SAF GROUP

Energy Tidbits

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Will the Return of Traders Take Oil Up From Algos & Stop Orders Oil Price Crash on Friday?

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. Vitol's Mike Muller reminded algos & stop orders carried Omicron oil price crash on Friday as many traders were off the desk for Thanksgiving (Click Here)
2. New SAF 11-pg blog "*LNG Supply FIDs Starting to Happen, Does Shell Need to Get LNG Canada Phase 2 FID in the Queue To Protect Its Brownfield Advantages?"* (Click Here)
3. Saudi Energy Minister Abdulaziz has been right to be cautious, how can that not lead to a pause in OPEC+ increase? (Click Here)
4. JCPOA negotiations start tomorrow. (Click Here)
5. On Friday and ahead of the rain this weekend, Trans Mountain said working towards restart at a reduced capacity early to mid this week. (Click Here)
6. Please follow us on Twitter at [LINK] for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.
7. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK].

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Natural Gas – Natural gas draw of 21 bcf, storage now -320 bcf YoY deficit

YoY storage at -320 bcf YoY deficit

US natural gas storage is starting winter 210 bcf lower YoY. The EIA reported a 21 bcf draw (vs 20 bcf draw expectations) for the Nov 19 week, which was below the 5-yr average draw of 44 bcf, and below last year's draw of 18 bcf. Storage is 3.623 tcf as of Nov 19, decreasing the YoY deficit to -320 bcf, from 310 bcf last week and storage is 58 bcf below the 5-year average vs 81 bcf below last week. The EIA STEO estimates Nov 30/21 storage at 3,547.1 bcf, which is 385 bcf lower YoY vs 3,932 bcf at Nov/20. Below is the EIA's storage table from its Weekly Natural Gas Storage Report [LINK].

Figure 1: US Natural Gas Storage

	Stocks billion cubic feet (Bcf)				Historical Comparisons			
					Year ago (11/19/20)		5-year average (2016-20)	
Region	11/19/21	11/12/21	net change	implied flow	Bcf	% change	Bcf	% change
East	889	900	-11	-11	937	-5.1	890	-0.1
Midwest	1,066	1,079	-13	-13	1,134	-6.0	1,075	-0.8
Mountain	210	212	-2	-2	242	-13.2	220	-4.5
Pacific	262	261	1	1	320	-18.1	302	-13.2
South Central	1,197	1,191	6	6	1,311	-8.7	1,195	0.2
Salt	338	331	7	7	355	-4.8	330	2.4
Nonsalt	859	860	-1	-1	956	-10.1	865	-0.7
Total	**3,623**	**3,644**	**-21**	**-21**	**3,943**	**-8.1**	**3,681**	**-1.6**

Source: EIA

Natural Gas – Big increase to BloombergNEF forecast for natural gas storage

BloombergNEF US gas storage forecast

On Tuesday, BloombergNEF posted its US Gas monthly, which is one of our favorite BloombergNEF reports. They made a big increase to their 2022 forecast for US natural gas production and therefore for US natural gas storage – a negative to the 2022 natural gas call. BloombergNEF highlighted in their report *"The return of growth in BNEF's gas production forecast loosens inventories and helps restore market balance. Production is expected to average 95.5Bcf/d over the next three seasons, adding 464Bcf of additional volumes over our previous dry gas production forecast."* The big increase in US natural gas production flows thru to their natural gas storage forecast. The new Bloomberg forecast expects storage on March 31, 2022 to be 1,684 bcf, down YoY from 1,801 in 2021. They forecast Oct 31, 2022 (beginning of winter natural gas season) storage at 3,639 bcf which would be up YoY from 3,585 bcf at Oct 31, 2021. It's a good thing that 2022 has the big positive with the start up of Cheniere Sabine Pass Train 6 (0.7 bcf/d capacity) and Calcasieu Pass LNG (1.3 bcf/d capacity) to increase export pull on US natural gas production. The new storage forecast is in line with the EIA STEO in which November 14 Energy Tidbits noted *"The EIA used Oct 31/21 gas storage at 3,646 bcf. The EIA forecasts end of winter March 31/22 storage at 1,623 bcf, which is -178 bcf lower YoY vs 1,801 bcf. And the EIA forecasts Oct 31/22 storage at 3,576 bcf, which is only -70 bcf YoY."* The key risk/upside is always winter weather, and BloombergNEF assumes a normal winter. Our Supplemental Documents package includes excerpts from the BloombergNEF report.

Natural Gas – 1st LNG produced at Cheniere's 0.7 bcf/d Sabine Pass Train 6

1st LNG at Sabine Pass Train 6

The big plus to HH and AECO gas prices in 2022 is the start up of LNG cargos from Cheniere's Sabine Pass Train 6 at 0.7 bcf/d capacity and Calcasieu Pass LNG at 1.3 bcf/d. These put an added potential draw of over 700 bcf on US natural gas production to export markets. On Tuesday, Cheniere announced "*liquefied natural gas (LNG) was produced for the first time at Train 6 of the company's Sabine Pass Liquefaction facility. The commissioning process continues, and Cheniere Partners expects Substantial Completion of*

Train 6 to be achieved in the first quarter of 2022, approximately 1 year ahead of the guaranteed completion date." Cheniere also noted that this will Sabine Pass LNG's total LNG production capacity to 3.95 bcf/d. The release reminds that feed gas starts months ahead of substantial completion and also the benefit of what we call a continuous construction cycle that leads to the most efficient construction process and timeline. Our Supplemental Documents package includes the Cheniere release. [LINK]

Natural Gas – Does LNG Canada need to get Phase 2 FID in the queue?

LNG Canada Phase 2 FID possibility?

On Tuesday, we posted our new 11-pg blog "*LNG Supply FIDs Starting to Happen, Does Shell Need to Get LNG Canada Phase 2 FID in the Queue To Protect Its Brownfield Advantages?* Here is the intro paragraph on the blog. "*Asian LNG buyers and now LNG suppliers are responding to the abrupt change in LNG supply/demand outlook in April. Unplanned delays to the start up of 5.0 bcf/d of Mozambique LNG put a major hole in all LNG supply plans/forecasts for the 2020s creating a new and larger LNG supply gap. This first drove Asian LNG buyers to abruptly pivot to lock in stable long term LNG supply and now, LNG suppliers are taking FIDs (ie. Woodside on Scarborough yesterday) and looking at the next round of potential FIDs on both brownfield and greenfield LNG projects to fill that gap. This increase is happening at a time of increasing competition/demand for global fabricators, metals, and services that are also being impacted by the general global supply chain stresses. There has been no chatter that Shell will be considering FID on the brownfield LNG Canada Phase 2 (capacity 1.8 bf/d). But, unfortunately for LNG Canada Phase 2 or any major industrial project, these global/domestic stresses reduce the time to think about any FID. We think this means the timing is likely in the next few months for Shell to look at FID on LNG Canada Phase 2 if it wants to get in the queue to ensure it can maintain its brownfield cost advantages. LNG markets have seen the cost and timing advantages of a continuous construction cycle ie. like Cheniere does at Sabine Pass LNG. By now, we mean within the next few months, and not the next year. Any FID is a major undertaking and far from certain especially for a leader in the Energy Transition like Shell. But, we think the answer to the question is more likely a Yes, than a No. And if so, it would be huge for the value of Canadian natural gas."* Our Supplemental Documents package includes the 11-pg blog.

Seems like Shell CEO has been showcasing LNG Canada. Hmmm!

Our blog introductory paragraph posted above did not include a section from our blog on Shell CEO van Beurden's comments in October. Shell has given no formal indications of looking at FID, but it feels like Shell's CEO has been showcasing LNG Canada for some reason. Phase 1 at 1.8 bcf/d is a big LNG project but it seemed like van Beurden's showcasing of LNG Canada was disproportionate if it was only going to be Phase 1. Hmmm! One example was in the Q&A of the Q3 call Oct 29, van Beurden is asked if putting the emissions targets out there has any implications to grow the LNG business or does that imply a shift from equity volumes to be an offtaker for LNG. Van Beurden replied "*But on your other point, the LNG plants, yes, indeed, I do have a -- and sort of quantum of automations. And of course, the ones we operate, which are quite a few actually come onto our account. So we've been very clear that if we want to build new LNG plants, that better come with very competitive carbon footprints on the operational side. And we have to find ways to offset this and offset not with nature based solutions, but offset it with savings elsewhere. So I've been very clear with our organization. If we are to do another energy brands, say for instance in Canada, it needs to come either without emissions or you need to find a way to reduce emissions elsewhere, because we are on a trajectory to bring down our emissions to net zero by 2050*". We don't think van Beurden had to include his "for instance in Canada" in his response. It just seemed to be another example of van Buerden showcasing LNG Canada as a place for future growth in equity LNG volumes.

An LNG Canada Phase 2 FID would be huge to Cdn natural gas valuations
We spoke to a number of Cdn natural gas producers and investors on our blog and the one thing everyone agrees on is that an LNG Canada Phase 2 FID would be very big to Cdn natural gas. Here is what we put in our blog. "*An LNG Canada Phase 2 would be a huge plus to Cdn natural gas. LNG Canada Phase 1 is a material natural gas development as its 1.8 bcf/d capacity represents approx. 20 to 25% of Cdn gas export volumes to the US. The EIA data showed US pipeline imports of Cdn natural gas as 6.83 bcf/d in 2020, 7.36 bcf/d in 2019, 7.70 bcf/d in 2018, 8.89 bcf/d in 2017, 7.97 bcf/d in 2016, 7.19 bcf/d in 2015 and 7.22 bcf/d in 2014. An LNG Canada Phase 2 FID would be a huge plus for Cdn natural gas. It would allow another ~1.8 bcf/d of Cdn natural gas to be priced against pricing points other than Henry Hub. It would provide demand offset versus Trudeau if he moves to make electricity "emissions free" and not his prior "net zero emissions". Both Asian LNG buyers and LNG suppliers are making big capital commitments to secure long term LNG supply. The LNG outlook has changed and COP26 did not disrupt this outlook. An FID for LNG Canada Phase 2 would provide big support to Cdn natural gas for the back half of the 2020s. And perhaps if LNG Canada is exporting 3.6 bcf/d to Asia from two phases, it could help flip Cdn natural gas to a premium vs US natural gas especially if Biden is successful in reducing US domestic natural gas consumption for electricity. We think the next few months are likely the right time for Shell to look at FID for LNG Canada Phase 2 as, in a world of increasing supply chain shortfalls, they need to make sure they can commit to fabricators, services and trades for a continuous construction cycle to maintain brownfield costs and time to completion ie. a Cheniere type advantage. Who knows what Shell will decide, CEO van Buerden's recent showcasing of LNG Canada reminds us what happened in 2018 ahead of the LNG Canada Phase 1 FID. Just imagine the future value of Cdn natural gas if there is visibility for 3.6 bcf/d of Western Canada natural gas to be exported to Asia."*

Natural Gas – Mexico's natural gas production still stuck below 5 bcf/d, -4.4% YoY
On Friday, Pemex reported its oil and gas data for October. Pemex reported natural gas production of 4.711 bcf/d, which was down -4.4% YoY and down slightly -0.74% MoM, from September. The increase in MoM is likely linked to the offshore oil shut-ins slowly coming back online. For the past 3 years, an ongoing theme of the Mexican energy sector, has been their inability to grow domestic natural gas production. As a result, Mexico has relied on imports from the US which are reaching record levels; US pipeline exports to Mexico have increased ~2 bcf/d since Jan 1, 2018. 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 still stuck below 5 bcf/d

Figure 2: 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%	4.730	6.1%
June	6.390	5.881	5.253	4.840	4.843	0.1%	4.754	-1.8%	4.727	-0.6%
July	6.374	5.785	5.216	4.856	4.892	0.7%	4.902	0.2%	4.725	-3.6%
Aug	6.366	5.686	5.035	4.898	4.939	0.8%	4.920	-0.4%	4.656	-5.4%
Sept	6.477	5.619	4.302	4.913	5.017	2.1%	4.926	-1.8%	4.746	-3.7%
Oct	6.397	5.583	4.759	4.895	4.971	1.6%	4.928	-0.9%	4.711	-4.4%
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 – Mozambique says Total LNG resumption decision could be by year end

Mozambique restart decision soon?

On Thursday, we tweeted [LINK] on the news out of Mozambique. We tweeted "*Re: @TotalEnergies Mozambique #LNG force majeure. MZ energy minister says "outlook is that before the end of the year we are going to have all the conditions for us to sit down and decide to resume the project". If so, 1st LNG in 2026. #OOTT."* The Club of Mozambique (Mozambique news) reported on comments from Mozambique Energy minister Tonela. "*the Minister of Mineral Resources and Energy, Max Tonela, said that there could be an imminent decision to restart work. According to Tonela, "we have recently held meetings with Total, we have had meetings with ENI, and today we met Galp [CEO Andy Brown] and Mitsui; and the outlook is that before the end of the year we are going to have all the conditions for us to sit down and decide to resume the project".* A decision to restart in early 2022 would fit with TotalEnergies estimate for 1st LNG cargos in 2026 "if" there was a 2022 restart. There is no question Mozambique is keen to get TotalEnergies to restart and probably moreso with neighbouring Tanzania pushing hard for a FID to restart their potential LNG FID. (see Our November 14, 2021 Energy Tidbits for the Tanzania update). Our Supplemental Documents package includes the Club of Mozambique report.

Total wants security on a sustained manner to restart Mozambique LNG

As of our 7am MT news cut off, we have not seen any formal TotalEnergies response to the Mozambique timing. Total has been hoping to restart Mozambique LNG construction LNG in 2022 so it could make 1st LNG cargos in 2026. TotalEnergies has been positive on the security improvements but hasn't yet agreed to restart. Our Nov 14, 2021 Energy Tidbits wrote "*We think TotalEnergies comments continue to point to the hope that it can get back to construction in mid-2022 on its Mozambique LNG ie. an effective construction pause of about 1.5 yrs so they can have first LNG in 2026. Their comments are security is getting better but not yet to the point where they can restart construction. On Tuesday, Platts reported "Mozambique security improving, but TotalEnergies seeks more stability to restart LNG project" [LINK]. Platts quoted TotalEnergies SVP of Africa, Henri-Max Ndong Nzue, on the sidelines of the Africa Oil Week conference. Nzue said "We are looking at the situation and, so far, the steps taken by the Mozambican government are going in the right direction", "Things are improving by what we can see on the ground. The African forces are doing quite a good job" and ""So things are improving. But what is key is to have security in a sustained manner, and that is very important."*

A 2022 restart would keep Mozambique LNG delays to 2 yrs behind original

The TotalEnergies construction stoppage was a game changer to LNG markets because the delays to TotalEnergies Mozambique Phase 1 are more than just a delay to the 1.7 bcf/d Phase 1, its actually a delay of 5 bcf/d. This was the reason why, on April 28 2021, we posted a 7-pg blog "*Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?*" [LINK] We thought, and still think, there has been a major change to the outlook for LNG supply in the 2020s and one that is still being overlooked – there is a big new LNG supply gap starting around 2025 that is hitting faster and bigger than anyone expects. We saw Total's April 27, 2021 announcement of force majeure at its Mozambique Phase 1 LNG of 1.7 bcf/d was much more significant that viewed. We just didn't see market focused on the fact that this situation backs up an additional 3.3 bcf/d of LNG supply that is also being counted on in all LNG supply forecasts. Total's Phase 2 of 1.3 bcf/d was to follow, and Exxon's Rozuma Phase 1 of 2.0 bcf/d was originally expected to go FID in 2019 but is now not expected to have a FID decision until 2022 at the earliest. Mozambique is considered a premium LNG supply region for Asia and is in LNG supply forecasts. Total's original in service for Phase 1 is 2024. We had been warning that Mozambique has a major LNG market impact and its why we posted the April 28 blog. Our blog reminds that even if Total makes a restart development decision in 12 months, it will take months just to get back to where they left off including rehiring services so any return to where they were in the construction process is at least more likely 18 months at a minimum. This is going to create a bigger and sooner LNG supply gap and the reality is that the only projects that can step up in any reasonable time frame will be brownfield LNG projects. Its why we also said what about LNG Canada Phase 2. There is much more in the 7-pg blog. Our Supplemental Documents package includes our April blog.

