

Energy Tidbits

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

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GASTECH 2021: Venture Global LNG's Calcasieu Pass said to be nearing completion

HIGHLIGHTS

First production expected within months: executive

Louisiana facility is seventh US liquefaction terminal

Author Claudia Carpenter Harry Weber

Venture Global LNG's Calcasieu Pass export terminal in Louisiana is nearing completion and will begin production within months, Chief Commercial Officer Tom Earl said Sept. 22 at the Gastech conference in Dubai.

The developer said in March that first LNG exports could occur in late 2021. Earl's update did not reference a specific date for production, suggesting that output could start later this year or early next year. He did not reference first exports during his comments.

According to filings with US regulators, Calcasieu Pass has begun early commissioning activities at the facility. It has not yet received approval to flow feedgas to its liquefaction trains – that would be a precursor to beginning production.

"Calcasieu Pass is completing about now, and as we go through the coming months we'll start production shortly at that site," Earl said.

The 10 million mt/year capacity facility is being built using modular trains that are smaller than the traditional liquefaction units used at other US facilities. The modular trains are being constructed in Italy and delivered to the site and plugged in one at a time.

Venture Global has said it plans a phased operational start-up. If it does begin production and exports by the end of 2021, that would be about a year earlier than originally anticipated. Earlier this year, the company said full operations at the export terminal were expected in mid-2022. Earl, in his comments, did not address a tender that Venture Global issued earlier this year for at least 12 cargoes from Calcasieu Pass for delivery starting during the fall.

Besides Calcasieu Pass, Venture Global is developing three other proposed LNG export facilities in Louisiana.

One of the other projects, Plaquemines LNG, which would be built in two phases and have a production capacity of up to 20 million mt/year, has not yet been formally sanctioned, though Earl said at Gastech that initial construction activities would begin "imminently." He said there had been "mobilization on site recently."

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MANUFACTURERS URGE DOE TO REQUIRE REDUCTION IN LNG EXPORT RATES TO PREVENT FURTHER PRICE SPIKES

Today, the Industrial Energy Consumers of America (IECA) sent a letter to Energy Secretary Jennifer Granholm on LNG exports. IECA urged the U.S. Department of Energy (DOE) 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 pending 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.**

“Action is necessary because the global LNG market is not a free market and buyers of LNG who compete for natural gas with U.S. consumers are state-owned enterprises and foreign government-controlled utilities with automatic cost pass through. They can and will pay any price necessary to secure LNG for their countries. U.S. manufacturers cannot compete with them on prices,” said Paul Cicio, President and CEO of IECA.

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The Energy Information Administration (EIA) states that natural gas exports are up 41% from a year ago. Henry Hub natural gas prices are double from a year ago at an annualized rate equal to a \$109 billion increase to consumers. The EIA reports that working natural gas stocks are 17% lower than a year ago and 7% below the five-year average. S&P Global Platts calculates that “Henry Hub prices would have to increase to \$10 per MMBtu to provide incentive to fulfill domestic natural gas demand.”² At those price levels, as we experienced in 2008, manufacturing demand destruction occurs. Many manufacturers can no longer compete in the market at those prices, which results in a loss of jobs.

Excessive LNG export volumes are inflationary and threaten the competitiveness of trillions of dollars of manufacturing capital assets, millions of jobs, and economic growth by driving up the cost of natural gas, natural gas liquids feedstock, and electricity. This also presents a threat to reliability, national security, and is a cost and human safety issue.

The Industrial Energy Consumers of America is a nonpartisan association of leading manufacturing companies with \$1.1 trillion in annual sales, over 4,200 facilities nationwide, and with more than 1.8 million employees worldwide. It is an organization created to promote the interests of manufacturing companies through advocacy and collaboration for which the availability, use and cost of energy, power or feedstock play a significant role in their ability to compete in domestic and world markets. IECA membership represents a diverse set of industries including: chemicals, plastics, steel, iron ore, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, pharmaceutical

US warns against 'manipulation' of Europe gas prices

2021-09-22 11:57:29.638 GMT

Sept. 22 (AFP) -- US Energy Secretary Jennifer Granholm on Wednesday warned against "manipulation" of gas prices in Europe, as a group of European lawmakers accused Russia of being behind price rises.

"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.

The looming energy crisis facing Europe overshadowed a meeting of EU ministers on Wednesday, with participants describing the situation -- being felt globally -- as "critical".

The continent faces soaring power prices as its economy recovers from the Covid pandemic and as winter approaches while natural gas reserves are at a worrying low level.

A profound EU transformation towards a low-carbon future, phasing out fossil fuels, is adding to the pressure on the bloc's market and households.

A group of more than 40 members of the European Parliament has written a letter accusing Russia's Gazprom of manipulating gas prices.

They see a diminishing flow of Russian gas through Ukraine as an attempt by Moscow to force Germany to approve activation of a newly completed gas pipeline through the Baltic Sea, Nord Stream 2. Gazprom denies the accusation.

While the EU is struggling, the situation is far worse in former EU member Britain, where wholesale energy prices are outstripping even those soaring in the rest of Europe.

The United States is also seeing an increase in energy prices but is largely shielded because of gas production from its shale fields.

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<https://rbnenergy.com/i-cant-help-myself-western-canadas-natural-gas-production-has-been-hitting-multi-year-highs>

I Can't Help Myself - Why Western Canada's Natural Gas Production Has Been Hitting Multi-Year Highs

Monday, 09/20/2021

Published by: [Martin King](#)

With natural gas prices reaching levels not seen in seven years, Western Canada is doing all it can to help increase gas supply, with recent data showing monthly production hitting multi-year highs. Moreover, Canadian forward gas prices are at the highest levels since 2014, gas pipeline expansions are in place or being constructed to accommodate future supply expansion, and gas-focused drilling activity remains strong — all of which may as well be a prescription for sending gas production to record levels later this year and in 2022. In today's RBN blog, we provide an update on the recent gas production growth in Alberta and neighboring provinces and why more growth is coming.

Western Canada's natural gas production continues to play an important role in the North American market. Nearly half of Canada's output is exported to its neighbor to the south and that supply has helped to backstop a U.S. market that would [otherwise be even tighter than it currently is](#) given the enormous pull of U.S. gas to Mexico and LNG export docks. Importantly for this year's — and probably next year's — gas market balance, Western Canadian gas production growth has been strong this year and may be on track to chalk up one of its biggest annual supply gains in 20 years.

Only a year ago, in [Life Ain't Easy](#), we were discussing a very different outlook for Canadian gas production. For a good part of 2020, supplies had tracked lower, first in response to the short-lived OPEC-Russia price war, which undercut producer spending on all things related to oil and gas supply, and later the COVID-19 pandemic-related disruptions that limited the availability and mobility of rig crews. Additionally, the pandemic's impact on North American and global gas demand led to [the temporary oversupply of gas in the U.S. as LNG exports dropped off sharply through the summer](#) due to weak European and Asian demand. It was the perfect combination of events to keep natural gas prices low and undermine production on both sides of the U.S.-Canada border. In the end, Canadian gas production fell by a modest 0.32 Bcf/d (-2.0%) in 2020 to 15.4 Bcf/d (red column in Figure 1), on average, but it was the second consecutive year of decline. In 2019 output fell 0.38 Bcf/d (-2.3%) on the back of extreme weakness in the Canadian AECO price benchmark. Worse, the combined supply loss from 2019 and 2020 effectively unwound the record gains made in 2018 (+0.72 Bcf/d).

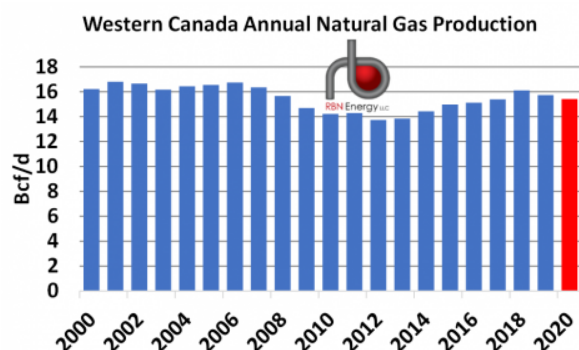


Figure 1. Western Canada Annual Natural Gas Production. Source: Canadian NATGAS Billboard.

One year on and the natural gas production story has changed dramatically. Since the start of this year, Western Canada's gas output has grown steadily, with the average gas supply in August rising to a 2021 high of 16.39 Bcf/d (dashed red circle in Figure 2), one of the highest monthly averages recorded in the

past 20 years, based on data from RBN's [Canadian NATGAS Billboard](#). Data so far for September suggests that the supply momentum is being maintained.

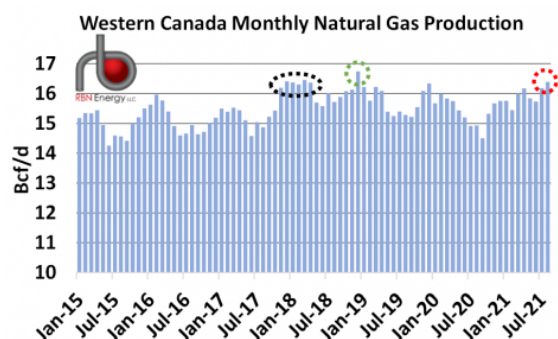


Figure 2. Western Canada Monthly Natural Gas Production. Source: Canadian NATGAS Billboard.

The last time that we saw production levels this high was through the winter drilling season of 2017-18 (dashed black oval in Figure 2), when a more concentrated shift in the drilling of unconventional gas plays like [the Montney](#) boosted supply for a number of months. In fact, nearly all of the growth during that time period came from the [British Columbia side of the Montney](#), and the province's gas production rose more than 25% in the space of just six months. That growth spurt was followed by the normal seasonal downturn in output that occurs as winter drilling activity winds down. And, other than a brief spike in December 2018 (dashed green circle), Western Canadian gas output has not matched 2018 levels — until now. What we also find noteworthy from this year's gas production profile was the absence of the usual seasonal decline in production after the last winter drilling season, in contrast to what transpired in previous years. We think there are some good reasons for this, and we'll get to them in a moment.

It is possible that you have been watching in awe this summer the [powerful rally in natural gas prices across North America — and globally](#). There are a few primary drivers of this price strength: (1) the colder-than-usual winter of 2021 in the Northern Hemisphere, resulting in lower-than-average gas storage at the end of the heating season; (2) a strong recovery in gas demand following the COVID-related decline of 2020; and (3) the aforementioned record levels of Mexican and LNG exports from the U.S. that have outpaced the Lower 48 production growth. These are just some of the factors that have contributed to the market tightness that pushed [prompt month natural gas futures prices to cross \\$5/MMBtu](#), the highest level since 2014.

For the most part, the Western Canadian AECO gas price benchmark has been tracking the rally, creating a huge incentive for producers to push a little harder on the production accelerator as cash flows and earnings have been increasing steadily. Until some recent near-term volatility in AECO prices, partly driven by partial gas flow restrictions on TC Energy's Alberta pipeline grid, prices had been rising since the start of spring, soaring to well above \$3/MMBtu (dashed green oval in Figure 3), and reaching some of the highest summertime levels seen since 2014. Summer prices hit the highest level for any time of the year, except, of course, the brief spike due to the [February 2021 Deep Freeze](#) event (dashed red oval). The price rise to or above \$3/MMBtu in previous years all occurred during the winter months.

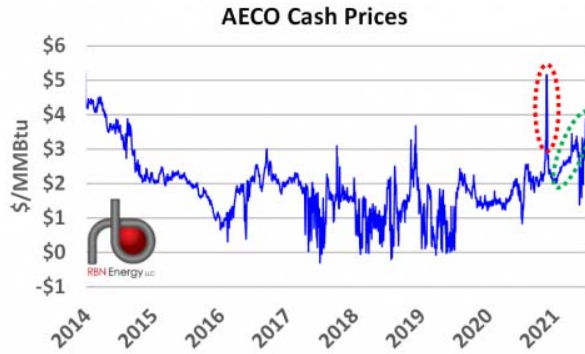


Figure 3. AECO Cash Prices. Source: Natural Gas Intelligence

Our point here is that Western Canadian producers have reacted the way you would expect — increasing output and cashing in on price signals that have been calling for still more supply. Gas-directed rig counts are at the highest level for this time of year since 2018 (blue line in left graph in Figure 4). That has driven the number of gas-well completions through the first eight months of the year to nearly as many as were completed in all of 2020 (green bars in center graph) and the well-count is likely on track to be the highest since 2018. On top of that, the average gas well length (vertical depth + horizontal length) so far in 2021 is at a record level (blue bars in right graph). With another four months of data to come in for well completions and well lengths, we think that additional production growth is likely to be over and above what has been seen so far this year.

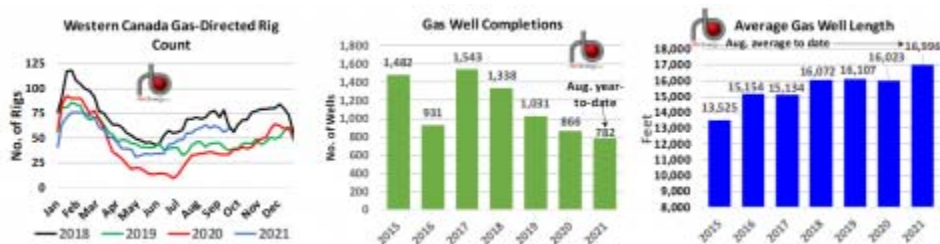


Figure 4. Western Canada Gas-Directed Rig Count, Well Completions, and Well Length. Sources: Baker Hughes, Daily Oil Bulletin

There are also additional factors that suggest supply gains could continue well into 2022 and push Western Canada gas production to new all-time highs. If current cash prices in the \$3/MMBtu range are attractive, AECO prices for Winter 2021-22 (blue line in Figure 5), Summer 2022 (green line), and Calendar 2022 (black line) are all just as compelling and have all been steadily rising over the course of this year. All are now at levels last seen in mid-2014. For instance, Winter 2021-22 prices have been well north of \$3/MMBtu since the start of July, the highest for a nearby winter contract since June 2014. Producers have been taking notice of the rally, with major Montney players such as Tourmaline Oil, Ovintiv, and ARC Resources all increasing their gas-focused capital spending programs in recent months.

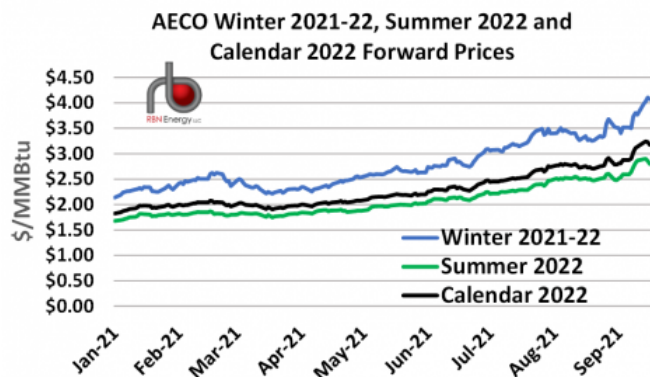


Figure 5. AECO Winter 2021-22, Summer 2022, and Calendar 2022 Forward Prices. Source: NGX

There is also the physical reality that the gas pipeline grid in Western Canada has been expanding and will continue to grow into 2022 in anticipation of rising gas production from the Montney and other unconventional plays. In [Don't Stop](#), we described expansion work on a part of TC Energy's Alberta pipeline grid known as the Upstream of James River (USJR) corridor, which has become the primary conduit for the egress of Montney gas supplies into the broader Canadian gas pipeline network and for export to the U.S. Then, in our two-parter, [Fixing a Hole](#), we took a closer look at another TC Energy pipeline infrastructure project: the North Montney Mainline, a 2-Bcf/d expansion into the BC Montney play that was tied into the broader NGTL network via the USJR corridor. It has become the single largest pipeline to support growth in Montney gas production for downstream consumption and will eventually tie into the [LNG Canada export project](#). Finally, though there have been regulatory delays, [recently approved expansion work on TC Energy's Alberta pipeline grid](#) will provide still more downstream pipeline capacity.

With all this work either already complete or well on its way to being finished in 2022, pipeline capacity to deal with the natural gas production growth we anticipate will be in place later this year or next year. With additional evidence that gas well productivity has continued to rise, [especially in the BC Montney](#), all the elements are in place for a further expansion of gas supplies to record-high levels for the remainder of 2021 and a good portion of 2022. That said, 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.

The only limitations on production growth might be the degree to which producers can expand their spending programs given the close scrutiny being paid to bank lending, the difficulty in raising equity in capital markets, and rising [ESG concerns](#) that have become paramount for all oil and gas producers. Moreover, there is anecdotal information that the ultimate constraint on gas supply expansion may come down to how successful energy service companies will be in finding crews to operate drilling rigs this winter and next year.

To keep up with Western Canadian natural gas production trends, check out RBN's weekly Canadian NATGAS Billboard report in which we track daily, weekly, and monthly natural gas production by province and pipeline. For more about the report, click [here](#).

"I Can't Help Myself" was written by Motown songwriters Holland-Dozier-Holland and appears as the first track on side one of the *Four Tops Second Album*. Released as a single in April 1965, the song went to #1 on the Billboard Hot 100 and R&B Singles charts. Personnel on the record were: Levi Stubbs (lead vocals), Abdul Fakir, Renaldo Benson, Lawrence Payton, The Andantes (backing vocals), The Funk Brothers (instrumentation, including James Jamerson on bass, and Mike Terry on baritone sax), and the Detroit Symphony Orchestra (strings). Several artists have covered the song, including: The Supremes, Bonnie Pointer, Johnny Rivers, and Donnie Elbert.

Four Tops Second Album was recorded at Studio A at Hitsville USA in Detroit during 1965. All the songs on the album were written by Holland-Dozier-Holland, and the record was produced by Brian Holland, Lamont Dozier, and Smokey Robinson. Released in November 1965, the LP went to #3 on the Billboard R&B Albums chart, and #20 on the Billboard Top 200 Albums chart. Three charting singles were released from the album.

The Four Tops are an American R&B vocal quartet from Detroit that defined the city's Motown sound of the sixties. The original quartet of Levi Stubbs, Abdul Fakir, Renaldo Benson, and Lawrence Payton remained together for over four decades, from their formation in 1953 to 1997. They released 27 studio albums, two live albums, ten compilation albums, and 59 singles. They are members of the Rock and Roll Hall of Fame, Rhythm and Blues Music Hall of Fame, and Grammy Hall of Fame. They hold a Grammy Lifetime Achievement Award and a Rhythm and Blues Foundation Pioneer Award. Lawrence Payton died in 1997, Renaldo Benson in 2005, and Levi Stubbs in 2008. The Four Tops continue to perform with Abdul Fakir as the last surviving original member.

Asian LNG Buyers Abruptly Change and Lock in Long Term Supply – Validates Supply Gap, Provides Support For Brownfield LNG FIDs

Posted 11am on July 14, 2021

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.

Sea change in Asian LNG buyers is also the best validation of the LNG supply gap and big to LNG supply FIDs. Has the data changed or have the market participants changed in how they react to the data? We can’t recall exactly who said that on CNBC on July 12, it’s a question we always ask ourselves. In the LNG case, the data has changed with Mozambique LNG delays and that has directly resulted in market participants changing and entering into long term contracts. We can’t stress enough how important it is to see Asian LNG buyers move to long term LNG deals. (i) Validates the sooner and bigger LNG supply gap. We believe LNG markets should look at the last two weeks of new long term deals for Asian LNG buyers as being the validation of the LNG supply gap that clearly emerged post Total declaring force majeure on its 1.7 bcf/d Mozambique LNG Phase 1 that was under construction and on track for first LNG delivery in 2024. Since then, markets have started to realize the Mozambique delays are much more than 1.7 bcf/d. They have seen major LNG suppliers change their outlook to a more bullish LNG outlook and, most importantly, are now seeing Asian LNG buyers changing from trying to renegotiate long term LNG deals lower to entering into long term LNG deals to have security of supply. Asian LNG buyers are cozying up to Qatar in a prelude to the next wave of Asian buyer long term deals. What better validation is there than companies/countries putting their money where their mouth is. (ii) Provides financial commitment to help push LNG suppliers to FID. We believe these Asian LNG buyers are doing much more than validating a LNG supply gap to markets. The big LNG suppliers can move to FID based on adding more LNG supply to their portfolio, but having more long term deals provides the financial anchor/visibility to long term capital commitment from the buyers. Long term contracts will only help LNG suppliers get to FID.

It was always clear that the Mozambique LNG supply delay was 5.0 bcf/d, not just 1.7 bcf/d from Total Phase 1. LNG markets didn’t really react to Total’s April 26 declaration of force majeure on its 1.7 bcf/d Mozambique LNG Phase 1. This was an under construction project that was on time to deliver first LNG in 2024. It was in all LNG supply forecasts. There was no timeline given but, on the Apr 29 Q1 call, Total said that it expected any restart decision would be least a year away. If so, we believe that puts any actual construction at least 18 months away. There will be work to do just to get back to where they were when they were forced to stop development work on Phase 1. Surprisingly, markets didn’t look the broader implications, which is why we posted our 7-pg Apr 28 blog “*Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?*” [\[LINK\]](#) We highlighted that Mozambique LNG delays were actually 5 bcf/d, not 1.7 bcf/d. And this 5 bcf/d of Mozambique LNG supply was built into most, if not all, LNG supply forecasts. The delay in Total Phase 1 would lead to a commensurate delay in its Mozambique LNG Phase 2 of 1.3 bcf/d. Total Phase 2 was to add 1.3 bcf/d. There was no firm in service date, but it was expected to

follow closely behind Phase 1 to maintain services. That would have put it originally in the 2026/2027 period. But if Phase 1 is pushed back at least 2 years, so will the follow on Phase 2, so more likely, it will be at least 2028/2029. The assumption for most, if not all, LNG forecasts was that Phase 2 would follow Phase 1. Exxon Rozuma Phase 1 of 2.0 bcf/d continues to be pushed back in timeline especially following Total Phase 1. Exxon's Mozambique Rozuma Phase 1 LNG will add 2.0 bcf/d and, pre-Covid, was originally expected to be in service in 2025. The project was being delayed and Total's force majeure has added to the delays. Rozuma onshore LNG facilities are right by Total. On June 20, we tweeted [\[LINK\]](#) on the Reuters report "*Exclusive: Galp says it won't invest in Rovuma until Mozambique ensures security*" [\[LINK\]](#). Galp is one of Exxon's partners in Rozuma. Reuters reported that Galp said they won't invest in Exxon's Rozuma LNG project until the government ensures security, that this may take a while, they won't be considering the project until after Total has reliably resumed work on its Phase 1, which likely puts any Rozuma decision until at least end of 2022 at the earliest. Galp has taken any Rozuma Phase 1 capex out of their new capex plans thru 2025 and will have to take out projects in their capex plan if Rozuma does come back to work. This puts Rozuma more likely 2028 at the earliest as opposed to before the original expectations of before 2025. Pre-pandemic, Exxon's March 6, 2019 Investor Day noted their operated Mozambique Rovuma LNG Phase 1 was to be 2 trains each with 1.0 bcf/d capacity for total initial capacity of 2.0 bcf/d with FID expected in 2019 and first LNG deliveries sometime before 2025. LNG forecasts had been assuming Exxon Rozuma would be onstream around 2025. The 2019 FID expectation was later pushed to be expected just before the March 2020 investor day. But the pandemic hit, and on March 21, 2020, we tweeted [\[LINK\]](#) on the Reuters story "*Exclusive: Coronavirus, gas slump put brakes on Exxon's giant Mozambique LNG plan*" [\[LINK\]](#) that noted Exxon was expected to delay the Rovuma FID. There was no timeline, but now, any FID is not expected until late 2022 at the earliest, that would push first LNG likely to at least 2028. What this means is that the Mozambique LNG delays are not 1.7 bcf/d but 5.0 bcf/d of projects that were in all, if not most, LNG supply forecasts. There is much more in our 7-pg blog. But Mozambique is what is driving a much bigger and sooner LNG supply gap starting ~2025 and stronger outlook for LNG prices

One of the reasons why it went under the radar is that major LNG suppliers played stupid on the Mozambique impact. It makes it harder for markets to see a big deal when the major LNG suppliers weren't making a big deal of Mozambique or playing stupid in the case of Cheniere in their May 4 Q1 call. In our May 9, 2021 Energy Tidbits memo, we said we had to chuckle when we saw Cheniere's response in the Q&A to its Q1 call on May 4 that they only know what we know from reading the Total releases on Mozambique and its impact on LNG markets. It's why we tweeted [\[LINK\]](#) "*Hmm! \$LNG says only know what we read on #LNG market impact from \$TOT \$XOM MZ LNG delays. Surely #TohokuElectric & other offtake buyers are reaching out to #Cheniere. MZ LNG delays is a game changer to LNG in 2020s, see SAF Group blog. Thx @olymp_e_mattei @TheTerminal #NatGas*". How could they not be talking to LNG buyers for Total and/or Exxon Mozambique LNG projects. In the Q1 Q&A, mgmt was asked about Mozambique and didn't know any more than what you or I have read. Surely, they were speaking to Asian LNG buyers who had planned to get LNG supply from Total Mozambique or Exxon Rozuma Mozambique or both. Mgmt is asked "*wanted to just kind of touch on the color use talking about for these supply curve. And are you able to kind of provide any thoughts on the Mozambique and a deferral with the project of that size on 13 and TPA being deferred by we see you have you noticed any impact to the market has is there any impact for stage 3 with that capacity? Thanks.*" Mgmt replies "*No. Look, I only know about the Mozambique delay with what I read as well as what you read that from total and an Exxon. And it's a sad situation and I hope everybody is safe and healthy that were there to experience that unrest but no I don't think it's, again it's a different business paradigm than what we offer. So, we offer a full value product, the customer doesn't have to invest in equity, customer doesn't have to worry about the E&P side of the business because, we've been able to both the by at our peak almost 7 Dec's a day of US NAT gas from almost a 100 different producers on 26 different pipelines and deliver it to our facilities. So we take care of a lot of what the customer needs*".

There are other LNG supply delays/interruptions beyond Mozambique. There have been a number of other smaller LNG delay or existing supply interruptions that add to Asian LNG buyers feeling less secure about the reliability of mid to long term LNG supply. Here are just a few examples. (i) Total Papua LNG 0.74 bcf/d. On June 8, we tweeted [\[LINK\]](#) "*Timing update Papua #LNG project. \$OSH June 8 update "2022 FEED, 2023 FID targeting 2027 first gas". \$TOT May 5 update didn't forecast 1st gas date. Papua is 2 trains w/ total capacity 0.74 bcf/d.*" We followed the tweet saying [\[LINK\]](#) "*Bigger #LNG supply gap being created >2025. Papua #LNG originally expected FID in 2020 so 1st LNG is 2 years delayed.*"

Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity > demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required additional downtime for repair. Train 2 was shut on May 23 with an original restart of July 11, but the repairs to the weld quality issues meant it didn't restart until late Nov. The same issue was found in Train 1 but repairs were completed. However extended downtime for the trains led to lower LNG volumes. Gorgon produced ~2.3 bcf/d in 2019 but was down to 2.0 bcf/d in 2020. (iii) Equinor's Melkøya 0.63 bcf/d shut down for 18 months due to a fire. A massive fire led to the Sept 28, 2020 shutdown of the 0.63 bcf/d Melkøya LNG facility in Norway. On April 26, Equinor released "Revised start-up date for Hammerfest LNG" [\[LINK\]](#) with regard to the 0.63 bcf/d Melkøya LNG facility. The original restart date was Oct 1, 2021 (ie. a 12 month shut down), but Equinor said "Due to the comprehensive scope of work and Covid-19 restrictions, the revised estimated start-up date is set to 31 March 2022". When we read the release, it seemed like Equinor was almost setting the stage for another potential delay in the restart date. Equinor had two qualifiers to this March 31, 2022 restart date. Equinor said "there is still some uncertainty related to the scope of the work" and "Operational measures to handle the Covid-19 situation have affected the follow-up progress after the fire. The project for planning and carrying out repairs of the Hammerfest LNG plant must always comply with applicable guidelines for handling the infection situation in society. The project has already introduced several measures that allow us to have fewer workers on site at the same time than previously expected. There is still uncertainty related to how the Covid-19 development will impact the project progress."

Cheniere stopped the game playing the game on June 30. Our July 4, 2021 Energy Tidbits memo noted that it looks like Cheniere has stopped playing stupid with respect to the strengthening LNG market in 2021. We can't believe they thought they were fooling anyone, especially their competitors. Bu that week, they came out talking about how commercial discussions have picked up in 2021 and it's boosted their hope for a Texas (Corpus Christi) LNG expansion. On Wednesday, Platts reported "[Pickup in commercial talks boosts Cheniere's hopes on mid-scale LNG project](#)" [\[LINK\]](#) Platts wrote "*Cheniere Energy expects to make a "substantial dent" by the end of 2022 in building sufficient buyer support for a proposed mid-scale expansion at the site of its Texas liquefaction facility, Chief Commercial Officer Anatol Feygin said June 30 in an interview.*" "*As a result, he said, " The commercial engagement, I think it is very fair to say, has really picked up steam, and we are quite optimistic over the coming 12-18 months to make a substantial dent in that Stage 3 commercialization."* Platts also reported that Cheniere noted this has been a tightening market all year (ie would have been known by the May 4 Q1 call). Platts wrote "*We obviously find ourselves at the beginning of this year and throughout in a very tight market where prices today into Asia and into Europe are at levels that we frankly haven't seen in a decade-plus," Feygin said. "We've surpassed the economics that the industry saw post the Fukushima tragedy in March 2011, and that's happened in the shoulder period."* It's a public stance as to a more bullish LNG outlook

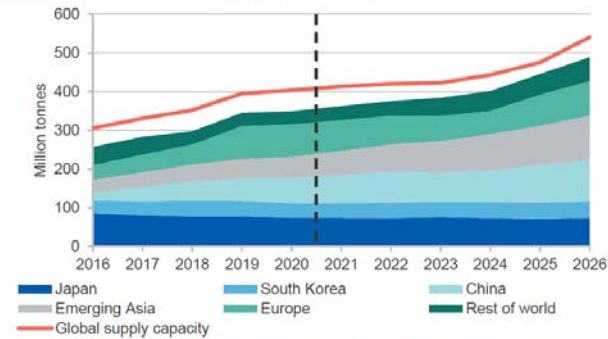
But we still see major LNG suppliers like Australia hinting but not outright saying that LNG supply gap is coming sooner. We have to believe Australia will be unveiling a sooner LNG supply gap in their September forecast. On June 28, we tweeted [\[LINK\]](#) on Australia's Resources and Energy Quarterly released on Monday [\[LINK\]](#) because there was a major change to their LNG outlook versus their March forecast. We tweeted "[#LNGSupplyGap. AU June fcast now sees #LNG mkt tighten post 2023 vs Mar fcast excess supply thru 2026. Why? \\$TOT Mozambique delays. See below SAF Apr 28 blog. Means brownfield LNG FID needed ie. like #LNGCanada Phase 2. #OOTT #NatGas](#)". Australia no longer sees supply exceeding demand thru 2026. In their March forecast, Australia said "*Nonetheless, given the large scale expansion of global LNG capacity in recent years, demand is expected to remain short of total supply throughout the projection period.*" Note this is thru 2026 ie. a LNG supply surplus thru 2026. But on June 28, Australia changed that LNG outlook and now says the LNG market may tighten beyond 2023. Interestingly, the June forecast only goes to 2023 and not to 2026 as in March. Hmmm! On Monday, they said "*Given the large scale expansion of global LNG capacity in recent years, import demand is expected to remain short of export capacity throughout the outlook period. Beyond 2023, the global LNG market may tighten, due to the April 2021 decision to indefinitely suspend the Mozambique LNG project, in response to rising security issues. This project has an annual nameplate capacity of 13 million tonnes, and was previously expected to start exporting LNG in 2024.*" 13 million tonnes is 1.7 bcf/d so they are only referring to Total Mozambique LNG Phase 1. So no surprise the change is Mozambique LNG driven but we have to believe the reason why they cut their forecast off this time at 2023 is that they are looking at trying to figure out what to forecast beyond 2023 in addition to Total Phase 1. And, importantly, we believe they will be changing their LNG forecast for more than Mozambique ie. India

demand that we highlight later in the blog. They didn't say anything else specific on Mozambique but, surely they have to also be delaying the follow on Total Phase 2 of 1.3 bcf/d and Exxon Rozuma Phase 1 of 2.0 bcf/d.

Australia's LNG Outlook: March 2021 vs June 2021 Forecasts

March 2021 LNG Outlook

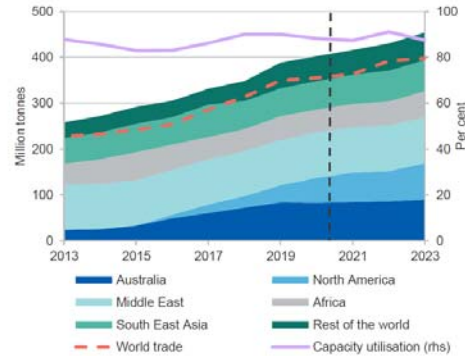
Figure 7.1: LNG demand and world supply capacity



Source: Nexant (2021) World Gas Model; Department of Industry, Science, Energy and Resources (2021)

June 2021 LNG Outlook

Figure 7.1: LNG demand and world supply capacity



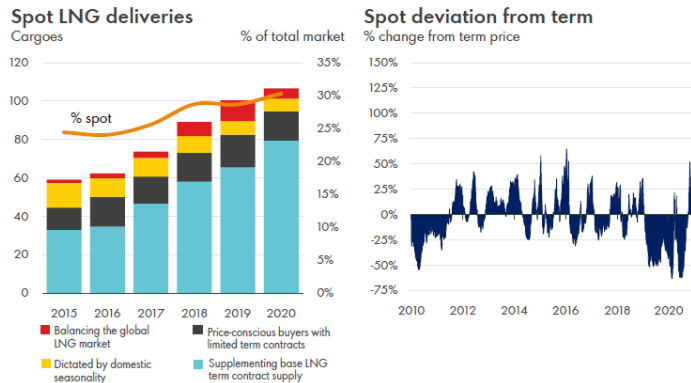
Source: Nexant (2021) World Gas Model; Department of Industry, Science, Energy and Resources (2021)

Source: Australia Resources and Energy Quarterly

Clearly Asian LNG buyers did the math, saw the new LNG supply gap and were working the phones in March/April/May trying to lock up long term supply. We wrote extensively on the Total Mozambique LNG situation before the April 26 force majeure as it was obvious that delays were coming to a project counted on for first LNG in 2024. Total had shut down Phase 1 development in December for 3 months due to the violence and security risks. It restarted development on Wed March 24, violence/attacks immediately resumed for 3 consecutive days, and then Total suspended development on Sat March 27. That's why no one should have been surprised by the April 26 force majeure. Asian LNG buyers were also seeing this and could easily do the same math we were doing and saw a bigger and sooner LNG supply gap. They were clearly working the phones with a new priority to lock up long term LNG supply. Major long term deals don't happen overnight, so it makes sense that we started to see these new Asian long term LNG deals start at the end of June.

A big pivot from trying to renegotiate down long term LNG deals or being happy to let long term contracts expire and replace with spot/short term LNG deals. This is a major pivot or abrupt turn on the Asian LNG buyers contracting strategy for the 2020s. There is the natural reduction of long term contracts as contracts reach their term. But with the weakness in LNG prices in 2019 and 2020, Asian LNG buyers weren't trying to extend long term contracts, rather, the push was to try to renegotiate down its long term LNG deals. The reason was clear, as spot prices for LNG were way less than long term contract prices. And this led to their LNG contracting strategy – move to increase the proportion of spot LNG deliveries out of total LNG deliveries. Shell's LNG Outlook 2021 was on Feb 25, 2021 and included the below graphs. The spot LNG price derivation from long term prices in 2019 and 2020 made sense for Asian LNG buyers to try to change their contract mix. Yesterday, Maeil Business News Korea reported on the new Qatar/Kogas long term LNG deal with its report "*Korea may face LNG supply cliff or pay hefty price after long-term supplies run out*" [\[LINK\]](#), which highlighted this very concept – Korea wasn't worried about trying to extend expiring long term LNG contracts. Maeil wrote "*Seoul in 2019 secured a long-term LNG supply contract with the U.S. for annual 15.8 million tons over a 15-year period. But even with the latest two LNG supply contracts, the Korean government needs extra 6 million tons or more of LNG supplies to keep up the current power pipeline. By 2024, Korea's long-term supply contracts for 9 million tons of LNG will expire - 4.92 million tons on contract with Qatar and 4.06 million tons from Oman, according to a government official who asked to be unnamed.*"

Spot LNG deliveries and Spot deviation from term price



Asian LNG buyers moving to long term LNG deals provide financing capacity for brownfield LNG FIDs. We believe this abrupt change and return to long term LNG deals is even more important to LNG suppliers who want to FID new projects. The big LNG players like Shell can FID new LNG supply without new long term contracts as they can build into their supply options to fill their portfolio of LNG contracts. But that doesn't mean the big players don't want long term LNG supply deals, as having long term LNG contracts provide better financing capacity for any LNG supplier. It takes big capex for LNG supply and long term deals make the financing easier.

Four Asian buyer long term LNG deals in the last week. It was pretty hard to miss a busy week for reports of new Asian LNG buyer long term LNG deals. There were two deals from Qatar Petroleum, one from Petronas and one from BP. The timing fits, it's about 3 months after Total Mozambique LNG problems became crystal clear. And as noted later, there are indicators that more Asian buyer LNG deals are coming.

Petronas/CNOOC is 10 yr supply deal for 0.3 bcf/d. On July 7, we tweeted [\[LINK\]](#) on the confirmation of a big positive to Cdn natural gas with the Petronas announcement [\[LINK\]](#) of a new 10 year LNG supply deal for 0.3 bcf/d with China's CNOOC. The deal also has special significance to Canada. (i) Petronas said "This long-term supply agreement also includes supply from LNG Canada when the facility commences its operations by middle of the decade". This is a reminder of the big positive to Cdn natural gas in the next 3 to 4 years – the start up of LNG Canada Phase 1 is ~1.8 bcf/d capacity. This is natural gas that will no longer be moving south to the US or east to eastern Canada, instead it will be going to Asia. This will provide a benefit for all Western Canada natural gas. (ii) First ever AECO linked LNG deal. It's a pretty significant event for a long term Asia LNG deal to now have an AECO link. Petronas wrote "The deal is for 2.2 million tonnes per annum (MTPA) for a 10-year period, indexed to a combination of the Brent and Alberta Energy Company (AECO) indices. The term deal between PETRONAS and CNOOC is valued at approximately USD 7 billion over ten years." 2.2 MTPA is 0.3 bcf/d. (iii) Reminds of LNG Canada's competitive advantage for low greenhouse gas emissions. Petronas said "Once ready for operations, the LNG Canada project paves the way for PETRONAS to supply low greenhouse gas (GHG) emission LNG to the key demand markets in Asia."

Qatar Petroleum/CPC (Taiwan) is 15 yr supply deal for 0.16 bcf/d. Pre Covid, Qatar was getting pressured to renegotiate lower its long term LNG contract prices. Now, it's signing a 15 year deal. On July 9, they entered in a new small long term LNG sales deal [\[LINK\]](#), a 15-yr LNG Sale and Purchase Agreement with CPC Corporation in Taiwan to supply it ~0.60 bcf/d of LNG. LNG deliveries are set to begin in January 2022. H.E. Minister for Energy Affairs & CEO of Qatar Petroleum Al-Kaabi said "We are pleased to enter into this long term LNG SPA, which is another milestone in our relationship with CPC, which dates back to almost three decades. We look forward to commencing deliveries under this SPA and to continuing our supplies as a trusted and reliable global LNG provider." The pricing was reported to be vs a basket of crudes.

