. Topping the list with the highest probability is Woodfibre LNG and Cameron Phase 2. RBN expects

RBN blog on pre-FID LNG facilities

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the 0.3 bcf/d Woodfibre LNG facility in BC to be the next NA project to reach FID given 70% of capacity is under long-term SPAs, and Woodfibre is targeting FID in the third quarter. The second most likely project is Cameron Phase 2, a two train 1.3 bcf/d addition to Sempra's Cameron LNG terminal in Louisiana. This expansion has all regulatory approvals, however is not underpinned with any binding SPAs. No one will disagree with Woodfibre but the one surprise was that LNG Canada was only noted on the map as being under construction and there was no discussion on the potential of LNG Canada Phase 2 to FID in 2021/2022. Below is RBN's summary of most likely LNG facilities to reach FID. Our Supplemental Documents package includes the RBN blog.

Figure 9: NA Pre-FID LNG Projects

Project	Developer	Region	Location	Trains	MMtpa	Bcf/d	Tier Status
Woodfibre LNG	Pacific Oil and Gas	British Columbia	Squamish, BC	1	2.1	0.3	Probable
Cameron LNG T4-5	Sempra et al	Sabine River	Hackberry, LA	2	10.0	1.3	Probable
Corpus Christi Ph 3	Cheniere	Texas Gulf Coast	Corpus Christi, TX	7	9.5	1.3	Tier 1
Port Arthur LNG Ph 1	Sempra	Sabine River	Port Arthur, TX	2	11.0	1.4	Tier 1
Freeport LNG T4	Freeport LNG	Texas Gulf Coast	Freeport, TX	1	5.1	0.7	Tier 1
Driftwood LNG Ph1	Tellurian	Sabine River	Calcasieu Parish, LA	12	16.6	2.2	Tier 1
Plaquemines LNG Ph 1	Venture Global	Louisiana Gulf Coast	Plaquemines, LA	36	10	2.8	Tier 2
Rio Grande LNG	NextDecade	TX/Mexico Border	Brownsville, TX	5	22.5	3.0	Tier 2

Source: RBN

Natural Gas – Mexico’s natural gas production still stuck below 5 bcf/d, -3.2% YoY

Pemex reported its April oil and gas data last Sunday. One of the key Mexican energy themes for the past 3 years has been that Mexico has been unable to grow domestic natural gas production, which means the continued opportunity for increase exports of US natural gas to Mexico. Mexico natural gas production has been stuck at or below 5.0 bcf/d since Aug 2017. We believe Pemex is still in the natural gas production is stuck phase below 5 bcf/d as it has since Sept 2017. Pemex reported Apr natural gas production of 4.671 bcf/d, which was down 3.2% YoY and down 3.5% MoM. Pemex does not provide any commentary along with its production data. Below is our ongoing table of Pemex reported monthly natural gas production.

Mexico natural gas stuck below 5 bcf/d

Figure 10: Mexico Natural Gas Production (bcf/d)

Natural Gas Production bcf/d	2015	2016	2017	2018	2019	19/18	2020	20/19	2021	21/20
Jan	6.584	6.162	5.326	4.910	4.648	-5.3%	5.005	7.7%	4.848	-3.1%
Feb	6.676	6.122	5.299	4.853	4.869	0.3%	4.942	1.5%	4.854	-1.8%
Mar	6.558	6.030	5.383	4.646	4.857	4.5%	4.946	1.8%	4.839	-2.2%
Apr	6.257	5.921	5.334	4.869	4.816	-1.1%	4.827	0.2%	4.671	-3.2%
May	6.202	5.841	5.299	4.827	4.841	0.3%	4.460	-7.9%		
June	6.390	5.881	5.253	4.840	4.843	0.1%	4.754	-1.8%		
July	6.374	5.785	5.216	4.856	4.892	0.7%	4.902	0.2%		
Aug	6.366	5.686	5.035	4.898	4.939	0.8%	4.920	-0.4%		
Sept	6.477	5.619	4.302	4.913	5.017	2.1%	4.926	-1.8%		
Oct	6.397	5.583	4.759	4.895	4.971	1.6%	4.928	-0.9%		
Nov	6.316	5.515	4.803	4.776	5.015	5.0%	4.769	-4.9%		
Dec	6.236	5.380	4.811	4.881	5.024	2.9%	4.846	-3.5%		

Source: Pemex

Natural Gas – Total says Mozambique LNG has not been cancelled altogether

Our concern on Total's Mozambique LNG is that the delays will be more than 1 year as Total suggested at the time of the force majeure. And that we wouldn't be surprised if we saw

Total on Mozambique LNG

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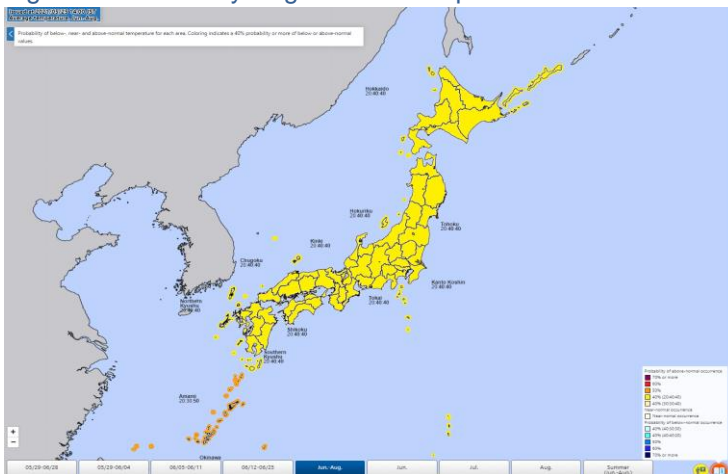
Total sell down on its position if that longer force majeure period becomes likely. However, we listened to the simultaneous translation of Total’s AGM on Friday morning. Total CEO was asked if the Mozambique LNG force majeure was temporary or has this project been cancelled altogether? CEO Pouyanne gave a long answer but he started clearly with “No, its not been cancelled altogether”. Pouyanne didn’t give any estimate when Total might lift the force majeure. One part of this answer was interesting in that he made a point that that Total didn’t fund military action. It seems like a plea to the insurgents to not look at Total as the enemy. Pouyanne said “Total will never fund a military operation being it under a government or a private militia”.

Natural Gas – Japan seeing slightly warmer temps than normal this summer

The Japan Meteorological Agency posted their updated seasonal forecast for June/July/August [\[LINK\]](#). The forecast for the summer season is slightly above normal temperatures, especially in the southern portion of Japan. Boding well for energy demand and providing increased incentive to import more LNG, especially with the low expected reserve margin in Japan this summer. Last JJA was very hot [\[LINK\]](#), so JJA 2021 will be warm but not as hot as last summer. Below is the current JJA forecast and the JJA 2020 recap.

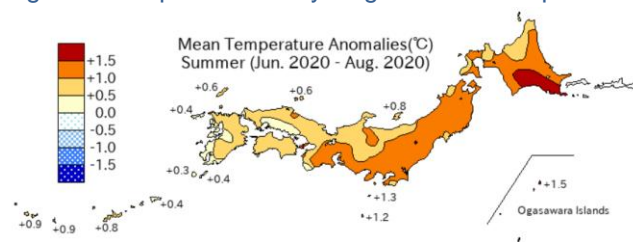
Japan expecting a warm summer

Figure 11: June/July/August JMA Temperature Forecast



Source: Japan Meteorological Agency

Figure 12: Japan June/July/August 2020 Temperature Map



Source: Japan Meteorological Agency

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

Even if it is only warm this summer in Japan, we expect to see Japan LNG imports be stronger than what normally be expected because Japan has such a low electricity reserve

Japan will want LNG this summer

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going into the summer and potentially with the Olympics still planning to go ahead. This would provide positive support for LNG prices this summer. We first highlighted this in a May 11, 2021 tweet [\[LINK\]](#) “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, our May 16, 2021 Energy Tidbits noted that we saw a 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.

Natural Gas – Wood Mackenzie Europe is turbo-charging the LNG market

On Thursday, Bloomberg terminal reported on Wood Mackenzie’s latest Global LNG market insights from an emailed note. There were a number of good insights from the short report. (i) The significance of Europe gas storage to global LNG markets. Bloomberg wrote “*Europe is “turbo-charging” the LNG market, “making the region a battleground for global LNG price formation””. And “Global LNG supply will remain tight through the rest of the year amid low storage levels in Europe and demand for gas-fired generation, Wood Mackenzie said in an emailed note. * “Lower winter starting inventory in Europe, combined with high seasonal Asian demand, will result in increased competition for Atlantic LNG, including from the U.S., putting pressure on LNG Prices”. (ii) Nord Stream 2 will impact 2022 markets. This has been our long-standing concern since prior the sanctions delay on the startup of Nord Stream 2 – it will have a significant impact on Europe gas markets and therefore LNG. Our March 30, 2019 blog “LNG Price Pressures 2020/2021 With Gazprom Adding ~8.9 bcf/d Export Gas Pipeline Capacity Into Europe And China” [\[LINK\]](#) outlined this concept. Bloomberg wrote “*** Russian Nord Stream 2 gas pipeline’s potential start will push benchmark Dutch gas prices below \$6.5/mmbtu next summer, ~30% lower than this summer.” And remembering the link of Europe gas storage and prices to global LNG prices, Bloomberg reported Wood Mackenzie indicating that LNG market is set to soften in 2022. (iii) Bloomberg also wrote “* Still, global LNG market will further tighten through 2025 ** “The global gas/LNG oversupply that has affected the market since the end of 2018 has now come to an end”. Our Supplemental Documents package includes the Bloomberg report.

Europe gas storage is key

Natural Gas – Reminder why Europe gas storage is the key indicator for LNG markets

As noted above, Wood Mackenzie reportedly highlighted Europe gas storage as a key indicator for global LNG markets. It just reinforces that Europe gas storage continues to play out as the key indicator for global LNG markets. Long term readers know we have used it as our primary global LNG market indicator since Sept 2017 as we believe Europe gas storage utilization is the best indicator for the strength and near term direction for LNG markets. We first highlighted this key concept almost 4 years ago. On Sept 20, 2017, we posted two related blogs. The first blog was “Shell: “Every LNG Cargo That Could Technically Be

Europe gas storage is key LNG indicator

Produced In This World Has Been Produced And Has Found A Well Paying Customer”, and the second linked blog was “China’s Plan To Increase Natural Gas To 10% Of Its Energy Mix Is A Global Game Changer Including For BC LNG”. The concept of the blogs was that the market was understating the fall LNG 2017 market strength, China being serious about increasing natural gas, and the surprising market strength would lead to a BC LNG FID in 2018 ie. LNG Canada. The reason for our believing LNG markets in summer 2017 was due to Shell’s LNG head, Martin Wetselaar) explaining the concept of Europe gas storage. As soon as we heard it, we knew it made sense. And when you look at the Europe gas storage utilization for this winter, it fits to the thesis Wetselaar first outlined in Aug 2017. Long term readers of Energy Tidbits know we think the best insights from companies comes from Q&A, not the slide decks, and that was particularly so in this case. Here is what we wrote in Sept 20, 2017 blog “The key data support to Wetselaar is that NW Europe storage is not seeing surplus LNG cargos looking for a home. In the Q&A, Wetselaar said the data support for his comment that the market is absorbing all of the new LNG supply is to look at NW Europe storage. Wetselaar did not use the description dumping ground, but it is the right term. Webster’s defines “dumping ground” as “a place to which unwanted people or things are sent”. He noted that if LNG was in oversupply, there would be surplus LNG cargos looking for a home and these surplus LNG cargos would find their way to NW Europe storage. Shell is not seeing any YoY increase in NW Europe storage. Hence, he is firm in his view that demand was absorbing all the new LNG supply in 2017. We pasted the NW Europe storage data into the below graph and it shows exactly what Wetselaar said – the monthly YoY changes in storage do not show increases in the net storage withdraw/injections, which implies that there isn’t any dumping of surplus LNG cargos in NW Europe storage. We have not been following NW Europe natural gas storage, but now have it on our regular data check list because of Wetselaar’s comments.” Our Supplemental Documents package includes our Sept 20, 2017 Shell blog.

Natural Gas – Biden says no sanctions for Nord Stream 2

As we and most have been expecting, it is looking like Nord Stream 2 will go ahead without sanctions. Marek Walkuski, Polish White House Correspondent, tweeted on Tuesday [\[LINK\]](#) a video of him interviewing Biden. We made a transcript where Walkuski asked Biden “Why are you letting Germany and Russia continue to build Nord Stream 2?” Biden responded “Because it’s almost completely finished, number 1. It’s not like I can allow Germany to do something or not. I have been opposed to Nord Stream 2 from the beginning but it was almost completed, by the time I took office. To go ahead and impose sanctions now I think is counterproductive to our European relations no matter how strongly I feel. I hope we can work on how they handle it from this point on”.

Biden says no sanctions for Nord Stream 2

Biden’s June Europe trip is the catalyst for resolving issues

We have been consistent in our view that we would expect Nord Stream 2 to be resolved prior to Biden’s June trip to Europe. We don’t believe we have seen a politician like Trump that really wings it and decides on the spot at a summit or a meeting on a course of action. Whereas Biden’s modus operandi is old school in that the officials work in advance of summits/meetings and that Biden doesn’t use the summits for decision making but for relationship building. Its why we have been expected Nord Stream 2 and JCPOA to be resolved before the trip. Biden’s schedule is June 11-13 for G7 summit in the UK, June 14 for NATO summit in Brussels and now the Putin summit has been confirmed for June 16 in Geneva.

Natural Gas – Granholm’s Nord Stream 2 comments, 1st crack in Biden unity?

The reason we included this item isn't because of the Granholm/Novak tit-for-tat on the dirtiness level of Nord Stream 2 natural gas, but because it looks like we are seeing the first crack in the Biden administration unity. If there is a break in unity, we will want to see if this can have any, albeit slight, impact on Biden energy policy. We were a little surprised Energy Secretary Granholm moved to distance herself from Biden's letting Nord Stream 2 go ahead as its still early in the Biden administration. However, she testified at the House Science Committee on Thursday and confirmed the Energy dept was not involved in the Biden decision. And to emphasize her position, she said *"One of the reasons why that pipeline is very dangerous is because it is carrying the dirtiest form of natural gas on Earth with no security on methane emissions. It's not good for our climate."* No surprise, Novak came back to dispute the Granholm comments. On Friday, TASS reported [LINK](#) *"Russian gas supplied to Europe via Nord Stream, according to various analytical and consulting agencies, has almost four times less carbon footprint per kWh than gas supplied to Europe from the United States. the fact that in the United States most of the gas is produced from shale rocks using hydraulic fracturing, "the Deputy Prime Minister explained."*

Granholm & Novak tit-for-tat

Natural Gas – Gazprom keeps up heat for Nord Stream 2 with its gas flows to Europe

In last week's May 23, 2021 Energy Tidbits, we noted some attention grabbing comments from Gazprom on their Foreign Markets webcast. We had tweeted [LINK](#) on Burmistrova's comments on 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. She had also commented that as soon as Nord Stream 2 is up, it can help to alleviate the shortfall. On Tuesday, Bloomberg noted that Gazprom had not booked any of the additional 74 bcf/d of additional transport capacity thru Ukraine for June. We have to believe that this is Gazprom making sure it doesn't help fix the low Europe gas storage problem until Biden gives in on Nord Stream 2. Again, the low Europe storage levels and slow refill pace so far is providing support for SU LNG exports thru the summer and will remain that way as long as Gazprom/Russia are working to get Nord Stream 2 over the goal line.