Natural Gas – Woodside FIDs Scarborough LNG up to 1.05 bcf/d

Woodside Scarborough reaches FID

We are now seeing the expected start of FIDs for either greenfield or brownfield LNG projects. This should not surprise anyone. On Monday, Woodside announced that the final investment decisions (FID) have been made on the Scarborough and Pluto Train 2 LNG project that has LNG supply capacity of 1.05 bcf/d. The new projects include new domestic gas facilities and modifications to the Pluto Train 1. Woodside's $6.9 bn share in the Scarborough LNG development is expected to deliver significant cash flow and value to shareholders; the development will be one of the lowest carbon intensity sources of LNG delivery with the target date of 2026 set for first cargoes. Woodside CEO commented *"Today's decisions set Woodside on a transformative path. Scarborough will be a significant contributor to Woodside's cash flows, the funding of future developments and new energy products, and shareholder returns. The Scarborough reservoir contains only around 0.1% carbon dioxide, and Scarborough gas processed through the efficient and expanded Pluto LNG facility supports the decarbonisation goals of our customers in Asia. The final investment decision is underpinned by quality customer support with approximately 60% of Scarborough capacity contracted, including domestic gas for the proposed Perdaman urea project."* The Scarborough and Pluto projects have fully executed a termed processing and services agreement that provides the joint venture access to LNG and domestic gas processing services at a rate of 1.05 bcf/d. Our Supplemental Documents package includes the Woodside release.

Natural Gas – Chevron Gorgon LNG restarts Train 1 after 1 week unplanned shutdown

Chevron Gorgon LNG unplanned interruption

Last week's (November 21) Energy Tidbits noted Chevron's recent unplanned production interruption after finding a minor gas leak at their Gorgon LNG facility in Western Australia. On Friday, LNGPrime reported Chevron restarted Train 1 at the Gorgon LNG project [LINK]. Chevron temporarily shut down production after finding a small leak on piping associated with the facilities dehydration unit. Chevron commented *"Production at Gorgon LNG Train 1 has resumed following the completion of repair work on piping associated with the dehydration unit. "Chevron worked systematically to safely address the issues and maintain natural gas to our customers and the Western Australian domestic market."* Chevron has also noted that an investigation is underway to determine the cause of the leak. The Chevron had earlier completed repair work after it had found weld quality issues within the heat exchangers between the plant's second and third production unit. Our Supplemental Documents includes the LNGPrime Gorgon update.

Natural Gas – India Oct natural gas production up MoM at 3.44 bcf/d

India natural gas production +0.61% MoM

It looks like India has, at least for the short term, returned its domestic natural gas production to growth. This has become an increasing priority given stronger than expected LNG prices in 2021. The key India natural gas theme for the past decade is that India's natural gas production declined, which meant that increases in natural gas consumption had to be met by increased LNG imports. India's domestic natural gas production peaked in 2010 at 4.6 bcf/d. but it now looks like we are seeing modest return to growth. On Tuesday, India's Petroleum Planning and Analysis Cell released their monthly report for October natural gas and oil statistics [LINK]. The YoY comps are still impacted to some degree by the Covid impacts. But there is a small return to growth. India's domestic natural gas production was up 24.72% YoY from 2.76 bcf/d in October 2020 to 3.44 bcf/d, up from 3.42 bcf/d in September. The YoY increase is not necessarily reflective of significant growth, more so a return to pre-pandemic production, as April 2019 to March 2020 production averaged 3.02 bcf/d. India has consistently struggled to grow domestic natural gas production with 2018-2019 production averaging 3.18 bcf/d, declining to 3.02 in 2019-2020 and averaged 2.78 bcf/d 2020-2021. Our Supplemental Documents package includes excerpts from the PPAC monthly package.

Natural Gas – India Oct LNG imports down 22.04% YoY to 3.08 bcf/d, up 2.16% MoM

India LNG imports +2.16% MoM

India is always viewed as an extremely price sensitive buyer in terms of its LNG imports, which was exemplified in their 2020-2021 import data. India had ramped up imports from June to October 2020, taking advantage of low LNG prices to fill their stocks. Imports began to decline in November 2020 as LNG prices began to rise, with the price trajectory ramping up in late Dec and reaching record levels January. This resulted in India LNG imports declining from a 2020-2021 peak of 3.84 bcf/d in Oct 2020 to just 2.85 bcf/d in Jan 2021. Despite LNG imports normalizing in March and April to 3.06 bcf/d and 3.12 bcf/d, respectively, they have since decreased slightly, with imports in October of 3.08 bcf/d, down 22.04% YoY due to abnormally high spot prices. India has been trying to avoid high spot lng prices. Note, imports in October were up by 2.16% MoM.

Natural Gas – India's GAIL forecasts India natural gas demand to triple by 2030

India natural gas demand growth

GAIL (India) spoke on their outlook for India natural gas for the 2020s this week. Their outlook for natural gas demand growth is bullish but less than the very bullish Petronet forecast. There is no posted presentation so we relied upon the India and Bloomberg reporting. Bloomberg's report was titled "*India's gas consumption to jump more than 3 times by 2030: GAIL Director*". GAIL forecasts India's natural gas consumption to increased from 6.1 bcf/d today to a range of 13.4 to 19.4 bcf/d in 2029/30. The reports did not provide a split of LNG vs domestic natural gas demand vs biogas but, noted biogas also contributing significantly. We do not know what they mean by biogas contributing significantly, but significantly normally doesn't mean material. We suspect the added contribution from biogas is immaterial. But as a general rule, the majority is expected to be LNG imports ie. assuming modest growth in natural gas production. GAIL's top end case of +13.4 bcf/d growth in natural gas consumption, it probably infers LNG growth of >10 bcf/d thru 2029/30. So a very big number. Just not as big as Petronet forecast of +12.4 bcf/d in their Oct 22 forecast. But if we use a midpoint for natural gas consumption of 16.4 bcf/d in 2029/30, it is +10.3 bcf/d growth n natural gas consumption so probably LNG import growth closer to >7 bcf/d, which is still significant but much less than Petronet forecast of +12.4 bcf/d in LNG import. To put in perspective, this should still be more than a double of Qatar's massive expansion of 4.3 bcf/d. Our Supplemental Documents package includes the Bloomberg report.

India's Petronet sees India LNG imports +12.4 bf/d by 2030x

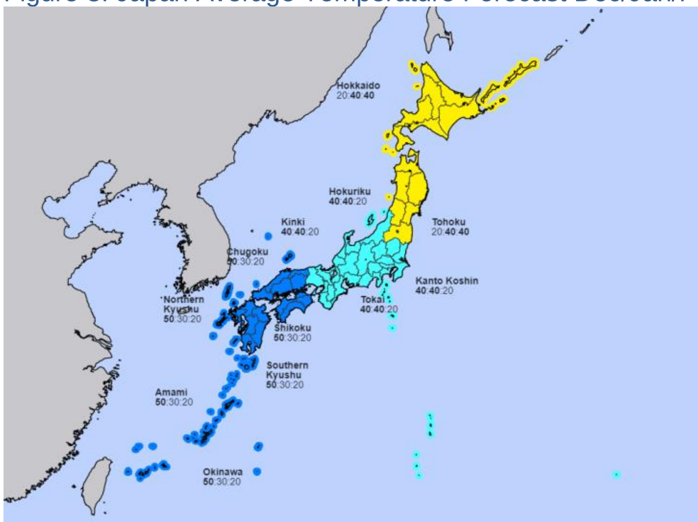
Our comments above note that the GAIL forecast is bullish but much less than the very bullish Petronet forecast in the Bloomberg Oct 22 report "*India's LNG Imports to Jump Near 5 Times by 2030: Petrone*t." Our Oct 24, 2021 Energy Tidbits memo highlighted the very bullish forecast by India's Petronet on Oct 22. In that memo, we wrote "*We continue to believe India's moves to increase natural gas to 15% of its energy mix by 2030 is a game changer for LNG markets in the 2020s. Especially as we have seen clear signs of action toward that target. On Friday, there was very bullish for India's LNG import growth from Petronet CEO Singh at the India Energy Forum on Friday. As soon as we saw the reports, we tweeted [LINK] "Bullish for #LNG #NatGas in 2020s. #Petronet CEO fcasts India LNG imports +12.4 bcfd to reach 15.8 bcfd (120 MTPA) in 2030. In line with his June est, see below SAF Group June 20 Energy Tidbits #Petronet sees LNG imports +13 bcfd to 2030. Thx @JournoDebjit @rajeshsing13 #OOTT". Bloomberg's India energy team reported "India's import of natural gas is expected to hit 120 million tons/year by 2030 as the nation targets an energy mix goal, Akshay Kumar Singh, CEO of Petronet LNG, said at the India Energy Forum by CERAWeek. NOTE: India aims to boost use to natural gas to 15% of primary energy mix from about 6% now. * India's current annual LNG import is about 26 million tons". Singh is forecasting India's LNG imports to grow from current 26 MTPA (3.4 bcf/d) to 120 MTPA (15.8 bcf/d) in 2030. That is an increase of 12.4 bcf/d to 2030. This is very bullish for LNG and natural gas in the 2020s. Our Supplemental Documents package includes the Bloomberg report*."

Natural Gas – Japan forecasts below normal temperatures for DJF

Below normal temperatures for winter in Japan

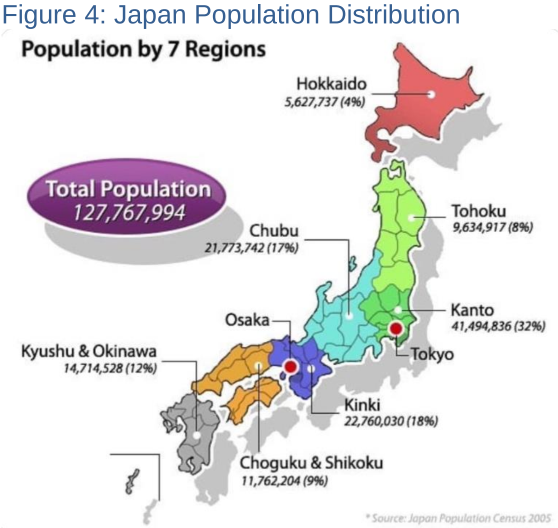
On Wednesday, the Japan Meteorological Agency posted an updated temperature probability look for Dec/Jan/Feb and is calling for a little below normal temperatures ie. supportive for LNG prices. Last winter, we saw overall above normal temperatures but that was a little misleading as it started off cold in December and early January. Before turning normal overall January and warmer than normal in February. On Wednesday, the Japan Meteorological Agency updated its N/D/J forecast [LINK] and it calls for below normal temperatures in Dec thru Feb. We tweeted [LINK] "*Support for #LNG #NatGas prices. Japan Meteorological Agency updated Dec/Jan/Feb temperature probability calls for lower than normal temps for major population central/southern Japan. #OOTT*". The JMA forecast does call for some warmer weather in the north, but our tweet included a population density map that reminds the major Japan population in in central and southern Japan. Whereas the JMA expects the cold weather in th high population areas, which should be positive for Japan's natural gas demand. Below is the updated forecast for DJF and a graphic depicting the population distribution of Japan.

Figure 3: Japan Average Temperature Forecast Dec/Jan/Feb 21/22



Source: Japan Meteorological Agency

Figure 4: Japan Population Distribution



Source: Japan Population Census

Natural Gas – Did Qatar want tougher terms for a long term extension with JERA?

Did Qatar want tougher terms?

Is Qatar looking for tougher deals on its new long term LNG supply contracts? That isn't the direct message, but we can't help but wonder if that is the real message when see a report on JERA this week that, on the surface, seems to be a 180 from their stated comments last week. Something is off. (i) On Thursday, Platts reported "*Japan's JERA will not renew 5.5 mil mt/year of long-term Qatari LNG supply: president*" [LINK]. Platts reports ""*Currently we are not considering contracting [with Qatar] because we find it extremely difficult to extend the existing large contracts timing-wise," Onoda told an online press conference. "As for Qatar, [the contracts] are set to expire at the 25-year contract expiry," Onoda said, explaining that the company's issues with renewing were "due to developments in the global LNG markets, the progress of decarbonization, and the changing position of LNG in Japan because of liberalization of power and gas, among other factors, in the country." JERA, however, does* *not plan to give up all of its long-term LNG supply contracts, Onoda said, adding that its decisions would be based on an overall assessment of contractual terms and the situation when contracts come up for renewal."* The reporting would point to JERA wanting to have less long term LNG contracts. (ii) If so, this would be in direct contrast to last week. Our November 21, 2021 Energy Tidbits JERA's press release [LINK] for its $2.5b investment to acquire 25.7% interest in the Freeport LNG operations. In that release, JERA said "*As evidenced by the current gas price hikes around the world, securing a stable supply of competitive LNG is becoming increasingly important*." (iii) Qatar has to be one of the most dependable LNG suppliers so not extending would seem to be contrary to what JERA said last week was increasingly important. And then there was one last sentence in the Platts report that makes us wonder. Platts wrote "*In the case of the Qatari contracts, "we had no choice but to give it up this time because there was a mismatch in conditions between the Qatari side and what we had requested," Onoda said*." This is what makes us wonder if this isn't the issue and if its Qatar wanting tougher terms than previous contracts? Our Supplemental Documents package includes the Platts report and last week's JERA's press release.

Natural Gas – China to accelerate building out more natural gas storage

China to accelerate gas storage capacity

On Monday, China's National Development and Reform Commission and the National Energy Administration announced that their push on increasing natural gas storage is "*continuously increasing*", is ahead of plan, and that they are now moving to further accelerate adding more natural gas storage to increase China's gas storage capacity. They wrote "*The supervision situation shows that the current construction of gas storage facilities nationwide is progressing well, the gas storage capacity is continuously increasing, and the underground gas storage has exceeded the planned completion of the annual plan, and has the ability to guarantee the gas demand of various places. In the next step, the National Development and Reform Commission and the National Energy Administration will strengthen work coordination, continue to track and dispatch, guide localities to further accelerate the construction of gas storage facilities, continue to enhance gas storage capacity, and effectively guarantee the demand for gas for people's livelihood."* Our Supplemental Documents package includes the Google Translate of the NDRC release. [LINK]

China says supply shortage is the biggest energy security

Our October 17, 2021 Energy Tidbits memo was titled "*Bullish for Oil & Natural Gas for 2020s, China Says "Supply Shortage is The Biggest Energy Insecurity*". In that memo, we wrote "*On Tuesday, we tweeted [LINK] "Must read. Bullish for #Coal #NatGas #Oil. Not just for this winter, China changing 5-yr plan to improve energy security. Increase coal generation, strengthen construction NatGas & Oil storage capacity. Develop new timetable/roadmap to reach carbon peak #OOTT #EnergyTransition." China made a change in energy policy statement and we had to tweet as soon as we saw it on Tuesday morning. The China govt statement was titled "Li Keqiang presided over a meeting of the National Energy Commission, emphasizing on ensuring stable energy supply and safety, enhancing the ability to support green development and Han Zheng attended the meeting". [LINK] This is a relatively short, but a must read. The guiding principle to energy and climate change is "Li Keqiang pointed out that energy security is related to development security and national security. my country is still a developing country, and development is the foundation and key to solving all problems." Its all about ensuring energy security. And China said "Supply shortage is the biggest energy insecurity." And "Aiming at the endowment of coal-based energy resources, the layout of coal production* *capacity should be optimized, advanced coal-fired power should be constructed rationally according to development needs, and backward coal-fired power should be eliminated in an orderly manner. Increase domestic oil and gas exploration and development, actively develop shale gas and coalbed methane, and carry out diversified international oil and gas cooperation. Strengthen the construction of gas and oil storage capacity, promote the large-scale application of advanced energy storage technology, and continuously enrich the insurance tools for safe energy supply." And on the energy transition, China is going to look at a revised timetable for when it reaches peak carbon. China wrote "To advance the realization of the "dual carbon" goal in a scientific and orderly manner, long-term arduous efforts must be made. It is necessary to take into account the recent situation of dealing with the contradiction between power and coal supply and demand, in-depth calculations and demonstrations, and study and put forward the timetable and roadmap of the steps to reach the peak of carbon." There is more in the statement. Our Supplemental Documents package includes the China statement."*

Natural Gas – Another Asian LNG buyer (China's Foran) locks up long term LNG

Foran signs 20-yr deal with Cheniere

We continue to believe the best validation of a pending LNG supply gap in the 2020s is that more Asian LNG buyers are moving to lock up long term LNG supply thru the 2020s. The latest to do so is China's Foran in the new deal with Cheniere; [LINK]. This is a small deal. This 20-year deal sees ENN purchasing 0.04 bcf/d from Cheniere with the purchase price for LNG under the SPA indexed to the Henry Hub, plus a fee, with deliveries beginning in 2023. This agreement follows the contract signed between Cheniere and Sinochem mentioned in our November 7 Energy Tidbits. Cheniere's CEO stated in the release, *"We are pleased to finalize this 20-year SPA with Foran that builds upon our relationship. This long-term LNG solution supports Foran's goals and provides additional supply as China continues to seek cleaner, lower-carbon natural gas to meet its economic and environmental goals. This SPA once again demonstrates the strength of the global LNG market today, particularly in China, and underscores the value of Cheniere's leading ability to tailor solutions to help our customers advance their long-term energy and environmental priorities."* Our Supplemental Documents package includes the Cheniere press release.

