Energy Tidbits

Saudi Energy Minister Abdulaziz Moves Brent +$6/b Despite a Gloomy FED Chair Outlook & Weak Global Economic News

Produced by: Dan Tsubouchi

August 28, 2022

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https://www.farmersalmanac.com/extended-forecast

2022-23 Extended Winter Weather Forecast

Winter—It's Coming!

The first day of winter and the shortest day of the year, officially arrives on December 21, 2022, but that doesn't always mean that the cold temperatures and snow storms will wait until then. So what's in store? Here's the Farmers' Almanac extended winter weather forecast for the winter of 2022-2023 in the United States. Read on.

The Farmers' Almanac 2022-2023 Extended Weather Forecast:

Got flannel? Hot chocolate? Snowshoes? It's time to stock up! According to our extended forecasts, this winter season will have plenty of snow, rain, and mush—as well as some record-breaking cold temperatures! We are warning readers to get ready to "Shake, shiver, and shovel!"

The first bite of winter should come earlier than last year's. December 2022 looks stormy and cold nationwide with an active storm pattern developing and hanging around for most of the season over the eastern half of the country. (Maybe there will be a white Christmas in some areas?)

Winter Storm Warnings

What we hear more often than not is how much snow will you get? When will the winter storm warnings start? (And when will it end!?) Well, according to our extended forecast, there should be quite a few significant winter weather disturbances nationwide in 2022-2023. A few of these dates include:

1) The first week of January in the Rockies and across the Plains. During this time, we see good potential for heavy snow that may reach as far south as Texas and Oklahoma, followed by a sweep of bitterly cold air.

2) January 16-23, we'll raise another red flag for bouts of heavy rain and snow across the eastern two-thirds of the country followed by what might be one of the coldest outbreaks of arctic air we have seen in several years. How cold? Try 40 degrees below zero!

Sign up for free weather updates, money saving tips, and more.

How Much Snow Will You See This Winter Season?

Winter 2022-2023 should be dominated by an active storm track in the eastern half of the country, running from the western Gulf of Mexico to the northeast, across the Virginias, and across interior New York State and New England.

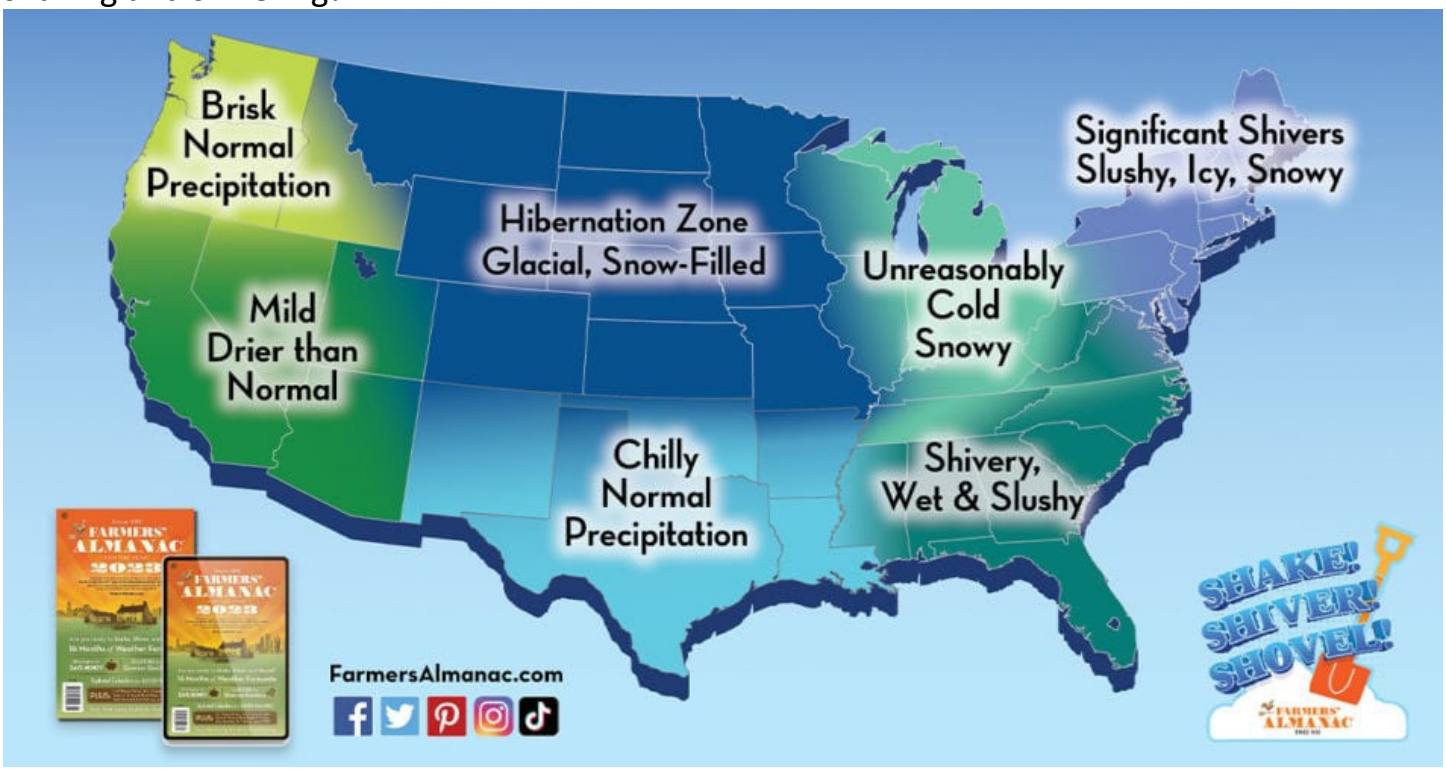
Areas south of the storm track (much of the Southeast) will see frequent storms bringing cold rains and a wintry mix of wet snow, sleet, ice, freezing rain—as well as chilly temperatures. The I-95 corridor can be included in this winter mix zone with places to the north of the track seeing the precipitation fall more as snow and at times, a lot of it. This may be especially true over the Ohio Valley and Great Lakes area.

Snow lovers will be happy in the North Central States as they will see a fair share of storminess during the winter season, which should mean plenty of snow for winter enthusiasts to enjoy (maybe even in time for a white Christmas?).

The South Central States are forecast to see some accumulating snow, especially in early January. The Far West and the Pacific Northwest will see about-normal winter precipitation; however, the Southwest will experience less than normal.

How Cold Will It Get?

The big takeaway for our winter season forecast is that frigid temperatures should flow into many areas nationwide—especially in the North Central region, where readers will certainly be shaking and shivering!



Hot Chocolate Warning In The East And South

A cold December and a very cold January might make readers in the Northeast shake and shiver. But February will bring milder temperatures that should make winter seem more bearable.

The Southeast will experience some shivers, especially during the month of January. Fortunately, for the snowbirds, February will likewise warm the region to near-normal winter season temperatures overall.

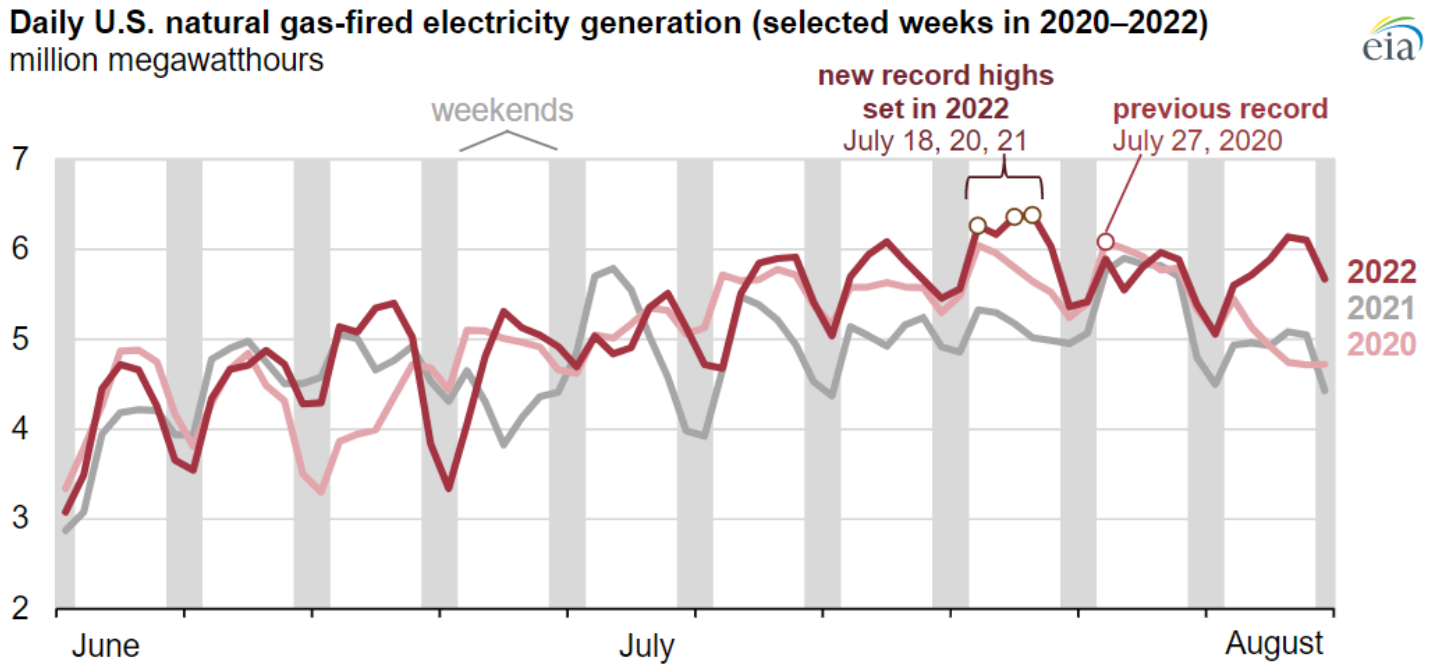
Extra Flannels Necessary In Other States!
Winter will feel unreasonably cold for readers in the Great Lakes region, especially in January. Farther south, into the Southern Plains, temperatures will average chillier than normal. The Pacific Northwest will see brisk/cool conditions, and the Southwest will be the mild area of the country, with near-normal winter temperatures.

When Will It Warm Up?
After the vernal equinox, when we should be slipping into spring, expect a lion-like end of March. There should be a wide variety of weather conditions, ranging from heavy snows to torrents of rain to gusty thunderstorms across much of the nation.

https://www.eia.gov/todayinenergy/detail.php?id=53559

AUGUST 23, 2022

Daily U.S. electricity generation from natural gas hit a record in mid-July



In the U.S. Lower 48 states, electric power generated by natural gas-fired power plants reached 6.37 million megawatthours on July 21, 2022, according to our *Hourly Electric Grid Monitor*. Despite relatively high natural gas prices, demand for natural gas for electricity generation has been strong throughout July as a result of above-normal temperatures, reduced coal-fired electricity generation, and recent natural gas-fired capacity additions.

U.S. electricity demand usually peaks in the summer because of demand for air conditioning. This past July was especially hot, ranking as the third hottest on record in the United States. Before this year, the previous daily peak for natural gas-fired electricity generation had occurred on July 27, 2020, when natural gas prices were historically low.

In July 2020, the Henry Hub natural gas price averaged $1.77 per million British thermal units (MMBtu). This July, the natural gas price averaged $7.28/MMBtu. Typically, higher natural gas prices reduce natural gas price competitiveness relative to other sources, especially coal.

This summer, coal-fired power plants have not been used as much as in prior summers. Continued retirements of coal-fired generating plants, relatively high coal prices, and lower-than-average coal stocks at power plants have limited coal consumption. In May, coal inventories at power plants averaged 20% lower than the prior-year levels.

New capacity has increased the availability and use of natural gas-fired electricity. Over the past 10 years, developers have added about 62 gigawatts of combined-cycle gas turbine capacity. The increased number of combined-cycle gas turbines in use has led to efficiency gains and less conversion losses, which means more electricity can be generated from the same amount of natural gas.

Principal contributors: Kirby Lawrence, Max Ober

Tags: generation, electricity, natural gas

http://freeportlng.newsrouter.com/news_release.asp?intRelease_ID=9749&intAcc_ID=77

Freeport LNG Provides Update on Restart Timeline for its Liquefaction Facility

Aug 23rd, 2022

FREEPORT LNG PROVIDES UPDATE ON RESTART TIMELINE FOR ITS LIQUEFACTION FACILITY

Houston, TX, August 23, 2022 – Freeport LNG Development, L.P. (Freeport LNG) has completed a detailed assessment of alternatives for resuming operations at its liquefaction facility following the June 8th incident and has identified a recovery plan for reinstatement of partial operations that it believes ensures the long-term safety and integrity of the facility, provides recovery execution certainty, and minimizes procurement and performance testing risks. Although typical construction risks could impact the recovery plan, it is anticipated that initial production can commence in early to mid-November, and ramp up to a sustained level of at least 2 BCF per day by the end of November, representing over 85% of the export capacity of the facility. The recovery plan will utilize Freeport LNG's second LNG loading dock as a lay berth until loading capabilities at the second dock are reinstated in March 2023, at which time we anticipate being capable of operating at 100% of our capacity.

Freeport LNG has engaged Kiewit Energy Group Inc. (Kiewit) to perform the engineering, procurement, and reconstruction activities necessary to implement Freeport LNG's recovery effort. Kiewit has significant LNG facility experience including both greenfield and brownfield developments and large and small/mid- scale LNG projects. They have been involved in LNG projects from start to finish including, front-end engineering design, detailed engineering, procurement, construction and commissioning.

Freeport LNG continues to coordinate closely with representatives of the Pipeline Hazardous Materials Safety Administration, the Federal Energy Regulatory Commission, the U.S. Coast Guard and other applicable regulatory agencies to implement its recovery plan and corrective measures to ensure a safe and confident resumption of operations.