Gazprom hasn't booked additional capacity via Ukraine for June

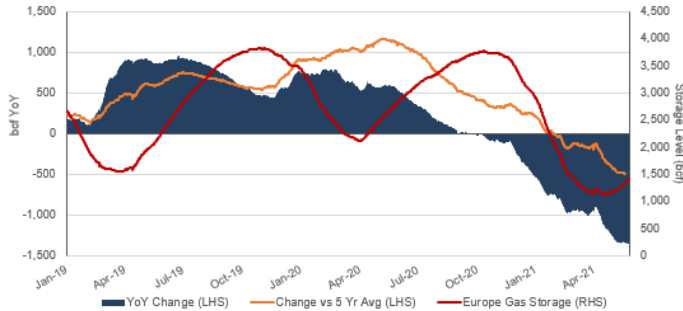
Natural Gas – Europe storage 36.12% full vs 5 year average of 50.43%

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 storage 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 build,

Europe gas storage 50.43% full

with storage as of May 27 being up 7.13% since April 19, which looks to be the bottom. Storage as of May 27 is 36.12%, 35.49% less than last year of 71.69% and 14.31% below the 5 yr average of 50.43%. 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 13: Europe Gas Storage Level



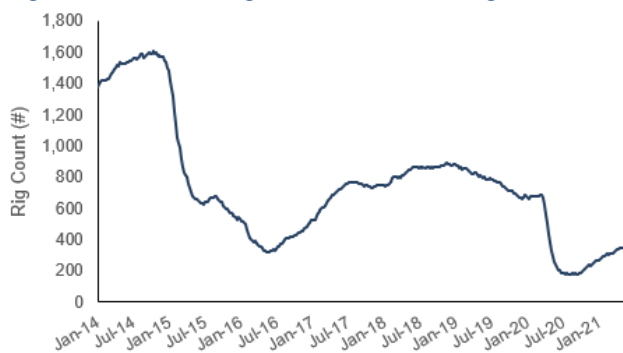
Source: Bloomberg

Oil – US oil rigs up 3 to 359 oil rigs

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 3 rigs to 359 oil rigs as of May 28. The Permian was up by 2 to 232 rigs and is showing signs of ramping back up. Increases came from Eagle Ford (+1), Permian (+2), and Others (+1). There was one decrease this week at DJ-Niobara (-1). Oil rigs have been on a strong recovery path and are +187 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 324 to 356 oil rigs (-47.44%). Below is our graph of Baker Hughes US oil rigs.

US oil rigs +4 this week

Figure 14: Baker Hughes Total US Oil Rigs



Source: Baker Hughes

Oil – Frac spreads +3 to 226 for week ending May 28

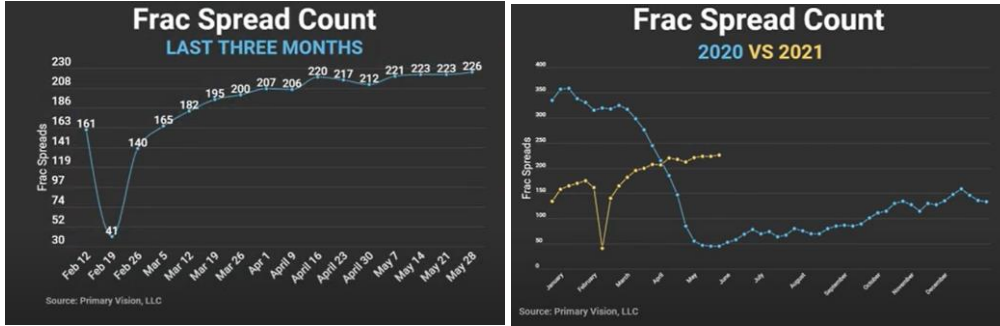
Every week, Mark Rossano (C6 Capital Holdings) posts a YouTube recap of frac spreads for the week on the Primary Vision Network [\[LINK\]](#). US frac spreads were +3 to 226 for the week ended May 28. He thinks can have a pretty steady move to 235 or so and then the questions of labor and parts for equipment will kick in. Permian saw +5 this week, seeing some slow down in the gas basins. He is watching the Williston, now that DAPL is not an issue until March or so next year, there are some spare spreads up there that can come back, thinks will

Frac spreads +3 to 226

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get back to 20 frac spreads and needed as production has come off. Also thinks US production gets to 11.5 mmb/d based on where they are seeing frack spreads. Drilling rigs are catching up. He is seeing activity being pulled forward, thinks rig will start to pick up, and rigs will outpace spreads at this point. but then another push on spreads in July and Aug. Below are his two key frac spread graphs.

Figure 15 Active Frac Spreads for Week Ending May 28, 2021



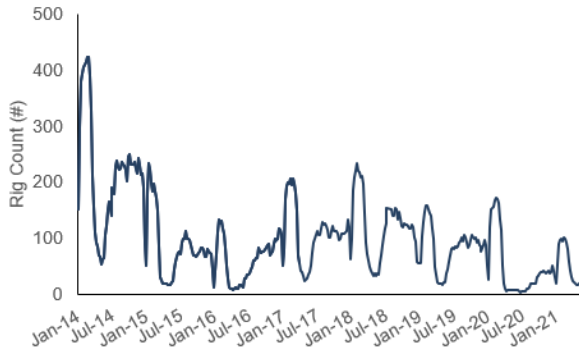
Source: Primary Vision

Oil – Total Cdn rigs 4 to 62 total rigs and up 42 YoY

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 +42 this week to 62 total rigs. We saw a modest ramp up this week, but expect Cdn rigs to ramp up faster in June. Cdn oil rigs were up 3 to 28 rigs. Cdn gas rigs were up 1 to 34 gas rigs this week. Total rigs are now +49 since the June 26 all-time low. Cdn drilling has recovered YoY, a year ago Cdn oil rigs were 7 and Cdn gas rigs were 13 for a total Cdn rigs of 20, meaning total Cdn rigs are +42 YoY and total rigs are down 23 vs 2019. Below is our graph of Baker Hughes Cdn oil rigs.

Cdn rigs +4 this week

Figure 16: Baker Hughes Total Canadian Oil Rigs



Source: Baker Hughes

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

US oil production was flat at 11.0 mmb/d for the May 21 week. Lower 48 +0.1 mmb/d at 10.6 mmb/d. This puts US oil production down 0.4 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

US oil production flat WoW

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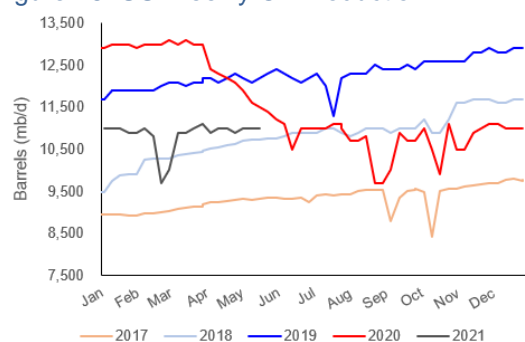
Q4/19. In the US oil production commentary, the EIA wrote “We estimate that production outages were generally limited to February and that U.S. crude oil production rose to 10.9 million b/d in March and to almost 11.0 million b/d in April. Because the average price of West Texas Intermediate crude oil 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 17: 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	05/21	11,000				

Source: EIA

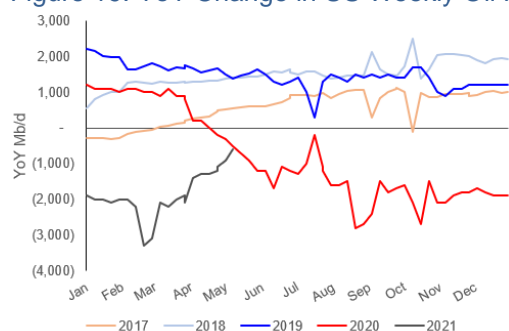
Figure 18: US Weekly Oil Production



Source: EIA, SAF

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Figure 19: YoY Change in US Weekly Oil Production



Source: EIA, SAF

Oil – EIA Form 914 Mar actuals 209,000 b/d higher than weekly production estimates

The EIA released its Form 914 data [\[LINK\]](#) on Friday, which is the EIA’s “actuals” for March US oil and natural gas production. (i) The main takeaway from the actuals is that March production has fully recovered since the Feb freeze off and actually exhibited some growth (+0.128 mmb/d) over the Jan actuals. (ii) March was up 1.401 mmb/d from Feb of 9.783. This puts March down 1.553 mmb/d YoY and down -1.676 mmb/d from Nov/19 peak of 12.860 mmb/d. Note, Feb actuals were revised downwards by 79,000 b/d. (iii) The actuals came in 209,000 b/d higher than the average of the weekly estimates vs Mar monthly. The weekly estimates were likely too low because they did not capture the rapid return to production. (iv) In the Apr STEO, the EIA has Mar US oil production at 10.938 mmb/d, which is 245,000 b/d above the Mar actuals. (v) Not surprisingly, Texas had the largest MoM increase to bounce back from the Feb shutdown and was +990,000 MoM to 4.745 mmb/d, having recovered completely. New Mexico was also up 172,000 b/d MoM to 1.155 mmb/d. North Dakota was +14,000 MoM to 1.027 mmb/d, but still ~67,000 b/d below Jan meaning there still was not a full recovery. The form 914 actuals were slightly lower than the North Dakota Industrial Commission having North Dakota at 1.108 mmb/d in Mar. However note completions were only 43 March, below the ~48 completions and 17 rigs needed to keep ND production flat at ~1 mmb/d meaning North Dakota oil production should continue to slightly decline. Below is the EIA Form 914 data for oil, and our graph of EIA actuals oil production data vs the weekly estimates.

EIA Form 914 March

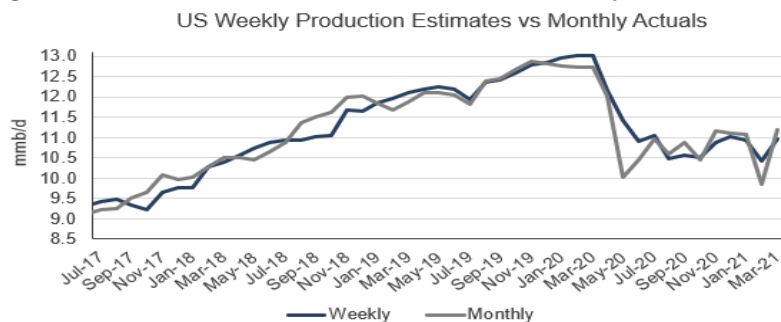
Figure 20: EIA Form 914 US Oil Production

thousand barrels per day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	11,056	9,783	11,184									
2020	12,755	12,746	12,737	12,010	10,019	10,442	10,973	10,584	10,870	10,439	11,168	11,088
2019	11,865	11,679	11,937	12,135	12,163	12,088	11,819	12,425	12,495	12,673	12,860	12,802
2018	9,998	10,261	10,489	10,496	10,457	10,605	10,903	11,384	11,463	11,554	11,907	12,004
2017	8,874	9,108	9,192	9,115	9,208	9,134	9,266	9,264	9,534	9,668	10,088	9,993
2016	9,203	9,065	9,089	8,871	8,834	8,671	8,664	8,686	8,544	8,841	8,906	8,846
2015	9,388	9,510	9,585	9,661	9,481	9,362	9,447	9,416	9,491	9,406	9,337	9,281

Source: EIA

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Figure 21: EIA Form 914 US Oil Production vs Weekly Estimates



Source: EIA

Source: EIA

Oil – New Mexico warns oil additional bonding coming to meet reclamation liability

Earlier this morning, we tweeted [\[LINK\]](#) that oil companies need to be prepared for increased financial capacity costs for New Mexico oil assets. There was a clear warning last Thursday from New Mexico that they will be coming at them to be adequately bonded to meet future reclamation liabilities. And we would assume that other Democrat states tending to be anti fossil fuels like Colorado will take a similar approach. On May 20, New Mexico posted a report “An Analysis of the Adequacy of Financial Assurance Requirements for Oil and Gas Infrastructure located on State Trust and Private Lands in New Mexico”. [\[LINK\]](#) New Mexico concluded “Overall, the Center finds that existing financial assurance requirements applicable to all infrastructure types are not sufficient to fully offset estimated closure and clean-up costs. As summarized in the Table 28, this study finds the total cost of closure and clean-up of the oil and gas infrastructure currently located on state trust and private lands to be approximately \$8.38 billion. Whereas the total financial assurance coverage for this infrastructure accessible to state regulatory entities for the purpose of closure and clean-up efforts is estimated to be approximately \$201.42 million, resulting in a total financial assurance gap of approximately \$8.18 billion.” The analysis did not have a recommendation on bonding or other funding. However, concurrent with the analysis New Mexico Commissioner of Public Lands, Stephanie Garcia Richard, posted an op-ed [\[LINK\]](#) that clearly laid out bonding as the plan. She said “In addition to financial ramifications, we all have a responsibility to the land. When operators are done with their leases, we require that they plug wells so that gas and methane don’t leak into our air. We require removal and cleanup of old infrastructure and remediating spills and contamination. And finally, we ask that they reseed the land to restore it to its original state. No one can afford these obligations if they have gone bankrupt, so we need companies to be adequately bonded on the front end.” Interestingly, in her op-ed she also specifically noted Colorado as working to identify similar bonding inadequacies. That makes sense consider the research firm that prepared the report for New Mexico has its office in Denver. Our Supplemental Documents package includes excerpts from the analysis and the Garcia Richard op-ed.

New Mexico warns oil industry

Figure 22: New Mexico Summary of Total Financial Assurance Adequacy Findings

Table 28 – Summary of total financial assurance adequacy findings

Infrastructure	Estimated Closure and Clean-up Costs (millions)		Estimated Financial Assurance (millions)		Estimated Financial Assurance Gap (millions)	
	State Trust	Private	State Trust	Private	State Trust	Private
Wells*	\$3,316.40	\$2,275.33	\$136.11	\$37.07	(\$3,180.29)	(\$2,238.26)
Pipelines†	\$980.73	\$929.57	\$0.24	\$0.00	(\$980.49)	(\$929.57)
Other	\$876.38	no data	\$28.00	\$0.00	(\$848.38)	no data
Total	\$5,173.51	\$3,204.90	\$164.35	\$37.07	(\$5,009.16)	(\$3,167.83)
	\$8,378.41		\$201.42		(\$8,176.99)	

Source: The Center for Applied Research

Oil – Capline reversal expected for Jan 2022

The reversal of the St. James LA to Patoka IL Capline has been a long awaited development for Western Cdn oil producers, and is now nearing completion. It was originally expected to be in-service Sept 2020, but with Covid impacts is now expected in Jan 2022. RBN posted a good overview blog last Sunday that provided excellent details on the key infrastructure pieces that will play a role in supply the line and processing the crude from it [LINK]. Capline is currently flowing from St. James LA to Patoka IL at ~1.2 mmb/d. Though in recent years utilization has declined as Midwest refiners gained broader access to western cdn crude and Bakken crude, ultimately pushing the decision in Aug 2019 to reverse flows from Patoka to St. James. Infrastructure in Patoka has been significantly built out, with ~2 mmb/d of combined flow in capacity from 5 lines (MPLX’s 0.454 mmb/d Woodpat Pipeline, TC’s 0.570 mmb/d Keystone, the 0.570 mmb/d DAPL, Enbridge and MPLX’s 0.300 mmb/d Southern Access, and Exxon/Enbridge’s 0.100 mmb/d Mustang pipeline). On potential capacity additions on these lines, RBN wrote *“Partly in anticipation of Capline’s impending start-up as a southbound conduit, a number of these upstream pipelines have been planning capacity additions. The clearest example of this is on Enbridge’s system. The company’s Line 3 Replacement Project, which will increase the capacity of Line 3 from Hardisty to Superior to 760 Mb/d (from the current 390 Mb/d) is scheduled to be completed late this year, as is a 300-Mb/d expansion of Enbridge’s 900-Mb/d Southern Access Pipeline from Superior, WI, to Flanagan”*. Capline line-filling is expected to begin in the fourth quarter of this year with southbound flows expected to begin in Jan 2022 with ~0.6 mmb/d of capacity. Marathon Petroleum is the operator of Capline. The last map in their investor presentation was from Sept 2019, when Capline reversal was expected in-service in Sept 2020. Our Supplemental Documents package includes the RBN blog.