Asian LNG buyers abruptly changed and moved to lock in long term supply

We have been highlighting that the best validation for a LNG supply gap in the 2020s is that Asian LNG buyers have made an abrupt change to their LNG contracting and pivoted to trying to lock in long term LNG supply. On July 14, 2021 we posted our 8-pg "*Asian LNG Buyers Abruptly Change and Lock in Long Term Supply – Validates Supply Gap, Provides Support For Brownfield LNG FIDs".* Here is an excerpt from the blog "*The last 7 days has shown there is a sea change as Asian LNG buyers have made an abrupt change in their LNG contracting and are moving to lock in long term LNG supply. This is the complete opposite of what they were doing pre-Covid when they were trying to renegotiate Qatar LNG long term deals lower and moving away from long term deals to spot/short term sales. Why? We think they did the same math we did in our April 28 blog "Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?" and saw a much bigger and sooner LNG supply gap driven by the delay of 5 bcf/d of Mozambique LNG that was built into most, if not all LNG supply forecasts. Asian LNG buyers are committing real dollars to long term LNG deals, which we believe is the best validation for the LNG supply gap. Another validation, Shell, Total and others are aggressively competing to invest long term capital to partner in Qatar Petroleum's massive 4.3 bcf/d LNG expansion despite plans to reduce fossil fuels* *production in the 2020s. And even more importantly to LNG suppliers, the return to long term LNG contracts provides the financing capacity to commit to brownfield LNG FIDs. The abrupt change by Asian LNG buyers to long term contracts is a game changer for LNG markets and sets the stage for brownfield LNG FIDs likely as soon as before year end 2021. It has to be brownfield LNG FIDs if the gap is coming bigger and sooner. And we return to our April 28 blog point, if brownfield LNG is needed, what about Shell looking at 1.8 bcf/d brownfield LNG Canada Phase 2? LNG Canada Phase 1 at 1.8 bcf/d capacity is already a material positive for Cdn natural gas producers. A FID on LNG Canada Phase 2 would be huge, meaning 3.6 bcf/d of Cdn natural gas will be tied to Asian LNG markets and not competing in the US against Henry Hub. And with a much shorter distance to Asian LNG markets. This is why we focus on global LNG markets for our views on the future value of Canadian natural gas."* Below is our graphic noting recent Asian long-term LNG supply contracts. Our Supplemental Documents package includes our July 14 blog.

Updated list of new Asian LNG buyer long term contracts

Below is the updated table of Asian LNG buyer new long term supply deals since the end of June. This table was in our July 14 blog. Note the table excludes a Poland long term deal. It also excludes the JERA $2.5b investment to buy 25.7% interest in the Freeport LNG supply. Our November 21, 2021 Energy Tidbits highlighted the JERA deal.

Figure 5: Long Term Asian LNG Supply Deals since July 1, 2021

Date	Buyer	Seller	Country	Volume	Duration
			Buyer / Seller	(bcf/d)	Years
July 7, 2021	CNOOC	Petronas	China / Canada	0.30	10.0
July 9, 2021	CPC	Qatar Petroleum	Taiwan / Qatar	0.16	15.0
July 9, 2021	Guangzhou Gas	BP	China / US	0.13	12.0
July 12, 2021	Korea Gas	Qatar Petroleum	Korea / Qatar	0.25	20.0
September 29, 2021	CNOOC	Qatar Petroleum	China / Qatar	0.50	15.0
October 11, 2021	ENN	Cheniere	China / US	0.12	13.0
November 4, 2021	Unipec	Venture Global LNG	China / US	0.46	20.0
November 4, 2021	Sinopec	Venture Global LNG	China / US	0.53	20.0
November 5, 2021	Sinochem	Cheniere	China / US	0.12	17.5
November 22, 2021	Foran	Cheniere	China / US	0.04	20.0
Total Since Jul/21				**2.61**	
*Excludes Asian short-term spot deals					
*Excludes non-Asian long-term deals ie Poland's new 20 yr-dealfor 0.26 bcf/d from Venture Global					

Source: Bloomberg

Natural Gas – BloombergNEF LNG Trade Weekly, LNG cargoes head back to Europe

Bloomberg LNG Trade Weekly

On Tuesday, BloombergNEF posted their LNG trade weekly report titled *"Europe Taking Back China Flows".* There are a few items to highlight from the report. Bloomberg reminds that a lesser percentage of LNG cargoes are spot cargoes for this time of year. This means there could be big volatility in spot prices that is dependant on weather and outages. The report noted that the share spot volume in total global LNG was 20% for the week ended Nov 21. The reports commentary on Europe was *"Russian and U.S. LNG is coming back to the U.K.: Last week, the U.K. received two Yamal LNG shipments at the Isle of Grain. The last time Yamal LNG arrived at Grain was in June, when the Northern Sea Route opened to Asia. Total Energies is an offtaker from Yamal and has access to deliver at the Grain terminal. Once again, a Peruvian cargo arrived in the U.K., but this time at Grain. The Peru LNG cargoes that arrived previously were sent to Dragon LNG terminal. Shell is the offtaker from Peru and has rights to deliver at Dragon. Another two Qatari cargoes went to South Hook last week. Two U.S. LNG ships are due to arrive at Dragon and Grain in the next week.*

One of them is the Elisa Larus which loaded at Freeport and was headed for Rio, Brazil but changed course for Grain." There was an increased volume of US boats that are taking the slower boat to China, which is a much less effective use of the tankers. Our Supplemental Documents package includes excerpts from the Bloomberg report.

Natural Gas – LNG flows to NW Europe up 1.37 bcf/d at 4.61 bcf/d from 3.24 bcf in Oct

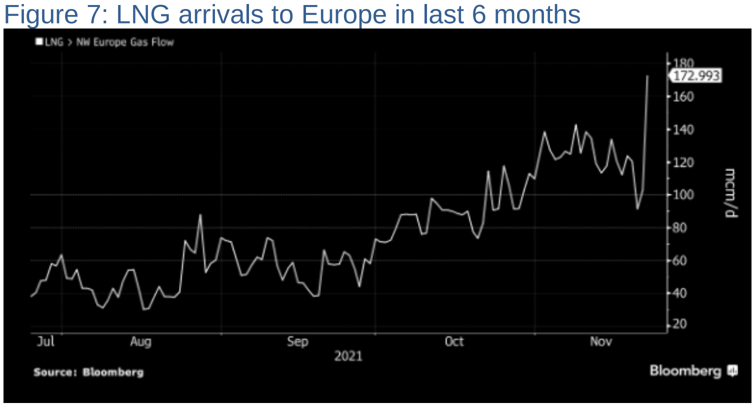
LNG flows to NW Europe +1.37 bcf MoM

Asian gas prices have halted due to an increase in covid cases has seen LNG cargoes begin to move back to NW Europe In October/November. In the fall it was much more profitable to ship US LNG to North Asia due to strong Asia JKM prices (>$14/mmBtu JKM vs ~$12.50/mmBtu TTF) in September, though the TTF increased in October and November. For most of September the TTF traded at a premium to JKM, which began to attract more LNG tankers to Europe during the fall. Historically, LNG flows into Northwest Europe reached recent peaks at ~5 bcf/d in late November to early December, before declining rather quickly through December to mid January, where imports reached a low of 0.90 bcf/d on January 17. Since, LNG flows to Europe have been increased to peak to 8.92 bcf/d on March 22. Daily imports in April averaged 7.05 bcf/d, roughly flat to the March average of 7.08 bcf/d. In August, imports averaged 1.70 bcf/d. September saw a slight increase up to 2.03 bcf/d and October averaged 3.18 bcf/d. Roughly 3 weeks into nov, imports are up significantly averaging around 4.5 bcf/d, however still down 4.1 bcf/d from March's peak. European gas storage is at extremely low levels compared to seasonal averages, so LNG flows to Europe remains a key item to watch as we approach the heating season. Below is our graph of Net LNG Flows to NW Europe.

Figure 6: Net LNG Flows to NW Europe

Source: Bloomberg

Figure 7: LNG arrivals to Europe in last 6 months



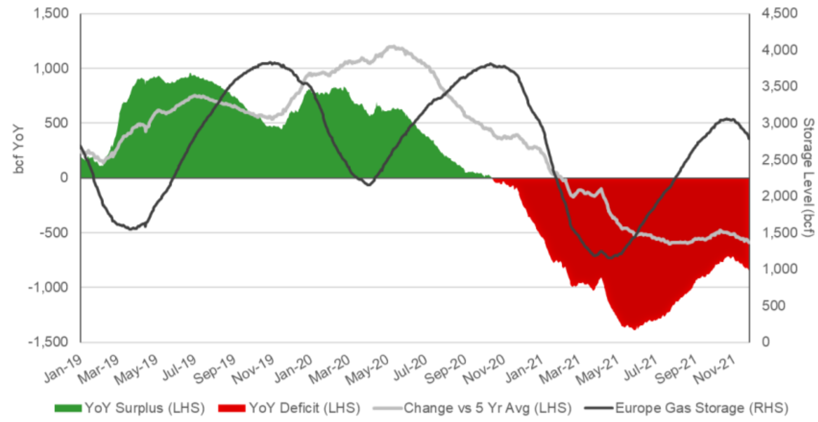
Source: Bloomberg

Natural Gas – Europe storage 70.63% full vs 5 year average of 86.74%

The YoY Europe storage gap has widened a little bit so far in November. Draws to European gas storage units continued this week as we enter the heating season for natural gas. It was a larger draw and marked the fifth consecutive week of draws, indicating winter is beginning. Europe inventories are at their lowest level at this time of the year in more than a decade. Europe gas storage started last winter (Nov 1/20) at basically full levels at 94.66% and had dropped by 65.77% to be 28.89% at Apr 1/21. Europe storage levels bottomed in late Apr at 29%, which was the lowest level since Apr 2018. This winter began (Nov 1/21) with gas storage at 77.14% capacity, down 18.52% YoY. The YoY deficit has widened slightly so far in Nov. Storage as of Nov 25 is 70.63%, which is -20.15% less than last year levels of 90.78% and are -16.11% below the 5-year average of 86.74%. The set up for winter natural gas prices continues to support strong winter natural gas prices. Below is our graph of Europe Gas Storage Level.

Europe gas storage 70.63% full

Figure 8: Europe Gas Storage Level



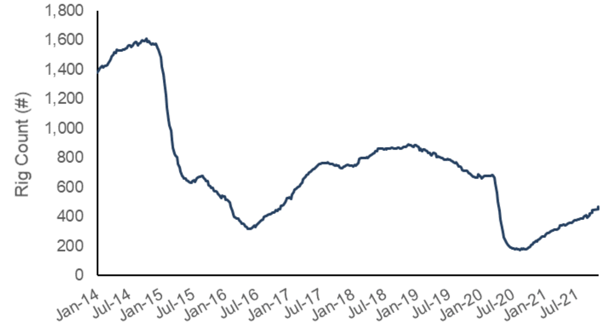
Source: Bloomberg

Oil – US oil +6 WoW at 467 oil rigs

Baker Hughes released its weekly North American drilling activity data on Wednesday, instead of Friday, due to Thanksgiving. This week US oil rigs were up +6 rigs WoW at 467 rigs. Oil rigs are +295 off the bottom of 172 in Aug14/2020 week. Permian was up this week and is the oil basin expected to drive growth. We expect that US rigs will reach their peak soon with the typical decline occurring after Thanksgiving weekend. With oil prices up 69% so far this year and expectations that consumers will switch to oil products with high gas prices, producers are increasing active rigs to boost production to accommodate demand and to rebuild DUCs inventory. US oil rigs hit their 2020 peak at 683 on March 13 and have since fallen by 216 to 467 oil rigs (-32%). The biggest contributor to the decrease is the Permian being down 138 oil rigs from the March 13, 2020 peak (-33%), although we are seeing it continue to ramp up slightly. Below is our graph of US oil rigs since January 1, 2014.

US oil rigs +6 WoW

Figure 9: Baker Hughes Total US Oil Rigs



Source: Baker Hughes

Oil – No US frac spread update with Thanksgiving holiday

Frac spreads at 270 as of Nov 19

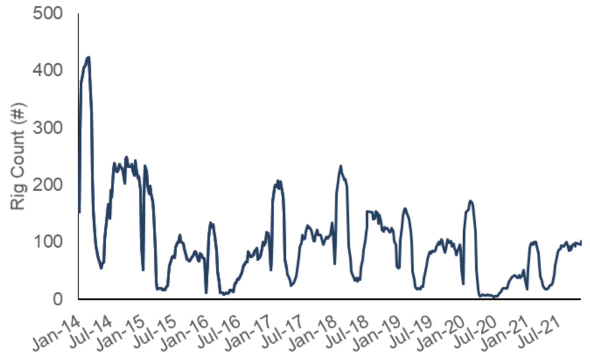
As noted last week, Mark Rossano (C6 Capital Holdings) advised that he would not be providing his weekly US frac spread update with the US Thanksgiving holiday. Last week's (Nov 21, 2021) Energy Tidbits memo noted his frac spread recap for week ended Nov 19 on the Primary Vision network. The YouTube video is at [LINK]. US frac spreads were +1 to 270 for week ended Nov 19. His target has been 275 and thinks there will be an increases. However, the US Thanksgiving weekend is normally the time of year when frac spreads roll over thru year end so this 270 may end up being the peak and he may have missed it by 5 spreads.

Oil – Total Cdn rigs +4 to 171 total rigs and +69 rigs YoY

Cdn rigs +4 WoW

Total Cdn rigs were +4 this week to 171 total rigs. Cdn oil rigs were +4 at 106 rigs. Cdn gas rigs were flat at 65 gas rigs with strong natural gas prices. Total rigs are now +154 since the June 26, 2020 all-time low. There was a bit of pull back in early November despite very strong oil and natural gas prices. We expect to see this ramp up continue over the next month before pulling back with the normal Christmas break. Cdn drilling has recovered YoY, a year ago Cdn oil rigs were 38 and Cdn gas rigs were 64 for a total Cdn rigs of 102, meaning total Cdn rigs are +69 YoY and total rigs are up +46 vs 2019.

Figure 10: Baker Hughes Total Canadian Oil Rigs



Source: Baker Hughes

Oil – US weekly oil production up at 11.5 mmb/d

US oil production up WoW

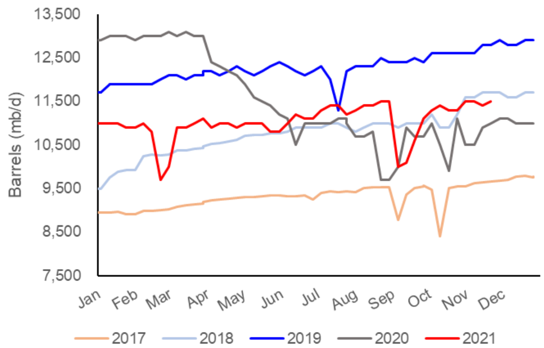
US oil production are back to pre-Hurricane Ida levels. Weekly production in the US was up this week at 11.5 mmb/d for the week ended Nov 19. Lower 48 production drove total production, up from last weeks level of 11.0 mmb/d to 11.1 this week; Alaska saw a slight 0.01 mmb/d decrease as refineries conclude their maintenance season. US oil production is up YoY at +0.500 mmb/d and is still down significantly at -1.6 mmb/d since the 2020 peak of 13.1 mmb/d on March 13. The EIA DPR has expectations of a slight increase for Nov/Dec for the major shale/tight oil plays.