ABOUT FREEPORT LNG

Freeport LNG is an LNG export company headquartered in Houston, Texas. The company's three train, 15 MTPA liquefaction facility is the seventh largest in the world and second largest in the U.S. Freeport LNG's liquefaction facility is the largest all-electric drive motor plant of its kind in the world, making it the most environmentally sustainable site of its kind. The facility's electric drive motors reduce carbon emissions by over 90% relative to gas turbine-driven liquefaction facilities. Freeport plans to expand by adding a fourth liquefaction train, which has received all regulatory approvals for construction. Freeport was formed in 2002 to develop, own and operate an LNG terminal on Quintana Island, near Freeport, Texas. The terminal started LNG import operations in June 2008 and began LNG export operations in 2019. Further information can be found on Freeport's website at www.freeportlng.com.

https://rbnenergy.com/too-low-for-zero-canadian-natural-gas-prices-experience-another-collapse-record-discounts

Too Low For Zero - Canadian Natural Gas Prices Experience Another Collapse, Record Discounts

Wednesday, 08/24/2022
Published by: Martin King

We've seen this movie one too many times. Just when natural gas prices are rallying across the world to multi-year or historic highs, another monkey wrench gets thrown into the workings of the Western Canadian gas market, imploding its suite of price markers. Last week, gas prices in Western Canada collapsed to mere pennies and even went negative for a time due to an unfortunate combination of pipeline restrictions and record-high production — a situation that will cost the region's gas industry billions if left unchecked. In today's RBN blog, we examine the root cause of the latest price collapse and when a turnaround might be expected.

If you are a natural gas producer in the U.S. or elsewhere, the present and near-term future for gas prices could not seem any brighter. Tight markets in Europe and Asia have sent LNG prices to record levels north of $50/MMBtu, while NYMEX prompt-month futures hit a 14-year high late last week. Henry Hub prices were well above $9/MMBtu at the start of this week as lower-than-average storage levels across the U.S. for this time of year, record levels of gas power burn this summer, and the ever-present pull from LNG exports (which will only get stronger once the Freeport LNG export terminal returns to service in November) have kept a very strong bid under prices. And, as we pointed out in Blurred Lines, that demand strength looks poised to continue as new LNG capacity on the U.S. Gulf Coast transforms the gas market there and around the world. Truly, these are amazing times to be a gas producer.

If you are a gas producer in Western Canada, however, you have been experiencing deeply discounted prices for most of the summer, made worse by a price crash last week. A combination of strong supplies and pipeline restrictions sent AECO day-ahead cash prices — the region's primary gas price benchmark — plunging to just a few cents per MMBtu on August 18 (dashed red oval in left graph in Figure 1). Another closely watched price marker in the region, Station 2, turned negative for several days last week (dashed black oval in right graph) and only managed to limp into the positive side of the price ledger at the start of this week. Too low for zero, indeed!

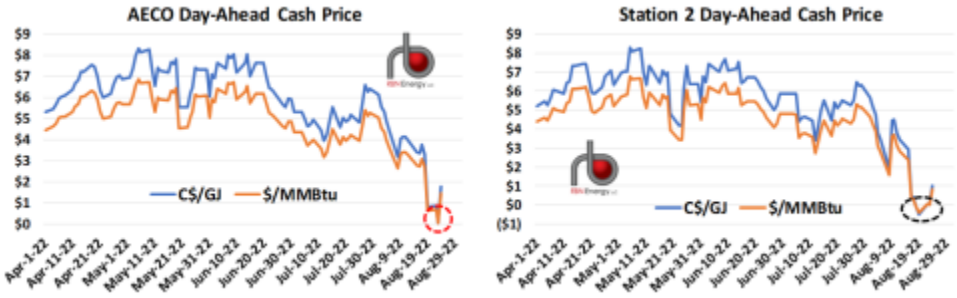


Figure 1. AECO and Station 2 Day-Ahead Cash Prices. Source: NGI

The price carnage would not be so completely untenable if other North American and international markets were seeing lower prices — misery loves company, they say — but that's not the case. With other price markers so high and Canadian prices so low, the Canadian price discount to other benchmarks such as Henry Hub has blown out to record levels for both cash prices (left graph in Figure 2) and prompt-month contracts (right graph). With such enormous discounts, industry press has been estimating the lost revenue for the Canadian natural gas industry to conservatively be at least C$1 billion in each of the past couple of months. We suspect it could be much higher than that, especially should the more recent extreme discounts persist for any length of time.

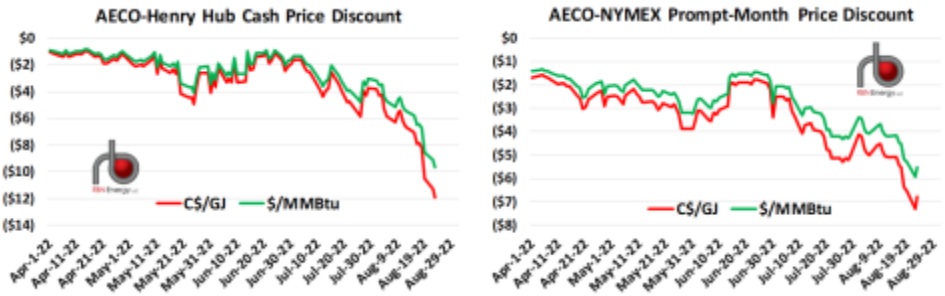


Figure 2. AECO-Henry Hub Cash Price Discount and AECO-NYMEX Prompt-Month Discount. Sources: NGI and NGX

That the current extreme situation is unprecedented — not to mention costly — goes without saying. However, this is not the first time we have had to discuss the oddities of the Canadian natural gas market, which has displayed some unusually low prices in the past few years when compared to other benchmarks (albeit not to the degree that we have seen in the latest price rout).

Longstanding Market Issues

Over the years, we have discussed the trials and tribulations of Canadian natural gas prices and the various pipeline connectivity issues going as far back as 2013 in Stuck in the Middle, again in 2016 (One Way or Another), and yet again in late 2017, when we discussed AECO prices facing increased volatility and more frequent price disconnects versus other North American markets (see Don't Do Me Like That). The consistent message from those prior blogs was that inadequate pipeline egress capacity from Western Canada was showing the strain of keeping up with shifting gas production trends, which in recent years have been powered higher by growth from the unconventional Montney formation spanning northeastern British Columbia (BC) and northwestern Alberta.

It was late in the summer of 2017, and in the summers of 2018 and 2019 — during the traditional storage injection season running from April to October — when AECO prices were periodically trading well under C$1/GJ. Pipeline systems were being strained to the limit by growing production, and gas flows were also being restricted to allow needed maintenance and expansion work to be carried out. We detailed much of this ongoing and future construction work and the intricacies of the natural gas pipeline system in Western Canada in our seven-part series Get Me Out of Here.

Before we go any further, we should explain that the Western Canadian natural gas pipeline system is dominated by three gathering and export pipelines (see map in Figure 3):

- TC Energy's Nova Gas Transmission Limited (NGTL) system (purple lines), the primary gas gathering and export pipeline network, spreads across Alberta and parts of northeastern BC. This system handles about 80% of the gas flows in Western Canada and is also responsible for the bulk of the gas leaving the region through two primary export points located on the Alberta border: East Gate (yellow dot) and West Gate (pink dot).
- The Enbridge-owned Westcoast Transmission pipeline system (dark green lines), which gathers gas in northeastern BC and then funnels it southward down a pipeline corridor to a point at Huntingdon, BC, (red dot) for export to the U.S. Pacific Northwest or further westward for use in southern BC.
- The Pembina-owned Alliance pipeline (blue line), which gathers liquids-rich gas in northeastern BC and northwestern Alberta for direct export to the area just outside of Chicago. Alliance also picks up smaller volumes of gas from the Bakken formation in North Dakota.

These three pipelines handle about 98% of gas flows in Western Canada and the interconnections between NGTL, Westcoast and Alliance are limited, reducing the optionality that producers have in switching between pipelines should portions of a competing pipeline be restricted or unavailable. There are also smaller gas volumes transported by the TransGas pipeline system (not shown) in Saskatchewan,

which is primarily focused on gas distribution inside that province and also gathers the remaining 2% of natural gas production in Western Canada (produced in Saskatchewan), nearly all of which remains inside Saskatchewan.

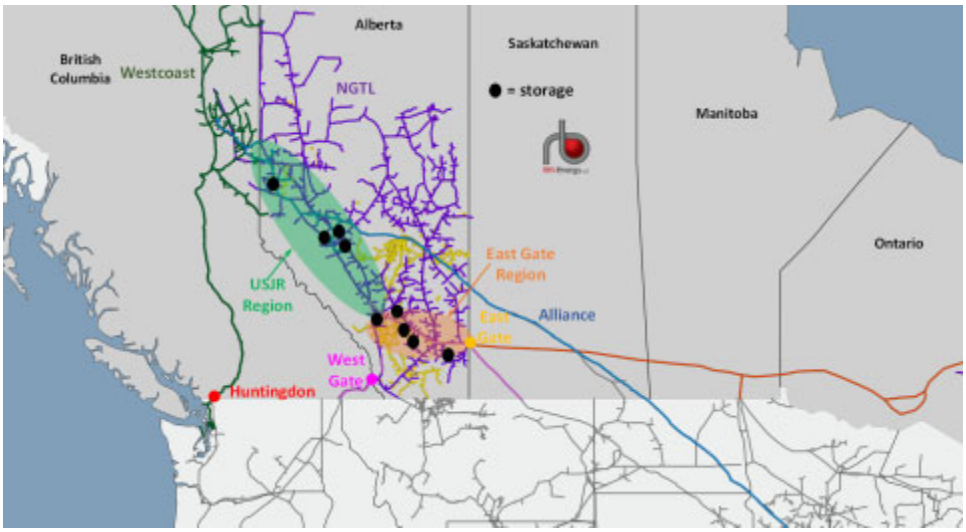


Figure 3. Major Natural Gas Pipeline Systems of Western Canada. Source: RBN

Service Restrictions Play a Role

Another market-shaping issue for Western Canadian natural gas is the nature of the gas storage network and how gas flows reach these sites, the large majority of which, in terms of number and capacity, are located in Alberta and connected to the NGTL system (black dots in Figure 3). Gas injections to NGTL-connected storage primarily take place on an interruptible (IT) service basis, meaning that gas can flow into storage as long as there is pipeline capacity available, but this availability can be reduced or restricted on short notice. This stands in contrast to firm service, under which a shipper or producer has contracted a fixed amount of pipeline capacity over a particular time period to be available for its use and gas flows are usually not restricted (or can only be restricted under very limited circumstances). Normally, this firm-vs-interruptible distinction is not that important when the pipeline network has available capacity to accommodate all flows (firm and IT) and gas can be injected into storage sites with few if any impediments. Importantly, this allows a market, such as AECO, to clear in a normal fashion during the non-heating season when gas surplus to immediate regional demand or for export is injected into storage. Effectively, all gas sellers can find buyers, be they buyers for storage injection or otherwise.

NGTL introduced a pilot program last year for firm service storage under which gas can flow to storage sites (mostly) free of restrictions that might otherwise affect IT flows. This service was made a permanent part of NGTL's service offerings earlier this summer. You will find a lot more detail, including a discussion of what was a temporary suspension in 2020 of IT restrictions affecting storage flows, in Undun.

When pipeline maintenance and construction is taking place it may be necessary for the pipeline operator to limit the amount of gas that can flow on certain parts of its system in order to manage pressures and allow the line to continue to operate safely. The very nature of IT flows means that it is likely to be the first service cut when construction or maintenance takes place — ostensibly to expand the pipeline system to accommodate growing production in the future.

The previous price crashes we alluded to earlier were partly tied (by market participants) to the IT restrictions on storage flows at those times of maintenance and construction, leaving some gas trapped in the NGTL system, unable to find buyers such as those that would purchase gas for storage. The result was that there were times when prices fell sharply to very low levels. The injection seasons of 2018 and 2019 were replete with examples, but this was avoided in 2020, as we suggested above, by the temporary suspension of the IT restrictions. In 2021, there were only a few instances where IT restrictions took place, but as these occurred amid rising prices, little notice was taken of them.

Production Surge Adds Complications

All this brings us to the present, in which the pipeline networks in Western Canada have been struggling more than usual under what has been an extraordinary production surge this summer (dashed red oval in Figure 4), a time of year when output is typically less prone to major up-and-down swings. In fact, production has been on an upswing most of this year and has been reaching record highs, near 18 Bcf/d through July and early August, as readers of our Canadian NATGAS Billboard will have noted.

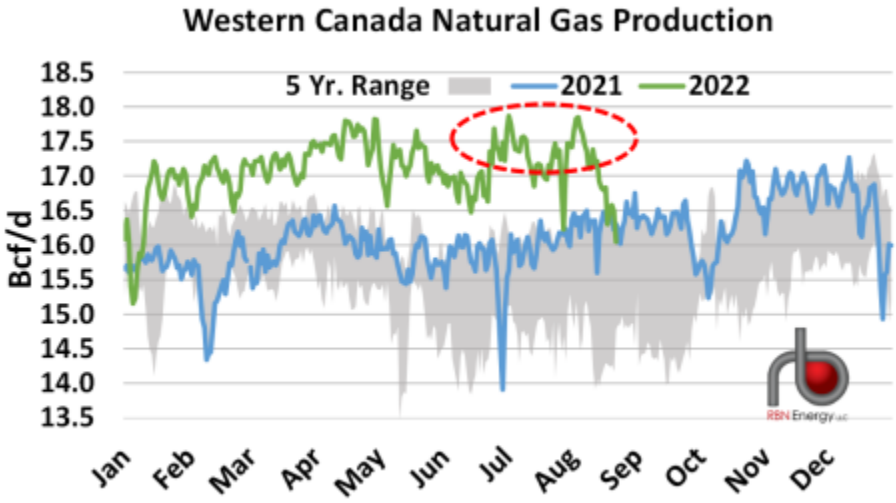


Figure 4. Western Canada Natural Gas Production. Source: Canadian NATGAS Billboard

The NGTL system, as well as Westcoast to a much smaller degree, have been undergoing many years of pipeline capacity expansion, as we have discussed in prior blogs such as Don't Stop and Fixing a Hole. Expansions that have taken place or are planned for the future require approvals from regulatory agencies. In recent years, NGTL has been routinely hindered by delays in regulatory approvals (see Better Late Than Never for an example), resulting in the juggling of construction schedules across its pipeline network, as well as having to accommodate vastly different seasonal conditions (summer versus winter), limited windows for construction due to environmental issues (e.g. animal migration patterns), labor availability, supply chain issues, COVID disruptions, and numerous technical challenges. In the end, NGTL has had to push back the completion dates for numerous capacity expansions and upgrades. Some of the regulatory issues leading to construction delays have been playing a role this summer with capacity expansion plans that were originally scheduled to be completed in 2021 backing up to this year, with some looking to be as late as April 2023 before reaching completion. Suffice to say that it has been an enormous engineering and logistical challenge to keep everyone satisfied, but the latest price crash appears to be another unfortunate confluence of IT flow restrictions on NGTL to accommodate construction work and manage system pressures, bumping up against strong production.