BP/Guangzhou Gas, a 12-yr supply deal for 0.13 bcf/d. On July 9, there was a small long term LNG supply deal with BP and Guangzhou Gas (China). Argus reported [\[LINK\]](#) BP had signed a 12 year LNG supply deal with Guangzhou Gas (GG), a Chinese city's gas distributor, which starts in 2022. The contract prices are to be linked to an index of international crude prices. Although GG typically gets its LNG from the spot market, it used a tender in late April for ~0.13 bcf/d starting in 2022. BP's announcement looks to be for most of the tender, so it's a small deal. But it fit into the trend this week of seeing long term LNG supply deals to Asia. This was intended to secure deliveries to the firm's Xiaohudao import terminal which will become operational in August 2022.

Qatar/Korea Gas is a 20-yr deal to supply 0.25 bcf/d. On Monday, Reuters reported [\[LINK\]](#) "South Korea's energy ministry said on Monday it had signed a 20-year liquefied natural gas (LNG) supply agreement with Qatar for the next 20 years starting in 2025. South Korea's state-run Korea Gas Corp (036460.KS) will buy 2 million tonnes of LNG annually from Qatar Petroleum". There was no disclosure of pricing.

More Asian buyer long term LNG deals (ie. India) will be coming. There are going to be more Asian buyer long term LNG deals coming soon. Our July 11, 2021 Energy Tidbits highlighted how India's new petroleum minister Hardeep Singh Puri (appointed July 8) hit the ground running with what looks to be a priority to set the stage for more India long term LNG deals with Qatar. On July 10, we retweeted [\[LINK\]](#) "New India Petroleum Minister hits ground running. What else w/ Qatar but #LNG. Must be #Puri setting stage for long term LNG supply deal(s). Fits sea change of buyers seeing #LNGSupplyGap (see SAF Apr 28 blog <http://safgroup.ca>) & wanting to tie up LNG supply. #OOTT". It's hard to see any other conclusion after seeing what we call a sea change in LNG buyer mentality with a number of long term LNG deals this week. Puri tweeted [\[LINK\]](#) "Discussed ways of further strengthening mutual cooperation between our two countries in the hydrocarbon sector during a warm courtesy call with Qatar's Minister of State for Energy Affairs who is also the President & CEO of @qatarpetroleum HE Saad Sherida Al-Kaabi". As noted above, we believe there is a sea change in LNG markets that was driven by the delay in 5 bcf/d of LNG supply from Mozambique (Total Phase 1 & Phase 2, and Exxon Rozuma Phase 1) that was counted on all LNG supply projections for the 2020s. Puri's tweet seems to be him setting the stage for India long term LNG supply deals with Qatar.

Supermajors are aggressively competing to commit 30+ year capital to Qatar's LNG expansion despite stated goal to reduce fossil fuels production. It's not just Asian LNG buyers who are now once again committing long term capital to securing LNG supply, it's also supermajors all bidding to be able to commit big capex to part of Qatar Petroleum's 4.3 bcf/d LNG expansion. Qatar Petroleum received a lot of headlines following their June 23 announcement on its LNG expansion [\[LINK\]](#) on how they received bids for double the equity being offered. And there were multiple reports that these are on much tougher terms for Qatar's partners. Qatar Petroleum CEO Saad Sherida Al-Kaabi specifically noted that, among the bidders, were Shell, Total and Exxon. Shell and Total have two of the most ambitious plans to reduce fossil fuels production in the 2020's, yet are competing to allocate long term capital to increase fossil fuels production. And Shell and Total are also two of the global LNG supply leaders. It has to be because they are seeing a bigger and sooner LNG supply gap.

Remember Qatar's has a massive expansion but India alone needs 3x the Qatar expansion LNG capacity. In addition to the competition to be Qatar Petroleum's partners, we remind that, while this is a massive 4.3 bcf/d LNG expansion, India alone sees its LNG import growing by ~13 bcf/d to 2030. The Qatar announcement reminded they see a LNG supply gap and continued high LNG prices. We had a 3 part tweet. (i) First, we highlighted [\[LINK\]](#) "1/3. #LNGSupplyGap coming. big support for @qatarpetroleum expansion to add 4.3 bcf/d LNG. but also say "there is a lack of investments that could cause a significant shortage in gas between 2025-2030" #NatGas #LNG". This is after QPC accounts for their big LNG expansion. The QPC release said "However, His Excellency Al-Kaabi voiced concern that during the global discussion on energy transition, there is a lack of investment in oil and gas projects, which could drive energy prices higher by stating that "while gas and LNG are important for the energy transition, there is a lack of investments that could cause a significant shortage in gas between 2025-2030, which in turn could cause a spike in the gas market." (ii) Second, this is a big 4.3 bcf/d expansion, but India alone has 3x the increase in LNG import demand. We tweeted [\[LINK\]](#) "2/3. Adding 4.3 bcf/d is big, but dwarfed by items like India. #Petronet gave 1st specific forecast for what it means if #NatGas is to be 15%

of energy mix by 2030 - India will need to increase #LNG imports by ~13 bcf/d. See SAF Group June 20 Energy Tidbits memo.” (iii) Third, Qatar’s supply gap warning is driven by the lack of investments in LNG supply. We agree, but note that the lack of investment is in great part due to the delays in both projects under construction and in FIDs that were supposed to be done in 2019. We tweeted [\[LINK\]](#) “3/3. #LNGSupplyGap is delay driven. \$TOT Mozambique Phase 1 delay has chain effect, backs up 5 bcf/d. See SAF Group Apr 28 blog Multiple Brownfield LNG FIDs Now Needed To Fill New #LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2? #NatGas.”

Seems like many missed India’s first specific LNG forecast to 2030. Our June 20, 2021 Energy Tidbits memo highlighted the first India forecast that we have seen to estimate the required growth in natural gas consumption and LNG imports if India is to meet its target for natural gas to be 15% of its energy mix by 2030. India will need to increase LNG imports by ~13 bcf/d or 3 times the size of the Qatar LNG expansion. Our June 6, 2021 Energy Tidbits noted the June 4 tweet from India’s Energy Minister Dharmendra Pradhan [\[LINK\]](#) reinforcing the 15% goal “We are rapidly deploying natural gas in our energy mix with the aim to increase the share of natural gas from the current 6% to 15% by 2030.” But last week, Petronet CEO AK Singh gave a specific forecast. Reuters report “LNG’s share of Indian gas demand to rise to 70% by 2030: Petronet CEO” [\[LINK\]](#) included Petronet’s forecast if India is to hit its target for natural gas to be 15% of energy mix by 2030. Singh forecasts India’s natural gas consumption would increase from current 5.5 bcf/d to 22.6 bcf/d in 2030. And LNG shares would increase from 50% to 70% of natural gas consumption ie. an increase in LNG imports of ~13 bcf/d from just under 3 bcf/d to 15.8 bcf/d in 2030. Singh did not specifically note his assumption for India’s natural gas production, but we can back into the assumption that India natural gas production grows from just under 3 bcf/d to 6.8 bcf/d. It was good to finally see India come out with a specific forecast for 2030 natural gas consumption and LNG imports if India is to get natural gas to 15% of its energy mix in 2030. Petronet’s Singh forecasts India natural gas consumption to increase from 5.5 bcf/d to 22.6 bcf/d in 2030. This forecast is pretty close to our forecast in our Oct 23, 2019 blog “Finally, Some Visibility That India Is Moving Towards Its Target For Natural Gas To Be 15% Of Its Energy Mix By 2030”. Here part of what we wrote in Oct 2019. “It’s taken a year longer than we expected, but we are finally getting visibility that India is taking significant steps towards India’s goal to have natural gas be 15% of its energy mix by 2030. On Wednesday, we posted a SAF blog [\[LINK\]](#) “Finally, Some Visibility That India Is Moving Towards Its Target For Natural Gas To Be 15% Of Its Energy Mix By 2030”. Our 2019 blog estimate was for India natural gas demand to be 24.0 bcf/d in 2030 (vs Singh’s 22.6 bcf/d) and for LNG import growth of +18.4 bcf/d to 2030 (vs Singh’s +13 bcf/d). The difference in LNG would be due to our Oct 2019 forecast higher natural gas consumption by 1.4 bcf/d plus Singh forecasting India natural gas production +4 bcf/d to 2030. Note India production peaked at 4.6 bcf/d in 2010.

Bigger, nearer LNG supply gap + Asian buyers moving to long term LNG deals = LNG players forced to at least look at what brownfield LNG projects they could advance and move to FID. All we have seen since our April 28 blog is more validation of the bigger, nearer LNG supply gap. And now market participants (Asian LNG buyers) are reacting to the new data by locking up long term supply. Cheniere noted how the pickup in commercial engagement means they “are quite optimistic over the coming 12-18 months to make a substantial dent in that Stage 3 commercialization.” Cheniere can’t be the only LNG supplier having new commercial discussions. It’s why we believe the Mozambique delays + Asian LNG buyers moving to long term deals will effectively force major LNG players to look to see if there are brownfield LNG projects they should look to advance. Prior to March/April, no one would think Shell or other major LNG players would be considering any new LNG FIDs in 2021. Covid forced all the big companies into capital reduction mode and debt reduction mode. But Brent oil is now solidly over \$70, and LNG prices are over \$13 this summer and the world’s economic and oil and gas demand outlook are increasing with vaccinations. And we are starting to see companies move to increasing capex with the higher cash flows. The theme in Q3 reporting is going to be record or near record oil and gas cash flows, reduced debt levels and increasing returns to shareholders. And unless new mutations prevent vaccinations from returning the world to normal, we suspect that major LNG players, like other oil and gas companies, will be looking to increase capex as they approve 2022 budgets. The outlook for the future has changed dramatically in the last 8 months. The question facing major LNG players like Shell is should they look to FID new LNG brownfield projects in the face of an increasing LNG supply gap that is going to hit faster and harder and Asian LNG buyers prepared to do long term deals. We expect these decisions to be looked at before the end of 2021 for 2022 capex budget/releases. One wildcard that could force these decisions sooner is the already stressed out global supply chain. We have to believe that discussion there will be pressure for more Asian LNG buyer long term deals sooner than later.

For Canada, does the increasing LNG supply gap provide the opportunity to at least consider a LNG Canada Phase 2 FID over the next 6 months? Our view on Shell and other LNG players is unchanged since our April 28 blog. Shell is no different than any other major LNG supplier in always knowing the market and that the oil and gas outlook is much stronger than 9 months ago. Even 3 months post our April 28 blog, we haven't heard any significant talks on how major LNG players will be looking at FID for new brownfield LNG projects. We don't have any inside contacts at Shell or LNG Canada, but that is no different than when we looked at the LNG markets in September 2017 and saw the potential for Shell to FID LNG Canada in 2018. We posted a September 20, 2017 blog "*China's Plan To Increase Natural Gas To 10% Of Its Energy Mix Is A Global Game Changer Including For BC LNG*" [\[LINK\]](#). Last time, it was a demand driven supply gap, this time, it's a supply driven supply gap. We have to believe any major LNG player, including Shell, will be at least looking at their brownfield LNG project list and seeing if they should look to advance FID later in 2021. Shell has LNG Canada Phase 2, which would add 2 additional trains or approx. 1.8 bcf/d. And an advantage to an FID would be that Shell would be able to commit to its existing contractors and fabricators for a continuous construction cycle following on LNG Canada Phase 1 ie. to help keep a lid on capital costs. We believe maintaining a continuous construction cycle is even more important given the stressed global supply chain. No one is talking about the need for these new brownfield LNG projects, but, unless some major change in views happen, we believe its inevitable that these brownfield LNG FID internal discussions will be happening in H2/21. Especially since the oil and gas price outlook is much stronger than it was in the fall and companies will be looking to increase capex in 2022 budgets.

A LNG Canada Phase 2 would be a big plus to Cdn natural gas. LNG Canada Phase 1 is a material natural gas development as its 1.8 bcf/d capacity represents approx. 20 to 25% of Cdn gas export volumes to the US. The EIA data shows US pipeline imports of Cdn natural gas as 6.83 bcf/d in 2020, 7.36 bcf/d in 2019, 7.70 bcf/d in 2018, 8.89 bcf/d in 2017, 7.97 bcf/d in 2016, 7.19 bcf/d in 2015 and 7.22 bcf/d in 2014. A LNG Canada Phase 2 FID would be a huge plus for Cdn natural gas. It would allow another ~1.8 bcf/d of Cdn natural gas to be priced against pricing points other than Henry Hub. And it would provide demand offset versus Trudeau if he moves to make electricity "emissions free" and not his prior "net zero emissions". Mozambique has been a game changer to LNG outlook creating a bigger and sooner LNG supply gap. And with a stronger tone to oil and natural gas prices in 2021, the LNG supply gap will at least provide the opportunity for Shell to consider FID for its brownfield LNG Canada Phase 2 and provide big support to Cdn natural gas for the back half of the 2020s. And perhaps if LNG Canada is exporting 3.6 bcf/d from two phases, it could help flip Cdn natural gas to a premium vs US natural gas especially if Biden is successful in reducing US domestic natural gas consumption for electricity. The next six months will be very interesting to watch for LNG markets and Cdn natural gas valuations. Imagine the future value of Cdn natural gas is there was visibility for 3.6 bcf/d of Western Canada natural gas to be exported to Asia.

Highlights for the month

- The consumption of petroleum products during April-August 2021 with a volume of 81.3 MMT reported a growth of 14.8% compared to the volume of 70.8 MMT during the same period of the previous year. Except SKO all other petroleum products reported a growth in consumption during April-August 2021 compared to the same period of the previous year. The consumption of petroleum products during August 2021 recorded a growth of 10.9% compared to the same period of the previous year.
- Indigenous crude oil and condensate production during August 2021 was lower by 2.3 % than that of August 2020 as compared to a de-growth of 3.2% during July 2021. OIL registered a growth of 4.3 % and ONGC registered a de-growth of 3.8 % during August 2021 as compared to August 2020. PSC registered de-growth of 0.6 % during August 2021 as compared to August 2020. De-growth of 3.2 % was registered in the total crude oil and condensate production during April- August 2021 over the corresponding period of the previous year.
- Total natural gas Consumption (including internal consumption) for the month of August 2021 was 5723 MMSCM which was 7.2% higher than the corresponding month of the previous year. The cumulative consumption of 26660 MMSCM for the current year till August 2021 was higher by 10.1% compared with the corresponding period of the previous year.
- Crude oil processed during August 2021 was 18.4 MMT, which was 14.2 % higher than August 2020 as compared to a growth of 9.6 % during July 2021. Growth of 15.3 % was registered in the total crude oil processing during April- August 2021 over the corresponding period of the previous year.
- Production of petroleum products saw a growth of 9.1 % during August 2021 over August 2020 as compared to a growth of 6.7 % during July 2021. Growth of 12.3 % was registered in the total POL production during April- August 2021 over the corresponding period of the previous year.
- Ethanol blending with Petrol was 8.1% during August 2021 and cumulative during December 2020 - August 2021 was 8.0%.

	<ul style="list-style-type: none"> Gross production of natural gas for the month of August 2021 was 2924 MMSCM which was higher by 20.2% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 13986 MMSCM for April-August 2021 was higher by 19.9% compared with the corresponding period of the previous year.
	<ul style="list-style-type: none"> Crude oil imports increased by 3.1% and 13.2% during August 2021 and April-August 2021 respectively as compared to the corresponding period of the previous year.
	<ul style="list-style-type: none"> POL products imports increased by 16.7% and decreased by 0.7% during August 2021 and April-August 2021 respectively as compared to the corresponding period of the previous year. Decrease in POL products imports during April-August 2021 was due to decrease in imports of petcoke, high speed diesel (HSD), motor sprit (MS) And aviation turbine fuel (ATF).
	<ul style="list-style-type: none"> LNG import for the month of August, 2021(P) was 2871 MMSCM which was 3.4% lower than the corresponding month of the previous year. The cumulative import of 13033 MMSCM for the current year till August, 2021 was higher by 0.7% compared with the corresponding period of the previous year.
	<ul style="list-style-type: none"> Exports of POL products increased by 4.6% and decreased by 0.2% during August 2021 and April-August 2021 respectively as compared to the corresponding period of the previous year. Decrease in POL products exports during April-August 2021 (P) was due to decrease in exports of petcoke/CBFS, high speed diesel (HSD) and LOBS/Lube oil.
	<ul style="list-style-type: none"> The price of Brent Crude averaged \$70.81/bbl during August, 2021 as against \$75.03/bbl during July 2021 and \$44.82/bbl during August 2020. The Indian basket crude price averaged \$69.80/bbl during August 2021 as against \$73.54/bbl during July 2021 and \$44.19 /bbl during August 2020.

1. Selected indicators of the Indian economy

Economic indicators		Unit/ Base	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
1	Population (Census 2011)	Billion	1.2	-	-	-	-	-
2	GDP at constant (2011-12 Prices)	Growth %	8.3	6.8 3rd RE	6.5 2nd RE	4.0 1st RE	-7.3 PE	20.1 E (Q1, 2021-22)
3	Agricultural Production (Food grains)	MMT	275.1	285.0	285.2	297.5	308.7 4th AE	-
		Growth %	9.4	3.6	0.1	4.3	3.7	-
4	Gross Fiscal Deficit (as percent of GDP)	%	3.5	3.5	3.4	4.6	9.5 RE	6.8 BE

Economic indicators	Unit/ Base	2019-20	2020-21 (P)	August		April-August		
				2020-21 (P)	2021-22 (P)	2020-21 (P)	2021-22 (P)	
5	Index of Industrial Production (Base: 2011-12)	Growth %	-0.8	-8.4	-10.5 [*]	11.5 [*] QE	-29.3 [#]	34.1 [#]
6	Imports	\$ Billion	474.7	393.6	31.0	47.1	121.4	219.6
7	Exports	\$ Billion	313.4	291.2	22.8	33.3	98.1	164.1
8	Trade Balance	\$ Billion	-161.3	-102.4	-8.2	-13.8	-23.4	-55.5
9	Foreign Exchange Reserves [@]	\$ Billion	475.6	579.3	541.4	633.6	-	-

IIP is for the month of ^{*}July and [#]Apr-July; [@]2019-20-as on March 27, 2019, 2020-21-as on March 26, 2021, August 2020- as on August 28, 2020 and August 2021-as on August 27, 2021; E: Estimates; PE: Provisional Estimates; AE-Advanced Estimates; RE-Revised Estimates; QE-

Source: Ministry of Commerce & Industry, Ministry of Statistics and Programme Implementation, Ministry of Agriculture & Farmer's Welfare, Ministry of Finance, Reserve Bank of India

2. Crude oil, LNG and petroleum products at a glance

Details		Unit/ Base	2019-20	2020-21 (P)	August		April-August	
					2020-21 (P)	2021-22 (P)	2020-21 (P)	2021-22 (P)
1	Crude oil production in India [#]	MMT	32.2	30.5	2.6	2.5	12.9	12.5
2	Consumption of petroleum products*	MMT	214.1	194.6	14.4	16.0	70.8	81.3
3	Production of petroleum products	MMT	262.9	233.5	17.9	19.6	89.3	100.2
4	Gross natural gas production	MMSCM	31,184	28,672	2,432	2,924	11,660	13,986
5	Natural gas consumption	MMSCM	64,144	60,645	5,337	5,723	24,207	26,660
6	Imports & exports [^] :							
	Crude oil imports	MMT	227.0	198.1	16.9	17.4	74.0	83.8
		\$ Billion	101.4	62.7	5.5	9.1	17.8	42.2
	Petroleum products (POL) imports*	MMT	43.8	43.5	3.3	3.8	17.8	17.7
		\$ Billion	17.7	14.2	1.0	1.8	4.7	7.3
	Gross petroleum imports (Crude + POL)	MMT	270.7	241.6	20.2	21.2	91.9	101.5
		\$ Billion	119.1	76.9	6.4	10.9	22.5	49.4
	Petroleum products (POL) export	MMT	65.7	56.8	4.6	4.8	24.7	24.7
		\$ Billion	35.8	21.4	1.8	2.9	7.2	14.7
	LNG imports*	MMSCM	33,887	32,861	2,974	2,871	12,943	13,033
		\$ Billion	9.5	7.4	0.6	1.1	2.5	4.2
7	Petroleum imports as percentage of India's gross imports (in value terms)	%	25.1	19.5	20.7	23.2	18.5	22.5
8	Petroleum exports as percentage of India's gross exports (in value terms)	%	11.4	7.3	7.9	8.7	7.3	9.0
9	Import dependency of crude (on consumption basis)	%	85.0	84.4	82.2	84.9	82.2	85.3

[#]Includes condensate; ^{*}Jul 2020- Aug 2021 DGCIS data prorated;

3. Indigenous crude oil production (Million Metric Tonnes)

Details	2019-20	2020-21 (P)	August			April-August		
			2020-21 (P)	2021-22 Target*	2021-22 (P)	2020-21 (P)	2021-22 Target*	2021-22 (P)
ONGC	19.2	19.1	1.6	1.8	1.6	8.0	8.4	7.7
Oil India Limited (OIL)	3.1	2.9	0.2	0.3	0.3	1.2	1.3	1.2
Private / Joint Ventures (JVs)	8.2	7.1	0.6	0.7	0.6	3.0	3.2	3.0
Total Crude Oil	30.5	29.1	2.5	2.7	2.4	12.3	12.9	11.9
ONGC condensate	1.4	1.1	0.1		0.1	0.5		0.4
PSC condensate	0.3	0.3	0.02		0.03	0.10		0.13
Total condensate	1.6	1.4	0.1		0.1	0.6		0.5
Total (Crude + Condensate) (MMT)	32.2	30.5	2.6	2.7	2.5	12.9	12.9	12.5
Total (Crude + Condensate) (Million Bbl/Day)	0.64	0.61	0.61		0.60	0.62		0.60

*Provisional targets inclusive of condensate.

4. Domestic oil & gas production vis-à-vis overseas production

Details	2019-20	2020-21 (P)	August		April-August	
			2020-21 (P)	2021-22 (P)	2020-21 (P)	2021-22 (P)
Total domestic production (MMTOE)	63.4	59.2	5.0	5.4	24.5	26.5
Overseas production (MMTOE)	24.5	21.9	1.8	1.9	9.3	9.2
Overseas production as percentage of domestic production	38.7%	37.0%	36.2%	35.2%	37.7%	34.9%

Source: ONGC Videsh, GAIL, OIL, IOCL, HPCL & BPRL

5. High Sulphur (HS) & Low Sulphur (LS) crude oil processing (MMT)

Details		2019-20	2020-21 (P)	August		April-August	
				2020-21 (P)	2021-22 (P)	2020-21 (P)	2021-22 (P)
1	High Sulphur crude	192.4	161.4	11.7	13.9	59.9	71.3
2	Low Sulphur crude	62.0	60.3	4.4	4.5	22.5	23.8
Total crude processed (MMT)		254.4	221.8	16.1	18.4	82.5	95.1
Total crude processed (Million Bbl/Day)		5.09	4.45	3.82	4.36	3.95	4.55
Percentage share of HS crude in total crude oil processing		75.6%	72.8%	72.5%	75.4%	72.7%	75.0%

6. Quantity and value of crude oil imports			
Year	Quantity (MMT)	\$ Million	Rs. Crore
2019-20	227.0	1,01,376	7,17,001
2020-21 (P)	198.1	62,711	4,62,996

7. Self-sufficiency in petroleum products (Million Metric Tonnes)							
Particulars		2019-20	2020-21 (P)	August		April-August	
				2020-21 (P)	2021-22 (P)	2020-21 (P)	2021-22 (P)
1	Indigenous crude oil processing	29.3	28.0	2.3	2.2	11.7	11.0
2	Products from indigenous crude (93.3% of crude oil processed)	27.3	26.1	2.2	2.1	10.9	10.3
3	Products from fractionators (Including LPG and Gas)	4.8	4.2	0.4	0.3	1.8	1.7
4	Total production from indigenous crude & condensate (2 + 3)	32.1	30.3	2.6	2.4	12.6	12.0
5	Total domestic consumption	214.1	194.6	14.4	16.0	70.8	81.3
% Self-sufficiency (4 / 5)		15.0%	15.6%	17.8%	15.1%	17.8%	14.7%

8. Refineries: Installed capacity and crude oil processing (MMTPA / MMT)

Company	Refinery	Installed capacity (1.9.2021) MMTPA	Crude oil processing (MMT)							
			2019-20	2020-21 (P)	August			April-August		
					2020-21 (P)	2021-22 (Target)	2021-22 (P)	2020-21 (P)	2021-22 (Target)	2021-22 (P)
IOCL	Barauni (1964)	6.0	6.5	5.5	0.3	0.6	0.3	1.9	2.3	2.3
	Koyali (1965)	13.7	13.1	11.6	0.8	1.2	1.1	4.3	6.1	5.3
	Haldia (1975)	8.0	6.5	6.8	0.6	0.7	0.7	2.3	3.5	3.3
	Mathura (1982)	8.0	8.9	8.9	0.6	0.8	0.6	3.4	3.8	3.5
	Panipat (1998)	15.0	15.0	13.2	1.0	1.3	1.1	4.6	6.6	6.2
	Guwahati (1962)	1.0	0.9	0.8	0.09	0.1	0.1	0.26	0.2	0.1
	Digboi (1901)	0.65	0.7	0.6	0.06	0.04	0.06	0.3	0.2	0.3
	Bongaigaon(1979)	2.35	2.0	2.5	0.2	0.2	0.2	1.0	1.1	1.1
	Paradip (2016)	15.0	15.8	12.5	0.3	0.0	0.7	4.2	5.3	5.1
	IOCL-TOTAL	69.7	69.4	62.4	3.9	5.0	4.9	22.2	29.1	27.3
CPCL	Manali (1969)	10.5	10.2	8.2	0.6	0.8	0.6	2.6	3.6	3.5
	CBR (1993)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CPCL-TOTAL	11.5	10.2	8.2	0.6	0.8	0.6	2.6	3.6	3.5
BPCL	Mumbai (1955)	12.0	15.0	12.9	0.8	1.3	1.3	4.6	6.3	6.0
	Kochi (1966)	15.5	16.5	13.3	0.9	1.3	1.1	4.2	6.9	5.5
BORL	Bina (2011)	7.8	7.9	6.2	0.5	0.6	0.6	2.0	2.9	2.8
	BPCL-TOTAL	35.3	39.4	32.4	2.2	3.2	3.0	10.8	16.1	14.2
NRL	Numaligarh (1999)	3.0	2.4	2.7	0.2	0.2	0.2	1.1	1.1	1.1

Company	Refinery	Installed capacity (1.9.2021) (MMTPA)	Crude oil processing (MMT)							
			2019-20	2020-21 (P)	August			Apr-August		
					2020-21 (P)	2021-22 (Target)	2021-22 (P)	2020-21 (P)	2021-22 (Target)	2021-22 (P)
ONGC	Tatipaka (2001)	0.066	0.087	0.081	0.007	0.006	0.007	0.030	0.025	0.029
MRPL	Mangalore (1996)	15.0	14.0	11.5	0.9	1.0	1.0	3.5	5.6	5.2
	ONGC-TOTAL	15.1	14.0	11.6	0.9	1.0	1.0	3.6	5.6	5.2
HPCL	Mumbai (1954)	7.5	8.1	7.4	0.7	0.7	0.3	3.0	2.1	1.1
	Visakh (1957)	8.3	9.1	9.1	0.7	0.7	0.5	3.6	3.9	3.0
HMEL	Bathinda (2012)	11.3	12.2	10.1	1.0	0.9	1.1	4.1	4.6	5.4
	HPCL- TOTAL	27.1	29.4	26.5	2.4	2.4	1.9	10.7	10.7	9.5
RIL	Jamnagar (DTA) (1999)	33.0	33.0	34.1	3.0	3.0	2.9	14.0	14.0	13.9
	Jamnagar (SEZ) (2008)	35.2	35.9	26.8	1.4	1.4	2.2	10.0	10.0	12.0
NEL	Vadinar (2006)	20.0	20.6	17.1	1.5	1.5	1.7	7.5	7.5	8.4
All India (MMT)		249.9	254.4	221.8	16.1	18.5	18.4	82.5	97.6	95.1
All India (Million Bbl/Day)		5.02	5.09	4.45	3.82		4.36	3.95		4.55

Note: Provisional Targets; Some sub-totals/ totals may not add up due to rounding off at individual levels.

9. Major crude oil and product pipeline network (as on 01.09.2021)

Details		ONGC	OIL	Cairn	HMEL	IOCL	BPCL	HPCL	Others*	Total
Crude Oil	Length (KM)	1,283	1,193	688	1,017	5,301	937			10,419
	Cap (MMTPA)	60.6	9.0	10.7	11.3	48.6	7.8			147.9
Products	Length (KM)		654			9,400	2,241	3,775	2,395	18,465
	Cap (MMTPA)		1.7			47.5	19.5	34.1	9.4	112.2

*Others include GAIL and Petronet India. HPCL and BPCL lubes pipeline included in products pipeline data

11. Production and consumption of petroleum products (Million Metric Tonnes)

Products	2019-20		2020-21 (P)		August 2020 (P)		August 2021 (P)		Apr-Aug 2020 (P)		Apr-Aug 2021 (P)	
	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons
LPG	12.8	26.3	12.1	27.6	0.9	2.3	0.9	2.3	4.7	11.0	4.9	11.2
MS	38.6	30.0	35.8	28.0	2.7	2.4	3.1	2.7	12.9	9.7	15.4	12.1
NAPHTHA	20.6	14.3	19.4	14.3	1.6	1.1	1.6	1.0	7.5	5.4	8.2	6.0
ATF	15.2	8.0	7.1	3.7	0.4	0.3	0.7	0.4	2.2	0.9	3.5	1.6
SKO	3.2	2.4	2.4	1.8	0.2	0.1	0.2	0.1	1.1	0.8	0.8	0.6
HSD	111.1	82.6	100.4	72.7	7.6	4.8	8.3	5.6	38.1	25.4	42.7	30.2
LDO	0.6	0.6	0.7	0.8	0.05	0.1	0.08	0.1	0.3	0.3	0.3	0.4
LUBES	0.9	3.8	1.1	3.5	0.1	0.3	0.1	0.3	0.3	1.2	0.4	1.4
FO/LSHS	9.3	6.3	7.4	6.0	0.6	0.5	0.6	0.6	3.2	2.3	3.2	2.6
BITUMEN	4.9	6.7	4.9	7.1	0.2	0.3	0.2	0.3	1.4	2.2	1.7	2.4
PET COKE	14.6	21.7	12.0	18.3	0.9	1.4	1.2	1.7	4.9	7.7	5.6	8.2
OTHERS	31.0	11.4	30.2	10.8	2.7	0.9	2.6	0.9	12.7	4.0	13.6	4.5
ALL INDIA	262.9	214.1	233.5	194.6	17.9	14.4	19.6	16.0	89.3	70.8	100.2	81.3
Growth (%)	0.2%	0.4%	-11.2%	-9.1%	-19.1%	-15.8%	9.1%	10.9%	-17.5%	-21.6%	12.3%	14.8%

Note: Prod - Production; Cons - Consumption

15. LPG consumption (Thousand Metric Tonne)								
LPG category	2019-20	2020-21 (P)	August			April-August		
			2020-21 (P)	2021-22 (P)	Gr (%)	2020-21 (P)	2021-22 (P)	Gr (%)
1. PSU Sales :								
LPG-Packed Domestic	23,076.0	25,117.1	2,085.1	2,076.0	-0.4	10,354.3	10,197.6	-1.5
LPG-Packed Non-Domestic	2,614.4	1,884.9	134.1	198.6	48.1	481.2	790.9	64.3
LPG-Bulk	263.5	355.5	30.9	29.7	-3.8	104.0	147.3	41.6
Auto LPG	171.9	118.3	9.9	11.6	16.5	32.3	45.1	39.8
Sub-Total (PSU Sales)	26,125.7	27,475.7	2,260.1	2,315.9	2.5	10,971.8	11,180.9	1.9
2. Direct Private Imports*	204.0	114.8	11.9	11.4	-4.0	31.8	58.8	85.2
Total (1+2)	26,329.8	27,590.5	2,271.9	2,327.3	2.4	11,003.5	11,239.7	2.1

*Jul 2020 -Aug 2021 DGCIS data prorated

16. LPG marketing at a glance														
Particulars (As on 1st of April)	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 (P)	1.9.2021 (P)
LPG Active Domestic Customers	(Lakh)						1486	1663	1988	2243	2654	2787	2895	2932
	Growth							11.9%	19.6%	12.8%	18.3%	5.0%	3.9%	3.4%
LPG Coverage (Estimated)	(Percent)						56.2	61.9	72.8	80.9	94.3	97.5	99.8	99.9
	Growth							10.1%	17.6%	11.1%	16.5%	3.4%	2.3%	1.6%
PMUY Beneficiaries	(Lakh)								200	356	719	802	800.4	812.5
	Growth									77.7%	101.9%	11.5%	-0.2%	1.4%
LPG Distributors	(No.)	9686	10541	11489	12610	13896	15930	17916	18786	20146	23737	24670	25083	25139
	Growth	3.4%	8.8%	9.0%	9.8%	10.2%	14.6%	12.5%	4.9%	7.2%	17.8%	3.9%	1.7%	1.3%
Auto LPG Dispensing Stations	(No.)	536	604	652	667	678	681	676	675	672	661	657	651	636
	Growth	19.9%	12.7%	7.9%	2.3%	1.6%	0.4%	-0.7%	-0.1%	-0.4%	-1.6%	-0.6%	-0.9%	-3.2%
Bottling Plants	(No.)	182	183	184	185	187	187	188	189	190	192	196	200	199
	Growth	0.0%	0.5%	0.5%	0.5%	1.1%	0.0%	0.5%	0.5%	0.5%	1.1%	2.1%	2.0%	2.1%

Source: PSU OMCs (IOCL, BPCL and HPCL)

1. Growth rates as on 1.9.2021 are w.r.t. figures as on 1.8.2020. All growth rates as on 1 April of any year are w.r.t. figures as on 1 April of previous year.

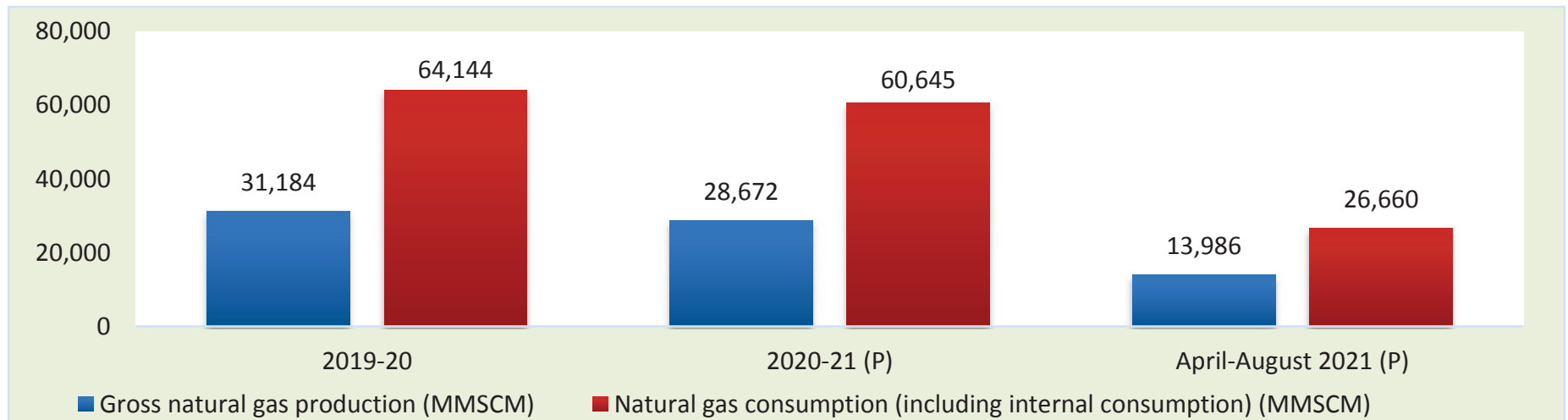
2. The methodology used for estimating LPG coverage by PSU OMC's is under review.

18. Natural gas at a glance

(MMSCM)

Details	2019-20	2020-21 (P)	August			April-August		
			2020-21 (P)	2021-22 (Target)	2021-22 (P)	2020-21 (P)	2021-22 (Target)	2021-22 (P)
(a) Gross production	31,184	28,672	2,432	3,254	2,924	11,660	14,941	13,986
- ONGC	23,746	21,872	1,921	2,002	1,744	9,197	9,595	8,526
- Oil India Limited (OIL)	2,668	2,480	189	251	257	1,041	1,235	1,180
- Private / Joint Ventures (JVs)	4,770	4,321	323	1,001	924	1,423	4,111	4,279
(b) Net production (excluding flare gas and loss)	30,257	27,784	2,363		2,851	11,264		13,627
(c) LNG import [#]	33,887	32,861	2,974		2,871	12,943		13,033
(d) Total consumption including internal consumption (b+c)	64,144	60,645	5,337		5,723	24,207		26,660
(e) Total consumption (in BCM)	64.1	60.6	5.3		5.7	24.2		26.7
(f) Import dependency based on consumption (%), {c/d*100}	52.8	54.2	55.7		50.2	53.5		48.9

#Jul 2020-Jul 2021 DGCIS data prorated; RIL data prorated



19. Coal Bed Methane (CBM) gas development in India

Prognosticated CBM resources	91.8	TCF
Established CBM resources	10.4	TCF
CBM Resources (33 Blocks)	62.8	TCF
Total available coal bearing areas (India)	32760	Sq. KM
Total available coal bearing areas with MoPNG/DGH	21659	Sq. KM
Area awarded	16613	Sq. KM
Blocks awarded (ST CBM Block awarded twice in CBM Round II and Round IV)	32	Nos.
Exploration initiated (Area considered if any boreholes were drilled in the awarded block)	10669.55	Sq. KM
Production of CBM gas	April-August 2021 (P)	287.59
Production of CBM gas	August 2021 (P)	57.86
		MMSCM
		MMSCM

20. Natural gas pipeline network as on 31.03.2021

Nature of pipeline		GAIL	GSPL	PIL	IOCL	AGCL	RGPL	GGL	DFPCL	ONGC	GIGL	GITL	Others*	Total
Operational	Length	8,242	2,265	1,459	132	105	312	73	42	24				12,653
	Capacity	167.2	43.0	85.0	20.0	2.4	3.5	5.1	0.7	6.0				337.3
Partially commissioned [#]	Length	8,071			1,431						2,590	365		12,457
	Capacity	121.0												-
Total operational length		16,313	2,265	1,459	1,563	105	312	73	42	24	2,590	365	0	25,110
Under construction	Length	2,445									90	1,446	3,550	7,531
	Capacity	23.2											149.0	-
Total length		18,758	2,265	1,459	1,563	105	312	73	42	24	2,680	1,811	3,550	32,641

Source: PNGRB; Length in KMs ; Authorized Capacity in MMSCMD; *Others-APGDC, HEPL, IGGL, IMC, Consortium of H-Energy

21. Existing LNG terminals

Location	Promoters	Capacity as on 01.09.2021	% Capacity utilisation (Apr-Jul 2021)
Dahej	Petronet LNG Ltd (PLL)	17.5 MMTPA	90.1
Hazira	Shell Energy India Pvt. Ltd.☒	5 MMTPA	72.0
Dabhol	Konkan LNG Limited	*5 MMTPA	52.4
Kochi	Petronet LNG Ltd (PLL)	5 MMTPA	22.5
Ennore	Indian Oil LNG Pvt Ltd	5 MMTPA	16.0
Mundra	GSPC LNG Limited	5 MMTPA	21.9
Total Capacity		42.5 MMTPA	

* To increase to 5 MMTPA with breakwater. Only HP stream of capacity of 2.9 MMTPA is commissioned

Increasing gas exports to supply tight European market

September 20, 2021 12:00 CEST



Oseberg field centre in the North Sea. (Photo: Ole Jørgen Bratland / Equinor ASA)

Equinor and its partners have received permission to increase gas exports from two fields on the the Norwegian continental shelf to supply the tight European market.