RBN blog on Capline reversal

Figure 23: Capline Reversal

Capline Reversal and LOOP
Competitive full-service solution

Capline

- 40" crude oil pipeline from Patoka, IL, to St. James, LA
- Reversed service planned for September 2020

LOOP

- Only Gulf Coast port capable of loading 2 MMBBL vessels (VLCCs) without reverse lightering
- Loaded three VLCCs in a seven-day period in 4Q18

Source: Marathon Petroleum Sept 2019 Investor Presentation

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Oil – DHS announces new cybersecurity directive for critical pipelines

Early Thursday morning, the Department of Homeland Security’s Transportation Security Administration announced new cybersecurity requirements for critical pipeline owners and operators [LINK]. The Security Directive will require that confirmed and potential cybersecurity incidents be reported to the DHS Cybersecurity and Infrastructure Security Agency (CISA). It also requires critical pipeline owners and operators to designate a Cybersecurity Coordinator to be available 24 hours a day, seven days a week. Within the next 30 days, they will have to review current processes and report any gaps to TSA and CISA. TSA also is considering further follow-on mandatory measure to support the pipeline industry’s cybersecurity. The DHS wrote “The recent ransomware attack on a major petroleum pipeline demonstrates that the cybersecurity of pipeline systems is critical to our homeland security. DHS will continue to work closely with our private sector partners to support their operations and increase the resilience of our nation’s critical infrastructure.” Our Supplemental Documents package includes the DHS announcement.

DHS new cybersecurity requirements for pipelines

Oil – Kayrros recap of gasoline demand and product stocks during Colonial shutdown

Kayrros released a good recap of gasoline demand, product stocks, and refinery crude stocks during the Colonial outage [LINK]. There may not be any big surprises but Kayrros shows how inventories were impacted over the period of the shutdown. Mobility in PADD 1 had reacted strongly after the news of the outage on May 7 as prices skyrocketed with panic buying and scarce supply, with mobility continuing to remain at low levels post resumption of operations. The week after, mobility levels continued to decline, likely in response to the high prices. In terms of product stocks, PADD 1 stocks took a nose dive with the pipeline shutdown while PADD 3 stocks rose as the gasoline had no offtake. Kayrros wrote “However, PADD 1 product stocks were much quicker to rebound from their plunge than might have been expected, likely in response to increased East Coast refinery activity”. For crude stored at refineries the trend was the same, with PADD 1 refinery stocks declining sharply as the east coast refineries cranked up utilization rates while PADD 3 increased. Our Supplemental Documents package includes the Kayrros blog.

Kayrros recap of Colonial impact

Figure 24: PADD 1 and 3 Gasoline and Diesel Demand



Source: Kayrros

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Oil – Biden didn’t see nixing Keystone XL would be counterproductive to Cdn relations

We think we have to be careful in Canada to not be lulled into thinking we can get any wins from Biden. At least that is what it seems after seeing Biden’s comments on why he is letting Nord Stream 2 go ahead. Maybe it just a question that we (Trudeau) didn’t ask or try to negotiate but Biden’s comments on Nord Stream 2 are telling on how he views Canada. Its why we tweeted [\[LINK\]](#) “ICYMI. #Merkel didn’t just raise disappointment so #Biden ok’s #NordStream2 as “impose sanctions now I think is counterproductive to our European relations no matter how strongly I feel”. He didn’t feel nixing #KeystoneXL would be counterproductive to CAN relations? Hmm! #OOTT”. Its clear and Trudeau admitted that he didn’t want to get into any type of position on Keystone XL that was contrary to Biden’s view. Our March 7, 2021 Energy Tidbits noted Trudeau’s Feb 28 NBC Meet the Press interview. NBC posted a transcript of the interview [\[LINK\]](#) including “Does this mean you’re done asking for -- are you going to stop advocating for it here? Do you feel as if the Keystone Pipeline is now dead? PRIME MINISTER JUSTIN TRUDEAU: I think it’s fairly clear that the U.S. administration has made its decision on that, and we’re much more interested in ensuring that we’re moving forward in ways that are good for both of our countries. I think there’s so much we can do together that I don’t spend too much time worrying about the tension points. It’ll always come up in our relationship, but we’ll work through them, particularly given the alignment on so many things that we’re able to bring with this new administration.” The last thing Biden was going to do is give on something to Canada if he didn’t have to and if it was clear to him Trudeau wasn’t going to try to get Biden to change his mind. The working assumption from the Biden Nord Stream 2 comments and the Keystone XL decision that the only working assumption must be that Canada should be very careful and fight harder on issues that are supposedly important to the country. Clearly, Biden’s different perspectives on the relations between Europe vs Canada indicate he isn’t going to go out of his way to give up on anything to Canada.

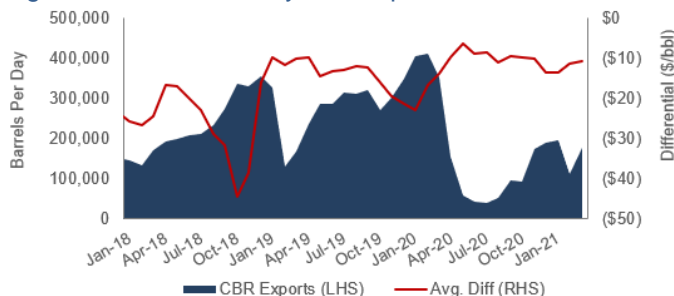
Merkel pushed so Biden backed off Nord Stream 2

Oil – Cdn crude by rail exports up 63,709 b/d MoM to 175,580 b/d in March, down 50% YoY

The Canadian Energy Regulator (successor to NEB) reported Canadian crude by rail exports were +63,709 b/d MoM in March to 175,580 b/d vs 111,871 b/d in February [\[LINK\]](#). This puts March export volumes at -174,987 b/d YoY (-49.92%) vs March 2020 of 350,567 b/d. CBR volumes are +136,713 since the July bottom of 38,867 b/d. The MoM increase was expected despite the narrowing differential in March vs Feb as Feb volumes likely suffered from extreme weather. We expect CBR volumes to be similar to up slightly in April as the average WCS-WTI differential had increased slightly. Below is our graph of Cdn crude by rail exports compared to the WCS – WTI differential.

Cdn crude by rail exports increase MoM

Figure 25: Cdn Crude By Rail Exports vs WCS Differential



Source: Canadian Energy Regulator, Bloomberg

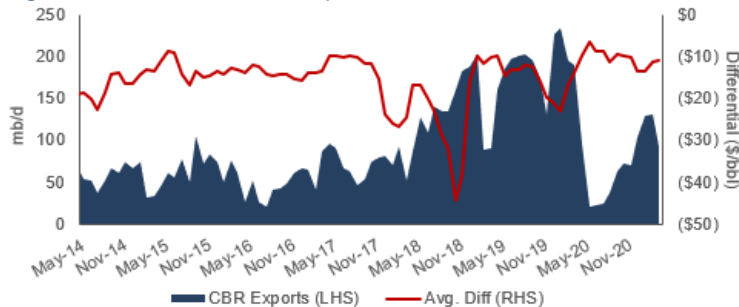
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Oil – Cdn crude by rail imports to Gulf Coast down 97,000 b/d YoY in Mar to 93,000 b/d

The EIA posted its monthly “U.S. Movements of Crude Oil by Rail” [LINK](#) on Friday, which also had good insights on Cdn crude by rail. Canadian CBR volumes to PADD 3 (Gulf Coast) were 93,000 b/d in March, which is down 37,000 b/d MoM from February, and is still down big YoY being -97,000 b/d vs Mar 2020. February volumes were revised upward by 22,000 b/d from 108,000 b/d reported last month. Tighter YoY WCS to WTI differentials were the key factor in the low crude by rail volumes since December. Below is our graph of Cdn CBR exports to the Gulf Coast.

Cdn crude by rail imports to Gulf Coast

Figure 26: Canada CBR Exports to US Gulf Coast vs WCS Differential



Source: EIA

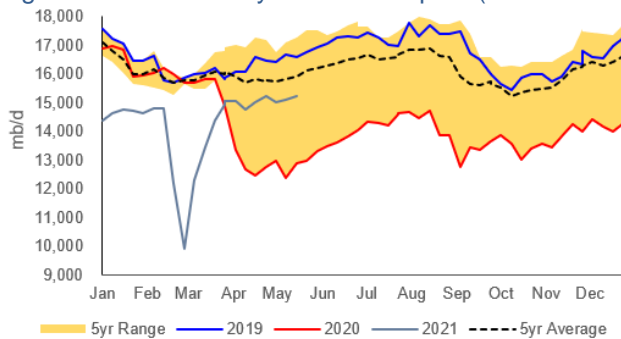
Oil – Refinery inputs +0.123 mmb/d YoY to 15.239 mmb/d

Crude inputs to refineries were up this week and were +0.123 mmb/d to 15.239 mmb/d, and are +2.248 mmb/d YoY. Refinery utilization was up 0.7% this week at 87.0%, which is +15.7% YoY. Total products supplied (ie. demand) increased this week, 0.685 mmb/d increase to 19.956 mmb/d, and motor gasoline supplied was up being +0.254 mmb/d to 9.479 mmb/d. The four-week rolling average for gasoline supplied to the market is at the highest since the week ended March 20, 2020. This is especially meaningful as inventories in the Midwest are at the lowest heading into the Memorial weekend in data going back to 1992. Gasoline consumption in the US is expected to continue 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. Below is our graph of crude inputs to US refineries and our graph of US motor gasoline supplied.

Refinery crude oil input still below 5 yr avg

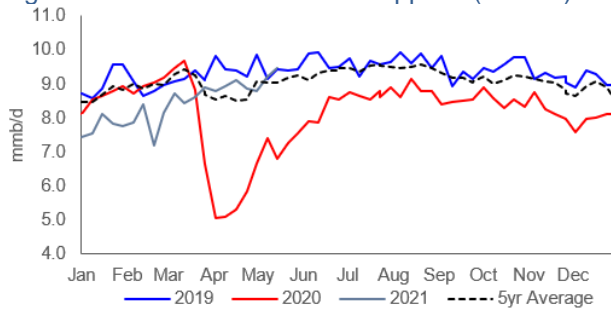
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Figure 27: US Refinery Crude Oil Inputs (thousands b/d)



Source: EIA, SAF

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



Source: EIA, SAF

Oil – Covid outbreaks at oil sands unchanged this week

The Fort McMurray area may still be one of the hotspots for Covid in Alberta, but similar to all of Alberta case numbers are going down at a very fast rate. The last Wood Buffalo Covid update is as of May 28 and, for Fort McMurray, has 672 active cases and 846.1 cases per 100,000 population which is down almost 50% vs the May 19 update in last week’s (May 23, 2021) Energy Tidbits that had 1,268 active cases and 1,596.6 cases per 100,000 population. Note this cut in almost half is in what is being seen overall in Alberta as the population gets vaccinated. However, there the outbreaks at oil sands facilities is unchanged in terms of number of facilities still being called outbreaks in the May 28 update vs the May 19 update that was referenced in our May 23, 2021 Energy Tidbits. However, the Civeo Beach River Lodge was added in the May 25 update, kept in the May 26 update but removed for the May 28 update. Below, we pasted the oil sands facilities listed in the May 19, 25, 26 and 28 updates. The Wood Buffalo May 28 Covid update is attached. [\[LINK\]](#)

Oil sands covid troubles continue

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Figure 29: Oil Sands Facilities With Covid Outbreaks at May 19, 25, 26, 28

May 28	May 26	May 25	May 19
Outbreaks in RMWB	Outbreaks in RMWB	Outbreaks in RMWB	Outbreaks in RMWB
Industrial: MEG Energy CNRL Horizon CNRL Albion CNRL Jackfish Kearl Lake Civeo Lynx Lodge Civeo McClelland Lake Wapasu Creek Lodge Civeo Athabasca Cenovus Sunrise Lodge Suncor Base Plant Suncor Firebag Suncor Mackay River Syn crude Mildred Lake Syn crude Aurora Suncor Fort Hills CNOOC Long Lake Oilsands Industrial Lodge - Fort McKay	Industrial: MEG Energy CNRL Horizon CNRL Albion CNRL Jackfish Kearl Lake Civeo Lynx Lodge Civeo McClelland Lake Civeo Beaver River Lodge Wapasu Creek Lodge Civeo Athabasca Cenovus Sunrise Lodge Suncor Base Plant Suncor Firebag Suncor Mackay River Syn crude Mildred Lake Syn crude Aurora Suncor Fort Hills CNOOC Long Lake Oilsands Industrial Lodge - Fort McKay	Industrial: MEG Energy CNRL Horizon CNRL Albion CNRL Jackfish Kearl Lake Civeo Lynx Lodge Civeo McClelland Lake Civeo Beaver River Lodge Wapasu Creek Lodge Civeo Athabasca Cenovus Sunrise Lodge Suncor Baseplant Suncor Firebag Suncor Mackay River Syn crude Mildred Lake Syn crude Aurora Suncor Fort Hills CNOOC Long Lake Oilsands Industrial Lodge - Fort McKay	Industrial: MEG Energy CNRL Horizon CNRL Albion CNRL Jackfish Kearl Lake Civeo Lynx Lodge Civeo McClelland Lake Wapasu Creek Lodge Civeo Athabasca Cenovus Sunrise Lodge Suncor Baseplant Suncor Firebag Suncor Mackay River Syn crude Mildred Lake Syn crude Aurora Suncor Fort Hills CNOOC Long Lake Oilsands Industrial Lodge - Fort McKay

Source: Wood Buffalo

Oil – US “net” oil imports down 0.265 mmb/d to 2.840 mmb/d

US “NET” imports were down 0.265 mmb/d to 2.840 mmb/d for the May 21 week. US imports were down 0.138 mmb/d to 6.273 mmb/d. US exports were up, being +0.127 mmb/d to 3.433 mmb/d. The WoW decrease in US oil imports was driven by decreases from Canada, Colombia and Saudi Arabia. (i) Canada was down this week, and was -0.257 mmb/d to 3.549 mmb/d for the May 21 week, which is now ~0.150 mmb/d below the average levels in Jan/Feb of 2020. Also note that PADD 2 imports was also down slightly, being -0.061 mmb/d and Canada is almost all of this market. (ii) Saudi Arabia was down 147,000 b/d to 0.277 mmb/d this week. (iii) Colombia was down 254,000 b/d to 0.071 mmb/d this week. (iv) Ecuador was up 149,000 b/d to 229,000 b/d. (v) Iraq was down 15,000 b/d to 184,000 b/d. (vi) Venezuela remained at 0 due to US sanctions. (vii) Mexico decreased 31,000 b/d to 0.661 mmb/d.

US “net” oil imports -0.265 mmb/d WoW

Figure 30: US Weekly Preliminary Oil Imports By Major Countries

	Mar 26/21	Apr 02/21	Apr 09/21	Apr 16/21	Apr 23/21	Apr 30/21	May 07/21	May 14/21	May 21/21	WoW
Canada	3,666	3,414	3,367	2,901	3,492	3,232	2,924	3,806	3,549	-257
Saudi Arabia	345	258	181	358	480	178	224	424	277	-147
Venezuela	0	0	0	0	0	0	0	0	0	0
Mexico	494	635	739	451	608	467	434	692	661	-31
Colombia	122	258	209	111	294	307	278	325	71	-254
Iraq	88	245	223	34	270	41	235	199	184	-15
Ecuador	247	284	295	172	225	318	257	80	229	149
Nigeria	86	161	129	71	119	95	157	73	29	-44
Kuwait	0	0	0	0	0	0	0	0	0	0
Angola	0	0	0	0	0	0	0	0	0	0
Top 10	5,048	5,255	5,143	4,098	5,488	4,638	4,509	5,599	5,000	-599
Others	1,097	1,009	709	1,307	1,128	813	979	812	1,273	461
Total US	6,145	6,264	5,852	5,405	6,616	5,451	5,488	6,411	6,273	-138

Source: EIA, SAF

Oil – Mexico Apr production of 1.693 mmb/d, down 0.6% YoY, nowhere near forecast

Mexico’s oil production continues to look to have no chance of reaching their 2021 forecast, but it looks to be stable, just not growing. On Friday, Pemex reported its crude oil production for Mar was 1.693 mmb/d, down slightly MoM from 1.697 mmb/d in Mar. However, our Dec 20, 2020 Energy Tidbits noted Pemex’s then new corporate presentation. The presentation did not make any changes to their 2021 forecast of 1.944 mmb/d, which is +230,000 b/d YoY. However, Mexico’s finance ministry seemed to admit the production forecast for 2021 was

Pemex Apr production down 0.6% YoY

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too high, forecasting on Mar 31, 2021 for 2021 production of 1.794 mmb/d. Though this seems too high still. Pemex hasn't hit its forecasts and based on YTD actuals, looks like that will happen again in 2021. Pemex's production may flip to YoY increases next month, however that will just be due to covid induced production declines, not actual growth.