Figure 11: EIA's Estimated Weekly US Oil Production

	Week 1		Week 2		Week 3		Week 4		Week 5	
Year-Month	End Date	Value	End Date	Value	End Date	Value	End Date	Value	End Date	Value
2019-Jan	01/04	11,700	01/11	11,900	01/18	11,900	01/25	11,900		
2019-Feb	02/01	11,900	02/08	11,900	02/15	12,000	02/22	12,100		
2019-Mar	03/01	12,100	03/08	12,000	03/15	12,100	03/22	12,100	03/29	12,200
2019-Apr	04/05	12,200	04/12	12,100	04/19	12,200	04/26	12,300		
2019-May	05/03	12,200	05/10	12,100	05/17	12,200	05/24	12,300	05/31	12,400
2019-Jun	06/07	12,300	06/14	12,200	06/21	12,100	06/28	12,200		
2019-Jul	07/05	12,300	07/12	12,000	07/19	11,300	07/26	12,200		
2019-Aug	08/02	12,300	08/09	12,300	08/16	12,300	08/23	12,500	08/30	12,400
2019-Sep	09/06	12,400	09/13	12,400	09/20	12,500	09/27	12,400		
2019-Oct	10/04	12,600	10/11	12,600	10/18	12,600	10/25	12,600		
2019-Nov	11/01	12,600	11/08	12,800	11/15	12,800	11/22	12,900	11/29	12,900
2019-Dec	12/06	12,800	12/13	12,800	12/20	12,900	12/27	12,900		
2020-Jan	01/03	12,900	01/10	13,000	01/17	13,000	01/24	13,000	01/31	12,900
2020-Feb	02/07	13,000	02/14	13,000	02/21	13,000	02/28	13,100		
2020-Mar	03/06	13,000	03/13	13,100	03/20	13,000	03/27	13,000		
2020-Apr	04/03	12,400	04/10	12,300	04/17	12,200	04/24	12,100		
2020-May	05/01	11,900	05/08	11,600	05/15	11,500	05/22	11,400	05/29	11,200
2020-Jun	06/05	11,100	06/12	10,500	06/19	11,000	06/26	11,000		
2020-Jul	07/03	11,000	07/10	11,000	07/17	11,100	07/24	11,100	07/31	11,000
2020-Aug	08/07	10,700	08/14	10,700	08/21	10,800	08/28	9,700		
2020-Sep	09/04	10,000	09/11	10,900	09/18	10,700	09/25	10,700		
2020-Oct	10/02	11,000	10/09	10,500	10/16	9,900	10/23	11,100	10/30	10,500
2020-Nov	11/06	10,500	11/13	10,900	11/20	11,000	11/27	11,100		
2020-Dec	12/04	11,100	12/11	11,000	12/18	11,000	12/25	11,000		
2021-Jan	01/01	11,000	01/08	11,000	01/15	11,000	01/22	10,900	01/29	10,900
2021-Feb	02/05	11,000	02/12	10,800	02/19	9,700	02/26	10,000		
2021-Mar	03/05	10,900	03/12	10,900	03/19	11,000	03/26	11,100		
2021-Apr	04/02	10,900	04/09	11,000	04/16	11,000	04/23	10,900	04/30	10,900
2021-May	05/07	11,000	05/14	11,000	05/21	11,000	05/28	10,800		
2021-Jun	06/04	11,000	06/11	11,200	06/18	11,100	06/25	11,100		
2021-Jul	07/02	11,300	07/09	11,400	07/16	11,400	07/23	11,200	07/30	11,200
2021-Aug	08/06	11,300	08/13	11,400	08/20	11,400	08/27	11,500		
2021-Sep	09/03	10,000	09/10	10,100	09/17	10,600	09/24	11,100		
2021-Oct	10/01	11,300	10/08	11,400	10/15	11,300	10/22	11,300	10/29	11,500
2021-Nov	11/05	11,500	11/12	11,400	11/19	11,500				

Source: EIA

Figure 12: US Weekly Oil Production



Source: EIA, SAF

Oil – Biden approves 50 mmb exchange/release from SPR

Biden's 50 mmb SPR exchange & sale

Later in the memo, we note the support from China, India, Japan, South Korea and the UK for Biden's global strategic reserve release. At 5am MT on Tuesday, the White House released [LINK] "*President Biden Announces Release from the Strategic Petroleum Reserve Part of Ongoing Efforts to Lower Prices and Address Lack of Supply Around the World.*" No one should have been surprised that oil prices went up after the release. Immediately after, we tweeted [LINK] "*Breaking. US releasing 50 mmb from #SPR. 32 mmb is a normal exchange (ie. must be paid back) & 18 mmb is an acceleration into the next several months of a sale of oil that Congress had previously authorized. #OOTT"*. Most had expected a straight sale from the SPR ie. something other than exchange or an acceleration of a previously approved sale. Its why stressed those aspects in our tweet. The Biden plan includes 32 mmb from a normal exchange where the barrels must be paid back, and 18 mmb from the acceleration of a previously Congress approved sale. Our Supplemental Documents package includes the White House release.

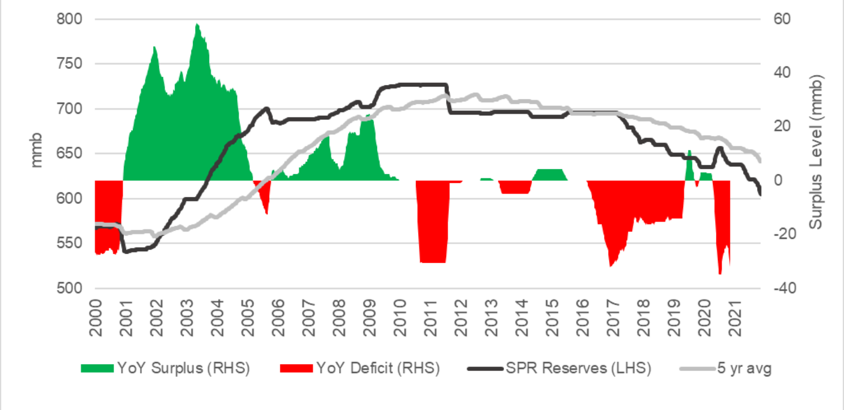
DOE details on 32 mmb exchange and 18 mmb sale
The US Department of Energy announced the release of 50 mmb of crude oil on Nov 23 [LINK] and noted the details of the exchange and sale. (i) 32 mmb exchange. This is the program where the barrels taken now from the SPR must be repaid/returned in the future to the SPR. The 32 mmb will be delivered between mid Dec to April 2022, and must be repaid/returned during fiscal years 2022, 2023 and 2024. (ii) 18 mmb sale. This is not a new sale, rather it was an acceleration of an already congressionally mandated sale under the budget act of 2018 that was supposed to be sold during fiscal years 2022-2025, but will now be accelerated to before April 2022. Our Supplemental Documents package includes the DOE release.

Good thing Granholm was asked by a reporter and not Sen Kennedy
We are don't' necessarily feel bad for Energy Secretary Granholm but we suspect there is some staffer that got a strip ripped off for not having given her a cheat sheet briefing card. Granholm took a lot of flak on Twitter for her press conference comments on the impact that Biden's 30 mmb SPR exchange/sale will have on the US. Granholm was asked "*how many barrels of oil does the US consumer per day*?" and replied "*I don't have that number in front of me."* As bad as she looked, she was fortunate it wasn't like when Senator Kennedy asked about how much they estimated it would cost the US to decarbonize. If her comments were in the Senate committee hearing, there would have been multiple followups like, do you think US consumers use 100 million barrels per day, or 50 or what. Our June 27, 2021 Energy Tidbits noted the Kennedy/Granholm exchange.

Oil – US Strategic Petroleum Reserves are down 16.797 mmb over past 11 weeks
As a reminder, every week, the EIA posts both the WoW changes in commercial crude oil stocks and in Strategic Petroleum Reserves. The market focus is on changes in commercial crude oil stocks. What some overlook is that the changes in commercial crude stocks effectively build in the impact of changes in the SPR as that oil flows into the US oil supply system. The impact of weekly changes in commercial crude inventories is the net result of weekly changes in US supply and consumption. In the last 11 weeks, US SPR is down 16,797 mmb from 621.302 mmb on Sept 3 to 604.505 mmb on Nov 19. Below is our running chart of SPR reserves.

US SPR down 16.797 mmb since Sept 3

Figure 13: US Strategic Petroleum Reserves Volumes



Source: EIA

Oil – Florida giving holiday on state excise taxes on gasoline prices

Gasoline excise tax relief in Florida

At least there is one governor taking direct action to provide some instant relief to lower gasoline prices in their state - Florida Governor DeSantis. On Monday, DeSantis proposed a tax holiday for state excise taxes on gasoline sales [LINK] that is expected to save Floridians approximately $1 bn. DeSantis release estimated that the excise tax holiday is expected to save the average Florida family $200. The governor commented, *"Gas prices have been rising due to inflationary pressures from bad federal policies, so we here in Florida need to step up and provide relief to our citizens. Today, I am proposing that during session, the Florida Legislature provide more than $1 billion in gas tax relief for Florida families. This will have a positive impact on millions of Floridians."* This announcement follows several others made by DeSantis over the past few months to fight inflation. Our Supplemental Documents package includes the DeSantis announcement.

Cutting federal excise taxes on gasoline was never a Biden consideration

The DeSantis action is a way of the government directly impacting gasoline prices immediately. And the holiday on state excise taxes on gasoline should come right off the price of gasoline. For some reason, the Biden administration hasn't, at least publicly, considered a holiday on federal excise taxes on gasoline as one of their tools to impact gasoline prices. Our November 14, 2021 Energy Tidbits wrote "*Granholm says Biden only has limited range of tools to impact gasoline prices. So much for the President of the US being the most powerful man in the world moniker. On Monday, Energy Secretary Granholm was on MSNBC Morning Joe. She had many comments catch our attention, but one was her saying "But he is looking at other tools that he may have and hopefully there will be an announcement or so this week, he is certainly looking at what options he has in the limited range of tools that a President might have to address the cost of gasoline at a pump because it is a global market." Granholm and the administration have talked about OPEC increasing supply, potentially releasing SPR reserves and having the FTC makes sure no price gouging. No question that the price of oil makes up the biggest portion of the cost of gasoline. We tweeted [LINK] "#Biden has "limited range of tools" to address the cost of #Gasoline says @SecGranholm. Why not #JonesAct waivers so any tanker can "export" US gasoline, distillates, etc to US ports & replace higher cost imports of gasoline? also how about federal excise tax reduction? #OOTT. Waiving the Jones Act would allow US oil to be cheaper than foreign oil. The EIA estimates federal excise taxes are $0.184 per gallon on gasoline and $0.244 per gallon on* *diesel. He could also do something on tax relief for refineries or shippers to reduce the refining/shipping component of gasoline prices*."

Oil – Manchin calls on Biden for Keystone XL to be built

Manchin Calls for Keystone XL to be built

Even the progressives have to acknowledge Senator Joe Manchin is trying to maximize his swing vote status. Although we have trouble believing he will have success in his latest power play – trying to get Keystone XL revived. On Tuesday, Manchin released a statement on Tuesday [LINK], on President Biden's decision to release 50 mmb of crude oil from the Strategic Petroleum Reserve. Manchin called this policy decision a band-aid for the self-inflicted supply crunch resulting from Biden's cancellation of Keyston XL. Manchin echoed that Washington needs to be conscious that the near-term energy security of Americans should not be jeopardized amidst the energy transition. He noted *"I continue to call on President Biden to responsibly increase energy production here at home and to reverse course to allow the Keystone XL pipeline to be built which would have provided our country with up to 900,000 barrels of oil per day from Canada, one of our closest allies. To be clear, this is about American energy independence and the fact that hard working Americans should not depend on foreign actors, like OPEC+, for our energy security and instead focus on the real challenges facing our country's future."* Our Supplemental Documents package includes the Manchin statement.

Oil – Trans Mountain expects partial restart early to mid this week

Trans Mountain update

It was a down and then up week for Trans Mountain on their timing to restart at reduced volumes. (i) Last week's (November 21, 2021) Energy Tidbits noted Trans Mountain's Nov 19 update [LINK] "*If all planning and work continues to progress and no further issues with the pipeline are assessed, Trans Mountain is optimistic that we can restart the pipeline, in some capacity, by the end of next week. Key to successful execution of the restart plan will be access for equipment, fair weather, and no new findings of concern."* (ii) But that turned negative mid week and, on Thursday, we tweeted [LINK] "*ICYMI. #TransMountain's pipeline update today, still expects to restart in a "reduced" capacity, but no longer says when to restart as dropped the timing "by the end of the week". Continued negative to Cdn #Oil prices. #OOTT [LINK]".* Trans Mountain changed their restart expectations in two ways. They now expect a restart at a "*reduced capacity*" and, more importantly, dropped the timing for this week ie. no specified time table for the restart. The no idea for when to restart was a big negative to Cdn oil prices. (iii) But on Friday afternoon, the outlook turned better as Trans Mountain came out with an expected restart early to mid this week instead of no estimated restart date On Friday, we tweeted [LINK] "*Big change #TransMountain restart. Yesterday there was no restart date, today "we are working towards restarting the pipeline at a reduced capacity early to mid-next week". Positive for Cdn #Oil prices to see a partial restart in days, not >week. #OOTT*." Trans Mountain wrote "*Based on current conditions and the amount of progress we have been able to make in the face of continued challenges with weather and access, we are working towards restarting the pipeline at a reduced capacity early to mid-next week. Once restarted, delivery of oil and refined products currently in the line will continue as they progress to their delivery points at either Kamloops, Sumas, or Burnaby. After initial start-up, a sustained effort will continue to return the system to its full capacity as soon as possible."* (iv) We were surprised by the Friday forecast given the weather forecasts were for heavy rains last night and today. Our Supplemental Documents package includes the Trans Mountain updates.

Oil – CER rejects Enbridge's mainline oil contracting proposal

CER rejects Enbridge proposal

On Friday afternoon, the Canada Energy Regulator announced "*CER has not approved Enbridge's Canadian Mainline contracting proposal. Canadian Mainline to continue to offer 100 per cent uncommitted capacity to all shippers. The Commission of the Canada Energy*

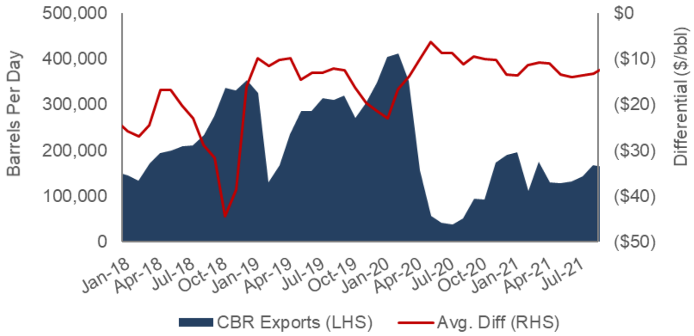
Regulator did not approve Enbridge's application to enter into long-term contracts on the Canadian Mainline pipeline for 90 percent of the system's capacity. The Commission noted that the proposal would have caused a foundational shift in oil transportation, leaving less than 20 per cent of total pipeline capacity out of Western Canada for monthly oil shipments." And "*The Canadian Mainline will continue to operate on existing interim tolls.*" The decision wasn't a total surprise even though Enbridge had support from major US refineries and large Cdn oil companies such as Cenovus. We wonder if it would have been approved if the long term contract percentage was at least a little less than 90%. Our Supplemental Documents package includes the CER release.

Oil – Cdn crude by rail exports basically flat MoM at 164,180 b/d in Sept, up 74% YoY

Cdn crude by rail exports decrease MoM

The Canadian Energy Regulator (successor to NEB) reported Canadian crude by rail exports were -4,479 b/d MoM in September to 164180 b/d vs 168659 b/d in August [LINK]. This puts July export volumes at +103,968 b/d YoY (+368%) vs July 2020 of 38,867 b/d. CBR volumes are +125,313 since the July 2020 bottom of 38,867 b/d, when COVID-19-fueled capital spending reductions and lower drilling activity in Western Canada were in full effect. September WCS-WTI differentials increased to -$11.89. Normally we would expect WCS-WTI differentials below $15 to not be an incentive for crude by rail, but with the starting point being WTI >$70, the absolute price remains attractive for producer returns, ie. it's not just the differential, but the base WTI oil price starting point as well as transportation costs. Below is our graph of Cdn crude by rail exports compared to the WCS – WTI differential.

