

Energy Tidbits

Sept 26, 2021

Produced by: Dan Tsubouchi

Why Trafigura Sees \$100 Oil is a Structural Underinvestment in Oil for Dummies Lesson

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. Trafigura sees \$100 oil, 50% less capex in oil & gas vs renewables yet oil & gas is 10x as of much of energy mix. ([Click Here](#))
2. Vitol CEO sees high gas prices driving an extra 0.5 mmb/d oil demand this winter. ([Click Here](#))
3. Looks like increasing geopolitical risk to Libya's oil production as Haftar plans to run for President. ([Click Here](#))
4. Hard to see how real negotiations on JCPOA start soon after watching NBC interview with new Iran foreign minister. ([Click Here](#))
5. Added 2.0 bcf/d draw in 2022 on US gas supply as feedgas to soon start for Sabine Pass Train 6 at 0.7 bcf/d and Calcasieu Pass 1.3 bcf/d. ([Click Here](#))
6. Please follow us on Twitter at [LINK](#) for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.
7. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK](#).

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Natural Gas – Natural gas injection of 83 bcf, storage now -595 bcf YoY deficit

The EIA reported a 76 bcf injection (vs 75 bcf injection expectations) for the Sept 17 week, which was above the 5-yr average injection of 74 bcf, and above last year's injection of 66 bcf. Storage is 3.082 tcf as of Sept 17, reducing the YoY deficit to 589 bcf from 595 bcf last week and storage is 229 bcf below the 5-year average vs 231 bcf below last week. Below is the EIA's storage table from its Weekly Natural Gas Storage Report. [\[LINK\]](#).

YoY storage at
-595 bcf YoY
deficit

Figure 1: US Natural Gas Storage

Region	Stocks billion cubic feet (Bcf)				Historical Comparisons			
	09/17/21	09/10/21	net change	implied flow	Year ago (09/17/20)		5-year average (2016-20)	
					Bcf	% change	Bcf	% change
East	751	732	19	19	847	-11.3	807	-6.9
Midwest	904	876	28	28	1,005	-10.0	928	-2.6
Mountain	196	193	3	3	224	-12.5	206	-4.9
Pacific	240	240	0	0	312	-23.1	294	-18.4
South Central	990	965	25	25	1,282	-22.8	1,075	-7.9
Salt	228	217	11	11	349	-34.7	263	-13.3
Nonsalt	762	748	14	14	933	-18.3	812	-6.2
Total	3,082	3,006	76	76	3,671	-16.0	3,311	-6.9

Source: EIA

Natural Gas – Feedgas expected to start soon at 1.3 bcf/d Calcasieu Pass LNG

On Wednesday, S&P Global Platts reported [\[LINK\]](#), "Venture Global LNG's Calcasieu Pass said to be nearing completion". Early commissioning activities at Calcasieu Pass have begun, though it has not yet received approval for the flow of feedgas to its liquefaction trains as a precursor to production. CCO Tom Earl stated, "Calcasieu Pass is completing about now, and as we go through the coming months, we'll start production shortly at that site." It sounds like Calcasieu Pass is on track to start feedgas before year end 2021. Last week (Sept 15), we tweeted [\[LINK\]](#) "key upside to 2022/23 HH/AECO #NatGas prices. Feedgas start up for Sabine Pass LNG Train 6 (0.7 bcf/d) & Calcasieu Pass LNG (1.3 bcf/d). @business Christine Buurma says \$LNG requested @FERC authorization to start feedgas. #LNG See SAF July 25 Energy Tidbits". This week, Cheniere received FERC approval to start feedgas supply at Sabine Pass Train 6. Calcasieu Pass plus Sabine Pass Train 6 are key support for HH and AECO in 2022. The added capacity of 2.0 bcf/d will equate to more draw on the US natural gas supply. Our Supplemental Documents package includes Platts report.

Feedgas approval
pending at
Calcasieu Pass

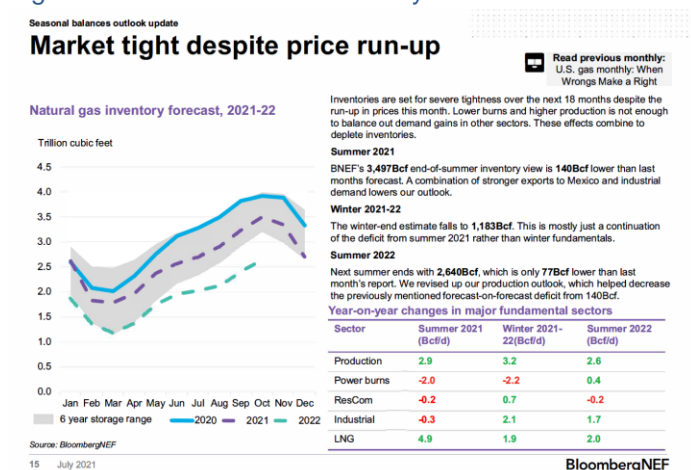
July 25 Energy Tidbits Big potential upside to 2022/23 HH & AECO gas prices

Here is what we put in our July 25, 2021 Energy Tidbits on this subject. "Oil prices have been strong, but the bigger surprise to the upside in 2021 has been global LNG, HH and AECO gas prices. There was an excellent reminder from BloombergNEF's Monday US Gas Monthly, which is why we tweeted [\[LINK\]](#) that the takeaway therefrom is that there is big potential upside to 2022 and 2023 forward strips for HH (~\$3.40 for 2022 and ~\$2.90 for 2023) and AECO (~C\$3.10 for 2022 and ~C\$2.60 for 2023). BloombergNEF's forecast for US gas storage for Oct 31/2021 was 3.497 tcf (140 bcf lower YoY) is on the conservative side considering storage is currently 532 bcf lower YoY with expectations for strong US LNG exports in the summer/fall. But then BloombergNEF had a shock forecast for Oct 31/2022 for US gas storage to be 2.640 tcf. This is a hugely bullish storage number, basically at least 1 tcf less than normal and the last time Oct 31 storage was under 3 tcf was Oct 31/2000 when HH went over \$10 the winter 2000/2001. Even if storage is 3 tcf, its hugely bullish for HH and AECO gas prices. The key reason for this hugely bullish storage forecast is simple – BloombergNEF includes the start up of Calcasieu Pass LNG (1.3 bcf/d) and

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Sabine Pass LNG Train 6 (0.7 bcf/d) around year end 2021. This timing is consistent with Platts recent forecast [\[LINK\]](#). The assumption is that the global LNG markets will absorb this additional LNG volumes of >700 bcf. We want to reiterate even if the global LNG markets don't absorb all the added LNG volumes and BloombergNEF's 2.64 tcf storage forecast isn't met, an Oct 31/2022 US storage forecast in the low 3 tcf's is very bullish to the forward strips of HH and AECO."

Figure 2: US Natural Gas Inventory Forecast



Source: BloombergNEF

Natural Gas– Manufacturers ask Granholm to restrict US LNG exports to refill storage

Its not just in Europe that there are worries about natural gas supply this winter with one manufacturers group asking Granholm to restrict LNG exports. Its also in the US. As noted above, US gas storage as of Sept 17 (just over 6 weeks until the start of the traditional Nov 1 start of winter gas season) is -589 bcf YoY and -229 bcf vs the 5-yr average. Last Friday, the Industrial Energy Consumers of America (IECA) sent a letter to Energy Secretary Granholm [\[LINK\]](#) urging her to “take immediate action under the Natural Gas Act (NGA) to prevent a supply crisis and price spikes for consumers this winter by requiring LNG exporters to reduce export rates in order to allow U.S. inventories to reach the 5-year average storage levels, and to place a hold on all existing, pending, and prefilling permits and approvals on LNG export facilities in the lower 48, and to conduct a review of whether they are in the public interest under the NGA.” We haven’t seen any formal response from Granholm, who has been traveling in Europe. But it would be hypocritical of Granholm to agree to restrict LNG exports in light of her criticism of Russia gas exports. On Thursday, Bloomberg/AFP reported ““The US has been clear that we and our partners have to be prepared to continue to stand up when there are players who may be manipulating supply in order to benefit themselves,” Granholm said in an online briefing during a visit to Warsaw. “We want to all have our eye on the issue of any manipulation of gas prices by hoarding or the failure to produce adequate supply,” she told reporters. “We are looking at this very seriously and we are united with our European allies in making sure you get adequate, affordable gas supply this winter,” she added.” Our Supplemental Documents package includes the IECA release and the Bloomberg/AFP report on Granholm’s comments.

Ask of Granholm to restrict LNG exports

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Are US LNG exports “consistent with the public interest”?

The Industrial Energy Consumers of America didn't specify what clause they were referring to for Granholm to restrict exports. But we believe one clause that might be applicable is [\[LINK\]](#) “§ 717b. Exportation or importation of natural gas; LNG terminals (a) Mandatory authorization order After six months from June 21, 1938, no person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the Commission authorizing it to do so. The Commission shall issue such order upon application, unless, after opportunity for hearing, it finds that the proposed exportation or importation will not be consistent with the public interest. The Commission may by its order grant such application, in whole or in part, with such modification and upon such terms and conditions as the Commission may find necessary or appropriate, and may from time to time, after opportunity for hearing, and for good cause shown, make such supplemental order in the premises as it may find necessary or appropriate”.

Natural Gas – Tellurian CEO warns Europe gas crunch could happen in US

On Thursday, the FT posted a report [\[LINK\]](#) “Tellurian chair: Europe’s gas crunch must be a wake-up call to America” on comments from Tellurian Chair Charif Souki. FT wrote “Charif Souki, the liquefied natural gas tycoon, tore into American energy policy, warning that without careful supply management, the country risked facing “exactly what happened in Europe”. FT wrote ““You can see if you don’t have a very careful energy policy, what happens is exactly what happened in Europe. You go with misguided priorities and then all of a sudden you hit a wall because you don’t have supply,” Souki told us. Souki, who took advantage of soaring shale gas supply to pioneer the Lower 48’s LNG export industry, said any such crisis would play out differently in the US because the country is a major energy producer. However, risks are especially acute for parts of the country that remain isolated from supply because it has become too difficult to build new pipelines, he argued. “Prices are high in California today . . . and we’re starting to put gas-fired power plants back in California. But we don’t have infrastructure to take the gas to California,” Souki said. The Biden administration should be doing more to make sure natural gas supply can reach customers, said Souki, especially in places like California and the north-east US.” No question Souki is worried that the set up that has caused the UK natural gas problem could hit parts of the US. Our question mark is how FT closed the report “But he said he hoped the European gas crisis would be a wake-up call for the administration. “Give President Biden some time. I’m hoping that when he finishes with all the rest, he’s going to have time to focus on energy policy and to start looking at it in a holistic sense. You have to have an energy policy.” Souki seems to assume Biden will be looking at what is happening and making changes to his energy policy, which we just don’t see happenng. Our Supplemental Documents package includes the FT report.

Tellurian warns on gas crunch risk in parts of US

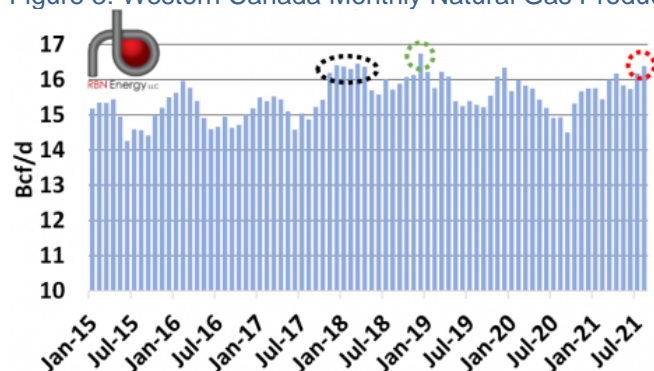
Natural Gas – RBN: Western Canada natural gas production at multi-year highs

The big surprise in 2021 has been natural gas prices way higher than anyone predicted a year ago. The economics for Cdn natural gas plays has never been better. On Monday, RBN posted a good blog “I Can’t Help Myself - Why Western Canada’s Natural Gas Production Has Been Hitting Multi-Year Highs” [\[LINK\]](#). In a blog post a year ago, RBN discussed that supplies had tracked lower in response to a short-lived OPEC-Russia price war. Canada gas production fell slightly by 0.32 bcf/d in 2020 to 15.4 bcf/d signalling a second consecutive year decline. One year later we have observed Canadian natural gas production see steady growth, with average gas supply in August rising to an annual high of 16.39 bcf/d, one of the highest levels in the past 20 years; supply momentum is expected to

Multi year highs for Canadian natural gas

be maintained into September. The Western Canadian AECO gas price benchmark, has tracked the price rally with the demand beginning to rebound. This has created huge incentive for producers to increase production with cash flows and earnings steadily increasing. Western Canadian producers responded by increasing output and cashing in on these price signals. Gas directed rig counts are at their highest levels since 2018 with the number of gas well completions already past the total number of completions for all of 2020. There are additional factors that suggest increased production could persist into 2022 to new all-time highs. Attractive price forecasts are likely to compel producers to continue to boost production, and the expanding gas pipeline grid in Western Canada will generate more downstream pipeline capacity. The blog wrote *“we believe that Western Canadian natural gas supply could post a record growth of 0.75 Bcf/d in 2021 to average 16.2 Bcf/d, which would be the highest output since 2007. Though still too early to say, a similar rate of growth could materialize in 2022, which would take gas production to an all-time record high north of 16.9 Bcf/d. Much will depend, of course, on the path taken by natural gas prices in 2022.”* Our Supplemental Documents package includes the RBN blog.

Figure 3: Western Canada Monthly Natural Gas Production



Source: RBN

Natural Gas – Hungary to lock up 15 year supply deal with Gazprom

This isn't a direct LNG story, rather it is more of a sign of the times for two linked natural gas themes - natural gas users are seeing risk/competition in long term supply and also want to lock in long term pricing so aren't exposed to spot LNG prices. Hungary does not have water access to LNG tankers so natural gas must come via pipeline. Earlier this morning, Bloomberg reported *“Hungary to Sign 15-year Natural Gas Deal With Gazprom on Monday. Hungary will sign a long-term natural gas agreement with Russian state-owned energy giant Gazprom PJSC on Monday, according to an email from the Foreign Ministry in Budapest.”* The deal reportedly is for ~0.43 bcf/d and is to be delivered via a southern route and not via Ukraine. There are no pricing details reported, but we expect it will be like other Gazprom deals and be some sort of oil linked pricing and no linkage to spot prices.

Hungary 15 yr supply deal with Gazprom

In Q2/21, Asian LNG buyers switched to locking up long term LNG supply

Hungary's move to lock in long term supply is linked to what is going on in LNG markets. They can see Asian LNG buyers have done a 180 and changed to tie up long term supply. And Hungary wants to make sure Gazprom is contractually obligated to deliver natural gas and not give Gazprom the option to send those volumes elsewhere via pipeline or LNG. We believe this theme of buyers locking up long term supply is a game changer. On July 14, 2021, we posted our 8-pg blog *“Asian LNG Buyers Abruptly Change and Lock in Long Term Supply – Validates*

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Supply Gap, Provides Support For Brownfield LNG FIDs” [\[LINK\]](#). The reason why we write longer blogs is that we try to provide the thesis and backup so readers don’t have to do dig up the back up or sign up to get the backup. We believe it is significant that Asian LNG buyers have changed their LNG contracting strategy post the Total Mozambique LNG force majeure and are now moving to lock in long term supply. We believe this is the best validation of the LNG supply gap and also a big plus for LNG supply FIDs. Here is the summary of 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 are the headers to each of the sections in the blog. Our Supplemental Documents package includes the July 14 blog and April 28 blog.

Natural Gas – India Aug natural gas production up MoM at 3.33 bcf/d

Unfortunately, we are now in a period where YoY comparisons aren’t necessarily relevant given 2020 was hit by the initial global wave of Covid causing interruptions in everything including oil and gas production. The key India natural gas theme for the past few years has been that India has not been able to grow its domestic natural gas production so any increase in natural gas consumption means equal increase in LNG imports. India’s Petroleum Planning and Analysis Cell released their monthly report for August natural gas and oil statistics last Thursday [\[LINK\]](#). India’s domestic natural gas production peaked in 2010 at 4.6 bcf/d. India’s domestic natural gas production was up 20.2% YoY from 2.43 bcf/d in August 2020 to 3.33 bcf/d, up from 3.29 bcf/d in July. The YoY increase is not necessarily reflective of significant growth, more so a return to pre-pandemic production, as April 2019 to March 2020 production averaged 3.02 bcf/d. India has consistently struggled to grow domestic natural gas production with 2018-2019 production averaging 3.18 bcf/d, declining to 3.02 in 2019-2020 and averaged 2.78 bcf/d 2020-2021. This means that until they can grow production, any incremental natural gas demand is likely to be met by increasing LNG

**India natural gas
production +1.11%
MoM**

imports. Our Supplemental Documents package includes excerpts from the PPAC monthly package.