Figure 31: Pemex Mexico Oil Production

Oil Production (thousand b/d)	2015	2016	2017	2018	18/17	2019	19/18	2020	20/19	YTD 2020	2021	21/20
Jan	2,251	2,259	2,020	1,909	-5.5%	1,623	-15.0%	1,724	6.2%	1,724	1,651	-4.2%
Feb	2,332	2,214	2,016	1,876	-6.9%	1,701	-9.3%	1,729	1.6%	1,726	1,669	-3.5%
Mar	2,319	2,217	2,018	1,846	-8.5%	1,691	-8.4%	1,745	3.2%	1,714	1,697	-2.8%
Apr	2,201	2,177	2,012	1,868	-7.2%	1,675	-10.3%	1,703	1.7%	1,711	1,693	-0.6%
May	2,227	2,174	2,020	1,850	-8.4%	1,663	-10.1%	1,633	-1.8%	1,695		
June	2,247	2,178	2,008	1,828	-9.0%	1,671	-8.6%	1,605	-3.9%	1,680		
July	2,272	2,157	1,986	1,823	-8.2%	1,671	-8.3%	1,595	-4.5%	1,668		
Aug	2,255	2,144	1,930	1,798	-6.8%	1,683	-6.4%	1,632	-3.0%	1,663		
Sept	2,271	2,113	1,730	1,808	4.5%	1,705	-5.7%	1,643	-3.6%	1,667		
Oct	2,279	2,103	1,902	1,747	-8.1%	1,655	-5.3%	1,627	-1.7%	1,663		
Nov	2,277	2,072	1,867	1,697	-9.1%	1,696	-0.1%	1,633	-3.7%	1,660		
Dec	2,275	2,035	1,873	1,710	-8.7%	1,706	-0.2%	1,650	-3.3%	1,659		

Source: Pemex

Oil – Mexico Apr oil exports -21.7% YoY to 0.923 mmb/d

Pemex also reported its Apr crude oil exports on Sunday. Mexico oil exports in Apr were 0.923 mmb/d, which is -21.7% YoY, basically flat from Mar of 0.925 mmb/d. Exports will be an important item to watch in 2021 given one of Pemex and AMLO's big pushes is for a rapid increase in domestic refining volumes, leading to a drop in exports. We noted in our Mar 7, 2021 Energy Tidbits that Pemex stated at CERAWEEK that there was no need to reduce exports currently, but we have to wonder if that is because refinery inputs are vastly below targets. Pemex has not updated their refinery input forecasts since Oct 5 which was for 2020 of 681,000 b/d and 2021 of 1.114 mmb/d and 2020 was well below forecast at 591,000 b/d. April refinery inputs were 0.690 mmb/d, down 4.5% YoY with YTD average of 0.712 mmb/d, well below their forecast. The MoM decline in refinery inputs was due to the explosion and fire at the 285,000 b/d Minatitlan refinery. We are expecting May exports to be down to some extent MoM as 1 of 2 single buoy-moorings at the Dos Bocas terminal will be shut for repairs for 4 months. Below is our table of the Pemex oil export data.

Mexico oil exports -21.7% YoY in Apr

Figure 32: Mexico Crude Oil Exports

Oil Exports (thousand b/d)	2015	2016	2017	2018	2019	19/18	2020	20/19	YTD 2020	2021	21/20
Jan	1,261	1,119	1,085	1,107	1,071	-3.3%	1,260	17.6%	1,260	979	-22.3%
Feb	1,305	1,241	1,217	1,451	1,475	1.7%	1,093	-25.9%	1,179	1,006	-8.0%
Mar	1,228	1,062	1,001	1,176	1,150	-2.2%	1,144	-0.5%	1,167	925	-19.1%
Apr	1,035	1,081	1,017	1,266	1,023	-19.2%	1,179	15.2%	1,180	923	-21.7%
May	1,114	1,204	958	1,222	1,205	-1.4%	1,062	-11.9%	1,156		
June	1,047	1,098	1,157	1,110	995	-10.4%	1,114	12.0%	1,149		
July	1,187	1,146	1,255	1,156	1,079	-6.7%	1,051	-2.6%	1,135		
Aug	1,261	1,261	1,114	1,181	1,082	-8.4%	1,190	10.0%	1,142		
Sept	1,169	1,425	1,159	1,206	995	-17.5%	1,023	2.8%	1,132		
Oct	1,280	1,312	1,342	1,027	963	-6.2%	908	-5.7%	1,110		
Nov	1,178	1,273	1,388	1,135	1,114	-1.9%	1,171	5.1%	1,115		
Dec	1,008	1,115	1,401	1,198	1,115	-6.9%	1,243	11.5%	1,126		

Source: Pemex

Oil – Colombia April production 745,488 b/d, flat MoM but down 6.4% YoY

On Friday, Colombia Ministry of Mines and Energy reported on April oil and gas production [\[LINK\]](#). Last week's (May 23, 2021) Energy Tidbits noted how the anti-governmental protests had hit oil production in May. The protests started April 28, and Colombia reported that production had been hit by ~55,000 b/d by the second week in May. Any impact of the protests would have been very small on April data. Colombia reported that April 2021 oil production was 745,488 b/d, down 6.4% YoY from 796,164 b/d in April 2020, and basically

Colombia output flat MoM

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flat MoM to 745,427 b/d in March 2021. Our Supplemental Documents package includes the Google Translate version of the Colombia release.

Figure 33: Colombia Oil Production

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

Source: Bloomberg, Colombia Ministry of Mines and Energy

Oil – Tough spot for Big Oil, Brazil cuts deep water signing bonuses by 70%

There is an interesting test coming up for Shell and Total as to what they truly believe about the outlook for oil as they will have the opportunity to bid on offshore Brazil pre-salt blocks adjacent to existing production. It was a tough week for Big Oil from the climate change side winning in court (Shell) and at shareholder meetings (Chevron and Exxon). There is a broad common view that it will put increasing pressure on all of them to further reduce capital allocation to oil and gas and shift to energy transition items even if they believe that oil will be stronger for longer. Its why on Friday we tweeted [LINK](#) “Big test for \$TOT \$RDSA \$XOM in the face of climate challenges. Can they resist, Brazil to cut 2 deep water signing bonuses by 70%. Yes, if see #PeakOilDemand soon, but very tough to pass if they see increasing #PeakOilSupply gap. Thx @peterbmillard @gersonjr #OOTT”. Big Oil is in a tough spot, knowing that they need the cash flow from oil and gas to fund their energy transition. And the push from the climate side is that they should be reducing oil and gas capex because oil demand is decreasing and lower oil prices are ahead. This is irrespective of what Big Oil believes on the outlook for oil prices or the quality of the opportunities. Its why it will be interesting to see how Big Oil responds to Brazil’s reduced signing bonuses. On Friday, Bloomberg reported “Big Oil is taking a second look at two Brazilian deep-water oil prospects they passed on in 2019 now that the government has slashed signing bonuses by 70%. Major oil companies are seeking information about additional acreage that Brazil is offering in December for the Atapu and Sepia fields in the so-called pre-salt region, which holds the biggest group of offshore discoveries this century, Energy Minister Bento Albuquerque said in an interview. Additional guidelines for the auction will be released in June and Albuquerque expects talks with foreign majors to “intensify.” Policy makers are hustling to get these massive deep-water projects up and running before the energy transition leaves the assets stranded in the middle of the South Atlantic, where it takes years just to start extracting discovered oil.” It sounds like this opportunity will be most interesting to Shell and Total as they are partners with Petrobras in the adjacent acreage at Atapu. Our Supplemental Documents package includes the Bloomberg report.

Brazil cuts deep water signing bonus by 70%

Oil – Novak estimates 1 mmb/d current deficit

As vaccinations around the globe continue to ramp up and reopening’s continue, oil demand will continue to outpace supply. On Wednesday, the TASS Russia site reported on comments from Deputy Prime Minister Alexander Novak on the current supply demand imbalance [LINK](#), which are likely his views going into the OPEC+ meetings. TASS wrote “Now there is a deficit in the market of about 1 million barrels per day and we need to further understand how we can ensure the growth of demand,” he said”. Like many others, Novak is

Novak estimates deficit at 1 mmb/d

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concerned about the potential for growth in the supply crunch with increasing capital allocation away from oil and gas development. On the IEA's recommendation for halting oil and gas investment, Novak said *"It seems to me that this is a more populist statement, a tribute to fashion, in my opinion, these are not calculated things, you need to consider very carefully. Even with the energy transition, the next decade hydrocarbons will occupy a dominant position in the energy balance, will ensure the security of the world and the need even for the same electricity, so all this must be clearly considered"*. OPEC+ had increased the May quota by 1.350 mmb/d, mainly a result of the end of the voluntary 1 mmb/d Saudi cut. The quota will increase by 0.450 mmb/d in June and 0.441 mmb/d in July. These output increases will help to alleviate some of the supply crunch, but demand will likely continue to grow as vaccinations continue. Our Supplemental Documents package includes the TASS report.

Oil – Next OPEC+ meeting is Tues June 1

As of right now, it seems like the expectation is for OPEC+ to make no changes to the current scheduled production increases until there is a clearer picture of Iran's status. If there isn't any chance of a clear JCPOA signal prior to the OPEC+ meetings, we can see them continuing with the current schedule for both the OPEC+ JMMC and full OPEC+ ministerial meetings to both be on Tues June 1. However, we still believe there will be a more fulsome discussion in the large group meetings at some point regarding the return of Iran, which is why we won't be surprised to see a change in schedule for the meetings with the full OPEC+ ministerial meeting to be held on Wed. Below is our table of the current schedules OPEC+ production increases.

**OPEC+ meeting
June 1**

Figure 34: OPEC+ Quotas

OPEC (mmb/d)	Reference Level	Production		Jan 2021	Feb 2021	March 2021	April 2021	May 2021	June 2021	July 2021
		May-July 2020	Aug-Dec 2020							
Algeria	1,057	816	864	876	876	876	876	887	898	912
Angola	1,528	1,179	1,249	1,267	1,267	1,267	1,267	1,283	1,298	1,319
Congo	325	251	266	269	269	269	269	273	276	281
Equatorial G.	127	98	104	105	105	105	105	107	108	110
Gabon	187	144	153	155	155	155	155	157	159	161
Iran	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Iraq	4,653	3,592	3,804	3,857	3,857	3,857	3,857	3,905	3,954	4,016
Kuwait	2,809	2,168	2,297	2,329	2,329	2,329	2,329	2,358	2,387	2,425
Libya	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nigeria	1,829	1,412	1,495	1,516	1,516	1,516	1,516	1,535	1,554	1,579
Saudi Arabia*	11,000	8,492	8,993	9,119	8,119	8,119	8,119	9,232	9,347	9,495
UAE	3,168	2,446	2,590	2,626	2,626	2,626	2,626	2,659	2,692	2,735
Venezuela	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total OPEC	26,683	20,598	21,815	22,119	21,119	21,119	21,119	22,396	22,673	23,033
OPEC vs. ref.	0	-6,085	-4,868	-4,564	-5,564	-5,564	-5,564	-4,287	-4,010	-3,650

*Saudi Arabia quota for Feb-Apr 2021 includes voluntary 1 mmb/d cut; May-July includes wind down of voluntary cut

Non-OPEC	Reference Level	Production		Jan 2021	Feb 2021	March 2021	April 2021	May 2021	June 2021	July 2021
		May-July 2020	Aug-Dec 2020							
Russia	11,000	8,600	8,993	9,119	9,184	9,249	9,379	9,418	9,457	9,495
Kazakhstan	1,709	1,319	1,397	1,417	1,427	1,437	1,457	1,463	1,469	1,475
Oman	883	682	722	732	732	732	732	741	750	762
Azerbaijan	718	554	587	595	595	595	595	603	610	620
Malaysia	595	459	486	493	493	493	493	499	506	514
Bahrain	205	158	168	170	170	170	170	172	174	177
Sudan	75	58	61	62	62	62	62	63	64	65
South Sudan	130	100	106	108	108	108	108	109	110	112
Brunei	102	79	83	85	85	85	85	86	87	88
Total Non-OPEC	15,417	12,009	12,603	12,781	12,856	12,931	13,081	13,154	13,227	13,308
Non-OPEC vs. ref.	0	-3,408	-2,814	-2,636	-2,561	-2,486	-2,336	-2,263	-2,190	-2,109
Total OPEC+	42,100	32,607	34,418	34,900	33,975	34,050	34,200	35,550	35,900	36,341
OPEC+ vs ref.	0	-9,493	-7,682	-7,200	-8,125	-8,050	-7,900	-6,550	-6,200	-5,759

Source: Bloomberg

Oil – JCPOA, Ulyanov says current round of talks should be final

Earlier this morning, we tweeted [\[LINK\]](#) that it seems some sort of JCPOA agreement in principle should be coming in the coming days. It seems like the US and Iran have likely spent the last few days figuring out where they will go on closing the gap on the what are probably the final and the biggest critical details. On Thursday, Russia's Ulyanov tweeted [\[LINK\]](#) *"The #JCPOA Participating States (without #Iran) met today with the #US delegation. We exchanged views on the current states of affairs at the Vienna talks with special*

**JCPOA deal
any day now?**

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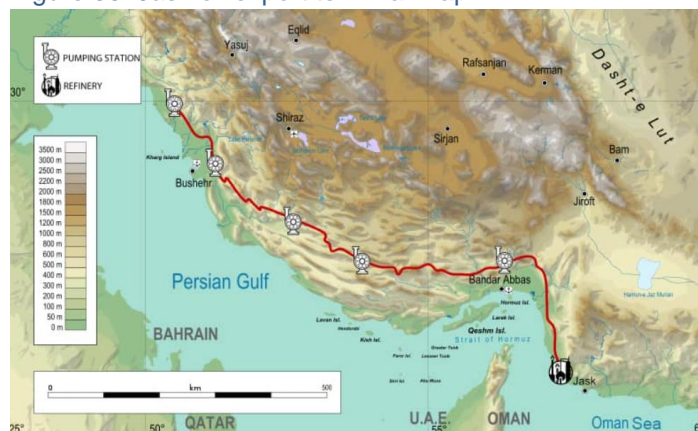
emphasis on implementation aspects of a future agreement which is at an advanced stage of elaboration.” Ulyanov was telling everyone what the US and Iran were grinding on these final critical details. There was silence from him on JCPOA until early this morning, when he tweeted [\[LINK\]](#) “The fifth round of the Vienna talks on #JCPOA is under way. As of now, there are no plans for the sixth. The negotiators proceed from the understanding that the current round should be final.” The quiet on the JCPOA front on Thurs/Fri/Sat makes sense, the sides were likely figuring out if they are prepared to close the final critical details. It just feels like Ulyanov is confirming it’s the coming days for some sort of agreement in principle. The timing makes sense, the only question is will they actually our May being the make it month or will it spill the first day or two of June.