A way to put this into perspective is to consider the degree of IT flow restrictions being placed on the various parts of the NGTL system, especially those portions of the network that have access to gas storage sites (see map in Figure 3) and to which IT restrictions are likely to have the greatest impact on the market. These sites are primarily located along the Upstream of James River (USJR) corridor (green-shaded area in Figure 3) and in the East Gate region (orange-shaded area). NGTL maintains a daily tally of the degree of firm service and IT service flow restrictions (or allowances), expressed as a percentage, for each of these regions.

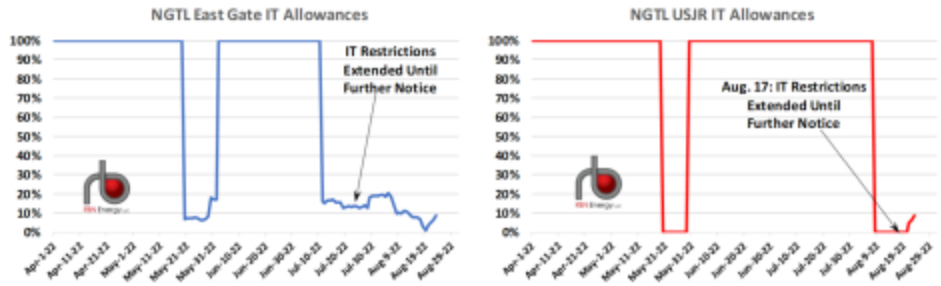


Figure 5. NGTL Percentage IT Flow Allowances in the East Gate and USJR Regions. Source: NGTL

Since July 12, the East Gate region (left graph in Figure 5 above) has been under IT restrictions that had been scheduled to end July 26 (arrow in left graph). However, these have since been extended until further notice and have been limiting those all-important flows of gas into storage in this region for longer than expected. This has created further complications for clearing the AECO market and has contributed to the steady widening of the cash price and prompt-month basis we discussed earlier. Keep in mind that production has been very strong throughout this time.

The trigger for the price crash last week (on August 18) appears to have come when previously scheduled IT restrictions on the USJR portion of the network, originally scheduled to end August 21, were unexpectedly extended for an indefinite period in a late-day announcement on August 17 (arrow in right graph in Figure 5). This left the market scrambling to adjust gas volumes, with a clear mismatch between the amount of gas flowing onto the system versus the outlets that the market had expected to have available as buyers (export and storage injection). The end result was a locally oversupplied market with even less IT flow access to storage, forcing gas prices to fall so low that the oversupply was limited through temporary production shut-ins. NGTL's field receipts, a proxy for wellhead production entering its system, have pulled back sharply in the past few days and can be seen as the rapid reduction in production shown in Figure 4 (green line). In a world that can't seem to get enough natural gas at the present time, Canada is experiencing market-induced production shut-ins.

At this stage, it is not clear as to when full or substantially increased IT allowances will resume on NGTL in both the USJR and East Gate regions. However, more pipeline maintenance and construction work is still scheduled for September and October, so almost anything could happen in terms of IT restrictions being lifted, perhaps only to have them reinstated a short time later.

Complicating matters has been maintenance work on the Westcoast system at the Huntingdon export point, which has reduced export capacity by approximately 0.5 Bcf/d. With limited recourse to shift flows to another pipeline such as NGTL — clearly facing its own set of unexpected and extended pipeline issues — the Station 2 market was quickly overwhelmed, with prices crashing to negative this past week (see Figure 1). The Westcoast work at the Huntingdon export point is currently scheduled to wrap up by the end of this month, so this should reopen a large release valve for gas flows on Westcoast. Simultaneously, this should ease the push by gas producers who have been trying to get their gas production through the limited interconnects with the NGTL system due to the lack of Westcoast egress. This may allow for increased (or full) IT flows in September on either or both of the USJR and East Gate regions of NGTL. However, given the additional pipeline maintenance and construction for these regions that we mentioned earlier, it remains unclear whether the weak pricing situation will be resolved before the end of October.

It might seem easy to attribute the price crash to pipeline operators. However, this latest plunge is the result of a unique combination of record production levels, innumerable regulatory delays forcing construction schedules to shift, unintended overlapping of pipeline maintenance/construction work (i.e., Westcoast Huntingdon and NGTL USJR IT flows), and seasonal windows when only certain construction activities can take place. Even hotter-than-average weather, which has been baking Western Canada throughout July and August, could be playing a role by limiting the efficiency of compressors and making ground temperatures warmer than normal, which somewhat limits the amount of gas that can safely flow through the pipeline system without sending linepack pressures too high. NGTL's firm service delivery to

storage contract (mentioned earlier) is also available for market participants with as little as one day's notice to establish a contract, but it has seen limited uptake so far.

In short, there are many factors open to debate as to the causes of the most recent (and past) price crash, but it is clear that Western Canada needs to expand its internal natural gas pipeline capacity and export capacity to move gas out of the region and limit or eliminate the need for flow restrictions. Also, a coordinated industry response (by producers, shippers and pipelines) to overcome regulatory delays and speed up regulatory approval of pipeline expansions by government agencies is urgently needed. With literally billions of dollars of revenue being left on the table by the enormous price discounts, Canada is very much on the outside looking in at the current North American and global gas price rally.

"Too Low for Zero" was written by Elton John and Bernie Taupin. It appears as the third song on side one of Elton John's 17th studio album of the same name. It was released as the fifth and final single from the album in February 1984 but did not chart on the Billboard Hot 100 Singles chart in the U.S. Personnel on the record were: Elton John (vocals, acoustic piano, synthesizer), Davey Johnstone (electric guitar, backing vocals), and Nigel Olsson (drums, backing vocals).

The album, *Too Low for Zero*, was recorded between September 1982 and January 1983 at AIR in Montserrat and Sunset Sound in Hollywood. Produced by Chris Thomas, the LP was released in May 1983 and went to #25 on the Billboard 200 Albums chart. It has been certified Platinum by the Recording Industry Association of America. The album was considered a comeback LP for Elton John, whose previous four albums failed to yield international hit singles. Four charting singles, including the hits "That's Why They Call It the Blues" and "I'm Still Standing," were released from the LP.

Sir Elton John (Reginald Kenneth Dwight) is a British singer, songwriter and pianist. He started playing piano at an early age and released his debut studio album, *Empty Sky*, when he was 22. He has released 31 studio albums, five live albums, 22 compilation albums, nine soundtrack albums, four EPs, and 140 singles. He has sold over 400 million records worldwide. Sir Elton has won two Academy Awards, six Grammy Awards, one Tony Award, nine Ivor Novello Awards, and two MTV Video Music Awards. He is a member of the Rock and Roll Hall of Fame and Songwriters Hall of Fame, and is a recipient of Kennedy Center Honors. He received a CBE in 1995 and was knighted by Queen Elizabeth II in 1998. He still records and is on a three-year farewell tour that ends in New Zealand in 2023.

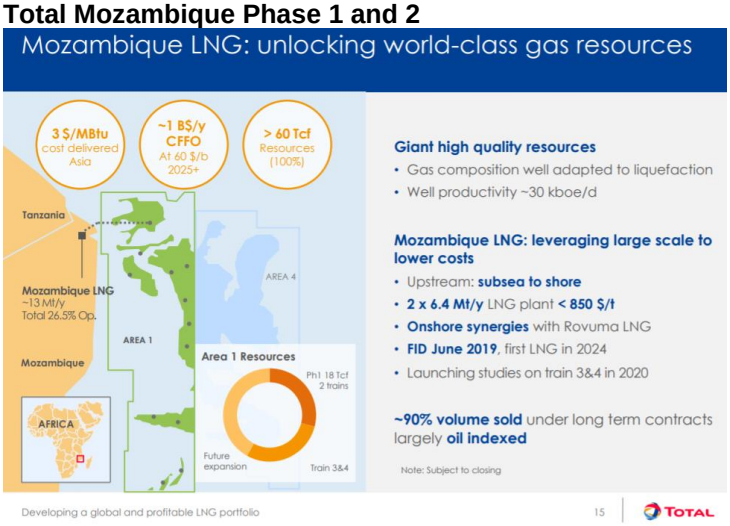
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

Posted Wednesday April 28, 2021. 9:00 MT

The next six months will determine the size and length of the new LNG supply gap that is hitting harder and faster than anyone expected six months ago. Optimists will say the Mozambique government will bring sustainable security and safety to the northern Cabo Delgado province and provide the confidence to Total to quickly get back to LNG development such that its LNG in-service delay is a matter of months and not years. We hope so for Mozambique's domestic situation, but will it be that easy for Total's board to quickly look thru what just happened? Total suspended LNG development for 3 months, restarted development on March 25, but then 3 days of violence led it to suspend development again on March 28, and announce force majeure on Monday April 26. Even if the optimists are right, Mozambique LNG is counted on for LNG supply and the major LNG supply project that are in LNG supply forecasts are now all delayed – Total Phase 1 of 1.7 bcf/d and its follow on Phase 2 of 1.3 bcf/d, and Exxon's Rozuma Phase 1 of 2.0 bcf/d. It is important to remember this 5.0 bcf/d of major LNG supply is being counted in LNG supply forecasts and starting in 2024. At a minimum, we think the more likely scenario is a delay of at least 2 years in this 5.0 bcf/d from the pre-Covid timelines. And this creates a much bigger and sooner LNG supply gap starting ~2025 and stronger outlook for LNG prices. Thermal coal in Asia will play a role in keeping a lid on LNG prices. But there will be the opportunity for LNG suppliers to at least review the potential for brownfield LNG projects to fill the growing supply gap. The thought of increasing capex was a non-starter six months ago, but there is a much stronger outlook for global oil and gas prices. Oil and gas companies are pivoting from cutting capex to small increases in 2021 capex and expecting for higher capex in 2022. We believe this sets the stage for looking at potential FID of brownfield LNG projects before the end of 2021 to be included in 2022 capex budgets. Mozambique is causing an LNG supply gap that someone will try to fill. And if brownfield LNG is needed, what about Shell looking at 1.8 bcf/d brownfield LNG Canada Phase 2? Cdn natural gas producers hope so as this would mean more Cdn natural gas will be tied to Asian LNG markets and not competing in the US against Henry Hub.

Total declares force majeure on Mozambique LNG, Yesterday, Total announced [LINK] "*Considering the evolution of the security situation in the north of the Cabo Delgado province in Mozambique, Total confirms the withdrawal of all Mozambique LNG project personnel from the Afungi site. This situation leads Total, as operator of Mozambique LNG project, to declare force majeure. Total expresses its solidarity with the government and people of Mozambique and wishes that the actions carried out by the government of Mozambique and its regional and international partners will enable the restoration of security and stability in Cabo Delgado province in a sustained manner".* Total is working Phase 1 is ~1.7 bcf/d (Train 1 + 2, 6.45 mtpa/train) and was originally expected to being LNG deliveries in 2024. There was no specific timeline for Phase 2 of 1.3 bcf/d (Train 3 + 4, 5.0 mtpa/train), but was expected to follow Phase 1 in short order to keep capital costs under control with a continuous construction process with a potential onstream shortly after 2026.

Total Mozambique Phase 1 and 2



Source: Total Investor Day September 24, 2019

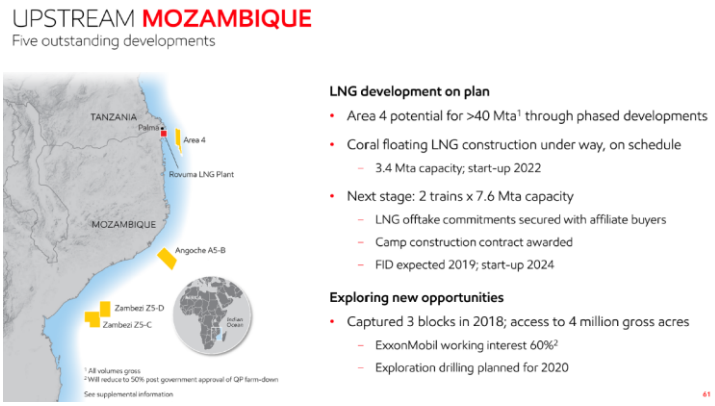
Total's Mozambique force majeure is no surprise, especially the need to the restoration of security and stability "in a sustained manner". Yesterday, Total announced [LINK] "*Considering the evolution of the security".* No one should be surprised by the force majeure or the sustained manner caveat. SAF Group posts a weekly Energy Tidbits research memo [LINK], wherein we have, in multiple weekly memos, that Total had shut down development in December for 3 months due to the violent 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. Local violence/attacks shut development down in Dec, the situation gets settled enough for Total to restart in March, only to be shut down 3 days thereafter. No one should be surprised especially with Total's need to see security and stability "in a sustained manner".

Does anyone really think Total will risk another quick 2-3 month restart or even in 2021? The Mozambique government will be working hard to convince Total to restart soon. We just find it hard to believe Total board will risk a replay of March 24-27 in 2021. Unfortunately, Mozambique has had internal conflict for years. It reached a milestone to the positive in August 2019. Our SAF Group August 11, 2019 Energy Tidbits memo [LINK] highlighted the signing of a peace pact between Mozambique President Nyusi and leader of the Renamo opposition Momade. This was the official end to a 2013 thru 2016 conflict following a failure to hold up the prior peace pact. At that time, FT reported [LINK] "Mr Nyusi has said that "*the government and Renamo will come together and hunt" rebels who fail to disarm. The government has struggled to stem the separate insurgency in the north, which has killed or displaced hundreds near the gas-rich areas during the past two years. While the roots of the conflict remain murky, it is linked to a local Islamist group and appears to be drawing on disaffection over sharing gas investment benefits, say analysts*." This is just a reminder this is not a new issue. LNG is a game changer to Mozambique's economic future. It is, but also has been, a government priority to have the security and safety for Total and Exxon to move on their LNG developments. Its hard to believe the Mozambique government will be able to quickly convince Total and Exxon boards that they can be comfortable there is a sustained security/safety situation and they can send their people back in to develop the LNG. Total's board would allow any resumption of development before year end 2021. The last thing Total wants is a replay of March 24-27. The first question is how long will it take before the Total board is convinced its safe to restart. Could you imagine them doing a replay of what just happened? Wait three months, restart development and have to stop again right away? We have to believe that could lead the Total board to believe it is unfixable for years. We just don't think they are to prepared to risk that decision in 3 months. Its why we have to think there isn't a restart approval until at least in 2022 at the earliest ie. why we think the likely scenario is a delay of 2-3 years, and not a matter of months.