Natural Gas – India Aug LNG imports down 3.5% YoY to 2.88 bcf/d, up 13.6% 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 exports from June to October 2020, taking advantage of low LNG prices to fill their stocks. Imports began to decline in November as LNG prices began to rise, with the price trajectory ramping up in late Dec and reaching record levels January. This resulted in India LNG imports declining from a 2020-2021 peak of 3.84 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 August of 3.27 bcf/d, down 3.5% YoY due to abnormally high spot prices. Note, imports in August were up by 13.6% MoM from 2.88 bcf/d in July as India begins to fill their inventories for the upcoming winter.

**India LNG imports
+13.6% MoM**

Natural Gas – Japan LNG Imports in Aug +7.8 YoY to 9.75 bcf/d

No one should be surprised that Japan LNG imports were strong in August even in the face of record summer LNG prices. Later in the memo, we remind that Japan was expected to keep its LNG tanks full this summer given the extremely low electricity power reserve for the summer. Japan Ministry of Finance released its August LNG import data last Thursday [\[LINK\]](#). Japan’s August LNG imports were 9.75 bcf/d, up +7.8% YoY and up +1.7% MoM from 9.58 bcf/d in July. It was a warm August which meant we should have seen large increases in LNG imports, but high Asian spot prices on LNG continue to see Japan looking for alternative fuel sources. Coal imports were relied on as the alternative of choice as Japan seeks to avoid high spot prices, up a significant +23.8% MoM. Below is a temperature map of August and our table that tracks Japan LNG import data.

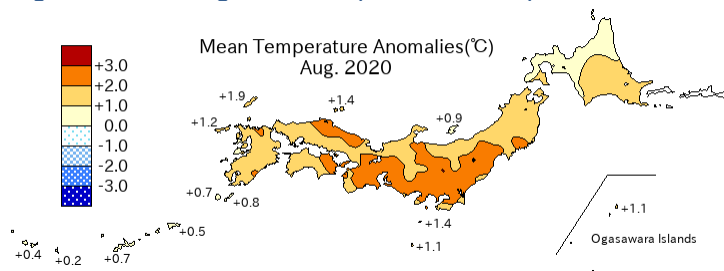
**Japan Aug LNG
imports +7.8% YoY**

Figure 4: Japan Monthly LNG Imports

bcf/d	2015	2016	2017	2018	2019	19/18	2020	20/19	2021	21/20
Jan	13.06	11.22	12.85	12.79	11.69	-8.7%	11.63	-0.5%	12.48	7.3%
Feb	13.26	12.30	13.36	14.23	12.61	-11.4%	10.99	-12.8%	13.84	25.9%
Mar	12.60	12.62	12.61	12.28	11.30	-8.1%	11.16	-1.2%	11.04	-1.1%
Apr	10.56	10.21	10.52	8.97	9.00	0.3%	8.31	-7.7%	7.96	-4.3%
May	8.91	8.55	9.66	9.92	8.62	-13.1%	7.09	-17.7%	7.67	8.1%
June	10.61	10.02	9.90	8.88	8.32	-6.3%	8.42	1.2%	9.13	8.5%
July	10.77	10.19	10.19	10.55	10.56	0.1%	9.35	-11.5%	9.58	2.5%
Aug	10.93	11.96	11.24	11.73	9.45	-19.5%	9.04	-4.3%	9.75	7.8%
Sept	11.06	10.67	9.31	10.04	10.30	2.6%	10.41	1.0%		
Oct	9.38	9.73	9.50	10.12	9.75	-3.6%	9.20	-5.7%		
Nov	10.71	12.07	10.26	10.15	10.03	-1.2%	9.63	-4.0%		
Dec	12.51	11.69	12.31	11.23	10.54	-6.2%	11.96	13.4%		

Source: Japan Ministry of Finance

Figure 5: JMA Aug 2021 Temperature Recap



Source: Japan Meteorological Agency

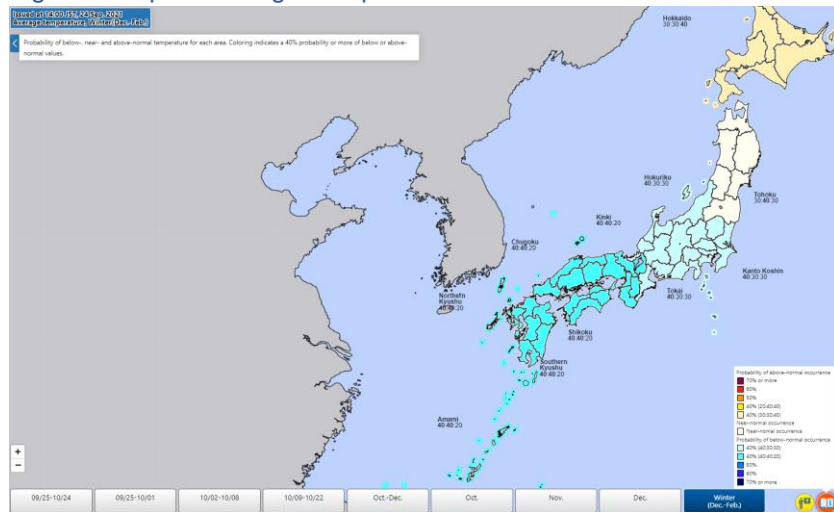
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Normal temperatures for Nov in Japan

Natural Gas – Japan forecasts below normal temperatures this winter

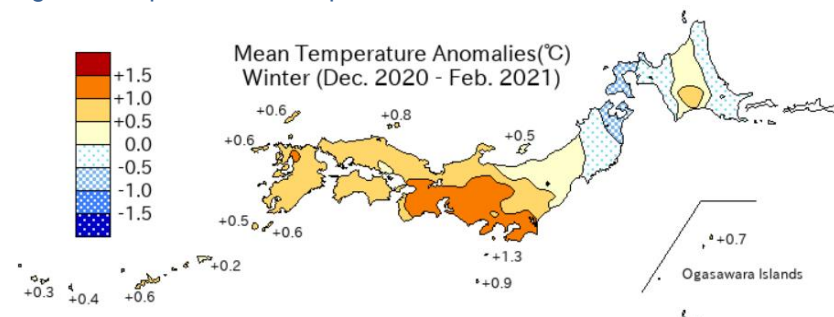
On Thursday, we tweeted [LINK](#) “Support for winter #LNG prices. Japan Meteorological Agency temperature probability for Winter (Dec-Jan-Feb) expects colder than normal Japan temperatures. #NatGas”. The Japan Meteorological Agency posted its winter forecast and it should provide positive support for 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 Friday, the Japan Meteorological Agency updated its winter forecast today [LINK](#) and it calls for below normal temperatures in Dec thru Feb. This is a similar YoY to last winter [LINK](#), which ended up having overall warmer temperatures than forecasted. Below is the updated forecast for DJF and the recap of last winter.

Figure 6: Japan Average Temperature Forecast Dec/Jan/Feb 21/22



Source: Japan Meteorological Agency

Figure 7: Japan Mean Temperature Anomalies Dec/Jan/Feb 20/21



Source: Japan Meteorological Agency

Natural Gas – Japan LNG tanks at highest levels since Jan 2020

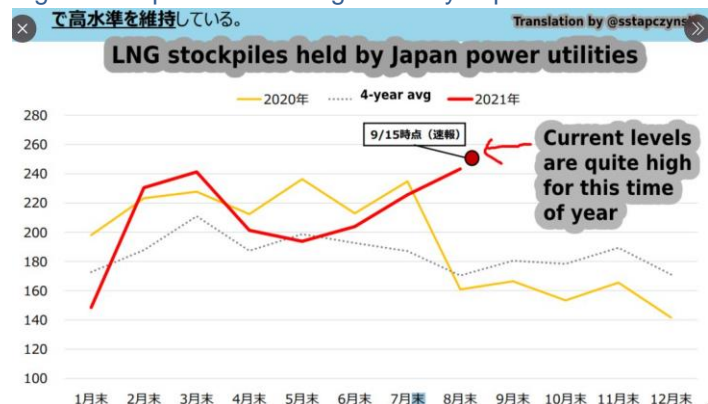
On Friday’s, Bloomberg’s Stephen Stapczynski tweeted [LINK](#) “Japan has been busy stocking up on LNG ahead of the winter. LNG inventories held by regional power utilities are currently well above the 4-year average for this time of year, and are at the highest level since at least January 2020, METI said in a presentation today.” Stapczynski also added that current value on the graph is 2.5 to 2.6 metric tons of LNG, which is 120 to 125 bcf. But he also noted that

Japan LNG storage

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this is “JUST for Japan's regional power utilities, which make up about 60% or 70% of the nation's LNG demand”.

Figure 8: Japan LNG Storage Held by Japan Power Utilities



Source: METI, Bloomberg

Japan was expected to keep its LNG tanks topped up this summer

We have been highlighting that Japan would want to keep its LNG tanks full this summer. We outlined this view in our May 16, 2021 Energy Tidbits. On May 11, we tweeted [LINK](#) “Japan will want to keep #LNG tanks topped up until worst is over. Japan summer peak power reserve only 3.7-3.8%. Positive for LNG & US LNG, less cargos redirected to refill EU storage. Imagine the AC bill if they had 0.5 mm visitors for olympics. Thx @SStapczynski #NatGas #OOTT.” The tweet was driven by the Bloomberg report that “Japan’s power supply is expected to be the tightest in “several years” this summer amid an outlook for warmer-than-normal weather and lower electricity output as some thermal facilities are shut, Minister of Economy, Trade and Industry Hiroshi Kajiyama said to press on Friday”, and “Japan’s nationwide peak power reserve rate, excluding Okinawa and Hokkaido, is expected to be 3.7%-3.8% this summer, according to NHK, citing the Organization for Cross-regional Coordination of Transmission Operators ** NOTE: The minimum level required by the Japanese government during peak demand times is 3%.” After our May 11 tweet, we saw the Platts report [LINK](#) on the METI press comments that reinforced our LNG comment writing “Among possible measures, METI intends to request Japanese utilities to report their LNG as well as other fuel procurement plans for summer in June to scrutinize them, a METI source told S&P Global Platts.” Note that if any US areas have reserve margins below 10%, its generally considered some sort of critical situation. As we put in our tweet, it just means that Japan is likely to be having more LNG imports this summer to keep their LNG tanks full.

Natural Gas – Equinor to increase gas exports, but its only 0.2 bcf/d

There were a number of positive reports on how Equinor is going to be a big help to the Europe natural gas crisis when Equinor announced it received permission to increase gas exports from two of its fields on the Norwegian continental shelf; primarily to supply the European market [LINK](#). Any added natural gas helps but, when we read the release, we tweeted [LINK](#) “#Equinor gets permits for Oseberg & Troll fields to each increase #NatGas production by 1 bcm for gas year starting Oct 1. Note 1 bcm/yr = 35.315 bcf/yr or 0.097 bcf/d so total export increase = 0.2 bcf/d. Unfortunately for Europe prices, its only a very small relief. #OOTT”. We just have to wonder if people did the math of how much added natural

Equinor increases exports by 0.2 bcf/d

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gas would be delivered or just read the headlines. Our Supplemental Documents package includes the Equinor release.

Natural Gas – Gazprom does not book additional capacity via Ukraine in October

Notwithstanding Secretary Granholm's views on Russia natural gas exports, surely no one expected Gazprom to take any additional (above contract) capacity to deliver natural gas via Ukraine. Russia continued to fulfill its contracted shipments of gas and has also been focused on trying to fill up its depleted domestic natural gas storage. On Monday, TASS reported that Gazprom declined to book additional capacity for gas transit through October at an auction held Monday [\[LINK\]](#). The operator of the Ukraine gas transportation system offered an amount of 0.098 bcf/d through the Sudzha gas metering station, and up to 0.052 bcf/d through the "Preservation" station. At the conclusion of the auction, capacities remained unclaimed. These are for additional volumes over and above the contracted volumes. In 2019, Moscow and Kiev extended the transit of Russian gas through Ukraine for the period of 2020-2024. The contract gave the transit 65 bcf in 2020 and a projected 40 bcf annually from 2021-2024. The arrangement includes a "pump or pay" principle when the transit fee is charged in the amount of the booked capacity. Last year the Russian transit of gas through Ukraine was at its lowest level in 30 years at 55.8 bcf. In September, the cost of futures at the TTF hub in the Netherlands reached \$950/kcf then dropped to \$800/kcf. Our Supplemental Documents package includes the Gazprom report

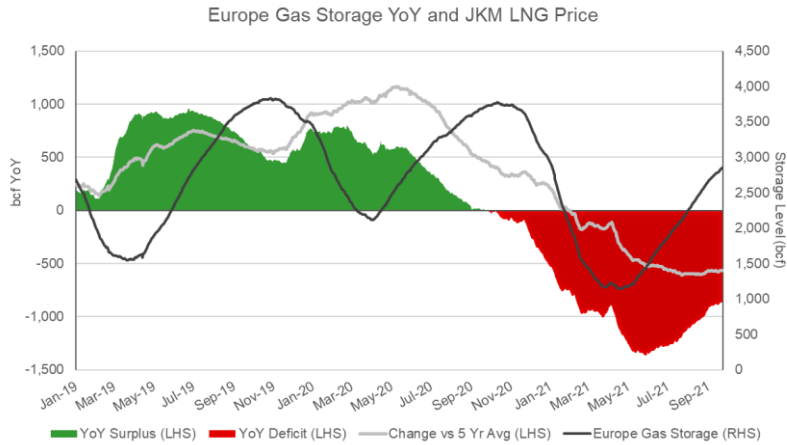
Gazprom doesn't book extra capacity via Ukraine

Natural Gas – Europe storage 72.78% full vs 5 year average of 88.41%

Injection season for Europe gas storage for the winter continues to look weak which continues to indicate high winter Europe natural gas prices unless it is a very warm winter. Differentials continue to favour Asia, as has been the case most of the summer and are only just beginning to deal with Europe. Europe gas storage won't be at normal levels, the question continues to be what the level will be come the start of winter. Inventories are at their lowest level in more than a decade. The set up for winter natural gas prices in Europe looks strong. The key indicator for winter Europe natural gas prices, and also global LNG prices is Europe storage. Europe gas storage started the winter (Nov 1) at basically full levels at 94.66% and had dropped by 65.77% to be 28.89% at Apr 1. This 65.77% decline since Nov 1, compares to the 5 yr average that would be down 53.99% in the same period or to last winter that was only down 43.29% in the same period. We are now seeing storage start to build, but the build is slow due to the above reasons. Europe storage levels bottomed in late Apr at 29%, which was the lowest level since Apr 2018. Storage as of Sept 23 is 72.78%, which is -21.6% less than last year levels of 94.38%, and are -15.63% below the 5-year average of 88.41%. Europe storage levels over the next few weeks will be the key item to watch for indications on LNG markets going into the winter. Below is our graph of Europe Gas Storage Level.

Europe gas storage 72.78% full; lowest levels in a decade

Figure 9: Europe Gas Storage Level



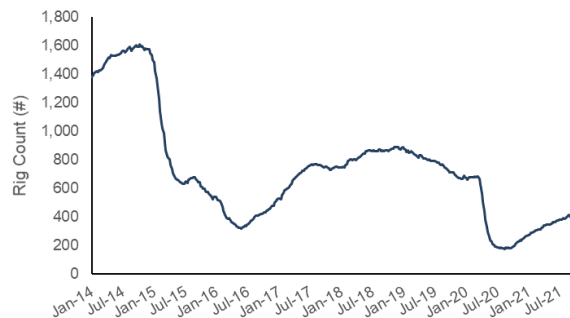
Source: Bloomberg

Oil – US oil +10 WoW at 421 oil rigs

Baker Hughes released its weekly North American drilling activity data at 11am Friday. This week US oil rigs were up +10 rigs WoW at 421 rigs. Oil rigs are +249 off the bottom of 172 in Aug14/2020 week. US oil rigs are expected to continue to increase driven by >\$70 oil, strong balance sheets and the need to replenish DUC inventory. It is important to note that the significantly stronger than budgeted cash flows provides added cash flow that can be used to return capital to shareholders, reduce debt and some minor capex/drilling increases. Permian, which was up +1 this week, has been the oil basin expected to drive growth, so no surprise that seeing increases especially as we near year end as most producers have surplus capex budget. US oil rigs hit their 2020 peak at 683 on March 13 and have since fallen by 262 to 421 oil rigs (-37.7%). The biggest contributor to the decrease is the Permian being down 159 oil rigs from the March 13, 2020 peak (-38.2%), although we are seeing it start to ramp up a bit. Also note the Bakken is down 29 oil rigs to 23 active oil rigs (-55.8% from March 13, 2020). Below is our graph of US oil rigs since 2020, which highlights the big decreases in Permian and Bakken oil rigs.