Oil – New Iranian oil export terminal at Jask near completion

Iran’s new pipeline from Goreh to Jask and the Jask export terminal are nearing completion, allowing Iran to bypass the Strait of Hormuz. Shana, the news agency for the Iran Ministry, reported on May 17 [\[LINK\]](#) “The CEO of the Petroleum Engineering and Development Company (PEDEC) announced the start of sending 300,000 barrels per day of crude oil from Goreh to Jask in the coming days,”. Shana subsequently reported on May 19 [\[LINK\]](#) that the project will transfer 1.0 mmb/d and store and export it through the new terminal in Jask. Shana wrote “After the oil reaches Jask, which takes less than a month, in the near future, the official opening ceremony and commissioning of this national project will be held in the presence of the President”. As for the new Jask terminal, we are seeing reports that plans are for the terminal to have 20 tanks, each with 0.5 mmb capacity, ie 10 mmb/d tanks storage. We have not been able to find Iranian confirmation for these figures as of yet. On Monday, the Iranian Oil Ministry tweeted “The CEO of the National Iranian Oil Company (#NIOC) announced the start of the operation to send crude oil from Goreh to #Jask” [\[LINK\]](#), along with the map of the operation included below.

New Iranian oil export terminal at Jask, South Strait of Hormuz

Figure 35: Jask oil export terminal map



Source: Twitter, Iran Oil Ministry

Oil – Iran floating storage at ~32 mmb, down from mid-2019 peak of 60 mmb

With the JCPOA negotiations going well for the last month and the return to the agreement relatively certain with the next week or so, it is not surprising to see Iran has built its floating storage to significant levels for quick export ramp up once sanctions are lifted. Basically as soon as they get the go ahead, these tankers can be on the move and there is the potential for a near term burst of Iranian crude to hit end markets. On Monday, Platts reported on the Kpler estimates that ~32mmb of Iranian crude and condensate is on the water as of May 24

Iran floating storage at 32 mmb

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[\[LINK\]](#). We saw this and tweeted [\[LINK\]](#) “Less risk for massive Iran #oil to hit market post a return to #JCPOA. Yes, Iran floating oil & condensate is up in 2021 to 32 mmb, but about half of what it was in mid 2019. Reinforces Iran barrels are being absorbed and not sitting in tankers. Thx @Kpler @eklavyagupte #OOTT”. As sanctions squeezed Iran crude buyers, Iran’s floating storage had hit 60 mmb in mid-2019, so the current level of 32 mmb reinforces the fact that Iran barrels have been hitting the market, along with the 2 mmb decline from 34 mmb on May 3. The stored crude includes various grades of crude and condensate including Iran Light, Iran Heavy, Forozan Blend, Soroosh, and South Pars. Platts is expecting Iran exports to increase from 600,000 b/d in May to 1.5 mmb/d in December with the assumption of full sanctions relief by September. Our Supplemental Documents package includes the Platts report on Kpler estimates.

Oil – Iran approves 7 candidates for presidential election

Another reason why Biden will want to get JCPOA done soon, hardliners against the West are dominating the candidate list for Iran’s presidential election (5/7 candidates). Bloomberg reported on Tuesday that Iran had approved 7 candidates for the upcoming June 18 presidential election. Prominent candidates allied to its current president were barred, including former parliament speaker Ali Larijani. Judiciary chief Ebrahim Raisi, a hardliner with strong ties to former supreme leader Ayatollah Ali Khamenei, is in the dominant position for the upcoming vote, according to the announcement carried by state television. Although linked to mass executions in 1988, opinion polling showed that his previous anti-corruption campaign drew Iranian support. Rouhani beat Raisi by a landslide in the last election in 2017 [\[LINK\]](#), but there has since been increasing discontent in the country due to the state of the economy with sanctions and the failed nuclear deal in 2018. Other approved candidates include hardliners: Saeed Jalili, Amir Hossein Ghazizadeh Hashemi, Mohsen Rezaei, and Alireza Zakani; moderate: Abdolnaser Hemmati; and reformist: Mohsen Mehralizadeh. Jalili is a former nuclear negotiator, former Supreme National Security Council Secretary and protégé of former supreme leader Ayatollah Ali Khamenei, who in the 2013 election promised “no compromise whatsoever” with the West on Iran’s nuclear program [\[LINK\]](#). Ghazizadeh is the Deputy Parliament Speaker and is another hardliner. Revolutionary guard veteran Rezaei is running for the third time, who previously called for the government to entrust economic affairs the Islamic Revolution Guards Corps [\[LINK\]](#). The other candidate in the hardliner camp is Zakani, a former law-maker whose candidacy was rejected for both 2013 and 2017 elections. According to Iran International, Jalili, Ghazizadeh, and Zakani are likely to withdraw their candidacy in favor of Raisi after helping him through debates, as Raisi is not a good speaker [\[LINK\]](#). The remaining two candidates are moderate Hemmati and reformist Mehralizadeh. Hemmati is the governor of the Central Bank of Iran calls for “an administration focused on reforming economy” [\[LINK\]](#). Mehralizadeh is a former Vice President and is closely associated with Iran’s only fully pro-reform administration. He is however not considered influential and drew less than 1.5 mm votes when he ran in 2005 [\[LINK\]](#). Our Supplemental Documents include the Bloomberg report.

Iran approves 7 candidates for presidential election

Oil – Can the world sharply pivot to negative energy consumption growth and grow?

The key fundamental economic question on the IEA Net Zero is the IEA is breaking the historical relationship that GDP growth means energy consumption growth. So the question will be what part of the equation is wrong? will economic growth be less? Will energy consumption be more? or something in between? We think the IEA Net Zero pathway is a great report and it must be given the strength of the criticism and the praise it has received. For years, we have said the energy transition is happening, but our concern remains the transition will take longer, be a bumpy road and cost more. We just want a realistic approach to how the energy transition is managed by policymakers so we can avoid having an energy

IEA global oil decline of ~4.5%/yr

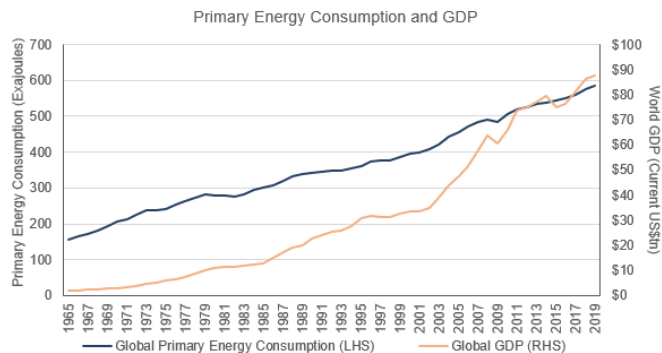
crisis in the 2020s. As noted in last week's (May 23, 2021) Energy Tidbits, this is a massive report that will require weeks/months of commentary. Each week, we plan to note some items just to make sure they are considered as readers look to the energy transition. On Tuesday, we tweeted [LINK](#) on one of the key economic assumptions in the IEA's NZE case – the IEA assumes that the world can de-link the historical correlation that GDP growth means growth in energy consumption. Historically, there has always been a link, even in periods of massive economic disruption such as 1973/74 Arab oil embargo and the 1982 global crash. Arguably Europe is an example that has had negative primary energy consumptions but to do assume the world as a whole can do it including Africa, Asia, South America, Middle East, etc is hard to believe. Its why we tweeted “Can the world incl Asia, Africa, etc, not just Europe pivot sharply to negative growth in total energy consumption but strong growth in GDP to hit IEA #NetZero? or will #EnergyTransition take longer, be a bumpy road and cost more ie. longer to demise of #Oil #NatGas. #OOTT”. The IEA's NZE assumes the world is shifting into a period where GDP grows strongly but energy consumption declines every year. It is the key overriding assumption for its NZE and its hard to see how this turns out including Asia, Africa, Middle East, etc. Our tweet included BP's historical energy consumption compared to global GDP, and the IEA's NZE forecast.

Figure 36: Primary Energy Consumption Thru 2019

Primary energy: Consumption*													Growth rate per annum		Share
Exajoules	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2019	2008-18	2019
Total North America	115.22	109.76	113.29	113.35	110.86	113.72	114.78	113.83	113.74	114.34	117.79	116.58	-1.0%	0.2%	20.0%
Total S. & Cent. America	25.17	24.62	26.16	27.26	27.93	28.53	29.76	28.80	28.50	28.61	28.53	28.61	0.3%	1.3%	4.9%
Total Europe	90.92	85.55	88.69	86.66	86.32	85.43	82.10	82.77	83.90	84.76	84.76	83.82	-1.1%	-0.7%	14.4%
Total CIS	35.37	33.92	35.28	36.71	37.04	36.43	36.74	36.19	36.73	37.02	38.81	38.68	0.3%	0.9%	6.6%
Total Middle East	27.38	28.22	29.74	30.86	32.12	33.06	34.05	35.04	36.23	36.83	37.61	38.78	3.1%	3.2%	6.6%
Total Africa	15.30	15.57	16.07	16.13	16.69	17.14	17.66	17.91	18.38	18.79	19.39	19.87	2.5%	2.4%	3.4%
Total Asia Pacific	180.88	184.99	196.80	207.33	214.02	220.60	225.15	228.63	233.13	240.07	249.35	257.56	3.3%	3.3%	44.1%
Total World	490.23	482.82	506.02	518.31	524.98	534.91	539.25	543.17	550.60	560.42	576.23	583.90	1.3%	1.6%	100.0%
of which: OECD	236.37	224.69	233.04	230.63	228.16	230.26	228.31	228.75	229.64	231.84	235.39	233.43	-0.8%	•	48.0%
Non-OECD	253.86	258.13	272.99	287.68	296.82	304.65	310.94	314.42	320.96	328.58	340.84	350.47	2.8%	3.0%	60.0%
European Union #	76.02	71.58	74.15	71.69	71.04	70.45	67.71	68.52	69.14	69.91	69.81	68.81	-1.4%	-0.8%	11.8%

Source: BP

Figure 37: Primary Energy Consumption and GDP

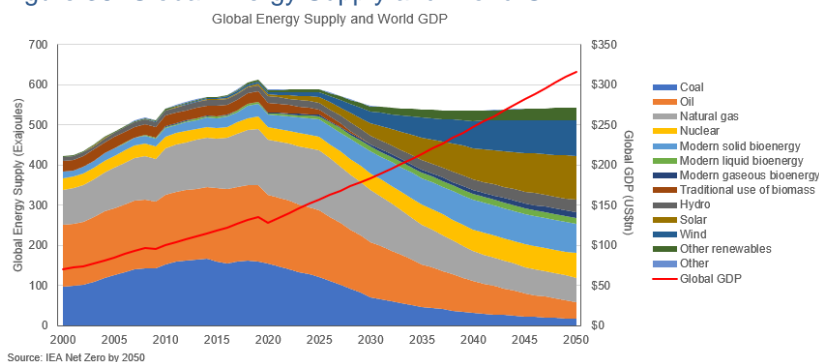


Source: BP Statistical Review of World Energy, World Bank

Source: BP, World Bank

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Figure 38: Global Energy Supply and World GDP



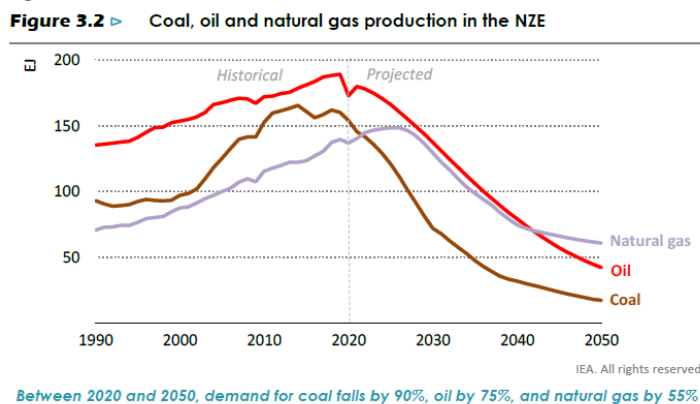
Source: IEA

Oil – Overlooked is IEA's assumption global oil declines at ~4.5% per year

One of the overlooked oil supply fundamentals from the IEA Net Zero pathway is the global oil decline rates. Rather than oil watchers worried that dramatically lower oil investment will lead to an oil supply shortage, no one worries about oil supply given the IEA sees immediate steady higher than expected decline in oil consumption. After all, the IEA said that no new oil and gas fields are needed as the IEA sees oil consumption never returns to its 2019 levels, rather just declines from the Covid hit demand of 88 mmb/d in 2020. Think about that assumption. Its not just that oil consumption doesn't get back to 2019 levels, it basically declines from the Covid hit 2020 demand. The IEA writes "Oil demand never returns to its 2019 peak and it declines from 88 million barrels per day (mb/d) in 2020 to 72 mb/d in 2030 and to 24 mb/d in 2050, a fall of almost 75% between 2020 and 2050". The IEA doesn't provide the year by year oil consumption but it looks look 2021 is up slightly from 2020 but no where near 2019, and then steadily declines. The point is that with oil demand steadily declining, it means that no one really cares or worries about the challenge to replace global oil declines. The IEA wrote "The trajectory of oil demand in the NZE means that no exploration for new resources is required and, other than fields already approved for development, no new oil fields are necessary. However, continued investment in existing sources of oil production are needed. On average oil demand in the NZE falls by more than 4% per year between 2020 and 2050. If all capital investment in producing oil fields were to cease immediately, this would lead to a loss of over 8% of supply each year. If investment were to continue in producing fields but no new fields were developed, then the average annual loss of supply would be around 4.5% (Figure 3.3). The difference is made up by fields that are already approved for development." In other words, if oil companies allocated capital to exploitation and production, they can reduce global oil declines to 4.5% per year. This is the fundamental challenge for oil supply – it has to replace 4.5% per year just to stay flat. And with oil companies reallocating more capital away from oil to renewables, it makes the challenge even greater. Its why if the IEA is wrong about strong declines in oil decline immediately and consistently, there is a big oil supply shock coming and coming soon. Below is the IEA's oil forecast under its Net Zero.

IEA global oil decline of ~4.5%/yr

Figure 39: IEA NZE Forecast Oil Production



Source: IEA

Oil – China tries to talk down commodity markets

The National Development and Reform Commission released a strong statement for the commodity markets on Monday [\[LINK\]](#). The National Development and Reform Commission held a meeting with various departments and industry participants on the run on iron, steel, copper, and aluminum. The NDRC wrote *“This round of price increases is the result of multiple factors, including international transmission factors, but also in many aspects that reflect excessive speculation, disrupting the normal production and sales cycle, and contributing to the price increase”*. The NDRC provided a warning to industry participants that it will be stepping up monitoring and implement punishments for various forms of price manipulation. The NDRC wrote *“The meeting made it clear that in the next step, relevant regulatory authorities will closely follow the trend of commodity prices, strengthen the joint supervision of commodity futures and the spot market, “zero tolerance” for illegal activities, continue to increase law enforcement inspections, and investigate abnormal transactions and malicious speculation”*. This is a big statement for the commodity market and it feels like the first phase of trying to talk down the market. Our Supplemental Documents package includes the NDRC statement.