Mozambique's security issues pushes back 5.0 bcf/d of new LNG supply at least a couple years. The global LNG issue is that 5 bcf/d of new Mozambique LNG supply (apart from the Eni Coral FLNG of 0.45 bcf/d) won't start up in 2024 and

continuing thru the 2020s. And we believe all LNG forecasts included this 5.0 bcf/d to be in service in the 2020s as Mozambique had been considered the best positioned LNG supply to access Asia after Australia and Papua New Guinea. (i) Eni Coral Sul (Rovuma Basin) FLNG of 0.45 bcf/d planned in service in 2022. [LINK] This is an offshore floating LNG vessel that is still expected to be in service in 2022. (ii) Total Phase 1 to add 1.7 bcf/d with an in service originally planned for 2024. We expect the in service data to be pushed back to at least 2026 assuming Total gives a development restart approval in Dec 2021. In theory, this would only be a 1 year loss of time. However, Total has let services go, the project will be idle for 9 months, it isn't clear if the need to get people out quickly let them do a complete put the project on hold, and how many people will be on site maintaining the status of the development during the force majeure. Also what new procedures and safety will be put in place for a restart. These all mean there will be added time needed to get the project back to where it was when force majeure was declared ie. why we think a 12 month time delay will be more like an 18 month project delay. (iii) Exxon's Rozuma Phase 1 LNG will add 2.0 bcf/d and, pre-Covid, was expected to be in service in 2025. We believe the delays related to security and safety at Total are also going to impact Exxon. We find it highly unlikely the Exxon board would take a different security and safety decision than Total. 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 bf/d with FID expected in 2019 and first LNG deliveries in 2024. 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 the expectation was that FID would now be in 2022 (3 years later than original timeline0 and that would push first LNG likely to 2027. (iv) 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 2 years, so will Phase 2 so more likely 2028/2029.. (v) Total Phase 1 + 2 and Exxon Rozuma Phase 1 total 5.0 bcf/d and would have been (and still are) in all LNG supply forecasts for the 2020s. (vi) We aren't certain if the LNG supply forecasts include Exxon Rozuma Phase 2 ,which would be an additional 2.0 bcf/d on top of the 5.0 bcf/d noted above. Exxon Rozuma has always been expected to be at least 2 Phases. This has been the plan since the Anadarko days given the 85 tcf size of the resource on Exxon's Area 4. There was no firm in service data for Phase 2, but it was expected they would also closely follow Phase 1 to maintain services. We expect that original timeline would have been 2026/2027 and that would not be pushed back to 2029/2030. (vii) It doesn't matter if its only 5 bcf/ of Mozambique that is delayed 2 to 3 years, it will cause a bigger LNG supply gap and sooner. The issue for LNG markets is this is taking projects that are in development effectively out of the queue for some period.

Exxon Mozambique LNG



Source: Exxon Investor Day March 6, 2019

Won't LNG and natural gas get hit by Biden's push for carbon free electricity? Yes, in the US. For the last 9 months, we have warned on Biden's climate change plan that were his election platform and now form his administration's energy transition map. We posted our July 28, 2020 blog "*Biden To Put US On "Irreversible Path to Achieve Net-Zero Emissions, Economy-Wide" Is a Major Negative To US Natural Gas in 2020s* "[LINK] on Biden's platform "*The Biden Plan to Build a Modern, Sustainable Infrastructure and an Equitable Clean Energy Future*" [LINK]. Biden's new American Jobs Plan

[LINK] lines up with his campaign platform including to put the US "*on the path to achieving 100 percent carbon-free electricity by 2035*.". Our July 28, 2020 blog noted that it would require replacing ~60% of US electricity generation with more renewable and it could eliminate ~40% (33.5 bcf/d) of 2019 US natural gas consumption. If Biden is 25% successful by 2030, it would replace ~6.3 bcf/d of natural gas demand. It would be a negative to US natural gas and force more US natural gas to export markets. The wildcard when does US natural gas start to decline if producers are faced with the reality of natural gas being phased out for electricity. The other hope is that when Biden says "carbon-free", its not what ends up in the details of any formal policy statement ie. carbon electricity will be allowed with Biden's push for CCS.

Will Cdn natural gas be similarly hit by if Trudeau move to "emissions free" and not "net zero emissions" electricity? Yes and No. Our SAF Group April 25, 2021 Energy Tidbits memo [LINK] was titled ""*Bad News For Natural Gas, Trudeau's Electricity Goal is Now 100% "Emissions Free" And Not "Net Zero Emissions*". On Thursday, PM Trudeau spoke at Biden's global climate summit [LINK] and looks like he slipped in a new view on electricity than was in last Monday's budget and his Dec climate plan. Trudeau said "*In Canada, we've worked hard to get to over 80% emissions-free electricity, and we're not going to stop until we get to 100%."* Speeches, especially ones made on a global stage are checked carefully so this had to be deliberate. Trudeau said "*emissions free*" and not net zero emissions electricity. It seems like this language is carefully written to exclude any fossil fuels as they are not emissions free even if they are linked to CCS. Recall in Liberals big Dec 2020 climate announcement [LINK], Liberals said ""*Work with provinces, utilities and other partners to ensure that Canada's electricity generation achieves net-zero emissions before 2050*." There is no way Trudeau changed the language unless he meant to do so. And this is a major change as it would seem to indicate his plan to eliminate all fossil fuels used for electricity. If so this would be a negative to Cdn natural gas that would be stuck within Western Canada and/or continuing to push into the US when Biden is trying to switch to carbon free electricity. We recognize that there is still some ambiguity in what will be the details of policy and the Liberals aren't changing to no carbon sourced electricity at all. Let's hope so. But let's also be careful that politicians don't change language without a reason or at least with a view to setting up for some future hit. Plus Trudeau had a big warning in that same speech saying "*we will make it law to respect our new 2030 target and achieve net-zero emissions by 2050*". They plan to make it the law that Canada has to be on track for the Liberals 2030 emissions targets. This means that the future messaging will be that the Liberals have no choice but to take harder future emissions actions as it is the law. They will be just obeying the law as they will be obligated to obey the law. Everyone knows the messaging will be we have to do more get to Net Zero, that in itself will inevitably mean it will be the law if he actually does move to eliminate any carbon based electricity. So yes it's a negative, that is unless more Cdn natural gas can be exported via LNG to Asia. We believe this would be a plus to be priced against global LNG instead of Henry Hub.

Biden's global climate summit reminded there is too much risk to skip over natural gas as the transition fuel. Apart from the US and Canada, we haven't seen a sea shift to eliminating natural gas for power generation, especially from energy import dependent countries. There is a strong belief that hydrogen and battery storage will one day be able to scale up at a competitive cost to lead to the acceleration away from fossil fuels. But that time isn't yet here, at least not for energy import dependent countries. One of the key themes from last week's leader's speeches at the Biden global climate summit – to get to Net Zero, the world is assuming there wilt be technological advances/discoveries that aren't here today and that have the potential to immediately ramp up in scale. IEA Executive Director Faith Birol was blunt in his message [LINK] saying "*Right now, the data does not match the rhetoric – and the gap is getting wider*." And "*IEA analysis shows that about half the reductions to get to net zero emissions in 2050 will need to come from technologies that are not yet ready for market. This calls for massive leaps in innovation. Innovation across batteries, hydrogen, synthetic fuels, carbon capture and many other technologies.* US Special Envoy for Climate John Kerry said a similar point that half of the emissions reductions will have to come from technologies that we don't yet have at scale. UK PM Johnson [LINK] didn't say it specifically, but points to this same issue saying "*To do these things we've got to be constantly original and optimistic about new technology and new solutions whether that's crops that are super-resistant to drought or more accurate weather forecasts like those we hope to see from the UK's new Met Office 1.2bn supercomputer that we're investing in*." It may well be that the US and other self sufficient energy countries are comfortable going on the basis of assuming technology developments will occur on a timely basis. But, its clear that countries like China, India, South Korea and others are not prepared to do so. And not prepared to have the confidence to rid themselves of coal power generation. This is why there hasn't been any material change in the LNG demand outlook

We expect the IEA's blunt message that the gap is getting wider will be reinforced on May 18. We have had a consistent view on the energy transition for the past few years. We believe it is going to happen, but it will take longer, be a bumpy road and cost more than expected. This is why we believe the demise of oil and natural gas won't be as easy and fast as hoped for by the climate change side. The IEA's blunt warning on the gap widening should not be a surprise as they warned on this in June 2020. Birol's climate speech also highlighted that the IEA will release on May 18 its roadmap for how the global energy sector can reach net zero by 2050. Our SAF Group June 11, 2020 blog "*Will The Demise Of Oil Take Longer, Just Like Coal? IEA and Shell Highlight Delays/Gaps To A Smooth Clean Energy Transition*" [LINK] feature the IEA's June 2020 warning that the critical energy technologies needed to reduce emissions are nowhere near where they need to be. In that blog, we said "there was an excellent illustration of the many significant areas, or major pieces of the puzzle, involved in an energy transition by the IEA last week. The IEA also noted the progress of each of the major pieces and the overall conclusion is that the vast majority of the pieces are behind or well behind where they should be to meet a smooth timely energy transition. It is important to note that these are just what the IEA calls the "*critical energy technologies*" and does not get into the wide range of other considerations needed to support the energy transition. The IEA divides these "critical energy technologies "into major groupings and then ranked the progress of each of these pieces in its report "*Tracking Clean Energy Progress"* [LINK] by on track, more efforts needed, or not on track". Our blog included the below IEA June 2020 chart.

IEA's Progress Ranking For "Critical Energy Technologies" For Clean Energy Transition

Power	Renewable Power	Geothermal
	Solar PV	Ocean Power
	Onshore Wind	Nuclear Power
	Offshore Wind	Natural Gas-Fired Power
	Hydropower	Coal-Fired Power
	Bioenergy Power Generation	CCUS in Power
	Concentrating Solar Power	
Fuel Supply	Methane Emissions from O&G	Flaring Emissions
Industry	Chemicals	Pulp and Paper
	Iron and Steel	Aluminum
	Cement	CCUS in Industry and Transformation
Transport	Electric Vehicles	Transport Biofuels
	Rail	Aviation
	Fuel Consumption of Cars and Vans	International Shipping
	Trucks and Busses	
Buildings	Building Envelopes	Lighting
	Heating	Appliances and Equipment
	Heat Pumps	Data Centres and Data Transmission Networks
	Cooling	
Energy Integration	Energy Storage	Demand Response
	Hydrogen	Direct Air Capture
	Smart Grids	

Source: IEA

On Track More Efforts Needed Not on Track

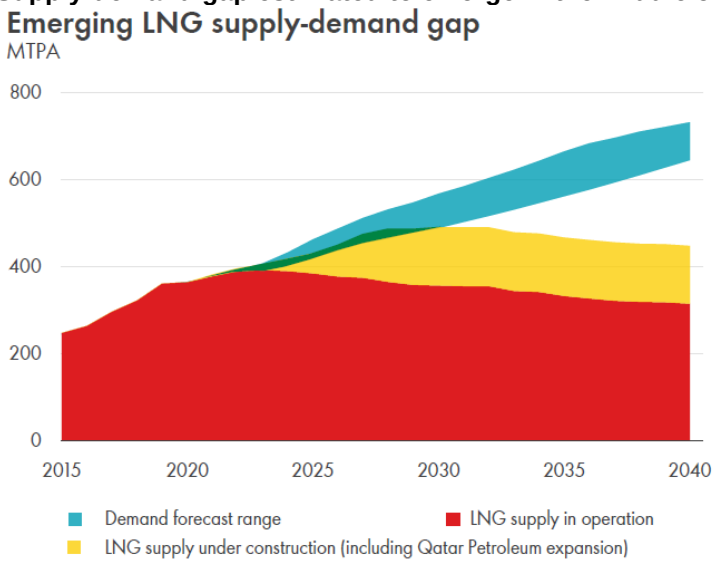
Source: IEA Tracking Clean Energy Progress, June 2020

We are referencing Shell's long term outlook for LNG We recognize there are many different forecasts for LNG, but are referencing Shell' LNG Outlook 2021 from Feb 25, 2021 for a few reasons. (i) Shell's view on LNG is the key view for when and what decision will be made for LNG Canada Phase 2. (ii) Shell is one of the global leaders in LNG supply and trading. (iii) Shell provides on the record LNG outlooks every year so there is the ability to compare and make sure the outlook fits the story. It does. (iv) Shell, like other supermajors, has had to make big capex cuts post pandemic and that certainly wouldn't put any bias to the need for more capex.

Shell's March 2021 long term outlook for LNG demand was basically unchanged vs 2020 and leads to a LNG supply gap in mid 2020s Shell does not provide the detailed numbers in their Feb 25, 2021 LNG forecast. We would assume they

would have reflected some delay, perhaps 1 year, at Mozambique but would be surprised if they put a 2-3 year delay in for the 5 bcf/d from Total Phase 1 +2 and Exxon Rozuma Phase 1. Compared to their LNG Outlook 2020, it looks like there was no change for their estimate of global natural gas demand growth to 2040, which looked relatively unchanged at approx. 5,000 bcm/yr or 484 bcf/d. Similarly, long term LNG demand looked unchanged to 2040 of ~700 mm tonnes (92 bcf/d) vs 360 mm tonnes (47 bcf/d) in 2020. In the 2021 outlook, Shell highlighted that the pandemic delayed project construction timelines and that the "*lasting impact expected on LNG supply not demand"*. And that Shell sees a LNG "*supply-demand gap estimated to emerge in the middle of the current decade as demand rebounds*". Comparing to 2020, it looks like the supply-demand gap is sooner.