**US oil rigs +10
WoW**

Figure 10: Baker Hughes Total US Oil Rigs



Source: Baker Hughes

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Oil – Frac spreads +5 to 257 as of Sept 24

There was a very short Primary Vision Frac Spread Count YouTube recap this week [\[LINK\]](#). The update is normally provided by Mark Rossano (C6 Capital Holdings) but Mark Johnston filled in for him this week. And Johnston started off the short video explaining they had technical difficulties. US frac spreads were +5 to 257 for the week ended Sept 24. Johnston said there was a little bit more activity in the western Gulf (normally refers to Eagle Ford) and in the Bakken. They continue to look for increasing oil rig activity to rebuild DUC inventory. The increase is a little more than expected. Last week, Rossano said he was expecting to see 254 spreads at end of Sept, and that October will be a very strong month reaching 275 in October/November, and then see some seasonal decline but not to the level as seen in the past.

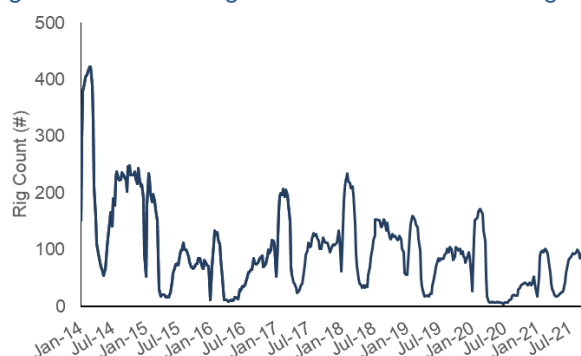
Frac spreads +5 to 257

Oil – Total Cdn rigs +8 to 162 total rigs and +91 rigs YoY

Total Cdn rigs were +8 this week to 162 total rigs. Cdn oil rigs were +1 at 96 rigs. Cdn gas rigs were +6 to 65 gas rigs. Total rigs are now +149 since the June 26, 2020 all-time low. We have been expecting a ramp up with the normal Aug/early Sept pause comes to an end. Cdn drilling has recovered YoY, a year ago Cdn oil rigs were 33 and Cdn gas rigs were 38 for a total Cdn rigs of 71, meaning total Cdn rigs are +91 YoY and total rigs are up +35 vs 2019.

Cdn rigs +8 WoW

Figure 11: Baker Hughes Total Canadian Oil Rigs



Source: Baker Hughes

Oil – US weekly oil production up +0.500 mmb/d WoW at 10.60 mmb/d

US oil production was up +0.500 mmb/d to 10.60 mmb/d for the Sept 17 week, driven by Lower 48 production WoW increase of +0.500 mmb/d to 10.200 mmb/d. Hurricane Ida decimated U.S. crude production, as output fell by -1.500 mmb/d two weeks ago, the biggest weekly drop in EIA data going back nearly four decades. Production is slowly returning as Gulf platforms resume operations, after remaining relatively flat last week while repairs were conducted. Next week's reported US oil production should be modestly higher with some added return of shut-in GoM production post Hurricane Ida. US oil production is down YoY at -0.100 mmb/d, and is down significantly at -2.6 mmb/d since the 2020 peak of 13.1 mmb/d on March 13. The EIA DPR has the effectively flat expectations for Sept/Oct for the major shale/tight oil plays.

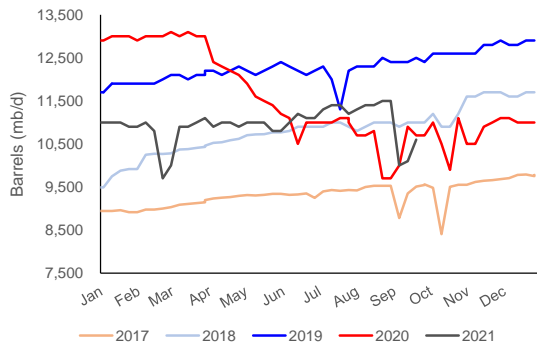
US oil production up WoW

Figure 12: EIA's Estimated Weekly US Oil Production

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

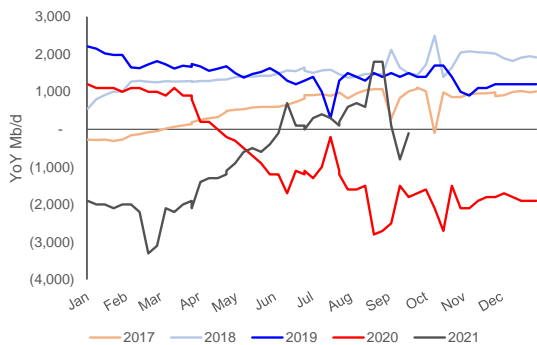
Source: EIA

Figure 13: US Weekly Oil Production



Source: EIA, SAF

Figure 14: YoY Change in US Weekly Oil Production



Source: EIA, SAF

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Oil – Trafigura, US oil stocks would be well below 5-yr range if include SPR declines

Very bullish US oil stocks

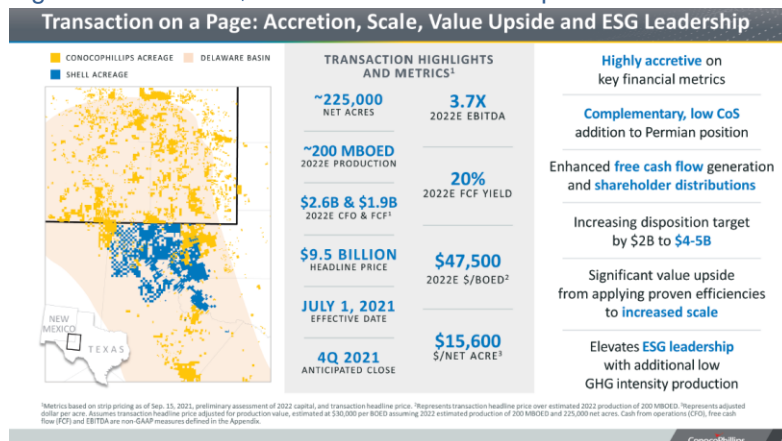
Today’s memo is noting a few of the many insights/reminders from the Argus Media keynote interview with Trafigura Chief Economist Saad Rahim at Tuesday’s Argus Asia-Pacific Crude and Products Online Forum. [LINK](#). We made transcripts of his key comments such as his reminder on US oil inventories and that US oil inventories would be well below the 5 year range after accounting for the reduction in Strategic Petroleum Reserve inventories. On Friday, we tweeted [LINK](#) “US #Oil inventories are below the 5-yr average but would be “well below the 5-yr range” if include the #StrategicPetroleumReserves declines. Note SPR is - 36.5 mmb since July 2020. Many more great insights from @ArgusMedia interview w/ @saadrahim #OOTT”. Our tweet noted the EIA data that show SPR oil inventories are down 36.5 mmb since July 2020. At the 15:00 min mark, Rahim noted that how data such as oil inventories are telling you the market is hungry for oil. And then he said “And if you look at, in particular, at stocks in the US, so on the crude stocks, you are not quite at the bottom of the 5 year range, you’re certainly well below the 5 year average. but that’s excluding the SPR. And I think what a lot of people are missing is that there have been significant SPR releases throughout this whole time period. And when we look at those, you are well below the 5 year range, so you’re really at lows that we haven’t seen in quite some time there.” Our Supplemental Documents package includes our SAF Group created transcript of the Trafigura comments on the SPR and other insights.

Oil – Conoco buys Shell’s Permian assets for 3.7x 2022 EBITDA at WTI \$50

Conoco buys Permian for 3.7x EBITDA

The metric that jumped out at us from ConocoPhillips \$9.5b cash acquisition of Shell’s Delaware Basin assets [LINK](#) was the cash flow multiple. Conoco called the deal “a complementary, highly accretive acquisition” and they weren’t kidding. Once we saw the Conoco slide deck, we tweeted [LINK](#) “Quality #Permian assets at 3.7x 2022e EBITDA at real 2020 prices of WTI\$50, HH\$3.00. No wonder \$COP #Permian acquisition is hugely accretive. Much stronger than expected #Oil #NatGas #LNG prices thru 2020s give \$RDSA financial flexibility to sell assets & huge upside to COP #OOTT”. Conoco estimates they are paying 3.7x 2022 EBITDA of the assets and that is run on 2020 real prices of WTI \$50 so call it low \$50s. And at these low WTI, Conoco forecast the assets will generated a 20% 2022E FCF yield. No wonder they call it highly accretive. Our tweet also noted that the reason why Shell could sell these assets is that the much stronger than expected oil, natural gas and LNG prices are diving huge cash flow for Shell. Our Supplemental Documents package includes the ConocoPhillips release and excerpts from their deal slide deck.

Figure 15: Conoco \$9.5b Delaware Basin acquisition metrics



Source: ConocoPhillips

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Oil – Trafigura sees US shale + 1 mmb/d from today, but 1 mmb/d below 2019 peak

Earlier, we noted Trafigura's Rahim's bullish comments on US oil inventories. Another key insight was the Trafigura view on US shale growth. At the 30:45 min mark of the video [\[LINK\]](#). Rahim is asked about US shale growth. He gives a long answer about how there is capital discipline this time, DUCs are almost depleted now, and will need to add rigs but then says need to deploy more rigs, and then at 32:20 min, Rahim says *"have to start deploying rigs, which means you have to do capex, but to authorize that you have to look at the price curve right. its not just today's price. What does that curve look like, and then can I go out and do that. Can I convince my shareholders and my board that this is the right thing to be doing. Part of it, you'd say they've done the right thing because prices have gone up and their production hasn't. but they're just getting a lot more money for those barrels and they haven't needed to spend more. the free cash flow has gone up, etc. at some point, they are going to pay dividends, and that will change the picture for a lot of these shareholders. But we have to get there. if you look at the WTI curve, we're still below \$55 in 2025. which sure feels a long way away, but if you're making capex decisions on a longer time frame and not just what am I going to get out of it in the next year, it starts to matter"*. And then at the 33:40 min. mark, Rahim says *"i should be clear, we, as with everyone else, do see production starting to increase coming into next year, we have it coming back, I'd say about 1 million b/d from where we are today. but that still leaves you a million b/d short from the pre pandemic peak, give or take"*

Trafigura on US shale growth

Oil – Covid outbreaks in oil sands facilities down from 7 to 6 as of Sept 21

Wood Buffalo posted a Sept 21 Covid update [\[LINK\]](#). Versus their prior Sept 16 update, there was one less oil sands facility on the Covid outbreak list with the removal of the Private Gathering Area from the outbreak list. The remaining 6 outbreak oil sands facilities are: CNRL Albion, CNRL Horizon, CNRL Kirby Jackfish, MEG Christina Lake, Suncor Firebag and Suncor Fort Hills.

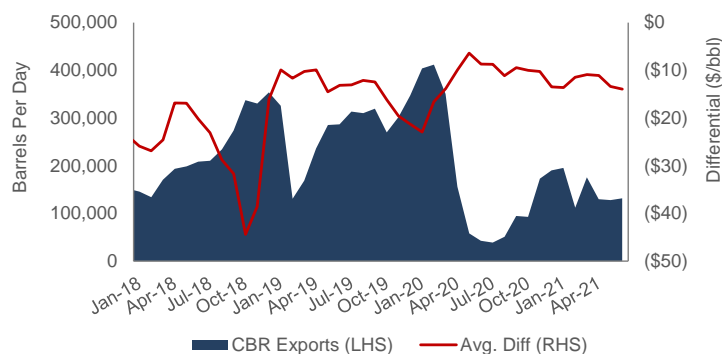
Covid in oil sands

Oil – Cdn crude by rail exports up 11,211 b/d MoM to 142,835 b/d in July, up 368% YoY

The Canadian Energy Regulator (successor to NEB) reported Canadian crude by rail exports were +11,211 b/d MoM in July to 142,835 b/d vs 131624 b/d in June [\[LINK\]](#). This puts July export volumes at +103,968 b/d YoY (+368%) vs July 2020 of 38,867 b/d. CBR volumes are +103,698 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. July WCS-WTI differentials remained around the \$13-\$14 range. 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.

Cdn crude by rail exports increase MoM

Figure 16: Cdn Crude by Rail Exports vs WCS Differential



Source: Canadian Energy Regulator, Bloomberg

Oil – Colombia makes tweaks to bidding to encourage more oil capex

Colombia has been viewed as a country that tries to be supportive of the oil and gas sector as it recognizes the importance of the sector to the economy. Colombia’s government take share is less than other Latin and South American countries. The Financial Times [\[LINK\]](#), that Colombia’s ANH is making changes to the production contracts for Colombia’s 2021 licensing round. The changes are not viewed as material, but are viewed as being small positives with minor changes to prequalification and contract terms. Colombia oil production was stuck below 900,000 b/d pre-Covid, and stuck in the low 700,000’s b/d post Covid with the combination of pandemic impacts on oil capex and blockades from protests in the spring of 2021. FT reported that the new tweaks include the rules for companies to prequalify and the contract terms have been reviewed to improve the 2021 process to attract new investments in both exploration and production. And that the newly designed contracts allow for separation and exploration of the exploration and production sections, allowing greater flexibility to investors in execution of work plans and ensuring compliance with timelines and regulatory requirements when proceeding with developmental discoveries. Below is our table of Colombia monthly oil production and a graph comparing Colombia government take vs other Latin & South America countries. Our Supplemental Documents package includes the FT report.

Colombia slightly adjusts production terms

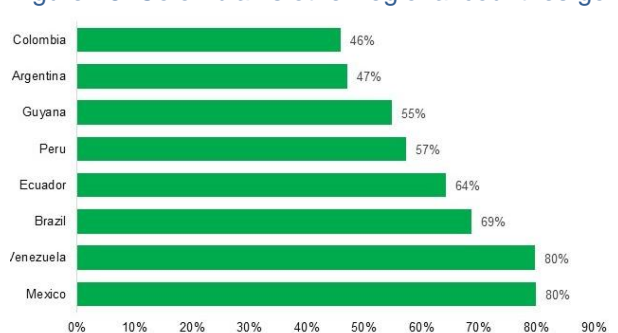
Figure 17: Colombia Oil Production

million b/d	2015	2016	2017	2018	2019	2020	20/19	2021	21/20
Jan	1.036	0.986	0.860	0.860	0.899	0.884	-1.7%	0.745	-15.7%
Feb	1.030	0.955	0.864	0.823	0.893	0.878	-1.6%	0.746	-15.1%
Mar	1.023	0.917	0.804	0.856	0.885	0.857	-3.1%	0.745	-13.0%
Apr	1.029	0.915	0.857	0.865	0.891	0.796	-10.6%	0.745	-6.4%
May	1.027	0.904	0.851	0.866	0.895	0.732	-18.2%	0.703	-3.9%
June	1.010	0.888	0.857	0.864	0.892	0.730	-18.2%	0.694	-4.9%
July	0.947	0.843	0.856	0.860	0.869	0.735	-15.4%	0.731	-0.5%
Aug	0.968	0.827	0.858	0.866	0.883	0.742	-15.9%		
Sept	1.009	0.859	0.851	0.869	0.879	0.749	-14.8%		
Oct	1.005	0.846	0.864	0.879	0.883	0.751	-14.9%		
Nov	0.990	0.855	0.851	0.883	0.880	0.761	-13.5%		
Dec	0.999	0.837	0.870	0.889	0.882	0.759	-14.0%		

Source: Bloomberg, Colombia Ministry of Mines and Energy

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Figure 18: Colombia vs other regional countries government take



Source: HIS Markit, Vantage

Oil – Brazil August oil production of 2.997 mmb/d, down -2.9% YoY and -1.6% MoM

We have been highlighting our view that one of the 2021/2022 positives to oil is the likelihood that Brazil disappoints on its production growth targets. This is, at least so far, unfolding as August oil production was down -2.9% YoY and -1.6% MoM. And recall that Brazil has been expected to have oil growth in both 2021 and 2022. It's been a tough year for Petrobras with internal issues driven by government forced changes to the board and management, and Covid has been impacting Petrobras operations so no surprise it hasn't been delivering on plan. On Sept 16, ANP reported Brazil oil production of 2.997 mmb/d, which is down 1.6% YoY and -1.6% MoM from 3.044 mmb/d in July [LINK]. Below is Brazil's oil production by company.