Figure 14: Cdn Crude by Rail Exports vs WCS Differential



Source: Canadian Energy Regulator, Bloomberg

Oil – No change, still down to one Covid outbreak area in oil sands facilities

Covid in oil sands

The last regional detailed update we saw was from Nov 23 and that was unchanged for Covid outbreak areas in oil sands facilities. There is still only one oil sands facility on the outbreak list - Suncor Fort Hills. The data came from the Wood Buffalo Nov 23 Covid update at [LINK]. Note we do not plan to include this item in future memos unless there is an uptick in Covid cases in the oil sands.

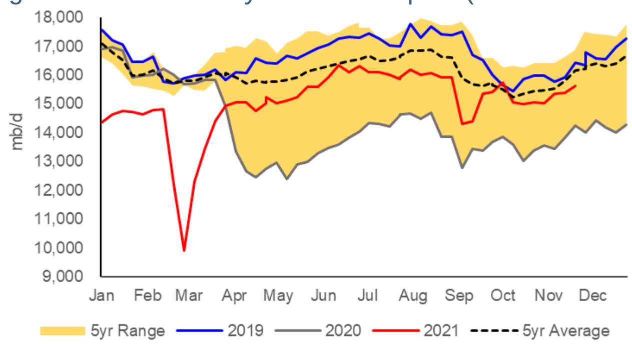
Oil – Refinery inputs +0.243 mmb/d YoY at 15.640 mmb/d

Refinery inputs up WoW

Refineries continue to recover from the impacts of Covid, Hurricane Ida and normal seasonal maintenance; we observed inputs increase as refineries progress through regularly scheduled seasonal maintenance. There was a notable increase as Alaskan refineries completed their seasonal maintenance. Crude inputs to refineries were up +0.243 mmb/d this week to 15.640 mmb/d and are +1.377 mmb/d YoY. Refinery utilization was up +0.7% to 88.6%, which is still +9.9% YoY with the maintenance season coming to an end across the nation. Total products supplied (i.e., demand) was up -0.123 mmb/d to 21.752 mmb/d.

Motor gasoline was up +0.092 at 9.334 mmb/d from 9.241 mmb/d last week. Gasoline supplied, a proxy for demand, was down last week. Gasoline stockpiles are at their lowest levels with demand for gasoline at a 4-week high. The four-week average of production supplied decreased to 9.335 mmb/d, up from last year.

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



Source: EIA

Oil – US "net" oil imports up 1.266 mmb/d WoW at 3.831 mmb/d

US "NET" imports were up 1.266 mmb/d to 3.831 mmb/d for the Nov 19 week. US imports were up +0.245 mmb/d to 6.436 mmb/d. US exports were down -1.021 mmb/d to 2.605 mmb/d. The WoW decrease in US oil imports was driven by US's top 10 imports by country were up +0.147 mmb/d from Top 10. Some items to note on the by country data. (i) Canada was up this week by +0.130 mmb/d to 3.559 mmb/d, which is now ~0.140 mmb/d below the average levels in Jan/Feb of 2020. (ii) Saudi Arabia was up 15,000 b/d to 0.468 mmb/d this week. (iii) Colombia was down -0.161 mmb/d to 0.141 mmb/d. (iv) Ecuador increased imports this week, up 0.046 mmb/d to 0.149 mmb/d. (v) Iraq was up +89,000 b/d to 131,000 b/d. (v) Venezuela remained at 0 due to US sanctions. (vi) Mexico was down by 39,000 b/d to 0.460 mmb/d.

US "net" oil up WoW

Figure 16: US Weekly Preliminary Oil Imports by Major Countries

	Sept 10/21	Sept 17/21	Sept 24/21	Oct 1/21	Oct 8/21	Oct 15/21	Oct 22/21	Oct 29/21	Nov 5/21	Nov 12/21	Nov 19/21	WoW
Canada	3,200	3,143	3,034	4,039	3,441	3,254	3,472	3,685	3,550	3,429	3,559	130
Saudi Arabia	369	399	561	622	304	319	336	397	598	453	468	15
Venezuela	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	538	835	764	652	316	462	631	439	365	499	460	-39
Colombia	0	212	255	0	382	211	141	71	121	302	141	-161
Iraq	50	42	0	31	188	239	155	187	51	42	131	89
Ecuador	174	102	235	59	208	0	222	92	117	103	149	46
Nigeria	82	95	64	133	211	137	0	64	64	1	68	67
Kuwait	0	0	0	0	0	0	0	0	0	0	0	0
Angola	0	0	0	0	0	0	0	0	0	0	0	0
Top 10	4,413	4,828	4,913	5,536	5,050	4,622	4,957	4,935	4,866	4,829	4,976	147
Others	1,348	1,637	1,639	1,499	944	1,203	1,297	1,237	1,242	1,362	1,460	98
Total US	5,761	6,465	6,552	7,035	5,994	5,825	6,254	6,172	6,108	6,191	6,436	245

Source: EIA, SAF

Oil – Mexico oil production still stuck around 1.7 mmb/d

Our Oct 31, 2021 Energy Tidbits noted Pemex lowered its oil production forecast with production in the first 10 months of the year consistently being below the monthly forecasts. Last week we noted that the production results for the first 10 months of 2021 would make it difficult for Pamex to reach the goals set by Pemex. Pemex oil production is still stuck around 1.7 mmb/d. On Friday, Pemex reported October crude oil production of 1.671 mmb/d, an increase of +2.7% YoY and -2.22% MoM. October was expected to be lower due to a fire at

Pemex oil still stuck ~1.7 mmb/d

an offshore platform so the test is for November and December, when production is forecast to ramp up. Below is our chart tracking Pemex oil production.

Figure 17: Pemex Mexico Oil Production

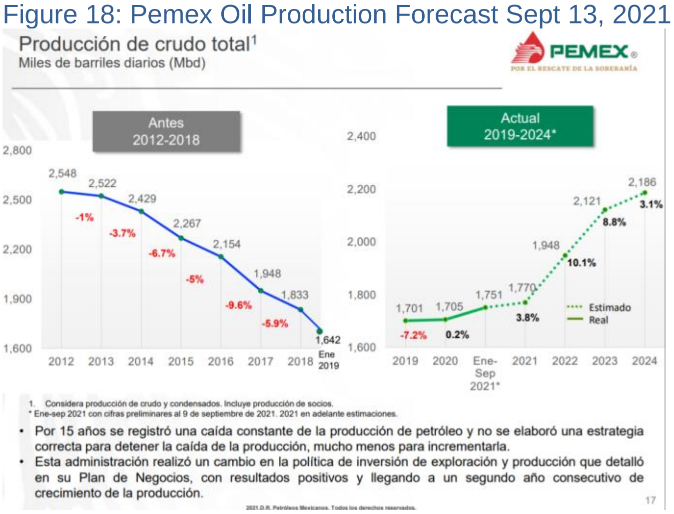
Oil Production (thousand b/d)	2015	2016	2017	2018	18/17	2019	19/18	2020	20/19	YTD 2020	2021	21/20
Jan	2,251	2,259	2,020	1,909	-5.5%	1,623	-15.0%	1,724	6.2%	1,724	1,651	-4.2%
Feb	2,332	2,214	2,016	1,876	-6.9%	1,701	-9.3%	1,729	1.6%	1,726	1,669	-3.5%
Mar	2,319	2,217	2,018	1,846	-8.5%	1,691	-8.4%	1,745	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	1,688	3.4%
June	2,247	2,178	2,008	1,828	-9.0%	1,671	-8.6%	1,605	-3.9%	1,680	1,698	5.8%
July	2,272	2,157	1,986	1,823	-8.2%	1,671	-8.3%	1,595	-4.5%	1,668	1,701	6.6%
Aug	2,255	2,144	1,930	1,798	-6.8%	1,683	-6.4%	1,632	-3.0%	1,663	1,657	1.5%
Sept	2,271	2,113	1,730	1,808	4.5%	1,705	-5.7%	1,643	-3.6%	1,667	1,709	4.0%
Oct	2,279	2,103	1,902	1,747	-8.1%	1,655	-5.3%	1,627	-1.7%	1,663	1,671	2.7%
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

Pemex lowered its oil production forecast on Oct 28

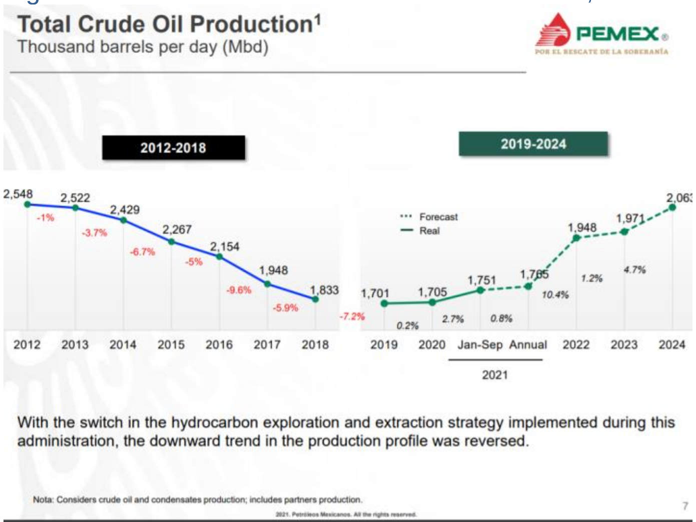
Our October 31, 2021 Energy Tidbits highlighted the new October 28 Pemex investor presentation, which, no surprise, lowered its oil production forecast. This has been the story for Pemex for the last few years – oil production forecasts aren't met. We tweeted [LINK] *"Positive for Cdn heavy/med oil. New #Pemex slide deck, continues to lower #Oil production forecasts. no change to 2022, but 2023 now 1.971 mmb/d (was 2.121) & 2024 now 2.063 mmb/d (was 2.186). Will help AMLO reach his no exports goal. #OOTT."* So no real change for 2021 and 2022 forecasts but lowering 2023 and 2024. Below are the Pemex oil production forecasts from their Sept 13, 2021 investor presentation and October 28, 2021 investor presentation.

Figure 18: Pemex Oil Production Forecast Sept 13, 2021



Source: Pemex

Figure 19: Pemex Oil Production Forecast Oct 28, 2021



Source: Pemex

Oil – Mexico October oil exports +3.1% YoY to 0.936 mmb/d

Pemex October oil exports down

As expected, on Thursday Pemex also reported lower MoM crude oil exports in October. Mexico oil exports in October were 0.936 mmb/d, which +3.1% YoY, and -4.8% from September of 0.983 mmb/d. October exports were expected down MoM due to the fire on the E-Ku-A2 platform. Below is our table of the Pemex oil export data.

Figure 20: Pemex Mexico Oil Export

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	1,031	-2.9%
June	1,047	1,098	1,157	1,110	995	-10.4%	1,114	12.0%	1,149	1,106	-0.7%
July	1,187	1,146	1,255	1,156	1,079	-6.7%	1,051	-2.6%	1,135	1,173	11.6%
Aug	1,261	1,261	1,114	1,181	1,082	-8.4%	1,190	10.0%	1,142	1,099	-7.6%
Sept	1,169	1,425	1,159	1,206	995	-17.5%	1,023	2.8%	1,132	983	-3.9%
Oct	1,280	1,312	1,342	1,027	963	-6.2%	908	-5.7%	1,110	936	3.1%
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 – Next OPEC+ ministerial meeting is Thursday Dec 2

OPEC+ meeting on Thursday

If we use time allocation as a predictor for the upcoming meetings, this week's OPEC+ meetings are now being set up like the last two months with quick rubber stamp meetings. OPEC+ had scheduled the Joint Ministerial Monitoring Committee meeting for about a one hour time slot before starting the full ministerial meeting. Basically enough time to say I agree. This week, the time allocations are suggesting longer discussion meetings. The OPEC+ JMMC meeting is planned for Tues Nov 30, the OPEC ministers on Wed Dec 1, and the OPEC+ ministers on Thurs Dec 2. OPEC+ have a lot to discuss with the US led SPR release and now Omicron. Plus it was always expected that this Dec meeting would have a market outlooks review. This has been long stated. In the key July 18, 2021 meeting where OPEC+ agreed to do the monthly +400,000 b/d increases, the release said "*Adjust upward their overall production by 0.4 mb/d on a monthly basis starting August 2021 until phasing out the 5.8 mb/d production adjustment, and in December 2021 assess market developments and Participating Countries' performance*."

Oil – Saudi's Abdulaziz has been right to be cautious, point to a pause in increases

Abdulaziz has been right to be cautious

We think the comment on Omicron is uncertainty, at least for now. On Friday, we tweeted [LINK] on the WHO spokesperson statement ahead of the WHO meeting. We tweeted "*it will take a few weeks to understand the impact of the new south africa strain says @WHO ahead of their meeting today. the risk of a new strain was exactly the words of caution from The Man, saudi energy minister abdulaziz. Thx @bsurveillance.*" It looks like Saudi Energy Minister Abdulaziz has been right all along in his cautious stance in the uncertainty of Covid and resistance to increase OPEC+ production more than the planned +400,000 b/d per month. No one knows what the ultimate impact of Omicron will be and how long it will last or pass and that includes OPEC+ and Abdulaziz. But what everyone can see is how, in the last 36 hours, there are increasing travel and local restrictions in the governments reaction to the uncertainty of the impact. We find it hard to believe that Abdulaziz will change his cautious approach and, if so, how can OPEC+ not put a pause on the monthly +400,000 b/d increases?

Oil – Maybe US was softening its Iran position after all ahead of JCPOA negotiations

Did US relax Iran position?

Last week's (November 21, 2021) Energy Tidbits memo noted what looked like a softening of the US position on Iran ahead of the JCPOA negotiations. We highlighted as it would suggest a better probability for some sort of renewed JCPOA and the earlier return of more Iran oil. (i) On Nov 20, we tweeted [LINK] *"#Oil price watch. Is US relaxing Iran position? @SecDef "we will look at all the options necessary to keep the US secure". hard to believe it was slip of the tongue vs normal keep IR from getting nuclear weapon. #JCPOA starts 11/29, Hmm! #OOTT."* The US has been disciplined in its message that they are trying to prevent Iran from getting a nuclear weapon and they have also been disciplined about their use of keep all options on the table. So it jumped out at us to see Reuters reporting on comments from US Defense Secretary Austin in a speech. This is in a prepared speech and not off the cuff comments remarks. Reuters reported "*He said the United States was committed to countering Iran, even as Washington works to revive the 2015 nuclear deal. "We remain committed to a diplomatic outcome of the nuclear issue," he said. "But if Iran isn't willing to engage seriously, then we will look at all the options necessary to keep the United States secure."* Austin adding "*to keep the United States secure*" just seems to be a softening in position and one coming just ahead of the Nov 29 restart of JCPOA negotiations. (ii) On Wed, we tweeted [LINK] "*looks like @SecDef was signaling a softening in US position on Iran #JCPOA. if so, better chance for #JCPOA of some sort & more Iran #Oil #Condensate on market soon. Thx @laurnorman. See SAF Group Nov 21 Energy Tidbits memo #OOTT."* On Wednesday, the WSJ reported "*Israel Warns White House Over Striking Partial Nuclear Deal with Iran"* [LINK]. What isn't clear is if it is lessening of the US position as Israel fears or just brainstorming as suggested by US officials. The WSJ wrote "*Senior Israeli officials say they fear that Washington is setting the stage for a "less-for-less" deal that would offer Tehran partial sanctions relief in exchange for freezing or winding back parts of their nuclear work. The tension comes as nuclear talks are set to resume on Monday, with expectations low that the 2015 nuclear deal—which the Trump administration withdrew from—can be fully revived. U.S. officials characterize the discussions of a less-for-less deal as brainstorming, as American diplomats intensify their discussions with friendly European and Middle East countries about how to deal with Iran's advancing nuclear program."* Many will think Israel leaked this to almost embarrass the US into defending a potential softening. The question is if it will work? Our Supplemental Documents package includes the WSJ report.