Production permits for the Oseberg and Troll fields have each been increased by 1 billion cubic meters (bcm) for the gas year starting 1 October.

Already in June, Equinor took steps to evaluate and develop concepts for enhancing the production and exports to the European market. This work resulted in enhanced production permits from the Ministry of Petroleum and Energy for the Oseberg and Troll fields.

Specifically, Equinor and its partners have received production permits for the gas year 2021 (starting 1 October) which for each is 1 bcm higher than for the current year, i.e. an increase from 5 bcm to 6 bcm for Oseberg and from 36 bcm to 37 bcm for Troll.

“The production permits allow us to produce more gas from these two important fields this fall and through the winter. We believe that this is very timely as Europe is facing an unusually tight market for natural gas. At Equinor we are working on measures to increase exports from our fields on the NCS,” says Helge Haugane, senior vice president Gas & Power.

Helge Haugane, senior vice president Gas & Power. (Photo: Arne Reidar Mortensen / Equinor ASA)

Ramping up at Troll

After 25 years of significant gas exports from Troll, around 50% of the gas is left in the ground. To further develop the Troll-area and reinforce our ability to secure gas deliveries to Europe in the coming decades, Equinor has recently completed the Troll Phase 3 project.

Recoverable volumes from Troll phase 3, which will produce the Troll West gas cap with industry leading low CO₂ emissions, are estimated at as much as 347 billion standard cubic metres of gas. Total recoverable gas volume remaining in Troll is estimated to be 715 billion standard cubic metres.

“Now we are ramping up production at Troll following the completion of the Phase 3 project, and we expect to reach plateau production from 1 October. We take pride in being a long-term, reliable supplier of energy and we are happy that we have been able to identify ways to export as much as practically possible into this tight market,” says Helge Haugane.

Troll phase 3 will extend the life of Troll A and the Kollsnes processing plant beyond 2050, and the plateau production period by 5-7 years.

<https://tass.ru/ekonomika/12455657>

SEP 20, 04:36

Gazprom did not book additional capacities for gas transit through Ukraine in October

As a result of the auction, the gas price in Europe again exceeded \$ 900 per thousand cubic meters. m

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MOSCOW, September 20. / TASS /. Gazprom did not book additional capacity for the transit of natural gas through Ukraine for October at an auction on Monday. This follows from the data of the RBP platform.

"Operator of the Ukrainian gas transportation system" on Monday offered at an auction transit capacities for October in the amount of up to 9.8 million cubic meters. m per day through the Sudzha gas metering station and up to 5.2 million cubic meters. m per day through the station "Preservation". But according to the results of the auction, which ended at 13:00 Moscow time, they remained unclaimed.

As a result of the auction on Monday, the gas price in Europe again exceeded \$ 900 per thousand cubic meters. m.

In September, Gazprom booked only 4.3% of the proposed capacity - 0.65 million cubic meters per day, or 19.5 million cubic meters. m in total for the entire September.

In December 2019, Moscow and Kiev agreed to extend the transit of Russian gas through Ukrainian territory for the period from 2020 to 2024, with the possibility of extending the agreement for another 10 years. The contract provides for the transit of 65 billion cubic meters. meters of gas in 2020 and 40 billion cubic meters. m annually from 2021 to 2024. The transit arrangement assumes a "pump or pay" principle, when the transit fee is charged in the amount of the booked capacity, even if the actual pumping turns out to be less. The transit of Russian gas to Europe through the Ukrainian gas transmission system last year amounted to 55.8 billion cubic meters. m, which was the lowest in the last 30 years.

On the situation with gas prices and pumping to Europe

Gas prices in Europe are growing on the back of low occupancy rates in underground storage facilities and high prices in the Asian market. In mid-September, the cost of October futures at the TTF hub in the Netherlands reached \$ 950 per thousand cubic meters, but then dropped to \$ 800 per thousand cubic meters.

SAF Group created transcript from Argus Media's Karl Kleemeir keynote interview with Trafigura Chief Economist Saad Rahim at Argus Asia-Pacific Crude and Products Online Forum on Sept 21, 2021
<https://event.on24.com/eventRegistration/EventLobbyServletV2?target=reg20V2.jsp&eventid=3336285&sessionid=1&key=E7DC55C21948F8A634DB7ED66BF7E5BC&groupId=2750834&partnerref=twitter&sourcepage=register>

Items in *"italics"* are SAF created transcript

At 15:00 min. Rahim *".. not just the price level is telling us, but I think the level of backwardation that we are seeing in the market, its come off a little from where we were, is telling you the market is hungry for it, the oil. and to be honest with you, when you look at things like floating inventories, when you look at some of the other things, we have really started to normalize on those. 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."*

23:20 min. Rahim is talking about all the money in the system , in the hands of consumers and companies, and moves to gasoline. *"one point I will note, where it tells you, look at the relative amount of how much money is in the system, look at where gasoline prices are. Right, back to the highest you've been since 2014 which were considered very high prices. And yet no impact from price at least on demand. From Delta yes, all of that. But like I said we've hit record levels of demand, and it just tells you we are keeping on track."*

27:50 min. re JCPOA. Rahim gives a long answer including speaking on the Iran side *".... Both sides want a deal, but they just still differ on what that deal is. Right so Iran keeps saying we want to go back to JCPOA as it was and the US is saying, facts on the ground have changed, so therefore we need a JCPOA2. When the two sides talk about it, you know, we've agreed to 90%, it's the last 10%, well the last 10% is the deal. it is the meat of whatever it is they are discussing. I think there was some thought, and we were in that camp, okay with the election of Raisi, perhaps this is the Nixon China. the hardliners are the ones that can make the deal and get that political cover. And instead, it looks so far, that they are moving farther away from it by putting in place people who are more hard line and replacing some of the key negotiators from the last round. so I think there's a long way there."* He goes on for more and concludes at the 29:50 min with the US side after leaving Afghanistan saying *".. the optics become a little more challenging. Having said that, I do think the JCPOA was one of Obama/Biden's signature foreign policy achievements of the last administration that he was part of. So he does want to return to that, he does view it as increasing safety in the region, globally, but its not as clear cut as I think it was"*

At 30:45 min. he is asked about US shale growth, 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 justgetting 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"*

At 33:40 min. on US shale growth, 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"*

At 34:00 min, on curve has to move up given global declines and lack of investment. Rahim says *".. talk about the longer term, why we were calling for \$100 oil is because you are seeing these declines we've been talking about in the OPEC*

producers where you've have had lack of investment. You've seen it in other producers – Mexico, Ecuador, Vietnam. Even a lot of the smaller producers, but you know 50,000 here, 100,000 there, it starts to add up quickly over time. this isn't a straight line down, you're talking about accelerating declines in a lot of these areas because of this lack of investment. Beyond that, if you're still a million b/d short on shale, if OPEC is back to fully bringing back all its capacity, at one point are you then thinking we're squeezing out the spare capacity. what is Saudi arabia's decision on how much it wants to keep. Because Yes it is increasing capacity, but is it going to be able to do it in a year. probably unlikely right. so to me that starts to say if we are back to any sort of normal demand growth, where is that oil coming from? And you need to incentivize production and that means the curve has to go move up and I think that's what we're looking at.

37:30 on the rush to the energy transition. Long answer. 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"

At 40:30 min: He talks about how he sees gasoline demand coming out even stronger once supply chain issues are resolved at least in the US. Rahim says "yes, EV sales are taking off. What we've also seen is big changes in where people are living in the US. Part of it due to covid, but part is also due to the tax changes we saw earlier in 2018. If you look at what states have been losing people, what cities in particular – its San Francisco, Chicago, New York, right LA. Really in particular some of the cities where the people are living downtown, commuting by public transportation, are now moving to Texas, Florida, Arizona, places with more space, lower state taxes or no state taxes, and, in a sense, saying the flexibility to work from anywhere, right. so the assumption was this work from home flexibility will tamp down commuting demand. it has maybe to a degree but we'll see how that goes. But again, on the flip side, what a lot of people will do is I'm not going to live in New York 2-bedroom small apartment, I'm going to move into a massive place out in Scottsdale or wherever it is. and by definition you are adding one or two cars, and that demand is starting to go. What's been holding that back to be honest is to go back to what we were talking about earlier, the lack of chips, this lack of cars means that people haven't been buying them. once, that resolves itself, I think there is a huge amount of pent up demand that is waiting to be released in that sector . and we will then see gasoline demand really take off. People tend to drive new cars a lot more than their old ones especially in the first year. so I think there is that."

ConocoPhillips Announces Significant Enhancement to Multi-Year Plan with All-Cash Permian Asset Acquisition; Increases Ordinary Dividend; Improves 2030 Emissions Intensity Reduction Target

SEPTEMBER 20, 2021

[Download .PDF](#)

HOUSTON – ConocoPhillips (NYSE: COP) today announced several actions to further enhance its compelling, distinctive investment proposition. The actions are consistent with the company’s financial framework, its stated capital allocation priorities and its commitment to playing a valued role in the energy transition. Materials describing today’s actions are provided at www.conocophillips.com/investor. The actions include:

- A complementary, highly accretive acquisition of Shell Enterprises LLC’s prolific Delaware basin position for \$9.5 billion in cash. The assets include ~225,000 net acres and producing properties located entirely in Texas, as well as over 600 miles of operated crude, gas and water pipelines and infrastructure. Estimated 2022 production from these assets is expected to be approximately 200 MBOED, roughly half of which is operated.
- An increase in the company’s quarterly ordinary dividend from 43 cents per share to 46 cents per share, representing a ~7% increase and a current dividend yield of 3%. The dividend is payable on Dec. 1, 2021, to stockholders of record at the close of business on Oct. 28, 2021.
- In conjunction with this transaction, the company also announced it will improve its Scope 1 and 2 GHG emissions intensity reduction targets. The prior 2030 reduction target of 35-45% on a gross operated basis will be increased to 40-50%, versus a 2016 baseline, on both a net equity and gross operated basis.

“We were presented with a unique opportunity to add premium assets at a value that meets our strict cost of supply framework and brings financial and operational metrics that are highly accretive to our multi-year plan,” said Ryan Lance, ConocoPhillips chairman and chief executive officer. “Our financial strength allowed us to structure a competitive offer for this transaction and we are very excited to enhance our position in one of the best basins in the world with the addition of Shell’s high-quality assets and talented workforce. The transaction will be funded from available cash while still retaining a significant level of cash on the balance sheet for general purposes. Our underlying business drivers will be stronger and the expanded cash flows derived

from this transaction mean shareholders will benefit from higher returns of capital consistent with our commitment to return of capital of at least 30% of cash from operations.”

Lance added, “In addition to enhancing our base plan, this transaction also enhances our ability as an E&P company to have a valued role in energy transition by accelerating progress on our Triple Mandate. The objectives of the mandate are to responsibly produce energy to meet transition demand, generate compelling returns on and of capital, and achieve our Paris-aligned targets and 2050 net zero ambition. The assets we’re adding are consistent with our low cost of supply strategy, which is designed to position our portfolio as the most likely to be developed as the energy transition progresses and the need for oil and gas is reduced over time. The assets we’re adding improve our ability to generate returns that are consistent with what investors demand through cycles. And the assets we’re adding will bring more low GHG intensity barrels to our mix. This deal hits on all the objectives of our mandate.”

Transaction Highlights and Benefits

- The transaction significantly enhances the company’s 10-year plan announced on June 30, 2021, which was based on an oil price of \$50 per barrel WTI. Based on the same oil price assumption, this acquisition is highly accretive on earnings, operating cash flow, free cash flow, return on capital employed and returns of capital to shareholders versus the prior plan. Key metrics can be found on page 4 of the previously mentioned supplemental materials.
- At recent strip pricing and estimated 2022 production, next year’s cash from operations from the acquired assets is estimated at \$2.6 billion with free cash flow of \$1.9 billion based on a preliminary estimate of 2022 capital.
- The company expects to deliver significant incremental upside when the acquired assets are combined with its premier multi-basin Lower 48 portfolio and further operating efficiencies are identified and implemented. The company also expects to achieve additional value over time by applying its commercial expertise to optimize acreage positions, the acquired infrastructure and offtake arrangements.
- The effective date of the transaction is July 1, 2021, and closing is expected in the fourth quarter of 2021 subject to regulatory clearance and the satisfaction of other customary closing conditions. The final cash due at closing will reflect adjustments from the effective date and other customary adjustments.
- Post-closing, based on recent strip prices, the company expects to have approximately \$4 billion in cash and short-term investments at year-end 2021, excluding proceeds from potential unannounced dispositions.
- In conjunction with this transaction, the company plans to increase its targeted level of dispositions from the previously announced \$2-3 billion to \$4-5 billion by 2023. The incremental \$2 billion of planned dispositions are expected to be sourced primarily from the Permian Basin as part of the company’s ongoing portfolio high-grading efforts.

Proceeds will be used in accordance with the company's priorities, including returns of capital to shareholders and reduction of gross debt.

- The transaction does not impact the company's previously announced intention to reduce gross debt over the next several years.

Lance continued, "Our company is unique among independent E&P companies. We have a diversified, low cost of supply conventional and unconventional portfolio, tremendous financial strength and a track record of successfully executing on our proven value proposition for this business. Everything we do is in service to delivering superior returns to shareholders through cycles while continuously lowering our emissions intensity, especially as the energy transition plays out. The opportunity to announce a very attractive acquisition in conjunction with an ordinary dividend increase and an improved emissions intensity reduction target speaks to the strength of our company and a clear commitment to delivering on all aspects of our Triple Mandate. We're again building upon our competitive advantages and our unbeatable combination of resilience, returns and ESG excellence. That's the combination it will take to adapt, thrive and win in the new energy future."

ConocoPhillips will host a conference call tomorrow at 10 a.m. Eastern time to discuss this announcement. To listen to the call and view related presentation materials, go to www.conocophillips.com/investor.

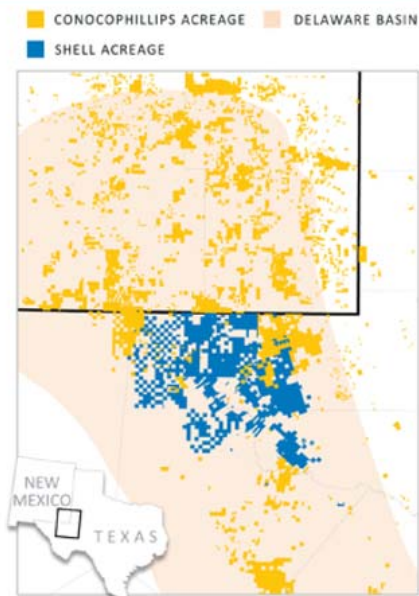
Goldman Sachs & Co. LLC is serving as ConocoPhillips' exclusive financial advisor and Baker Botts L.L.P. is serving as ConocoPhillips' legal advisor for the acquisition.

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About ConocoPhillips

Headquartered in Houston, Texas, ConocoPhillips had operations and activities in 15 countries, \$85 billion of total assets, and approximately 10,100 employees at June 30, 2021. Production excluding Libya averaged 1,518 MBOED for the six months ended June 30, 2021, and proved reserves were 4.5 BBOE as of Dec. 31, 2020. For more information, go to www.conocophillips.com.

Transaction on a Page: Accretion, Scale, Value Upside and ESG Leadership



TRANSACTION HIGHLIGHTS AND METRICS ¹	
~225,000 NET ACRES	3.7X 2022E EBITDA
~200 MBOED 2022E PRODUCTION	20% 2022E FCF YIELD
\$2.6B & \$1.9B 2022E CFO & FCF ¹	\$47,500 2022E \$/BOED ²
\$9.5 BILLION HEADLINE PRICE	\$15,600 \$/NET ACRE ³
JULY 1, 2021 EFFECTIVE DATE	
4Q 2021 ANTICIPATED CLOSE	

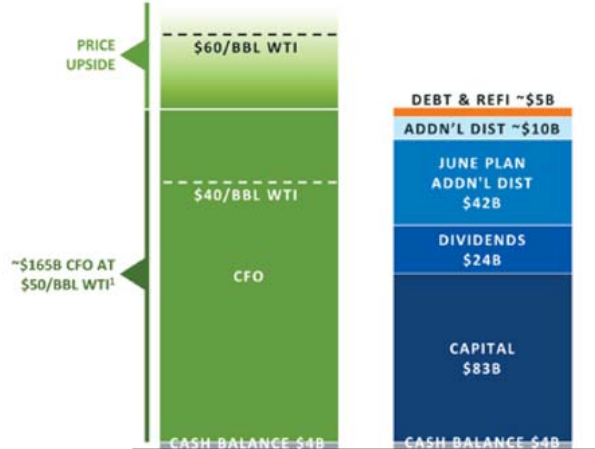
- Highly accretive on key financial metrics
- Complementary, low CoS addition to Permian position
- Enhanced free cash flow generation and shareholder distributions
- Increasing disposition target by \$2B to \$4-5B
- Significant value upside from applying proven efficiencies to increased scale
- Elevates ESG leadership with additional low GHG intensity production

¹Metrics based on strip pricing as of Sep. 15, 2021, preliminary assessment of 2022 capital, and transaction headline price. ²Represents transaction headline price over estimated 2022 production of 200 MBOED. ³Represents adjusted dollar per acre. Assumes transaction headline price adjusted for production value, estimated at \$30,000 per BOED assuming 2022 estimated production of 200 MBOED and 225,000 net acres. Cash from operations (CFO), free cash flow (FCF) and EBITDA are non-GAAP measures defined in the Appendix.

Transaction Significantly Enhances Powerful 6/30/2021 Plan

UPDATED FOR ANNOUNCED PERMIAN TRANSACTION

10-YEAR PLAN AT \$50/BBL WTI¹
2022-2031



	JUNE 30 PLAN	TODAY'S PLAN	CHANGE
CFO	~\$145B	~\$165B	↑ ~\$20B
FREE CASH FLOW	>\$70B	>\$80B	↑ ~\$10B
SHAREHOLDER DISTRIBUTIONS	>\$65B	>\$75B	↑ ~\$10B
2031 ROCE	17%	~20%	↑ ~3 Percentage Points
AVG. ANNUAL CAPITAL	~\$7B	~\$8B	↑ ~\$1B
REINVESTMENT RATE	~50%	~50%	Aligned
PRODUCTION CAGR ²	~3%	~3%	Aligned
TORQUE TO PRICE UPSIDE CFO FOR \$10/BBL CHANGE FOR 10Y PLAN	>\$30B	>\$35B	↑ ~\$5B
GHG INTENSITY REDUCTION ³ 2030 TARGET EXPANDED TO INCLUDE NET EQUITY PRODUCTION	35-45%	40-50%	↑ +5 Percentage Points

¹2020 Real, escalating at 2% annually. ²2022-2031. ³2030 target relative to a Dec. 31, 2016 baseline for scope 1 and 2 emissions on a net equity and gross operated basis. Totals may not foot due to rounding. See Cautionary Statement for details on pricing assumptions. Cash balance includes cash, cash equivalents, restricted cash and short-term investments. Market cap of \$77B on Sep. 13, 2021. Cash from operations (CFO), free cash flow, return on capital employed (ROCE) and reinvestment rate are non-GAAP measures defined in the Appendix.

~100% OF MARKET CAP DISTRIBUTED TO SHAREHOLDERS OVER THE DECADE AT \$50/BBL WTI¹

Colombia: New Exploration and Production contract for a new normal

ANH revamps the rules and the exploration and production contract terms for Colombia's 2021 licensing round

The competitive process will run until November 2021 and consists of a direct offer of 28 areas by the National Hydrocarbons Agency (ANH) and some 600 blocks open for nominations by interested operators.

While gas production has remained stable, the country's economy has been affected by a 25% decline in crude oil production since the outbreak of the COVID-19 pandemic and the oil market crisis in early 2020, followed by civil protests and blockades in Spring of 2021. Oil output fell from a high of nearly 900,000 barrels per day (bopd) in early 2020, down to a low of 650,000 bopd in June of 2021.

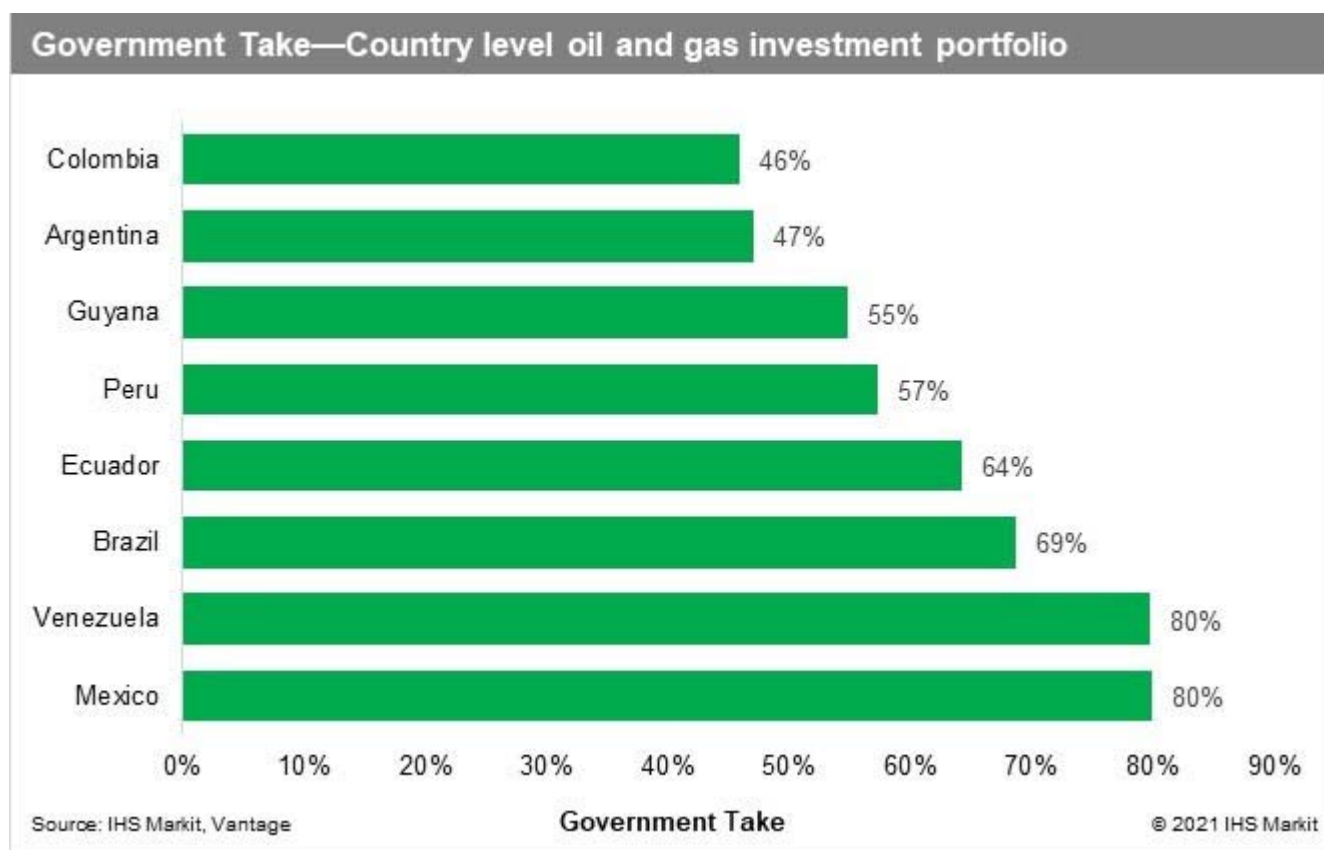
The Colombian Ministry of Mines and Energy and ANH are collaborating in an effort to reactivate a strategic sector for the economy and the public finances.

The rules for companies to pre-qualify as well as the contract terms have been reviewed to improve the 2021 process to attract new investments in exploration and production.

In order to facilitate the pre-qualification process, operators that qualified for the 2020 process will maintain their status. New participants will be able to pre-qualify based on the financial results and operating performance achieved at the end of 2019. This measure takes into account the fact that the financial and operational results of 2020 may not be a true representation of historical financial and operational capacity of the companies engaged in the oil and gas upstream sector.

The contract terms have also been reassessed, with the newly designed contract allowing for the separation of the exploration and production stages, according investors more flexibility in the execution of the exploration work program, while ensuring full compliance with contractual timelines and regulatory requirements once they proceed with the development of discoveries. In addition, the new contract enhances the adherence to its private law foundations that put the state on an equal footing as the operators for dispute resolution purposes.

While no changes are introduced in relation to fiscal terms, Colombia already has the lowest government take in the region according to data from IHS Markit. The ability of the components of the fiscal system to adjust to changes in production volumes and international commodity prices reduces the degree of risk investors take in the oil and gas sector in Colombia. According to IHS Markit Vantage database, at a country wide portfolio level the government take for upstream projects in Colombia is the lowest in Latin America. Out of 2,000 oil and gas projects in the region, the government take for the 269 projects located in Colombia was 46%, placing it ahead of other major oil and gas producers in Latin America from an investor perspective.



For operators present in Colombia and those looking for good opportunities in Latin America, the changes in effect for Colombia Round 2021 make it a more attractive prospect than ever before.

Armando Zamora Reyes, President, ANH

Production figures August 2021

23/09/2021 Preliminary production figures for August 2021 show an average daily production of 2 114 000 barrels of oil, NGL and condensate.

Total gas sales were 9.3 billion Sm³ (GSm³), which is a decrease of 0.3 GSm³ from the previous month.

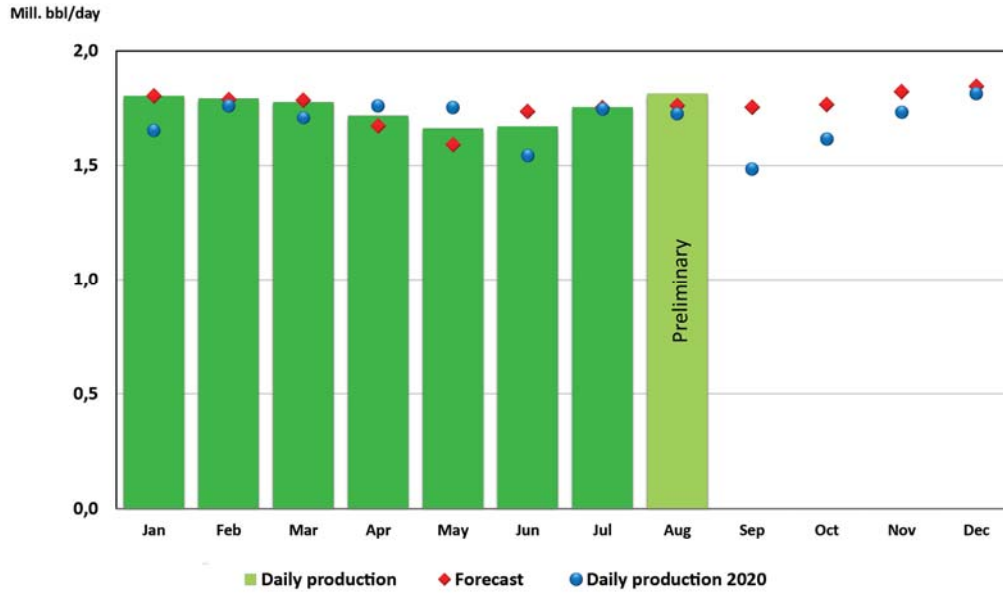
Average daily liquids production in August was: 1 812 000 barrels of oil, 292 000 barrels of NGL and 10 000 barrels of condensate.

Oil production in August is 3.0 percent higher than the NPD's forecast, and 0.7 percent higher than the forecast so far this year.

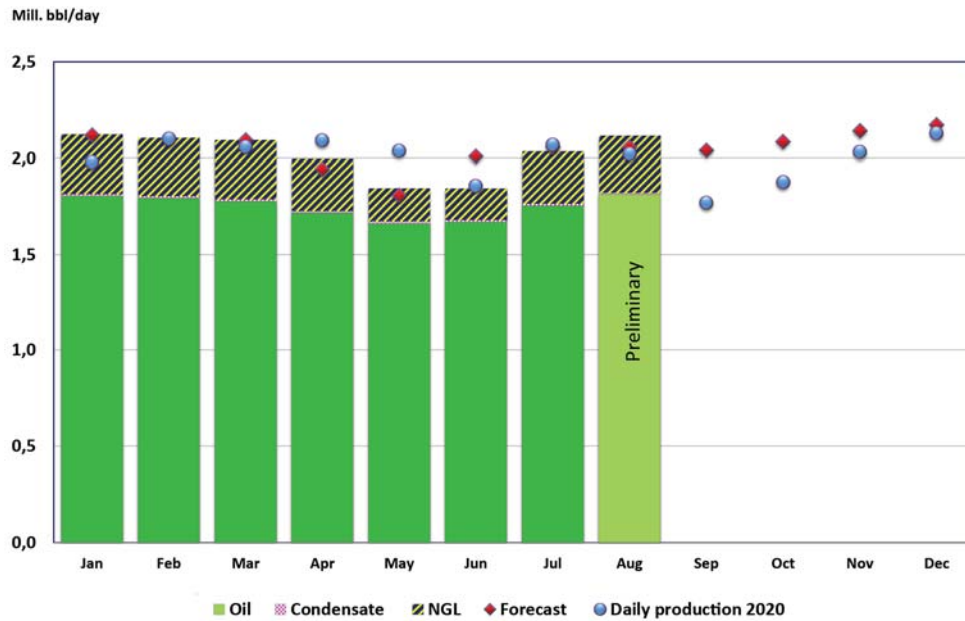
Production August 2021

		Oil	Sum liquid	Gas	Total
		mill bbl/d	mill bbl/d	Msm ³ /d	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 %

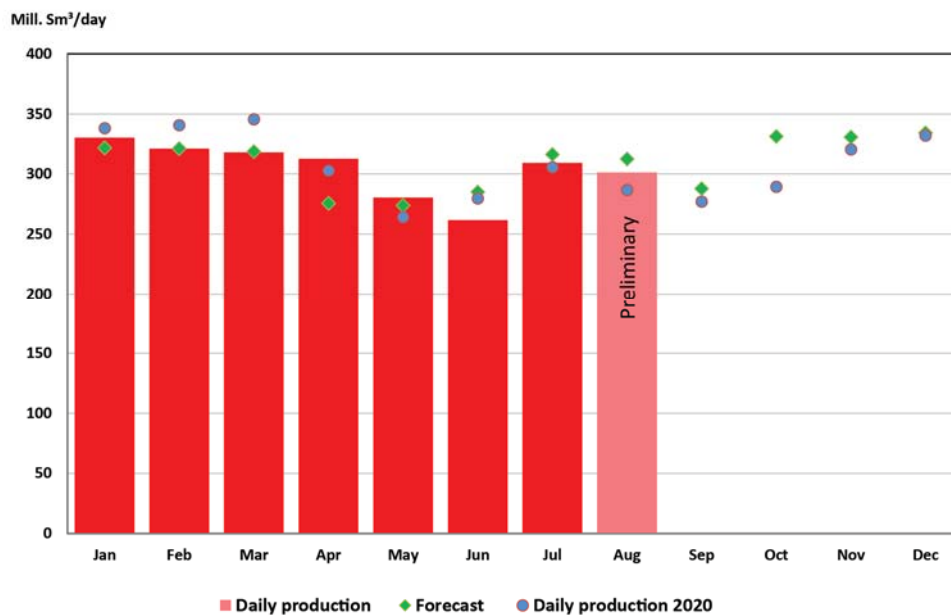
Oil production 2021



Liquid production 2021



Gas production 2021



The total petroleum production for the first eight months in 2021 is about 151.9 million Sm³ oil equivalents (MSm³ o.e.), broken down as follows: about 67.5 MSm³ o.e. of oil, about 10.5 MSm³ o.e. of NGL and condensate and about 73.9 MSm³ o.e. of gas for sale.

The total volume is 1.8 MSm³ o.e. lower than in 2020.

Updated: 23/09/2021

Russia Sees Its Oil Output Close to Post-Soviet High Next Year

2021-09-21 10:18:37.342 GMT

By Andrey Biryukov, Olga Tanas and Evgenia Pismennaya (Bloomberg) -- 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.

The document, which was seen by Bloomberg, requires approval from the parliament and President Vladimir Putin. It sets expectations for budget revenue and spending over the period, but actual figures may differ.

Russia's projected output for next year is equivalent to an average 11.24 million barrels a day, according to Bloomberg calculations. Russia produced 11.25 million barrels a day in 2019, the highest level in its post-Soviet history.

The Organization of Petroleum Exporting Countries and allies including Russia are reviving production idled in the depths of the Covid-19 pandemic. Each month the group will add 400,000 barrels a day to the market, of which about a quarter comes from Russia. The hikes are set to continue until all of the OPEC+ output curbs are rolled back.

The Finance Ministry's outlook, like the nation's official oil statistics, do not give a breakdown between crude and condensate. That makes it difficult to assess how the production forecast lines up with OPEC+ deal, which only puts a limit on crude.

Deputy Prime Minister Alexander Novak has said repeatedly that Russia will abide by its OPEC+ target, meaning the nation's oil output will reach the pre-pandemic level by May 2022. There have been questions about Russia's ability to boost production. In August, the country's oil output declined even as its OPEC+ target increased, after a fire at a Gazprom's processing plant in West Siberia forced the gas giant to cap condensate production in the area. Russia also showed monthly drops in production in May and June.

READ: Russia Is the Canary in the OPEC+ Oil Mine: Julian Lee

The country's production rebounded in the first half of September, according to data from the Energy Ministry's CDU-TEK unit, seen by Bloomberg. Russia pumped 1.457 million tons a day of crude and condensate from Sept. 1 to Sept. 15. That equates 10.68 million barrels a day, Bloomberg calculations show, some 270,000 barrels a day, or 2.6%, higher than in August.

The increases mainly came from at Slavneft Oil & Gas Co.

OJSC and Bashneft PJSC as well as a gradual rebound in Gazprom's production, the data showed. If that rate of production is maintained for the whole of September, it would be the biggest monthly increase in Russian output in just over a year.

--With assistance from Dina Khrennikova.

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NNPC - Global Gas Crisis May Push Oil Prices \$10 Higher in Three

2021-09-23 09:36:02.194 GMT

NNPC - Global Gas Crisis May Push Oil Prices \$10 Higher in Three Months

Sep. 23, 2021 (All Africa Global Media) --

*FG to halt OPEC allocation under-performance by October, mid-November, says Kyari

*Emotions, not science, driving conversations on energy transition, Barkindo insists

Emmanuel Addeh

The Nigerian National Petroleum Corporation (NNPC) yesterday said the global natural gas crisis, which has resulted in rising prices, could push up oil prices by as much as \$10 a barrel over the next three to six months.

Wholesale gas prices have surged by 250 per cent since the beginning of the year, including a 70 per cent rise, disrupting food supplies in parts of Europe and putting several energy suppliers out of business.

In Nigeria, the price of Liquefied Petroleum Gas (LPG), or cooking gas, has increased by more than 100 per cent in the last few months due to under-supply, according to NNPC. Although, marketers have also attributed the increase to the introduction of a 7.5 per cent Value Added Tax (VAT) and rising dollar value to the naira.

Over 60 per cent of Nigeria's domestic gas needs are sourced internationally, while the rest is sourced locally, even though the country sits atop a 206 Trillion Cubic Feet (TCF) proven quantity of the commodity.

Speaking in a conversation monitored on Bloomberg Television, Group Managing Director of NNPC, Mallam Mele Kyari, stated that in the next three to six months, the current distortion in the market could lead to an increase in oil prices by at least \$10. With Brent crude hitting \$76 on Wednesday, the increase could actually be about \$86 during the period.

Kyari noted that soaring gas prices would most likely seep into the oil prices because consumers would be forced to seek fuel alternatives to natural gas in the nearest future because of rising prices, as demand for oil could be boosted by as much as 1 million barrels per day (bpd).

"It will absolutely hit crude prices as energy consumers are forced to shift from gas to other fuels," the NNPC GMD stated. "You wouldn't be very wrong if you said you would see an additional \$10 on a barrel maybe three months, maximum six months," he added.

According to him, the world is presently in a potential crisis because last year, a number of things were not done right, including under-investment in the gas sector, particularly.

Kyari said, "The implication of that is that we're going to see the effect coming up in a year or two maximum. And that will also affect the gas supply all over the globe and, particularly, in Europe.

"That's going to show up in a number of gas-rich countries and gas supply projects are being stalled, a number of midstream gas projects are being stalled or delayed, and the net effect will be that there will be an impact on pricing coming very shortly."

He disclosed that there was still clearly a supply gap, stressing that in the country, supply to the Nigeria LNG plant has been beset by several challenges in recent times.

He stressed, "There are a number of things going on now to improve on the gas supply. We surely have issues around gas supply to the LNG plant, in particular, and even into the domestic market and the net effect is that you will see some slippages in cargos in 2022 and even in 2021.

"And the implication of that is that you have to do something pretty quickly and we have lost time, we have lost investment and for us, what must happen is a very quick return to a pre-Covid-19 level investment and that, of course, is being adjusted and I know that this is a key challenge for the industry."

According to Kyari, since in many jurisdictions, including Nigeria, gas production is tied to oil production and much of the production is associated, prices may spiral in several areas.

He stated that closing the global oil supply gap in three, four months' time might not be feasible, but noted that Nigeria's underperformance in the last few months in relation to the quota allocated by the Organisation of Petroleum Exporting Countries (OPEC) would be halted by the end of October this year or mid November.

"From everything we're doing, we'll get back to the OPEC level, probably, by the end of October and maximum middle of November. We're not far from that," he assured.

The GMD pointed out that the national oil company was going through a transformation that would see it invest more in renewable energy sources, going forward.

He stated, "We are undergoing a transformation and what this means is that we're going to lead a company that will become the biggest company in Africa, not just the company that will lead the transition into renewables as we go forward to zero carbon situation.

"And what we have to do is to focus on gas development, as everybody else is doing, and also focus on the reality, which is that you need to go electric and to do this, you need a number of things done as quickly as possible to make this company completely commercial and completely profitable. It already is."

Meanwhile, the OPEC Secretary General, Dr. Sanusi Barkindo, said current conversations around the transition to a carbon-free world were driven by sheer emotions, rather than facts and science.

Speaking on the side-lines of Gastech, an industry expo in Dubai, Barkindo stated that there were many distortions in discussing of a world without fossil fuels, with the planned focus on renewables.

Barkindo said, "I have also in my contribution, in my panel, talked about the distortion of facts, and the science, the misrepresentation of these facts in the conversation, which is not healthy because climate change and the energy transition are supposed to be guided by the science.

"The Intergovernmental Panel on Climate Change is supposed to be the most authoritative body with regard to both climate change and the transition. And we in OPEC, we believe they are doing a great job; they are producing very important seminal reports.

"But, unfortunately, these reports are being set aside, and the discussions ensuing at the moment, more or less, are being driven by emotions rather than by the great work that the scientific body is producing for all of us."

On the energy transition, Barkindo emphasised the vital role of oil in meeting the growing demand for energy, adding that predictable investment is required to address the increasing global needs, highlighting the need to address energy poverty and meet global commitments to expand energy access.

Referencing OPEC's release of the World Oil Outlook 2021, the secretary general noted that oil and natural gas would continue to supply more than half the world's energy needs in 2045, with oil around 28 per cent, followed by gas at 24 per cent.