**Brazil oil
production
down -1.6 MoM**

Figure 19: Brazil Oil Production by Company (kbpd)

Company	Aug-21	Aug-20	y/y (%)	Jul-21	m/m (%)
Petrobras	2,190.4	2,303.6	-4.9%	2,231.6	-1.9%
Shell Brasil	369.5	377.3	-2.1%	373.6	-1.1%
Petrogal Brasil	105.5	109.6	-3.7%	105.0	0.5%
Repsol Sinopec	70.8	71.7	-1.2%	70.4	0.5%
Petronas	40.6	44.2	-8.0%	41.4	-1.7%
Equinor Energy	35.8	37.7	-5.1%	35.2	1.6%
Total	0.0	35.8	-100.0%	0.0	n.a
Others	184.5	107.1	72.3%	187.5	-1.6%
Total (kbpd)	2,997.1	3,087.0	-2.9%	3,044.8	-1.6%

Source: ANP

Oil – Norway August oil production of 1.812 mmb/d, up +3.4% MoM

The Norwegian Petroleum Directorate released its August production figures [LINK] of 1.812 mmb/d of oil, which is +4.7% YoY and +3.4% MoM from July of 1.753 mmb/d. August production hit the highest level since last December and was basically on par (+0.0052 mmb/d) with the forecast amount of 1.760 mmb/d. The NPD does not provide any explanations for the MoM changes, but we expect it was because of the timing of turnarounds. The story for Norway has been that its oil production returned to growth in the last 3 years because of the Johan Sverdrup oil field. Our Supplemental Documents package includes the NPD August release.

**Norway oil
production**

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Figure 20: Norway August 2021 production

Production August 2021

		Oil mill bbl/d	Sum liquid mill bbl/d	Gas MSm ³ /d	Total MSm ³ o.e./d
Production	August 2021	1,812	2,114	301,3	0,637
Forecast for	August 2021	1,760	2,056	312,6	0,639
Deviation from forecast		0,052	0,058	-11,3	-0,002
Deviation from forecast in %		3,0 %	2,8 %	-3,6 %	-0,3 %
Production	July 2021	1,753	2,035	309,4	0,633
Deviation from	July 2021	0,059	0,079	-8,1	0,004
Deviation in % from	July 2021	3,4 %	3,9 %	-2,6 %	0,6 %
Production	August 2020	1,731	2,027	286,8	0,609
Deviation from	August 2020	0,081	0,087	14,5	0,028
Deviation in % from	August 2020	4,7 %	4,3 %	5,1 %	4,6 %

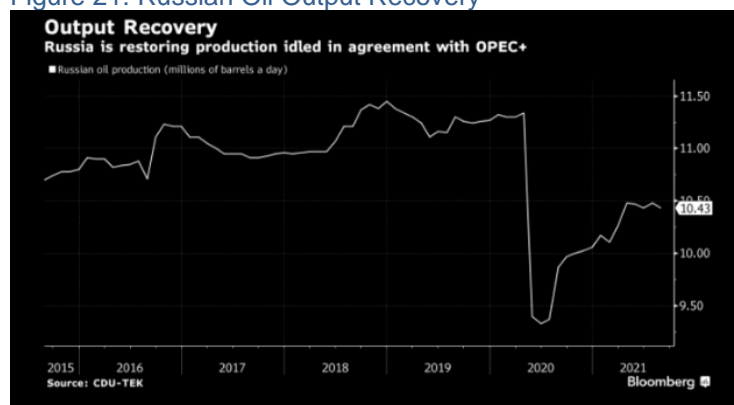
Source: Norwegian Petroleum Directorate

Oil – Russia expects to get back to post Soviet high oil production

On Monday, Bloomberg reported [LINK](#) Russia’s forecasts “according to a draft budget submitted by the Finance Ministry to the government”. Bloomberg wrote “Russia expects oil output next year to be back near its post-Soviet high as OPEC+ eases production curbs. Russian companies are seen raising combined production of crude and a light oil called condensate by 8% to 559.9 million tons in 2022, and stay close to that level from 2023 to 2024, according to a draft budget submitted by the Finance Ministry to the government. that Russia’s projected average output for 2022 is 11.24 mmb/d, just short of the 2019, and post-Soviet, high of 11.25 mmb/d. Russian companies are raising production of crude and condensate by 8% to 554 tons, with aim to remain near that level for 2023 and 2024.” Below is a graph depicting Russian oil output. Our Supplemental Documents package includes the Bloomberg report.

Russia to increase oil production

Figure 21: Russian Oil Output Recovery



Source: Bloomberg

Oil – Nigeria sees natural gas issues helping oil prices

The big emerging analyst theme is how high LNG and natural gas prices is leading to switching from natural gas to petroleum products. And that this boost in demand for petroleum products gives another near term leg to oil prices. Its not just analysts, but also oil producers on this theme. On Thursday, Bloomberg [LINK](#), reported the Nigerian National

Natural gas price surge could increase oil prices

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Petroleum Corporation (NNCP) believes the global natural gas crisis could lead to oil price increases in the next 3-6 months. The current market distortion is expected to lead to an increase of \$10/bbl. This will bring the price to approx. \$86/bbl, from the current Brent price of \$76/bbl, and drive demand for oil up 1 mmb/d. Director of the NNCP, Mallam Kyari, stated *“it will absolutely hit crude prices as energy consumers are forced to shift from gas to other fuels. You wouldn't be very wrong if you said you would see an additional \$10 on a barrel maybe three months, maximum six months.”* Kyari expects to see this theme in price emerge in gas-rich economies, with several midstream gas projects being stalled. He disclosed that there are still natural gas supply gaps in Nigeria as the LNG plant has experienced several recent setbacks. Kyari believes that many jurisdictions, including Nigeria, observe a close link in production between natural gas and oil. Nigeria expects to reach OPEC quotas levels by end of October, after setbacks from earlier in the summer are resolved. Our Supplemental Documents package includes the Bloomberg report..

Oil – Next OPEC+ meeting is scheduled for Monday Oct 4

As a reminder, the next OPEC+ meeting is the 21st OPEC and non-OPEC Ministerial Meeting scheduled for Monday October 4. Like last month's meeting, OPEC+ will be seeing the uncertainty on the impact of the Delta spread. But different this month is the increasing views that high LNG and natural gas prices are leading to gas to petroleum products switching and increased demand this winter.

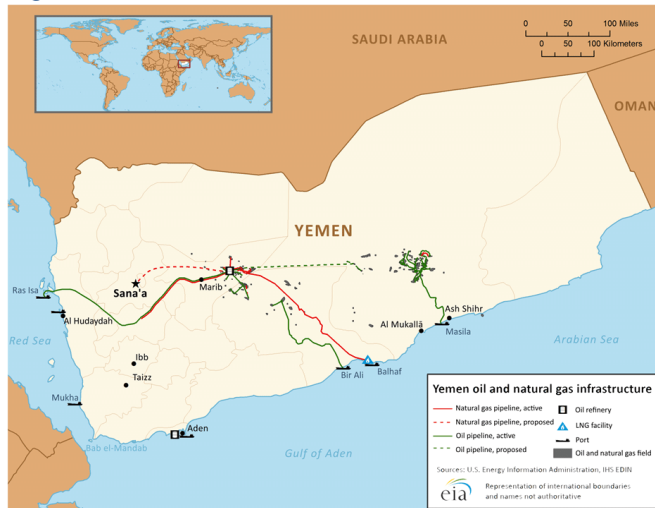
**OPEC/non-OPEC
Sept 1 meeting**

Oil – Worth keeping an eye on Houthis push to capture Marib

We think its worth keeping an eye on the Houthis push to capture Marib and, more importantly, if the Saudis escalate air attacks to prevent that takeover. This is what happened in Q1. Its never a 100% clear what is happening in the Yemen fighting but, on Thursday, Reuters reported [\[LINK\]](#) that *“Houthi military forces are intensifying their push towards the central Yemeni city of Marib, which is held by the Saudi-backed government, and are stepping up fighting in the south, Houthi group and Yemeni military sources said on Thursday. After recent advances and fierce fighting, Houthi military spokesman Yahya Sarea said the group's fighters were on the western outskirts of Marib city and pushing up on other fronts having inflicted many casualties in recent months. A Yemeni government military source said Houthi forces are around 18 km west of Marib city, but the main fighting has been in the southern region of Shabwa, which has several oil fields and the country's sole liquified natural gas terminal.”* Marib is a significant location as it is the traditional Yemen oil and natural gas region/hub (see below EIA map). Marib was early established as key for Saudi to control in its original plan to resume control of all of Yemen for the Saudi supported Yemen government. The Houthis have escalated their push to gain control of Marib for most of the last year. The reason why we highlight it now is that in Q1/21, the Houthis were in a similar position, and then the Saudi's escalated air attacks to push back the Houthis. The Houthis warned the Saudis to not do so, or else they would attack key Saudi Arabia including Saudi Aramco sites. We have not yet seen any similar warnings since Thursday. Our Supplemental Documents package includes the Reuters report.

**Houthis pushing
on Marib again**

Figure 22: Yemen Oil and Natural Gas Infrastructure



Source: EIA

Marib was part of the old North Yemen

As we have previously noted, we believe that the end game of the war is very likely a return to the old North and South Yemen divide. And that is another reason why the battle for Marib is significant. In our Feb 21, 2021 Energy Tidbits, we noted comments from Houthi leader Abdul-Malik al-Houthi speech [\[LINK\]](#) where he stated “We do not want to be under the guardianship of Saudi Arabia, the United Arab Emirates (UAE), the US, Israel, or any foreign country; we are free, and our faith identity compels us to strive to achieve our independence”. So what is now significant is if this is direction the war is heading is where the borders will end up. Marib had previously been part of North Yemen (Yemen Arab Republic). So if the Houthi’s had a goal of recreating North Yemen, they will want to control Marib, especially as it is the key oil and gas region.

Figure 23: Yemen 1967-1990 Pre Unification



Source: Wikipedia

In March, Houthis warned of attacks on Aramco if Saudi kept attacking Marib

Our April 4, 2021 Energy Tidbits wrote “No one should be surprised by the Houthis escalation of drones and ballistic missile attacks on Saudi Aramco. The Houthis have been warning they will be attacking Saudi Aramco. So the attacks on Saudi Aramco’s Riyadh refinery last week, the earlier missile attack on the Saudi Aramco

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major loading terminal and refinery at Ras Tanura, and their claimed drone attack on important and sensitive targets in Riyadh should not be a surprise. We have been highlighting the battle for Marib in Yemen with our view that this is likely the major battle that signals the end may be nearing for the Saudi/Houthi war. Tied to the Marib battle, our March 7, 2021 Energy Tidbits highlighted that week's warning by the Houthis to Saudi that if Saudi continued its air strikes in the battle for Marib, the Houthis would turn their attacks to Saudi Aramco facilities. That has happened. In the March 7 memo, we wrote "Earlier this week, on Tuesday the Jerusalem Post reported [\[LINK\]](#) on the Houthis "will strike at Saudi Arabia's Aramco if Saudi Arabia or UAE "fighters or supporters" commit "aggression" in certain areas. The Houthis pointed to the "Safer oil fields", as an example. It was not clear where this red line was or what specific infrastructure they don't want targeted." "The most important message is to warn the Saudi regime not to think of attacking Ma'rib oil structures .Therefore, if the Safar oil sectors are targeted by Saudi or Riyadh-based fighter jets, the Sanaa forces will also use 'UAVs and missiles will bomb Saudi oil structures in a large-scale operation.'" He warned of another Abqaiq-style attack".

Oil –Doesn't sound like serious JCPOA negotiations in the coming weeks

There was an excellent NBC interview with the new Iran foreign minister but, we didn't see this NBC Nightly News 32 min interview video until this morning so don't have time to write up the key quotes from new Iran Foreign Minister Hossein Amirabdollahian with Andrea Mitchell on Thursday night. This is the extended video [\[LINK\]](#). The video story link is titled "*Iran remains ready to return to nuclear talks 'very soon,' says new Iranian foreign minister*". No question he said that but, after listening to the interview this morning, we don't see how any significant JCPOA negotiations resume in the coming weeks unless Iran sees some sort of clear US action, not just words. Amirabdollahian said on multiple times they are action oriented and that what matters to them is action not words. Or as he said in one spot, we hear beautiful words, but they need to see action. And he reminded that the Biden administration keeps putting new sanctions on Iran. Its worth a listen. We couldn't find any transcript from NBC or on Bloomberg. NBC also posted a story [\[LINK\]](#). Our Supplemental Documents report includes the NBC report.

Iran foreign minister interview

Oil – Libya NOC Chairman will remain at head of company

Its hard to say if Libya Chair Sanalla won the battle against Oil Minister Oun but, at least for now, Sanalla is not at risk of losing his job as recommend by Oun. Last Sunday, Bloomberg reported the PM has squashed any move to oust Sanalla and he will remain as Chair of the Libya National Oil Corporation. Our September 12 Energy Tidbit noted the growing feud between Sanalla and Oil Minister, Mohamed Oun; it stated, "*they are looking at NOC board changes, which would seem to suggest the power struggle is not over.*" Libya's Prime Minister Abdul-Hamid Dbeilbah stated his decision in a decree, with hopes to end the feud between the two key oil officials and improve the stability of Libya's financial lifeline. The decree nullified a decision by the oil minister, who sought to suspend Sanalla. The NOC was pleased with this decision as reflected in their statement, "*the National Oil Corporation (NOC) welcomes the decision of the Prime Minister of the Unity Government No. (292) to withdraw the decision of the Minister of Oil and Gas No. (35) to suspend the Chairman of the National Oil Corporation from work... and consider all decisions, correspondence and measures taken in this regard to have no legal effect. Based on the foregoing, the National Oil Corporation is also waiting for the Ministry of Oil and Gas to take the initiative, put aside disputes, rise above some practices, and assist the National Oil Corporation in providing the necessary budgets in order to achieve the sector's goals. Such goals include the development of reserves, modernizing the dilapidated infrastructure of the oil sector, realizing production targets and*

Libya NOC chairman to remain in position

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achieving the highest revenues for the state treasury. Oun's decision predicated on a claim the Sanalla had travelled abroad in violation against the ministry's policies. The decision was widely viewed as another example of distortion prevalent in Libyan politics. Our Supplemental Documents package includes the NOC release.

Oil – Increased Libya oil risk, General Haftar running for Libya President

We have to believe there is increasing geopolitical risk to Libya's oil production recovery in the run up to the Dec 24 elections. (i) On Wednesday, we tweeted [LINK](#) on the news that General Haftar will be taking a 3 month leave from his position so he can run for President in the Dec 24 election. As the Libya Observer wrote [LINK](#) "Haftar's presidential bid has been expected from the start of the preparations for December elections". Whether it was expected or not, it certainly looks like the Dec 24 election will be interesting. But we tweeted [LINK](#) "Increased geopolitical risk in Libya? Wonder what happens if #Haftar loses Dec 24 election and charges some sort of election fraud? Or even if the election is delayed? #OOTT". Our first thought in seeing the reports is what happens if he loses, especially if there is any controversy. It could be worse than if Trump ran in 2024, lost and claimed another stolen election as Haftar controls the Libyan National Army. The west has a larger population anchored by Tripoli than the east anchored by Benghazi. Its why we have to believe there is increased geopolitical risk in Libya in the upcoming Dec 24 election. (ii) But then yesterday, we tweeted [LINK](#) "Increased geopolitical risk to Libya's #Oil production. Looks like we won't have to wait to see if Haftar loses Dec 24 election, @Lyobserver "We will never allow Haftar to run for president, head of High Council of State Khalid Al-Mishri declares". #OOTT".

Haftar running for President

Libya's High Council of State

The Mishri comments noted above are significant given his role as head of the High Council of State. Wikipedia [LINK](#) defines it as "The High Council of State is an advisory body for Libya formed under the terms of the Libyan Political Agreement which was signed on 17 December 2015.[2] The agreement resulted from United Nations supported peace talks and has been unanimously endorsed by the Security Council.[3] The High Council of state is able to advise the interim Government of National Accord (GNA) and the House of Representatives (HoR), currently based in Tobruk, and can express a binding opinion on these bodies under certain circumstances."

Oil – India oil imports down MoM to 3.55 mmb/d in August

Last Thursday, India's Petroleum Planning and Analysis Cell released crude oil import data for August [LINK](#). Total crude oil imports increased 2.96% YoY in August to 4.11 mmb/d and increased from 3.55 mmb/d July, 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 12.7% YoY. Petroleum products demand for August was +11.1% YoY to 3.78 mmb/d and decreased slightly MoM from 3.97 mmb/d in July. Refinery throughput in August was +14.1% YoY to 4.36 mmb/d and a decrease from 4.58 mmb/d in July.