Supply-demand gap estimated to emerge in the middle of the current decade



Source: Shell LNG Outlook 2021, Feb 25, 2021

Mozambique delays are redefining the LNG markets for the 2020s: Delaying 5 bcf/d of Mozambique new LNG supply 2-3 years means a much bigger supply gap starting in 2025.. Even if the optimists are right, there are now delays to all major Mozambique LNG supply from LNG supply forecasts. We don't have the detail, but we believe all LNG forecasts, including Shell's LNG Outlook 2021, would have included Total's Phase 1 and Phase 2 and Exxon Rozuma Phase 1. As noted earlier, we believe that the likely impact of the Mozambique security concerns is that these forecasts would likely have to push back 1.7 bcf/d from Total Phase 1 to at least 2026, 2.0 bcf/d Exxon Rozuma Phase 1 to at least 2027, and 1.3 bcf/d Total Phase 2 to at least 2028/2029 with the real risk these get pushed back even further. 5.0 bcf/d is equal to 38 mtpa. These delays would mean there is an increasing LNG supply gap in 2025 and increasingly significantly thereafter. And even if a new greenfield LNG project is FID's right away, it wouldn't be able to step in to replace Total Phase 1 prior startup timing for 2024 or likely the market at all until at least 2027. Its why the decision on filling the gap will fall on brownfield LNG projects.

And does this bigger, nearer supply gap force LNG players to look at what brownfield LNG projects they could advance? A greenfield LNG project would likely take at least until 2027 to be in operations. Its why we believe the Mozambique delays will effectively force major LNG players to look to see if there are brownfield LNG projects they should look to advance. Prior to the just passed winter, no one would think Shell or other major LNG players would be considering any new LNG FIDs in 2021. All the big companies are in capital reduction mode and debt reduction mode. But Brent oil is now solidly over $60 and LNG prices hit record levels in Jan 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. We would not expect any major LNG players to move to FID right away. But we see them watching to see if 2021 plays out to still support this increasing LNG supply gap. 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 5 months. The question facing Shell and others, 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 than expected a few months ago. We expect these decisions to be looked at before the end of 2021. LNG prices will be stronger, but we expect the limiting cap in Asia will be that thermal coal will be used to mitigate some LNG price pressure.

Back to Shell, does increasing LNG supply gap provide the opportunity to at least consider a LNG Canada Phase 2 FID over the next 9 months? 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 6 months ago. No one has been or is talking about this Mozambique impact and how it will at least force major LNG players to look at if they should FID new brownfield LNG projects to take advantage of this increasing supply gap. 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. No one is talking about the need for these new brownfield LNG projects, but, unless Total gets back developing Mozambique and keeps the delay to a matter of months, 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. A LNG Canada Phase 2 FID would be a big plus for Cdn natural gas. It would allow another ~1.8 bcf/d of Cdn natural gas to be priced against Asian LNG prices and not against 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 may be in Africa, but, unless sustained peace and security is attained, it is 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 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 to 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.

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 bf/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

<u>One of the reasons why it went under the radar is that major LNG suppliers played stupid on the Mozambique impact.</u> 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 @olympe_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 Dee's a day of US NAT gas from almost a 100 different producers on 26 different pipelines and deliver it to our to facilities. So we take care of a lot of what the customer needs".*

<u>There are other LNG supply delays/interruptions beyond Mozambique.</u> 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.*

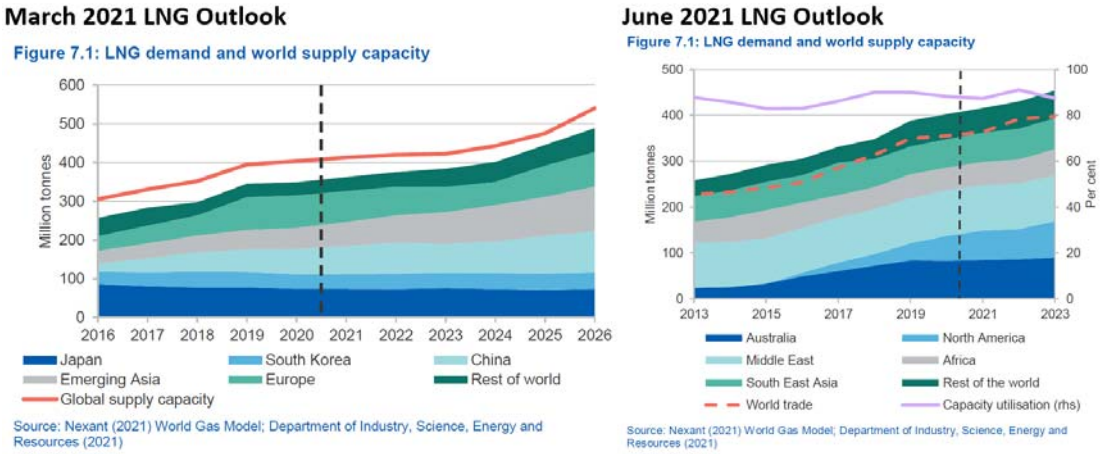
Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required 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 Melkoeya 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 Melkoeya 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 Melkoeya 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

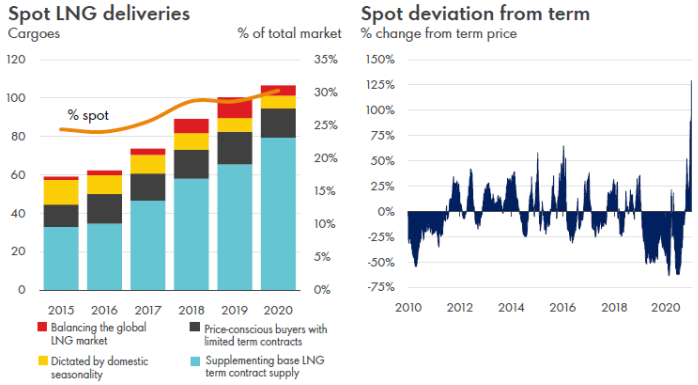


Source: Australia Resources and Energy Quarterly

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



Source: Shell LNG Outlook 2021 on Feb 25, 2021

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 the 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.

https://www.facebook.com/pages/category/Labor-Union/Offshore-Alliance-524335271311416/

Offshore Alliance
9 hrs ·

After 76 days of Protected Industrial Action by Offshore Alliance & ETU members on the Prelude FLNG, we have reached an 'in-principle' agreement with Shell for an Enterprise Bargaining Agreement. Members will get to vote on the EBA after the Access Period opens later this week.

Our members have not taken a backward step in fighting for job security, significant uplifts in salaries and union negotiated employment conditions.

We have nothing but the highest respect for our Prelude members who have walked the walk for 18 months in our EBA campaign, and for the last 76 days of Protected Industrial Action.

76 days of lawful Protected Industrial Action to secure an EBA which prevents jobs being outsourced to low-wage labour hire contractors, is a fight worth having.

Members met this morning on Prelude and from onshore to hear the full Report Back by the Offshore Alliance and ETU on the settlement of our bargaining claims. These were secured during bargaining negotiations mediated by Deputy President Binet in the Fair Work Commission.

We will provide more details of the bargaining outcomes later in the week but we are very, very proud of the men and women on the Prelude who fought for their union EBA.

There has never before been an industrial battle in this country where an employer has lost $1.5 Billion in production during an industrial dispute.

We said from the outset of this campaign that we would go 'One Day Longer, One Day Stronger' to secure our industrial claims, and we weren't bluffing. We never are.

A massive thanks to our bargaining reps who have done the hard yards on behalf of our rank and file.

IF YOU DON'T FIGHT, YOU LOSE!

Highlights for the month

- The consumption of petroleum products during April-July 2022 with a volume of 72.7 MMT reported a growth of 14.0% compared to the volume of 63.8 MMT during the same period of the previous year. This growth was led by 23.1% growth in MS, 17.4% in HSD & about 85.6% in ATF consumption during the quarter. The consumption of petroleum products during July 2022 recorded a growth of 6.1% with a volume of 17.6 MMT compared to the same period of the previous year.
- Indigenous crude oil and condensate production during July 2022 was down by 3.8 % than that of July 2021 as compared to a de-growth of 1.7 % during June 2022. OIL registered a growth of 4.1 % and ONGC registered a de-growth of 1.7 % during July 2022 as compared to July 2021. PSC registered de-growth of 12.3 % during July 2022 as compared to July 2021. De-growth of 0.5 % was registered in the total crude oil and condensate production during April - July 2022 over the corresponding period of the previous year.
- Total Natural Gas Consumption (including internal consumption) for the month of July 2022 was 5382 MMSCM which was 1.5% lower than the corresponding month of the previous year. The cumulative consumption of 21123 MMSCM for the current year till July 2022 was lower by 2.2% compared with the corresponding period of the previous year.
- Crude oil processed during July 2022 was 21.4 MMT, which was 10.5 % higher than July 2021. Growth of 13.8 % was registered in the total crude oil processing during April- July 2022 over the corresponding period of the previous year.
- Production of petroleum products saw a growth of 6.2 % during July 2022 over July 2021. Growth of 11.7 % was registered in the total POL production during April- July 2022 over the corresponding period of the previous year.
- Ethanol blending with Petrol was 10.33% during June 2022 and cumulative ethanol blending during December 2021- July 2022 was 10.16%.

•	Gross production of natural gas for the month of July 2022 was 2883 MMSCM which was lower by 0.4% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 11436 MMSCM for the current financial year till July 2022 was higher by 3.4% compared with the corresponding period of the previous year.
•	LNG import for the month of June2022 (P) was 2571 MMSCM which was 2.7 % lower than the corresponding month of the previous year. The cumulative import of 9971 MMSCM for the current year till July 2022 was lower by 7.9% compared with the corresponding period of the previous year.
•	Crude oil imports increased by 35.4% and 21.3% during July 2022 and April-July 2022 respectively as compared to the corresponding period of the previous year. The net import bill for oil & gas was $14.9 billion in July 2022 compared to $8.0 billion in July 2021. In this the crude oil imports constitutes $16.1 billion, LNG imports $1.2 billion and the exports were $4.9 billion during July 2022.
•	POL products imports increased by 5.3% and 15.0% during July 2022 and April-July 2022 respectively as compared to the corresponding period of the previous year. Increase in POL products imports during April-July 2022 were due to increase in imports of all products except naphtha, fuel oil and bitumen etc.
•	Exports of POL products decreased by 0.3% and increased by 6.8% during July 2022 and April-July 2022 respectively as compared to the corresponding period of the previous year. Increase in POL products exports during April-July 2022 (P) were due to increase in exports of all products except superior kerosene oil (SKO), fuel oil (FO) and vacuum gas oil (VGO) etc.
•	The price of Brent Crude averaged $112.70/bbl during July 2022 as against $123.70/bbl during June 2022 and $75.03/bbl during July 2021. The Indian basket crude price averaged $105.49/bbl during July 2022 as against $116.01/bbl during June 2022 and $73.54 /bbl during July 2021.

1. Selected indicators of the Indian economy								
Economic indicators		**Unit/ Base**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**
1	Population (Census 2011)	Billion	1.2	-	-	-	-	-
2	GDP at constant (2011-12 Prices)	Growth %	6.8 3rd RE	6.5 2nd RE	4.0 1st RE	-6.6 1st RE	8.7 PE (2021-22)	7.2 E (RBI)
3	Agricultural Production (Food grains)	MMT	285.0	285.2	297.5	310.7	315.7 4th AE	-
		Growth %	3.6	0.1	4.3	4.5	1.6	-
4	Gross Fiscal Deficit (as percent of GDP)	%	3.5	3.4	4.6	9.5 RE	6.8 BE	6.4 BE

Economic indicators		**Unit/ Base**	**2020-21**	**2021-22 (P)**	**July**		**April-July**	
					2021-22	**2022-23 (P)**	**2021-22**	**2022-23 (P)**
5	Index of Industrial Production (Base: 2011-12)	Growth %	-8.4	11.4	13.8*	12.3* QE	44.4#	12.7#
6	Imports^	$ Billion	394.4	611.9	46.2	66.3	173.1	256.4
7	Exports^	$ Billion	291.8	419.7	35.5	36.3	131.1	157.4
8	Trade Balance	$ Billion	-102.6	-192.2	-10.6	-30.0	-42.1	-99.0
9	Foreign Exchange Reserves @	$ Billion	579.3	617.6	620.6	573.9	-	-

IIP is for the month of *June and #April-June; @2020-21-as on March 26, 2021, 2021-22 - as on March 26, 2022, July 2021 as on July 30, 2021 and July 2022-as on July 29, 2022; ^Imports & Exports are for Merchandise; E: Estimates; PE: Provisional Estimates; AE-Advanced Estimates; RE-Revised Estimates; QE-Quick Estimates.

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	2020-21	2021-22 (P)	July		April-July	
					2021-22 (P)	2022-23 (P)	2021-22 (P)	2022-23 (P)
1	Crude oil production in India[#]	MMT	30.5	29.7	2.5	2.5	10.0	9.9
2	Consumption of petroleum products*	MMT	194.3	204.2	16.6	17.6	63.8	72.7
3	Production of petroleum products	MMT	233.5	254.3	20.7	22.0	80.7	90.1
4	Gross natural gas production	MMSCM	28,672	34,024	2,894	2,883	11,062	11,436
5	Natural gas consumption	MMSCM	60,815	63,907	5,463	5,382	21,602	21,123
6	Imports & exports:							
	Crude oil imports	MMT	196.5	212.0	15.0	20.3	66.4	80.6
		$ Billion	62.2	120.4	8.0	16.1	33.1	63.9
	Petroleum products (POL) imports*	MMT	43.2	42.1	3.5	3.7	12.4	14.2
		$ Billion	14.8	25.2	1.9	2.5	6.4	10.1
	Gross petroleum imports (Crude + POL)	MMT	239.7	254.0	18.6	24.1	78.8	94.8
		$ Billion	77.0	145.7	9.9	18.6	39.5	74.0
	Petroleum products (POL) export	MMT	56.8	62.7	4.7	4.7	19.9	21.2
		$ Billion	21.4	44.4	2.9	4.9	11.8	23.6
	LNG imports*	MMSCM	33,031	30,776	2,644	2,571	10,825	9,971
		$ Billion	7.9	13.4	1.0	1.2	3.3	4.5
	Net oil & gas imports	$ Billion	63.5	114.7	8.0	14.9	31.0	54.9
7	Petroleum imports as percentage of India's gross imports (in value terms)	%	19.5	23.8	21.5	28.0	22.8	28.9
8	Petroleum exports as percentage of India's gross exports (in value terms)	%	7.3	10.6	8.2	13.4	9.0	15.0
9	Import dependency of crude oil (on POL consumption basis)	%	84.4	85.6	84.7	86.2	85.0	86.4

#Includes condensate; *Private direct imports are prorated for the period April'22 to July'22 for POL & Natural Gas. RIL Data prorated for month of July 2022;
Total may not tally due to rounding off.