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September 23, 2021 7:52 AM MDT Last Updated 5 hours ago

Middle East

Yemen's Houthis near Marib city, eyeing Yemen gas and oil fields

Reuters

DUBAI, Sept 23 (Reuters) - 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.

Houthi forces are advancing into the Assilan district in Shabwa, where the Janna oil field is located. [read more](#)

Marib lies about 120 km (75 miles) east of the capital Sanaa, which the Iran-aligned Houthis seized along with most of north Yemen in 2014 when they ousted the internationally recognised government of President Abd-Rabbu Mansour Hadi.

They have since early this year advanced on three fronts towards the Marib region, which is the government's last northern stronghold and has Yemen's biggest gas fields. There have been many casualties on both sides.

Saudi Arabia and the United Arab Emirates intervened in the war in 2015 to try to restore Hadi's government to power but the conflict has dragged on, killing tens of thousands and causing the world's worst humanitarian crisis. [read more](#)

The escalation in fighting comes as U.N. and U.S. envoys have been in the region to try to revive stalled peace talks.

Writing by Lisa Barrington; Editing by Angus MacSwan

Our Standards: The Thomson Reuters Trust Principles.

Biden admin sends 'negative sign' by keeping sanctions on Tehran, says new Iranian foreign minister

Iran's foreign minister says his government will return to nuclear talks "very soon" after it finishes a review of previous negotiations.

01:41 / 05:55

TAP TO UNMUTE

Sept. 24, 2021, 2:31 AM MDT / Updated Sept. 24, 2021, 1:21 PM MDT

By Dan De Luce

Iran remains ready to return to nuclear talks "very soon" but the Biden administration has sent a "negative sign" by failing to lift economic sanctions and imposing new sanctions against Tehran, Iran's new foreign minister told NBC News.

The foreign minister, Hossein Amirabdollahian, told NBC News' Andrea Mitchell that [President Joe Biden](#) needed to back up his talk of diplomacy with concrete actions to show [Iran](#) that Washington is serious about restoring a 2015 nuclear deal.

"They say, 'We are ready to return to the fulfillment of our commitments.' However, there is no action taken in order to show and prove the true will to the new Iranian administration, to the Iranian nation. And worse than that, simultaneously, they have managed to put on new sanctions," Amirabdollahian said.

The interview on Thursday evening was the first given by a senior member of Iran's new government to a U.S. news organization.

Watch an [extended version of the interview here](#).

Amirabdollahian, who was in New York for the United Nations General Assembly, was named top diplomat by Iran's new president, [Ebrahim Raisi, a hardline cleric elected in June](#).

The foreign minister, echoing previous statements from the new Iranian government, stopped short of saying exactly when Iran would be ready to return to talks with world powers to revive the 2015 nuclear agreement. The talks aimed at restoring the deal, known as the Joint Comprehensive Plan of Action (JCPOA), have been stalled since June, when Iran held its presidential election. The new government under President Raisi has said it has been assessing the results of previous negotiations.



Then Iranian Deputy Foreign Minister Hossein Amir-Abdollahian at a news conference, on Jan. 28, 2016. Alexander Natruskin / Sputnik via AP file

Amirabdollahian said it was up to the United States to demonstrate it was serious about returning to the accord after former President Donald Trump withdrew the U.S. from the deal three years ago.

“In other words, President Biden was and is criticizing the behavior of his predecessor, Mr. Trump vis-à-vis Iran, but at the same time, the volume of the file of sanctions that Mr. Trump built against Iran is being carried carefully by Mr. Biden,” he said.

If the United States was serious about pursuing negotiations, then why was it “piling up” actions, the foreign minister asked.

“This is a negative sign, signal to Iran,” he said.

The foreign minister said “the reality of the matter is that for years, we have not obtained any benefits from the JCPOA.” But the new Iranian government is now evaluating the talks undertaken by the previous Iranian administration, he said.

Amirabdollahian said that “we are assessing and I can tell you that we have had many meetings and we will keep the window of diplomacy and negotiations open. And we will very soon return to the negotiations.”

Since Raisi entered office last month, he and his deputies have signaled a tougher line on restoring the 2015 nuclear agreement, raising the possibility that no deal will be reached between Tehran and Washington any time soon.

In the interview, Amirabdollahian said repeatedly that the new government in Iran was focused on obtaining concrete results from any nuclear talks, in remarks that seemed to imply the previous Iranian president’s diplomacy had ended in failure.

Before Raisi’s election in June, U.S. and Iranian negotiators appeared close to clinching a deal after six rounds of talks. The two sides had outlined an accord that would see both governments return to the 2015 nuclear agreement.

But the new president and his team appear to be in no rush to restart the negotiations, even though U.S. sanctions continue to inflict damage on Iran’s economy.

The 2015 deal, also signed by the U.K., China, France, Germany and Russia, limited Iran's nuclear program in return for easing U.S. economic sanctions. In 2018, President Trump withdrew the U.S. from the agreement,

reimposed sanctions on Iran and introduced more sanctions as part of what he said was a "maximum pressure" campaign.

Amirabdollahian said Iran had held "constructive talks" this week with German and British officials on the nuclear issue and planned to meet with French officials on Friday.

Asked about Americans imprisoned in Iran, he said Iran was open to an exchange of American and Iranian prisoners held in each country.

"We see a prisoner swap and its potential as a purely humanitarian issue," he said.

The foreign minister, addressing a series of assassinations of nuclear scientists and other suspected acts of sabotage that Tehran has blamed on Israel, said Iran was prepared to retaliate as needed to any attack on its national security.

"If we obtain reliable proof beyond dispute, we will respond in kind, swiftly, and without any equivocation," he said.

Commenting on the killing of top Iranian general Qassem Soleimani in a U.S. drone strike in January 2020, he said Iran did not consider the case closed.

"From our viewpoint," he said, "the file so to speak will not be closed. Those who were the perpetrators and carried out that act of terrorism against a national hero and the champion of Iran in the fight against terrorism must be brought to justice."

At a press conference on Friday, Amirabdollahian reiterated his view that the United States is sending contradictory messages by criticizing the previous Trump administration's approach to Iran while failing to lift sanctions imposed by Biden's predecessor.

He said Biden administration officials had conveyed through diplomatic intermediaries that it would not have ordered the killing of Soleimani.

"As an example, we have received this message several times through diplomatic channels that the current U.S. officials say that 'had we been in charge then we would have not issued the command to assassinate Gen. Soleimani,'" Amirabdollahian said.

Asked about Iran's approach to Afghanistan after the Taliban toppled the Afghan government, Amirabdollahian said no single political party, ethnic group or tribe could rule Afghanistan.

"We encourage all sides to move towards the formation of a completely inclusive government with the participation of all sides and all ethnic backgrounds," he said, adding that Iran has already seen 300,000 Afghans crossing into Iran since the Taliban takeover.

Statement of welcome to a government decision



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.

This decision comes within the framework of the strenuous efforts made by His Excellency the Prime Minister to address some of the disputes that have emerged recently between the newly created Ministry of Oil and Gas and the National Oil Corporation. This led to confusion at workplace and gave an opportunity for some prowlers in the sector to try to destabilize and undermine production, which may negatively reflect on the recovery of the national economy

In this regard, the National Oil Corporation affirms its full commitment to all the instructions of the Prime Minister in particular, and its adherence to professional work in accordance with its competencies authorized by law. NOC also confirms that it is ready to turn the page of the past, work together with the Ministry of Oil for the public interest, and achieve the requirements of the stage, each according to its competencies.

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 achieving the highest revenues for the state treasury ... in order that we all contribute to creating stability, rebuilding the country, providing jobs and achieving what the Libyan people aspire to.

Our strength is in our unity and our weakness is in our differences and our division...

National Oil Corporation

19/09/2021

Vitol Sees Oil Jumping to \$80-Plus as Energy Crunch Lifts Demand

2021-09-23 13:21:26.757 GMT

By Sharon Cho and Andy Hoffman

(Bloomberg) -- Vitol Group, the world's biggest independent oil trader, expects global crude demand to climb by an extra half a million barrels a day this winter as a gas-led energy crunch drives a rush for other fuels.

Oil is most likely headed above \$80 a barrel, partly as higher gas prices boost demand, Vitol Chief Executive Officer Russell Hardy said in an interview from London on Thursday. That could force OPEC+ producers to add more supply into the market, he 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."

Hardy's bullish view echoes that of Goldman Sachs Group Inc., which is predicting higher crude prices, especially if the winter months are colder than normal. Traders have been assessing the likely impact of a tightening natural gas market on the broader energy complex over the coming winter.

European gas stockpiles will be at about 78% of normal levels during October, an indication of a tightening market in the colder months when demand surges, said Hardy.

"All people are worried about is that we're missing pieces of stock which we normally have," he said. "During the winter, demand for gas is massively higher than demand for gas during the summer. You have to store, there's no two ways around it."

Global Demand

The tightness in gas stockpiles coincides with strong global demand, with countries such as Pakistan, Bangladesh, India and China seeking to use cleaner fuels for their pipelines and power systems, Hardy said.

That means gas will remain pricey, prompting buyers to procure alternative fuels such as liquefied petroleum gas or naphtha for the power sector or industrial uses, according to Hardy. For example, gas is trading at about \$1,200 a ton, whereas LPG is only about \$750 a ton, he said.

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.

"It is finally balanced for the next six months," Hardy said. "We're not worried about demand in the long run, we know it's going to come back steadily."

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Dylan Griffiths

ADO Update 2021: Key messages

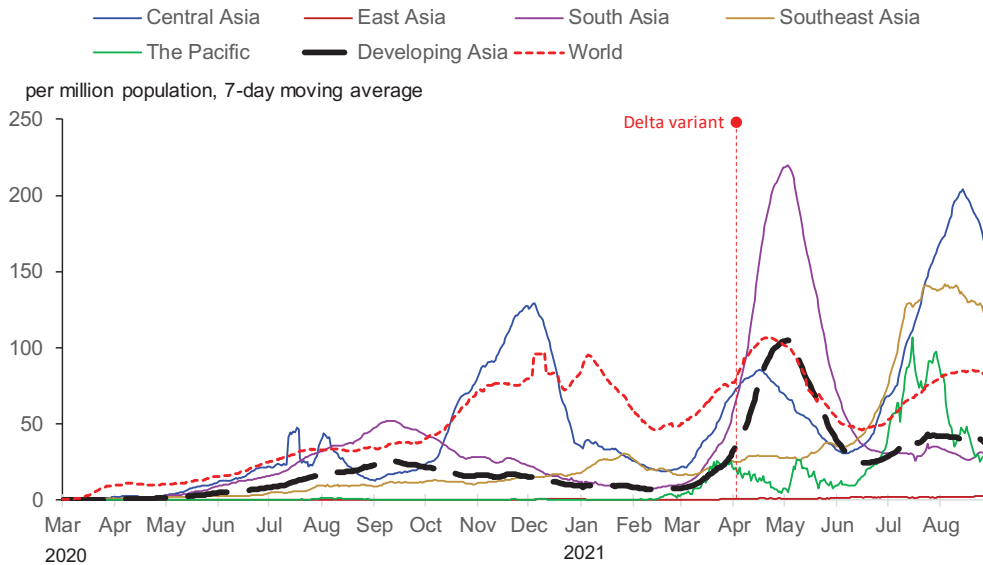
- Amid renewed outbreaks and uneven progress on vaccination, COVID-19 continues to besiege developing Asia
- Regional growth paths are diverging—economies that have successfully contained the pandemic and actively rolled out vaccines are benefiting more than others from the recovery in global demand
- The region's output is forecast to expand by 7.1% in 2021 and 5.4% in 2022. Inflation is projected at 2.2% in 2021 and 2.7% in 2022
- A resurgence in the COVID-19 pandemic—possibly due to new virus variants, waning effectiveness of vaccines, or slow progress on vaccination—remains the main risk
- The theme chapter examines how Asian agriculture must respond to three ongoing shifts: changing demand, changing demographics, and a changing and fragile environment

The COVID-19 pandemic continues to besiege developing Asia

New and more infectious variants are driving outbreaks across developing Asia.

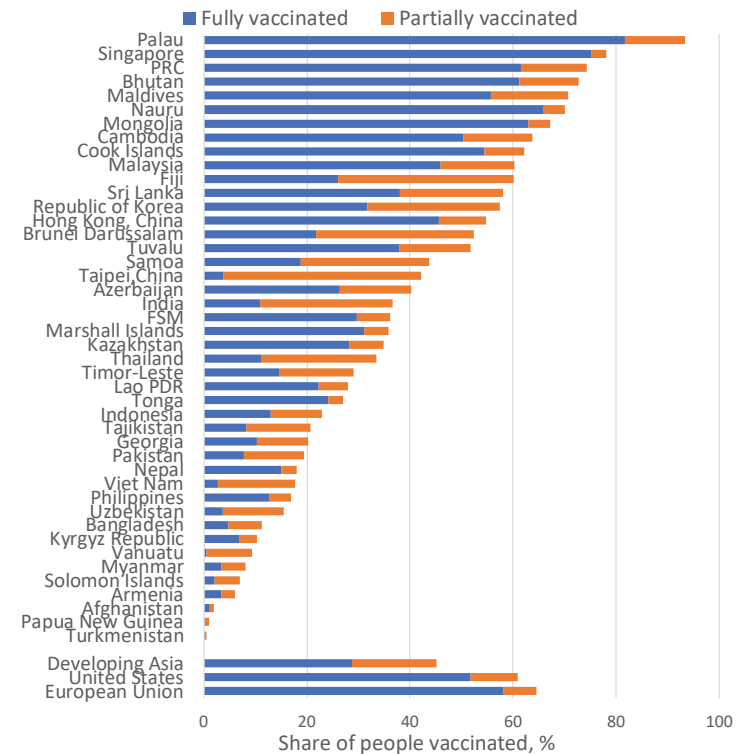
Vaccination progress remains uneven and lags advanced economies.

Daily new COVID-19 cases, 7-day moving average



Sources: CEIC Data Company (accessed 6 September 2021); Ministry of Healthcare of Kazakhstan.

Persons vaccinated against COVID-19

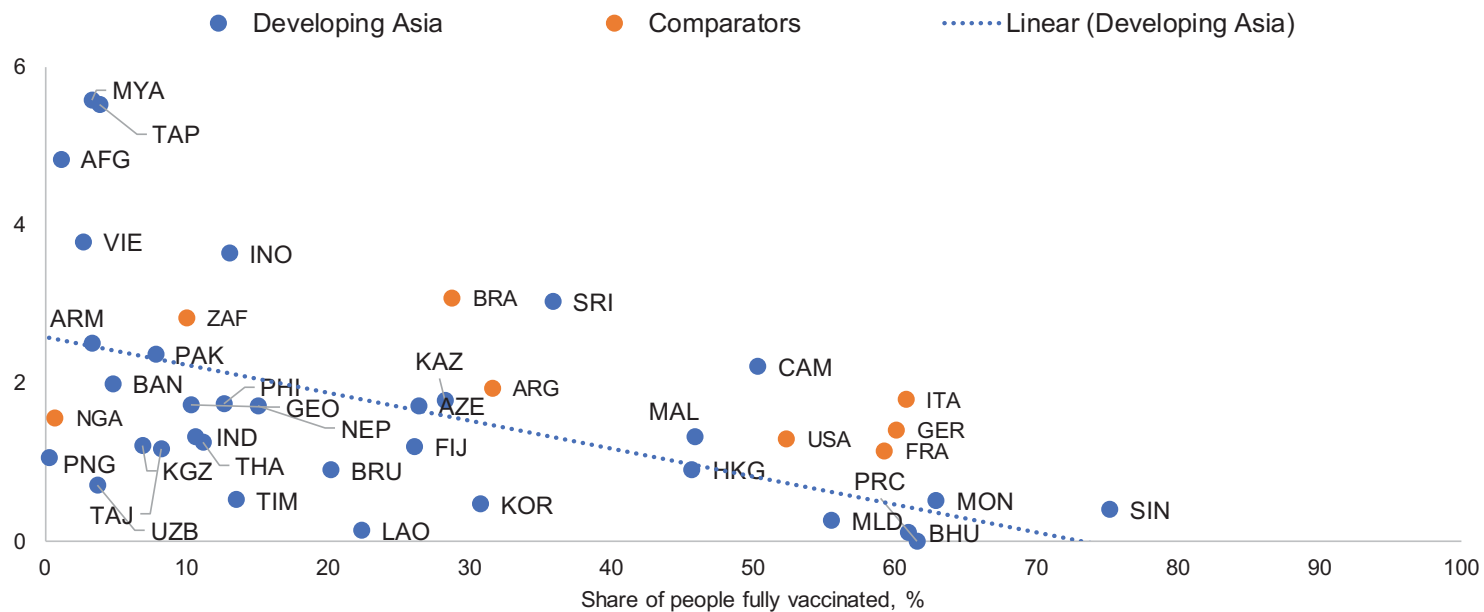


Notes: FSM = Federated States of Micronesia, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China
 Date of data is latest available for August for all economies except Turkmenistan (April).
 Source: CEIC Data Company (accessed 6 September 2021); Our World in Data (accessed 3 September 2021).

Vaccines are changing the nature of the pandemic

Higher vaccination rates are associated with fewer deaths per COVID-19 case.

deaths per 100 cases, 14-day lagged cases

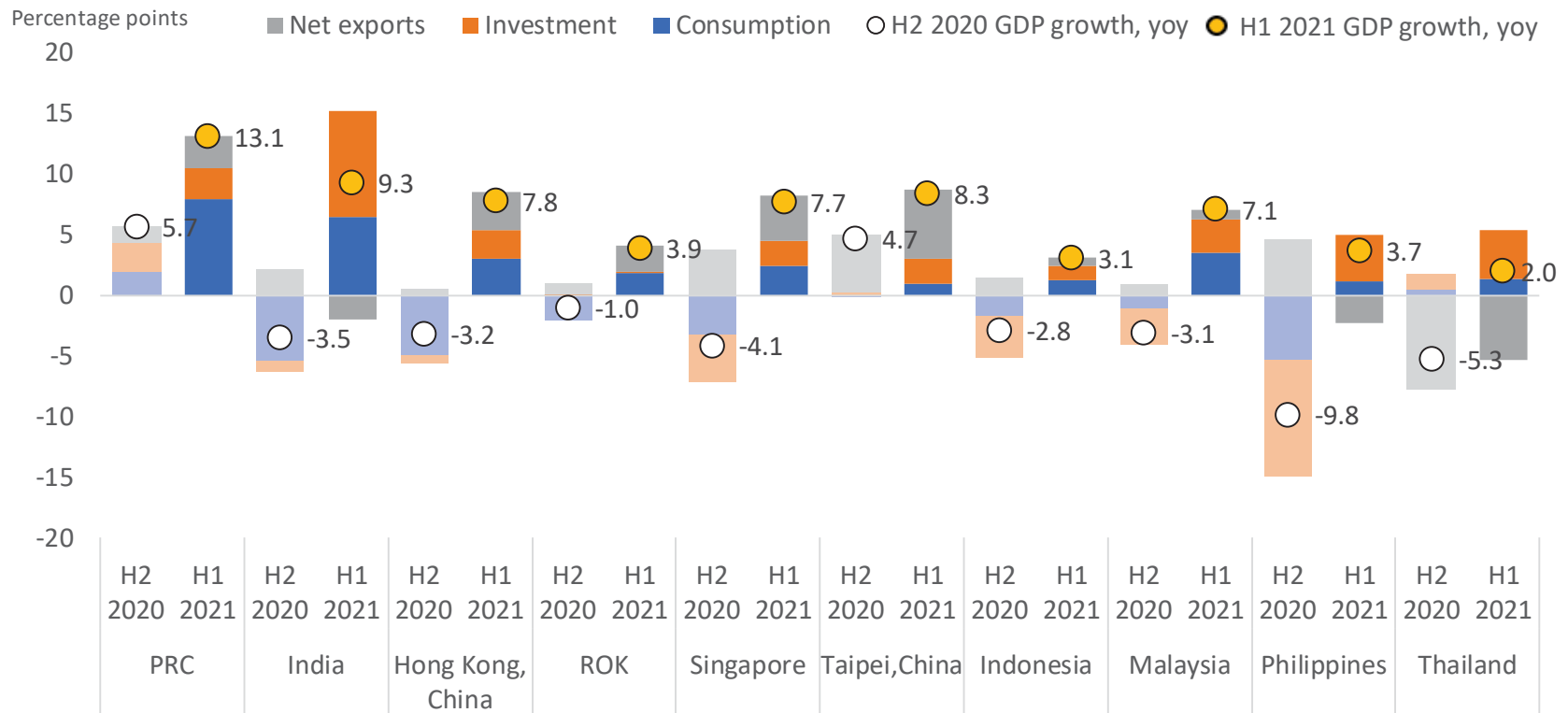


Note: Number of deaths per 100 cases is based on the total confirmed deaths and total confirmed cases since March. It is calculated as the ratio between total confirmed deaths and total confirmed cases 14 days prior to account for the lag between the onset of illness and death.

Source: Our World in Data. <https://ourworldindata.org/coronavirus> (accessed 2 September 2021).

The strength of the recovery in the first half of 2021 has varied across economies

Economies that did better with vaccination and pandemic control tended to have better economic performance.



GDP = gross domestic product, H = half, PRC = People's Republic of China, ROK = Republic of Korea, yoy = year on year.
 Note: H1 in India refers to first half of the calendar year.
 Source: CEIC Data Company (accessed 8 September 2021).

Activity has slowed in recent months amid renewed outbreaks

Falling purchasing managers' indexes in Q3 of 2021 demonstrate the recovery's fragile nature.

Manufacturing performance has tended to be better in economies with higher vaccination rates.

Manufacturing PMI, seasonally adjusted

Economy	2021							
	Q1			Q2			Q3	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
PRC	51.5	50.9	50.6	51.9	52.0	51.3	50.3	49.2
India	57.7	57.5	55.4	55.5	50.8	48.1	55.3	52.3
Indonesia	52.2	50.9	53.2	54.6	55.3	53.5	40.1	43.7
Malaysia ^a	51.9	50.7	52.9	56.9	54.3	42.9	43.1	46.4
Philippines	52.5	52.5	52.2	49.0	49.9	50.8	50.4	46.4
Republic of Korea	53.2	55.3	55.3	54.6	53.7	53.9	53.0	51.2
Taipei,China	60.2	60.4	60.8	62.4	62.0	57.6	59.7	58.5
Thailand	49.0	47.2	48.8	50.7	47.8	49.5	48.7	48.3
Viet Nam	51.3	51.6	53.6	54.7	53.1	44.1	45.1	40.2

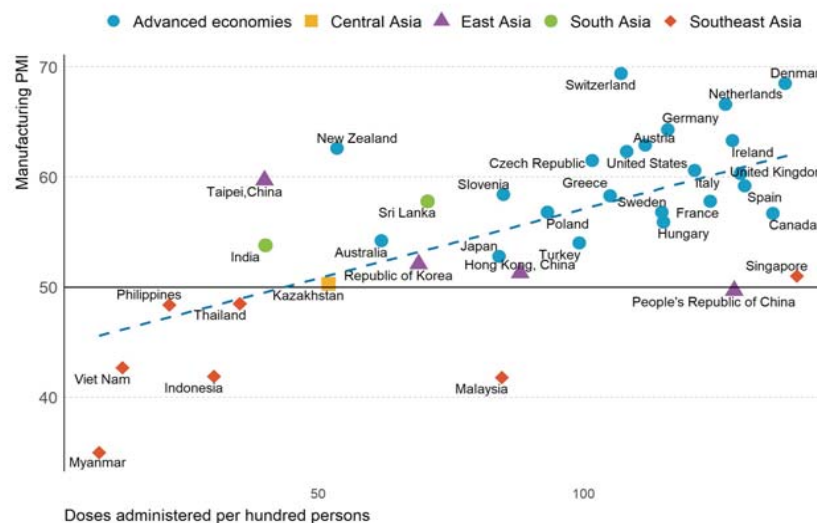
Services PMI, seasonally adjusted

PRC	52.0	51.5	54.3	56.3	55.1	50.3	54.9	46.7
India	52.8	55.3	54.6	54.0	46.4	41.2	45.4	56.7

PMI = Purchasing managers' index PRC = People's Republic of China, Q = quarter.

Note: ^a For Malaysia, the series is adjusted by adding 3 points, as historical experience suggests that value above 47 are consistent with expansion. Manufacturing PMI and doses administered represent the averages of July and August 2021.

Source: CEIC Data Company (accessed 6 September 2021).



Note: The manufacturing PMI and doses administered per hundred persons are the average of July and August 2021.

Sources: CEIC Data Company (accessed 6 September 2021); IHS Markit; Haver Analytics (accessed 1 September 2021); Bloomberg. Covid-19 Vaccine Tracker (accessed 1 September 2021).

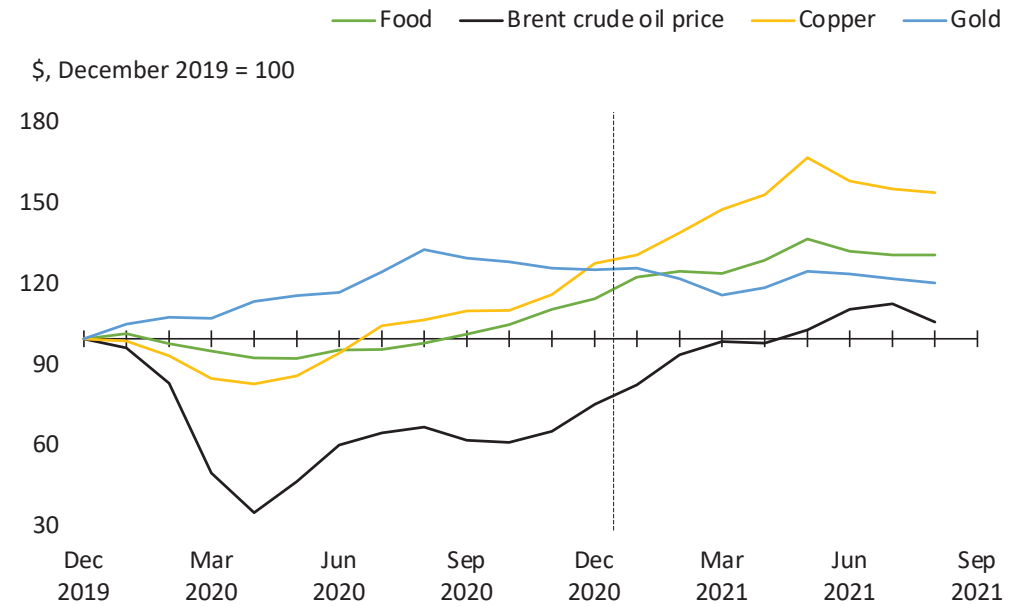
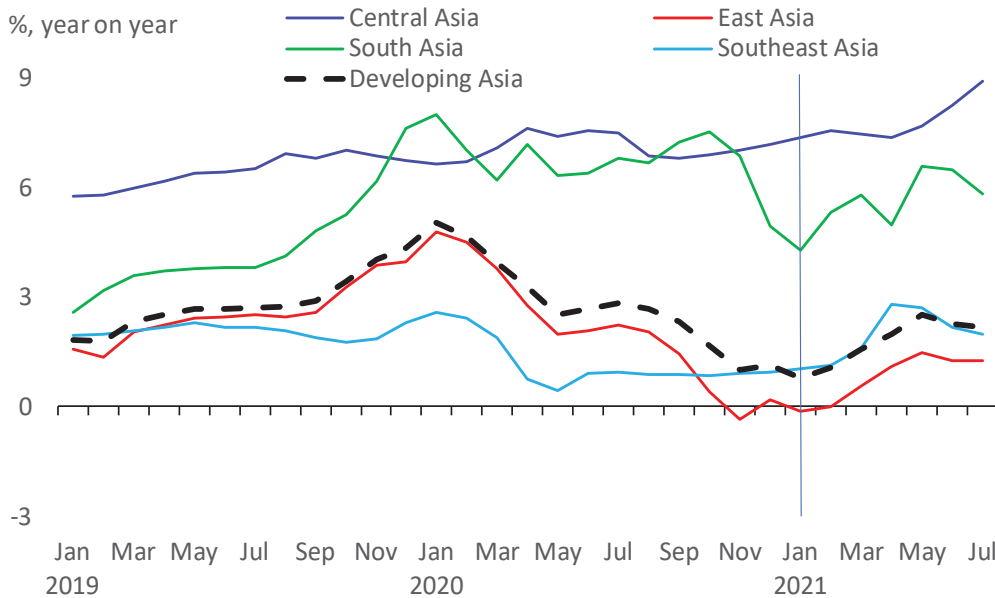
Inflation has picked up across developing Asia, with rising global commodity prices a possible factor

After a continuous decline in 2020, headline inflation edged up in the first half of 2021.

Commodity prices have surged since the second half of 2020.

Inflation in developing Asia

Commodity prices



Note: The Pacific is excluded because data is not available.
Source: CEIC Data Company (accessed 3 September 2021)

Source: World Bank. Commodity Markets, Pink Sheet data (accessed 7 September 2021)

The recovery in developing Asia will continue, at a slightly slower pace

The outlook is positive, but the speed of recovery varies

GDP growth in developing Asia, in %

	2020	2021		2022			2020	2021		2022	
		ADO 2021	ADOU 2021	ADO 2021	ADOU 2021			ADO 2021	ADOU 2021		
Developing Asia	-0.1	7.3	7.1 ▼	5.3	5.4 ▲						
East Asia	1.8	7.4	7.6 ▲	5.1	5.1						
Hong Kong, China	-6.1	4.6	6.2 ▲	4.5	3.4 ▼						
People's Republic of China	2.3	8.1	8.1	5.5	5.5						
Republic of Korea	-0.9	3.5	4.0 ▲	3.1	3.1						
Taipei,China	3.1	4.6	6.2 ▲	3.0	3.0						
Southeast Asia	-4.0	4.4	3.1 ▼	5.1	5.0 ▼						
Indonesia	-2.1	4.5	3.5 ▼	5.0	4.8 ▼						
Malaysia	-5.6	6.0	4.7 ▼	5.7	6.1 ▲						
Philippines	-9.6	4.5	4.5	5.5	5.5						
Singapore	-5.4	6.0	6.5 ▲	4.1	4.1						
Thailand	-6.1	3.0	0.8 ▼	4.5	3.9 ▼						
Viet Nam	2.9	6.7	3.8 ▼	7.0	6.5 ▼						
South Asia	-5.6	9.5	8.8 ▼	6.6	7.0 ▲						
Bangladesh	3.5	6.8	5.5 ▼	7.2	6.8 ▼						
India	-7.3	11.0	10.0 ▼	7.0	7.5 ▲						
Pakistan	-0.5	2.0	3.9 ▲	4.0	4.0						
Central Asia	-1.9	3.4	4.1 ▲	4.0	4.2 ▲						
Azerbaijan	-4.3	1.9	2.2 ▲	2.5	2.5						
Kazakhstan	-2.6	3.2	3.4 ▲	3.5	3.7 ▲						
Uzbekistan	1.6	4.0	5.0 ▲	5.0	5.5 ▲						
The Pacific	-5.3	1.4	-0.6 ▼	3.8	4.8 ▲						
Fiji	-15.7	2.0	-5.0 ▼	7.3	8.8 ▲						
Papua New Guinea	-3.3	2.5	1.3 ▼	3.0	4.1 ▲						

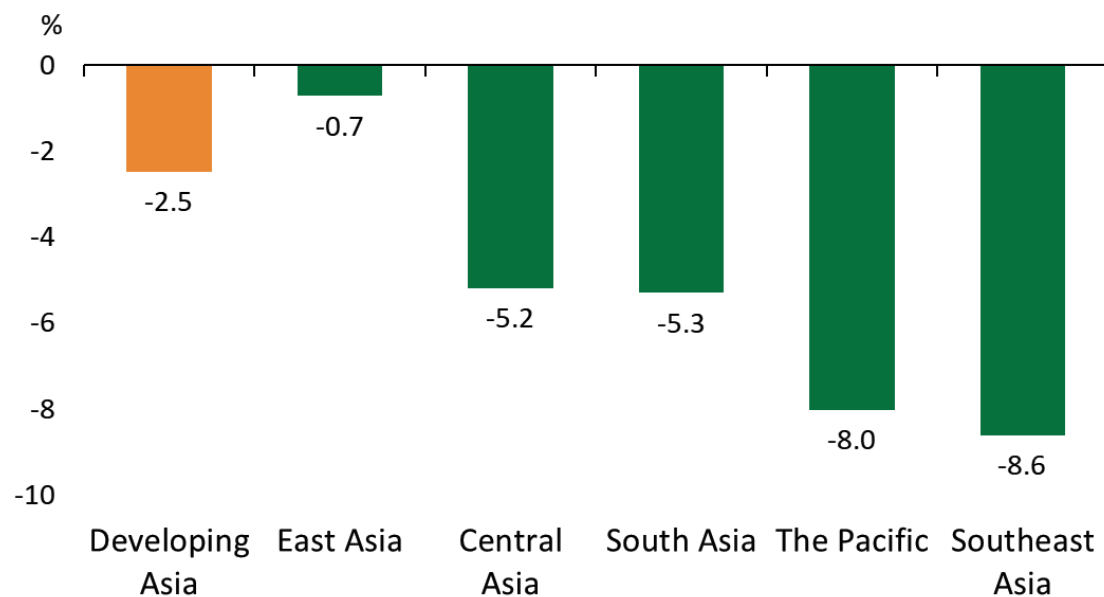
Notes: Data for Bangladesh, India, and Pakistan are on fiscal year basis, with FY2021 ending 30 June 2021 for Bangladesh and Pakistan and ending 31 March 2022 for India. Arrows indicate changes relative to ADO2021 forecast. ▲ = value increased, ▼ = value decreased, and no arrow = unchanged.

Source: Asian Development Outlook database.

GDP levels will remain below pre-COVID-19 trends in 2022, to varying degrees

Regional output will remain below its pre-pandemic trend by 2022, with gaps varying due to divergence in forecasts.

The gap between 2022 forecast and its pre-pandemic trend



Note: The 2022 pre-pandemic GDP level is measured based on its trend in the 5 years before the pandemic begins.

Source: *Asian Development Outlook* database.

Risks remain tilted to the downside

- The main threats to the outlook come from COVID-19, including delayed vaccine rollouts, the emergence of new variants and waning vaccine effectiveness.
- Additional downside risks are possible geopolitical tensions, global supply chain disruptions, and financial-market turbulence as US monetary policy normalizes.
- As economies recover from the pandemic, medium-term risks will return to center stage—chiefly among these, natural disasters and extreme weather events linked to climate change as well as the fall-out from rising food insecurity.

OIL DEMAND MONITOR: Traffic Jams Resume From Rome to Mexico City
2021-09-21 12:14:24 GMT

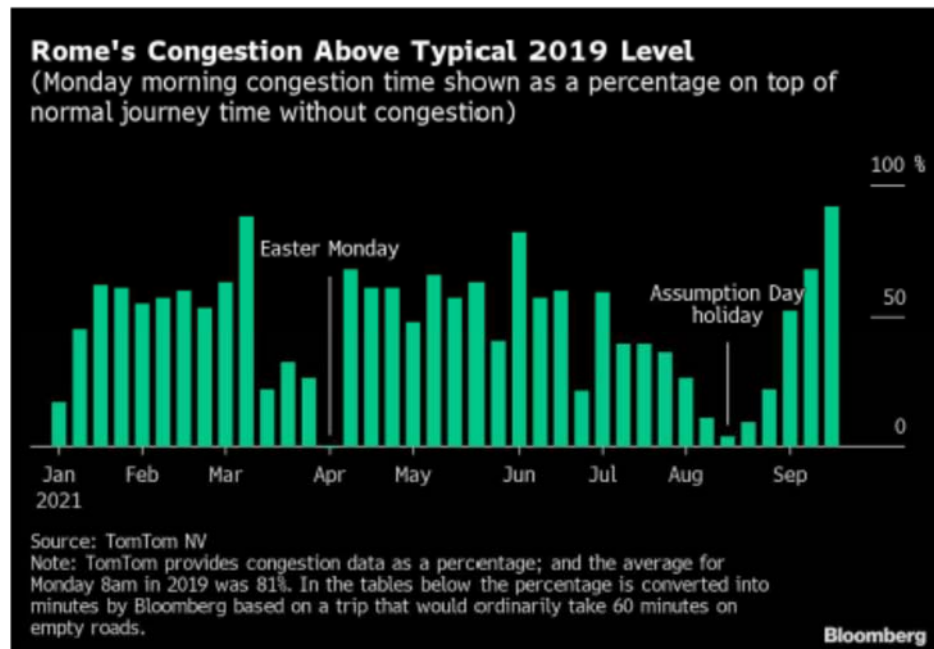
- Higher-than-2019 road congestion in Rome, Paris, New York
- Plane seat capacity dips in China and worldwide, OAG data show

By Stephen Voss

(Bloomberg) -- Congestion on the streets of Rome, Madrid, Paris and Mexico City reached the heaviest so far this year for a Monday in a testament to a renewed appetite for commuting now that the summer's over.

This follows similar peaks a week earlier in New York, London and Los Angeles. As the daily global number of coronavirus deaths appears to be ebbing from its latest peak and the number of fully-vaccinated adults grows, more workers are venturing back to their offices, underpinning demand for oil-based transport fuels. U.S. gasoline demand was just 0.5% below the equivalent week of pre-pandemic 2019, the latest government estimate shows.

All the aforementioned cities show large gains in traffic intensity over the past month, while Berlin's numbers slipped a little and Tokyo traffic was quiet on Monday because of a holiday, according to data provided by location technology company TomTom NV. Rome also joined Paris, London and New York in showing higher-than-2019 congestion levels at 8 a.m. local time on Monday morning.



Congestion in Rome on Monday morning was 92%, adding an extra 55 minutes on top of a journey that would take 60 minutes on empty roads. That's the first time this year that reading has exceeded the pre-pandemic 2019 average of 81% or 49 added minutes for that time of the week.

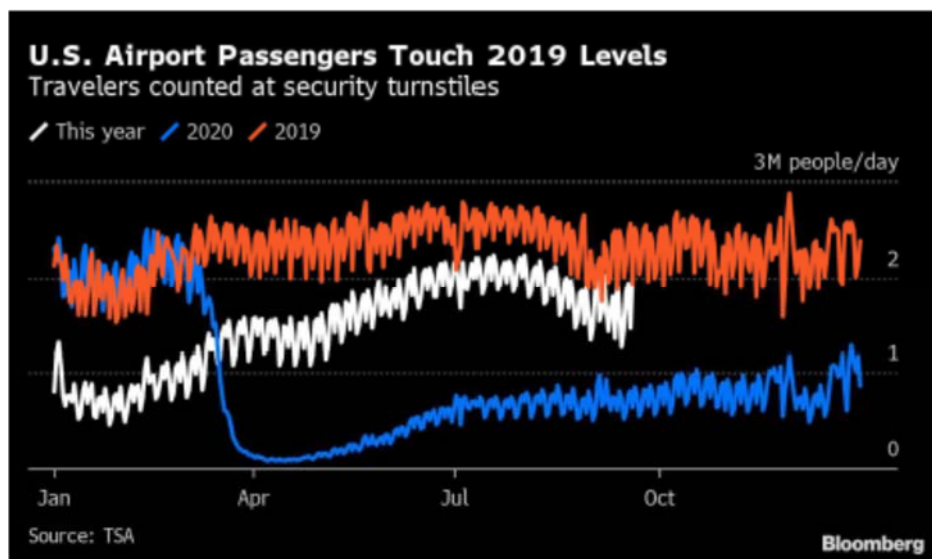
Weekly toll-road data from Atlantia Group for six nations across Europe and Latin America reveal all except Brazil had higher traffic volume than the equivalent week in 2019. In the U.S., the number of miles traveled on interstate highways has been close to the same as 2019 levels for many weeks now, according to government data.