Oil – Iran's response is remove sanctions & guarantee US won't do it again

Iran wants guarantees on JCPOA

Iran didn't come out and say here is our response to the WSJ report but, we tweeted [LINK] on Iran's chief negotiator Baqeri-Kani's comments on Friday just in case anyone thought Iran might also be softening its position. Baqeri-Kani reiterated the clear position that sanctions have to go and that the US has to guarantee future US governments won't do what Trump did in getting out of the JCPOA and implementing sanctions. We tweeted "*Iran "demands guarantees from the other party not to exit the deal, not to impose and enforce new sanctions, and not to reinstate and reapply the previous sanctions "says Iran ahead of #JCPOA restart on Mon. If so, how can US agree? #OOTT"*. How can the US agree to such a guarantee? Iran's PressTV wrote [LINK] ""*Regrettably, the failed policy of pursuing the maximum pressure campaign, which began in the Trump administration, remains in the agenda of the Biden administration," Baqeri-Kani said. "President Biden needs to remove the sanctions in order to relieve himself of what we see as political bewilderment and the pursuit of failed and inhumane policies of the Trump administration," he added. The official also said Iran "demands guarantees from the other party not to exit the deal, not to impose and enforce new sanctions, and not to reinstate and reapply the previous sanctions."* Our Supplemental Documents package includes the PressTV report.

Oil – Iran's wants to get to 5 mmb/d over next 10 years

Iran targets 5 mmb/d in 10 years

Yesterday, Shana (the news agency for Iran's oil ministry) reported on comments from the National Iranian Oil Company (NIOC) CEO Mohsen Khojastehmehr. Shana wrote "*he noted that NIOC has planned that, God willing, if the assumptions and requirements of these plans are provided, in the next 10 years, daily gas production will re"ach 1.5 billion cubic meters and crude oil production capacity will reach 5 million barrels."* And "*This shows that Iran's underground hydrocarbon capacity is high and we can produce oil and gas. This is Iran's biggest advantage in the oil industry."* We find it hard to argue with this forecast to the potential of Iran. Iran was producing more than Saudi Arabia in the 70s and was at ~6 mmb/d before the revolution and Iran became isolated. Iran has more or less had sanctions or restrictions for the past 40 years and its has huge oil potential. There has to be a lot of low hanging fruit in Iran's oil opportunities. Our Supplemental Documents package includes the Shana report.

Oil – Should keep Iran/Israel cyber war on the radar screen

Iran/Israel cyber war

We should be keeping Iran/Israel cyber war on the radar screen especially if the US has relaxed its position for the JCPOA. We don't know what, if any, agreement or understanding Israel has with the US on what it will do against Iran. But, it looks like cyber is open game. Earlier this morning, we tweeted [LINK] "*Reminds it's also trying to build citizens unrest ie assign blame w/ billboards saying "Khamenei, where is my gasoline?" And cyber attacks only lead to more & deeper cyber attacks. Thx @farnazfassihi @ronenbergman."* There was a good reminder New York Times report yesterday "*Israel and Iran Broaden Cyberwar to Attack Civilian Targets ".* [LINK]. The report notes the cyber attacks are now more on civilian life and not key infrastructure. But, there was more. The Oct attacks (the US says were Israeli) to cut Iran gasoline/fuel access also included attempts to blame Khamenei to generate unrest. The New York Times also reported "*But the hack may have been more serious than an inconvenience to motorists. A senior manager in the Oil Ministry and an oil dealer with knowledge of the investigation, who spoke on the condition of anonymity to avoid repercussions, said that officials were alarmed that hackers had also gained control of the ministry's fuel storage tanks and may have had access to data on international oil sales, a state secret that could expose how Iran evades international sanctions.".* Lastly, our concern is that cyber attacks only lead to more cyber attacks and likely back to infrastructure. No one should doubt Israel is gravely concerned about Iran's nuclear program and the US giving in to get some sort of JCPOA deal. Israel's leaders have a deserved reputation of being clear and not afraid to take action. Cyber seems to be an accepted or tolerated form of warfare. We should keep in mind the risk to infrastructure disruptions. Our Supplemental Documents package include the New York Times report.

Oil – US gets China, India, Japan, South Korea & UK to support in some fashion

US gets symbolic support from others

We understand the importance of the US to want to have others join them in releasing strategic reserves but, unfortunately for the US, the impact was a bit of a dud. Although it did give the ability to say they have support. The Biden SPR announcement confirmed that there will be other countries also releasing strategic reserves. The release said "*The President has been working with countries across the world to address the lack of supply as the world exits the pandemic. And, as a result of President Biden's leadership and our diplomatic efforts, this release will be taken in parallel with other major energy consuming nations including China, India, Japan, Republic of Korea and the United Kingdom. This culminates weeks of consultations with countries around the world, and we are already seeing the effect of this work on oil prices."*

China is really just doing their own plans and they haven't delivered on those plans for strategic reserves sales. On Friday, Bloomberg reported "*However, a foreign ministry spokesman seemed to equivocate when asked about the matter at a briefing on Wednesday. "China is maintaining close communication with relevant parties, including oil consuming and producing countries, to ensure long-term stable operation of the oil market," he said. There will still be a reserves sale from China, but it will be done on Beijing's schedule and may not be at the same time as the other nations, the officials said."* Recall that China had previously announced it would be selling strategic reserves, but also that it hasn't done what it said it would do. We tweeted [LINK] "*Will China actually release strategic #Oil reserves as per mkt reports? On 11/7, @vitolnews Mike Muller to @sean_evers highlighted only did 4 of 7 mmb Oct release, hadn't tendered for Nov release (ie. too late for a release) or Dec release. See SAF Group transcript. #OOTT."* Our Nov 7, 2021 Energy Tidbits included the transcript we made of China insights from Vitol's Mike Muller (Head, Vitol Asia) that morning including his update on China's announced release of oil reserves. Muller said "*And then there is the oil you refer to. China was going to release about 27 million barrels of oil in three phases. In three chunks of 7 million barrels each, in the months of October, November and December. And we saw the first cycle where only four and bit million barrels of the seven million barrels were awarded. only domestic companies can partake in this of course. And there is no sign of the second release, at present. And there always tends to be a bit of an overtone on price on this, but, if China had a conviction of sticking to what they were going to do , we would have seen the second tender by now. And we have not yet seen it*."

India not sure if its 5 mmb release of oil reserves is symbolic or real. The US probably didn't appreciate India's energy minister Puri's comments on Friday that he doesn't know if India's release of 5 mmb to support the US was symbolic or real. On Friday, the Economic Times (India) reported [LINK] "*Earlier this week, India agreed to release 5 million barrels of crude oil from its strategic reserves as part of coordinated international efforts to cool oil prices. The US announced the release of 50 million barrels. But this did not change the prices much and rates fell to USD 77 per barrel on Friday only because of concerns of a new variant of coronavirus hurting demand. "Release of strategic oil, whether that is symbolic or real, I don't know, but it is a very* *bold move," Puri said at the India Economic Summit of Republic TV."* It seems like India bowed to the pressure so it could do something that would at least be symbolic. We say surprise because of India energy minister Puri's comments last week. On Nov 21, we tweeted [LINK] on a great 12:45 min Al Arabiya interview with Puri at ADIPEC this week. It wasn't clear exactly what day this week for the interview, but Al Arabiya only posted the story and video this morning [LINK]. Puri was pretty clear on India's strategic oil reserves saying ""*We have been replenishing out strategic reserves and I think the agreement you are referring to… we are in the process of augmenting our reserves to take it to the global prescribed levels by the international energy agency," India's minister said. "I think we are at 86 days of consumption and the consumption is going up also. We need to go a little farther to make it at 100 days. We are in the process of doing that."* Note there is much more in this report. When we heard Puri's comments, it reminds that, even if India were to release some strategic reserves now, it is more of a trade on price as they are in a trend/objective to increase strategic reserves. Or as Puris put it this week, its probably more symbolic.

Japan to release hundreds of thousands of kiloliters of oil. There was a scramble to figure out how what is the conversion of kiloliters to barrels of oil, when Japan said they would release hundreds of thousands of kiloliters of oil from its national oil reserves as part of the US oil release action. The answer is actually simple as a kiloliter is a cubic meter, and one m3 of oil is 6.29 barrels. Separately, Nikke reported that their sources indicated the release would be 4.2 mmb.

South Korea says will release but no amount and timing decided. There was also some arm twisting on South Korea to agree to release oil reserves as part of the US action. However, South Korea said the details on the amount and timing of the oil reserves release is yet to be decided. It sounds like a symbolic move at best like India. Recall that on Nov 17, Reuters reported [LINK] "*South Korea has received a request from the United States to release oil reserves in response to rising oil prices, an official at South Korea's industry ministry said on Thursday. "We are thoroughly reviewing the U.S. request, but we do not release oil reserves because of rising oil prices. We could release oil reserves in case of supply imbalance, but not to respond to rising oil prices," the industry ministry official told Reuters."*

UK authorizes release of 1.5 mmb from strategic reserves. The UK being included was a bit of a surprise as the focus was on the Asian countries. Bloomberg reported '*The Government has authorised British oil companies to release up to 1.5 million barrels from their strategic reserves to ease pressure on energy prices, Downing Street has said*."

Oil – IEA's polite way of saying they weren't involved & didn't agree with US SPR plans in the weeks before on the lead up to the US led strategic oil reserves release, markets were wondering why isn't the IEA somehow involved. Part of the reason is that it was being pushed to include non-IEA members. But probably the key reason is that it isn't part of the IEA mandate to release oil just to drive down oil or gasoline prices. No one should have been surprised to see the IEA release on the move. It was a polite reminder that the IEA wasn't involved and didn't agree with the plans of two of its largest members. Here is the full IEA release [LINK] "*IEA statement on US announcement of oil release. We note the announcement by the US government of its release of additional oil into the market in parallel with other countries, including China, India, Japan, Korea and the United Kingdom. We recognise that*

IEA on US led oil reserves release

the rise in oil prices is placing a burden on consumers and has added to inflationary pressures during a period when the economic recovery remains uneven and faces a range of risks. In this context, we respect the assessments and decisions made by individual IEA member and partner countries on how best to respond to the specific challenges and circumstances they each face."

Oil – India oil imports down MoM to 4.11 mmb/d in October

India oil imports down in Oct

On Tuesday, India's Petroleum Planning and Analysis Cell released crude oil import data for October [LINK]. Total crude oil imports increased 11.04% YoY in Oct to 3.64 mmb/d and decreased from 4.25 mmb/d September, as refiners shut units for maintenance and cut crude imports anticipating lower fuel demand during the monsoon season. Crude imports for the 2020-2021 financial year were down 13.4% YoY. Petroleum products demand for October was +11.04% YoY to 4.04 mmb/d and increased slightly MoM from 3.88 mmb/d in September. Refinery throughput in October was +9.57% YoY to 4.58 mmb/d and a decrease from 4.18 mmb/d in September.

Oil – Will the return of traders on Monday take oil up from Friday's oil price crash?

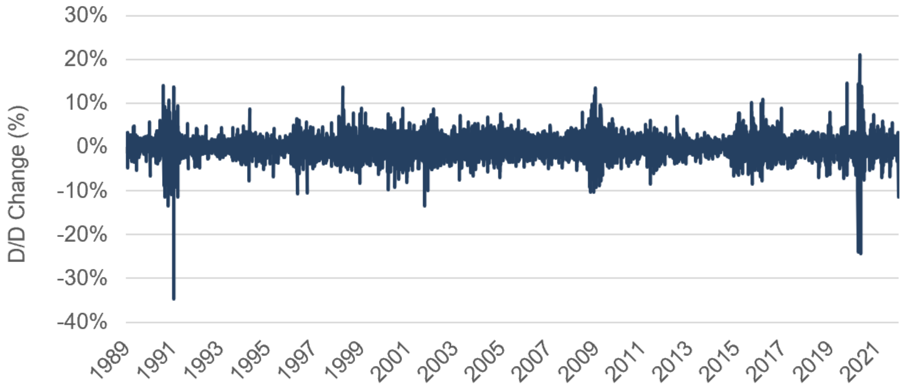
Traders return on Monday.

Monday will be an interesting trading day for oil. Uncertainty was the theme of the day on Friday on the breaking Omicron news. And it just happened to happen on perhaps the biggest US holiday of the year when many traders are off from Thursday noon thru the weekend. There will be the full slate of traders on Monday. Earlier this morning, we tweeted [LINK] "*#Oil overreaction on Fri? "i frankly think that a lot of human being traders on leave Thurs/Fri & the algorithmic systems & stop orders did the rest" @michaelwmuller. "the algos took over and monday, the humans will return" @Jorgecomments. Thx @gulf_intel @sean_evers."* Mike Muller is Vitol, head Asia. The comments were on the Gulf Intelligence daily podcast [LINK]. It's been less than 48 hours since WHO classified the new South African covid as a variant of concern. [LINK] Its clear that its too early to know the ultimate impact of Omicron and how long will it be a major issue or how long oil will bounce back like seen from some of the other strains. But it was huge factor on Friday and we don't believe any of the experts know if Omicron will be a bigger or smaller impact. We listened to a lot of "experts" on Friday and Saturday on the new Omicron strain and the common takeaway was that it was too early to know the impact of the strain including on hospitalizations and deaths. And at least in the comments from Canada, US, and UK governments, they certainly also don't know but are trying to take actions to prevent any wide spreading. There was no surprise to see the quick movement of countries to temporarily stop travel from South Africa and its regional countries.

Brent oil was down 11.4% on Friday

Omicron hammered markets including oil on Friday. Brent oil was down 11.4% on Friday from $82.22 to close at $72.85. Below, we put a table of the biggest one day Brent price increases and decreases. Everyone who was in the oil patch in 1991 remembers Brent oil 34.8% on January 17, 1991. It was the day after President George H. W. Bush launched Operation Desert Storm to get the Iraqi armed forces out of Kuwait. The market had priced in a bit of a worse case scenario that could see massive disruption to Middle East oil exports. But after the shooting started, the market immediately turned to a view it wouldn't be the worse case scenario and oil crashed.The next two biggest daily price decrease days were related to the world economy shut downs from Covid, down 24.4% on April 21, 2020 and down 24.1% on March 9, 2020. The biggest increase day was up 21.0% on April 2, 2020 when it looked like Covid was being beaten.

Figure 21: Brent Oil Price Day Over Day % Price Change



Source: Bloomberg

Figure 22: Largest Negative & Positive D/D Brent Price Changes

Largest Negative D/D Changes		Largest Positive D/D Changes	
Date	D/D % Change	Date	D/D % Change
1991-01-17	-34.8%	2020-04-02	21.0%
2020-04-21	-24.4%	2019-09-16	14.6%
2020-03-09	-24.1%	2020-03-19	14.4%
1990-10-22	-13.5%	1990-08-06	14.1%
2001-09-24	-13.4%	2020-04-03	13.9%
2020-03-18	-13.4%	2020-05-05	13.9%
1991-03-15	-11.5%	1998-03-23	13.8%
2021-11-26	**-11.4%**	1991-01-07	13.7%
1990-08-28	-11.4%	1991-01-14	13.6%
2020-03-16	-11.2%	2008-12-31	13.5%
1990-12-05	-11.0%	1988-11-25	13.4%
1996-04-16	-10.6%	2020-04-30	12.1%
1996-09-16	-10.4%	2008-12-11	11.8%
2008-10-10	-10.4%	2016-02-12	11.0%
2008-12-01	-10.3%	1990-10-25	10.8%

Source: Bloomberg

Oil – Vortexa est 77.28 mmb at Nov 26, note big upward revision to Nov 19 estimates

Vortexa floating storage

Note that we are referencing the Vortexa global crude oil floating storage data posted on the Bloomberg terminal as of 3pm MT yesterday and that these estimates often get revised over the weekend, and then again for the next week. Note we do not check daily for the revisions so our comments are compared to the Nov 19 and 12 estimates that were posted on Sat Nov 27 at 3pm MT. It was another week of significant revisions to the prior week estimates. However, we think the key trend is that, at 77.28 mmb, crude oil floating storage is lower than it was when OPEC+ started to increase oil production in June. As of 3pm MT Sat, Bloomberg has posted Vortexa crude oil floating storage as of Nov 26 is estimated at 77.28 mmb, which is down 21.30 mmb WoW from the upwardly revised Nov 19 estimate of 98.58 mmb. There was a large upward revision to the Nov 19 estimate. Last Sat at 3:30pm MT, it was estimated at 90.0 mmb, which is 8.58 mmb lower than today's 3pm MT estimate of 98.58 mmb. There was also an upward revision to the Nov 12 estimates. Last Sat at 3:30pm MT, it was estimated at 94.95 mmb, which is 3.9 mmb lower than today's 3pm MT estimate of 98.45 mmb. We did not store all the weekly data from last week, but it looks like there were a number of changes. For example, last week, we referred to the recent trough being June 25 at 76.4 mmb, whereas this week June 25 is estimated at 80.21 mmb. Also today's table now shows the recent trough being Sept 17 at 69.58 mmb. Assuming the historical is right or close to being right and that the Nov 26 estimate is right at 77.28 mmb, it would suggest that floating oil in storage is down small from when OPEC+ started to increase oil production in June. Nov 26 estimate of 77.28 mmb is down 146.87 mmb since the June 26, 2020 peak of 224.15 mmb. Nov 26 estimate of 77.28 mmb is +18.41 mmb vs the pre-Covid of 58.87 mmb as of Nov 25, 2019. Below is the Bloomberg posted Vortexa crude oil floating storage data for the past two years as was posted yesterday at 3pm MT.