China talking
down
commodities

A better China signal would be reducing oil and other commodities inventories

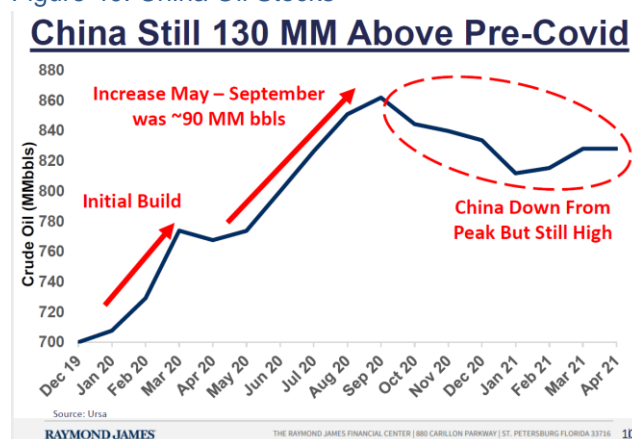
If China wants to bring down the run on commodities, they can easily reduce their building inventories of crude oil and other commodities. Our May 16, 2021 Energy Tidbits had an item *“Oil – China must believe that post Covid oil supply will be less than expected”*, wherein we wrote *“We keep reminding on our bullish view on Post-Covid Post-2022 oil – peak oil demand isn’t likely until >2030 at the same time as peak oil supply is sooner because of substantial oil capital being redirected to renewables. We have been highlighting the underlying supply fundamentals since our Pre-Covid June 20, 2019 blog “Exxon’s Math Calls For Overall Global Oil Decline Rate of ~7%, A Very Bullish Argument For Post 2020 Oil Prices”*. This bullish for oil prices supply outlook was made even stronger by how much capital, since June 2019, has been redirected away from oil to renewables. On Friday, we attended the Raymond James Marshall Adkins oil outlook webcast *“2021/22 Oil Outlook: Fundamental Oil Outlook Is Still Much More Bullish Than Oil Futures Prices Suggest”*, which had numerous great oil insights. Adkins highlighted that global oil stocks have basically returned to pre-Covid levels everywhere around the world except for China, which is still 130 million barrels above pre-Covid levels. He said is

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the only one above normal and China has been hoarding a lot of commodities, and asked is this the new normal? His answer was “we’ll see”. We suspect China will like his slide deck as his supply and demand slides support why their hoarding of oil might be more of a norm than a temporary surplus. Adkins highlights how the current global, not just OPEC, surplus capacity will be needed to meet the return of oil demand to Pre-Covid levels. And that by the end of 2022, all global surplus capacity today will be needed to meet demand. Our answer to his rhetorical question is absolutely makes sense that this would be a new normal for them. On Friday, we tweeted [\[LINK\]](#) “China #Oil stocks only region not at pre-Covid level.

@RaymondJames Marshall Adkins asks is this new normal? See Apr 29 tweet, makes sense like buying 1% of #Aramco. Post Covid #Oil looks strong with #PeakOil demand post 2030 & capex to renewables = peak oil supply sooner. #OOTT”. Below is his China oil stocks slide.”

Figure 40: China Oil Stocks



Source: Raymond James

Oil – Engine No 1 wins XOM board seats positive to oil if impacts capital allocation

Perhaps the highest profile oil story this week was that Engine No 1 was able to defeat Exxon at its annual meeting voting. Prior to this week, all reports described Engine No 1 as a hedge fund managing ~\$250 mm in assets and owning 0.02% of Exxon. Their activist campaign was successful in rallying institutional support for a change in Exxon board with two of its nominees elected to the board and possibly a third. Engine No 1 criticism on Exxon was on its returns and it not moving on the energy transition ie. being stuck on fossil fuels. Their ability to beat Exxon in this battle has to be a big wake up call to Exxon and all other oil companies as Engine No 1 was able to get institutional support for its fight. We tweeted [\[LINK\]](#) “Positive for #Oil. Hard not to see \$XOM making some concessions, which can only lead to more capital reallocated from Oil & #NatGas to renewables & #EnergyTransition items. Hmm, investors are reshaping the strategy. #OOTT. We don’t expect Exxon to make massive changes overnight and just roll over on its views on the outlook for oil and natural gas. But we do expect them to realize that they lost and to make some changes including on capital allocation. We see this as a wake up call to Exxon that their agenda is being shaped more by what investors (the vocal ones) want and not what the company believes is the way to maximize value for shareholders. Its no longer investors investing in a company believing in mgmt, its investors shaping the company to what it sees as the right strategy. Its hard to see them not making some concessions, which means it is positive for oil prices. It can only lead to more capital being reallocated away from oi and gas to renewables or something

**Engine No 1 wins
Exxon board
seats**

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energy transition. And it will also cause Chevron and others to believe they could find themselves next in this. And start to frame the stage for battles at the 2022 annual meetings. We suspect Exxon is glad this was a Covid year and didn't have to have a public in person battle at the annual meeting. But next year will be interesting. Regardless, our key takeaway is that it will have some impact on capital allocation with more capital be allocated to energy transition, which can only be positive for the outlook for oil.

Oil – Engine No 1 makes it clear, it wants Exxon to cut oil and gas production

We recognize that Engine No 1 doesn't own a lot of Exxon stock but its important to remember they were successful in convincing some large investors to support their vision for Exxon. And the fact that they were able to convince large investors is probably what surprised Exxon the most and why we believe they will inevitably have to make some changes to their plans. And you have to Engine No 1 credit, they are taking advantage of their win to keep pressing Exxon and they aren't making any secrets on the changes they would like to see at Exxon. On Friday, we tweeted [\[LINK\]](#) on the FT report "*Hedge fund that beat ExxonMobil says it will have to cut oil output*" [\[LINK\]](#). The FT story was broadly picked up but one item that didn't get much attention was the FT writing "*BP spending a billion dollars to buy half of a wind farm that Equinor developed, that's not a great business model and it was punished by the market,*" said Penner, referring to the UK oil major's recent deal with the Norwegian company". Rather the story traction was the FT reporting "*They need to position themselves for success,*" said Charlie Penner, who ran hedge fund Engine No 1's campaign against the company. "*You would certainly believe that would mean less oil and gas production going forward.*" And "*What we're saying is: plan for a world where maybe the world doesn't need your [oil] barrels,*" he said." Our Supplemental Documents package includes the FT report.

**Engine No 1
wants Exxon to
reduce oil**

Oil – Hard to predict India's oil demand recovery, but expected to be slow

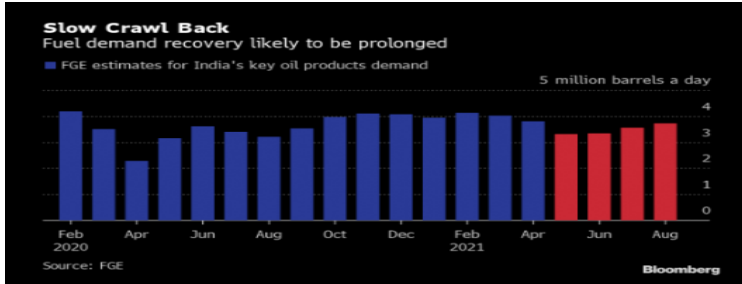
India continues to be hard hit by the massive Covid outbreak over the past month and its still not clear how much oil and LNGs demand will be hit by the outbreak. India is significant at almost 5 mmb/d of oil demand, but, even though there are almost 1.4 billion people, India's impact on oil markets is nowhere near as significant as China. On Thursday, Bloomberg reported on the lack of certainty of when oil demand would bounce back. While demand was not hit as hard as last year when the government ordered a nationwide shutdown, due to the lack of coordinated effort this time around, the outbreaks will likely persist for longer. This will equate to a less prominent, but longer lasting economic downturn. The heads of the country's top refiners and oil companies are not sure either. Chairman of Indian Oil Corp, Shrikant Vaidya said "*When it will return to normalcy is a very difficult question to answer.*" Mukesh Surana, Chairman of Hindustan Petroleum Corp said "*We hope the situation will be clearer by the end of this month or the first week of June. Demand should be better in the quarter through September.*" However, according to FGE Energy, demand for key oil products is set to drop by ~730,000 b/d in May, and June's demand will only be +30,000 b/d MoM. Currently, sales of diesel and gasoline are about 33% lower so far in May vs pre-pandemic 2019 levels. While significantly lower, it is nowhere near as pronounced as April 2020 when demand was slashed by half. However, making matters worse, 65% of India's truck fleet is currently idle, both due to low demand and a shortage of drivers. This situation has also extended into refineries. While Indian refiners had hoped to keep run rates high this year, construction and factory activity slowdowns have caused a build-up of sulfur and bitumen stockpiles. In April, crude processing was down 0.1 mmb/d to 4.86 mmb/d from 4.96 mmb/d in March. FGE expects run-rates for May to continue the downward trend at ~4.45 mmb/d, and then slowly increase to 4.8 mmb/d over July and August. Below is a chart that

**Hard to predict
India's oil
demand recovery**

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shows the expected slow fuel demand recovery in India. Our Supplemental Documents package includes the Bloomberg Report.

Figure 41 – FGE estimates for India’s key oil products demand



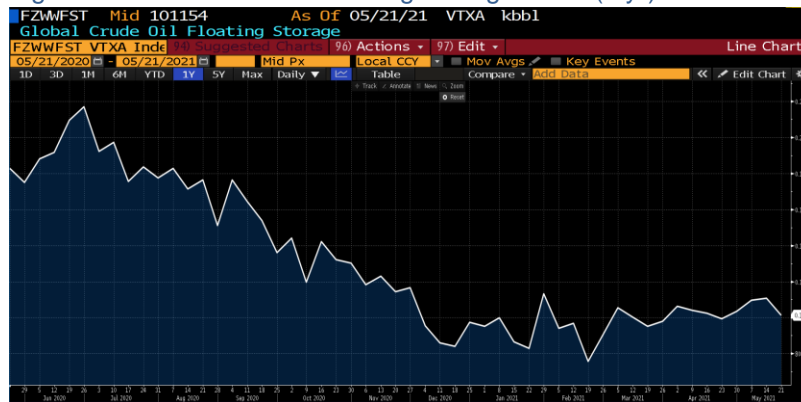
Source: Bloomberg, FGE

Oil – Vortexa floating storage -9.4% WoW, down 44.8% YoY

India’s covid outbreak is slowly improving, although cases are still quite high. The improved outlook for oil demand in India is likely reflective in the WoW decrease in APAC floating storage from Vortexa. Bloomberg reported on Vortexa floating oil data that showed a WoW decrease of 10.51 mmb or -9.4% WoW to 101.66 mmb on May 21 from 112.17 mmb on May 14. Floating storage is down 55.33% since the June 19, 2020 peak of 216.38 mmb. The US Gulf Coast was up 580% this week to 3.43 mmb. As mentioned above, the situation in India is slowly improving and APAC floating storage is down 20% WoW to 67.49 mmb. According to Kpler data, floating storage around Singapore has sunk below levels seen in Jan 2020, as maintenance season has tightened supplies, so that is likely playing into the decreasing APAC floating storage numbers. Our Supplemental Documents package include the Bloomberg Vortexa report.

Vortexa floating storage

Figure 42: Vortexa Global Floating Storage Level (1 yr)



Source: Bloomberg, Vortexa

Oil – Bloomberg Oil Demand Monitor, U.K. airline activity grows and busy toll roads

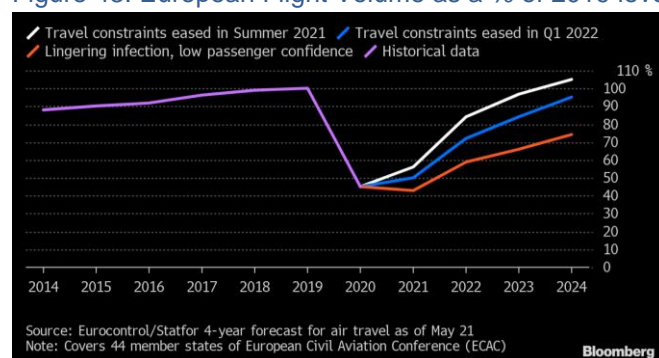
We recommend reading the weekly Bloomberg terminal Oil Demand Monitor for a good recap of key oil demand indicators around the world. The major market story remains the building increase in mobility with vaccinations and that the US and UK give markets an example of what will happen elsewhere. Demand continues its uneven recovery path. Airline seat capacity exemplified this, with capacity surging by +20% in the U.K. in the past week and

Bloomberg’s Oil Demand Monitor

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slumping -12% in India. About 70% of adults have had at least one dose of vaccine in the UK and it is progressing towards ending social distancing measures. London's road congestion on Monday morning was also above the equivalent 2019 day. While airline capacity in the UK and Spain is beginning to bounce back, EuroControl does not expect European flight numbers to return to pre-pandemic levels until 2024 or 2025. European roads are getting much busier, with toll road traffic in France and Spain just under 2019 levels. BofA Global Research analysts are expecting massive oil demand increase due to a shift away from mass transit. They said in a report last week: "Even if electric vehicles sales reach 34% by 2030, an acceleration in miles driven of 20% could push peak oil demand levels to 109 million barrels a day by 2027". Turning to the developing story in India, while the infection rate in India has slowed down from late April/early May, it is still massive at 196k new cases reported on Tuesday. Consequently, airline capacity in India was 57% below the equivalent week of 2019 and was only 29% below on April 26. Our Supplemental Documents package includes the Bloomberg Oil Demand Monitor.

Figure 43: European Flight Volume as a % of 2019 level under scenarios



Source: Bloomberg

Oil – Memorial Day holiday travel expected to rebound

The AAA Travel released their 2021 Memorial Day Holiday Travel Forecast [\[LINK\]](#) on May 11. They expect 37.1mm Americans to travel this Memorial Day, which is a YoY increase of 60%, but 13% below 2019 pre-pandemic levels. With all the pent-up demand and the complete re-opening of America, we are surprised they are calling for less than 2019. The overwhelming majority of people travelling are predicted to travel by car (92.7%). Even though air travel is expected to only make up 6.6% of travel, the expected 2.5mm traveling by air will represent a +577% increase from 2020, while still 23.4% lower than 2019. Our Supplemental Documents package includes the AAA release.

Memorial Day holiday travel expected to rebound

Oil – Memorial Day travelers to pay the highest gas prices since 2014

After its Memorial Day Travel Forecast, AAA reported on Monday on the expected high prices facing travelers at the pump for the long weekend [\[LINK\]](#). Although the national average has stabilized after the Colonial Pipeline cyberattack, the AAA predicts with the significant demand increase and lingering supply strain, gas prices for Memorial Day travel will be the highest since 2014. Over the May 15-16 weekend, the national gas average of \$3.03 was 17 cents more than last month and \$1.12 more expensive than last year.

Memorial Day travelers to pay the highest gas prices since 2014

Figure 44: National Gas Price Comparison (2018-2021) as at May 24, 2021



Source: AAA

Oil – Does Biden admin know gasoline prices are driven by more than the gas tax?

The increasing US gasoline prices that are over \$3 going into the long weekend force the Biden administration to make a statement [\[LINK\]](#), which came on Friday from Press Secretary Psaki. It was interesting to see how she started talking about gasoline prices in “real terms” saying Americans are “*paying less in real terms for gas than they have on average over the last 15 years*”. She also highlighted how Biden is opposed to raising the gas tax as if that the way Biden will fight higher gas prices. It just doesn’t seem like they realize that there is much more to gasoline prices than the gas tax and that proposed taxes regulations to hurt the oil sector will contribute to flow thru for higher gasoline prices. Our Supplemental Documents package includes the Psaki statement.