China Air Travel Dips

Air travel is not yet as buoyant as road transportation, with recent flare-ups of Covid-19 infections in China again crimping what has been the most resilient domestic market for the bulk of the pandemic.

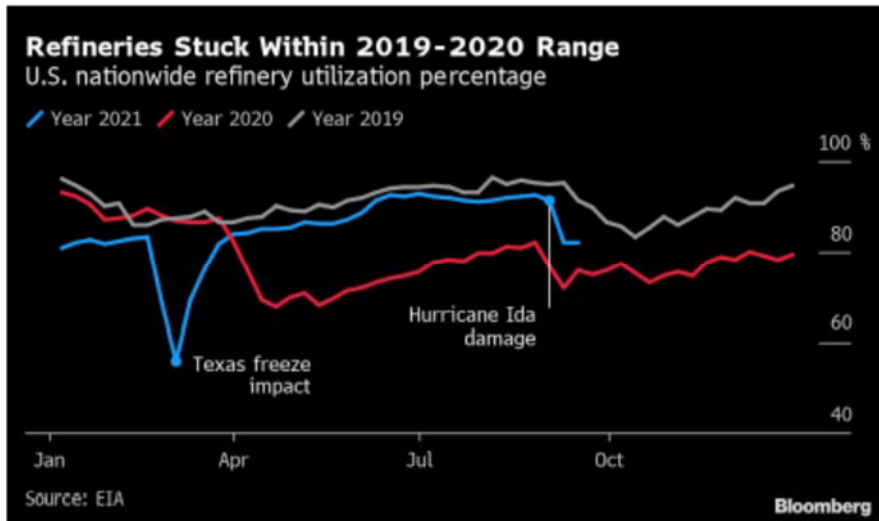
READ: One Covid Case Closes Venues, Limits Travel in Chinese City

Worldwide plane seat capacity sank below 79 million seats in the latest week to a level that's still about 31 % lower than it was for the equivalent week in 2019, according to OAG Aviation. "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," OAG said in a note.



U.S. Refineries

U.S. refinery processing is starting to turn a corner after a huge plunge in early September as a result of the damaging impact of Hurricane Ida on oil facilities and power networks along the Gulf Coast in the final few days of August. For now, nationwide refinery utilization is about 82%, and stuck between the levels of 76% and 97 % for the same week of the previous two years. Refinery processing in Texas had also suffered in late February after unusually cold weather froze equipment.



The Bloomberg weekly oil-demand monitor uses a range of high-frequency data series to help identify trends that may become clearer later in more comprehensive monthly figures. Following are the latest indicators, in the four tables below. The first two show fuel demand and mobility, the next shows air travel globally and the last is refinery activity:

Measure	Location	% y/y	% vs 2019	% m/m	Freq.	Latest as of Date	Latest Value	Source
Gasoline demand	U.S.	+4.9	-0.5	-4.7	w	Sept. 10	8.89m b/d	EIA
Distillates demand	U.S.	+35	-1.7	-12	w	Sept. 10	3.8m b/d	EIA
Jet fuel demand	U.S.	+45	-28	-18	w	Sept. 10	1.38 b/d	EIA
Total oil products demand	U.S.	+17	-1.8	-7.2	w	Sept. 10	19.9m b/d	EIA
All vehicles miles traveled	U.S.		-1.6		w	Sept. 12	16.5b miles	DoT
Passenger car VMT	U.S.		-2		w	Sept. 12	n/a	DoT
Truck VMT	U.S.		+1		w	Sept. 12	n/a	DoT
All motor vehicle use index	U.K.	+3.1	unch	+1	d	Sept. 13	100	DfT
Car use	U.K.	+3.2	-4	unch	d	Sept. 13	96	DfT
Heavy goods vehicle use	U.K.	+3.8	+9	+4.8	d	Sept. 13	109	DfT
Gasoline (petrol) avg sales per filling	U.K.	+7.3	-3.6	+3.2	m	Aug. 29	7,001 liters/d	BEIS

Diesel avg sales per station	U.K.	-0.5	-8.5	+0.3	m	Aug. 29	9,544 liters/d	BEIS
Total road fuels sales per station	U.K.	+2.7	-6.5	+1.5	m	Aug. 29	16,545 liters/d	BEIS
Gasoline	India	+5.7	+8.3	+3.4	2/m	Sept. 1-15	1.02m tons	Bberg
Diesel	India	-1.5	-6.8	-0.9	2/m	Sept. 1-15	2.1m tons	Bberg
LPG	India	+2	+15	+8.7	2/m	Sept. 1-15	1.16m tons	Bberg
Jet fuel	India	+29	-41	+8.7	2/m	Sept. 1-15	181k tons	Bberg
Total Products	India	+11	-6.6	-4.9	m	August 2021	16m tons	PPAC
Passenger car traffic	Poland	+3	+9	-9.6	w	Sept. 12	24,889	GDDK iA
Heavy goods traffic	Poland	+5	+9	+7.3	w	Sept. 12	4,770	GDDK iA
Toll roads volume	Italy	+9.2	+4		w	Sept. 6-12	n/a	Atlantia
Toll roads volume	Spain	+19	+3.7		w	Sept. 6-12	n/a	Atlantia
Toll roads volume	France	+9.1	+2		w	Sept. 6-12	n/a	Atlantia
Toll roads volume	Brazil	-8.9	-5.8		w	Sept. 6-12	n/a	Atlantia
Toll roads volume	Chile	+51	+11		w	Sept. 6-12	n/a	Atlantia
Toll roads volume	Mexico	+9.1	+0.8		w	Sept. 6-12	n/a	Atlantia
All vehicles traffic	Italy	+5.4		+2.1	m	August	n/a	Anas
Heavy vehicle traffic	Italy	+5.5		-18	m	August	n/a	Anas
Gasoline	Portugal	+8	-7.7	+9.1	m	August	103k tons	ENSE
Diesel	Portugal	+5.5	-6.5	+0.5	m	August	421k tons	ENSE
Jet fuel	Portugal	+64	-36	+18	m	August	100k tons	ENSE
Gasoline	Spain	+14	+4.7		m	August	558k m3	Exolum
Diesel	Spain	+7.9	-2.3		m	August	2147k m3	Exolum
Jet fuel	Spain	+77	-41		m	August	448k m3	Exolum

NOTE: Click here for a PDF with more information on sources, methods. The frequency column shows d for data updated daily, w for weekly, 2/m for twice a month and m for monthly.

* In DfT U.K. data, the column showing versus 2019 is actually showing the change versus the first week of February 2020, to represent the pre-Covid era. Table shows data for Aug. 27, 2021, rather than holiday-skewed information for Aug. 30.

** In BEIS U.K. data, which is only released once per month, the column showing versus 2019 is actually showing the change versus the average of Jan. 27-March 22, 2020, to represent the pre-Covid era.

City congestion:

Measure	Location	% chg vs 2019	% chg m/m	Sept. 20	Sept. 13	Sept. 6	Aug. 30	Aug. 23	Aug. 16	Aug. 9	Aug. 2	Jul. 26	Jul. 19
		(Sept. 20)											
		Minutes of congestion at 8am local time											
Congestion	Tokyo	-100	-100	0	32	28	28	28	11	7	28	28	29
Congestion	Mumbai	-67	+54	12	11	10	5	8	7	7	9	7	9
Congestion	New York	+13	+127	35	39	0	15	16	13	17	16	16	14
Congestion	Los Angeles	-20	+4	28	31	2	29	27	24	17	16	16	18
Congestion	London	+16	+181	44	44	37	1	16	15	19	15	19	25
Congestion	Rome	+14	+922	55	41	31	13	5	2	7	16	22	23
Congestion	Madrid	unch	+1080	35	33	20	6	3	2	2	5	5	8
Congestion	Paris	+19	+283	53	52	49	27	14	9	7	17	16	22
Congestion	Berlin	-14	-25	29	32	38	32	38	29	26	16	14	13
Congestion	Mexico City	-40	+29	29	28	27	24	23	20	19	20	19	20
Congestion	Sao Paulo	-40	-2	26	27	10	30	26	25	25	21	22	22

Source: Tom Tom. Click here for a PDF with more information on sources, methods.

NOTE: m/m comparisons are Sept. 20 vs Aug. 23. It was a public holiday in Tokyo on Sept. 20.

Tom Tom has been unable to provide Chinese data since late April.

Air Travel:

Measure	Location	% chg y/y	% chg vs 2019	% chg m/m	Freq.	Latest as of Date	Latest Value	Source
Airline passenger throughput	U.S.	+145	+2.1	+5.6	d	Sept. 19	2.08m people	TSA
Commercial flights	Worldwide	+36	-22	+5.6	d	Sept. 20	94,076	FlightRadar24
Air traffic (flights)	Europe		-30	-2.1	d	Sept. 20	24,563	Eurocontrol
Seat capacity	Worldwide	+38	-31		w	Sept. 20	78.81m	OAG
Seat cap.	U.S.	+78	-15		w	Sept. 20	18.61m	OAG
Seat cap.	China	-5.4	-8.3		w	Sept. 20	15.00m	OAG
Seat cap.	India	+57	-24		w	Sept. 20	3.08m	OAG
Seat cap.	Spain	+95	-28		w	Sept. 20	2.52m	OAG
Seat cap.	Japan	-8.8	-49		w	Sept. 20	2.12m	OAG
Seat cap.	U.K.	+46	-48		w	Sept. 20	1.96m	OAG
Seat cap.	Brazil	+96	-28		w	Sept. 20	1.89m	OAG
Seat cap.	Germany	+64	-48		w	Sept. 20	1.81m	OAG
Seat cap.	Mexico	+58	-9		w	Sept. 20	1.57m	OAG
Seat cap.	France	+44	-38		w	Sept. 20	1.49m	OAG
Seat cap.	Australia	+40	-74		w	Sept. 20	569k	OAG
Seat cap.	S. Africa	+149	-48		w	Sept. 20	314k	OAG
Seat cap.	Singapore	+155	-82		w	Sept. 20	151k	OAG

NOTE: Comparisons versus 2019 are a better measure of a return to normal.

Refineries:

Measure	Location/area	y/y chg	vs 2019 chg	m/m chg	Latest as of Date	Latest Value	Source
Changes in ppt unless noted							
Crude intake	U.S.	+6.7%	-14%	-10%	Sept. 10	14.4m b/d	EIA
Utilization	U.S.	+6.3	-9.1	-10	Sept. 10	82.1 %	EIA
Utilization	U.S. Gulf	+0.1	-19	-20	Sept. 10	72.9 %	EIA
Utilization	U.S. East	+22	+19	-3	Sept. 10	86.6 %	EIA
Utilization	U.S. Midwest	+10	-1.3	+1.7	Sept. 10	95.6 %	EIA
Apparent Oil Demand	China	+0.7%		+1.1%	August 2021	13.61 b/d	NBS
Indep. refs run rate	Shandong, China	-4.1	+2.9	+2.9	Sept. 17	70.2 %	SCI99
State refs run rate	East China	-3.4	-3.7	-1.7	Sept. 16	78.9 %	SCI99
State refs run rate	South China	+0.5	+1.8	+2.2	Sept. 16	84.1 %	SCI99

NOTE: All of the refinery data is weekly, except for SCI99 state refineries, which is twice per month, and the NBS apparent demand, which is usually monthly. Changes are shown in percentage point except for the rows on crude intake and apparent oil demand, which are shown in percent change.

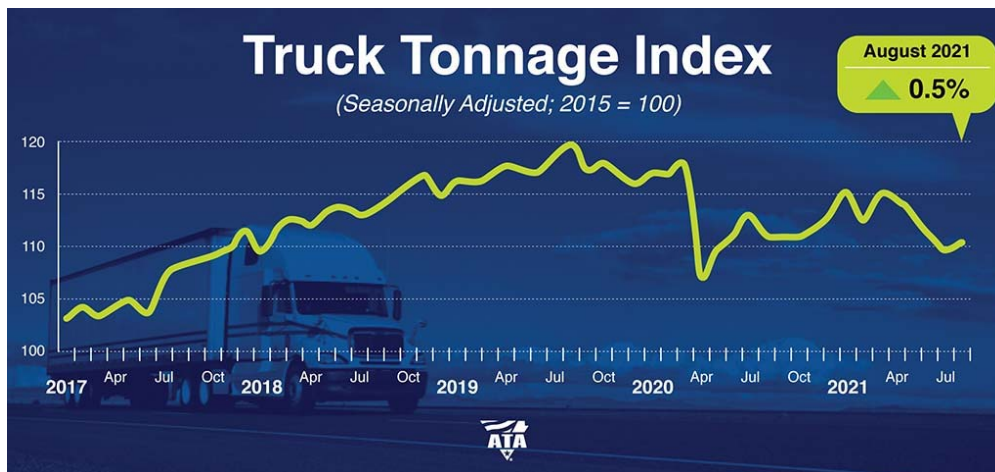
ATA Truck Tonnage Index Rose 0.5% in August

Sept 21 Media Contact: [Sean McNally](#)

Arlington, Virginia — American Trucking Associations’ advanced seasonally adjusted (SA) For-Hire Truck Tonnage Index increased 0.5% in August after falling 1.1% in July. In August, the index equaled 110.3 (2015=100) compared with 109.8 in July.

“August’s monthly gain, while small, was the first since March,” said ATA **Chief Economist Bob Costello**. “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 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,” he said.



July’s reading was revised up slightly to -1.1% from our August 24 press release.

Compared with August 2020, the SA index fell 0.5%, which was the second straight year-over-year drop. In July, the index was down 2.9% from a year earlier. Year-to-date, compared with the same eight months in 2020, tonnage is down 0.2%.

The not seasonally adjusted index, which represents the change in tonnage actually hauled by the fleets before any seasonal adjustment, equaled 114.5 in August, 2.2% above the July level (112). In calculating the index, 100 represents 2015. ATA’s For-Hire Truck Tonnage Index is dominated by contract freight as opposed to spot market freight.

Trucking serves as a barometer of the U.S. economy, representing 72.5% of tonnage carried by all modes of domestic freight transportation, including manufactured and retail goods. Trucks hauled 11.84 billion tons of freight in 2019. Motor carriers collected \$791.7 billion, or 80.4% of total revenue earned by all transport modes.

ATA calculates the tonnage index based on surveys from its membership and has been doing so since the 1970s. This is a preliminary figure and subject to change in the final report issued around the 5th day of each month. The report includes month-to-month and year-over-year results, relevant economic comparisons, and key financial indicators.

Shell Reports Damage Assessment of WD-143 from Hurricane Ida

NEWS PROVIDED BY

Shell

Sep 20, 2021, 08:30 ET

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HOUSTON, Sept. 20, 2021 /CNW/ -- Shell Offshore Inc., a subsidiary of Royal Dutch Shell plc, has conducted a comprehensive damage assessment of our West Delta-143 (WD-143) offshore facilities from Hurricane Ida that revealed significant structural damage. We estimate that our WD-143 "A" platform facilities will be off line for repairs until the end of 2021, and that the facilities on our WD-143 "C" platform will be operational in Q4 2021.

The WD-143 facilities serve as the transfer station for production from our assets in the Mars corridor in the Gulf of Mexico to onshore crude and natural gas terminals.

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. Our Perdido asset in the southwestern Gulf of Mexico was never disrupted by Hurricane Ida, and our floating production, storage and offloading vessel, the Turritella (also known as Stones), is on line. At this stage of the recovery, approximately 60% of Shell-operated production in the Gulf of Mexico is back on line.

As we continue to assess and address the impact of Hurricane Ida on our businesses, our top priorities continue to be the protection and recovery of our people and assets, the community and the environment.

Notes to editors

- The WD-143 platform, owned by Shell Offshore Inc. (71.5%) and BP Exploration & Production Inc (28.5%), is operated by Shell Pipeline Company LP.
- The Mars corridor consists of Shell-operated tension leg platforms Mars, Olympus, and Ursa. Mars and Olympus ownership is: Shell Offshore Inc. (71.5%) and BP Exploration & Production Inc. (28.5%), respectively. Ursa ownership is: Shell Offshore Inc. (45.3884%), BP Exploration & Production Inc. (22.6916%), ExxonMobil Corporation (15.9600%), and ConocoPhillips Company (16.9600%).
- To find out more about hurricane preparedness, including potential impacts to our offshore assets, please visit the Shell Hurricane Center: www.shell.us/stormcenter.

Cautionary note

Quakes Tied to Fracking Spur Rare Crackdown From Texas Regulator
2021-09-24 17:03:50.938 GMT

By David Wethe

(Bloomberg) -- After six earthquakes rattled the Permian Basin over the past 19 months, the Texas oil regulator is asking drillers to cut back on the amount of dirty water they're pumping underground.

Oil producers' disposal of wastewater from fracking is probably contributing to seismic activity in an area of 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.

Shale drillers' disposal of the massive amounts of water they use to break apart rock layers, along with the water naturally produced over the life of the well, has long been linked to earthquakes. The tremors are getting more frequent. Earthquakes registering at least a 2 on the Richter scale quadrupled from 2017 levels to a record 938 last year and are on pace to top that this year, according to a Rystad Energy analysis of data in Oklahoma, Texas, Louisiana and New Mexico released in June.

The increased tremors and huge volumes of wastewater have added to environmental concerns surrounding oil and gas production from shale fields. Drillers have come under intensifying scrutiny in recent years, with companies under pressure from investors to disclose climate risks and reduce greenhouse gas emissions.

Texas regulators said in the notice Friday that the six earthquakes in the Midland and Odessa area since February 2020 registered at least a 3.5 magnitude. The commission identified 76 saltwater disposal wells in the area affected by the seismic activity.

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To view this story in Bloomberg click here:

<https://blinks.bloomberg.com/news/stories/QZXZ9TDWRGG0>

<https://www.rrc.texas.gov/announcements/092421-nto-gardendale-seismic-response-action/>

Notice to Oil and Gas Operators: Gardendale Seismic Response Action

September 24, 2021

Since February 2020, six felt earthquakes of magnitude (M) 3.5 or greater have occurred in an area of the Midland Basin from northeast Ector County to southwest Martin County known as the Gardendale Seismic Response Area (SRA). These included a M 3.7 earthquake in southwestern Martin County, about eight miles northwest of Midland, on September 7, 2021, and two M 3.6 earthquakes northeast of Odessa in February 2020 and May 2021.

The Railroad Commission of Texas (RRC) has authority to regulate Saltwater Disposal (SWD) well activity and may exercise that authority to address seismic activity [see 16 Texas Administrative Code §3.9 (6)(A)(vi) and §3.46 (d)(1)(f)]. **The RRC staff's analysis of available information has determined that SWD injection likely contributes to seismic activity in the Gardendale SRA. Therefore, the RRC has requested that operators in the Gardendale SRA reduce SWD activity as a means of altering conditions likely contributing to seismic activity.** The RRC anticipates these procedures to be in place for at least a year from initiation. The RRC has identified 76 permitted SWD wells in the Gardendale SRA and the operators of those wells are being notified in writing of this request.

To view the full notice, visit the RRC website at <https://www.rrc.texas.gov/oil-and-gas/publications-and-notices/notices-to-operators/>

<https://rrc.texas.gov/oil-and-gas/publications-and-notices/manuals/injection-disposal-well-manual/summary-of-standards-and-procedures/seismicity-review/seismicity-response/>

Seismicity Response

The RRC has authority to regulate saltwater disposal ("SWD") well activity and may exercise that authority to address seismic activity [see 16 Texas Administrative Code §3.9 (6)(A)(vi) and §3.46 (d)(1)(f)]. These rules state that RRC may modify, suspend, or terminate an injection permit to dispose of waste for just cause after notice and opportunity for hearing, if injection is likely to be or determined to be contributing to seismic activity.

Gardendale - September 2021

Between February 2020 and September 2021, six felt earthquakes of magnitude (M) 3.5 or greater have occurred in an area of the Midland Basin from northeast Ector County to southwest Martin County known as the Gardendale Seismic Response Area (SRA). These included a M 3.7 earthquake in southwestern Martin County, about eight miles northwest of Midland, on September 7, 2021, and two M 3.6 earthquakes northeast of Odessa in February 2020 and May 2021.

The RRC staff's analysis of available information has determined that SWD well injection likely contributes to seismic activity in the Gardendale SRA. 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.** To communicate these changes, operators of SWD wells within the Gardendale SRA were sent letters and a [Notice to Oil and Gas Operators](#) was issued.

You can view the Gardendale SRA, SWD wells and land surveys within the SRA using the following documents:

- [Map of the Gardendale SRA](#)
- [List of the SWD wells in the Gardendale SRA](#)
- [List of surveys in the Gardendale SRA](#)

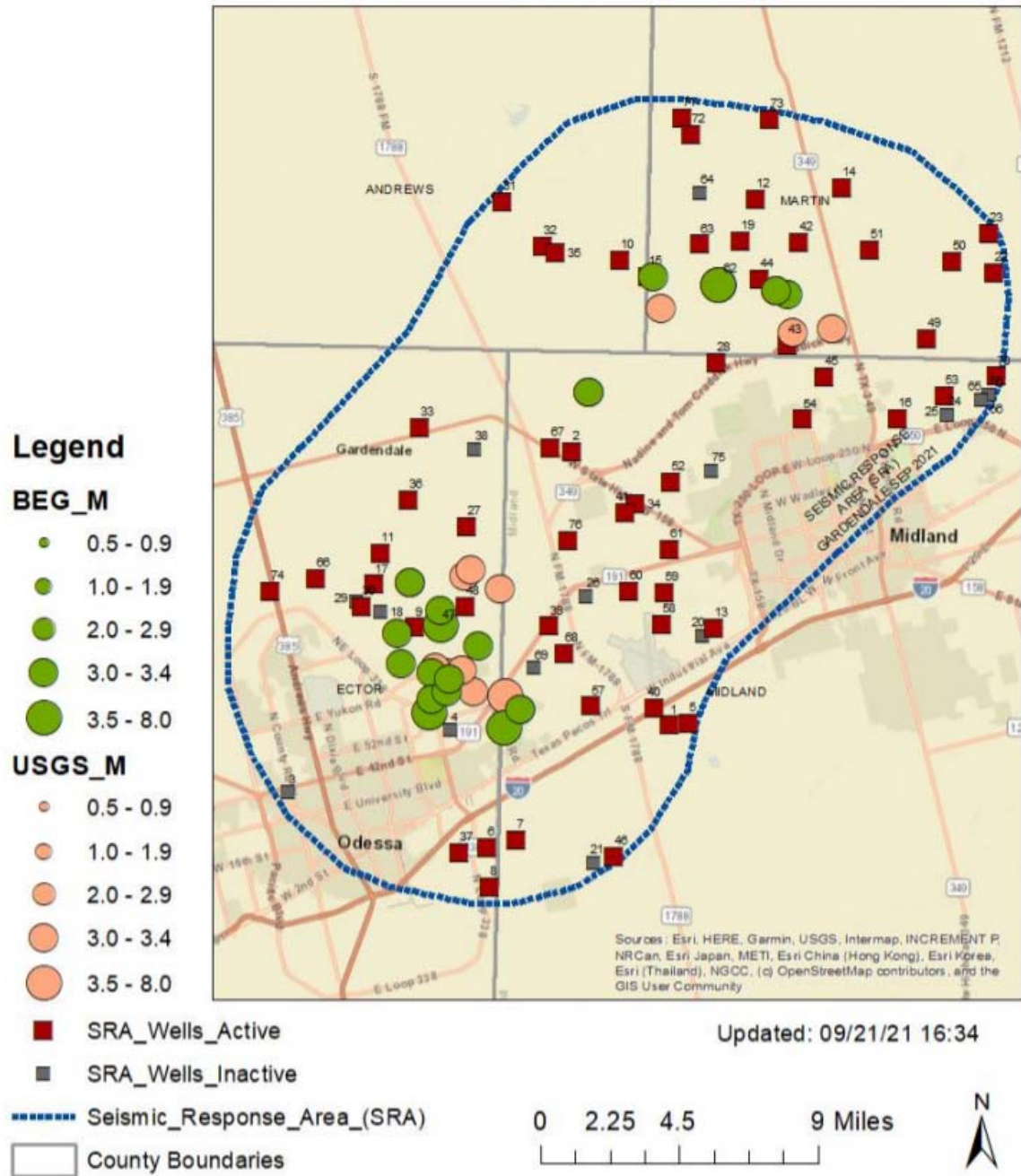
Daily injection well volume and pressure reporting required in the Gardendale SRA should be done using the following spreadsheet:

- [Daily Injection Well Monitoring Spreadsheet](#)

Gardendale Seismic Response Area (SRA)

USGS & BEG TexNet Earthquakes M \geq 3.0

Date Range: January 1, 2017, to September 21, 2021



• List of the SWD wells in the Gardendale SRA

ACTIVE WELLS ARE CURRENTLY COMPLETED FOR INJECTION. INACTIVE WELLS ARE EITHER NOT DRILLED OR NOT CURRENTLY COMPLETED FOR INJECTION.						
INDEX_NC	OPERATOR	OPERATOR_NUMBER	LEASE_NAME	WELL_NC	UIC_NUMBER	PERMIT_MAXIMUM (BBL)
1	BASIC ENERGY SERVICES, L.P.	054313	WEST MIDLAND SWD	1	000102302	20000
2	CALLON PETROLEUM OPERATING CO	124828	CASSELMAN8	1D	000112402	30000
3	CAMBRIAN MANAGEMENT, LTD.	126758	BAGLEY, VINA	14	000102849	10000
4	CHEVRON U. S. A. INC.	148113	HEADLEE DEVONIAN UNIT	63	000039662	5000
5	CHEVRON U. S. A. INC.	148113	SOA SCHARBAUER SE	2109M	000117380	15000
6	COG OPERATING LLC	166150	PARKS, ROY -B- TG	19D	000012239	15000
7	COG OPERATING LLC	166150	PARKS, ROY -B- TG	20W	000012240	25000
8	COG OPERATING LLC	166150	PARKS, ROY -B- TG	24W	000012242	15000
9	COG OPERATING LLC	166150	RATLIFF A	3201	000101348	15000
10	COG OPERATING LLC	166150	CROSS BAR RANCH	2000SW	000101479	10000
11	COG OPERATING LLC	166150	RATLIFF A	1903	000104207	15000
12	COG OPERATING LLC	166150	JOHNSON RANCH	1000SW	000104336	12000
13	COG OPERATING LLC	166150	SPANISH TRAIL	200SW	000109201	30000
14	COG OPERATING LLC	166150	GLASS, G.W. "B"	19	000110036	10000
15	COG OPERATING LLC	166150	CROSS BAR RANCH	1901SW	000110055	15000
16	COG OPERATING LLC	166150	SYNATSCHK	100SW	000110504	20000
17	COG OPERATING LLC	166150	RATLIFF A	3004SW	000111129	30000
18	COG OPERATING LLC	166150	S. W. RATLIFF -L-	1	000115273	25000
19	COG OPERATING LLC	166150	JOHNSON RANCH	165W	000116559	36000
20	COG OPERATING LLC	166150	SPANISH TRAIL	300SW	000117962	40000
21	CORONADO OPERATING, LLC	179385	ST. GEORGE SWD	1	000123046	25000
22	CROWNQUEST OPERATING, LLC	191554	NAIL RANCH "36"	1D	000113312	30000
23	CROWNQUEST OPERATING, LLC	191554	WATERBURGER	1D	000117180	25000
24	DE3 OPERATING LLC	518310	MAYS 20 SWD	1	000118122	25000
25	DE3 OPERATING LLC	518310	MAYS 20 SWD	1	000118123	35000
26	DIAMONDBACK E&P LLC	217012	KINGSSNAKE	1D	000124768	20000
27	EARTHSTONE OPERATING, LLC	238732	WHITTENBURG	2200SW	000101188	10000
28	ENVIRONMENTAL DSPL SYSTEMS, LLC	253105	NORTHWEST MIDLAND SWD	1WD	000113218	30000
29	EUREKA PROSPECTING COMPANY	255347	RATLIFF 'F'	1	000113121	3000
30	EUREKA PROSPECTING COMPANY	255347	RATLIFF RANCH 'A'	5A	000116242	10000
31	FASKEN OIL AND RANCH, LTD.	263696	DAVID FASKEN "O"	1	000099289	30000
32	FASKEN OIL AND RANCH, LTD.	263696	FEE "BM"	1	000103009	30000
33	FASKEN OIL AND RANCH, LTD.	263696	FEE "BL" SWD	1	000104206	30000
34	FASKEN OIL AND RANCH, LTD.	263696	FEE "AA"	1	000107930	30000
35	FASKEN OIL AND RANCH, LTD.	263696	FEE "BM"	2SW	000111251	20000
36	FDL OPERATING, LLC	263924	GARDENDALE 8 SWD	1	000103282	7000
37	FIREBIRD ENERGY LLC	268933	PRO-SELECT SWD ECTOR	1	000107144	30000
38	INDEPENDENCE RESOURCES MGMT, LLC	423716	MCRAE FARM	15W	000119285	20000
39	INFLOW OPERATING	424260	HOLIFIELD	1	000102300	15000
40	NGL WATER SOLUTIONS PERMIAN, LLC	609265	MIDLAND SW	1	000107109	27500
41	NGL WATER SOLUTIONS PERMIAN, LLC	609265	MIDLAND 817 SWD	1	000110306	25000
42	OCCIDENTAL PERMIAN LTD.	617544	SOUTH CURTIS RANCH	1416D	000103766	10000
43	OCCIDENTAL PERMIAN LTD.	617544	SOUTH CURTIS RANCH	404	000108021	10000
44	OCCIDENTAL PERMIAN LTD.	617544	SOUTH CURTIS RANCH	2130WD	000109530	10000
45	OCCIDENTAL PERMIAN LTD.	617544	SOUTH CURTIS RANCH	1026WD	000109649	10000
46	ON POINT OILFIELD OPERATIONS LLC	622908	1788 SWD	2	000115006	20000
47	OWL SWD OPERATING, LLC	629870	PARKS BELL SWD	4101	000106396	20000
48	OWL SWD OPERATING, LLC	629870	SWD PARKS BELL	3301	000106400	20000
49	PIONEER NATURAL RES. USA, INC.	665748	STIMSON BURLEY -D-	1D	000045155	6000
50	PIONEER NATURAL RES. USA, INC.	665748	GLASS -E-	1D	000050386	6000
51	PIONEER NATURAL RES. USA, INC.	665748	GLASS -J-	2D	000064225	5000
52	PIONEER NATURAL RES. USA, INC.	665748	PECAN ACRES 23	1D	000105168	8000
53	PIONEER NATURAL RES. USA, INC.	665748	ALEX 17	1D	000116241	25000
54	PIONEER NATURAL RES. USA, INC.	665748	DIAMOND RIO 9	1D	000117514	30000
55	PIONEER NATURAL RES. USA, INC.	665748	MABEE FOUNDATION G	1DD	000118205	25000
56	PIONEER NATURAL RES. USA, INC.	665748	MABEE FOUNDATION 'G'	1DD	000118206	25000
57	RATTLER MIDSTREAM OPERATING LLC	694704	HOOPER SWD	1	000108124	20000
58	RATTLER MIDSTREAM OPERATING LLC	694704	HMW	1	000112479	30000
59	RATTLER MIDSTREAM OPERATING LLC	694704	HMW	2	000114496	30000
60	RATTLER MIDSTREAM OPERATING LLC	694704	RATTLER	1D	000115807	30000
61	RATTLER MIDSTREAM OPERATING LLC	694704	DYSON	1D	000117758	30000
62	RATTLER MIDSTREAM OPERATING LLC	694704	KIRBY	1D	000119159	24999
63	RATTLER MIDSTREAM OPERATING LLC	694704	DIRT DEVIL	1D	000119160	30000
64	RATTLER MIDSTREAM OPERATING LLC	694704	ROOMBA	1D	000124875	20000
65	SHENANDOAH PETROLEUM CORPORATION	775563	SHENANDOAH BAR M SWD	400D	000124265	25000
66	SLANT OPERATING, LLC	786697	BARROW, AUGUSTA	2	000015177	6000
67	SOLARIS WATER MIDSTREAM, LLC	801148	M.F. KING SWD	2	000109838	30000
68	SOLARIS WATER MIDSTREAM, LLC	801148	DJK 48 SWD	1	000114255	30000
69	SOLARIS WATER MIDSTREAM, LLC	801148	KATYLIZ SWD	1	000118005	25000
70	TRINIDAD ENERGY, LLC	869962	SHENANDOAH BAR M SWD	2	000119433	25000
71	WASSER OPERATING, LLC	900210	MABEE SOUTH SWD	2	000108807	30000
72	WASSER OPERATING, LLC	900210	MABEE 3 SWD	3	000114611	30000
73	WASSER OPERATING, LLC	900210	MABEE SWD	1	000117564	60000
74	WICHITA WATER LLC	921665	CUDA DISPOSAL	1	000105208	15000
75	XTO ENERGY INC.	945936	ROBBIE	24	000105122	20000
76	XTO ENERGY INC.	945936	NOBLES	30	000105543	20000



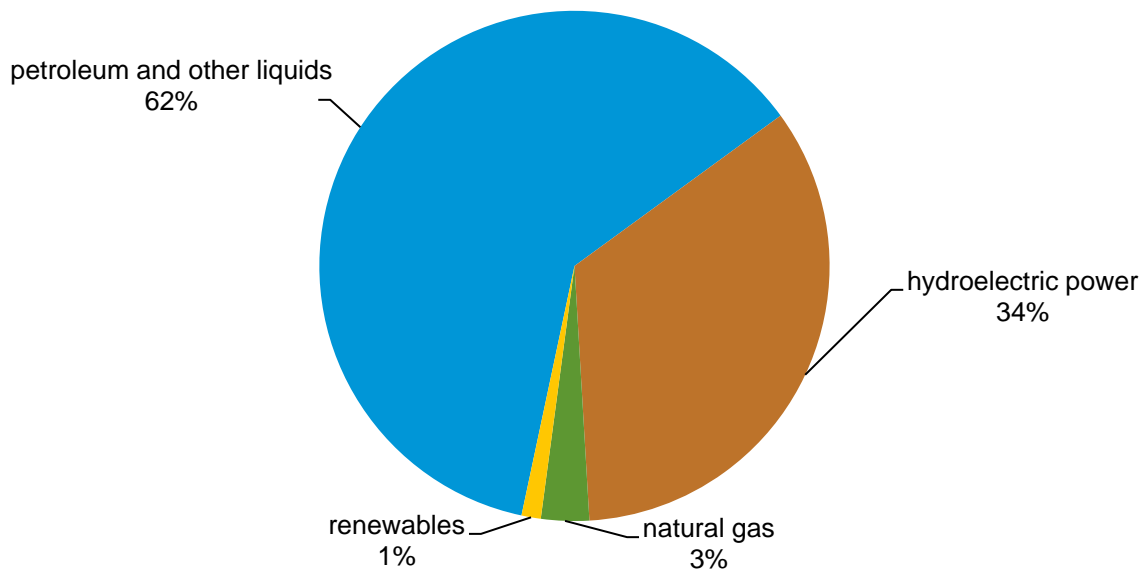
Country Analysis Executive Summary: Ecuador

Last Updated: September 17, 2021

Overview

- In 2020, Ecuador was the fifth-largest oil producer in South America behind [Brazil](#), [Colombia](#), [Argentina](#), and [Venezuela](#).
- Petroleum and other liquids represented 62% of the Ecuador's total energy consumption in 2020 (Figure 1). Hydroelectric power was the second-largest energy source. Natural gas and other renewable fuels account for the remainder of Ecuador's energy mix.

Figure 1. Total primary energy consumption in Ecuador by fuel type, 2020



Source: Chart by the U.S. Energy Information Administration, based on data from the *BP Statistical Review of Energy 2021*

Petroleum and other liquids

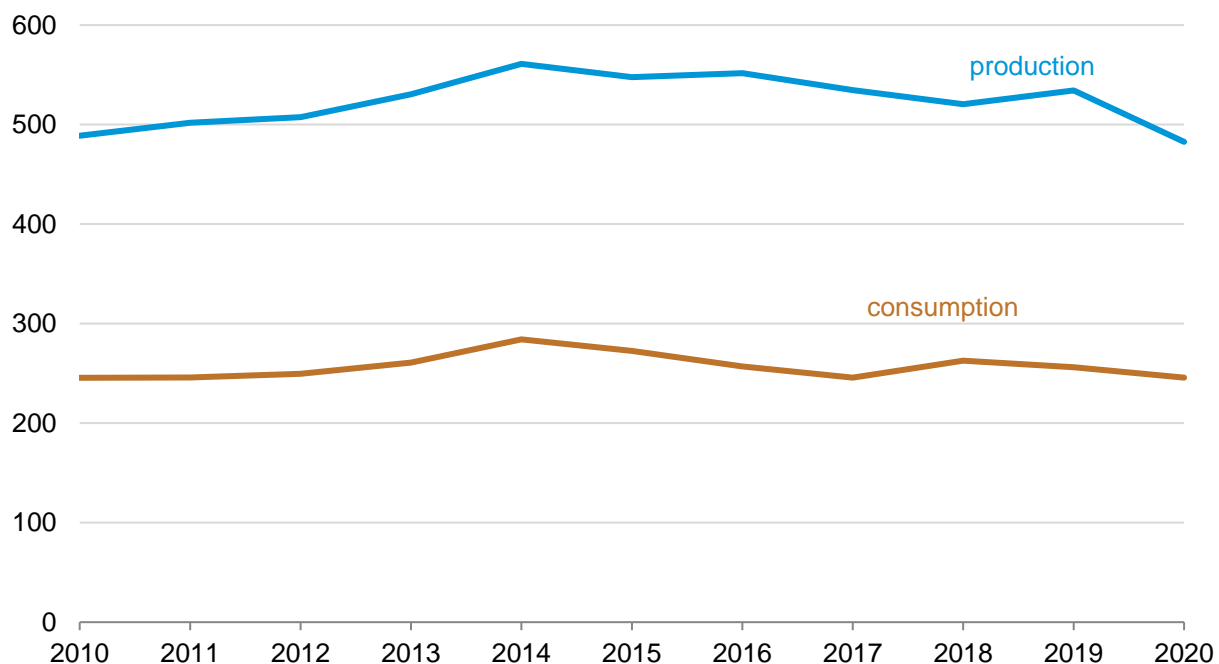
Reserves

- As of January 2021, Ecuador had 8.3 billion barrels of proved crude oil reserves. Ecuador's oil reserves are the third largest in Latin America, after Venezuela's and Brazil's reserves.¹ Most of Ecuador's oil reserves are in the Oriente Basin located in the Amazon.

Exploration and Production

- The Ecuador government's initiatives to increase the country's share of crude oil revenue have resulted in a challenging investment environment. As a result, crude oil production stayed relatively flat between 2010 and 2020. In addition, production has continued to be limited because of less production by private companies as well as limited investment in exploration and production from new fields pursued by Petroamazonas (Ecuador's national oil company, now called Petroecuador).²
- The vast Ishpingo-Tambococha-Tiputini (ITT) fields are located in the Amazon region and have been subject to protests by environmental groups and indigenous communities. As a result of these protests, as well as social unrest and attacks from indigenous groups on oil infrastructure, private companies have suspended operations or have limited participation in oil production activities in the ITT fields in recent years, contributing to stagnant production growth.
- Ecuador produced 483,000 barrels per day (b/d) of petroleum and other liquids in 2020, down from 534,000 b/d in 2019 (Figure 2). In April 2020, a landslide in the Amazon region damaged the state-run Transecuatoriano's Sistema Oleducto Trans-Ecuatoriano (SOTE) pipeline and the privately owned Oleoducto de Crudos Pesados (OCP) pipeline, forcing a force majeure. The pipeline damage disrupted crude oil production, and an estimated 60% of production was forced offline in April. Production was not fully restored until June. Petroecuador and OCP Ecuador have subsequently built bypasses for these two pipelines to avoid further disruptions in this landslide-prone area.