Figure 23: Vortexa Floating Storage Nov 26, Posted on Bloomberg 3pm MT Sat

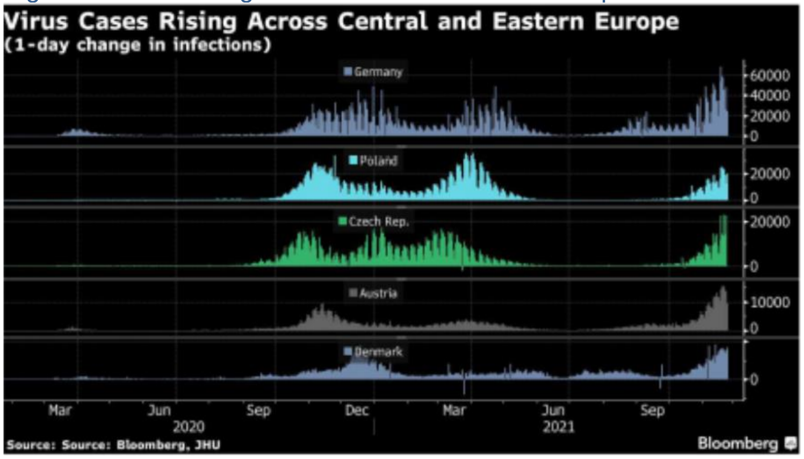
Source: Bloomberg, Vortexa

Oil – Bloomberg Oil Demand Monitor, Europe Covid resurgence hurts air travel

Bloomberg's Oil Demand Monitor

We recommend reading the weekly Bloomberg terminal Oil Demand Monitor for a good recap of key oil demand indicators around the world. Another wave of Covid has led to a downturn in airline flights while driving remained relatively unaffected across the continent. Covid-19 is now the leading cause of death in Europe with daily fatalities approaching 4,200 last week; Austria has reinstituted a lockdown and Germany has indicated that the most recent surge in cases is the worst the country has experienced since the onset of the pandemic. Air traffic is down in Europe, which is normal for this time of year, though there is a widening gap from the equivalent week in 2019. Demand for air traffic during the Christmas season has been speculative with Spain, Germany and the UK all posting WoW declines. All airline markets remain below the equivalent 2019 weeks with Mexico and the US with the smallest deficits of 2.2% and 8.6% respectively; Germany, Australia and Singapore have the largest deficits of 41%, 62% and 78% respectively. Road volumes in France remained above 2019 levels this week by 5.6% while Italy has decreased to slightly below by 1.6%. Congestion levels were up in Paris, Madrid and London by 20%, 15% and 13% respectively. Gasoline sales in the UK are 10% below 2019 levels after the panic buying observed at the end of September. Refinery utilization in the US is down 1.6% from 2019 levels at 87.9%, though US east refineries remain 18% above pre pandemic levels. Our Supplemental documents package includes the Bloomberg Oil Demand Monitor.

Figure 24: Increasing Covid-19 Cases across Europe



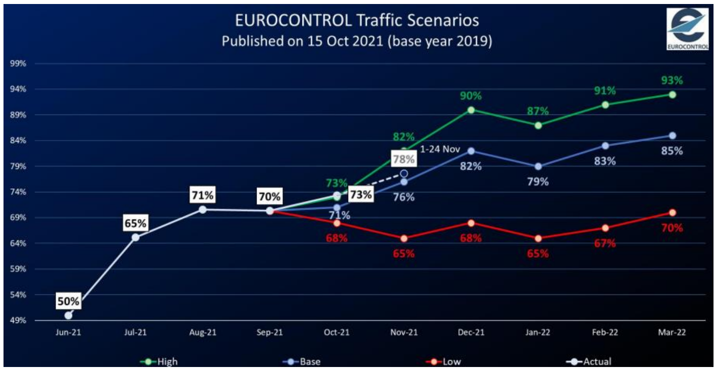
Source: Bloomberg

Oil – Eurocontrol update: European air travel in decline

Eurocontrol air traffic update

No surprise that even before the big Omicron variant cutting of travel, Europe air traffic was already in decline with the increasing restrictions being put on by some countries. On Wednesday, Eurocontrol posted its updated slide deck "*Covid-19 Eurocontrol Comprehensive Assessment Impact on European Aviation"* [LINK]. It is an excellent slide deck for a recap of Europe air travel and also some insights on international travel. European passenger air traffic is declining again as Covid resurges in the continent. European passenger air traffic is starting to decline after gaining for the last few months though we typically see flights decline at this time of year; Eurocontrol wrote *"19,978 flights (77% of 2019 levels) on Wed 24 November 2021, decreasing over 2 weeks (-5%)".* Domestic air travel in Europe was down 24% since 2019, with daily flights down 23% in the last 7 days. There were 19,978 flights on the 24 of November, which decreased 5% (986) flights over the 2-week period beginning November 10. Eurocontrol Traffic scenarios were last highlighted in our June 27 Energy Tidbit. Eurocontrol has predicted (in their bas scenario) that the number of flights increase to 82% of 2019 levels in December before a slight decline to 79% of 2019 level in January; they expect the number of flights to continue to increase in February 2022. Reynar group was the only airline that posted an increase compared to 2019 levels, operating 1,822 flights per day during the assessed period. Our Supplemental Documents package includes excerpts from the Eurocontrol slide deck.

Figure 25: Eurocontrol: Traffic Scenarios/Actual vs 2019



Source: Eurocontrol

Oil – October truck tonnage +0.4% MoM, up 1.4% YoY

Truck tonnage index +1.4% in October

Demand for truck haulage continues to grow, but supply shortages are still an obstacle for the industry. Truck tonnage was up during October but not from an increase in trucks on the road. The American Trucking Association released its seasonally adjusted Truck Tonnage Index for October on Tuesday [LINK]. October observed a 2.9% increase MoM from September, after increasing 2.2% last month. It was the largest gain in all of 2021 but Chief Economist Bob Costello noted *"Economic growth remains on solid footing, which is good for truck freight volumes going forward. The largest problem for the industry isn't the amount of demand, but making sure we have adequate supply. It is good to see that fleets were able to haul more tonnage in recent months in the face of constrained supply,"* The index is up 1.7% YoY from September 2020, with the first YoY gain since May. Trucking serves as a barometer of the U.S. economy, representing 72.5% of tonnage carried by all modes of domestic freight transportation, including manufactured and retail goods. Trucks hauled 11.84 billion tons of freight in 2019. Motor carriers collected $791.7 billion, or 80.4% of total revenue earned by all transport modes. Costello noted that demand from retail, inventory rebuilding and higher factory output are responsible for the monthly increase. Our Supplemental Documents package includes the ATA release.

Oil & Natural Gas – TIPRO Texas oil and jobs up for 6th consecutive month

TIPRO October jobs update

No one should be surprised that high oil and natural gas prices is driving increasing Texas oil and gas employment. The Texas Independent Producers and Royalty Owners Association (TIPRO) updated their employment figures for the Texas upstream sector for October [LINK]. The release noted that employment for October totalled 183,400, marking an increase of 2,300 jobs from September. It was the 6th consecutive month of job growth in the industry since April. The release stated, *"Texas upstream employment in October 2021 represented an increase of 22,800 positions compared to October 2020, reflecting a rise of 21,900 jobs in the services sector and increase of 900 jobs in oil and natural gas extraction in the past year."* There has been strong job posting data for October in upstream, midstream, and downstream sectors, showing a continued demand for talent in the Texas oil and natural gas industry. From the release *"Following a tumultuous year for the energy markets in 2020 and the lingering effects of a global pandemic, the law of supply and demand has driven commodity prices higher this year with a growing consensus around a new, multi-year super cycle for oil and natural gas. Increasing global demand for our product and higher commodity prices will continue to drive industry activity and rising employment numbers in Texas. The greatest risk to this positive momentum, and our nation's energy security, is anti-oil and natural gas policies being pursued in Washington, D.C."* Our Supplemental Documents package includes the TIPRO release.

Oil & Natural Gas – David Suzuki warns 'Pipelines will be blown up' if leaders don't act

Suzuki's warning for pipelines

We really wish David Suzuki hadn't, for some strange reason, seemed to throw some red meat to the extreme side of climate change fight. But, once thrown out there, its hard for the oil and gas sector to not at least think about their monitoring and security operations. In particular, we first thought of the risk to Coastal GasLink and TMX, two under construction pipelines. We have trouble believing even the extreme side of environmental groups would blow up an in-service pipeline and cause more issues. We wouldn't have included this if it weren't for Suzuki's followup clarification comments two days later that didn't really change his views other than try to absolve himself from any responsibility should someone bomb a pipeline. The National Posted reported on comments from "*David Suzuki, the godfather of the Canadian environmental movement*". They wrote ""*We're in deep, deep doo-doo," said Suzuki Saturday, speaking at an Extinction Rebellion protest on Vancouver Island. "This is* *what we're come to. The next stage after this, there are going to be pipelines blown up if our leaders don't pay attention to what's going on."* We have to believe that Suzuki's later apology was driven in great part by the Extinction Rebellion group not wanting to be associated with comments on blowing up pipelines. What surprised (and worried) us was his two days later clarification to the National Post. Suzuki was clear to try to absolve himself of any responsibility should someone blow up a pipeline, but he didn't seem to pull back from the concept although he used the word violence and not bombing. The National Post wrote "*Suzuki, reached by the National Post on Monday, said violence within the environmental movement is already happening, although he identified police actions against anti-logging protesters and anti-gas pipeline protesters as the culprits. Asked whether or not he would support the bombing of pipelines, Suzuki said, "Of course not." "The violence is coming from the authorities, from government, from the RCMP," said Suzuki. "They're declaring war against those that are protesting." Still, Suzuki warned he feels that there are few remaining options for protesters who feel government isn't moving rapidly enough to tackle climate change. What else is there but violence, he wondered. "I think it's going to be threatened by groups that feel government isn't going anything," Suzuki said."* After 5 days of criticism by a broader range of people, excluding Trudeau, Suzuki apologized via a statement [LINK] ""*The remarks I made were poorly chosen and I should not have said them. Any suggestion that violence is inevitable is wrong and will not lead us to a desperately-needed solution to the climate crisis. My words were spoken out of extreme frustration and I apologize. We must find a way to stop the environmental damage we are doing to the planet and we must do so in a non-violent manner."* Better late than never, but it seems Suzuki doesn't know when to stop at a statement. The CBC wrote on the apology [LINK] "*Suzuki told CBC News he does not condone blowing up pipelines. But he suggested he fears it may happen if groups get fed up with inaction. "Our leaders are not listening to the urgency that is demanded to meet the issue of climate change. And I was worried that this is just the next step — if it goes on — to people blowing up pipelines," he said."*

Extinction Rebellion wouldn't have liked being associated with bombing

We, like others, have heard about Extinction Rebellion and don't recall hearing them being a violent action group, which is why we had to wonder if Suzuki was messaging to a very small portion of the group. The reality of any group is that there are always fringes on both sides. Bu the mainstream of Extinction Rebellion seems to be those with peaceful, but business disruptive protests. Extinction Rebellion [LINK] believes the world is on the brink of a global catastrophe from climate and there is an urgency to act. They are "*A global movement. Join our global and politically non-partisan movement where we use non-violent direct action to persuade governments to act justly on the climate and ecological emergency."* A good example of their non-violent but disruptive protest was on Black Friday, when Extinction Rebellion blocked entrance at 13 Amazon depots across the UK.

Electricity – Power companies *don't cut off* your power, they "de-energize" your home

CA customers "de-energized"

We couldn't help tweet [LINK] when we saw the Southern California Edison tweet [LINK] "*High winds and dry ground conditions are expected through Friday. These weather conditions increase the potential for fires. Public Safety Power Shutoff activities are under consideration for some areas and some customers have been deenergized. Plan ahead with these tips."* We recognize that de-energize is being properly used, but we had to say "*some customers have been deenergized" does sound more polite than we cut their power off on turkey dinner day. apparently now 64k home/businesses now deenergized. hope wildfires don't become an issue."*

Energy Transition – Liberals throne speech singles out oil and gas

Liberals throne speech

The Liberals throne speech was Tuesday and didn't seem to include any big surprises for the energy transition themes. (i) However, our caution is that the language in throne speeches is precise after being edited many times. And so even though the speech is short and more of an overview, we always put our antenna up when we see general language (precisely written) that could signal something different than expected. The example is "*Increasing the price on pollution*". The Liberals currently have a plan to increase carbon prices, but we worry that this could also mean increasing their planned increases. It's the type of thing to watch. (ii) Liberals prioritize climate and reminds that must go further faster. This is the same language as used. The expectation should be an increase in climate actions to catch up. (iii) Singles out oil and gas. The oil and gas sector is the only sector specifically highlighted in the climate action section. And it is clear from the comments that the Liberals continue to highlight the oil and gas sector as the most important sector to attack. And linking in the further faster reminds of what we believe is a big risk (and big negative) to Cdn oil and gas is the upcoming 2025 targets for emissions reductions for the oil and gas sector. Liberals said *"The Government is taking real action to fight climate change. Now, we must go further, faster. That means moving to cap and cut oil and gas sector emissions, while accelerating our path to a 100 percent net-zero electricity future."* (iv) No acknowledgement that the energy transition plan isn't working and energy will cost more. Trudeau makes no mention of energy costs and if that will impact his big picture view of going further faster on climate and building a more resilient economy. (v) says will fight inflation but doesn't mention having lower energy costs. Rather the Liberals only highlight two areas for fighting inflation – daycare and making housing more affordable. Nothing on energy costs, food costs, metals, etc. (vi) Making a clear but vague in amount to increase the foreign aid budget every year. They cranked up the foreign aid a year ago in the failed bid to get the UN Security Council seat, so have to wonder what the unsaid goal is on the foreign aid. Our Supplemental Documents package includes the throne speech. [LINK]

Liberals do not have a Macron moment or Granholm confession

There was no acknowledgement or hint in the throne speech that the energy transition wasn't working to plan. There is no Macron moment here that the energy transition plan needs to be changed or even a Granholm moment where she says higher energy costs are ahead. Rather the Liberals don't say anything about how the energy transition is going other than they have go further, faster. This is different than what we are seeing from other world Net Zero leaders, who are changing their messaging on the energy transition. Their comments fit our long stated view that the energy transition is happening, it will just take longer, be a bumpy road and cost more. Even if the Liberals don't say it, the other world leaders know this, albeit late, and now want to be on the record that they knew this and told their constituents. There are two camps of these messages. (i) It's not working and the reality that the plan needs to change. The most vocal is Macron who warns the energy transition aspiration has to be modified/reduced or else there will be years of an energy crisis. And, even more importantly, he wants to bring a more pragmatic Energy Transition plan to the EU. On Nov 9, we tweeted [LINK] on Macro's address to the nation [LINK] that closed with his call for a more practical approach to the CO2 emissions and one that will include Europe. Macron said "*But France will not be strong alone. With the European Union: ➜ We will be able to build a credible strategy for reducing our CO2 emissions, compatible with our industrial and technological sovereignty."* The Macron release had at the bottom a reminder "*Next January, it is a new model of investment and growth that the President will defend with the French presidency of the Council of the European Union."* The day before COP26 started, we tweeted

[LINK] on Macron's comments to the FT [LINK] that was a clear view on higher fossil fuel prices for the foreseeable future. Macron said "on demand for fossil fuels isn't going away for the foreseeable future. Macron said "*What is happening now is ironic, because we are building a system where in the medium and long term fossil energy will cost more and more, that's what we want [to fight climate change]."* he said." Japan is another calling for a pragmatic time frame ie a change in the plan. On Nov 9, we tweeted [LINK] on Japan's release [LINK] on its conference with IEA Executive Director Faith Birol. Japan wrote "*The two sides also exchanged views on acceleration of decarbonization efforts following COP26, and shared the importance on measures with pragmatic time frame based on individual circumstances that each countries face including its renewable energy potentials".* (ii) Others just want to be able to say they warned people it would be expensive for years to come. The US is the best example. On Nov 8, we tweeted [LINK] on Energy Secretary Granholm's MSNBC Morning Joe comments. Biden never warned votes that the energy transition will happen but will lead to higher prices on oil, natural gas and electricity for years to come. We created a transcript of her saying "*So the long term strategy is that. and yes we have a short term cost issue because the economy is still coming back on . we have a supply, demand that does not, the supply doesn't meet the demand. that is an issue we are going through. The president is all over this both in the short term and in the long term*."