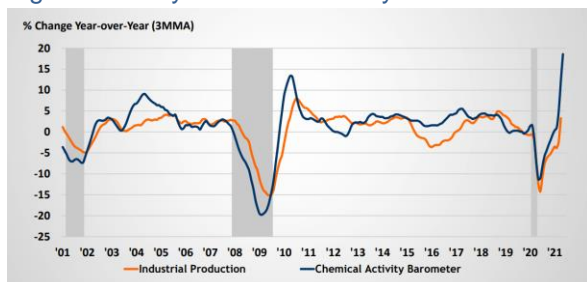
Psaki on
gasoline prices

Oil – ACC Chemical Activity Barometer rose 18.6% YoY in May

US manufacturing and industrial activity had recovered well and quickly and was one of the first positive indicators for the US economy in early/mid 2020. And it continues to remain positive. We always look at an excellent forward indicator on this from the monthly American Chemistry Council’s April “Chemical Activity Barometer” (CAB) [\[LINK\]](#) for the indicators on industrial and manufacturing in the US. The CAB has had a pretty good track record as a leading indicator of a recession in the US economy with an average lead time of 8 months as a prior indicator, but lead time ranging from 2 to 14 months. The May reading continues to show a strong trend, rounding out one year of consecutive increases. The May CAB “*rose 1.2% in May on a three-month moving average (3MMA) basis following a 1.0% increase in April. On a year-over-year (Y/Y) basis, the barometer rose 18.6% in May (3MMA). The unadjusted data show a 1.0% increase in May following a 0.9% gain in April. The diffusion index reached 100% in May. The diffusion index marks the number of positive contributors relative to the total number of indicators monitored. The CAB reading for April was revised upward by 0.91 points and the reading for March was revised upward by 0.16 points.*”

ACC Chemical
Activity
Barometer

Figure 45: May Chemical Activity Barometer vs Industrial Production



Source: American Chemistry Council

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Oil & Natural Gas – Biden budget is a huge hit to all parts of US oil and gas

The big news and big hit to the US oil and gas sector is the Biden proposed budget [\[LINK\]](#) that came out Friday afternoon. We recognize that there will be many changes before a final US budget is reached, but early yesterday we tweeted [\[LINK\]](#) “Huge hit to US #FossilFuels #Oil #Gas from #BidenBudget total \$53b in 2022-26 & \$120b in 2022-31. Hits everyone from small E&P (repeal marginal wells credit) to supermajors (taxation of foreign fossil fuel income). #OOTT” and [\[LINK\]](#) “Also hits all E&P that drive US #Oil #NatGas production growth. note #BidenBudget repeals expensing of intangible drilling costs. Positive for #Oil #NatGas as means less US drilling. #OOTT”. This follows on the Biden promise to remove all subsidies to the fossil fuels and it looks like it is hitting all sizes and all types of oil companies from the smallest to the biggest and the individual who owns a few stripper wells to the supermajors operating around the world. Note that it means a cost to the oil sector of \$53b in 2022-2026 and \$120b in 2022-2031. There are too many line items to review, but here are three examples that show it hitting all sizes and types of oi companies. “Repeal credit for oil and gas produced from marginal wells” that hits the sector by \$461 million in 2022-2026. “Repeal expensing of intangible drilling costs” that hits every well drilled in the US and will hit the sector by \$7.626b in 2022-2026 and \$10.486b in 2022-2031. And in a huge impact to companies with foreign fossil fuel income, “Reform taxation of foreign fossil fuel income: Modify foreign oil and gas extraction income (FOGEI) and foreign oil related income (FORI) rules” will hit the sector by \$35.046b in 2022-2026 and \$84.781b in 2022-2031. Take a look thru the line items, there are so many and hit everything. This is a major hit to the US oil and gas sector in many ways. One obvious impact will be on US oil and gas production as drilling will be less going forward than expected. And less US oil and gas production is positive for oil and gas prices. Our Supplemental Documents package includes the Biden budget line impact for oil and gas items.

Biden budget hits US oil and gas

As expected Biden budget includes adding excise tax on Cdn bitumen

It wasn't a big item in the Biden budget but, as expected, he closed the exemption on Cdn oil sands/bitumen into the US. Our March 14, 2021 Energy Tidbits highlighted our believe for the likelihood for the US to add 9 cents/barrel on excise tax on imported Cdn oil sands/bitumen by removing its current exemption. In the Biden budget, he removes the exemption for Cdn oil sands/bitumen.

Oil & Natural Gas – Biden to give states/tribes a blocking tool for oil/gas over water

Surely the Left has to happy with Biden as he continues to make it increasingly difficult for the oil and gas sector. The latest was the Thursday EPA announcement “EPA Takes Action to Bolster State and Tribal Authority to Protect Water Resources” [\[LINK\]](#). We were a little surprised that this didn't get immediate oil and gas attention so we tweeted [\[LINK\]](#) “#Biden to make it tougher on #Oil #Gas #Pipelines. #EPA "to restore" "bolster and tribal authority to protect water resources" ie. no fed permit unless state or Tribe signs off re Clean Water Act. Wonder if future ammo for MI to shut down #Line5? #OOTT”. Basically the federal government is giving a blocking tool or veto to states and Tribes that are impacted by any potential discharge into navigable waters. We believe this will give the states and tribes an effective blocking tool or veto over pipelines that cross navigable waters and also crude by rail that cross navigable waters. Note the use of the word “may” in the key sentence in the release. The EPA says “EPA intends to reconsider and revise the 2020 CWA Section 401 Certification Rule to restore the balance of state, Tribal, and federal authorities while retaining elements that support efficient and effective implementation of Section 401. Congress provided authority to states and Tribes under CWA Section 401 to protect the quality of their waters from adverse impacts resulting from federally licensed or permitted projects. Under Section 401, a federal agency may not issue a license or permit to conduct any activity that

Power for states & tribes to block oil & gas

may result in any discharge into navigable waters unless the affected state or Tribe certifies that the discharge is in compliance with the Clean Water Act and state law, or waives certification.” We expect this to get more attention from the oil and gas sector as well as the pipelines. One other item we wonder about is transporting crude oil by rail and if that would also be caught by this potential change? Our Supplemental Documents package includes the EPA announcement.

Oil & Natural Gas – Cabot and Cimarex merger announcement not well received

Cabot and Cimarex merger

No doubt one of the big items this week was the early Monday morning announcement of the merger between Cabot and Cimarex [\[LINK\]](#), with Cimarex being absorbed into Cabot. We were surprised by the deal and, at 5:45am MT, tweeted [\[LINK\]](#) “Hmm! Be interesting how US investors respond to \$COG \$XEC merger of equals. Not the norm of consolidating within #Oil or #NatGas or a play. Rather combines #Marcellus gas & #Permian oil to create a diversified geographic, commodity, play company. #OTT”. It was obvious that this deal would be a head scratcher as it goes against all of the norms of M&A over the past few years where companies consolidate within plays or within commodity. This was the exact opposite. No surprise the market didn’t like the deal. Cabot traded down 7.5% at open and ended the day down 6.6%. Cimarex dropped 8.3% shortly after open and finished the day down 7.1%, while EQT, pure play Marcellus, was +3.1% on the day. Cabot’s operations are concentrated in the Appalachian region while Cabot is largely Permian focused, the difference in regions was the main detractor from stock performance at announcement. One of the main selling points on the merger is the expected \$100mm of cost synergies for the combined entity. However, we have to believe people are suspect about their view that they will reduce \$100mm on an annualized basis from G&A considering there aren’t the operational synergies like seen when combining two Permian companies, and that would represent a cut of almost 60% of the combined G&A. Other rationale from mgmt. was for the benefits of commodity/geographic diversification and increased cash flow from the combined entity, helping to fund a dividend program with a base and variable component. Below is a table showing the Q1/21 and annualized Q1/21 G&A for both Cabot and Cimarex.

Figure 46: Cabot and Cimarex G&A

Cabot Oil & Gas And Cimarex Energy G&A						
	Q1/21			Annualized Q1/21		
\$ millions	Cabot	Cimarex	Combined	Cabot	Cimarex	Combined
G&A	17.5	25.3	42.8	70.0	101.2	171.2
Stock Compensation	11.7	8.5	20.2	46.6	34.0	80.6

Source: Cabot and Cimarex Q1/21 Results

Source: Cabot, Cimarex

Electricity – NERC warns on resource adequacy for California and Texas

NERC Summer Reliability Assessment

NERC released its Summer Reliability Assessment on Wednesday [\[LINK\]](#) which provided the details for its May 13 warning (see our May 16, 2021 Energy Tidbits) on electricity capacity for Texas, New England, MISO, and California. With the expectation of above-normal temperatures for much of the US and expected drought conditions across much of the western states, there is real risk for extreme weather events. For Texas, the reserve margin increased to 15.3% from 12.9% last year. However, significant risk remains for extreme weather events. Additionally contributing to the elevated risk rating is the increasing reliance on wind generation as periods of low-wind output can cause significant supply shortfalls, along with drought conditions increasing demand and causing cooling issues for generation assets. While Texas is rated at an elevated risk, California is a high risk geography for energy emergencies. NERC wrote “WECC-California is at risk of energy emergencies during

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periods of normal peak summer demand and high risk when above-normal demand is widespread in the west". California's planning reserve margin is expected at 23.8%, above 20202 of 20.9% and above the reference margin of 18.4%. NERC wrote "Probabilistic studies indicate 10,185 MWh of energy in the area is expected to go unserved this summer. Over 3 GW of additional resources are expected for this summer with most coming in the form of new solar photovoltaic (PV) generation. These generation plants can provide energy to support peak demand; however, solar PV output falls off rapidly in late afternoon while high demand often remains". NERC also noted the elevated wildfire risk due to the expected drought conditions which can cause significant interruptions to generation and transmission. Our Supplemental Documents package includes excerpts from the NERC assessment.

Electricity – Kansai Electric restarts Mihama-3 nuclear reactor

Its not coming a moment too soon given the tight Japan electricity resource availability this summer but the Kansai Electric Power Co. announced its plans to restart its Mihama-3 and Takahama-1 and -1 nuclear power plants last Tuesday [\[LINK\]](#). After examinations by the Nuclear Regulation Authority of Japan (NRA), it was granted approval to make changes to the reactor installations and extend their operating lives to 60 years. Fuel started being loaded at the Mihama-3 on May 20, and the reactor will be restarted in late June. In July, it will have returned to full service. Kansai Mihama-3 started commercial operation Dec 1, 1976. It has been offline since May 14, 2011 before this restart. As for the Takahama-1, fuel started to be loaded on May 14. Throughout the loading, Kansai will inspect facilities and equipment for safety. Takahama-2 is undergoing safety improvements. Deadlines for both Takamas are June 9, so no times have been shown for restart as of yet. Our Supplemental Documents package includes the Japan Atomic Industrial Forum report.

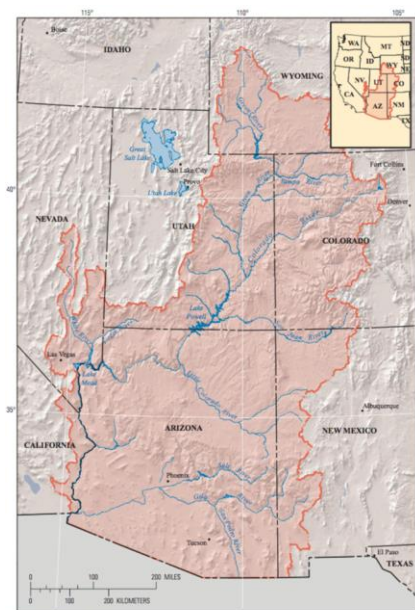
**Kansai restarts
Mihama-3
reactor**

Electricity – 1st ever Colorado River shortage likely, means water cutbacks in Arizona

Several years ago, I wrote on comments from one of my Calgary snowbird friends who winters in Arizona and he said his biggest fear for the future was water shortages. While it looks it is coming true and that the likelihood is that there there will be water cutbacks in parts Arizona in 2022. One of the big stories and gaining more media attention is the drought conditions in the west. This is particularly bad as we move into wildfire season. And the other big impact is low hydro generation (see our May 16, 2021 Energy Tidbits on NERC's concern on California and also the item in today's memo). And now we are seeing the expectation for the first every Colorado River shortage. This is not 1 in 30 years, this is the first time ever. On Thursday, CNN reported [\[LINK\]](#) "First-ever Colorado River water shortage is now almost certain, new projections show" and "On Tuesday, the water level in Lake Mead -- the largest US reservoir, and fed by the Colorado River -- fell below the elevation of 1,075 feet. It has hit that mark only a handful of times since the Hoover Dam was finished in the 1930s, but it always recovered shortly after. It may not this time, at least not any time soon. The US Bureau of Reclamation (USBR) forecasts the lake's levels to continue to decline, without any sign of recovery through at least the end of 2022. If the next major study in August from the USBR projects water levels in the lake will be below 1,075 feet on January 1, it would trigger the first-ever shortage declaration on the Colorado River, meaning some communities would begin to see their water deliveries cut significantly next year." CNN noted that the looming water cuts will have the greatest impact on Arizona (vs Nevada) and that the major population centers will bear a lesser burden than Arizona's farming in central Arizona. Our Supplemental Documents package includes the CNN report.

**1st ever Colorado
River shortage is
likely**

Figure 47 – Colorado Basin



Source: USGS

Energy Transition – Germany needs natural gas for reliable power in 2020s/2030s

Germany is considered one of the global leaders in the energy transition in particular in moving away from coal and nuclear. Unfortunately it shows in Germany having the highest electricity costs. But there is a big difference between having high electricity costs and not having reliable energy supply. And we hope policymakers note what Merkel is doing to provide reliable energy supply for the next couple decades. We tweeted [\[LINK\]](#) “Yes DE is accelerating wind/solar but reliable power is why #Merkel wants #NordStream2. DE needs to add ~18 gigawatts or 60% more gas fired capacity to make up for shutting its 6 nukes and phase out of 1/2 coal by 2030. #NatGas provides reliability. Thx @JesperStarn @enappsys”. Bloomberg reported on an Enappsys analysis on the challenge for Germany to provide reliable power as they shut the six remaining nuclear reactors by the end of 2022 and plan to phase out about half of its coal power by 2030. And how this gets done in the context of the massive push to have more solar and wind generation. This is the challenge now, how to have a reliable electricity supply with aggressive energy transition moves in the early 2020s. Bloomberg reported on the Enappsys analysis “Germany’s plans to phase out coal and nuclear power will leave a large gap in supplies of electricity that’s likely to be filled by natural gas. Germany will need to add about 18 gigawatts or 60% more gas-fired capacity to plug the hole left from shutting its six remaining nuclear reactors by the end of next year and plans to phase-out about half its coal and lignite fleet by 2030”. This is not a question of trying to bring down electricity costs rather a priority to have reliable electricity supply. Our Supplemental Documents package includes the Bloomberg report.

Germany needs natural gas for reliable power

Energy Transition – COADC announces name change and new mandate

Another sign of the times. After being known as the Canadian Association of Oilwell Drilling Contractors (CAODC) for 72 years, the Association is changing its title [\[LINK\]](#). It will henceforth be known as the Canadian Association of Energy Contractors (CAOEC) to reflect its new expanding mandate: to have a leading role in O&G, hydrogen, helium, geothermal,

COADC announces name change and new mandate

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and carbon capture, utilization and storage sectors. As these alternative energy industries emerge, the CAOEC will continue to expand its membership base to include additional energy companies “ensuring a strong, resilient, respected, and influential energy services sector in Canada”. Our only question is: why didn’t they call it the Canadian Association of Energy Transition Contractors? Our Supplemental Documents package includes the CAOEC release.

Energy Transition – Shell ordered to reduce emissions by 45% by 2030

Its not just a high profile global oil story, but a precursor to more challenges to big oil in other parts of the world especially in Europe. Shell lost its Netherlands court case against environmental group MilieuDefensie, who had accused the company of violating human rights by not adhering the Paris Agreement. Shell had previously pledged to reduce GHG emissions by 20% within a decade and to net-zero by 2050. A Dutch court ruled, however, that those targets were not enough and ordered Shell to cut emissions 45% by 2030 and by 72% by 2040 vs 2019 levels. In 2019, Shell’s GHG emissions were 1.65bn tons of CO₂, which was about the same as the entire country of Russia’s emissions. The MilieuDefensie release [LINK](#) reminded that the “*What did the judge conclude? The judge proved us right on many points! In short: the judge orders Shell to reduce its CO₂ emissions by 45% net by 2030 (compared to 2019). Shell is also obliged to make an effort to reduce the CO₂ emissions of its suppliers and customers by 45% net (2030). And Shell has to do that through company policy. Shell has to write a new policy for this. The judge also established that companies are responsible for protecting human rights throughout the chain by limiting CO₂ emissions, including those of business relations and customers.*” While only legally binding in the Netherlands, this case may set a precedent for the approximately 1,800 other climate change lawsuits ongoing currently. Surely, there will be similar cases in other countries especially in Europe. Other European companies like BP Plc and Total SE have been criticized similarly for their emissions targets. Shell released a response to the ruling on Wednesday [LINK](#) and wrote “*Urgent action is needed on climate change which is why we have accelerated our efforts to become a net-zero emissions energy company by 2050, in step with society, with short-term targets to track our progress. We are investing billions of dollars in low-carbon energy, including electric vehicle charging, hydrogen, renewables and biofuels. We want to grow demand for these products and scale up our new energy businesses even more quickly. We will continue to focus on these efforts and fully expect to appeal today’s disappointing court decision.*” Our Supplemental Documents package includes the Bloomberg report.