Figure 2. Ecuador' total petroleum and other liquids production and consumption (2010-2020)



Source: U.S. Energy Information Administration, *International Energy Statistics* and the *July 2021 Short-Term Energy Outlook*

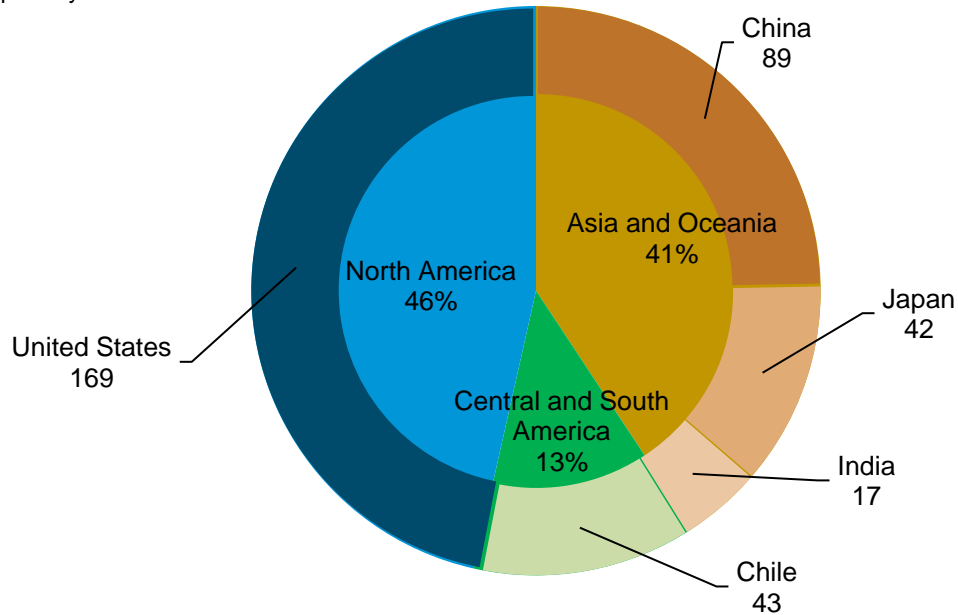
- The COVID-19 global pandemic also contributed to a decline in crude oil production in 2020. The introduction of COVID-19 containment measures disrupted operations in the oil-rich parts of the remote eastern provinces of Ecuador and travel restrictions reduced domestic demand for refined products.
- Ecuador withdrew its membership from the Organization of the Petroleum Exporting Countries (OPEC) effective January 1, 2020. According to [Ecuador's government](#), the country's decision to withdraw its OPEC membership was part of the government's rigorous plan to reduce public spending, promote public-private partnerships, and implement more market-friendly economic policies that generate new income.³


Exports and Imports

- According to Global Trade Tracker, Ecuador exported 360,000 b/d of crude oil in 2020. The country relies heavily on oil export revenue; in 2020, Ecuador exported over 70% of the crude oil it produced. Crude oil exports accounted for 49%⁴ of the country's export earnings⁵ and 21%⁶ of public sector revenues in 2019. The country's oil export revenues in 2020 likely decreased by half because of the decline in global oil prices due to the effects of COVID-19 lockdowns as well as because of domestic oil disruptions from the closure of the SOTE and OCP pipelines.⁷
- In 2020, the United States received most of Ecuador's crude oil exports, averaging 169,000 b/d, or 46% of total exports (Figure 3). [Chile](#), [China](#), and [India](#) were among the top export

destinations for Ecuador’s crude oil. Ecuador was the second-largest source of foreign oil for the U.S. West Coast (PADD 5) in 2020, behind only Canada.⁸ Consequently, Ecuador is a regionally significant source of oil for the U.S. West Coast, which is isolated from other parts of the continental United States because of few overland pipelines.

Figure 3. Ecuador's crude oil exports by destination, 2020
thousand barrels per day



 Source: Chart by the U.S. Energy Information Administration, based on Ecuadorian export statistics and partner country import statistics from Global Trade Tracker

- As a result of insufficient domestic refining capacity to meet local demand, Ecuador is an importer of petroleum products, despite its production of crude oil and petroleum liquids. In general, Ecuador exports heavy refined products, such as fuel oil, and imports lighter products, including gasoline, diesel, and liquefied petroleum gas (LPG).

Pipelines

- Ecuador’s pipeline infrastructure is old, and its available capacity is not fully utilized. Ecuador has two major crude oil pipeline systems. The older and more widely used pipeline is the 310-mile SOTE, which transports light to medium crude oil (Oriente crude). Ecuador's second oil pipeline is the OCP, transporting medium and light crude oils separately from heavy crude oils (Napo crude).⁹ Approximately 70% of the country's crude oil travels through SOTE, and the remainder is transported through OCP.
- Ecuador has one transnational pipeline, the 190-mile Oleoducto Transandino pipeline (OTA). The 20,000 b/d OTA pipeline connects Ecuador’s oil fields with the southern Colombian port of Tumaco.¹⁰

Natural Gas

Reserves

- According to the *Oil & Gas Journal*, Ecuador had an estimated 385 billion cubic feet (Bcf) of proved natural gas reserves as of December 2020.

Production

- Ecuador produces relatively small volumes of natural gas. EIA estimates that the country's natural gas production has remained flat at 12 Bcf in 2020. Ecuador's low natural gas production is mainly the result of a lack of the infrastructure needed to capture and market natural gas.
- Natural gas production in Ecuador receives very little investment. EIA expects that the only non-associated natural gas field, the offshore Amistad field, will see a decline in output given the field's maturity and lack of sufficient infill drilling. As of February 2021, no natural gas rigs were drilling in Ecuador, according to Baker Hughes data.¹¹

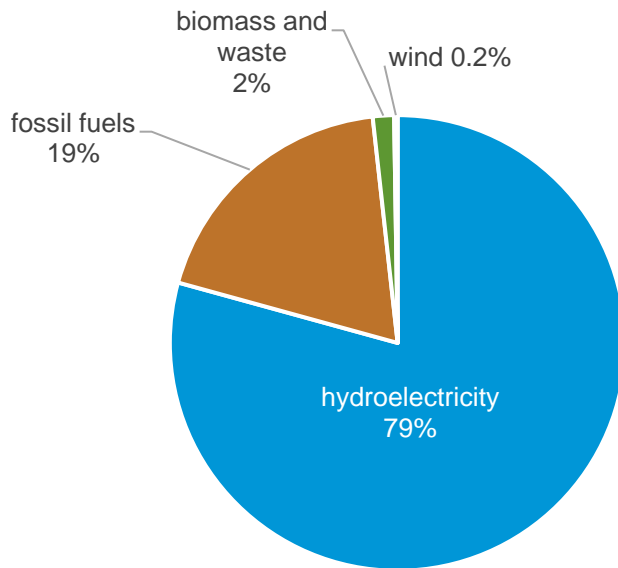
Imports

- According to media reports,¹² Ecuador is considering a liquefied natural gas (LNG)-to-power project as domestic natural gas production will remain insufficient to meet domestic demand. The project will include a small-scale floating LNG terminal and a floating storage and regasification unit (FSRU), which would deliver up to 50 Mcf/d to the Thermo Gas Machala natural gas-fired power plant in El Oro province.^{13, 14} In February 2021, U.S. company Sycar was granted approval to trade LNG in Ecuador. The project is expected to come online in 2022.¹⁵

Electricity

- In 2020, Ecuador generated 31 billion kilowatthours (kWh) of electricity. More than 200 power plants are operating in Ecuador, of which 89 provide power to the National Interconnected System.
- Hydroelectricity accounted for 79% of the country's electricity generation in 2020. Most of Ecuador's existing hydroelectric capacity is located in Azuay province in the south-central highlands. In recent years, the launch of several large facilities has solidified the hydropower sector's leading role in Ecuador's electricity generation mix.¹⁶ The other primary source of electricity supply is oil-powered conventional thermal power plants (Figure 4).

Figure 4. Power generation supply, 2020



Source: U.S. Energy Information Administration, *International Energy Statistics*

- Ecuador's high use of hydropower for electricity generation leaves the country's electric power sector vulnerable to droughts and low water levels during the dry season, which spans from October to March. To offset this, Ecuador currently relies on oil-fired plants for non-hydroelectric power supply. The government is considering converting old oil-fired plants into natural gas-fired facilities not only to meet power demand, but also to reduce costs and emissions. Although natural gas-fired generation has the potential to become a stable complementary source to drought- and erosion-susceptible hydropower, Ecuador's lack of domestic natural gas supplies prevents expansion in the sector in the near term.
- Ecuador has transmission grid interconnections with Colombia and Peru, and the country is a net importer of electricity. The government is prioritizing improvements in the transmission and distribution sector, which should reduce future challenges to the development of power and renewable projects and enable Ecuador to export more electricity.¹⁷ The residential sector accounts for approximately one-third of total electricity consumption, similar to the industrial sector.¹⁸
- The non-hydro renewable energy sector in Ecuador is relatively small, contributing around 3% to total electricity generation in 2020.¹⁹ Government policy intended to increase wind and solar market penetration may result in increased non-hydro renewables generation. Some recent projects include the development of the 200-megawatt (MW) El Aromo photovoltaic solar project and the Villonaco II and III wind projects (46 MW and 56 MW, respectively).²⁰ The startup timeline for these projects is uncertain because the tenders have been delayed twice due to the COVID-19 pandemic.

Notes

- Data presented in the text are the most recent available as of September 2021.
- Data are EIA estimates unless otherwise noted.

¹ *Oil & Gas Journal*, "Worldwide Look at Reserves and Production." January 1, 2021

² Fitch Solutions, "Ecuador Oil & Gas Report," 2021, page 5.

³ Reuters, "[Ecuador to quit OPEC in 2020 in search of bigger export revenue](#)," October 1, 2019.

⁴ Banco Central de Ecuador, Newsletter 2032: June 2021, [Table 3.1.1 Exports by main product](#).

⁵ Banco Central de Ecuador, Newsletter 2032: June 2021, [Table 3.1.1 Exports by main product](#).

⁶ International Monetary Fund, "[IMF Country Report No. 20/286](#)," Table 2a. Ecuador: Operations of the Non-Financial Public Sector, page 39. October 2020.

⁷ International Monetary Fund, "[IMF Country Report No. 20/286](#)," page 7. October 2020.

⁸ U.S. Energy Information Administration, "[PAD District Imports by Country of Origin](#)" (Accessed August 17, 2021)

⁹ Fitch Solutions, "Ecuador Oil & Gas Report," 2021, page 14.

¹⁰ Fitch Solutions, "Ecuador Oil & Gas Report," 2021, page 63.

¹¹ Fitch Solutions, "Ecuador Oil & Gas Report," 2021, page 20.

¹² Argus Media, "[Ecuador eyes first LNG import terminal](#)," July 27, 2020.

¹³ Fitch Solutions, "Ecuador Oil & Gas Report," 2021, page 9.

¹⁴ Sycar, <http://sycar.us/portfolio/ecuador-lng/> (accessed August 26, 2021).

¹⁵ Offshore Energy, "[Sycar granted approval for LNG trade in Ecuador](#)," February 15, 2021.

¹⁶ Fitch Solutions, "Ecuador Power Report," 2021, page 20.

¹⁷ PowerMag, "[Ecuador's Power Grid Gets a Massive Makeover](#)," March 1, 2021.

¹⁸ Corporación Eléctrica del Ecuador (CONELEC), "[PLAN MAESTRO DE ELECTRIFICACIÓN 2016 - 2025](#)."

¹⁹ Offshore Energy, "[Sycar granted approval for LNG trade in Ecuador](#)," February 15, 2021.

¹⁹ Fitch Solutions, "Ecuador Power Report," 2021, page 10.

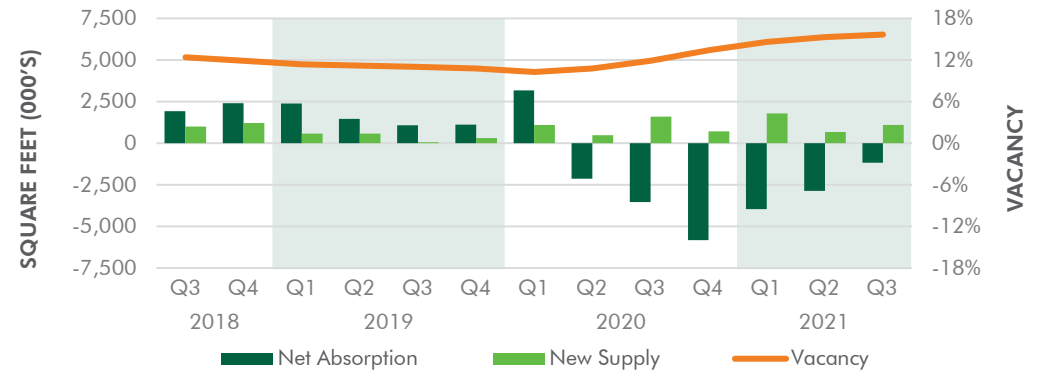
²⁰ PowerMag, "[Ecuador's Power Grid Gets a Massive Makeover](#)," March 1, 2021.



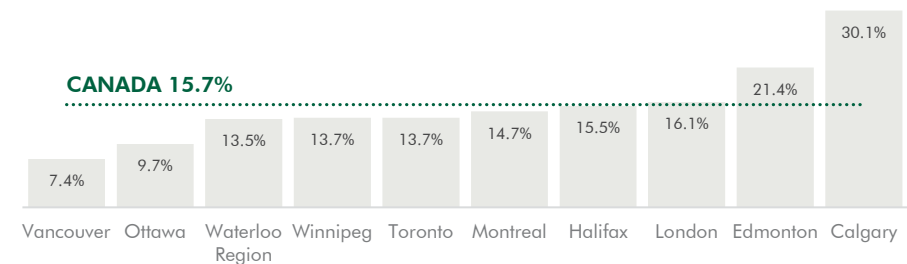
KEY TRENDS

- While the third quarter of 2021 offers some good news for the office segment, it also marks the passage of a sobering milestone: the national vacancy rate has reached 15.7%, its highest point since 1994, surpassing the vacancy levels of the dot-com bubble and the global financial crisis.
- The outlook continues to ameliorate, though. The current fourth wave may have amplified near-term volatility and slowed the recovery, however the trend of occupiers returning space has largely abated. Instead, leasing activity is steadily building, especially by tech occupiers, and four out of the 10 Canadian markets recorded positive net absorption this quarter – a first since the onset of the pandemic.
- Demand for built-out space, which has been high in the gateway markets of Toronto and Vancouver since this summer, is now seeing sublet space decline nationally. Only representing 20.5% of vacant space, many of the remaining quality sublets are under offer. New builds are also seeing elevated interest as the flight-to-quality trend continues.
- For their part, occupiers are adjusting. Most major employers have implemented vaccination policies as the desire to bring talent together remains a priority. A recent CBRE survey found that 45% of its managed accounts are currently implementing new corporate well-being programs to support their workforce.

SUPPLY & DEMAND



OVERALL VACANCY RATES



STATISTICS

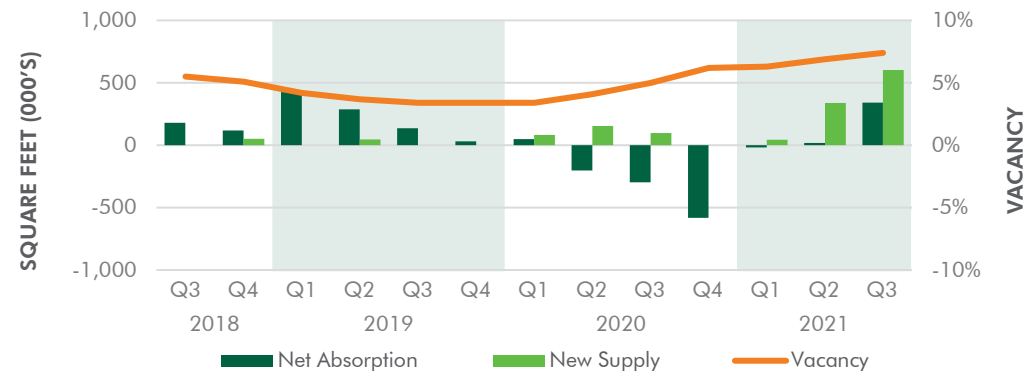
	DOWNTOWN			SUBURBAN			TOTAL		
	Q2 2021	Q3 2021	Q/Q Δ	Q2 2021	Q3 2021	Q/Q Δ	Q2 2021	Q3 2021	Q/Q Δ
Net Rentable Area	263,266,973	264,007,776	▲ 0.3%	215,914,604	215,893,252	◀ 0.0%	479,181,577	479,901,028	▲ 0.2%
Overall Vacancy Rate	14.9%	15.5%	▲ 60 bps	15.7%	16.0%	▲ 30 bps	15.3%	15.7%	▲ 40 bps
Direct Space	29,831,673	32,126,027	▲ 7.7%	27,545,761	27,894,591	▲ 1.3%	57,377,434	60,020,618	▲ 4.6%
Sublet Space	9,423,417	8,698,440	▼ 7.7%	6,406,296	6,749,750	▲ 5.4%	15,829,713	15,448,190	▼ 2.4%
Sublet % of Vacant Space	24.0%	21.3%	▼ 270 bps	18.9%	19.5%	▲ 60 bps	21.6%	20.5%	▼ 110 bps
Class A Vacancy Rate	12.6%	13.0%	▲ 40 bps	15.7%	16.3%	▲ 60 bps	13.8%	14.3%	▲ 50 bps
Average Class A Net Rent (psf)	\$23.25	\$23.62	▲ \$0.37	\$18.27	\$18.18	▼ \$0.09	\$20.81	\$21.04	▲ \$0.23
Current Quarter Absorption	-1,484,461	-703,356	▲ 781,105	-1,370,797	-457,439	▲ 913,358	-2,855,258	-1,160,795	▲ 1,694,463
Year-to-Date Absorption	-3,908,916	-4,612,272		-2,895,724	-3,353,163		-6,804,640	-7,965,435	
Current Quarter New Supply	144,620	866,021	▲ 721,401	541,619	234,845	▼ 306,774	686,239	1,100,866	▲ 414,627
Year-to-Date New Supply	1,644,620	2,510,641		831,443	1,066,288		2,476,063	3,576,929	
Under Construction	13,668,629	13,057,086	▼ 611,543	4,371,072	4,267,329	▼ 103,743	18,039,701	17,324,415	▼ 715,286



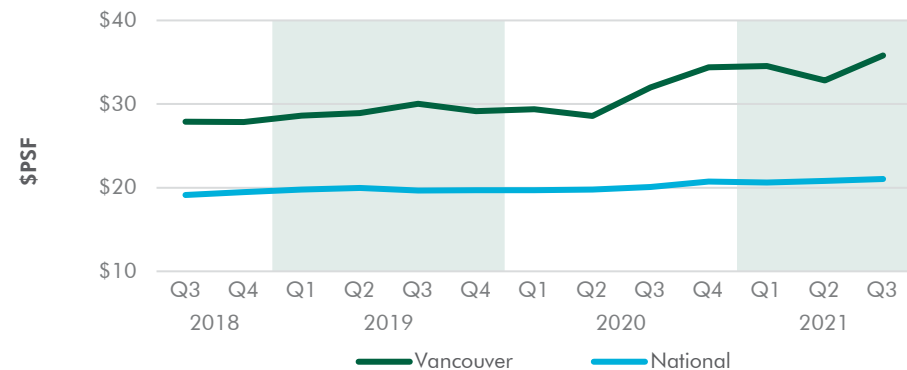
KEY TRENDS

- Resurgent activity in the Metro Vancouver office market translated into a second consecutive quarter of positive net absorption, totalling 341,000 sq. ft. in Q3. Although vacancy rates experienced a 50 basis points (bps) increase reaching 7.4% overall, this is only due to the 604,000 sq. ft. of new supply which outpaced this quarter's net absorption occupancy gains.
- The vacancy rate for the Downtown market also increased 100 bps to reach 7.6%. This marks the sixth straight quarter of increases. However, the leasing market is active and for the first time in many years, larger occupiers now have the opportunity to immediately secure contiguous blocks of space larger than 50,000 sq. ft.
- In preparation for the return to office, landlords are investing in their properties by renovating common areas and enhancing amenities. These proactive measures will be key to attracting and retaining tenants as Vancouver works towards a return to normal.
- The suburban market continues to showcase its allure through competitive pricing and parking accessibility. This segment experienced a 10 bps contraction in overall vacancy to 7.2% this quarter, their first decline since the beginning of the pandemic

SUPPLY & DEMAND



AVERAGE CLASS A NET RENT



STATISTICS

	DOWNTOWN			SUBURBAN			TOTAL		
	Q2 2021	Q3 2021	Q/Q Δ	Q2 2021	Q3 2021	Q/Q Δ	Q2 2021	Q3 2021	Q/Q Δ
Net Rentable Area	24,183,594	24,575,447	▲ 1.6%	24,465,190	24,677,281	▲ 0.9%	48,648,784	49,252,728	▲ 1.2%
Overall Vacancy Rate	6.6%	7.6%	▲ 100 bps	7.3%	7.2%	▼ 10 bps	6.9%	7.4%	▲ 50 bps
Direct Space	1,029,424	1,337,747	▲ 30.0%	1,405,036	1,176,008	▼ 16.3%	2,434,460	2,513,755	▲ 3.3%
Sublet Space	562,841	523,872	▼ 6.9%	369,926	592,591	▲ 60.2%	932,767	1,116,463	▲ 19.7%
Sublet % of Vacant Space	35.3%	28.1%	▼ 720 bps	20.8%	33.5%	▲ 1,270 bps	27.7%	30.8%	▲ 310 bps
Class A Vacancy Rate	5.0%	7.1%	▲ 210 bps	7.8%	8.1%	▲ 30 bps	6.5%	7.6%	▲ 110 bps
Average Class A Net Rent (psf)	\$43.33	\$43.86	▲ \$0.53	\$27.63	\$26.92	▼ \$0.71	\$32.82	\$35.82	▲ \$3.00
Current Quarter Absorption	-74,641	122,499	▲ 197,140	93,478	218,454	▲ 124,976	18,837	340,953	▲ 322,116
Year-to-Date Absorption	-162,610	-40,111		163,744	382,198		1,134	342,087	
Current Quarter New Supply	28,620	391,853	▲ 363,233	309,532	212,091	▼ 97,441	338,152	603,944	▲ 265,792
Year-to-Date New Supply	28,620	420,473		353,532	565,623		382,152	986,096	
Under Construction	3,486,570	3,263,663	▼ 222,907	1,125,486	860,682	▼ 264,804	4,612,056	4,124,345	▼ 487,711



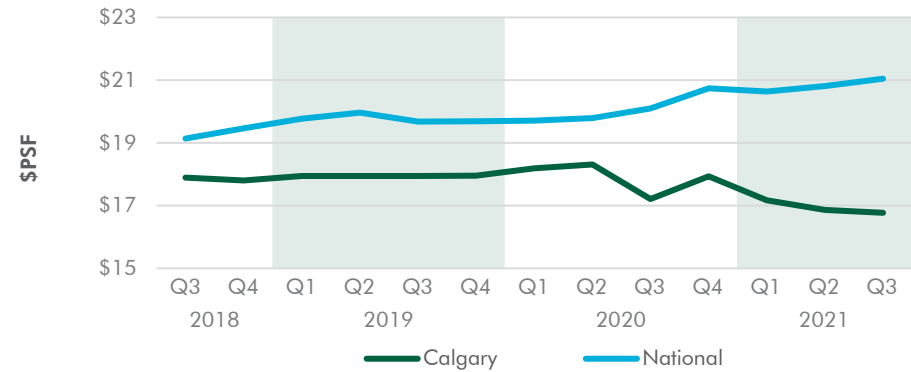
KEY TRENDS

- 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.
- The technology industry continues to gain momentum and lead the charge in diversifying Calgary's energy-heavy economy. However, despite an increasing number of technology programs at several post-secondary institutions, filling positions has proven to be a challenge as the supply of local talent struggles to keep pace with growing demand.
- The flight-to-quality trend remains prominent in Calgary's downtown core as high-quality assets continue to outperform. Most notably, the direct vacancy of Class AA downtown properties sits at only 8.2%. Lower-class buildings have been forced to consider alternative options such as conversions to combat their ever-increasing vacancy levels.
- Q3 commenced with an easing of restrictions, leading to increased optimism and activity in the suburban office market. Such activity translated into the first quarter with positive net absorption since Q2 2020. Although this represents a near-flat quarter, a halt to the negative absorption that has amounted to over 600,000 sq. ft. over the previous two quarters is a much-welcomed result.

SUPPLY & DEMAND



AVERAGE CLASS A NET RENT



STATISTICS

	DOWNTOWN			SUBURBAN			TOTAL		
	Q2 2021	Q3 2021	Q/Q Δ	Q2 2021	Q3 2021	Q/Q Δ	Q2 2021	Q3 2021	Q/Q Δ
Net Rentable Area	43,211,992	43,217,521	▲ 0.0%	26,107,509	26,108,343	▲ 0.0%	69,319,501	69,325,864	▲ 0.0%
Overall Vacancy Rate	32.7%	32.9%	▲ 20 bps	25.5%	25.5%	▲ -	30.0%	30.1%	▲ 10 bps
Direct Space	10,397,623	10,634,494	▲ 2.3%	5,593,485	5,607,317	▲ 0.2%	15,991,108	16,241,811	▲ 1.6%
Sublet Space	3,722,570	3,565,529	▼ 4.2%	1,076,625	1,050,682	▼ 2.4%	4,799,195	4,616,211	▼ 3.8%
Sublet % of Vacant Space	26.4%	25.1%	▼ 130 bps	16.1%	15.8%	▼ 30 bps	23.1%	22.1%	▼ 100 bps
Class A Vacancy Rate	26.7%	27.2%	▲ 50 bps	21.8%	21.5%	▼ 30 bps	25.2%	25.4%	▲ 20 bps
Average Class A Net Rent (psf)	\$15.74	\$15.69	▼ \$0.05	\$19.09	\$19.05	▼ \$0.04	\$16.86	\$16.77	▼ \$0.09
Current Quarter Absorption	-266,262	-79,830	▲ 186,432	-363,202	12,111	▲ 375,313	-629,464	-67,719	▲ 561,745
Year-to-Date Absorption	-1,511,287	-1,591,117		-603,634	-591,523		-2,114,921	-2,182,640	
Current Quarter New Supply	0	0	▲ -	14,777	0	▼ 14,777	14,777	0	▼ 14,777
Year-to-Date New Supply	0	0		14,777	14,777		14,777	14,777	
Under Construction	0	0	▲ -	133,507	133,507	▲ -	133,507	133,507	▲ -



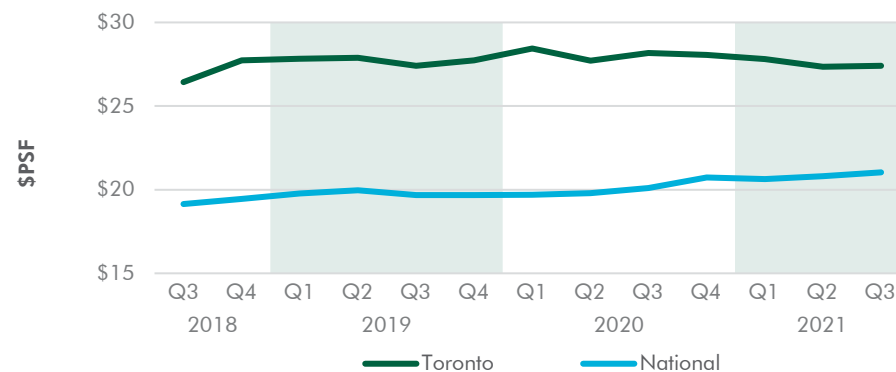
KEY TRENDS

- With confidence returning to the market, occupiers are slowly re-integrating the office into their work routine. As such, for the first time since the onset of COVID-19, upward momentum in the overall vacancy has subsided and the vacancy rate in downtown Toronto has since experienced a quarter-over-quarter decrease of 10 bps to 9.9% in Q3 2021.
- Leasing activity, albeit at a slower rate, continues to reinvigorate the market. Overall net rents for downtown Toronto have demonstrated remarkable stability and eked out an increase of 0.4% quarter-over-quarter to \$31.80 per sq. ft. in Q3 2021, meanwhile Class A rents held steady this quarter at \$34.16 per sq. ft.
- The Downtown South node witnessed its second landmark transaction of 2021 with theScore signing on for nearly 80,000 sq. ft. at Menkes' Waterfront Innovation Center. The development is now 91.2% pre-leased and slated for completion in Q4 2021.
- The suburban office market continues to demonstrate resilience in the face of rising vacancy due in part to its stable tenant base. Average asking Class A rents have held steady above the \$18 marker since the beginning of the year and have increased 2.8% year-over-year.

SUPPLY & DEMAND



AVERAGE CLASS A NET RENT



STATISTICS

	DOWNTOWN			SUBURBAN			TOTAL		
	Q2 2021	Q3 2021	Q/Q Δ	Q2 2021	Q3 2021	Q/Q Δ	Q2 2021	Q3 2021	Q/Q Δ
Net Rentable Area	90,855,964	91,193,847	▲ 0.4%	78,206,744	78,028,363	▼ 0.2%	169,062,708	169,222,210	▲ 0.1%
Overall Vacancy Rate	10.0%	9.9%	▼ 10 bps	17.1%	18.2%	▲ 110 bps	13.3%	13.7%	▲ 40 bps
Direct Space	5,896,966	6,364,091	▲ 7.9%	10,112,131	10,902,006	▲ 7.8%	16,009,097	17,266,097	▲ 7.9%
Sublet Space	3,198,509	2,634,377	▼ 17.6%	3,267,720	3,330,287	▲ 1.9%	6,466,229	5,964,664	▼ 7.8%
Sublet % of Vacant Space	35.2%	29.3%	▼ 590 bps	24.4%	23.4%	▼ 100 bps	28.8%	25.7%	▼ 310 bps
Class A Vacancy Rate	8.2%	8.0%	▼ 20 bps	18.5%	19.8%	▲ 130 bps	12.5%	13.0%	▲ 50 bps
Average Class A Net Rent (psf)	\$34.16	\$34.16	◀▶ -	\$18.04	\$18.10	▲ \$0.06	\$27.35	\$27.40	▲ \$0.05
Current Quarter Absorption	-780,642	432,007	▲ 1,212,649	-658,947	-852,442	▼ 193,495	-1,439,589	-420,435	▲ 1,019,154
Year-to-Date Absorption	-1,068,034	-636,027		-1,432,090	-2,284,532		-2,500,124	-2,920,559	
Current Quarter New Supply	63,000	335,000	▲ 272,000	50,010	0	▼ 50,010	113,010	335,000	▲ 221,990
Year-to-Date New Supply	1,563,000	1,898,000		103,590	103,590		1,666,590	2,001,590	
Under Construction	9,248,604	8,973,604	▼ 275,000	250,000	296,848	▲ 46,848	9,498,604	9,270,452	▼ 228,152

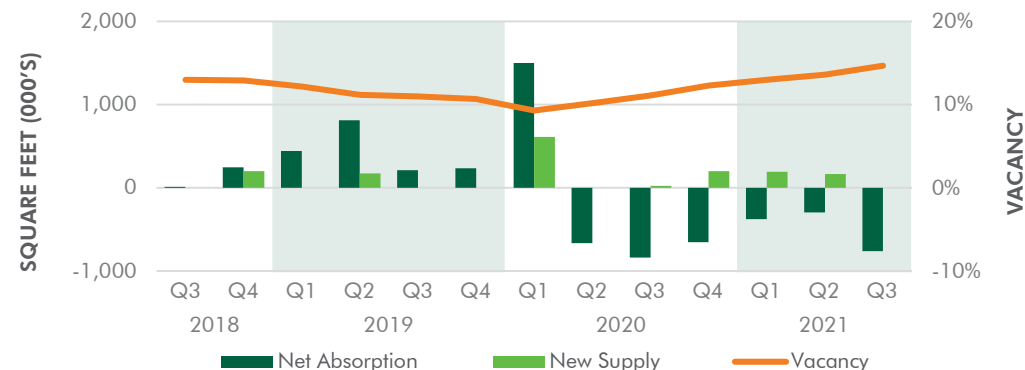
*Downtown is reflective of Central submarkets, inclusive of Midtown.

MONTREAL OFFICE Q3 2021

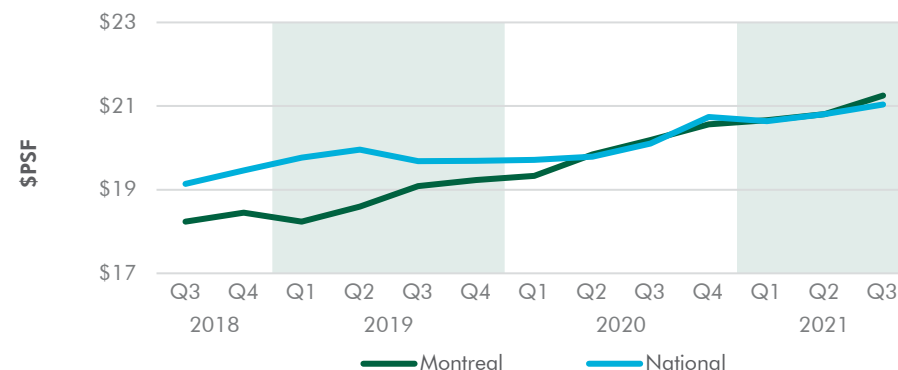
KEY TRENDS

- The Montreal office experienced a summer slowdown as overall vacancy increased by 110 bps to 14.7%. Users have taken a cautious approach to leasing decisions in recent months; with the rise in COVID-19 cases and the fear of a fourth wave, several tenants have postponed decisions for the time being.
- The downtown core saw several major users vacating large blocks of space this quarter as well as tenants looking to reduce their footprint. With vacancy of 13.2%, the average term for renewals, new deals and extensions are down from 2020.
- Comparatively, the suburban office markets remain resilient and saw vacancy contract by 70 bps this quarter to 16.8%. Midtown, the West Island and East End are particularly attractive to tenants and account for the majority of market activity.
- While sublease opportunities remain prevalent, the proportion of vacant space for sublet has started to come down, now 16.5%. Sublease listings have started to transition into direct space as some companies exercise their termination option rights.
- Developers and investors remain confident in Montreal's economic strength. New investments continue to be made in the city and its office market, with 70,000 sq. ft. of new office space recently announced at Prével's Esplanade Cartier development.

SUPPLY & DEMAND



AVERAGE CLASS A NET RENT



STATISTICS

	DOWNTOWN			SUBURBAN			TOTAL		
	Q2 2021	Q3 2021	Q/Q Δ	Q2 2021	Q3 2021	Q/Q Δ	Q2 2021	Q3 2021	Q/Q Δ
Net Rentable Area	45,425,372	45,425,372	◀▶ -	30,705,583	30,691,945	◀▶ 0.0%	76,130,955	76,117,317	◀▶ 0.0%
Overall Vacancy Rate	11.1%	13.2%	▲ 210 bps	17.5%	16.8%	▼ 70 bps	13.6%	14.7%	▲ 110 bps
Direct Space	4,098,170	5,005,128	▲ 22.1%	4,504,759	4,307,015	▼ 4.4%	8,602,929	9,312,143	▲ 8.2%
Sublet Space	924,092	980,824	▲ 6.1%	864,693	861,017	▼ 0.4%	1,788,785	1,841,841	▲ 3.0%
Sublet % of Vacant Space	18.4%	16.4%	▼ 200 bps	16.1%	16.7%	▲ 60 bps	17.2%	16.5%	▼ 70 bps
Class A Vacancy Rate	9.2%	10.0%	▲ 80 bps	16.2%	16.2%	◀▶ -	11.8%	12.3%	▲ 50 bps
Average Class A Net Rent (psf)	\$25.18	\$25.06	▼ \$0.12	\$16.41	\$16.75	▲ \$0.34	\$20.81	\$21.25	▲ \$0.44
Current Quarter Absorption	-168,825	-963,690	▼ 794,865	-125,828	201,420	▲ 327,248	-294,653	-762,270	▼ 467,617
Year-to-Date Absorption	-415,310	-1,379,000		-253,294	-51,874		-668,604	-1,430,874	
Current Quarter New Supply	0	0	◀▶ -	167,300	0	▼ 167,300	167,300	0	▼ 167,300
Year-to-Date New Supply	0	0		359,544	359,544		359,544	359,544	
Under Construction	599,045	624,577	▲ 25,532	1,933,329	2,003,329	▲ 70,000	2,532,374	2,627,906	▲ 95,532

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Montreal: **OFFICE** | Industrial

Excerpt from video of CNBC's Dan Murphy interview at Gastech with Baker Hughes CEO Simonelli "Gas is key for energy transition and is a 'destination fuel' as well: Baker Hughes CEO" Sept 22, 2021

<https://www.cnbc.com/video/2021/09/22/gas-is-key-for-energy-transition-and-is-a-destination-fuel-as-well-baker-hughes-ceo.html>

Items in "*italics*" are SAF Group created transcript

At 0:00 min. Murphy asks on what is happening in Europe with the soaring gas prices, "*is this going to be transitory or are we going to see wider implications for consumers and the broader economy?*" Simonelli "*I think a lot of people are seeing what's happening in Europe and it's bringing to light the important discussion around the energy transition, and the importance that we have around gas as well. Whether it be transitory or prices remain high, I think its still early to see but definitely it brings the debate around energy transition*"

At 0:45 min, Murphy asks ... so Europe can keep the lights on this winter. Simonelli "*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*".

At 1:54 min. Simonelli "*when you look at just driving efficiencies in our operations. If you look at 10% efficiency in the oil and gas industry can actually reduce half a gigatonne of CO2 emissions, and that's already 5% of the Paris Accord*"

At 2:30 min, Simonelli says "*Gas is here, its key as we go from a transition, and its not just a transition, it's a destination fuel as well*". Murphy asks "*okay, destination fuel, so expand on that a little more for me, what role do you think gas is going to play in this long march to Net Zero*". Simonelli "*I think you just have to look at Europe and the US. with regards to the way they've been successful in the last decades to reduce their CO2 emissions. You've seen a shift from coal to gas and that's going to continue as you look out to, from an emissions profile. Also natural gas when you put the element of CCUS, can actually be decarbonized as well. You can reduce the footprint of natural gas from an emissions standpoint. Its already one of the [?] fuels and we think its here to stay. And our outlook has been very positive with regards to natural gas and LNG*".

Prepared by SAF Group <https://safgroup.ca/news-insights/>

Glencore Says There's Still Time to Avoid Winter Blackouts

2021-09-23 11:41:48.34 GMT

By Anna Shiryaevskaya

(Bloomberg) -- The global energy crisis can still be eased before winter as sky-high prices for natural gas prompt users to seek cheaper alternatives or even curtail consumption, according to Glencore PLC.

A worldwide gas supply crunch that pushed prices of liquefied natural gas to a seasonal record may spur more demand destruction this winter if the situation continues as it is, said Alejandro Sanchez Gestido, global head of LNG at the world's biggest commodity trader.

"The good news is there is plenty of time to alleviate the current energy crisis and avoid the blackouts that some people are talking about," he said in an interview during the Gastech conference in Dubai. "We have just finished summer and we are not in the middle of the weather-driven price spike."