3. Indigenous crude oil production (Million Metric Tonnes)

Details	2020-21	2021-22 (P)	July			April-July		
			2021-22 (P)	2022-23 Target*	2022-23 (P)	2021-22 (P)	2022-23 Target*	2022-23 (P)
ONGC	19.1	18.5	1.6	1.6	1.6	6.2	6.4	6.3
Oil India Limited (OIL)	2.9	3.0	0.3	0.3	0.3	1.0	1.1	1.0
Private / Joint Ventures (JVs)	7.1	7.0	0.6	0.8	0.5	2.4	2.6	2.2
Total Crude Oil	**29.1**	**28.4**	**2.4**	**2.7**	**2.3**	**9.5**	**10.1**	**9.5**
ONGC condensate	1.1	0.9	0.08	0.0	0.1	0.3	0.0	0.3
PSC condensate	0.3	0.30	0.03	0.0	0.03	0.10	0.0	0.09
Total condensate	**1.4**	**1.2**	**0.11**	**0.0**	**0.1**	**0.4**	**0.0**	**0.4**
Total (Crude + Condensate) (MMT)	**30.5**	**29.7**	**2.5**	**2.7**	**2.5**	**10.0**	**10.1**	**9.9**
Total (Crude + Condensate) (Million Bbl/Day)	0.61	0.60	0.60	0.65	0.58	0.60	0.61	0.60

*Provisional targets inclusive of condensate.

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

Details	2020-21	2021-22 (P)	July		April-July	
			2021-22 (P)	2022-23 (P)	2021-22 (P)	2022-23 (P)
Total domestic production (MMTOE)	59.2	63.7	5.4	5.3	21.0	21.3
Overseas production (MMTOE)	21.9	21.7	1.9	1.6	7.3	6.5
Overseas production as percentage of domestic production	**37.0%**	**34.1%**	**34.4%**	**30.1%**	**34.8%**	**30.3%**

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

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

Details		2020-21	2021-22 (P)	July		April-July	
				2021-22 (P)	2022-23 (P)	2021-22 (P)	2022-23 (P)
1	High Sulphur crude	161.4	185.0	14.7	17.1	57.4	68.2
2	Low Sulphur crude	60.3	56.7	4.7	4.3	19.2	19.0
Total crude processed (MMT)		**221.8**	**241.7**	**19.4**	**21.4**	**76.6**	**87.2**
Total crude processed (Million Bbl/Day)		4.45	4.85	4.58	5.07	4.60	5.24
Percentage share of HS crude in total crude oil processing		**72.8%**	**76.5%**	**75.6%**	**79.8%**	**74.9%**	**78.2%**

6. Quantity and value of crude oil imports			
Year	**Quantity (MMT)**	**$ Million**	**Rs. Crore**
2020-21	196.5	62,248	4,59,779
2021-22 (P)	212.0	120,445	8,99,312
April-July 2022(P)	80.6	63,925	4,96,100

7. Self-sufficiency in petroleum products (Million Metric Tonnes)							
Particulars		**2020-21**	**2021-22 (P)**	**July**		**April-July**	
				2021-22 (P)	**2022-23 (P)**	**2021-22 (P)**	**2022-23 (P)**
1	Indigenous crude oil processing	28.0	27.1	2.3	2.2	8.8	9.3
2	Products from indigenous crude (93.3% of crude oil processed)	26.1	25.3	2.2	2.1	8.2	8.7
3	Products from fractionators (Including LPG and Gas)	4.2	4.1	0.4	0.3	1.4	1.2
4	Total production from indigenous crude & condensate **(2 + 3)**	30.3	29.3	2.5	2.4	9.5	9.9
5	Total domestic consumption	194.3	204.2	16.6	17.6	63.8	72.7
% Self-sufficiency (4 / 5)		**15.6%**	**14.4%**	**15.3%**	**13.8%**	**15.0%**	**13.6%**

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

Sl. no.	Refinery	Installed capacity (01.01.2022) MMTPA	Crude oil processing (MMT)							
			2020-21	2021-22 (P)	July			April-July		
					2021-22 (P)	2022-23 (Target)	2022-23 (P)	2021-22 (P)	2022-23 (Target)	2022-23 (P)
1	Barauni (1964)	6.0	5.5	5.6	0.6	0.6	0.6	2.0	2.0	2.3
2	Koyali (1965)	13.7	11.6	13.5	1.1	1.2	1.3	4.2	4.5	5.3
3	Haldia (1975)	8.0	6.8	7.3	0.6	0.7	0.7	2.6	2.8	2.8
4	Mathura (1982)	8.0	8.9	9.1	0.7	0.7	0.7	2.9	3.1	3.2
5	Panipat (1998)	15.0	13.2	14.8	1.3	0.9	1.2	5.0	4.8	4.8
6	Guwahati (1962)	1.0	0.8	0.7	0.00	0.1	0.1	0.06	0.3	0.4
7	Digboi (1901)	0.65	0.6	0.7	0.06	0.06	0.06	0.2	0.2	0.2
8	Bongaigaon(1979)	2.70	2.5	2.6	0.2	0.2	0.2	0.9	0.8	0.8
9	Paradip (2016)	15.0	12.5	13.2	1.1	0.0	1.3	4.5	3.9	5.3
	IOCL-TOTAL	**70.1**	**62.4**	**67.7**	**5.7**	**4.4**	**6.2**	**22.4**	**22.5**	**25.1**
10	Manali (1969)	10.5	8.2	9.0	0.8	0.9	1.0	2.9	3.4	3.9
11	CBR (1993)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CPCL-TOTAL	**10.5**	**8.2**	**9.0**	**0.8**	**0.9**	**1.0**	**2.9**	**3.4**	**3.9**
12	Mumbai (1955)	12.0	12.9	14.4	1.3	1.1	0.7	4.7	4.3	4.1
13	Kochi (1966)	15.5	13.3	15.4	1.1	1.4	1.4	4.4	5.5	5.5
14	Bina (2011)	7.8	6.2	7.4	0.6	0.6	0.6	2.2	2.7	2.6
	BPCL-TOTAL	**35.3**	**32.4**	**37.2**	**3.0**	**3.1**	**2.7**	**11.3**	**12.5**	**12.3**
15	Numaligarh (1999)	3.0	2.7	2.6	0.2	0.2	0.3	0.9	1.0	1.0

Sl. no.	Refinery	Installed capacity (1.01.2022) (MMTPA)	Crude oil processing (MMT)							
			2020-21	2021-22 (P)	July			April-July		
					2021-22 (P)	2022-23 (Target)	2022-23 (P)	2021-22 (P)	2022-23 (Target)	2022-23 (P)
16	Tatipaka (2001)	0.066	0.081	0.075	0.003	0.006	0.005	0.023	0.019	0.025
17	MRPL-Mangalore (1996)	15.0	11.5	14.9	1.1	1.3	1.4	4.2	5.1	5.8
	ONGC-TOTAL	**15.1**	**11.6**	**14.9**	**1.1**	**1.3**	**1.4**	**4.2**	**5.1**	**5.8**
18	Mumbai (1954)	9.5	7.4	5.6	0.3	0.8	0.9	0.8	3.0	3.3
19	Visakh (1957)	8.3	9.1	8.4	0.5	0.8	0.7	2.5	2.8	3.1
20	HMEL-Bathinda (2012)	11.3	10.1	13.0	1.1	1.0	1.1	4.3	3.8	4.3
	HPCL- TOTAL	**29.1**	**26.5**	**27.0**	**1.9**	**2.5**	**2.7**	**7.6**	**9.6**	**10.7**
21	RIL-Jamnagar (DTA) (1999)	33.0	34.1	34.8	2.7	2.7	2.9	11.0	11.0	12.0
22	RIL-Jamnagar (SEZ) (2008)	35.2	26.8	28.3	2.3	2.3	2.5	9.7	9.7	9.6
23	NEL-Vadinar (2006)	20.0	17.1	20.2	1.7	1.7	1.7	6.7	6.7	6.8
All India (MMT)		**251.2**	**221.8**	**241.7**	**19.4**	**19.2**	**21.4**	**76.6**	**81.5**	**87.2**
All India (Million Bbl/Day)		**5.02**	**4.45**	**4.85**	**4.58**	**4.54**	**5.07**	**4.60**	**4.90**	**5.24**

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 01.08.2022)

Details		ONGC	OIL	Cairn	HMEL	IOCL	BPCL	HPCL	Others*	Total
Crude Oil	Length (KM)	1,284	1,193	688	1,017	5,301	937			**10,420**
	Cap (MMTPA)	60.6	9.0	10.7	11.3	48.6	7.8			**147.9**
Products	Length (KM)		654			9,406	2,596	3,775	2,386	**18,817**
	Cap (MMTPA)		1.7			48.0	23.0	34.1	9.4	**116.2**

*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	**2020-21**		**2021-22 (P)**		**July 2021**		**July 2022 (P)**		**Apr-July 2021**		**Apr-July 2022 (P)**	
	Prod	**Cons**	**Prod**	**Cons**	**Prod**	**Cons**	**Prod**	**Cons**	**Prod**	**Cons**	**Prod**	**Cons**
LPG	12.1	27.6	12.2	28.3	1.0	2.4	1.1	2.4	4.0	8.9	4.4	9.0
MS	35.8	28.0	40.2	30.8	3.2	2.6	3.6	2.8	12.3	9.4	14.7	11.6
NAPHTHA	19.4	14.1	19.9	14.3	1.7	1.2	1.4	1.1	6.6	4.9	6.1	4.2
ATF	7.1	3.7	10.3	5.0	0.6	0.3	1.2	0.6	2.8	1.3	4.5	2.3
SKO	2.4	1.8	1.9	1.5	0.2	0.1	0.1	0.0	0.6	0.5	0.4	0.2
HSD	100.4	72.7	107.1	76.7	8.9	6.1	9.3	6.6	34.3	24.5	38.8	28.8
LDO	0.7	0.9	0.8	1.0	0.05	0.08	0.08	0.06	0.3	0.3	0.2	0.2
LUBES	1.1	4.1	1.2	4.6	0.1	0.3	0.1	0.3	0.3	1.3	0.4	1.4
FO/LSHS	7.4	5.6	8.9	6.3	0.7	0.5	0.9	0.6	2.7	1.9	3.3	2.2
BITUMEN	4.9	7.5	4.7	7.9	0.3	0.4	0.2	0.4	1.7	2.5	1.7	2.6
PET COKE	12.0	15.6	14.7	15.8	1.3	1.3	1.3	1.3	4.7	4.4	5.2	5.1
OTHERS	30.2	12.8	32.2	12.1	2.7	1.2	2.6	1.3	10.4	3.8	10.3	5.2
ALL INDIA	**233.5**	**194.3**	**254.3**	**204.2**	**20.7**	**16.6**	**22.0**	**17.6**	**80.7**	**63.8**	**90.1**	**72.7**
Growth (%)	**-11.0%**	**-8.9%**	**8.9%**	**5.1%**	**6.7%**	**6.5%**	**6.2%**	**6.1%**	**13.1%**	**13.1%**	**11.7%**	**14.0%**

Note: Prod - Production; Cons - Consumption

15. LPG consumption (Thousand Metric Tonne)

LPG categorv	2020-21	2021-22	July			April-July		
			2021-22	2022-23 (P)	Growth (%)	2021-22	2022-23 (P)	Growth (%)
1. PSU Sales :								
LPG-Packed Domestic	25,128.1	25,501.6	2,115.9	2,157.1	1.9%	8,121.6	8,087.5	-0.4%
LPG-Packed Non-Domestic	1,886.0	2,238.8	195.7	202.0	3.2%	592.3	703.6	18.8%
LPG-Bulk	361.9	390.9	33.6	35.3	4.8%	119.2	117.0	-1.8%
Auto LPG	118.4	122.0	11.6	9.2	-20.3%	33.6	37.2	10.7%
Sub-Total (PSU Sales)	27,494.3	28,253.3	**2,356.8**	**2,403.6**	**2.0%**	**8,866.7**	**8,945.3**	**0.9%**
2. Direct Private Imports*	64.2	82.0	12.83	6.4	-50.4%	30.2	25.4	-15.9%
Total (1+2)	27,558.4	28,335.3	**2,369.6**	**2,410.0**	**1.7%**	**8,896.9**	**8,970.7**	**0.8%**

*Apr -June 2022 DGCIS data is prorated

16. LPG marketing at a glance

Particulars (As on 1st of April)	Unit	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	1.08.22 (P)
LPG Active Domestic Customers	(Lakh)					1486	1663	1988	2243	2654	2787	2895	3053	3109
	Growth						11.9%	19.6%	12.8%	18.3%	5.0%	3.9%	5.5%	6.7%
LPG Coverage (Estimated)	(Percent)					56.2	61.9	72.8	80.9	94.3	97.5	99.8	-	-
	Growth						10.1%	17.6%	11.1%	16.5%	3.4%	2.3%	-	-
PMUY Beneficiaries	(Lakh)							200	356	719	802	800.4	899.0	944.2
	Growth								77.7%	101.9%	11.5%	-0.2%	12.2%	17.8%
LPG Distributors	(No.)	10541	11489	12610	13896	15930	17916	18786	20146	23737	24670	25083	25269	25308
	Growth	8.8%	9.0%	9.8%	10.2%	14.6%	12.5%	4.9%	7.2%	17.8%	3.9%	1.7%	0.7%	0.7%
Auto LPG Dispensing Stations	(No.)	604	652	667	678	681	676	675	672	661	657	651	601	571
	Growth	12.7%	7.9%	2.3%	1.6%	0.4%	-0.7%	-0.1%	-0.4%	-1.6%	-0.6%	-0.9%	-8.5%	-13.1%
Bottling Plants	(No.)	183	184	185	187	187	188	189	190	192	196	200	202	203
	Growth	0.5%	0.5%	0.5%	1.1%	0.0%	0.5%	0.5%	0.5%	1.1%	2.1%	2.0%	1.0%	2.0%

Source: PSU OMCs (IOCL,BPCL and HPCL)

1.Growth rates as on 01.08.2022 are with respect to figs as on 01.08.2021. Growth rates as on 1 April of any year are with respect to figs as on 1 April of previous year.