So much for Wilkinson's saying not singling out the oil and sector

We have said Trudeau has made sure he puts good guys in as Natural Resources minister like Wilkinson and O'Regan, but the reality of politics is that Trudeau and his closest advisors are the one calling the shots. We have to wonder if Wilkinson feels a little foolish after seeing the throne speech. On November 16, Financial Post reported [LINK] "*Some people say that we've singled out the oil and gas space and to that I actually say that's just not true."* The only sector singled out in the throne speech for climate action is the oil and gas sector. Unfortunately, it just reminds that Wilkinson is really just a good guy front man who doesn't have any real stroke and that the oil and gas shots are being called by Trudeau and his closest advisors.

Energy Transition – Johnson says all new homes/buildings to have EV charging

UK new homes & buildings to have EV charging

On Monday, UK PM Johnson's speech at the CBI conference [LINK] had one announcement and reinforced a numbers of energy transition themes. (i) The announcement was that all new homes & buildings are to have EV charging. Johnson said "*And we are regulating so as to require new homes and buildings to have EV charging points – with another 145,000 charging points to be installed thanks to these regulations*." (ii) Another to highlight mini-nukes. Mini-nukes have been one of our big pushes for almost 20 years in believing they would inevitably have traction. Johnson highlighted the historic under-investment in nuclear power, and investing in both big and small nuclear reactors. "*Which country had the first civilian nuclear power plant? It was this one. And why have we allowed ourselves to be left behind? Well, you tell me. So we are investing not just in big new nuclear plants but in small nuclear reactors as well. And we are consulting on classifying this essential technology as "green investment", so that we can get more investment flowing in and ahead of the EU*." (iii) Pushing the need for people to get back into the office. "*I know that there are some people who think that working habits have been remade by the pandemic, and that everyone will be working only on Tuesday and Wednesday and Thursday, in an acronym I won't repeat. I don't want to be dogmatic about this, but I have my doubts. And it is not just that young people need to be in the office to learn, and to compete, and to pick up social capital. There are also sound evolutionary reasons why mother nature does not like working from home.*

So I people prophesy that people will come back, Tony – they will come to the office. And they will come back on the roads and the rail." Our Supplemental Documents package includes the Johnson speech.

Capital Markets – Should see a number of oil & gas companies added to TSX Index

It's a few weeks to go before the quarterly TSX index changes are to be announced on Dec 17. On Thursday, ATB Capital Markets Derek Stuart's morning sales note included the ATB list of potential additions for the upcoming TSX index changes. ATB sees potential oil and gas additions being Baytex, Peyto, Paramount, Advantage, Freehold, Secure and Tamarack Valley. ATB also noted NuVista as a more borderline addition.

Oil & gas adds to TSX Index

Capital Markets – IFIC: Mutual funds and ETF assets +4.3% in October

On Monday, the IFIC (Investment Funds Institute of Canada) reported [LINK] mutual funds and ETF sales for October. IFIC does not provide any commentary on the numbers but three should be no surprise that the assets are up. Market price increases accounted for majority of the overall increase in net assets. For October, the IFIC reported "*Mutual fund assets totalled $2.030 trillion at the end of October 2021. Assets increased by $44.3 billion or 2.2% compared to September 2021. Mutual funds recorded net sales of $5.6 billion in October 2021. ETF assets totalled $331.9 billion at the end of October 2021. Assets increased by $13.5 billion or 4.3% compared to September 2021. ETFs recorded net sales of $4.4 billion in October 2021."* Our Supplemental Documents package includes the IFIC release.

Mutual Fund & ETF assets increase MoM

Capital Markets – USDA consumer price index for food +5.3% YoY

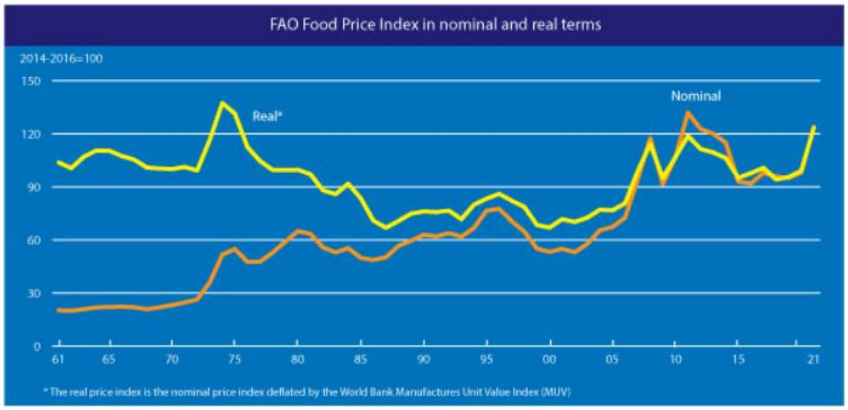
We took the opportunity to ask a handful of friends that live in the US if they believe their food bills are up ~5% YoY. The common response was laughter and that they believe their grocery bills are up 15 to 20% YoY. The reason for the question was because the USDA released its monthly food price index data for Oct on Tuesday and we wanted to hear their reaction to the USDA numbers. The USDA posted its consumer price index for food data for Oct, which is +1.0% MoM and +5.3% YoY. This is for the overall food price index, which weights various changes like beef/veal +20.1% YoY, port +14.1%, eggs +11.6% with changes like fresh vegetables +1.7% YoY, dairy products +1.8% YoY and cereals & bakery products +3.5% YoY. Our Supplemental Documents package includes the USDA changes in consumer price index for food table. [LINK]

USDA consumer price index for food

Recall UN FAO Food Price Index for Oct was +31.3% YoYxxxx

Our Nov 7, 2021 Energy Tidbits highlighted the Nov 4 release of the UN FAO Food Price Index [LINK] titled "*The FAO Food Price Index at its highest since July 2011*." Note this is on a Real price basis. The FFPI averaged 133.2 points for Oct 2021, which was +3.0% MoM and +31.3% YoY. All food categories are up big YoY, but led by Vegetable Oil Price Index that was +9.6% MoM and +73.5% YoY. Below is the all time FFPI graph. Our Supplemental Documents package includes the UN FAO Food Price Index update.

Figure 26: UN FAO Food Price Index



Source: UN

Capital Markets – 2020 was a big year for Cdn farm income

Canadian farmers net income up in 2020

Stats Canada released their farm income data for 2020 on Wednesday [LINK]. Realized net income for Canadian farmers increased by 84.4% to $9.4 billion in 2020 with strong growth receipts outpacing higher expenses. This revised data does not account for the challenges farmers faced in 2021 ie. drought and continued backlogs coupled with inflation. While Covid posed challenges for the agriculture sector, grain and oilseed producers still experienced gains with strong domestic and international demand. The rising crop receipts fuelled strong export demand, while lower machinery fuel and fertilizer prices, pushed net income higher in 2020. 2020 saw the largest increase in farm cash receipts since 2012, up 8.5% to $72 bn; Canola, lentil and cannabis sales drove the cash receipts for the year. Livestock receipts were lower, driven by the decrease in cattle receipts. Total livestock receipts declined by 0.7% in 2020 to $26.4 bn with the pandemic disrupting supply chains associated with meat processing. Stats Canada noted *"Saskatchewan accounted for more than two-fifths of the national increase, while realized net income declined in Newfoundland and Labrador, Nova Scotia, New Brunswick, and British Columbia. These four provinces did not benefit as much from robust export demand for grains, oilseeds and specialty crops, nor from lower machinery fuel and fertilizer prices, as agriculture industries in these provinces are not heavily concentrated in crop production."*

Demographics – Record Americans Christmas spending this year

US Christmas spending up YoY

Christmas is right around the corner and Americans are expecting to spend more this Christmas than last year. A Gallup poll posted their survey results for November on Wednesday [LINK]. The survey ran from Nov 1 to 16 and reported an average amount of $888 spent on holiday gifts; this is up from the October estimate for consumer holiday spending plans of $837. The trend is not inflation adjusted and could possibly reflect consumer awareness that prices are higher this year. Gallup estimates that November retail sales will increase between 3-5% YoY, exceeding the average yearly increase in US spending since 2000. The article noted "*Holiday sales rose 3.8% in 2020, according to the Census Bureau's Advance Monthly Retail Trade and Food Services Survey (MARTS) data on total food and retail sales excluding gas and automobiles. Thus, the 2021 holiday season is poised to be as good as last year for retailers, or slightly better."* Supply chain issues are expected to be a hurdle this season, with 61% of Americans still yet to begin their holiday shopping at the time of the survey. No surprise, that men were the bigger procrastinators with 65% yet to begin their shopping vs 57% women. 56% of Americans say they are very likely to do their Christmas shopping online, up 8% from 2017, reflecting the natural extension of the long-term increase in online shopping. This does not have a good outlook for department and discount stores, with just 24% of Americans indicating they were likely to do their holiday shopping there. Our Supplemental Documents package includes the Gallup Survey

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

@Energy_Tidbits on Twitter

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

LinkedIn – Look for quick energy items from me on LinkedIn

Look for energy items on LinkedIn

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

Misc Facts and Figures.

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

Quebec release strategic maple syrup reserves to meet demand

On Wednesday, CTV reported [LINK] "*An increase in demand coupled with an "average" year for production has forced Quebec maple syrup producers to tap into their strategic stockpile to ensure no pancake is left without the sweet golden sap*." CTV reported the strategic maple reserves (SMR) are held in the the Laurierville plant and warehouse, which is an "*enormous facility – spanning the size of five football fields -- can hold 94,000 barrels of maple syrup, each containing 205 litres. However, Quebec Maple Syrup Producers say this year, around 50 million pounds of maple syrup will need to be taken from those stockpiled barrels to meet increased demand. The Federation of Quebec Maple Syrup Producers regulates the production and marketing of maple syrup in Quebec. It also sets bulk prices and quotas on the province's syrup producers. Hélène Normandin, a spokeswoman for Quebec Maple Syrup Producers, said 2021 was an "average year" for production."* The Producteurs et productrices acericoles du Quebec website [LINK] notes it has the world's only reserve of maple syrup. "*Maple syrup production is highly dependant on the weather. In years when Mother Nature is generous, it can result in production surpassing demand, and the industry struggles to deal with a surplus. And when weather conditions are unfavourable, producers can't supply all the maple syrup that consumers want. This unpredictability is why Québec Maple Syrup Producers established its Strategic Reserve. When production exceeds demand, surplus maple syrup is pasteurized, preserved in food-grade containers, and stored. Then, when it's a poor harvest year, syrup in the reserve is made available to buyers. In this way, we are virtually never out of stock and the markets remain supplied."*

NASA launches unmanned spaceship to collide with an asteroid

On Wednesday, NASA announced [LINK] the launch of its "*Double Asteroid Redirection Test (DART), the world's first full-scale mission to test technology for defending Earth against potential asteroid or comet hazards*. This unmanned mission is a one-way trip. NASA writes DART "*will impact a known asteroid that is not a threat to Earth. Its goal is to slightly change the asteroid's motion in a way that can be accurately measured using ground-based telescopes. DART will show that a spacecraft can autonomously navigate to a target asteroid and intentionally collide with it – a method of deflection called kinetic impact*." NASA made a point of noting this was a test on an asteroid that has no threat to the US. NASA Administrator Bill Nelson said "*DART is turning science fiction into science fact*." The reality is that NASA is trying to turn movie fiction into science fact. Everyone has probably seen at least one movie of the earth trying to deflect a comet or asteroid from a collision with the earth. We hope NASA has better success than in the movie Deep Impact in 1998 that tried to destroy a 7-mile wide comet that was on path to hit the earth and cause a mass extinction event. Spoiler alert, it wasn't a full happy ending. But the film also featured some big names at the time such as Morgan Freeman, Robert Duvall and Tea Leoni in the main roles. And how can you not love the tag line that was at the bottom of their movie poster "A Thriller with Brains". Our Supplemental Documents package includes the NASA announcement.

Amazon's new commercial "*Kindness. The Greatest Gift*"

I recognize it's a 2:30 min commercial for Amazon [LINK], but it really is a good reminder message for everyone. The commercial is titled "*Kindness. The Greatest Gift"* presents a story that depicts an act of kindness from a boomer age woman to a young 20ish woman. It wasn't a life changing act but just a modest act that reminded that little things do matter. It's a good reminder for all of us to try to do the little things to help bring joy or even some relief to others. It also reminded me of my sister who used to do good deeds for people every day. And she just brought that into her daily routine. The one that I always think about was how, when I stayed at her place while in Toronto on business, she would tell me I have to finish with the morning newspapers before 5:30am. She wanted her concierges to know they wouldn't have to ever spend a dollar or two to buy the three Toronto papers. Rather my sister would take them down to the concierge desk every morning by 5:30am so they had to flip thru wheneer time permitted.

How companies & grocery stores make price increases hard to see

Everyone has noticed shrinkflation when you buy something and think isn't this cereal box a lot smaller than it used to be? But who hasn't been to the grocery store looking for an item and either not seeing it or finding it in a not so convenient place? It turns out that is another of the ways that grocery stores can try to pass on higher prices. There was a good WSJ report "*How Companies Raise Prices Without Raising Prices*" [LINK] "*Companies hope that by making price increases hard to see, they can escape notice and avoid a customer backlash*". It noted the well known shrinkflation but another was product placement. The WSJ wrote "*The critical insight is that every product in a brand's lineup has different markups and margins that aren't always intuitive to customers. To raise prices covertly, the brand or the grocery store sells more of the higher-margin items by increasing their availability and visibility in the store, or withdrawing popular lower-margin items from circulation for a period. The prices don't change, but customers pay more*." There were other techniques in the report. Our Supplemental Documents package includes the WSJ report.

What is the EIA's "Office of Energy Production Conversion and Delivery"?

We follow the EIA on Twitter and couldn't help check out the EIA job posting after seeing their tweet [LINK] "*We are #hiring! Check out this great position as the director for our Office of Energy Production Conversion and Delivery! [LINK]".* We had no idea what is the Office of Energy Production Conversion and Delivery. It turns out its basically a head of research ie. the person who leads the team of analysts. Or at least that is what we used to call it in the Cdn sellside. The job description is "*The incumbent plays a vital role in providing leadership and direction to the development and production of data reports and analytical products on all sources of energy supply, demand, price, and stocks, as part of EIA's comprehensive energy supply and demand data collection program.*"

Back to ¼ attendance at Bayern Munich matches with new Covid rules

The new Germany covid rules hit attendance at yesterday's Bundesliga football (soccer) matches. We had Bayern Munich/Arminia Bielefeld match on yesterday since Cdn superstar Alphonso Davies plays for Bayern. It was home match for Bayern, who restricted to ~25% of the Allianz Arena seating capacity >75,000. It was interesting to see the criteria of who could attend. In addition to being vaccinated, attendees has to have a negative antigen test (rapid test) not older than 24 hours before kick-off.

Operation Desert Storm & retreating Iraqi forces setting Kuwait oil wells on fire

Its hard to believe it was only 30 years ago for Operation Desert Storm. Anyone associated with the oil patch knows it well and how it was tense on when the US would attack and what would happen once the jets started bombing, the tanks were rolling and everyone shooting. One of the most common pictures from Operation Desert Storm was how the retreating Iraqi forces put Kuwait oil wells.

Figure 27: Kuwait oil wells on fire and abandoned Iraqi tank

Source: The Atlantic