India oil imports down in Aug

Oil – Trafigura's case for \$100 oil is structural underinvestment for dummies

Yesterday, we tweeted [LINK](#) "Structural underinvestment for dummies, why @Trafigura @saadrahim sees \$100 oil. Spending 50% more capex on #Renewables vs #Oil #NatGas yet O&G account for 10x as much of #EnergyMix as renewables. Thx @ArgusMedia. See Sunday's SAF Energy Tidbits <https://safgroup.ca/news-insights> #OOTT". Trafigura's Rahim did not use the term structural underinvestment for dummies, but we thought it was

Trafigura sees \$100 oil

appropriate when we saw his comments. At the 37:30 min mark of the video [\[LINK\]](#), Rahim gives a long answer on what he calls the “rush to the energy transition”. He makes the common sense points on the need for oil, coal, gas, etc in the intervening period to the energy transition. and that underinvestment is setting up a reason to be bullish and is supportive of why Trafigura sees \$100 or \$100 plus oil. And does a good job of describing the logical reminder that oil and gas provide 10 times the energy mix as renewables, but the energy transition is pushing 50% more capex on renewables. Rahim says “ *the rush to the energy transition as you’re talking about a commodities transition. because everyone says, we’re here today, this is where we want to get to, and they kind of do this with the two points, well we should be there already. No, the whole point of a transition is that there is this intervening period, right. If you haven’t made the investments in these supply chains for energy to get you there, then when you hit these pinch points, you’re going to get exactly what you are seeing now. its not just coal, its gas, LNG, it is carbon on the back of that to address that, but oil demand could also be impacted in a positive way if you need to run that. so in a sense, it highlights a little bit the kind of pitfalls of rushing ahead too quickly on some of these things without adequate cover*”, and “... on the oil front, go back to the \$100 call, it could be \$100 Plus. Look at coal, if you said to people we think coal is going to be where it is today, they would have laughed at you, because that’s not going to happen. well, yes, up until that point that you need that last ton, that marginal ton, and then when you need that, you’re going to pay whatever price you need to get that to keep the lights on or to keep everything running. But the problem is you’ve structurally underinvested, right. and we’ve been talking about this for a few years. we’re trying to flag that but it still seems the investment right now is askew, you’re spending 50% more capex on renewables and clean energy than you are on oil and gas, and yet oil and gas accounts for 10 times as much of the energy mix as renewables. So it’s a question how much are you willing to pay for all of this”

Oil – Vitol see extra 0.5 mmb/d from gas prices, demand to preCovid in mid 2022

On Thursday, Bloomberg reported on its interview with Vitoll Group CEO Russell Hardy. Vitol is the world’s biggest independent oil trader. The report received attention due to his view that oil was likely heading over \$80 in the near term. (i) There was actually a lot more to the short interview, which is why we tweeted [\[LINK\]](#) “Positive for #Oil thru 2022. #Vitol CEO Hardy: #OilDemand can surprise to upside from high #NatGas/#LNG price to oil switching. Likely 0.5 mmb/d extra demand this winter, oil likely >\$80. demand back to pre-Covid in mid-2022, #PeakDemand closer to 2030. Thx @iamsharoncho #OOTT.” (ii) Vitol sees gas to oil power switching this winter, which probably adds 0.5 mmb/d. Hardy said ““Can demand surprise us to the upside because of power switching? Yes,” Hardy said. “Is it likely that there’s half a million barrels a day of extra demand that comes through because of gas pricing? Probably our view is, that is likely across winter.” (iii) Our tweet said it was positive for oil “thru 2022” and not just this winter. Bloomberg noted Vitol sees oil demand back to pre-Covid levels in the middle of 2022 and demand to keep increasing until peak demand is closer to 2030. Bloomberg wrote “While global oil demand is still about 4 million barrels a day below 2019 levels -- mainly due to lower jet-fuel consumption -- that gap will narrow steadily, the CEO said. Hardy expects demand to return to 2019 levels by the middle of next year, while peak demand will arrive closer to 2030. The OPEC+ coalition is “micro-managing” the oil market, and will use its planned output increase to keep prices in check, he said.” Our Supplemental Documents package includes the Bloomberg Vitol CEO report.

Vitol CEO sees \$80 oil this winter

Oil – ADB lowers growth forecast for developing Asia

The threat of a resurgence in COVID-19 continues to shadow growth forecasts in Asia. On Wednesday the Asian Development Outlook released an update on its 2021 outlook [\[LINK\]](#). Within the report, growth forecasts for developing Asia are slightly revised down to 7.1% in 2021 from 7.3% in the April Asian Development Outlook, and up to 5.4% in 2022 from 5.3%; inflation is measured at 2.2% in 2021 and 2.7% in 2022. COVID-19 continues to besiege developing Asian regions, though vaccines are beginning to change the nature of the pandemic. Regional divergence continues with uneven vaccination coverage. The greatest risk to further development remains the risk of a resurgence in the COVID-19 pandemic, stemming from new variants, waning effectiveness of vaccines, or slow progress on vaccinations. Additional risks stem from global supply chain disruptions and financial market disruptions as US monetary policy normalizes. Our Supplemental Document package includes excerpts from the ADB Outlook update

ADB growth
forecast

Oil – Vortexa est 73.65 mmb at Sept 24, +9.25 mmb WoW vs original est Sept 17

Note that we are referencing the Vortexa global crude oil floating storage data posted on the Bloomberg terminal as of 3:10pm MT yesterday. Vortexa crude oil floating storage as of Sept 24 was estimated at 73.65 mmb, which is +3.67 mmb WoW from 69.98 mmb estimated at Sept 17. Yesterday afternoon, we tweeted [\[LINK\]](#) on the Vortexa estimated and said the question is how many tankers are on the move due to Typhoon Mindulle that would normally be stationary? We don't know the answer to that. But the Sept 17 of 69.98 mmb was revised up from the 64.40 mmb first posted on Sept 18 afternoon and also from the overnight Sept 18/19 revised of 67.30 mmb. Sept 24 of 73.65 mmb is below the recent June 25 trough of 78.82 mmb, and also down 146.61 mmb from the June 26, 2020 peak of 220.26 mmb. Sept 24 of 73.65 mmb is higher than the comparable pre-Covid seasonal Sept 23, 2019 of 53.01. Below is the Bloomberg graph of the Vortexa data as posted on the Bloomberg terminal at 3:10pm MT yesterday, and the Accuweather Sept 25 map of current active storms in the western Pacific.

Vortexa floating
storage

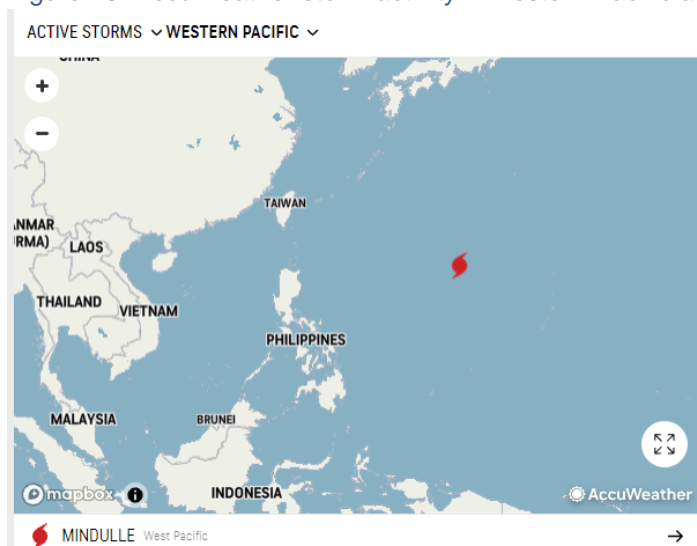
Figure 24: Vortexa Floating Storage Sept 24, Posted on Bloomberg 3:10pm MT Sat



Source: Bloomberg, Vortexa

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Figure 25: AccuWeather storm activity in western Pacific as of Sept 25



Source: AccuWeather

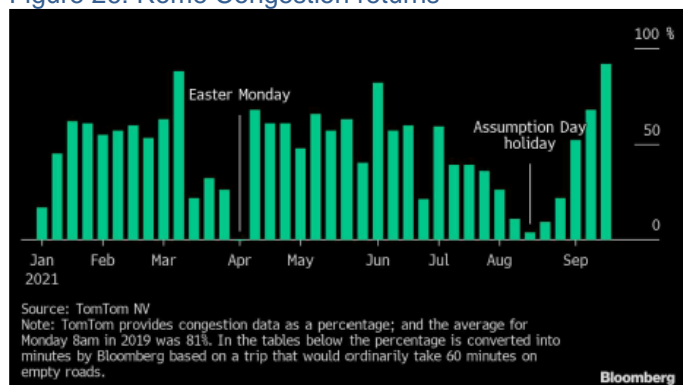
Oil – Bloomberg Oil Demand Monitor, Congestion continues to ramp up worldwide

We recommend reading the weekly Bloomberg terminal Oil Demand Monitor for a good recap of key oil demand indicators around the world. The return to normal continued around the world as congestion levels in Rome, Madrid, Paris, and Mexico City reached their highest levels of the year. New York saw another significant increase of +127% MoM and brought congestion to 15% above 2019 levels. Madrid posted a +1080% MoM gain in congestion; Rome saw a similar surge with a +922% MoM gain that brought congestion to 92%, adding an additional 55 minutes on what would normally be a 60-minute commute. US demand for gasoline is -0.5% below 2019 levels but posted a -4.7% decrease MoM. Toll data from Atlantia group for 6 nations across Europe and Latin America showed all but Brazil posted a YoY increase in traffic volumes since 2019. Air travel continues to be well below 2019 levels, with worldwide seating capacity sinking below 79 mm seats, down 31% YoY. From the Bloomberg article *“a reduction in China's domestic market is behind the reduction, with seats falling by 605,000 this week after the news of another series of outbreaks in Fujian province.”* Jet fuel demand declined in the U.S., down -18% MoM and -28% YoY. U.S. refinery processing began to turn a corner following the September dip. Nationwide refinery utilization in the U.S. is 82% as refineries along the Gulf Coast continued to recover from the impacts of Hurricane Ida. Below is a graph depicting Rome's congestion capacity. Our Supplemental Documents package includes the Bloomberg Oil Demand Monitor.

Bloomberg's Oil Demand Monitor

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Figure 26: Rome Congestion returns



Source: Bloomberg

Oil – China Caixin General Manufacturing PMI release is 7:45pm MT Sept 29

The globally watched Caixin China General Manufacturing PMI monthly report is released at 1:45 UTC on Sept 30, which means 7:45pm MT on Sept 29. After seeing the Bloomberg Sat report “China’s Power Crunch is Next Economic Shock Beyond Evergrande” and other similar themed China stories this week, we have to believe the commentary around the Caixin PMI will be on slowing China near term and pointing to another month of contraction. Our September 5, 2021 Energy Tidbits noted last month’s Caixin PMI with the headline “Caixin General Manufacturing PMI 1st contraction since April 2020. Last month’s Caixin PMI release said “Chinese manufacturers signalled a slight deterioration in business conditions in August, driven by a renewed drop in output and a further fall in new work. Panellists often stated that the resurgence of the COVID-19 virus at home and abroad had weighed on the sector’s performance. Restrictions to contain the virus also impacted supplier performance, which deteriorated solidly, while shortages led to steeper rises in cost burdens and prices charged. At the same time, subdued market demand led firms to trim their purchasing activity and payroll numbers slightly.” One of the China natural gas stories is how high LNG prices is forcing some shutdowns in ceramics and other factories. We looked thru the Caixin PMI specifically to see if this was reflected and the PMI specifically notes the impact of transportation costs and raw material prices. It did not specifically note higher electricity costs but did talk about input costs increasing. Our Supplemental Documents package includes the Caixin release.

Caixin PMI this week

Oil – August truck tonnage +0.5% MoM, down 0.5% YoY, labor remains a big factor

Supply chain issues and labour shortages in the US continue to dampen recovery in the freight volumes. Although, there are positive signs that a return to pre-pandemic levels is on the horizon. Our previous Energy Tidbits have repeatedly indicated a shortage of drivers and a lack of equipment result in less trucks operating, making it difficult to increase freight volumes. Supply chain issues pertaining to semiconductor shortages is an additive barrier to labor issues. ATA Chief Economist Bob Costello indicated that August, while small, was the first MoM gain since March. The August index increased +0.5% though was still down YoY -0.2%, up from 2.9% in July. August again saw supply side issues cited as the leading obstacle to trucking. On Tuesday, the American Trucking Association released its monthly Truck Tonnage Index which decreased +0.5% MoM in August after a -1.1% MoM decrease in July [\[LINK\]](#). The ATA wrote, “it is important to remember that ATA’s tonnage data is dominated by for-hire contract freight, with a very limited amount of spot market freight. I continue to believe that tonnage has not recovered to pre-pandemic levels for two main reasons - broader supply chain issues, like semiconductor shortages, as well as industry

Truck tonnage index -0.5% in August

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specific difficulties, including the driver shortage and lack of equipment. Despite some supply chain issues, demand remains strong for trucking services generally. Truckload carriers are operating fewer trucks than a year earlier, which makes it difficult to increase freight volumes significantly.” Our Supplemental Documents package includes the ATA release.

Oil – UK truck driver shortage closes some gas stations & gas purchase limits

UK gas station closures

It was amazing to see the pictures of the lineups in parts of the UK to get gasoline because some gas stations closing due to lack of gasoline deliveries and limits being placed on how much gasoline can be purchased at a time. The truck driver shortage isn't just in the US. It's also been a problem in the UK. On Thursday, Bloomberg [\[LINK\]](#) and others reported that BP has been forced to close some of its UK gas stations, due to a shortage of truck drivers disrupting deliveries. The decision further adds to a serious supply chain crisis in the country. Inflated prices have put gas and power retailers out of business and has forced government intervention to keep basic commodities flowing. BP stated *“We are experiencing some fuel supply issues at some of our retail sites in the U.K. and unfortunately have therefore seen a handful of sites temporarily close due to a lack of both unleaded and diesel grades. We continue to work with our haulier supplier to minimize any future disruption and to ensure efficient and effective deliveries to serve our customers.”* And then on Friday, the EG Group (operates 400 gas stations in the UK) said it will introduce a limit of £30 per customer on all grades of fuel. It looks like PM Johnson is looking ahead to try to eliminate the impression to the world of this look of panic gasoline buying and long lines prior to COP-26 and also relieve the issues for Brits in the holiday season. Yesterday, UK approved the issue of temporary visas for 5,000 truck drivers and 5,500 poultry workers, the visa expires on Dec 24.

The UK lineups reminded of the Arab Oil Embargo Oct 19, 1973

Readers have seen this commentary at least once a year. But I couldn't help include this when I saw the videos and pictures of the long lineups for gas and the EG Group gas limits as it brought back memories of 1973 in St. Louis. Here is what we have included in prior Energy Tidbits going back over the years/decades. *“We normally include a reminder of the 1973-1974 Arab Oil Embargo because it was “THE” game changer to oil markets. Most weren't born or too young or not in the US to remember the 1973/1974 Arab oil embargo that hammered the US economy and moved oil prices from ~\$3 to ~\$12. It forced the US and other western countries to have their first real look at oil security. There is no question that having an immediate cut off of oil forced change. Change always happens when something is cut off rather than just becomes more expensive. It was “THE” game changer to the oil and gas industry that led to lasting trends such as the 1976 election of Jimmy Carter (who introduced the first tax credits to kickstart the US shale gas/oil revolution), the creation of Strategic Petroleum Reserves, the International Energy Agency, the push to find oil outside the Middle East in regions, the US govt push to begin to import LNG, etc . It was also a game changer for consumers and led to the move to fuel efficient cars like the Honda Civic (don't forget made in Japan wasn't a good brand in the 60's). The big reason for this was that the Arab Oil Embargo led to an immediate rationing of gasoline in many parts of the US – it was immediate. And to the famous multi block long lineups to buy gasoline. I was in college in St. Louis (Missouri) at the time and the pictures, like the one below, were reality of line ups for gasoline. In St. Louis, it immediately had restrictions on how many gallons of gasoline on day 1, and by day 2 they had switched to only allowed restricted volumes of gasoline to be purchased on odd days if your license plate ended in odd number and vice versa for even days. Don't forget there were no self service gas stations so you couldn't fill up in violation of the restrictions. In areas like St. Louis that had poor access to gasoline,*

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it was common to line up for an hour for gasoline with your car in neutral and turned off, and taking turns with your friends to push your car to the gas station. The end of the oil embargo was on March 13, 1974.”