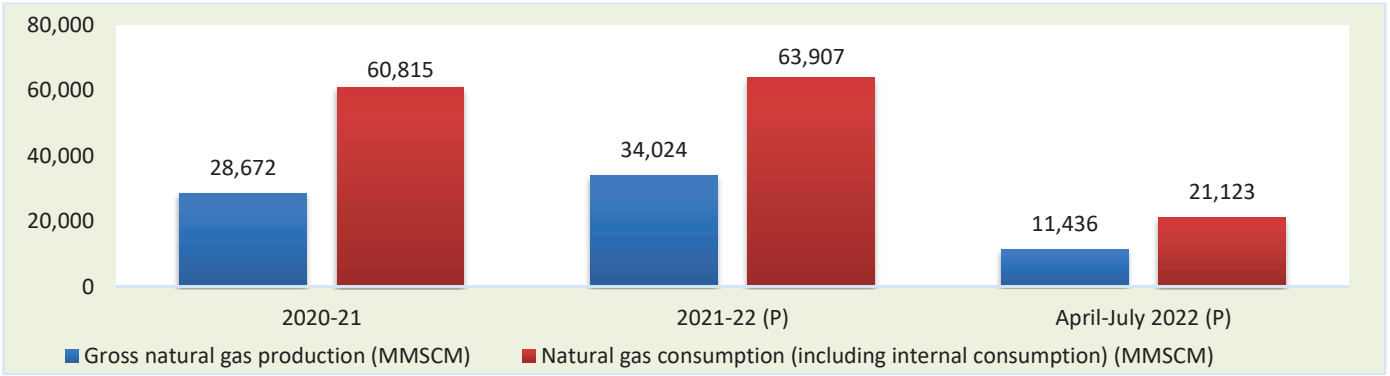
2. The LPG coverage is calculated by PSU OMCs based upon the active LPG domestic connections and the estimated number of households. The number of households has been projected by PSU OMCs based on 2011 census data. Factors like increasing nuclearization of families, migration of individuals/ families due to urbanization and reduction in average size of households etc. impact the growth of number of households. Due to these factors, the estimated no. of households through projection of 2011 census data may slightly differ from the actual no. of households in a State/UT. Further, this methodology does not include PNG (domestic) connections.

18. Natural gas at a glance

(MMSCM)

Details	2020-21 (P)	2021-22 (P)	July			April-July		
			2021-22 (P)	2022-23 (Target)	2022-23 (P)	2021-22 (P)	2022-23 (Target)	2022-23 (P)
(a) Gross production	28,672	34,024	2,894	2,982	2,883	11,062	11,766	11,436
- ONGC	21,872	20,629	1,731	1,697	1,663	6,783	6,774	6,749
- Oil India Limited (OIL)	2,480	2,893	248	316	263	924	1,241	1,005
- Private / Joint Ventures (JVs)	4,321	10,502	915	968	957	3,356	3,751	3,681
(b) Net production (excluding flare gas and loss)	27,784	33,131	2,819		2,811	10,776		11,152
(c) LNG import#	33,031	30,776	2,644		2,571	10,825		9,971
(d) Total consumption including internal consumption (b+c)	60,815	63,907	5,463		5,382	21,602		21,123
(e) Total consumption **(in BCM)**	60.8	63.9	5.5		5.4	21.6		21.1
(f) Import dependency based on consumption (%), {c/d*100}	54.3	48.2	48.4		47.8	50.1		47.2

Jul-2020 - June 2022 DGCIS data prorated. RIL data prorated



19. Coal Bed Methane (CBM) gas development in India (July 2022)

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		17886**	Sq. KM
Area awarded		16598	Sq. KM
Blocks awarded*		32	Nos.
Exploration initiated (Area considered if any boreholes were drilled in the awarded block)		10669.55**	Sq. KM
Production of CBM gas	April-July 2022 (P)	227.98	MMSCM
Production of CBM gas	July 2022 (P)	58.78	MMSCM

*ST CBM Block awarded & relinquished twice- in CBM Round II and Round IV -Area considered if any boreholes were drilled in the awarded block.

** MoPNG offered 8458 sq.km. area for 15 CBM Blocks under Special CBM Bid Round-2021. The award of the Blocks is under progress.

20. Common Carrier Natural Gas pipeline network as on 30.06.2022

Nature of pipeline		GAIL	GSPL	PIL	IOCL	AGCL	RGPL	GGL	DFPCL	ONGC	GIGL	GITL	Others*	Total
Operational	Length	9,602	2,695	1,459	143	107	304	73	42	24				**14,449**
	Capacity	167.2	43.0	85.0	20.0	2.4	3.5	5.1	0.7	6.0				**333**
Partially commissioned#	Length	4,519			166						1,131	365		**6,180**
	Capacity				-						-	-		**-**
Total operational length		**14,121**	**2,695**	**1,459**	**309**	**107**	**304**	**73**	**42**	**24**	**1,131**	**365**	**0**	**20,629**
Under construction	Length	5,404	100		1,265						1,201	1,666	3,550	**13,186**
	Capacity	-	3.0		-						-	-	149.0	**-**
Total length		**19,524**	**2,795**	**1,459**	**1,574**	**107**	**304**	**73**	**42**	**24**	**2,332**	**2,031**	**3,550**	**33,815**

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

Total authorized Natural Gas pipelines including Tie-in connectivity, dedicated & STPL is 34135 Kms

21. Existing LNG terminals

Location	Promoters	Capacity as on 01.07.2022	% Capacity utilisation (April-Jun 2022)
Dahej	Petronet LNG Ltd (PLL)	17.5 MMTPA	86.7
Hazira	Shell Energy India Pvt. Ltd.	5.2 MMTPA	43.1
Dabhol	Konkan LNG Limited	*5 MMTPA	29.9
Kochi	Petronet LNG Ltd (PLL)	5 MMTPA	17.8
Ennore	Indian Oil LNG Pvt Ltd	5 MMTPA	13.0
Mundra	GSPC LNG Limited	5 MMTPA	18.1
Total Capacity		**42.7 MMTPA**	

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

22. Status of PNG connections and CNG stations across India (Nos.), as on 30.06.2022(P)

State/UT (State/UTs are clubbed based on the GAs authorised by PNGRB)	CNG Stations	PNG connections		
		Domestic	Commercial	Industrial
Andhra Pradesh	137	236,063	378	28
Andhra Pradesh, Karnataka & Tamil Nadu	23	339	0	2
Assam	1	44,156	1,289	430
Bihar	56	78,916	40	1
Bihar & Jharkhand	0	5,339	0	0
Chandigarh (UT), Haryana, Punjab & Himachal Pradesh	23	22,966	95	18
Dadra & Nagar Haveli (UT)	7	9,314	52	53
Daman & Diu (UT)	4	5,081	40	37
Daman and Diu & Gujarat	13	549	1	0
Goa	10	10,080	13	22
Gujarat	952	2,738,906	21,434	5,710
Haryana	271	262,400	706	1,226
Haryana & Himachal Pradesh	9	0	0	0
Haryana & Punjab	16	0	0	0
Himachal Pradesh	7	2,710	0	0
Jharkhand	50	87,382	2	0
Karnataka	208	347,120	435	247
Kerala	86	19,987	16	12
Kerala & Puducherry	9	0	0	0
Madhya Pradesh	184	163,070	258	368
Madhya Pradesh and Chhattisgrah	3	0	0	0
Madhya Pradesh and Rajasthan	21	19	0	0
Madhya Pradesh and Uttar Pradesh	15	0	0	0
Maharashtra	579	2,404,696	4,740	517
Maharashtra & Gujarat	48	127,164	2	10
National Capital Territory of Delhi (UT)	458	1,283,407	3,213	1,723
Odisha	46	69,679	3	0
Puducherry & Tamil Nadu	7	14	0	0
Punjab	163	40,713	163	158
Rajasthan	182	160,051	29	176
Tamil Nadu	132	0	0	4
Telangana	122	167,880	62	87
Tripura	18	55,557	501	62
Uttar Pradesh	650	1,202,641	1,907	2,268
Uttar Pradesh & Rajasthan	36	18,958	34	340
Uttar Pradesh and Uttrakhand	16	6,263	0	0
Uttrakhand	27	63,184	43	70
West Bengal	40	0	0	0
Total	**4,629**	**9,634,604**	**35,456**	**13,569**

Source: PNGRB

Note: 1. All the GAs where PNG connections/CNG Stations have been established are considered as Operational, 2. Under normal conditions. Operation of any particular GA commences within around one year of authorization. 3. State/UTs wherever clubbed are based on the GAs authorised by PNGRB.

23. Domestic natural gas price and gas price ceiling (GCV basis)		
Period	**Domestic Natural Gas price in US$/MMBTU**	**Gas price ceiling in US$/MMBTU**
November 2014 - March 2015	5.05	-
April 2015 - September 2015	4.66	-
October 2015 - March 2016	3.82	-
April 2016 - September 2016	3.06	6.61
October 2016 - March 2017	2.5	5.3
April 2017 - September 2017	2.48	5.56
October 2017 - March 2018	2.89	6.3
April 2018 - September 2018	3.06	6.78
October 2018 - March 2019	3.36	7.67
April 2019 - September 2019	3.69	9.32
October 2019 - March 2020	3.23	8.43
April 2020 - September 2020	2.39	5.61
October 2020 - March 2021	1.79	4.06
April 2021 - September 2021	1.79	3.62
October 2021 - March 2022	2.9	6.13
April 2022 - September 2022	6.1	9.92

24. CNG/PNG prices			
City	**CNG (Rs/Kg)**	**PNG (Rs/SCM)**	**Source**
Delhi	75.61	50.59	IGL website (18.08.2022)
Mumbai	80.00	48.50	MGL website (18.08.2022)

Indian Natural Gas Spot Price for Physical Delivery				
IGX Price Index Month	**Avg. Price**		**Volume (MMSCM)**	**Source**
	INR/MMBtu	**$/MMBtu**		
July 2022	1690	21.23	41.29	As per IGX website: www.igxindia.com

*Prices are weighted average prices | $1=INR79.60 | 1 MMBtu=25.2 SCM

https://pertamina.com/en/news-room/news-release/operating-lng-hub-business-pertamina-gas-subholding-commits-to-make-arun-as-the-lng-hub-center-in-asia

Operating LNG Hub Business, Pertamina Gas Subholding Commits to Make Arun as the LNG Hub Center in Asia

2021-10-29 18:15:00
Siaran Pers
656

Lhokseumawe, October 29, 2021 – Pertamina Gas Subholding member, PT Perta Arun Gas (PAG), has successfully done the LNG reloading optimally to the international market (28/10/2021). It confirms PAG's vision to become a world-class LNG Hub and Regasification company. It is also Pertamina Go Global's commitment and implementation of the cooperation agreement to utilize the LNG Hub tank of Arun Refinery, which was signed on August 10, 2021.

President Director of PT Perta Arun Gas, Arif Widodo, said that PAG has succeeded in unloading and reloading several LNG cargoes owned by various parties. "We plan to develop this business by utilizing four LNG tanks with a total capacity of 508,000 m3, with each tank having a capacity of 127,000 m3. It is one of PAG's remarkable milestones in expanding the global market network and increasing the company's value," he said.

Arif said that after successfully shipping the first LNG cargo to the international market on January 14-15, 2021, PAG has again recorded the success of international shipments. "This collaboration between PAG and its customers again proves PAG's ability as an LNG Bonded Logistics Center (PLB) operator be considered as an LNG Hub Center area in Asia," he explained.

Arif added that on September 7, 2016, PAG was officially appointed as the operator of the Arun Lhokseumawe Special Economic Zone (SEZ) PLB in Aceh Province through a Decree of the Minister of Finance. "PAG is increasingly being active in contributing as the locomotive of the national economy and industry. It is hoped that more investors will enter Aceh Province, especially Lhokseumawe," he said.

Furthermore, he said, PAG is also in a cooling down process for LNG cargos that will be reloading. On average, the LNG cargo loading process takes shorter than the maximum laytime. "On the other hand, it also confirms PAG's commitment to making a special port that can serve the needs of international standard ships," added Arif.

Arif added that following the direction of the Pertamina Gas Subholding regarding Pertamina Go Global, this is one of PAG's focuses to innovate competitively in order to continue to grow globally and compete internationally. "We are doing our best and creating business development strategies forward. As part of Gas Subholding, PAG plays an important role in meeting national energy needs and growth," concluded Arif.

According to Arif, all the development of business activities in the ex-asset area of PT Arun NGL, apart from being aimed at meeting the company's revenue targets, is also PAG's efforts to contribute to Aceh's economic development. "One of them is by creating job opportunities for Aceh people," concluded Arif.

Google Translate of https://e24.no/olje-og-energi/i/1OQj7W/energiministeren-avviser-priskutt-paa-gass

The Minister of Energy rejects price cuts on gas

Record high gas prices are hitting Europe hard, but Oil and Energy Minister Terje Aasland does not want to sell gas on cheap fixed-price contracts.

Oil and Energy Minister, Terje Aasland from the Labor Party. Ole Berg-Rusten / NTB

Kjetil Malkenes Hovland
Published:
Updated today 01:20

This is revealed in a written response from Aasland to parliamentary representative Sofie Marhaug from Rødt. The high prices result in large revenues for Norway, but have dramatic consequences for the countries that buy the gas, Marhaug points out in his question.
"Does the minister think that requiring petroleum companies to sign fixed-price contracts for gas deliveries below the current market price is a current solution that can show solidarity with Europe?" Marhaug asked.
She also points out that one of the Financial Times' editors, David Sheppard, has suggested that Norway should offer favorable, long-term fixed-price contracts.
Nordea Markets calculated this week that the Norwegian state can earn NOK 1,500 billion from oil and gas this year and NOK 1,900 billion next year. Last year, by comparison, the state earned a record-high NOK 830 billion.

- Free to do so
"We are in a demanding time", writes Oil and Energy Minister Terje Aasland (Ap) in his reply to Marhaug.
He links the high gas prices to the corona crisis, which gave a shock, followed by rapid economic growth afterwards. Russia's warfare in Ukraine comes on top of this. Russian gas deliveries to Europe have been low, and this is causing concern about the supply situation for the winter.
At the same time, the minister points out that the oil companies on the continental shelf operate on a commercial basis, but that the Norwegian system does not prevent the players from entering into fixed price contracts, as long as they are entered into on commercial terms.
"To the extent that gas customers in Europe and companies that produce gas on the Norwegian continental shelf wish to enter into long-term gas contracts on commercial terms, they are free to do so," writes Aasland.

"However, I am not proposing a policy where petroleum companies on the Norwegian continental shelf are required to sign fixed-price contracts for gas deliveries," he adds.

- Rejects this too easily
Marhaug maintains that Norway has a moral responsibility to help Europe in the demanding situation.