In Asia, the biggest consumer of LNG, high spot prices for the superchilled gas have seen importers from Japan to India turn to a slew of alternatives such as fuel oil and propane. In Europe, several fertilizer makers have said they'll shutter plants or curb production because of soaring fuel costs.

Barbecue Gas Gets Boost as Asia Seeks Alternatives to Pricey LNG

Even so, it's still unclear if such demand response will be sufficient to offset the tight supply balances, Sanchez Gestido said. And there are limits to fuel switching for power in Europe.

LNG plants are designed to run at their maximum production limit, which leaves little spare capacity to absorb supply shocks or demand fluctuations such as the abnormally low gas stockpiles currently roiling Europe's energy markets.

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."

Shell Sees LNG Trading Boom With Demand Poised to Double

For its part, Glencore is delivering between 10 and 15 physical cargoes per month to customers in the Asia Pacific region and the Atlantic basin and is looking to further expand

its LNG business. The extreme price volatility of the past 18 months highlights the importance of size and risk management skills needed to be in the global LNG market.

“It would have been harder to manage the various dimensions of risks with a smaller, less diversified portfolio,” he said.

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To view this story in Bloomberg click here:

<https://blinks.bloomberg.com/news/stories/QZVI1AT0G1KY>

Statement on recent developments in natural gas and electricity markets

21 September 2021

The steep rise in European gas prices has been driven by a combination of a strong recovery in demand and tighter-than-expected supply, as well as several weather-related factors. These include a particularly cold and long heating season in Europe last winter, and lower-than-usual availability of wind energy in recent weeks.

European prices also reflect broader global gas market dynamics. There were strong cold spells in East Asia and North America in the first quarter of 2021. They were followed by heatwaves in Asia and drought in various regions, including Brazil. All of these developments added to the upward trend in gas demand. In Asia, gas demand has remained strong throughout the year, primarily driven by China, but also by Japan and Korea. On the supply side, liquefied natural gas (LNG) production worldwide has been lower than expected due to a series of unplanned outages and delays across the globe and delayed maintenance from 2020.

“Recent increases in global natural gas prices are the result of multiple factors, and it is inaccurate and misleading to lay the responsibility at the door of the clean energy transition,” said IEA Executive Director Fatih Birol.

Going forward, the European gas market could well face further stress tests from unplanned outages and sharp cold spells, especially if they occur late in the winter. Gas storage levels in Europe are well below their five-year average but not markedly below their previous five-year lows, which were reached in 2017.

Based on the available information, Russia is fulfilling its long-term contracts with European counterparts – but its exports to Europe are down from their 2019 level. The IEA believes that Russia could do more to increase gas availability to Europe and ensure storage is filled to adequate levels in preparation for the coming winter heating season. This is also an opportunity for Russia to underscore its credentials as a reliable supplier to the European market.

European electricity prices have climbed to their highest levels in over a decade in recent weeks, rising above 100 euros per megawatt-hour in many markets. In Germany and Spain, for example, prices in September have been around three or four times the averages seen in 2019 and 2020. This increase has been driven by the surge in gas, coal and carbon prices in Europe. The strong

rise in gas prices led electricity providers in a number of European markets to switch from gas to coal for power generation – a trend that would have been more pronounced if it had not been for the increase in the price of carbon emission allowances on the European market.

“Today’s situation is a reminder to governments, especially as we seek to accelerate clean energy transitions, of the importance of secure and affordable energy supplies – particularly for the most vulnerable people in our societies,” 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.”

The links between electricity and gas markets are not going to go away anytime soon. Gas remains an important tool for balancing electricity markets in many regions today. As clean energy transitions advance on a path towards net zero emissions, global gas demand will start to decline, but it will remain an important component of electricity security. This is especially the case in countries with large seasonal variations in electricity demand.

Net zero goals cannot fall victim to the energy crisis

Governments must address hardship of high prices without jeopardising decarbonisation

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High prices could encourage greater natural gas production © Peter Boer/Bloomberg

44 MINUTES AGO

There is never a good time for energy prices to shoot through the roof. But the current spike in **the cost of natural gas is particularly inconvenient** for leaders of democratic countries trying to build a consensus for decarbonising their economies.

A perfect storm of natural gas production problems, geopolitics, and **unfavourable weather for renewables** has combined with **an unexpectedly strong pick-up** in demand as much of the rich world recovers from the pandemic downturn. The resulting price spikes have **left politicians scrambling to be seen to do something**. The Spanish and Italian governments are intervening to curb energy bills; France is increasing benefits to low-income households. UK politicians are trying to contain the fallout from the failure of smaller energy providers offering fixed price contracts to customers when wholesale prices are soaring.

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**. Yellow vests and equivalent protesters against climate policies elsewhere remain very much on policymakers' minds.

The great uncertainty around whether the price spikes are temporary, or reflective of a structural shift in global energy production, makes intelligent policymaking that much harder.

If consumers' current pain makes climate action politically more daunting, however, it does not make it any less necessary. The challenge for world leaders — with the COP26 climate conference just weeks away — is to find ways to address the immediate energy price shock without losing sight of the longer-term imperative of climate change.

To do so, they should start by recognising that the price mechanism has a crucial if unpalatable role to play. One lesson from the oil shocks of the 1970s is that high costs can dramatically accelerate demand-side efforts to increase energy efficiency. As natural gas prices drive up those of electricity, they also drive up the gains from investing in renewables — especially if the causes are indeed structural and higher prices are here to stay.

True, high prices could also encourage greater natural gas production. That is in any case likely to feature as the intermediate step on some countries' step away from dirtier fossil fuels such as coal. Just such a shift is itself one of the factors behind the recent price movement, as higher gas demand in Asia reduces supply in Europe through the liquefied natural gas trade. But historically, fuel shortages have as a rule ended up shifting dependence away from, not towards, the energy source in question.

In time, markets will adjust. It is the abruptness and scale of today's price spikes that are politically explosive. To keep citizens on board, governments must show they care and assist those truly in need. That may well require subsidies or regulatory intervention. But suffering consumers can be helped financially without blunting the useful incentive effects high prices bring. Flat rate transfers or cost compensation up to a reasonable amount of households' energy

consumption (but not all) can alleviate hardship, and even bring political reward, while leaving market incentives in place.

Making progress on climate policy without alienating citizens worried about their household budgets just got more difficult. For responsible leaders, however, there is no alternative.

Electricity Generation*

Terawatt-hours	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Growth rate per annum		Share
													2020	2009-19	2020
Total North America	5088.1	5276.8	5293.8	5243.5	5283.1	5314.2	5318.4	5331.1	5287.7	5452.5	5382.4	5243.6	-2.8%	0.6%	19.5%
Total S. & Cent. America	1083.0	1140.5	1181.1	1231.4	1267.6	1287.3	1296.6	1305.6	1306.8	1330.9	1339.0	1282.8	-4.5%	2.1%	4.8%
Total Europe	3894.7	4065.8	4019.4	4053.1	4022.2	3939.2	3982.7	4021.4	4061.3	4065.5	3992.1	3871.3	-3.3%	0.2%	14.4%
Total CIS	1226.2	1284.0	1308.5	1330.4	1323.7	1337.9	1340.9	1369.3	1383.0	1416.4	1428.8	1397.1	-2.5%	1.5%	5.2%
Total Middle East	807.9	873.7	889.7	948.6	982.4	1051.4	1109.7	1143.7	1190.5	1207.4	1253.6	1265.2	0.6%	4.5%	4.7%
Total Africa	627.5	672.3	689.4	721.1	744.0	767.9	788.4	796.5	824.8	847.2	863.4	843.9	-2.5%	3.2%	3.1%
Total Asia Pacific	7537.5	8257.7	8875.1	9278.1	9812.3	10333.7	10433.9	10947.6	11569.8	12339.3	12741.6	12919.3	1.1%	5.4%	48.2%
Total World	20264.9	21570.7	22257.0	22806.3	23435.2	24031.7	24270.5	24915.2	25623.9	26659.1	27001.0	26823.2	-0.9%	2.9%	100.0%
of which: OECD	10640.3	11062.8	11014.3	11023.7	11015.6	10956.6	11005.0	11082.8	11119.5	11312.8	11168.4	10880.8	-2.8%	0.5%	40.6%
Non-OECD	9624.6	10507.9	11242.7	11782.6	12419.7	13075.2	13265.5	13832.4	14504.4	15346.4	15832.5	15942.4	0.4%	5.1%	59.4%
European Union #	2847.6	2982.6	2931.3	2932.3	2912.9	2851.1	2899.1	2920.1	2952.4	2937.5	2892.5	2770.6	-4.5%	0.2%	10.3%

Source: bp Statistical Review of World Energy 2021

Electricity generation from coal*

Terawatt-hours	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Growth rate per annum		Share
													2020	2009-19	2020
Total North America	2011.4	2114.9	1987.7	1742.5	1814.3	1813.7	1564.2	1442.9	1401.0	1330.1	1131.7	898.6	-20.8%	-5.6%	9.5%
Total S. & Cent. America	39.3	44.3	48.6	56.9	72.7	75.1	75.1	77.9	70.0	70.4	74.4	76.4	2.5%	6.6%	0.8%
Total Europe	1004.3	1016.1	1062.4	1113.0	1085.3	1013.2	989.7	921.7	887.8	852.4	689.5	574.8	-16.9%	-3.7%	6.1%
Total CIS	225.4	235.0	237.7	239.9	235.6	230.4	227.1	236.1	246.4	255.6	254.9	229.4	-10.2%	1.2%	2.4%
Total Middle East	34.7	34.6	35.6	39.2	32.6	30.7	29.7	24.7	22.7	21.3	22.6	19.7	-13.3%	-4.2%	0.2%
Total Africa	247.7	257.3	260.0	255.5	251.4	251.9	247.0	246.9	252.1	258.8	255.7	236.0	-7.9%	0.3%	2.5%
Total Asia Pacific	4552.6	4932.2	5444.2	5660.7	6085.2	6337.5	6269.6	6472.3	6836.4	7308.1	7397.4	7386.4	-0.4%	5.0%	78.4%
Total World	8115.4	8634.5	9076.2	9107.7	9577.1	9752.4	9402.4	9422.4	9716.2	10096.7	9826.2	9421.4	-4.4%	1.9%	100.0%
of which: OECD	3616.9	3733.0	3602.0	3465.2	3534.8	3466.3	3208.1	2993.0	2938.0	2828.7	2450.2	2067.8	-15.8%	-3.8%	21.9%
Non-OECD	4498.6	4901.5	5474.2	5642.5	6042.3	6286.1	6194.3	6429.4	6778.2	7268.0	7376.0	7353.6	-0.6%	5.1%	78.1%
European Union #	733.3	738.5	761.2	773.3	759.4	722.4	732.5	688.2	669.0	625.7	475.1	373.4	-21.6%	-4.2%	4.0%

Source: bp Statistical Review of World Energy 2021

Nuclear: Generation*

Terawatt-hours	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Growth rate per annum		Share
													2020	2009-19	2020
Total North America	940.9	945.3	934.8	912.8	945.1	955.3	951.8	959.4	958.8	959.3	963.9	940.4	-2.7%	0.2%	34.8%
Total S. & Cent. America	21.1	21.7	22.1	22.4	21.7	20.9	21.8	24.1	21.8	22.5	24.6	26.0	5.4%	1.5%	1.0%
Total Europe	1004.7	1032.0	1024.2	998.4	986.5	992.7	968.3	942.2	936.1	936.1	930.0	837.4	-10.2%	-0.8%	31.0%
Total CIS	166.1	172.9	175.5	179.8	174.9	183.2	198.3	199.0	205.8	206.7	211.2	218.0	3.0%	2.4%	8.1%
Total Middle East	-	-	0.1	1.5	4.3	4.1	3.5	6.5	7.0	6.9	6.4	8.0	23.7%	n/a	0.3%
Total Africa	12.8	13.5	12.9	13.0	14.1	13.8	12.2	15.0	14.2	11.6	13.6	15.6	14.1%	0.6%	0.6%
Total Asia Pacific	553.4	582.9	483.1	342.9	344.1	371.4	419.7	467.7	493.6	553.6	646.9	654.8	0.9%	1.6%	24.3%
Total World	2699.0	2768.5	2652.7	2470.8	2490.5	2541.4	2575.6	2613.9	2637.2	2696.6	2796.6	2700.1	-3.7%	0.4%	100.0%
of which: OECD	2258.0	2302.3	2158.3	1962.1	1975.9	1988.5	1974.7	1973.2	1959.8	1966.0	1994.6	1876.7	-6.2%	-1.2%	69.5%
Non-OECD	440.9	466.2	494.3	508.7	514.6	552.9	600.9	640.7	677.4	730.6	802.0	823.4	2.4%	6.2%	30.5%
European Union #	825.2	854.2	838.0	812.2	806.5	812.8	787.0	768.2	759.7	762.2	765.5	687.9	-10.4%	-0.7%	25.5%

Source: bp Statistical Review of World Energy 2021

Renewables: Renewable power generation*

Terawatt-hours	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Growth rate per annum		Share
													2020	2009-19	2020
Total North America	173.7	201.7	231.9	261.9	301.5	335.3	372.2	431.9	479.3	525.0	563.1	642.1	13.3%	11.8%	20.4%
Total S. & Cent. America	39.1	50.9	54.0	64.1	73.8	88.6	107.1	126.4	142.6	159.4	181.4	192.9	5.7%	15.9%	6.1%
Total Europe	270.3	313.6	379.5	449.9	509.2	549.7	627.5	640.2	719.7	759.9	840.0	921.0	8.9%	11.4%	29.3%
Total CIS	0.6	0.6	0.7	0.6	0.7	1.0	1.4	1.8	2.1	2.5	3.8	8.1	112.2%	20.2%	0.3%
Total Middle East	0.3	0.4	0.7	0.9	1.1	1.8	2.4	3.8	5.0	7.7	13.8	18.6	34.3%	44.6%	0.6%
Total Africa	5.2	6.3	6.9	7.6	8.8	12.5	19.7	23.6	27.0	31.2	38.0	42.3	10.5%	21.2%	1.3%
Total Asia Pacific	146.5	187.6	234.5	282.9	350.4	425.2	504.0	623.6	804.3	992.9	1149.2	1322.0	14.3%	22.2%	42.0%
Total World	635.8	761.2	908.2	1067.9	1245.5	1414.0	1634.4	1851.3	2180.2	2478.6	2789.2	3147.0	12.1%	15.3%	100.0%
of which: OECD	491.0	569.3	672.8	778.7	886.7	977.4	1113.9	1197.9	1347.8	1456.6	1599.3	1788.6	11.1%	11.9%	56.8%
Non-OECD	144.7	191.9	235.4	289.2	358.8	436.6	520.5	653.4	832.4	1022.0	1189.9	1358.4	13.4%	22.7%	43.2%
European Union #	240.8	279.7	336.0	396.7	439.7	466.8	521.3	527.0	583.2	599.9	658.5	710.4	7.2%	9.9%	22.6%

Source: bp Statistical Review of World Energy 2021

Electricity generation from gas*

Terawatt-hours	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Growth rate per annum		Share
													2020	2009-19	2020
Total North America	1172.5	1257.1	1302.4	1533.4	1433.6	1448.0	1688.7	1737.8	1645.6	1849.2	1962.4	1992.4	1.3%	5.3%	31.8%
Total S. & Cent. America	139.8	177.0	166.7	204.1	231.3	247.9	261.5	250.5	251.6	244.6	246.6	233.5	-5.6%	5.8%	3.7%
Total Europe	847.5	886.1	832.0	710.4	635.4	597.4	612.3	716.7	788.3	732.9	774.2	759.1	-2.2%	-0.9%	12.1%
Total CIS	587.2	642.1	647.7	661.7	668.5	684.2	679.9	675.3	673.9	693.8	692.3	657.9	-5.2%	1.7%	10.5%
Total Middle East	469.5	529.4	504.5	534.4	548.4	634.7	692.6								

<https://www.seia.org/news/solar-industry-letter-sec-raimondo-anonymous-tariff-proposal-could-devastate-us-clean-energy>

Solar Industry Letter to Sec. Raimondo: Anonymous Tariff Proposal Could Devastate U.S. Clean Energy and Climate Progress

SEIA estimates the proposed 50-250% duties would cause 18 GW of lost solar deployment, equivalent to all U.S. solar capacity installed prior to 2015

Wednesday, Sep 22 2021

WLEVI

[Press Release](#)

WASHINGTON, D.C. — Steep duties proposed by an anonymous group of petitioners 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 the Solar Energy Industries Association (SEIA).

The petitions now before the Department of Commerce would create 50-250% duties on imports of crystalline silicon photovoltaic (CSPV) panels and cells from Malaysia, Vietnam, and Thailand. They allege some companies are circumventing antidumping (AD) and countervailing duties (CVD) imposed on China in 2012. The three targeted countries account for 80% of all panel imports to the United States.

Over 190 of America's leading solar companies [sent a letter to Commerce Secretary Gina Raimondo](#) outlining the catastrophic impact these duties would have on the livelihoods of 231,000 U.S. solar workers and on the nation's efforts to fight climate change. The letter signers include manufacturers, developers, installers, financiers and service providers from across the solar supply chain.

“I cannot overstate the dire threat that these reckless petitions are imposing on hundreds of thousands of American families,” said Abigail Ross Hopper, SEIA president and CEO. “The anonymous petitioners are asking the Department of Commerce to not only misinterpret U.S. law, but also overturn a decade of department decisions in solar trade cases, all to benefit a few anonymous petitioners at the expense of the entire U.S. solar economy. We urge Commerce to use its discretion and dismiss these frivolous petitions.”

The 18 GW of lost solar deployment is equivalent to the amount of solar capacity installed in all of U.S. history prior to 2015.

Wood Mackenzie forecasts the U.S. will install roughly 30 GW of new solar capacity in 2022 and 33 GW in 2023. The forecasts, which appear in the Solar Market Insight Q3 2021 report, are already well short of the pace needed to reach President Biden's decarbonization target for 2035 and implementing these duties would be a catastrophic blow to any chance of addressing climate change. The report also notes that recent trade actions, like the AD/CVD circumvention petition could [exacerbate supply chain constraints and increase solar prices](#).

The letter makes the case that the anonymous solar tariff petitions are based on a false premise that manufacturing done in Malaysia, Vietnam and Thailand is “minor and insignificant,” and that cells and panels are predominantly made in China and passed through the targeted nations. In fact, significant work is done in Malaysia, Vietnam and Thailand. Under the law they cannot be subject to AD/CVD circumvention claims and should be dismissed by the Department of Commerce.

About SEIA®:

The Solar Energy Industries Association® (SEIA) is leading the transformation to a clean energy economy, creating the framework for solar to achieve 20% of U.S. electricity generation by 2030. SEIA works with its 1,000 member companies and other strategic partners to fight for policies that create jobs in every community and shape fair market rules that promote competition and the growth of reliable, low-cost solar power. Founded in 1974, SEIA is the national trade association for the solar and solar + storage industries, building a comprehensive vision for the Solar+ Decade through research, education and advocacy. Visit SEIA online at www.seia.org and follow @SEIA on [Twitter](#), [LinkedIn](#) and [Instagram](#).

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Chevrolet Bolt EV Battery Production Resumes

Mon, September 20, 2021

LG battery cell and module production resumes with updated manufacturing processes

Battery module replacements to begin in October

GM to introduce new advanced diagnostics software

DETROIT – General Motors today outlined a comprehensive action plan to ensure that customers can safely and confidently drive, charge, and park the Chevy Bolt EV and EUV. The action plan includes both hardware and software remedies, some of which are in place with immediate effect.

“We’re grateful for the patience of owners and dealers as we work to advance solutions to this recall,” said Doug Parks, GM executive vice president, Global Product Development, Purchasing and Supply Chain. “Resuming battery module production is a first step and we’ll continue to work aggressively with LG to obtain additional battery supply. In addition, we’re optimistic a new advanced diagnostic software will provide more convenience for our customers.”

New Battery Production

LG battery plants in Holland and Hazel Park, Michigan, have resumed production. In addition, LG is adding capacity to provide more cells to GM. As a result, replacement battery modules will begin shipping to dealers as soon as mid-October.

The root cause of the rare circumstances that could cause a battery fire is two manufacturing defects known as a torn anode and a folded separator, both of which need to be present in the same battery cell.

LG has implemented new manufacturing processes and has worked with GM to review and enhance its quality assurance programs to provide confidence in its batteries moving forward. LG will institute these new processes in other facilities that will provide cells to GM in the future.

Prioritized Battery Replacement

GM will continue to prioritize Chevy Bolt EV and EUV customers whose batteries were manufactured during specific build timeframes where GM believes battery defects appear to be clustered. The company has established a notification process that will inform affected customers when their replacement modules will be available.

The new batteries will include an extended battery 8-year/100,000-mile limited warranty.

New Advanced Diagnostic Software

Within approximately 60 days, GM will begin launching a new advanced diagnostic software package that will increase the available battery charging parameters over existing guidance.

The diagnostic software will be designed to detect specific abnormalities that might indicate a

damaged battery in Bolt EVs and EUVs by: monitoring the battery performance; alerting customers of any anomalies; and prioritizing damaged battery modules for replacement. It is GM's intent that further diagnostic software will allow customers to return to a 100 percent state of charge once all diagnostic processes are complete.

This new software, which will be provided to all Bolt EV and EUV owners, requires dealer installation. Owners will be able to start to schedule installation at their Chevy EV dealer in approximately 60 days.

Updated Guidance on Parking

If customers are following GM's instructions issued below, they can park in a location of their choice. In an abundance of caution, GM recommends customers leave ample space around their vehicle wherever they choose to park. GM is not aware of any fires that have occurred where customers followed this safety guidance, in parking decks or otherwise.

GM's instructions remain:

1. Set the vehicle to a 90 percent state of charge limitation using Target Charge Level mode. Instructions on how to do this are available on [com/boltevreCALL](https://www.com/boltevreCALL). If customers are unable to successfully make these changes, or do not feel comfortable making these changes, GM is asking them to visit their dealer to have these adjustments completed.
2. Charge the vehicle more frequently and avoid depleting battery below approximately 70 miles (113 km) of remaining range, where possible.
3. Continue to park vehicles outside immediately after charging and do not leave vehicles charging indoors overnight.

Customers who have additional questions can visit www.chevy.com/boltevreCALL or contact the Chevrolet EV Concierge 1-833-EVCHEVY (available Monday through Friday, from 8 a.m. – midnight ET; Saturday and Sunday, from noon – 9 p.m. ET) or contact their preferred Chevrolet EV dealer.

General Motors (NYSE:GM) is a global company focused on advancing an all-electric future that is inclusive and accessible to all. At the heart of this strategy is the Ultium battery platform, which will power everything from mass-market to high-performance vehicles. General Motors, its subsidiaries and its joint venture entities sell vehicles under the [Chevrolet](#), [Buick](#), [GMC](#), [Cadillac](#), [Baojun](#) and [Wuling](#) brands. More information on the company and its subsidiaries, including [OnStar](#), a global leader in vehicle safety and security services, can be found at <https://www.gm.com>.

Range Anxiety' Makes Electric Car Drivers Less Likely to Be Involved in Road Accidents

2021-09-19 18:00:10.724 GMT

By Ewan Somerville

(Telegraph) -- 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.

Range anxiety is known as the fear that the car will run out of power, instinctively making people drive more cautiously to avoid becoming stranded en route.

Electric car batteries degrade over time, so users are advised to avoid rapid charging or keeping the battery at 100 per cent and to minimise exposure to high temperatures when parked, while also being encouraged to take the car on regular short trips.

Industry figures say the tendency for electric car users to drive more slowly could help slash injuries and deaths on Britain's roads in the coming years, with electric vehicle numbers predicted to soar by 2030 when new sales of petrol or diesel vehicles are banned.

"When you're travelling on a motorway there is a noticeable difference in the speed with which your range will come down compared to when you are travelling at 30mph or 40mph," Neale Kinnear, head of transport safety at TRL (previously called the Transport Research Laboratory), told the Sunday Times.

"When you drive an EV [electric vehicle], compared to an internal combustion vehicle, you start to think about energy conservation and that may lead to more economical and safer styles of driving."

In the year to the end of August, car leasing company Lex Autolease, which has 350,000 cars in its fleet, found that 24 per cent of its petrol or diesel cars needed workshop repairs after an accident.

However, only 14 per cent of electric cars and 15 per cent of hybrids needed fixing.

Chris Chandler, the principal consultant at Lex, told The Sunday Times: "If you look at the reduction in accidents from internal combustion engine, through hybrid to electric, almost the cleaner the car, the lower the incident rate.

"There's a high probability that it's driver behaviour that is reducing those rates."

The shift to electric vehicles by 2030, with hybrids banned by 2035, is a key part of the Government's green push as Boris Johnson prepares to host the Cop26 climate summit in Glasgow in November.

Affordability and convenience remain stumbling blocks to take-up, prompting

ministers to announce that electric car charging points are to be installed at every new home and office under legislation to be brought forward this year.

More growth needed to reach target

The number of fully electric cars on the roads more than doubled to 224,000 in March from 108,000 in March 2020, but forecasts say the electric vehicle market will need to grow seven-fold over the next five years to hit the 2030 target.

AA figures showed in August that breakdowns due to running out of charge have more than halved in the past five years, with just 3.71 per cent of electric car breakdowns attended by patrols so far this year blamed on charge outages.

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.

In the year to June 2020, around 24,470 people were killed or seriously injured in road traffic accidents reported to the police, though this was an 11 per cent drop on the previous year.

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."

-0- Sep/19/2021 18:00 GMT

To view this story in Bloomberg click here:

<https://blinks.bloomberg.com/news/stories/QZP00A33O5C0>



IFIC Monthly Investment Fund Statistics – August 2021

Mutual Fund and Exchange-Traded Fund Assets and Sales

September 21, 2021 (Toronto) – The Investment Funds Institute of Canada (IFIC) today announced investment fund net sales and net assets for August 2021.

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.

Mutual Fund Net Sales/Net Redemptions (\$ Millions)*

Asset Class	Aug. 2021	Jul. 2021	Aug. 2020	YTD 2021	YTD 2020
Long-term Funds					
Balanced	4,928	4,929	616	49,432	(5,833)
Equity	2,635	1,857	(662)	30,418	1,169
Bond	1,707	2,080	2,859	13,116	10,124
Specialty	458	413	495	3,969	3,919
Total Long-term Funds	9,727	9,279	3,308	96,935	9,379
Total Money Market Funds	63	(446)	(433)	(6,386)	4,686
Total	9,790	8,833	2,875	90,549	14,066

Mutual Fund Net Assets (\$ Billions)*

Asset Class	Aug. 2021	Jul. 2021	Aug. 2020	Dec. 2020
Long-term Funds				
Balanced	996.8	977.1	828.6	874.4
Equity	722.8	699.4	537.9	593.4
Bond	261.1	259.1	235.3	246.4
Specialty	19.8	19.2	30.9	35.0
Total Long-term Funds	2,000.5	1,954.8	1,632.8	1,749.3
Total Money Market Funds	27.3	27.3	37.1	34.4
Total	2,027.8	1,982.1	1,669.9	1,783.7

* Please see below for important information regarding this data.

ETF Net Sales/Net Redemptions (\$ Millions)*

Asset Class	Aug. 2021	Jul. 2021	Aug. 2020	YTD 2021	YTD 2020
Long-term Funds					
Balanced	273	292	115	2,893	1,167
Equity	3,379	2,449	1,178	23,914	18,896
Bond	1,114	(362)	1,184	8,775	7,959
Specialty	300	273	243	6,359	1,503
Total Long-term Funds	5,065	2,651	2,719	41,940	29,525
Total Money Market Funds	(62)	357	14	(1,278)	2,207
Total	5,003	3,009	2,733	40,662	31,732

ETF Net Assets (\$ Billions)*

Asset Class	Aug. 2021	Jul. 2021	Aug. 2020	Dec. 2020
Long-term Funds				
Balanced	11.0	10.5	6.0	7.2
Equity	209.0	200.4	143.8	158.4
Bond	86.9	85.9	75.5	79.3
Specialty	11.8	10.6	5.1	5.2
Total Long-term Funds	318.7	307.5	230.4	250.0
Total Money Market Funds	6.0	6.0	6.7	7.3
Total	324.7	313.6	237.1	257.3

* Please see below for important information regarding this data.

IFIC direct survey data (which accounts for approximately 91% of total mutual fund industry assets) is complemented by data from Investor Economics to provide comprehensive industry totals.

IFIC makes every effort to verify the accuracy, currency and completeness of the information; however, IFIC does not guarantee, warrant, represent or undertake that the information provided is correct, accurate or current.

*** Important Information Regarding Investment Fund Data:**

1. Mutual fund data is adjusted to remove double counting arising from mutual funds that invest in other mutual funds.
2. ETF data is not adjusted to remove double counting arising from ETFs that invest in other ETFs.
3. The Balanced Funds category includes funds that invest directly in a mix of stocks and bonds or obtain exposure through investing in other funds.
4. Mutual fund data reflects the investment activity of Canadian retail investors.
5. ETF data reflects the investment activity of Canadian retail and institutional investors.

About IFIC

The Investment Funds Institute of Canada is the voice of Canada's investment funds industry. IFIC brings together 150 organizations, including fund managers, distributors and industry service organizations, to foster a strong, stable investment sector where investors can realize their financial goals. By connecting Canada's savers to Canada's economy, our industry contributes significantly to Canadian economic growth and job creation. To learn more about IFIC, please visit www.ific.ca.

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Raising revenues through new, fair and progressive sources

Our approach to raising revenues will put people first, tackle the inequality crisis facing our country, strengthen the integrity of our tax system, and ensure that large, profitable corporations and the very richest pay a little bit more.

The no-strings-attached tax cuts that Liberal and Conservative governments have handed out to profitable corporations have not translated into more business investment or good jobs for Canadians. Despite that, the Liberal government kept Conservative corporate tax cuts in place, and added billions in new corporate giveaways on top of them – including allowing companies to use pandemic aid to pad shareholder profits and CEO bonuses.

While profitable corporations benefit from these generous breaks, Canadian families are falling behind. New Democrats believe that it's time to rebalance our priorities. We will roll corporate tax cuts back to their 2010 levels, or 18%, while maintaining the small business tax rate at its current level.

For the highest income individuals in Canada (those making over \$210,000), we will increase the top marginal tax rate by two points to 35 percent. 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 revenue raised by these measures will kick-start Canada's economic recovery and build a more secure future for everyday families.

To make our tax system fairer and more progressive, a New Democrat government will also increase the amount of investment profits subject to capital gains taxation to 75%, the rate that was in place in 2000. This will generate significant revenue every year to fund the services Canadians need while ensuring greater equality for our tax system, as 88 per cent of this billion-dollar benefit currently goes to the richest 1% of Canadians¹⁷.

A New Democrat government will also strengthen enforcement to stop the tax evaders and others who have benefited from offshore tax havens for too long. This will include forcing corporations to prove the economic substance of their offshore transactions, closing tax loopholes like the CEO stock option deduction, and reviewing and reprofiling tax expenditures that don't benefit everyday Canadians.

Finally, to help tackle the housing speculation that is making home ownership unaffordable for Canadians, we will put in place a 20% foreign buyers tax on purchases of residential property by foreign corporations or people who are not citizens or permanent residents.

For decades, governments in Ottawa have been talking about helping people but making fiscal choices that benefit the wealthiest most.

¹⁷ Murphy, Brian et al. "Top-End Progressivity and Federal Tax Preferences in Canada: Estimates from Personal Income Tax Data," Canadian tax journal (2015) 63:3, 661 – 88.

Summary Findings

Food Price Outlook, 2021

This page summarizes the September 2021 forecasts, which incorporate the August 2021 Consumer Price Index and Producer Price Index numbers.

See [Changes in Food Price Indexes, 2019 through 2022](#) for data files.

Consumer Price Index for Food (not seasonally adjusted)

The all-items Consumer Price Index (CPI), a measure of economy-wide inflation, increased by 0.2 percent from July 2021 to August 2021 before seasonal adjustment, up 5.3 percent from August 2020. The CPI for all food increased 0.4 percent from July 2021 to August 2021, and food prices were 3.7 percent higher than in August 2020.

The level of food price inflation varies depending on whether the food was purchased for consumption away from home or at home:

- The food-away-from-home (restaurant purchases) CPI increased 0.4 percent in August 2021 and was 4.7 percent higher than August 2020; and
- The food-at-home (grocery store or supermarket food purchases) CPI increased 0.3 percent from July 2021 to August 2021 and was 3.0 percent higher than August 2020.

In 2021 thus far compared to 2020 (reported as "Year-to-date avg. 2020 to avg. 2021"), food-at-home prices have increased 2.1 percent and food-away-from-home prices have increased 3.3 percent. The CPI for all food has increased an average of 2.7 percent. Of all the CPI food-at-home categories tracked by the U.S. Department of Agriculture (USDA) Economic Research Service, pork has had the largest relative price increase (5.4 percent) and fresh vegetables the smallest (0.5 percent). No food categories have decreased in price in 2021 compared to 2020.

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. In 2022, food-at-home prices are expected to increase between 1.5 and 2.5 percent, and food-away-from-home prices are expected to increase between 3.0 and 4.0 percent.

Recent Historical Overview

Between the 1970s and early 2000s, food-at-home prices and food-away-from-home prices increased at similar rates. Since 2009, however, their rates of growth have diverged; while food-at-home prices deflated in 2016 and 2017, monthly food-away-from-home prices have been rising consistently since then. The divergence is partly due to differences between the costs of serving prepared food at restaurants and retailing food in supermarkets and grocery stores.

In 2019, retail food-at-home prices rose 0.9 percent. This increase was the second in 4 years, but the rate was still below the 20-year annual average of 2.0 percent. While prices for poultry, eggs, fats and oils, and fresh fruits declined in 2019, prices for all other food categories increased. Fresh vegetables had the largest annual average increase of 3.8 percent in 2019 and eggs the largest annual average decrease of 10.0 percent.

In 2020, food-at-home prices increased 3.5 percent and food-away-from-home prices 3.4 percent. This convergence was largely driven by a rapid increase in food-at-home prices, while food-away-from-home price inflation remained within 0.2 percentage points of the 2019 inflation rate. The largest price increases were for meat categories: beef and veal prices increased by 9.6 percent, pork prices by 6.3 percent, and poultry prices by 5.6 percent. The only category to decrease in price in 2020 was fresh fruits by 0.8 percent.

CPI Forecast Changes This Month

Forecast ranges for 4 protein CPI food categories were revised upward this month: beef and veal, pork, fish and seafood, and eggs. Forecast ranges for the aggregate categories of meats; and meats, poultry, and fish were revised upward as well. The forecast range for fresh fruits was revised downward this month.

Beef and veal prices increased 0.6 percent from July to August 2021, and pork prices increased 0.7 percent. These increases follow 6 months of consecutive price increases for both categories. Prices have been driven up by strong domestic and international demand, high feed costs, and supply chain disruptions. Winter storms and drought impacted meat prices this spring, and processing facility closures due to cybersecurity attacks impacted beef and other meat production in May. **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.**

Egg prices increased 1.6 percent from July to August 2021, and are 2.8 percent higher, on average, in 2021 compared to 2020. Egg prices are high in part due to elevated foreign demand, especially from South Korea, where avian influenza impacted the egg supply earlier this year. **U.S. egg prices are predicted to increase 2.5 to 3.5 percent in 2021.**

Producer Price Index (PPI) for Food (not seasonally adjusted)

A Producer Price Index (PPI) resembles a CPI in that it reflects price changes over time. However, instead of retail prices, a PPI provides a measure of the average prices paid to domestic producers for their output. PPIs are reported for nearly every industry in the goods-producing sector of the economy. Three major PPI commodity groups are of interest to food markets: *unprocessed foodstuffs and feedstuffs* (formerly called crude foodstuffs and feedstuffs), *processed foods and feeds* (formerly called intermediate foods and feeds), and *finished consumer foods*. These groups give a general sense of price movements across various stages of production in the U.S. food supply chain.

The PPIs—measures of changes in farm and wholesale prices—are typically far more volatile than the downstream CPIs. Price volatility decreases as products move from the farm to the wholesale sector to the retail sector. Because of multiple processing stages in the U.S. food system, the CPI typically lags movements in the PPI. The PPI is thus a useful tool for understanding what may soon happen to the CPI.

The USDA Economic Research Service does not forecast industry-level PPIs for unprocessed, processed, and finished foods and feeds. However, these prices have historically shown a strong correlation with the all-food and food-at-home CPIs.

PPI Forecast Changes This Month

PPI forecasts for wholesale beef, farm-level eggs, farm-level wheat, and wholesale wheat flour were revised upward this month. Forecasts for wholesale pork and poultry, and farm-level soybeans and fruit were revised downward.

Wholesale beef prices increased 14.2 percent from July to August 2021. High feed costs, increased demand, and changes in the supply chain have driven up prices for wholesale beef. **Wholesale beef prices are predicted to increase between 17.0 and 20.0 percent in 2021.** Wholesale pork and poultry prices, however, experienced only slight increases from July to August — 2.9 and 2.7 percent, respectively — and these slight increases follow price decreases from June to July for both categories. Given the slowing of price increases, forecasts have been adjusted downward: **wholesale pork prices are now predicted to increase between 17.0 and 20.0 percent** — an adjustment downward from 18.0 to 21.0 percent — and **wholesale poultry prices are predicted to increase between 16.0 and 19.0 percent** — an adjustment downward from 19.0 to 22.0 percent.

Farm-level wheat prices and wholesale wheat flour prices both increased from July to August 2021, by 14.3 and 7.6 percent, respectively. As a result, forecasts have been adjusted upward: **farm-level wheat prices are predicted to increase between 33.0 and 36.0 percent in 2021; wholesale wheat flour prices are predicted to increase between 15.0 and 18.0 percent.**

For official USDA farm-level price forecasts, see: [World Agricultural Supply and Demand Estimates at a Glance](#). For additional information, detailed explanations, and analyses of farm-level prices, see USDA Economic Research Service Outlook publications including [Livestock, Dairy, and Poultry](#), [Oil Crops](#), [Wheat](#), [Fruit and Tree Nuts](#), and [Vegetables and Pulses](#).

See [Changes in Food Price Indexes, 2019 through 2022](#) for data files.

Food Price Outlook

- [Overview](#)
 - **[Summary Findings](#)**
 - [Documentation](#)
-
- [Food Price Environment: Interactive Visualization](#)

Last updated: Friday, September 24, 2021

For more information, contact: [Carolyn Chelius](#) and [Matthe](#)

% range. Unless of course there are changes to the U.S. corporate tax rates we'll have to see wait and see a few other items of note. Warehouse expansion for the fiscal '21 -- just ended? We opened net openings of 20. We actually had 22 openings including two relocations, but a total increase of 20 net units.

This year. We're looking to open at least 25 net new units including second warehouses in each of China and France and our first location in New Zealand as well we plan to relocate five locations. Regarding capital expenditures, our fourth quarter 2021 stand capital expenditure was approximately \$1.09 billion. Our full year CapEx spend was \$3.59 billion. As I mentioned in the last quarter's call, this included a relatively recent \$340 million purchase of a distribution facility on the West Coast to support our big and bulky delivery activities.

For e-commerce. E-commerce sales in the fourth quarter FX increased by 8.9% year-over-year. That's on top of last year's Q4 e-commerce sales increase of 91%. Our stronger departments jewelry, we actually sold a couple of rings in the \$100,000 range. Home furnishings was strong, Pharmacy was strong and Sporting goods was strong. A couple of other large departments like majors, electronics. While very good sales, we had really outside sales a year ago in the fourth quarter during COVID. Update on Costco logistics. Logistics continues to drive big and bulky sales for the quarter Costco logistics sales within our delivery was up 130% and in the quarter represented 24% of all sales on our U.S. e-commerce site, that compares to that 24% compared to 11% of e-commerce sales last year.