Figure 27: Gas Station Line Up During Arab Oil Embargo 1973-74



Source: Time

Oil & Natural Gas – 25 days since max Ida shut in, still out 0.29 mmb/d & 0.54 bcf/d

The BSEE Sept 23 update on the impact of Hurricane Ida was the final update to be provided on the shut-in impact. The final data is based on operators reports filed by 10:30am MT on Sept 23. The peak shut-in was on Aug 29 with 1.741 mmb/d of oil and 2.09 bcf/d shut in. The final data (Sept 23) was 25 days after the max shut in, and there was still 0.294 mmb/d of oil and 0.54 bcf/d of natural gas. The cumulative shut-in as of the final Sept 23 update was 30.3 mmb and 38.9 bcf. Below is our running table of BSEE data.

Final Ida shut-in report

Figure 28: Final BSEE Platforms/Rigs Evacuated, Shut-in Oil & Gas Production as of Sept 23

Date	Platforms Evacuated		Rigs Evacuated		Oil - Shut-In (b/d)		Gas - Shut-In (mmcf/d)	
	Total	% of GOM	Total	% of GOM	Total	% of GOM	Total	% of GOM
2021-08-27	89	15.89%	1	9.09%	1,064,849	58.51%	1,088.0	48.79%
2021-08-28	279	49.82%	11	100.00%	1,653,335	90.84%	1,892.7	84.87%
2021-08-29	288	51.43%	11	100.00%	1,740,850	95.65%	2,090.7	93.75%
2021-08-30	288	51.43%	11	100.00%	1,721,809	94.60%	2,087.0	93.57%
2021-08-31	278	49.64%	9	81.82%	1,705,095	93.69%	2,107.0	94.47%
2021-09-01	278	49.64%	9	81.80%	1,705,095	93.69%	2,107.0	94.47%
2021-09-02	177	31.61%	6	54.55%	1,702,566	93.55%	2,035.0	91.29%
2021-09-03	133	23.75%	6	54.55%	1,698,557	93.33%	1,990.2	89.25%
2021-09-04	119	21.25%	6	54.55%	1,683,604	92.51%	1,915.4	85.89%
2021-09-05	104	18.57%	5	45.45%	1,607,340	88.32%	1,844.7	82.72%
2021-09-06	99	17.68%	5	45.45%	1,526,409	83.87%	1,801.4	80.78%
2021-09-07	79	14.11%	4	36.36%	1,443,800	79.33%	1,736.8	77.89%
2021-09-08	73	13.04%	4	36.36%	1,399,186	76.88%	1,722.7	77.25%
2021-09-09	71	12.68%	4	36.36%	1,391,865	76.48%	1,722.7	77.25%
2021-09-10	65	11.61%	3	27.27%	1,207,783	66.36%	1,684.7	75.55%
2021-09-11	62	11.07%	2	18.18%	1,121,169	61.60%	1,353.0	60.67%
2021-09-12	63	11.25%	1	9.09%	883,755	48.56%	1,212.9	54.39%
2021-09-13	47	8.39%	1	9.09%	793,522	43.60%	1,151.0	51.61%
2021-09-14	39	6.69%	0	0.00%	720,217	39.57%	1,074.8	48.20%
2021-09-15	36	6.43%	0	0.00%	537,193	29.52%	878.7	39.40%
2021-09-16	42	7.50%	0	0.00%	513,878	28.24%	878.6	39.40%
2021-09-17	41	7.32%	0	0.00%	422,078	23.19%	765.5	34.43%
2021-09-18	41	7.32%	0	0.00%	422,078	23.19%	765.5	34.43%
2021-09-19	41	7.32%	0	0.00%	422,078	23.19%	765.5	34.43%
2021-09-20	36	6.43%	0	0.00%	331,078	18.19%	598.4	26.83%
2021-09-21	36	6.43%	0	0.00%	320,909	16.64%	566.7	25.42%
2021-09-22	32	5.89%	0	0.00%	294,414	16.18%	541.1	24.27%
2021-09-23	31	5.54%	0	0.00%	294,414	16.18%	541.1	24.27%
Cumulative (mmb and bcf)					30.3		38.9	

Note: BSEE 's final update on Hurricane Ida shut-in data was as of Sept 23
 Note: BSEE did not provide data for 09/18 and 09/19, have left in at 09/17 levels
 Note: 09-01 was corrected, originally reported 249 platforms, 1,455,279 b/d, 1.8772 bcf/d shut in

Source: BSEE

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Oil & Natural Gas – Shell’s WD-143# GoM damage still months away from being fixed

We have been tweeting daily on the shut-in GoM oil and gas production status post Hurricane Ida. The BSEE stopped providing Ida shut-in updates as of Sept 23, but we were tweeting that there wouldn’t be much of a change until Shell resumes production at Olympus in Q4/21. The daily tweets include our Monday tweet [\[LINK\]](#) “#Shell GoM #Oil supply interruptions to continue. WD-143 repair timeline means production resumes Olympus in Q4/21, but Mars & Ursa in Q1/22. Note @josyanajoshua @DavidWethe est Olympus 100,000 boed, Mars 60,000 boed, Ursa 150,000 boed. #OTT”. Earlier Monday, Shell released its comprehensive damage assessment of the WD-143 off shore facilities from Hurricane Ida [\[LINK\]](#); the report revealed significant structural damage to the West Delta–143 platforms. The WD-143 facilities are the transfer station for production from assets in the Mars corridor in the Gulf of Mexico, to onshore crude and natural gas terminals. The report estimates that repairs to the WD-143 “A” platforms will persist until the end of 2021 but will see WD-143 “C” platforms operational some time in Q4/21. The report stated, “given the timeline for repairs to WD-143, we expect to resume production from our Olympus platform, which flows across the WD-143 “C” platform, in Q4 2021, and from our Mars and Ursa facilities, which flow across the WD-143 “A” platform, in Q1 2022. Shell operated production in the Gulf of Mexico is approximately 60% back online, with the Perdido asset and offloading vessel “Turritella” still operational. The WD-143 platform is owned by Shell Offshore Inc. (71.5%) and BP Exploration & Production (28.5%). Operations are conducted by Shell Pipeline Company LP. Our Supplemental Documents package includes the damage assessment by Shell.

Shell releases Ida damage report

Figure 29: Oil infrastructure in Gulf of Mexico



Source: Offshore Engineer, Shell

Oil & Natural Gas – Texas RRC restricts SWD injection due to earthquake linkage

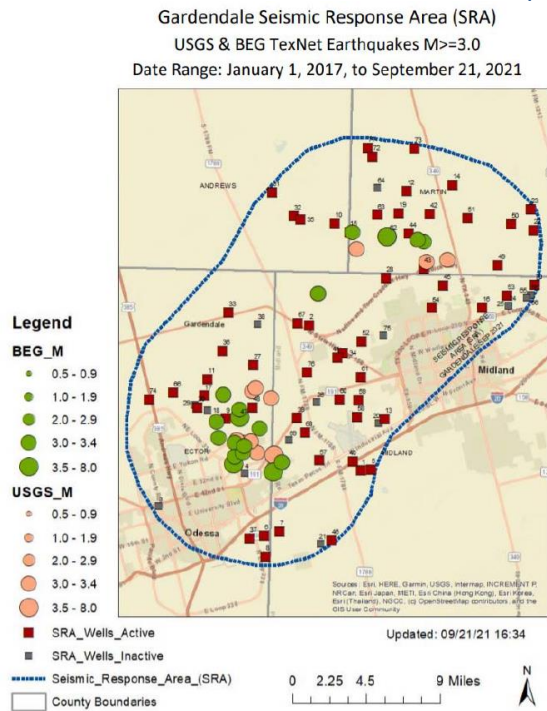
We will need an increasing watch on earthquakes in the Permian in light of the Texas RRC’s move on Friday to restrict saltwater disposal (SWD) wells in the Gardendale area (right by Midland). Yesterday morning, we tweeted [\[LINK\]](#) after seeing the Bloomberg terminal report “Quakes Tied to Fracking Spur Rare Crackdown From Texas Regulator.” “Oil producers’ disposal of wastewater from fracking is probably contributing to seismic activity in an area of

RRC on earthquake risk

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the Permian’s Midland Basin, the Texas Railroad Commission said Friday in a notice. The restrictions on water disposal are expected to be in place for at least a year, the commission said. It’s a fairly unusual move by the regulator, which hasn’t been as active as its counterpart in Oklahoma in trying to prevent earthquakes linked to fracking.” We reviewed the Texas RRC filings. The Texas RRC said the SWD injection “likely contributed” to the earthquakes in the Gardendale area (Permian, right outside Midland) and “Therefore, in September 2021, the RRC requested that operators in the Gardendale SRA reduce SWD activity as a means of altering the conditions contributing to seismic activity. Further, the RRC requested SWD wells that have been permitted but are not in service (not drilled, or not completed for or currently capable of injection), do not begin or return to fluid injection, and RRC will not administratively approve a permit for SWD within the Gardendale SRA. RRC anticipates these procedures to be in place for at least a year from initiation.” The Texas RRC is clearly linking saltwater disposal wells with earthquakes. As a result, they are moving to a similar position as Oklahoma – reducing SWD volumes in certain areas linked to earthquakes. They don’t say it specifically, but our tweet said they are setting a precedent for how they will deal with SWD wells and earthquakes. For years, we have highlighted the earthquake risk is different in the US vs Canada. In the US, its more linked to saltwater disposal wells whereas in Canada its more linked to the fracking itself. The Texas RRC actions aren’t going to eliminate or restrict fracking, it just means that operators will have manage their disposal of waste water, either by disposing the water further away, or cleaning up the water to sufficient levels that it doesn’t need to be disposed underground. So, at least at this stage, the Texas RRC new rules will be more of an added cost item. The RRC provides a list of all SWD wells in the SRA area, which include operators such as Chevron Exxon, Occidental and Pioneer. Our Supplemental Documents package includes the Bloomberg report and the Texas RRC notice.

Figure 30: Texas RRC Gardendale Seismic Response Area



Source: Texas RRC

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Still could be a Biden wildcard on earthquakes down the road

We wouldn't expect Biden to raise any issues at this time on fracking, waste water disposal wells and earthquakes as we assume the last thing he would want to do right now and in the lead up to the 2022 mid term elections is to take action that could get blamed for high gasoline prices. That is unless there is some big earthquake close to population that is linked to oil and gas. However, we think Biden could be a wildcard for potential regulations on oil and gas and wildcards. Our October 18, 2020 Energy Tidbits noted Biden's fracking comments in the campaign for his election. We then wrote "On Friday, we tweeted [\[LINK\]](#) on Biden's fracking comments at the Thurs night Pennsylvania town hall. It was in Marcellus country so everyone expected Biden to address fracking, especially with Trump's hammering that Biden will ban fracking. It is important to remember Biden has never said he would ban fracking. But, on Thursday, he added some caveats to his fracking views. Our May 24, 2020 Energy Tidbits noted Biden's comments that week on CNBC. We created a transcript of his fracking comments "But for example the whole idea of whether or not we're going to stop fracking. I would not stop fracking. I would gradually move away from fracking. I would just not do more fracking on federal lands. I would gradually move us out of the position of relying on oil and gas, excuse me, and coal." On Thursday, we saw the first indication that Biden would put added caveats on fracking overall, not just stop fracking on federal lands. Biden said "I do not propose banning fracking. I think you have to make sure that fracking is in fact not emitting methane or polluting the well or dealing with what can be small earthquakes how they're drilling. So it has to be managed very, very well." Preventing methane emissions in oil and gas has accelerated in many basins around the world and normally is simply done. Not polluting the well (assuming there are no tricks to defining pollution) should not be an issue and an expected standard. The one item that has the potential to be more impactful is small earthquakes and drilling. Much of it will depend on how this evolves and if drilling includes completions (we would assume so) and waste water injection (that is the question). If it's just the act of completions, it infers he will restrict drilling and fracking in areas linked to small earthquakes. This is basically what happens right now in Oklahoma but a national policy could see this expand in to Texas. If it includes waste water injection, it will be a big issue because the vast majority of earthquakes in the US linked to oil and gas are from waste water injection. This will be a policy to development to watch as it could be a case where they don't ban fracking, but add regulations that end up stopping fracking in certain areas."

Oil & Natural Gas – Ecuador oil volumes into US were down to 169,000 b/d in 2020

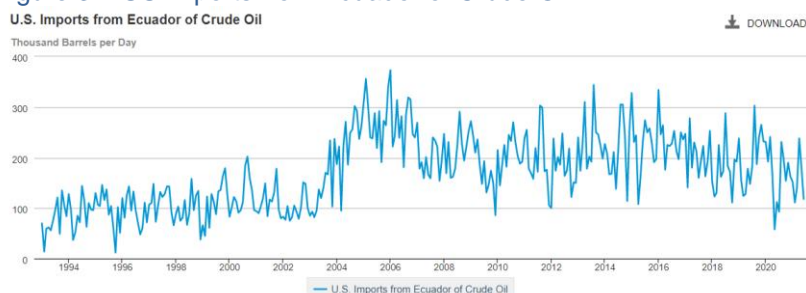
We continue to recommend adding the EIA's country analysis briefs to reference libraries as good quick references, in this case its new EIA country executive summary [\[LINK\]](#) on Ecuador. Ecuador was the fifth largest oil producer in South America in 2020; with Petroleum and hydroelectric power accounting for majority their energy mix. Ecuador was formerly a member of OPEC but withdrew membership in 2020 in effort to reduce public spending and promote market friendly economic policy to generate new income. Ecuador's crude oil reserve were estimated to be 8.3 bn bbl in 2021; with most located in the Oriente Basin in the Amazon Rainforest. Government initiatives set to increase Ecuador's share of crude oil revenues created a challenging investment environment and led to flat oil production from 2010-2020. Production growth in Ecuador's ITT fields has been limited by private companies due to numerous protests by indigenous and environmental groups in recent years. Ecuador produced 0.483 mmb/d of petroleum and other liquids in 2020, down -0.535 mmb/d from 2019. An April 2020 landslide in the Amazon damaged their OCP pipeline and forced and

EIA's country
brief on Ecuador

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estimated 60% of production assets offline. By-passes have since been constructed to avoid similar disruptions. Ecuador relies heavily on oil export revenue and exported an estimated 0.36 mmb/d in 2020. In 2019 oil exports accounted for 49% of total export earnings and 21% of public sector revenues. The US received most of Ecuador's crude oil exports, importing an average of 0.169 mmb/d. Ecuador has an estimated 385 bcf of proved natural gas reserves as of December 2020. Production is relatively small, remaining flat at 12 bcf in 2020 and stems from a lack of infrastructure needed to capture and market natural gas. Ecuador is considering an LNG-to-power- project, that includes a floating LNG terminal, storage, and a regasification unit in the El Oro province. Shown below is US oil imports from Ecuador. Our Supplemental Documents package includes the EIA brief.

Figure 31: US imports from Ecuador of Crude Oil



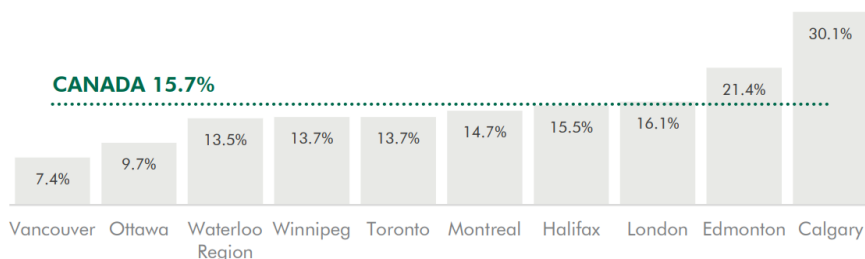
Source: EIA

Energy Transition – 1/3 of downtown Calgary offices vacant despite \$70 oil \$5 gas

We have been and continue to be of the view that outlook for oil and natural gas prices looks very strong for the 2020s. But there is also no question that governments and capital providers are turning away from oil and gas as they double down on the energy transition. It makes it extremely hard for oil and gas companies to access any significant external capital and a good indicator of the challenge to make long term capital commitments is office vacancy rates. Don't forget this is in the face of excellent oil and gas prices with WTI \$74 and HH \$5.25, and expected to stay strong. On Thursday, CBRE posted its "*Canada Q3 2021: Quarterly Statistics*" [LINK](#), which included its recap of office vacancies across the major Cdn cities. The below CBRE graph is for overall office vacancies including downtown and suburban offices. For downtown Calgary, CBRE wrote "*The Calgary downtown office market recorded nearly 80,000 sq. ft. of negative absorption in Q3 2021, marking the sixth consecutive quarter of negative fundamentals, increasing vacancy 20 bps to 32.9%. Over this same time period, nearly 2.5 million sq. ft. of space has been returned to the market.*" Basically 1/3 of Calgary downtown office space is vacant. And even with the excellent oil and natural gas prices over the past two quarters, there isn't the expectation for an abrupt reversal of fortune. Our Supplemental Documents package includes excerpts from the CBRE report.