Shell loses climate case, ordered to reduce emissions by 45% by 2030

Energy Transition – Solar panel costs up 18% in 2021, critical metals shortage ahead

We don’t call it a dirty little secret because its clean energy so its more like a clean little secret that is swept aside in the narrative that energy will be cheaper under Net Zero. This week we tweeted on one of the challenges for the energy transition is the rising costs of materials and critical metals. We tweeted [LINK](#) “*Speed bump or start of a bumpy road for next few years for continued higher #Solar #RenewableEnergy costs? Bad timing for big cost increases (ie. quadrupling of polysilicon) with solar deployment to accelerate for #NetZero. Thx @danmurtaugh @brianreports #EnergyTransition*”. Solar power additions are expected to play a very significant role in the IEA’s net zero case, with annual global solar additions expected to reach 630 GW, the equivalent of installing the current largest solar park everyday. However, this will be a difficult feat to achieve, especially given the massive run up in solar panel input costs in 2021. Bloomberg reported on this last Sunday and wrote “*Solar module prices have risen 18% since the start of the year after falling by 90% over the previous decade. The reversal, fueled by a quadrupling in the cost of the key raw material polysilicon, threatens to delay projects and slow uptake of solar power*”. The price of

Rising panel costs could delay further additions

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polysilicon increased to \$25.88/kg, up from \$6.19/kg less than a year ago. The run up of commodity prices including copper, aluminum, steel, and freight costs has also contributed to the increase in panel costs. The higher prices for the panels may be cause for developers to put some projects on hold. Bloomberg wrote *“In India, about 10 gigawatts of projects may be impacted, equivalent to more than a quarter of the country’s current capacity”*. Our concern is that this is glossed over as a short term setback yet the IEA is warning there is a shortage of critical metals needed for key items for the energy transition like solar, wind and battery storage. This will be an increasing issue as the rate of solar capacity additions needs to grow massively to fit the IEA net zero case so a delay to installed capacity will compound that rate. Our Supplemental Documents package includes the Bloomberg report.

Energy Transition – Another big oil (bp) capital allocation to renewable

We continue to get data to support the changing material trend in global oil and gas capital allocation – Big Oil is reallocating more capital away from oil and gas to renewables. This has major implications to future oil and natural gas supply and will only increase given this week’s Big Oil losses to climate change side. On Friday, we saw another of countless examples of oil majors allocating an increasing amount of capital to renewables projects with bp announcing a 900mm euro investment into a co-development project for the buildout of five utility scale solar projects in Portugal [\[LINK\]](#). The Co-development partnership is with INSUN. The five projects are expected to had a combined generation capacity of 1.35 GW. The investment is made through the 50:50 joint venture, Lightsource bp, which originally came into form when bp bought 43% of Lightsource in 2017 and furthered its investment to 50% in 2019.

Flood of capital to renewables continues

Energy Transition – New G7 commitments on climate and emissions

It took a few days, but this week we started to see more reports focusing on the G7 countries increasing their climate change and energy transition commitments. It may not have received the headlines last weekend, but last week’s (May 23, 2021) Energy Tidbits memo was titled *“G7 Policymakers Make New Commitments On Energy Transition ie. Future Emissions Laws/Regulations That Are Coming”* because we believe the new G7 30-pg communique with increased climate policies was the major story for oil and natural gas, moreso than the IEA’s Net Zero pathways. These were commitments from G7 policymakers and what the G7 policymakers are committed to enact as laws/regulations. The IEA captured the attention of analysts so we did not see many analysts expressing our concern on the new G7 commitments. (i) 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.”* (ii) The headlines continue to be almost all about stopping financing for coal starting 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

G7 new commitments

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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 – Ofgem's program includes cable to set up ultra fast chargers in UK

On Monday, Ofgem announced a *"£300 million investment for over 200 low carbon projects to get Britain ready for more electric transport and heat."* [\[LINK\]](#) The program includes infrastructure to support more ultra-rapid charging points at motorway service areas. It is not the charging points, rather it is *"to get the cabling they need to install 1,800 new ultra-rapid charge points, tripling the current network"*. This is positive, but we also remind there is a long way to go. We tweeted [\[LINK\]](#) *"#Ofgem adding cable (infra) to support 1,800 new ultra-rapid charging points at motorway service areas. Charging infra on the road and at home is big challenge, reminder 32.7 mm cars + 4.3 mm light duty vehicles in UK. #OOTT #EnergyTransition #EV."* The vehicle data is from the UK Department of Transport statistics. Our Supplemental Documents package includes the Ofgem release and the UK DOT vehicle statistics.

Ofgem to help expand motorway charge points

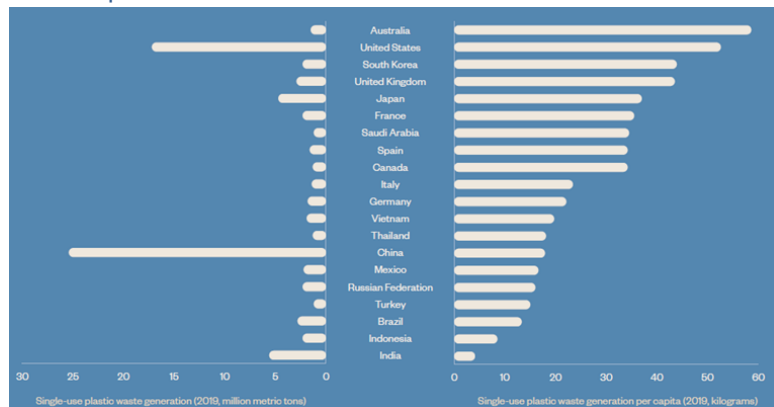
Climate Change – Australia the largest per capita generator of single-use plastic waste

The Minderoo Foundation, an Australian philanthropic organisation, published their Plastics Waste Makers Index on last Tuesday [\[LINK\]](#). The report outlined the huge environmental impact created from single-use plastics. In particular, single-use plastics are the most likely

AUS the largest per capita generator of single-use plastic

off all types of plastics to end up in the ocean and do so at a rate of about 5-13mm metric tons a year. They also found that 3 companies – ExxonMobil, Dow and Sinopec – account for 16% of global single-use plastic waste. Some interesting findings in the index itself was that Australia ranked one of the lowest on the scale for single-use plastic waste generation, but on a per-capita basis, it is the worst of the countries studied, at more than 50 kg contributed per person per year. The US ranked second worst on a per capita basis, also clocking in at over 50 kg per person. China was by far the worst on an aggregate basis, producing close to 25mm metric tonnes in 2019, but on a per capita basis was 14th worse out for the 20 countries studied. Canada was one of the lowest on an aggregate basis, but middle of the pack per capita.

Figure 48 – Top 47 Countries for Single-use Plastic Waste Raked by Per Capita Consumption



Source: Minderoo Foundation

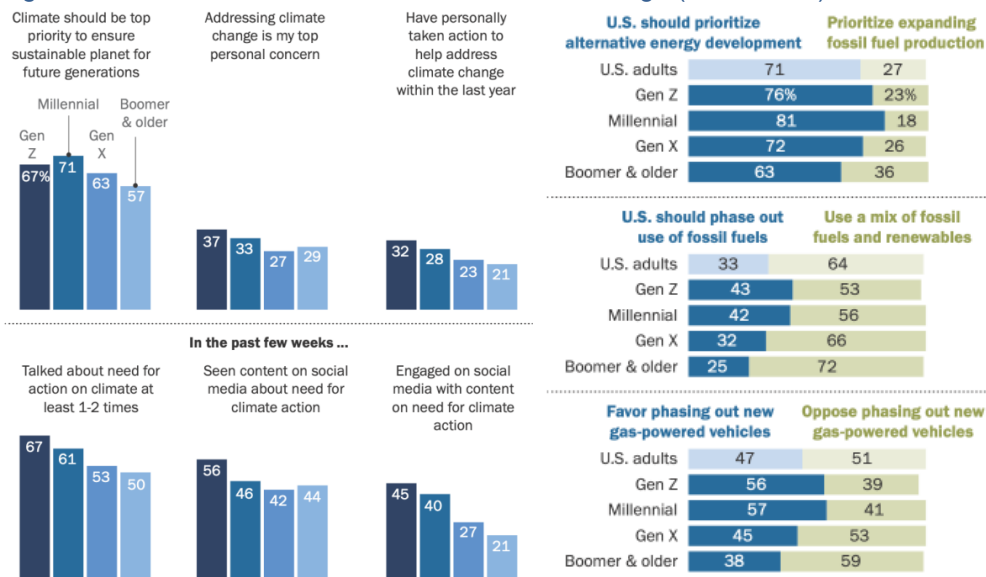
Demographics – No surprise, young Americans care more about climate change

There is no surprise to see another survey confirming that younger adults are more focused on climate change than older Americans. This has been consistent over the years. The Pew Research Centre released a survey on Wednesday on American’s attitudes towards climate change [LINK](#). Key findings from the survey were that attitudes differed significantly by generation. First, they found that younger generations are especially likely to express some interest in addressing climate change and say they have personally taken some sort of action to do so. About a third (32%) of Gen Zers and 28% of Millennials say they have done some sort of action in the past year to combat climate change and over two-thirds of Gen Zers and 61% of Millennials say they have talked to friends or family about the need to address climate change on the past few weeks. The share of Gen X and Baby Boomers is much smaller – only 23% of Gen Xers and 21% of Baby Boomers have taken action and 53% of Gen Xers and 50% of Baby Boomers have talked about climate change with their peers. The next major finding of the study was that younger generations are more likely to favor shifts away from fossil fuels or to support emanating fossil fuels completely. 43% of Gen Zers and 42% of Millennials think the US should phase fossil fuels out entirely, while only 32% of Gen X and 25% of Baby Boomers do. We included the polling results below.

Americans’ attitudes about climate change

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Figure 49 – Americans’ attitudes towards climate change (% of adults)



Source: Pew Research Center

Capital Markets – Canada’s top pension funds boost investments in oil sands

Last week’s (May 23, 2021) Energy Tidbits noted the Saudi sovereign wealth fund selling off their entire stake in Suncor, all 51 million shares. Conversely, this week Bloomberg reported that top pensions in Canada are increasing holdings in Canadian oil sands producers. The combined investment by Canada’s top 5 pension funds reached \$2.4bn in Q1 2021, which is up +147% YoY. A large portion of that increase came from rising prices of shares already owned, but the funds had also purchased more shares. The top 5 includes Canada Pension Plan Investment Board (CPIIB), Caisse de dépôt et placement du Québec (CDPQ), Ontario Teachers’ Pension Plan (OTPP), British Columbia Investment Management Corp (BCI) and the Public Sector Pension Investment Board (PSP). They manage a total of over C\$1.4 tn in assets. While several other prominent pension managers including the New York State Pension Fund and Norway’s largest pension fund KLP have exited oil sands altogether, Canadian pensions are facing pressures. However, the argument some Canadian pension funds are advancing is they favor continuing to invest in fossil fuels in an effort to help the firms transition toward cleaner energy. Our Supplemental Documents package includes the Bloomberg report.

Canada’s top pension funds boost investments in oil sands

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

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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.

IEA's Net Zero pathway includes back to 60's before clothes dryer

Wouldn't it be interesting if the IEA Net Zero pathway was adopted as a plan? There are many little tidbits in the pathway/plan that would catch people by surprise. Hopefully its never to Putin's extreme warning of sending people back to the caves if natural gas is gone. Rather for baby boomers in North America, it would be a back to the future of what it was like in the 60's to watch your mom do laundry. The IEA pathway/plan talks about needed behavioural changes "*Behaviour changes are also important in the NZE, with a reduction of almost 250 Mt CO2 in 2030 reflecting changes in temperature settings for space heating or reducing excessive hot water temperatures. Additional behaviour changes such as greater use of cold temperature clothes washing and line drying, facilitate the decarbonisation of electricity supply.*" if this were to be the plan, then countries would ban the sale of clothes dryers much like they banned wood burning fireplaces. We didn't have a clothes dryer until the 70s and prior to that, my mom had the tub washing machine that had the hand ringer on the top to wring out the clothes so she could then go hang the clothes to dry on the clothes line in the back yard. The problem was during winter, when my dad would put up some makeshift clothes line anywhere he could find in our 900 sq ft post war house. Don't forget the 60's really pre-high rise apartment/condo living, it was move to suburbia. Clothes line drying is still common in most of the world outside developed western countries, but could you imagine seeing the typical family back to line drying in the backyard or from the apartment like in parts of Hong Kong?

Figure 50: Rigging a clothes line, Hong Kong clothes drying in highrise 2017



Source: Martha Stewart, A Day in the Kitchen

Champions League – Christian Pulisic is 1st American to play and win the final

Interesting tidbit I hadn't heard until yesterday's Champions League final. It made for a less productive two-hour period having the match on in the background. When Christian Pulisic came on for Chelsea at the 66 min mark, the commentator noted it made history by being the first American man to play in a Champions League final. It reminded that there haven't been that many Americans playing for the top EPL clubs.

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However, another American playing yesterday was Zack Steffen, backup keeper for Manchester City. This is one sports achievement that Canada beat the US as last year's Champions League winner was Bayern Munich, who had Canadian superstar then 19 years old Alphonso Davies in the lineup. It was a great final although I didn't like the outcome. I became a City fan not because I just want to root for normally the top team. Rather I have tended to be more of a fan for the underdog like Leicester City. I would be remiss if I didn't give a shout out to the only Canadian who has ever played for Manchester City – Terry Dunfield. I became a City fan after meeting Terry, who just happens to be brother to SAF Group CEO Ryan Dunfield. Interestingly, there has only one Canadian who has played for Chelsea – former keeper Craig Forrest. It's a big accomplishment to play in the EPL, it must be a huge accomplishment to play for one of the big clubs.

Any day, expect Liberals to lift hotel quarantine rule on returning to Canada

We certainly do not have any federal Liberal key contacts or inside information on what they will be doing on Covid restrictions. However, we have to believe they will be announcing this week that they will be doing away with the mandatory hotel room confinement for travelers coming from countries other than the US. Yesterday, we tweeted [\[LINK\]](#) *"Looks like @JustinTrudeau to remove hotel quarantine upon return to Flag of Canada. UK says 'leaders looked forward to seeing each other in Cornwall in two weeks' time.' why not say so, he isn't flying commercial and worried about not getting a seat."* Trudeau has not confirmed he will be attending the G7 on June 11-13 to join all the other leaders for in-person meetings. However, the UK readout of the Johnson/Trudeau call on Friday [\[LINK\]](#) said *"The leaders looked forward to seeing each other in Cornwall in two weeks' time."* Trudeau is going and surely no one expects he will go and return to Canada and then be quarantined in a hotel room only being allowed out twice a day for 15 min. We don't. And with an election coming soon, we don't think he will return and not abide by the quarantine rules if in effect. This can only mean that an announcement is coming in the coming days for the hotel quarantine rule to be lifted. And then Trudeau can confirm he will be going to the G7 meeting.

How fitting, the 1st game with fans was a Sat night Leafs/Habs playoff game

For anyone who been to a Leafs/Habs game, we can't imagine how great it would have been to be one of the 2,500 fans at the Bell Centre last night for game 6. It was fitting that for the first NHL Canadian game with fans since March 2020 would be a Hockey Night in Canada on Saturday night with a Leafs/Habs playoff game. It may have only been just over 10% of the Bell Centre 21,273 seating capacity but it must have been a great experience to be one of those lucky 2,500 fans. How fitting, went to overtime and the home team won setting up game 7 on Monday night in Toronto.