Mind you much of that relates to moving things from other third parties to our own internal logistics department. Currently approximately 7,000 to 10,000 daily deliveries via Costco Logistics are occurring and continuing to grow. In terms of our E-com app, we have over 10 million downloads, it's continually improving with additional features coming soon. Digital payment using the Costco credit card, it's in pilot and several locations with full rollout by the middle of next month.

The ability to view warehouse receipts online, also next month, more detail on online purchase as well and by October end an improve mobile site improved look and feel a new landing page and expanded information, both for.com news and for enhanced warehouse information.

From a supply chain perspective, I want to go back to two things, supply chain and inflation. From a supply chain perspective, the factors pressuring supply chains and inflation include port delays, container shortages, COVID disruptions, shortages on various components, raw materials and ingredients, labor cost pressures and trucker and driver shortages, trucks and drivers shortages. Domestically, anecdotally rather from even on a domestic side, various major brands are requesting longer lead times. Some faces difficulty in finding drivers and trucks on short notice lead times on ingredients and packaging has been extended in some cases. So planning is crucial which I feel people have done a great job with that over the last several months.

FINAL

Also, we're putting some limitations on key items like bath tissues, roll towels, Kirkland Signature Water, high demand cleaning related SKUs related to the uptick in adult related demand. Furniture delays in some shortages across traditional rollout times to go from 8 to 12 weeks, from 8 to 12 weeks up to 16 to 18 weeks and some ways, we think that's an advantage we're selling out the generally merchandise once it's received within two weeks on most items and we've ordered more an earlier. Same thing with toys and seasonal will bring in some of the items early. Chip shortages impacting many items as I mentioned, in the last call examples of impacted items, computers, tablets, video games, major appliances, feeling is from the buyers is this will likely extend in to 2022 again. We're ordering as much as we can and getting it in earlier and I think as evidenced by most recent sales results we're doing okay with this.

Despite these issues, oh sorry -- in terms of transportation costs and they are increasing we're reading about it every day. Containers, trucks and drivers all are impacting the timing of deliveries and higher freight costs. Despite all these issues. We continue to work to mitigate cost increases in a variety of different ways and hold down and, or mitigate, our price increases passed on to the members. We've also chartered three ocean vessels for the next year to transport containers, between Asia and the U.S. and Canada. And we've leased several thousand containers for use on these ships, every ship can carry 800 to a 1000 containers at a time and will make approximately 10 deliveries during the course of the next year.

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 hives 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.

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

Bloomberg Transcript

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.

As I discussed earlier, this inflation was the driver of the \$30 million LIFO charge, that we took in the quarter. But all of this said, I feel very good with the job that our merchants, our traffic department in our operators have all been doing and able to -- in order to get the products that we need, pivot when and where necessary, and keep our warehouses full while keeping prices as low as we can for our members and continue to show incredible value versus our competitors.

I think this is reflected in our strong reported sales and profits that we've achieved, despite challenges and our typical aggressive pricing. Finally, in terms of upcoming releases, we will announce our September sales results for the five weeks ending Sunday, October 3rd on Wednesday, October 6th after the market closed. And with that, I will open it up for questions with Ann. Ann, thank you.

Questions And Answers

Operator

(Question And Answer)

Thank you. (Operator Instructions) We have our first question from the line of Simeon Gutman from Morgan Stanley. Your line is now open.

Q - Simeon Gutman {BIO 7528320 <GO>}

Hey, Richard. My first question is on next fiscal year. I know you don't give a lot in terms of guidance, but wanted to ask if you think or how should we think about EBIT whether it grows or not next year? And if you don't answer that, I was going to ask, if comps grow in fiscal '22 should EBIT grow?

A - Richard A. Galanti {BIO 1423613 <GO>}

Well, on the first question, of course, I can't say, we don't provide guidance, but we've always talked about being a top line company and that helps a lot of things. So depending on what level of sales, we'll have to wait and see, we do have the dollar increase that started in March that -- anniversary next February, so at the end of Q2 next year. But again, we've shown that either with what we view is holding the line as much as we can on pricing and being pretty aggressive there and taking that into account. We've shown that with strong sales, we can certainly improve the bottom line, as well. So fingers crossed.

Q - Simeon Gutman {BIO 7528320 <GO>}

So my follow-up, maybe in two parts, and one of them is on sales and then you mentioned the wage increase. So on the sales side, is there anything that you're looking

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Bloomberg Transcript

at or approaching different? I know extreme value is one angle, but timing of mailers, inventory availability looking better, is it ancillary that hasn't recovered, what can you do on the top-line given how big of a lap? And then you mentioned the wage increases and I know you'll lap those in March, but you've seen, I think Amazon and Walmart have moved up. And so, I'm curious if -- how do you think about or should we expect another increase in terms of wages?

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A - Richard A. Galanti {BIO 1423613 <GO>}

Sure. Well, first of all, as it relates to all the anecdotal comments I made about supply chain and inflation. I think, overall, we feel that we're doing a heck of a job in that stuff. And I think some of the advantage we have is that, we certainly have the financial ability to bring in things early or order early and to mitigate whatever delay may have occurred. We certainly have the space to keep some of this stuff, most particularly because of our cost to logistics acquisition a year ago, two additional storage space if you will. Not that we're having an issue with that because it's turning pretty fast. And the fact that we're able to pivot, we're bringing in new items. We're bringing in items off season for Christmas. Pre-COVID it was not -- it was toys and trimmer home and electronics.

Today, it's all those things, plus things for the house from barbeque grills to even summer items. But anything you get your hands on. And again, I think we've done a very good job of adding suppliers where we can and also making sure we're coming up with new items and being creative and innovative even on the food and sundrie side. So I think from that standpoint, despite sometimes looking at each other the merchants and the traffic people everything is saying, boy this when is this going to end? The fact is, I think we're doing a very good job of that. From an inventory standpoint, I think for those of you who -- several of you do go and visit our locations on a random basis, they are full, they look good compared to some of the pictures we see from other sometimes. And so I feel from that standpoint, we have a good issue.

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. We're pragmatic about it, but we recognize that since things have been so successful and our sales have been strong. We can hold the line on some of those things and do a little better job, hopefully do a better job than some of our competitors happened. Be even that more extreme in the value. So I think all those things so far at least, despite the challenges have worked in our favor a little bit.

Q - Simeon Gutman {BIO 7528320 <GO>}

Okay. Thanks, Richard.

Operator

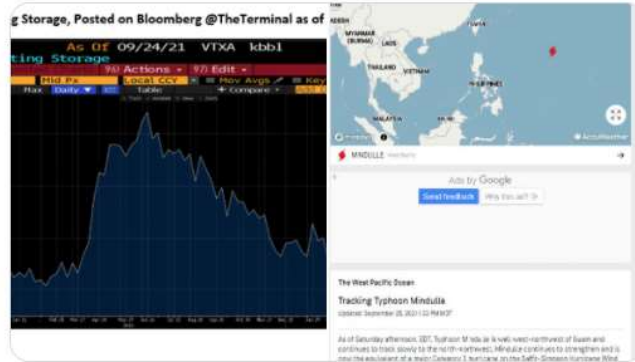
Thank you. Our next question comes from the line of Michael Lasser from UBS. Your line is now open.

Bloomberg Transcript



Dan Tsubouchi @Energy_Tidbits · 18h

Floating #Oil storage +3.67 mmb WoW to 73.65 mmb at Sept 24. But +9.25 mmb vs original Sept 17 est 64.40 mmb. ? is how many tankers are on the move due to Typhoon Mindulle that would be stationary? Thx @Vortexa @TheTerminal #OOT



1 2 8



Dan Tsubouchi @Energy_Tidbits · 21h

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 safgroup.ca/news-insights #OOT

SAF Group created transcript from Argus Media's Karl Kleemeir keynote interview with Trafigura Chief Economist Saad Rahim at Argus Asia-Pacific Crude and Products Online Forum on Sept 21, 2020 <https://event.on24.com/eventRegistration/ContentLobbyServlet?target=reg2022.jsp&eventId=3336285&sessionId=18&qr=170555213485463408710668171336&groupid=2750834&partnerref=twitter&sourcepage=register>

Items in "Italics" are SAF created transcript

37:30 on the rush to the energy transition. Long answer. Bahim 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. It's not just coal, it's gas, LNG, it's 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 *google 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 flog dogs 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*"

SAF - Dan Tsubouchi @Energy_Tidbits · Sep 23

Definitely worth a listen. This plus so much more on #Oil #EnergyTransition, etc in 40 min @ArgusMedia Karl Kleemeir keynote interview w/ @Trafigura @saadrahim. Will highlight in SAF Group Sept 26, 2021 Energy Tidbits memo safgroup.ca/news-insights/ #OOT event.on24.com/eventRegistrat...

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Dan Tsubouchi @Energy_Tidbits · 21h

took a couple minutes more for the grocery run. local young #Canmore deer in no hurry to go anywhere in our neighborhood.



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Dan Tsubouchi @Energy_Tidbits · Sep 25

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 twitter.com/Lyobserver/sta...



Dan Tsubouchi @Energy_Tidbits · Sep 22

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 twitter.com/Lyobserver/sta...



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Dan Tsubouchi @Energy_Tidbits · Sep 25



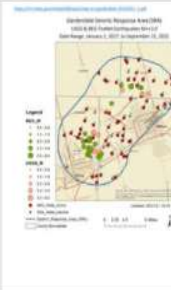
Hope our neighbours 🇺🇸 win @rydercup but really want the 🇨🇦 side rally today to close the gap. want to be glued to the TV all day. but for 2022 @PresidentsCup, will be for internationals that hopefully includes 🇨🇦 @coreconn & @MacHughesGolf



Dan Tsubouchi @Energy_Tidbits · Sep 25



Looks like a new @txrrc precedent for #Permian #Oil #NatGas activity & earthquake handling. @txrrc links SWD injection to quakes in Gardendale, reduces SWD activity therein & not allow permitted SWD wells to start up. Thx @DavidWethe for flagging. #OOTT [rrc.texas.gov/announcements/...](https://rrc.texas.gov/announcements/)



🔄 Dan Tsubouchi Retweeted



Dan Tsubouchi @Energy_Tidbits · Sep 24

...

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

SAF Group created transcript from Argus Media's Karl Kleemeir keynote interview with Trafigura Chief Economist Saad Rahim at Argus Asia Pacific Crude and Products Online Forum on Sept 23, 2020
<https://www.safgroup.ca/news-insights/transcript-karl-kleemeir>
<https://www.safgroup.ca/news-insights/transcript-karl-kleemeir>

Items in "Info" are SAF created transcripts

At 15:00 min. "Rahim" - not just the price level is telling us, but I think the level of deconvolution that we are seeing in the market, its come off a little from where we were, is telling you the market is hungry for it, the oil and so be honest with you, when you look at things like floating inventories, when you look at some of the other things, we have really started to normalize on those. 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."

Prepare by SAF Group <https://safgroup.ca/news-insights/>

SAF Dan Tsubouchi @Energy_Tidbits · Sep 23

Definitely worth a listen. This plus so much more on #Oil #EnergyTransition, etc in 40 min @ArgusMedia Karl Kleemeir keynote interview w/ @Trafigura @saadrahim. Will highlight in SAF Group Sept 26, 2021 Energy Tidbits memo safgroup.ca/news-insights/ #OOTT event.on24.com/eventRegistrat...



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Dan Tsubouchi @Energy_Tidbits · Sep 24

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Support for winter #LNG prices. Japan Meteorological Agency temperature probability for Winter (Dec-Jan-Feb) expects colder than normal Japan temperatures. #NatGas

jma.go.jp/bosai/map.html...



Japan Meteorological Agency Recap of Winter 2020-2021 (Dec-Feb) Temperatures

Note last winter Dec-Jan was overall above normal, but Dec was cold, Jan was a normal to below normal, and Feb was warm. So overall it was warmer than normal

<https://www.data.jma.go.jp/tcc/tcc/products/japan/climate/index.php?kikan=3mon&month=2&year=2021>



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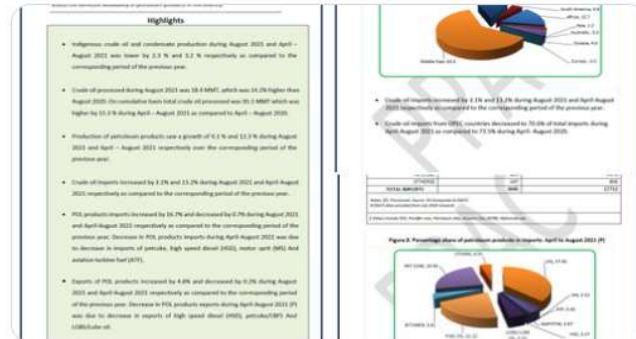




Dan Tsubouchi @Energy_Tidbits · Sep 24

India Aug crude #Oil #PetroleumProducts data. Aug crude imports +3.1% YoY to 4.11 mmbd. Aug petroleum products imports +16.7% YoY to 1.00 mmbd - note used BP product basket conversion of 8.058 and didn't do tonnes to barrels by specific product. #OOTT

ppac.gov.in/WriteReadData/...



1 3



Dan Tsubouchi @Energy_Tidbits · Sep 23

Why price spikes & risk of shortage is increasing when supply/demand gets tight. Europe #electricity generation has basically been a one for one replacement i.e. replacing baseload #Coal #Nuclear generation with intermittent #Renewable generation. #NatGas #EnergyTransition

Europe Electricity Generation 2009 vs 2020

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

Dan Tsubouchi @Energy_Tidbits · Aug 6

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 ...

1 1



Dan Tsubouchi @Energy_Tidbits · Sep 23

Updated @BSEEGov shut-in production as of operators reporting 10:30am MT today. After 25 days, still 0.29 mmb/d #Oil (16.2% of GoM) & 0.54 bcf/d #NatGas (24.3% of GoM). Shut in to date 30.3 mmb & 38.9 bcf. See below, only modest returns until #Shell Olympus back in Q4/21. #OOTT

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%	1,702,560	93.55%	2,035.0	91.29%
2021-09-03	133	23.75%	6	54.55%	1,696,557	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	17.69%	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	77.69%
2021-09-08	73	13.04%	4	36.36%	1,399,180	76.68%	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	66.30%	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%



Dan Tsubouchi @Energy_Tidbits · Sep 20

#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. #OO...

1 7



Dan Tsubouchi @Energy_Tidbits · Sep 23

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

Oil Demand

Hardy's bullish view echoes that of Goldman Sachs Group Inc., which is predicting higher crude prices, especially if the winter months are colder than normal. Traders have been assessing the likely impact of a tightening natural gas market on the broader energy complex over the coming winter.

European gas stockpiles will be at about 78% of normal levels during October, an indication of a tightening market in the colder months when demand surges, said Hardy.

"All people are worried about is that we're missing pieces of stock which we normally have," he said. "During the winter, demand for gas is massively higher than demand for gas during the summer. You have to store, there's no two ways around it."

Global Demand

The tightness in gas stockpiles coincides with strong global demand, with countries such as Pakistan, Bangladesh, India and China seeking to use cleaner fuels for their pipelines and power systems, Hardy said.

That means gas will remain pricey, prompting buyers to procure alternative fuels such as liquefied petroleum gas or naphtha for the power sector or industrial uses, according to Hardy. For example, gas is trading at about \$1,200 a ton, whereas LPG is only about \$750 a ton, he said.

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.

"It is finally balanced for the next six months," Hardy said. "We're not worried about demand in the long run, we know

2 5



Dan Tsubouchi @Energy_Tidbits · Sep 23

Definitely worth a listen. This plus so much more on [#Oil](#) [#EnergyTransition](#), etc in 40 min [@ArgusMedia](#) Karl Kleemeir keynote interview w/ [@Trafigura](#) [@saadrahim](#). Will highlight in SAF Group Sept 26, 2021 Energy Tidbits memo safgroup.ca/news-insights/ [#OOTT](#) event.on24.com/eventRegistrat...

[Argus Media](#) @ArgusMedia · Sep 23

News story: [@Trafigura](#) is maintaining its [#oilprices](#) forecast to potentially hit \$100/bl late '22 despite the risk of short-term Covid headwinds heading into the northern hemisphere winter, chief economist [@saadrahim](#) said | [#ArgusOil](#)

By [@argus_kevinf](#): okt.to/n6XbpD



Dan Tsubouchi @Energy_Tidbits · Sep 22

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](#)

[The Libya Observer](#) [@Lyobserver](#) · Sep 22

Haftar takes three-month leave from military post to run for [#Libya](#) president lyo.ly/22g4





Dan Tsubouchi @Energy_Tidbits · Sep 22



#NatGas is "not just a transition, its a destination fuel as well" @simonelli on role of #NatGas in long march to #NetZero. Soaring EU gas price bringing debate around #EnergyTransition as need energy security. #Hydrocarbons are needed, especially #NatGas Thx @dan_murphy. #OOT

At 0:00 min. Murphy asks on what is happening in Europe with the soaring gas prices, "is this going to be transitory or are we going to see wider implications for consumers and the broader economy?" Simonelli "I think a lot of people are seeing what's happening in Europe and it's bringing to light the important discussion around the energy transition, and the importance that we have around gas as well. Whether it be transitory or prices remain high, I think its still early to see but definitely it brings the debate around energy transition"

At 0:45 min. Murphy asks ... so Europe can keep the lights on this winter. Simonelli "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".

At 1:54 min. Simonelli "when you look at just driving efficiencies in our operations. If you look at 10% efficiency in the oil and gas industry can actually reduce half a gigatonne of CO2 emissions, and that's already 5% of the Paris Accord"

At 2:30 min. Simonelli says "Gas is here, its key as we go from a transition, and its not just a transition, it's a destination fuel as well". Murphy asks "okay, destination fuel, so expand on that a little more for me, what role do you think gas is going to play in this long march to Net Zero". Simonelli "I think you just have to look at



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Dan Tsubouchi @Energy_Tidbits · Sep 22



#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?

The no-strings-attached tax cuts that Liberal and Conservative governments have handed out to profitable corporations have not translated into more business investment or good jobs for Canadians. Despite that, the Liberal government kept Conservative corporate tax cuts in place, and added billions in new corporate giveaways on top of them – including allowing companies to use pandemic aid to paid shareholder profits and CEO bonuses.

While profitable corporations benefit from these generous breaks, Canadian families are falling behind. New Democrats believe that it's time to rebalance our priorities. We will roll corporate tax cuts back to their 2010 levels, or 18%, while maintaining the small business tax rate at its current level.

For the highest income individuals in Canada (those making over \$210,000), we will increase the top marginal tax rate by two points to 35%

profits subject to capital gains taxation to 75%, the rate that was in place in 2000. This will generate significant revenue every year to fund the services Canadians need while ensuring greater equality for our tax system, as 88 per cent of this billion-dollar benefit currently goes to the richest 1% of Canadians".

A New Democrat government will also strengthen enforcement to stop the tax evaders and others who have benefited from offshore tax havens for too long. This will include forcing corporations to prove the economic substance of their offshore transactions, closing tax loopholes like the CEO stock option deduction, and reviewing and reprofiling tax expenditures that don't benefit everyday Canadians.

Finally, to help tackle the housing speculation that is making home ownership unaffordable for Canadians, we will put in place a 20% foreign buyers tax on purchases of residential property by foreign corporations, or people who



The Globe and Mail @globeandmail · Sep 21



Mr. Singh has said that his top demand in a minority Parliament will be a wealth tax.

"We remain resolute that it should be the ultra-rich, the billionaires, that pay their fair share." ...

Show this thread



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Dan Tsubouchi @Energy_Tidbits · Sep 22

Updated @BSEEgov shut-in production as of operators reporting 10:30am MT today. After 24 days, still 0.29 mmb/d #Oil (16.2% of GoM) & 0.54 bcf/d #NatGas (24.3% of GoM). See below, only expect modest declines until #Shell Olympus comes back in Q4/21. #OOTT

Date	Oil (mmb/d)	Oil %	NatGas (bcf/d)	NatGas %	Oil Prod	NatGas Prod	Total Prod	Oil % of Total	NatGas % of Total
2021-08-31	278	49.64%	9	81.82%	1,705,095	93.69%	2,107.0	94.47%	94.47%
2021-09-01	278	49.64%	9	81.80%	1,705,095	93.69%	2,107.0	94.47%	94.47%
2021-09-02	177	31.61%	6	54.55%	1,702,566	93.56%	2,035.0	91.29%	91.29%
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2021-09-09	71	12.60%	4	36.36%	1,391,065	76.48%	1,722.7	77.25%	77.25%
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2021-09-20	36	6.43%	0	0.00%	331,078	18.15%	598.4	26.83%	26.83%



Dan Tsubouchi @Energy_Tidbits · Sep 20



#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. #OO...



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Dan Tsubouchi @Energy_Tidbits · Sep 22

For those not near their laptop as I was at 8:30am MT. @EIAgov weekly #Oil #Gasoline #Distillates inventory as of Sept 17 was released 8 min ago. #OOTT

ir.eia.gov/wpsr/overview...

Oil/Products Inventory Sept 17: EIA, Bloomberg Survey Expectations, API			
(million barrels)	EIA	Expectations	API
Oil	-3.48	-2.45	-6.11
Gasoline	3.47	-1.47	-0.43
Distillates	-2.55	-1.10	-2.72
	-2.56	-5.02	-9.26

Note: In addition, there was 1.2 mmb draw from the SPR for Sept 17 week
Note: Included in the data, Cushing had a draw of 1.48 mmb for Sept 17 week
Source EIA, Bloomberg
Prepared by SAF Group



4





Dan Tsubouchi @Energy_Tidbits · Sep 22

great sunrise looking south over #Calgary Elbow River it's even better in Calgary with WTI \$72 and HH \$4.85



2



18



Dan Tsubouchi @Energy_Tidbits · Sep 22

#OOTT

SAF Dan Tsubouchi @Energy_Tidbits · Sep 22

Key upside to 2022 HH/AECO. +2 bcf/d #LNG capacity to draw on US #NatGas supply. Sabine Pass #6 (0.7 bcf/d) & Calcasieu Pass LNG (1.3 bcf/d) that is completing now, production to start shortly. Thx @still_claudia @HarryRWeber See SAF July 25 Energy Tidbits safgroup.ca/news-insights/

HIGHLIGHTS

First production expected within months: executive
Louisiana facility is seventh US liquefaction terminal

Author
Claudia Carpenter Harry Weber

Venture Global LNG's Calcasieu Pass export terminal in Louisiana is nearing completion and will begin production within months, Chief Commercial Officer Tom Earl said Sept. 22 at the Gastech conference in Dubai.

The developer said in March that first LNG exports could occur in late 2021. Earl's update did not reference a specific date for production, suggesting that output could start later this year or early next year. He did not reference first exports during his comments.

According to reports with US regulators, Calcasieu Pass has begun early commissioning activities at the facility. It has not yet received approval to flow liquefied gas to its liquefaction trains — that would be a precursor to beginning production.

Calcasieu Pass is completing about 90%, and as we go through the coming months we'll start production shortly at that site," Earl said.

The 10 million mty/year capacity facility is being built using modular trains that are smaller than the traditional liquefaction units used at other US facilities. The modular trains are being constructed in Italy and delivered to the site and plugged in one at a time.

Venture Global has said it plans a phased operational start-up. If it does begin production and exports by the end of 2021, that would be about a year earlier than originally anticipated. Earlier this year, the company said full operations at the export terminal were expected in mid-2022. Earl, in his comments, did not address a tender that Venture Global issued earlier this year for at least 12 cargoes from Calcasieu Pass for delivery starting during the fall.



3





Dan Tsubouchi @Energy_Tidbits · Sep 22

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According to reports from US regulators, Calcasieu Pass has begun early commissioning activities at the facility. It has not yet received approval to flow liquefied natural gas (LNG) to the United States — that would be a precursor to required production.

Calcasieu Pass is completing initial work, and as the gas pipeline connecting with other pipelines nearby is that done. Earl said.

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Dan Tsubouchi @Energy_Tidbits · Sep 15
Key upside to 2022/23 HH/AECO #NatGas prices. Feedgas start up for Sabine Pass LNG Train 6 (0.7 bcf) & Calcasieu Pass LNG (1.3 bcf). @business Christine Buurma says \$LNG requested @FERC authorization to start feedgas. #LNG See SAF July 25...

7 9



Dan Tsubouchi @Energy_Tidbits · Sep 21

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.

EPA Environmental Protection Agency

Environmental Topics | Laws & Regulations | Report a Violation | About EPA

Green Vehicle Guide

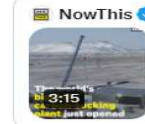
Green Vehicle Guide Home
 Learn About Green Vehicles
 Help Make Transportation Greener
 Vehicles and Greenhouse Gases: EPA's Role
 Find a SmartWay Vehicle

Greenhouse Gas Emissions from a Typical Passenger Vehicle

A typical passenger vehicle emits about 4.6 metric tons of carbon dioxide per year. This number can vary based on a vehicle's fuel, fuel economy, and the number of miles driven per year. Click on the questions below to learn more about this estimate and see answers to common questions about greenhouse gas emissions from passenger vehicles.

- How much tailpipe carbon dioxide (CO₂) is emitted from burning one gallon of fuel?
- How much tailpipe carbon dioxide (CO₂) is emitted from driving one mile?
- What are the average annual carbon dioxide (CO₂) emissions of a typical passenger vehicle?

Greenhouse Gas Emissions from a Typical Passenger Vehicle
 16 pp, 367 p, EPA-420-F-20-048
 March 2018, About EPA



NowThis @nowthisnews · Sep 20
This plant in Iceland can remove 4,000 tonnes of CO2 from the air annually
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1 1



Dan Tsubouchi @Energy_Tidbits · Sep 21

Updated @BSEEGov shut-in production as of operators reporting 10:30am MT today. After 23 days, still 0.32 mmb/d #Oil (16.6% of GoM) & 0.57 bcf/d #NatGas (25.4% of GoM). See below, only expect modest declines until #Shell Olympus comes back in Q4/21. #OOT

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Dan Tsubouchi @Energy_Tidbits · Sep 20



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Dan Tsubouchi @Energy_Tidbits · Sep 21

"Well-managed" clean #EnergyTransition are a solution not the cause of #NatGas #Electricity issues today says @fbirol. 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.

Statement on recent developments in natural gas and electricity markets

21 September 2021

The steep rise in European gas prices has been driven by a combination of a strong recovery in demand and tighter-than-expected supply, as well as several weather-related factors. These include a particularly cold and long heating season in Europe last winter, and lower-than-usual availability of wind energy in recent weeks.

European prices also reflect broader global gas market dynamics. There were strong cold spells in East Asia and North America in the first quarter of 2021. They were followed by heatwaves in Asia and drought in various regions, including Brazil. All of these developments added to the upward trend in gas demand. In Asia, gas demand has remained strong throughout the year, primarily driven by China, but also by Japan and Korea. On the supply side, liquefied natural gas (LNG) production worldwide has been lower than expected due to a series of equipment outages and delays across the globe and delayed maintenance from 2020.

"Recent increases in global natural gas prices are the result of multiple factors, and it is important not to look for the responsibility of the issue to be placed on any one party," said IEA Executive Director Fatih Birol.

Going forward, the European gas market could well face further stress tests from unplanned outages and sharp cold spells, especially if they occur late in the winter. Gas storage levels in Europe are well below their five-year average but not markedly below their previous five-year lows, which were reached in 2017.

Based on the available information, Russia is fulfilling its long-term contracts with European counterparts – but its exports to Europe are down 10% from 2020. "It is clear that Russia could do more to increase gas availability to Europe and increase its share in global supply," said Birol.

European electricity prices have climbed to their highest levels in over a decade in recent weeks, rising above 100 euros per megawatt-hour in many markets. In Germany and Spain, for example, prices in September have been around three or four times the averages seen in 2015 and 2020. This increase has been driven by the surge in gas, coal and carbon prices in Europe. The strong rise in gas prices led electricity providers in a number of European markets to switch from gas to coal for power generation – a trend that would have been more pronounced if it had not been for the increase in the price of carbon emission allowances on the European market.

"Today's situation is a reminder to governments, regulators and consumers of the importance of secure and affordable energy supplies, particularly for the most vulnerable people in our societies," Dr Birol said.

The links between electricity and gas markets are not going to go away anytime soon. Gas remains an important fuel for generating electricity, especially in regions today.



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SAF Dan Tsubouchi @Energy_Tidbits · Sep 21

🇨🇦 election big risk. Liberals selected the Cdn oil & gas sector, in total, to commit to #NetZero with still to be disclosed 2025 emissions reductions target to ensure #Oil #NatGas #OilSands are on track. Hmm! What other sectors? Thx @ChrisVarcoe. #OOTT calgaryherald.com/business/energ...

A re-elected Liberal government will:

- Make sure the oil and gas sector reduces emissions at a pace and scale needed to achieve net zero by 2050, with 5-year targets to stay on track to achieving this shared goal. And driving down pollution starts with ensuring that pollution from the oil and gas sector doesn't go up from current levels.
- Set 2025 and 2030 milestones based on the advice of the Net-Zero Advisory Body to ensure reduction levels are ambitious and achievable and that the oil and gas sector makes a meaningful contribution to meeting the nation's 2030 climate goals.

Fortunately, Canada's largest oil and gas companies are already committed to achieving net zero emissions by 2050. These actions will incentivize clean innovation and the adoption of clean technologies, including carbon capture, utilization, and storage (CCUS).

Cutting Methane Emissions

Methane causes 80 times the amount of warming of carbon dioxide emissions in the first 20 years after being released into the atmosphere. Slashing methane emissions is one of the fastest ways to slow the rate of climate change in our lifetimes. We put in place regulations to make sure oil and gas companies reduce their methane

Eliminating Subsidies and Public Financing for Fossil Fuel

A re-elected Liberal government will:

- Accelerate our G20 commitment to eliminate fossil fuel subsidies from 2025 to 2023.
- Develop a plan to phase-out public financing of the fossil fuel sector, including from Crown corporations, consistent with our commitment to reach net-zero emissions by 2050.

Our Clean Power Advantage

Canada has one of the cleanest power grids in the world. But a key challenge is that we do not have a national power grid. And our regional grids do not all connect. This limits the reach of our clean power sources. Just as past Canadian governments invested in the national railway and highways, we can partner with provinces and territories to develop a truly national power grid that will secure affordable and net-zero power for all Canadians and create good jobs.

A re-elected Liberal government will:

- Introduce a Clean Electricity Standard that will set Canada on a path to cut more emissions by 2030 and to achieve a 100% net-zero emitting electricity sector.

1 2 4

SAF Dan Tsubouchi @Energy_Tidbits · Sep 20

🇨🇦 election break over. Lions join 0-2 @NFL teams, 7 incl Jets, Colts, Jaguars, Giants, Lions, Vikings, Falcons. Since 2002 expansion, only 16 of 159 0-2 starts made playoffs but 1 won Super Bowl 2007 Giants. Worse if 0-3, only 1 (2018 Texans) of 93 made playoffs.

1 2 4

SAF Dan Tsubouchi @Energy_Tidbits · Sep 20

UK @KwasiKwarteng "customers, especially and most particularly vulnerable customers, must be protected from price spikes", political speak or non-speak that customer should expect a lot higher #Electricity #NatGas bills, just won't be "spikes". Better hope the #Wind blows.

UK gas market and prices

Statement on the UK gas market by the Secretary of State for Business, Energy and Industrial Strategy, Kwasi Kwarteng

17th September 2022

Today, I am pleased to announce a new strategy for the UK gas market. This strategy will ensure that the UK has a secure, affordable and sustainable gas supply for the long term. It will also ensure that the UK is well-placed to meet its net-zero commitments by 2050.

The strategy will focus on three key areas: security of supply, affordability, and sustainability. To ensure security of supply, we will support the expansion of the UK's gas production capacity and diversify our sources of supply. To ensure affordability, we will support the development of new gas infrastructure and encourage competition in the gas market. To ensure sustainability, we will support the development of low-carbon gas production and encourage the use of gas in industry and transport.

The strategy will also ensure that the UK is well-placed to meet its net-zero commitments by 2050. We will support the development of low-carbon gas production and encourage the use of gas in industry and transport. We will also support the development of new gas infrastructure and encourage competition in the gas market.

The strategy will be implemented through a number of measures, including: supporting the expansion of the UK's gas production capacity; diversifying our sources of supply; supporting the development of new gas infrastructure; encouraging competition in the gas market; and supporting the development of low-carbon gas production and the use of gas in industry and transport.

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SAF Dan Tsubouchi @Energy_Tidbits · Sep 18

Read carefully, do not anticipate any "increased" risk of supply emergencies this winter. noted high global spot prices that balance supply/demand, but no mention of affordability is priority ie. inners will pay up to get supply. Looks like expensive #NatGas ...

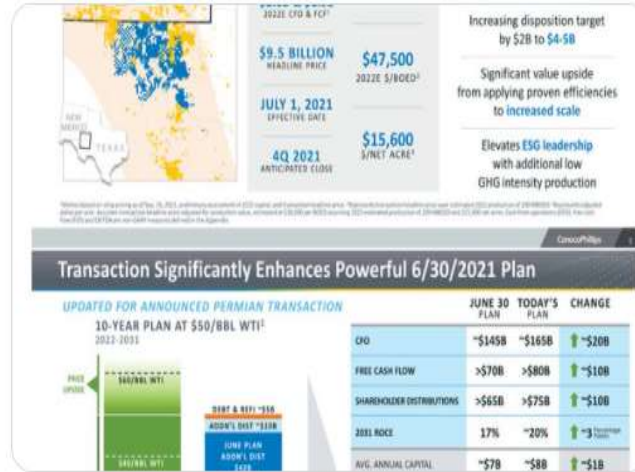
1 4



Dan Tsubouchi @Energy_Tidbits · Sep 20

...

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



2 9



Dan Tsubouchi @Energy_Tidbits · Sep 20

...

Continued slow but steady return of #Oil #NatGas to come back since #HurricaneIda. 22 days since max shut-in, but @BSEEGov for 09/20 shows still shut-in #Oil is 0.33 mmb/d (18.2% of GoM) & 0.60 bcf/d (26.8% of GoM). Cumulative shut-in 29.4 mmb & 37.3 bcf. #OOTT

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3 1



Dan Tsubouchi @Energy_Tidbits · Sep 20



#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

<https://www.equinor.com/en/news/2022/09/20/increasing-gas-export-europe.html>

Increasing gas exports to supply tight European market

September 20, 2022 09:00



Equinor and its partners have received permission to increase gas exports from two fields on the Norwegian continental shelf to supply the tight European market. Production permits for the Oseberg and Troll fields have each been increased by 1 billion cubic metres (bcm) for the gas year starting 1 October. Already in June, Equinor took steps to evaluate and develop concepts for enhancing the production and exports to the European market. This work resulted in enhanced production permits from the Ministry of Petroleum and Energy for the Oseberg and Troll fields. Specifically, Equinor and its partners have received production permits for the gas year 2022 (starting 1 October) which for each is 1 bcm higher than for the current year, i.e. an increase from 5 bcm to 6 bcm for Oseberg and from 36 bcm to 37 bcm for Troll.

"The production permits allow us to produce more gas from these two important fields this fall and through the winter. We believe that this is very timely as Europe is facing an unusually tight market for natural gas. At Equinor we are working on measures to increase exports from our fields on the NCS," says Helge Haugane, senior vice president Gas & Power.

Helge Haugane, senior vice president Gas & Power. (Photo: Anne Rindar Morken / Equinor ASA)

Ramping up at Troll

After 25 years of significant gas exports from Troll, around 50% of the gas is left in the ground. To further develop the Troll area and reinforce our ability to secure gas deliveries to Europe in the coming decades, Equinor has recently completed the Troll Phase 3 project. Recoverable volumes from Troll phase 3, which will produce the Troll West gas cap with industry leading low CO₂ emissions, are estimated at as much as 347 billion standard cubic metres of gas. Troll recoverable gas volume remaining in Troll is estimated to be 725 billion standard cubic metres.

"Now we are ramping up production at Troll following the completion of the Phase 3 project, and we expect to reach plateau production from 1 October. We take pride in being a long-term, reliable supplier of energy and we are happy that we have been able to identify ways to export as much as practically possible into this tight market," says Helge Haugane. Troll phase 3 will extend the life of Troll A and the Kårstø processing plant beyond 2050, and the plateau production period by 5-7 years.

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Dan Tsubouchi @Energy_Tidbits · Sep 20




#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. #OOTT

<https://www.shell.com/news-releases/shell-reports-damage-assessment-of-wd-143-from-hurricane-ida.html>

Shell Reports Damage Assessment of WD-143 from Hurricane Ida

September 20, 2021 09:00



HOUSTON, Sept. 20, 2021 (ENR) – Shell Offshore Inc., a subsidiary of Royal Dutch Shell plc, has conducted a comprehensive damage assessment of our West Hubs (WD-143) offshore facilities from the eye of the hurricane. The hurricane caused structural damage to the West Hubs (WD-143) offshore facilities. The West Hubs (WD-143) offshore facilities serve as the transfer station for production from our assets in the Gulf of Mexico to offshore crude and natural gas terminals.

The West Hubs (WD-143) offshore facilities are located in the northern Gulf of Mexico. The West Hubs (WD-143) offshore facilities are currently in a state of repair. The West Hubs (WD-143) offshore facilities are currently in a state of repair. The West Hubs (WD-143) offshore facilities are currently in a state of repair.

As we continue to assess and address the impact of Hurricane Ida on our business, our top priority continues to be the protection and recovery of our people and assets, the community and the environment.

Notes to editors

- The WD-143 platform, owned by Shell Offshore Inc. (SHELL) and BP Exploration & Production Inc. (BP), is operated by Shell Production Company (SP).
- The West Hubs (WD-143) offshore facilities are operated by Shell Offshore Inc. (SHELL), BP Exploration & Production Inc. (BP), and Equinor (Equinor). The West Hubs (WD-143) offshore facilities are currently in a state of repair. The West Hubs (WD-143) offshore facilities are currently in a state of repair.
- The West Hubs (WD-143) offshore facilities are currently in a state of repair. The West Hubs (WD-143) offshore facilities are currently in a state of repair.

Source: Offshore Engineer [LINK] Shell

Shut down to #Shell WD-143 critical transfer station looks like 310,000 boed impact incl Mars 60,000 boed, Olympus 100,000 boed & Ursa 150,000 boed. Thanks to @josyanajoshua @DavidWethe for data in their recap today. #Oil #NatGas #OOTT twitter.com/Energy_Tidbits...

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Our weekly SAF Sept 19, 2021 Energy Tidbits memo was just posted to our SAF Group website. This 49-pg energy research piece expands upon and covers many more items than tweeted this week. See the research section of the SAF website [#Oil #OOTT #LNG #NatGas safgroup.ca/news-insights/](https://safgroup.ca/news-insights/)

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. India to expand natural gas distribution to cover 96% of its population to support doubling natural gas share of energy mix to 15% by 2030. [\(Click Here\)](#)
2. Gazprom Chairman Miller reminds it has 5.3 bcfid of productive capacity can help relieve Europe winter gas prices. [\(Click Here\)](#)
3. IEA's Oil Market Report estimates OECD July oil inventories were 120.3 mmb below pre-Covid 2015-2019 average. [\(Click Here\)](#)
4. IEA "It is becoming increasingly clear that weak investment, triggered by the pandemic and the uncertain path of future oil demand growth, is already impacting global supply." [\(Click Here\)](#)
5. North Dakota estimates wells waiting on completion dropped from 680 in June to 521 in July, that's 112 more than expected after accounting for estimated 47 wells completed in July. [\(Click Here\)](#)



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