**1/3 of calgary
offices are vacant**

Figure 32: Overall (Downtown & Suburban) Vacancy Rates - Offices



Source: CBRE

Energy Transition – Canada election results in an unchanged parliament

Monday’s Canada was basically a non-event from the perspective of any change in control in the House of Commons. The vote looks like it played out as expected in the last 10 days. The Liberals rallied and retained their minority with 3 more seats. The PPC played a spoiler role in several ridings and led to the Conservatives unchanged in seats. But even if the PPC didn’t play that spoiler role, the Liberals would still have a minority government, just a weaker one that might have relied more on the NDP. The NDP was unchanged. Post election, Trudeau has only made general comments. His victory speech said that “*millions of Canadians have chosen a progressive plan*” and “*We hear you when you say you want more daycare spaces, a stronger health care system, affordable housing and good green jobs; to continue moving forward on the path to reconciliation [and] investments for the middle class and for all those who are working hard to join it.*” Our position is unchanged, there is more bad news to come for the oil and gas sector especially as we move into COP-26. And don’t forget the oil and gas sector is the sector that was singled out by the Liberals. Plus we are still waiting for the Liberals to reveal what is the 2025 emissions reduction target for the oil and gas sector that is to make sure the oil and gas sector is on track for Net Zero. Below is the election result seat count and we put a change from the pre-election seats at the bottom of the table. 170 seats were needed for a majority.

No change from Canada election

Figure 33: House of Commons Seats Post Sept 20, 2021 Election

	Lib.	CPC	BQ	NDP	GP	ind	Vacant	Total
Alberta	2	30	-	2	-	-	-	34
British Columbia	15	13	-	12	1	-	1	42
Manitoba	4	7	-	3	-	-	-	14
New Brunswick	6	4	-	-	-	-	-	10
Newfoundland and Labrador	6	1	-	-	-	-	-	7
Northwest Territories	1	-	-	-	-	-	-	1
Nova Scotia	8	3	-	-	-	-	-	11
Nunavut	-	-	-	1	-	-	-	1
Ontario	77	37	-	5	1	1	-	121
Prince Edward Island	4	-	-	-	-	-	-	4
Quebec	34	10	33	1	-	-	-	78
Saskatchewan	-	14	-	-	-	-	-	14
Yukon	1	-	-	-	-	-	-	1
	158	119	33	24	2	1	1	338
Change Vs PreElection	3	0	1	0	0	-4	0	0

Source: House of Commons

Energy Transition – Baker Hughes natural gas is a destination fuel, not just transition

On Thursday, CNBC interviewed Baker Hughes CEO Simonelli on the sidelines at the Gastech conference in Dubai. CNBC posted a report [\[LINK\]](#) but we found the much better CNBC video [\[LINK\]](#) that had the full Simonelli comments. And we just made a transcript of

Baker Hughes on energy transition

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the key comments. (i) Simonelli had multiple relevant comments for the energy transition and he is clearly trying to put a reality check on the energy transition.. (ii) Natural gas is “*not just a transition, it’s a destination fuel as well*”. That was the line that we highlighted in our Thursday tweet. [\[LINK\]](#) Simonelli said “*Gas is here, its key as we go from a transition, and its not just a transition, it’s a destination fuel as well*”. (iii) Hydrocarbons are “*hear to stay*” as a hard truth about the energy transition. This may not be what the energy transition side want to hear, but he calls it one of his three hard truths about the energy transition. Simonelli said “*I think there’s going to be an aspect of people coming together and discussing those elements. I think the important aspect is again, we need energy security and that’s a topic at hand. And look there is plenty of gas around the world. There is plenty of energy available. it’s a question of bringing it to the market. And if we think about the energy transition, we think there are three hard truths. Firstly, we’ve got to work together, accelerate the move towards decarbonization. And also eliminating emissions. Secondly, hydrocarbons are here to stay, and they’re here to stay and natural gas in fact is a key element. Thirdly, we’ve got to do it together, collaborate and actually adopt the new technologies that are available*”. (iv) He doesn’t come out and directly say that the energy transition just won’t work as being executed. Rather he talks about the need for discussion or debate around the energy transition. Our Supplemental Documents package includes the CNBC report and the transcript we made of Simonelli’s key comments.

Energy Transition – Glencore reminds of low wind link to UK power crunch

Later in the memo, we note the IEA’s release this week and say that “*weather-related factors*” are the new code words for wind and solar problems/shortfalls. Energy Transition drivers do now want to say low wind, but will say general weather items. On Thursday, Bloomberg interviewed Glencore at Gastech in Dubai. Glencore reminded of the role of low wind in the current energy crisis in the UK. Bloomberg wrote “*On top of that, Europe’s push for a green economy means there’s less flexibility in power generation as coal plants are retired, while nuclear availability is reduced, he said. That’s evident in markets such as the U.K., where the power crunch was aggravated by lower-than-normal wind output. “The acceleration of the energy transition toward renewables is making power systems much more dependent on weather,” Sanchez Gestido said. “All these elements and interconnections between LNG, gas, coal and power markets are making the LNG supply and demand balances much more unpredictable and complex than just a few years ago.”* Our Energy Tidbits have highlighted multiple times in the past two months how the common denominator in the 5 electricity crunch days in winter 2020-2021 was low wind generation. Our Supplemental Documents package includes the Bloomberg report.

Glencore on the UK power crunch

Energy Transition – Carney, will know the financial institutions that remain the problem

Our concern remains that it is impossible to have discussions with Net Zero drivers and this is setting up a major energy crisis in the 2020s. The Net Zero drivers make it clear its their way or the highway. And that there is Zero admission that the Net Zero path won’t work smoothly, timely and without added costs to consumers. There isn’t any openness to make sure the plan to dramatically reduce emissions as quickly as possible is done in the best way to ensure there is no energy crisis. And the Net Zero drivers are making sure that those that aren’t fully on board are know to be the problem. Its clear to everyone that capital providers (financing institutions) are moving to take capital away from oil and gas as they move on their ESG programs. And this is whether or not, they see the need for capital for oil and gas to fuel the future. And even though there are even strong energy transition leaders (ie. BlackRock’s Larry Fink) warning on the potential energy risk from the underinvestment in oil and natural gas, financial institutions will be under even more public pressure (shaming) to stop providing capital to oil and natural gas. This week, Mark Carney (former Bank of

Carney knows who is the problem

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England, Bank of Canada), who is considered one of the global financial leaders driving Net Zero, tweeted an excerpt from his climate week speech [\[LINK\]](#) and his tweeted clip concluded “.. and by Glasgow, we will know which financial institutions are part of the solution and which are outside the GFAN tent and remain the problem”.

Energy Transition –Biggest direct air capture of carbon plant offsets <900 cars

We are well aware that governments and capital providers are going to make sure the world is put on a push to get to Net Zero, we just don't want to see that ambition result in an massive energy crisis for multiple years in the 2020s. But it gets increasingly harder to not believe a massive energy crisis is coming because we continue to see capital allocation go to energy transition technologies that are Not Ready for Prime Time. Yet, capital continues to pour into them. A good example is the push into direct capture of carbon from the air. On Tuesday, NowThis news tweeted a video [\[LINK\]](#) from Climeworks CEO (Jan Wurzbacher) on how they just turned into operation their Orca plant in Iceland, “which is the largest direct air capture plant currently operational in the world with a capacity of 4,000 tonnes of CO2 that are captured from the air every year. So that's phenomenal capacity.” We hadn't realized that the capacity of the direct air capture plants was that low, which is why we tweeted [\[LINK\]](#) “World needs massive cuts to #CO2 emissions & need demonstration projects like this to show it can be done. But world's biggest project can remove 4,000 tonnes CO2/yr only offsets <900 cars, EPA est typical car emits ~4.6 tonnes CO2/yr. #EnergyTransition will be hugely expensive.” Our tweet included the main page from the EPA's Greenhouse Gas Emissions from a Typical Passenger Vehicle [\[LINK\]](#) “a typical passenger vehicle emits about 4.6 metric tons of carbon dioxide per year”. The math perspective is that the world's largest operating direct air capture of carbon plant will only offset the CO2 emissions of <900 cars. Climeworks did not disclose the capital or operating costs of the Orca plant. But this must be hugely expensive to take the equivalent of <900 cars off the road. Yet direct air capture of carbon is still able to attract massive capital. To illustrate the challenge, the number of cars in the US is approx. 290 million, or the equivalent of ~325,000 Orca direct air capture of carbon plants.

Biggest direct air capture of carbon plant

Figure 34: Climeworks Direct Air Capture Plant



Source: Climeworks, NowThis

Energy Transition – IEA doesn't put any blame on wind/solar for Europe energy crisis

We continue to be concerned that the inability of pro Energy Transition governments to overlook the shortfalls of wind/solar, lack of proven needed technology, poor execution, etc is

IEA doesn't blame energy transition

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just setting up many more problems in the 2020s. Even if they just acknowledge that they have to execute better would be a big start to trying to get an energy transition plan without causing more energy crisis. A good example is how the IEA [\[LINK\]](#) weighed in on Tuesday on the “*recent developments in natural gas and electricity markets*”. The headlines on the IEA statement were on the IEA saying Russia could do more to increase natural gas supply to Europe. The IEA did not use the words wind or solar in their recap of problems but did note there were “*several weather-related factors*”. The IEA wrote “*Dr Birol said. “Well-managed clean energy transitions are a solution to the issues that we are seeing in gas and electricity markets today – not the cause of them.”*” We tweeted [\[LINK\]](#) “*Well-managed clean #EnergyTransition are a solution not the cause of #NatGas #Electricity issues today says @fbiorol. Yes, but w/o acknowledging role of intermittent #Wind #Solar replacing 24/7 #Coal #Nuclear baseload, can't be a "well-managed", just costly as seeing today.*” The IEA certainly tried to message the energy transition was “well-managed”. If it was well managed, they would be taking into account the risks from replacing 24/7 baseload coal and nuclear with intermittent wind and solar. Our Supplemental Documents package includes the IEA release.

“Weather-related factors” are new code words for wind and solar problems

We have to chuckle when we see how politicians and quasi-politicians like IEA’s Faith Birol do not want to say there have been wind and/or solar problems or shortfalls. Its why we are now seeing the new code words being used instead of saying there was a wind or solar shortfall or problem. In this case, it looks like the IEA is using the code words “weather-related factors” instead of saying there has been very low winds prior to Thursday. Its like they worry they will lose their energy transition supporter status if they ever use the word shortfall or problem.

Energy Transition – FT, brave politicians will stick to Net Zero despite higher bills

It is interesting to see how the current power and natural gas price crisis in Europe is impacting the messaging from the Net Zero drivers. Let’s be clear, we don’t think it will change the unrelenting push to Net Zero, but they have to change the message to reflect what no one on the energy transition thought would happen – record power and natural gas prices. So the messaging has to shift a big but there can’t be any acknowledgement that they are changing their views. The toughest message for the energy transition is that they have got to somehow address how the energy transition will cost consumers more for their energy bills. Remember that one of the major sales pitches of the energy transition is that it wouldn’t cost more for consumers. We are big fans of the FT for their view of the world from London and would still be a subscriber if the cost wasn’t so high. The FT editorial board opinion piece on Wed shows this shift in messaging on costs. FT writes “*The bigger political challenge runs deeper. It is to convince voters to back ambitious policy packages to deal with climate change — which will inevitably include making fossil energy costlier for users — just as they are smarting from soaring utility bills. Brave is the politician who will now tell voters those bills have to become more expensive still.*” Does anyone remember the energy transition drivers warning on energy costs going up? It sounds like they want to use the expression short term pain for long term gain. We think this is reflective of how the energy transition drivers will have to shift their message but not really acknowledging they are changing their views. And knowing the strong global following of the FT, we won’t be surprised to hear energy transition drivers now talk about making brave decisions. We just wish they would look at addressing how to strongly reduce emissions as fast as possible without creating an energy crisis. Now the message will be on making brave decisions while accepting bills are going to be “*more expensive still*”. Our Supplemental Documents package includes the FT opinion piece

**“brave”
politicians will
stick to Net Zero**

[\[LINK\]](#), it's a good food for thought piece to read and we think a glimpse of messaging to come from politicians.

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

Replacing baseload with renewables

We can't help but be surprised when people are surprised by price spikes when 24/7 baseload coal and nuclear are effectively replaced by intermittent renewable power. We understand that governments don't want to raise risks or shortfalls when they are trying to get full buy-in to their plans to accelerate climate change actions. But we don't think they should be surprised to see what happens when supply/demand is tight and then something doesn't work perfectly. Here is what we put in our August 8, 2021 Energy Tidbits on this. *"We believe the "Energy Transition is Not Ready for Prime Time" will be one of the growing Energy Transition themes for 2021 and 2022. It will show up in results, actions, and warnings that the "Energy Transition is not Ready for Prime Time". Some will be direct, but many will be indirect or unsaid examples. The big energy stories in Europe and the US this summer are high electricity prices and warnings to watch power usage. The big blame, especially in Europe, is given to high natural gas prices. No question, high natural gas prices are an important factor. But we think the reason is simple. On Friday, we tweeted [\[LINK\]](#) "Positive to #NatGas #LNG in 2020s. OECD's steady replacement of 24/7 #Coal #Nuclear baseload with variable #Renewable means OECD #Electricity prices spike/shortage risk when supply/demand gets tight. China/India just increase coal. #Electricity will cost more in #EnergyTransition". The reality is that the OECD countries are leading in the push to Net Zero, whereas China, India and others are still a long way away from reaching their peak in carbon emissions. Over the last decade, the bp data shows that the OECD countries policy push to reduce coal and nuclear power has worked, and their policy push to increase renewables has also worked. As a results, over the last decade, the reduction in electricity generated in OECD from traditional baseload 24/7 coal and nuclear electricity generation has basically been offset by increase in unpredictable and not 24/7 electricity generation from wind and solar. Taking 24/7 baseload power out means that whenever supply/demand is tight, the swings are huge and that is what we are seeing this summer. Our Supplemental Documents package includes the detailed bp table showing electricity generation by fuel by region and is worth a look."* The summary of the Europe electricity generation from 2009 to 2020 is below.

Figure 35: Europe electricity generation 2009 vs 2020 (terawatt-hours)

Terawatt-hours	2020	2009	2020 less 2009
Coal	574.8	1,004.3	-429.5
Nuclear	837.4	1,004.7	-167.3
Renewable	921.0	270.3	650.7
Natural Gas	759.1	847.5	-88.4
	3,092.3	3,126.8	-34.5

Source: BP

Energy Transition – Can Biden afford to add more solar panels tariffs?

More solar panels tariffs?

Biden is in a bit of conundrum on how to crank up solar power penetrations by more made in America solar panels while trying to keep costs under control. Steep duties proposed by an anonymous group of petitioners now sits before the Department of Commerce. The proposal calls for 50-250% duties on imports of crystalline silicon photovoltaic (CSPV) panels and cells from Malaysia, Vietnam, and Thailand. The petition claims that the cells and panels are predominantly made in China and delivered through the three nations, which according to the Solar Energy Industries Association (SEIA) is "false" and the claims are "minor and insignificant." However, what would not be minor or insignificant would be the impact of

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these duties, which would “devastate thousands of U.S. solar companies and cause the industry to miss out on 18 gigawatts (GW) of solar deployment by 2023,” according to a SEIA press release [\[LINK\]](#). SEIA also stated the “18 GW of loss lost solar deployment is equivalent to the amount of solar capacity installed in all of U.S. history prior to 2015.” In an effort to circumvent the duties, over 190 of America’s leading solar companies sent a letter to Commerce Secretary outlining the aforementioned catastrophic impact the duties would on their 231,000 U.S. solar workers. An official decision is expected by the end of September. Our Supplemental Documents package contains the full SEIA press release.

Energy Transition – GM say Chevy Bolt EV battery issue is solved

It looks like GM has resolved to their satisfaction the risk that Chevy Bolt EV batteries may go on fire. It will be interesting to see what happens with the Bolt and if it soon gets replaced by a differently branded similarly equipped EV. Our prior Energy Tidbits have noted they have already recalled all Chevy Bolt EVs due to the risk of the battery fire; and our Sept 19, 2021 Tidbit noted that “a GM spokesman told CR that the company is advising customers, “In an effort to reduce potential damage to structures and nearby vehicles in the rare event of a potential fire, we recommend parking on the top floor or on an open-air deck and park 50 feet or more away from another vehicle.” A press release from GM on Monday [\[LINK\]](#), stated that production for Chevy Bolt EVs has resumed with an updated manufacturing process to the LG battery cell. LG plants have added capacity to be able to supply GM with replacement battery modules by mid October. GM updated their parking guidance from last week with the release stating “Set the vehicle to a 90 percent state of charge limitation using Target Charge Level mode. Charge the vehicle more frequently and avoid depleting battery below approximately 70 miles (113 km) of remaining range, where possible. Continue to park vehicles outside immediately after charging and do not leave vehicles charging indoors overnight.” Our Supplemental Documents package includes the GM release.

GM Chevy Bolt EV

Energy Transition – Range anxiety means UK EV owners to drive slower on motorways

We have heard this issue of range anxiety from friends with EVs in US hot climates – the consideration on how to maximize range when driving outside cities. They generally look at it as a significant inconvenience unless they have a last minute longer drive that they hadn’t planned in their charging cycle. But one other benefit of range anxiety is that, at least in the UK, it is leading to slower driving on motorways (highways). Last Sunday, the Telegraph (UK) wrote “Electric car drivers are less likely to be involved in accidents than those in petrol or diesel motors because “range anxiety” makes them drive more slowly, research suggests.” “However, a poll of 14,000 drivers by the motoring organisation found that 51 per cent were worried about running out of charge on a motorway.” “Edmund King, the AA president, said for electric cars: “The obsession with range when behind the wheel does also influence drivers to slow down, keep constant speeds and avoid sharp braking or harsh acceleration”. He added: “Often EV drivers play the ‘range game’ to see how many extra miles they can squeeze out of the battery. It is a badge of honour.” Our Supplemental Documents package includes the Telegraph report.

EV range anxiety

Capital Markets – Canada job vacancies hit record high 731,900 in Q2/21

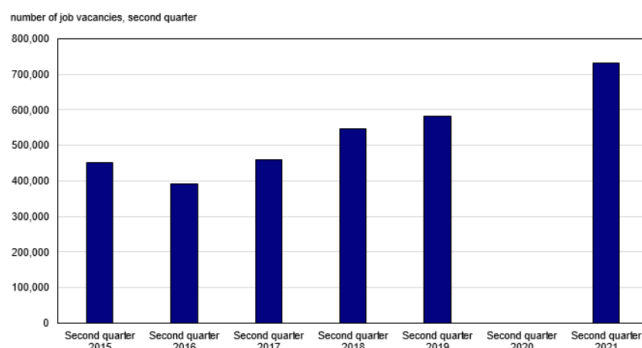
Statistics Canada released Job Vacancies for Q2 in 2021 on Tuesday [\[LINK\]](#). The labour market adapted to challenges from the third wave of COVID-19 in the late spring and early summer. During that period there were 731,900 job vacancies in Canada. There were +150,300 more vacancies in the second quarter of 2021 than in Q2 of 2019. Employment fell in April -207,000 and in May -68,000, as restrictions were tightened in several jurisdictions. June saw a rebound of +231,000 as restrictions were eased heading into summer. The report stated, “the job vacancy rate—which represents vacant positions as a proportion of all

Job vacancies hit record in Q2/21

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positions (vacant and occupied)—was 4.6% in the second quarter of 2021, the highest since comparable data became available in 2015. The job vacancy rate increased 1.1 percentage points from the second quarter of 2019 to the same quarter in 2021, influenced by both the rise in vacancies over the period and a decline in payroll employment, which remained below its pre-COVID level in June 2021 (seasonally adjusted).” According to the Labour Force Survey, employment increased +94,000 in July and +90,000 in August. Below is a graph depicting vacancy rates by quarter in Canada.

Figure 36: Canadian second quarter vacancy rates



Source: Statistics Canada

Capital Markets – IFIC: Mutual funds and ETF assets +3.7% in August

On Thursday, the IFIC (Investment Funds Institute of Canada) reported [LINK](#) mutual funds and ETF sales for August. IFIC does not provide any commentary on the numbers but given the continued strong market performance since the end of Jan dip, it is not surprising to see an increase MoM. Market price increases accounted for about ¾ of the overall increase in net assets. For August, the IFIC reported “mutual fund assets totalled \$2.028 trillion at the end of August 2021. Assets increased by \$45.7 billion or 2.3% compared to July 2021. Mutual funds recorded net sales of \$9.8 billion in August 2021. ETF assets totalled \$324.7 billion at the end of August 2021. Assets increased by \$11.2 billion or 3.6% compared to July 2021. ETFs recorded net sales of \$5.0 billion in August 2021.” Our Supplemental Documents package includes the IFIC release.

Mutual Fund & ETF assets increase MoM

Capital Markets – Is Biden opening door for new taxes on wealthy Americans?

We have to wonder if we are seeing Biden open the door to the introduction of new types of taxes on the wealthy. We don't know if anyone can accurately predict all the details on how the current the House, Senate and Biden will resolve the various spending bills. But it was interesting to see Biden's response to questions at his press conference delivering remarks on Covid response. We aren't aware that he has previously stated a clear position on taxing unrealized capital gains for the wealthy but, on Friday, Biden clearly said he was in favor of taxing unrealized capital gains for the wealthy. The potentially big negative is that he seems to be opening the door to a new type of tax on the wealthy and, if so, its sets up the potential for other new taxes on the wealthy like a wealth tax. Bloomberg transcripts reported on his response to questions at his press conference on Friday on Covid response. Bloomberg wrote “And then separately, you mentioned how you're going to pay for some of these provisions. Senator Wyden has a proposal on annual taxes on billionaires' unrealized gains. Is that a proposal that you support? BIDEN: Yes, I do. I -- look, I support a lot of these proposals. We don't need all of the things I support to pay for this but I do support that. Look, you -- if you -- if you get a -- if you file with a W-2 form, you know, the -- the IRS has access

Taxing unrealized capital gains?

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to your bank account, and your bank tells you how much you made, what you have in there, and if -- you know -- and they estimate your tax. Well, if you -- if you have no income, you're just -- it's all -- I mean, if you have no earned income and it's all invested income, it's hard to figure out what the hell you -- excuse me -- what the heck you have. And that's why we have to -- and I know some people don't like this. That's why we have to rehire some IRS agents, and not to do anything -- not to try to make people pay something they don't owe, just say "hey, step up -- step up and pay like everybody else does."

Capital Markets – A NDP priority is a wealth tax on those with \$10 mm wealth

As noted earlier, the NDP party had no changes in their seat count, staying unchanged at 24 seats in the House of Commons. And with the Liberals +3 to 158 seats vs the 170 needed to have a majority, its not clear if the Liberals see the benefit of agreeing with some of the stated post-election NDP priorities such as a wealth tax on the ultrarich. At his post election Tues press conference, the Globe and Mail [\[LINK\]](#) *"In the last days of the campaign, Mr. Singh said a wealth tax would be his priority issue in a minority government. When asked about that comment Tuesday, he said the cost of the pandemic should be offset by new taxes on high-wealth individuals and corporations. "We remain resolute that it should be the ultra-rich, the billionaires, that pay their fair share," he said."* We believe that Singh used billionaires as a deflection to away from his target being people with far less than a billion in wealth. Its why we tweeted [\[LINK\]](#) *"#JagmeetSingh wealth tax is not just ultra-rich the billionaires, #NDP platform "Those at the very top – super-rich multi-millionaires with over \$10 million in wealth – will be asked to pay more towards our shared services with a 1% wealth tax." Taxes are going up, is this how?"*. Our tweet included an excerpt from the NDP election platform [\[LINK\]](#) on the wealth tax that said *"Those at the very top – super-rich multi-millionaires with over \$10 million in wealth – will be asked to pay more towards our shared services with a 1% wealth tax."* The NDP considers \$10 mm in wealth to be super-rich, and its proposed wealth tax will include \$10 mm in wealth, which is \$990 mm less than \$1 billion. Our Supplemental Documents package includes the excerpt from the NDP platform on taxing the wealthy.

NDP wants a wealth tax

Capital Markets – Food price escalation seems way less in the US vs Alberta

Maybe its different in the US but, from a view from Alberta, its hard to believe the USDA latest Food Price Outlook 2021 (posted Sept 24) estimated % YoY increases in food items, especially meats. Any bacon lover finds it hard to believe pork prices are only expected up 6 to 7% YoY in 2021. The USDA posts a monthly Food Price Outlook, 2021. On meats, poultry and fish, the new USDA summary findings [\[LINK\]](#) wrote *"Beef and veal prices are predicted to increase between 5.0 and 6.0 percent in 2021, and pork prices are predicted to increase between 6.0 and 7.0 percent. Prices for the aggregate category of "meats" are predicted to increase between 4.5 and 5.5 percent. Fish and seafood prices decreased slightly, by 0.1 percent, from July to August 2021. However, prices are still 3.6 percent higher, on average in 2021 than in 2020. Prices are high due to low imports, labor shortages, and strong domestic demand, particularly within the foodservice sector. Fish and seafood prices are predicted to increase between 3.5 and 4.5 percent in 2021. Prices for the aggregate category of "meats, poultry, and fish" are predicted to increase between 4.0 and 5.0 percent."* From an overall perspective, the USDA wrote *"In 2021, food-at-home prices are expected to increase between 2.5 and 3.5 percent, and food-away-from-home prices are expected to increase between 3.5 and 4.5 percent."* Our Supplemental Documents package includes the USDA summary findings.

US Food price escalation

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Capital Markets – Costco’s view on inflation, not all of it is transitory

Costco holds its Q4/2021 call on Thursday and mgmt gave a fairly length discussion of their view on inflation. (i) Their estimate of inflation impact keeps increasing. Mgmt said “Now, I was asked back in March in our second quarter earnings call at what level we found inflation was running overall on the sell price side. I stated in our best guess at the time was somewhere between 1% and 1.5%. I updated at 60 weeks earlier the 16 weeks ago on our May 26th third quarter call, and we upped it estimate to be in the 2.5% to 3.5% range. As of today, and talking with our senior merchants, we would estimate overall price inflation of the products were selling, to be in the 3.5% to 4.5% range.” (ii) Not all inflation items are transitory. Costco did not go their a detailed view on each area, but in the Q&A replied “With inflation to the extent that there’s permanent inflationary items like freight costs or even somewhat permanent for the next year. We can’t hold onto all those, some of that has to be passed on and it is being passed on.” (iii) Costco went thru a view of inflation on all items in their introductory remarks and how it has hit everything. Some of their inflation comments were “Moving to inflation, again there have been many, there have been and are a variety of inflationary pressures that we and others are seeing and more of it. As I discuss on last quarter’s call, inflationary factors abound higher labor costs, higher freight cost, higher transportation demand along with container shortages and port delays, increased demand in certain product categories, very shortages of everything from computer chips to oils and chemicals, higher commodities prices. It’s a lot of fun right now. Some inflationary sound bites if you will. Price increases on item shipped across the oceans, some suppliers are paying two to six times for containers and shipping. Price increases a pulp and paper goods, some items up 4% to 8%. Again, we’re trying to mitigate those where we can and we think we’ve done a decent job of mitigating some of it. Plastics, resin increases on things like trash bags that flux cues, pet products include resin or (inaudible) pet products, plastic cups, plates, plastic wrap, many items up in the 5% to 11% range. Metals, again, aluminum foil, mid-single digit cost increases and as well as cans for sodas and other beverages. I mentioned commodities earlier, oil, coffee, nuts, they remain generally according to our buyers at five-year hides and so on. Higher import prices on things from Europe like cheeses, but the combination of freight and FX. 3% to 10% increases on certain, but not all apparel items. And fresh, fresh foods inflation is up in the mid to high single-digits with meat leading the way up high single to low double-digits due to feed, labor and transportation costs.” Our Supplemental Documents package includes the Costco comments on inflation.

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

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

@Energy_Tidbits on Twitter**LinkedIn – Look for quick energy items from me on LinkedIn**

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

Look for energy items on LinkedIn

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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.

Welcome home Michael Kovrig and Michael Spavor!

We wish there could have been people allowed to be at the Calgary International Airport to welcome home the “Two Michaels”, Michael Spavor and Michael Kovrig after being released from over 1,000 days in prison. They were detained on Dec 10, 2018 following Canada’s agreement with the US to hold Huawei’s Meng Wanzhou. Their release may have been universally expected post the release of Meng Wanzhou, but you never know so we didn’t want to celebrate until they were back home in Canada.

Figure 37: Michael Kovrig and Michael Spavor land in Calgary



Source: CTV

A critical week ahead for the Toronto Blue Jays

Its been a tough week for the Toronto Blue Jays, who have dropped from the 2nd wildcard spot to now tied with Seattle at 2.5 games behind the Yankees and the Red Sox who are tied for the 1st and 2nd wildcard spots. The added problem for the Blue Jays is that they no longer control their destiny. The Jays have the big 3 games series at home against the Yankees on Sept 28-30, but can’t guarantee a spot given Seattle has now moved up to even with the Blue Jays. If the Jays can win the next few games, that last series with the Yankees will be crazy.

Will Ryder Cup viewership be down with US a lock to win?

It will be interesting to see how the viewership ends up for today’s singles matches to end the Ryder Cup given the US has a huge lead of 11-5. This is the largest lead since 1975. The US needs 14 ½ points to win the Ryder Cup, the Europeans only need 14 points to retain the cup. The 1975 Ryder Cup was significant as the US won 21-11, which was their 9th consecutive Ryder Cup. In those days, it was only the UK (not all of Europe) that competed against the US. The US lead going into the singles was 12 ½ to 3 ½. This wipe out by the Americans was the key catalyst to change the Ryder Cup format in 1979 so that it was the Europeans in total and not just the UK. Back to the viewership, yesterday, I tweeted [\[LINK\]](#) “Hope our neighbours US win

@rydercup but really want the EU side rally today to close the gap. want to be glued to the TV all day. but for 2022 @PresidentsCup, will be for internationals that hopefully includes Canada's @coreconn & @MacHughesGolf". Perhaps its just as well, there are some good NFL games on at 11am MT.

Only one NFL team that started 0-2 won the Super Bowl since 2002

Its week 3 of the NFL season and, with the new 17 game schedule and added team to make the playoffs, we may have a better than slim chance for teams that start with a losing record to make the playoffs. Going into week 3, there are 7 teams that have started with an 0-2 record including AFC teams New York Jets, Indianapolis Colts, and Jacksonville Jaguars, and NFC teams New York Giants, Detroit Lions, Minnesota Vikings, and Atlanta Falcons. Since the NFL expanded to 32 teams in 2002, there have been 159 teams that started 0-2 and only 16 have made the playoffs ie. 10%. And all 11 of the teams that started 0-2 in the 2020 season missed the playoffs. Interestingly, one of the 0-2 teams was picked by many to be in the playoffs – the Colts. And the odds get really bad if a team goes 0-3, since 2002, there have been 93 teams that started 0-3 and only 1 (the 2018 Houston Texans) have made the playoffs. Since 2002, the only 0-2 team that won the Super Bowl was the 2007 New York Giants. We should note that the 2001 New England Patriots started 0-2 and won the Super Bowl. Lastly, Carolina Panthers beat the Houston Texans on Thursday night to go 3-0. Since the 2002 expansion, ~70% of the teams that started 3-0 made the playoffs.

National Key Lime pie day is today

Today is one of the best food holidays – National Key Lime pie day. We aren't having one today, but did have one a week ago from the best Key Lime pie place in Calgary – Pie Junkie. Although we did buy the pie from Valbella in Canmore. Pie Junkie seems to make a classic Key Lime pie and not one of these phony lime green colored pies. Key Lime pie is generally thought to have been created in Key West (Florida) although there was some controversy when others claimed it was actually invented in a Borden milk company test kitchen in New York City in 1932 as a product to help sell Borden's condensed milk.

Star Trek's Captain Kirk, Canadian William Shatner, going to space on Amazon

Reports are that 90-year old Canadian William Shatner will be on the October flight of Jeff Bezo's Blue Horizon. Shatner is best known for his role in playing Captain James T. Kirk in the Star Trek TV show. Star Trek only lasted 3 season in the 60s, but ultimately spawned multiple TV spin offs 20 years and feature movies starting in the 80's. Star Trek was interesting and was noted for something that hadn't happened on TV in the 60's – the first kiss between a white man and black woman (Nichelle Nichols playing Lt. Uhura). The other key still living main cast members are Nichelle Nichols, George Takei (helmsman Sulu) and William Koenig (ensign Chekov). Deceased are Leonard Nimoy (lieutenant commander Spock), DeForest Kelley (chief medical office "Bones" McCoy), and James Doohan (chief engineer "Scotty"). William Shatner is from Montreal, graduated from McGill.