- I think the minister rejects this too easily. But I am fully aware that such "solidarity awards" must have come with very strict conditions. It must not be an occasion to speculate on resale, says Marhaug to E24.

- I believe that the minister should consider this proposal more seriously, she adds.
- What do you fear might happen if Norway does not give such a discount?
- Europe does not have such great means of power against Norway. We profit a lot from this situation, but as Europe is so at the mercy of Norwegian gas supplies, they don't have many alternatives, she says.
- But Norway has great power, and we could have used it in a more solidary way. But that requires political will and action, she says.
Marhaug points out that the market does not always work according to plan in a time of crisis.
- The minister points out that it is Europe itself that has chosen the spot price over the fixed price in recent years. Now the market is hitting back at a lot of people. They have speculated on low prices, and not planned for bad times, says Marhaug to E24.

- Gave increased security

In recent years, many gas customers have chosen to buy gas in the spot market, instead of on long-term fixed-price contracts. Aasland points out that for a long time it was common to have long-term contracts where the price was linked to the oil price
"Such contracts gave increased security for the companies that invested in production and transport infrastructure that the facilities would be profitable," he writes.
Such long-term contracts have not been desired by the EU in the last 20 years or so, the minister points out.
Instead, spot prices have been preferred, which fluctuate from day to day.
"In periods it has given the EU countries low gas prices in an international perspective and in certain periods like now it has given higher prices", writes Aasland.

Sky-high gas price

The spot price of gas has been at low levels in recent years, but has skyrocketed since last autumn. On Thursday, the price of Dutch TTF is over 300 euros per megawatt hour, up from 70 euros at New Year's and 40 euros a year ago.
According to the experts, the price rise is due to the fact that Russia has held back on its volumes, while stocks in Europe were depleted.

"The most important thing that Norway can contribute to in the current situation, and which I also want to contribute to, is to maintain a high production of gas from Norway also in the future", writes Aasland.

Earlier this year, Equinor received permission to increase its production from several gas fields, and in addition, the LNG plant in Hammerfest is now up and running again after a fire in 2020. Aasland has said that Norway's gas exports could increase by 10 percent this year.
"The companies on the Norwegian continental shelf are currently producing at full capacity. I feel that our friends in Europe are grateful that we both produce as much gas as possible in the short term, and that we develop our resources so that Norway can remain a significant and reliable supplier of gas also after 2030," writes Aasland.
The Norwegian Petroleum Directorate presented a resource report on Thursday which showed that there is a lot of oil and gas left on the Norwegian continental shelf.
But if Norway is to ensure stable oil and gas deliveries to Europe and continue to create great value, the fall in production must be counteracted, according to the directorate.

https://www.reuters.com/article/france-nuclear/restarts-at-several-french-nuclear-power-reactors-delayed-idUSL8N3012B2
INDUSTRY, MATERIALS AND UTILITIES
AUGUST 25, 20222:42 AMUPDATED 9 HOURS AGO

Restarts at several French nuclear power reactors delayed

By Reuters Staff
2 MIN READ

PARIS, Aug 25 (Reuters) - Several of EDF's nuclear power reactors in France have had their restart pushed back to at least mid-November in an adjustment of outage schedules, further delaying 5.2 gigawatts (GW) of supply at a time of historically low availability.

Issues with corrosion on the piping of several reactors, along with a delayed maintenance schedule, has reduced the French nuclear fleet to 30-year lows in 2022 as the rest of Europe scrambles to find new sources of natural gas supplies amid disputes with Russia over its invasion of Ukraine.

France is historically an exporter of power throughout Europe but has had to lean on its neighbours and import electricity recently, which is stressing the gas supplies in other countries that are trying to fill their storage ahead of the winter.

European power prices have surged to records because of the nuclear shortage as well as several other factors over the past several months.

The 1.3 GW Penly 1 reactor in northwestern France is expected offline on Oct. 2 and will now remain out until Jan. 23.

Corrosion was discovered last January on the piping of the safety injection circuit and the reactor cooling circuit at Penly 1.

The delay is nearly a month from the previously announced restart date of Dec. 25.

Delays were also announced at several 1.3 GW reactors at the Cattenom site in northeastern France.

The restart of the Cattenom 3 reactor, where indications of corrosion were detected during testing after going offline in March, was delayed two months to Dec. 11 from an initial return date of Oct. 8.

The restart of the Cattenom 1 reactor will be delayed two months to Nov. 1 from Sept. 14 initially, while the Cattenom 4 reactor was pushed back one month to Nov. 14 from Oct. 10.

Both reactors have been identified as potentially susceptible to the corrosion issue. (Reporting by Forrest Crellin and Vera Eckert; Editing by Christian Schmollinger)

https://www.ofgem.gov.uk/publications/ofgem-updates-price-cap-level-and-tightens-rules-suppliers

Ofgem updates price cap level and tightens up rules on suppliers

26 August 2022

Today (26 August 2022) Ofgem has announced the energy price cap will increase to £3,549 per year for dual fuel for an average household from 1 October 2022.

This comes as Ofgem's CEO warns of the hardship energy prices will cause this winter and urges the incoming Prime Minister and new cabinet to provide an additional and urgent response to continued surging energy prices.

The new price cap level is based on a transparent methodology and calculations by Ofgem. The data is published on the Default tariff cap level: 1 October 2022 to 31 December 2022 publication.

The increase reflects the continued rise in global wholesale gas prices, which began to surge as the world unlocked from the Covid pandemic and have been driven still higher to record levels by Russia slowly switching off gas supplies to Europe.

The price cap, as set out in law, puts a maximum per unit price on energy that reflects what it costs to buy energy on the wholesale market and supply it to our homes. It also sets a strict and modest profit rate that suppliers can make from domestic energy sales. However, unlike energy producers and extractors, most domestic suppliers are currently not making a profit.

The price cap protects against the so called 'loyalty premium' where customers who do not move suppliers or switch to better deals can end up paying far more than others. Ultimately, the price cap cannot be set below the true cost of buying and supplying energy to our homes and so the rising costs of energy are reflected in it.

Although Ofgem is not giving price cap projections for January because the market remains too volatile, the market for gas in Winter means that prices could get significantly worse through 2023.

Jonathan Brearley, CEO of Ofgem, said:

"We know the massive impact this price cap increase will have on households across Britain and the difficult decisions consumers will now have to make. I talk to customers regularly and I know that today's news will be very worrying for many.

"The price of energy has reached record levels driven by an aggressive economic act by the Russian state. They have slowly and deliberately turned off the gas supplies to Europe

causing harm to our households, businesses and wider economy. Ofgem has no choice but to reflect these cost increases in the price cap.

“The Government support package is delivering help right now, but it’s clear the new Prime Minister will need to act further to tackle the impact of the price rises that are coming in October and next year. We are working with ministers, consumer groups and industry on a set of options for the incoming Prime Minister that will require urgent action. The response will need to match the scale of the crisis we have before us. With the right support in place and with regulator, government, industry and consumers working together, we can find a way through this.”

Ofgem will continue to work with government, consumers groups, charities and suppliers, in supporting any new package of help or measures to ease the crisis.

Ofgem has also today strengthened the rules around direct debits to ensure suppliers set them at the right level, meaning that customers only pay exactly what they need to. The changes will stop suppliers from building up excessive customer credit balances and using them in a risky way as working capital.

Ofgem’s clear role is to protect consumers, and it has also today:

- Strengthened requirements for suppliers to have sufficient control over the key assets they use to run their businesses. Together, this and the direct debit rule changes build on existing requirements to boost supplier resilience to better protect customers from costs associated with supplier failures.
- Extended the Market Stabilisation Charge (MSC), which is paid by suppliers and helps protect customers from the cost of supplier failure.
- Extended the ban on acquisition only tariffs which ensures all energy tariffs are available to existing as well as new customers, ensuring all consumers can get a fair deal on their energy.
- Launched a review into the mechanism and level of profit margin available under the price cap to ensure that suppliers do not earn excessive profits and receive only a fair return for the services they provide to customers.

The new price cap level will take effect from 1 October 2022, but it is possible some suppliers may begin increasing direct debits before this date to spread costs. Customers worried about when their direct debit will increase should contact their supplier. Any money taken from customers to build up a credit will only ever be spent on their energy supply and customers can ask for their credit balance to be returned at any time.

Anyone worried about paying their bill should contact their supplier in the first instance. They are obliged to discuss payment plans and direct customers to government and third sector support where available. Ofgem is tightly monitoring suppliers’ performance in this area and has told all suppliers now is the time to step up their support for customers, especially those on low incomes or in a vulnerable situation.

Ofgem continues to monitor the impact of the price cap and to work with stakeholders and government on what more can be done for those least able to pay but most in need of energy. When the new Prime Minister announces what additional support packages will be available, Ofgem will continue to examine how best it can help those groups of people that need it the most.

Notes to editors

1. Help available for customers:

- If customers are struggling to pay for energy bills, they should contact their energy supplier as soon as possible. Depending on their circumstances, customers may be eligible for extra help with their energy bills or services, such as debt repayment plans, payment breaks, emergency credit for prepayment metered customers, priority support and schemes like the Winter Fuel Payment or Warm Home Discount rebate.
- Support available: Energy domestic consumer advice for Autumn/Winter 2022 | Ofgem
- Breathing Space Scheme: This is a scheme to give households time to receive debt advice and find a solution to sort out their debt problems. Breathing space will last for 60 days as long as applicants remain eligible during which time all creditors who have been included will be informed and must stop any collection or enforcement activity. Once the breathing space ends, creditors will be able to collect the debt in the usual way. Consumers can call the National Debtline on Freephone 0808 808 4000 or visit www.nationaldebtline.org
- The Citizens Advice consumer service can provide advice on how customers can resolve problems with their energy provider. You can contact Citizens Advice via webchat, or by calling 0808 223 1133. For complex or urgent cases, or if a person is in a vulnerable situation, they may then be referred onto the Extra Help Unit.
- Advice Direct Scotland has a range of services to support Scottish consumers who are struggling, including advice and information on basic or complex energy inquiries, supplier complaint processes and support with understanding energy bills. You can contact Advice Direct Scotland via Live Chat, by calling 0808 196 8660 or by email.

2. Published cap levels for the charge restriction period 9A of the default tariff cap: 1 October 2022 – 31 December 2022.

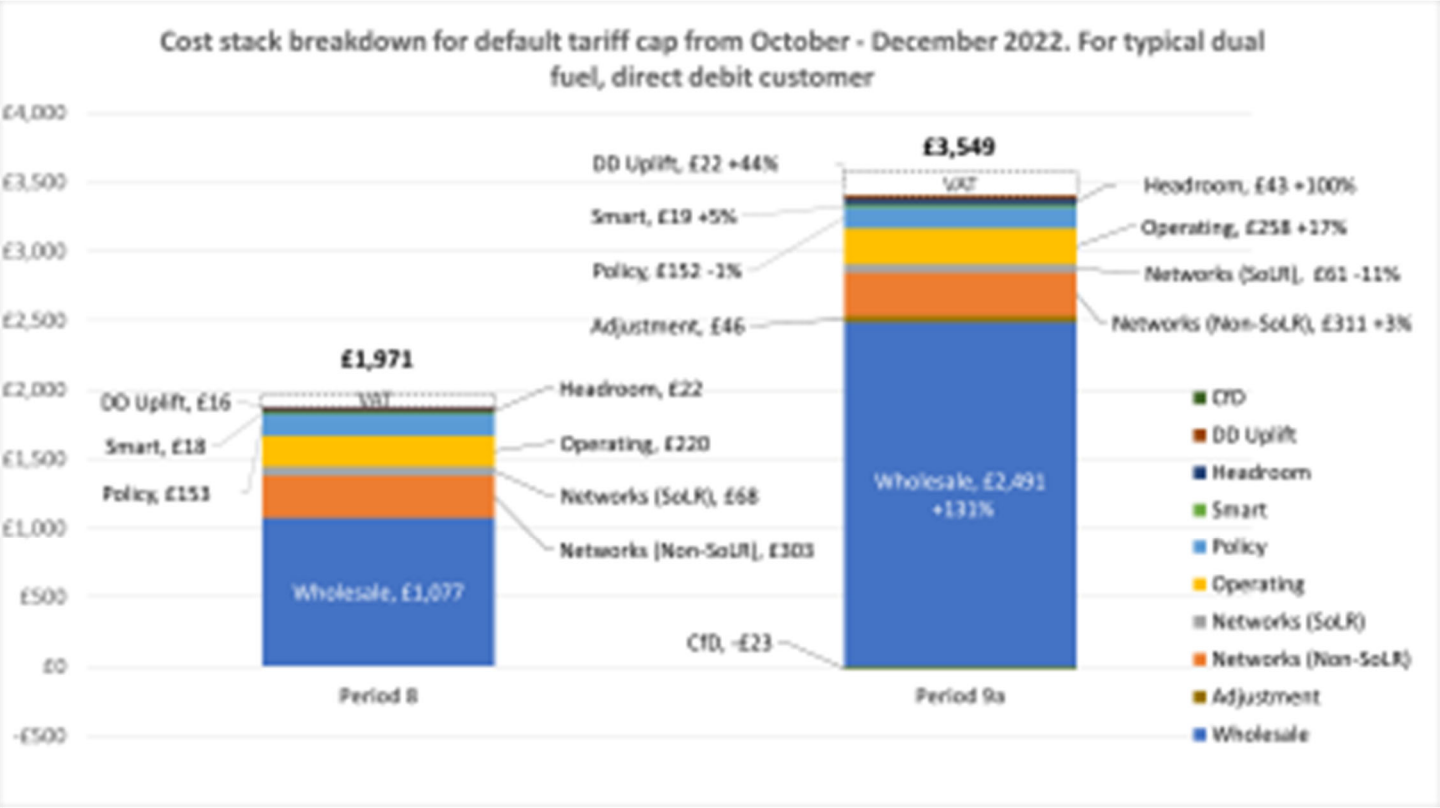
Section 5 for future price cap dates: Check if the energy price cap affects you | Ofgem

3. The price cap protects around 24 million households on default or variable rates on credit meters. The £3,549 per year level of the cap is based on a household with typical consumption on a dual electricity and gas bill paying by direct debit and, following the recent 4 August announcement, will be updated on a quarterly basis. More information on this can be found on the "Ofgem confirms changes to the price cap methodology and frequency ahead of new rate to be announced later this month" press release. Customers who pay by standard credit (cash or cheque) pay an additional £215 based on the higher cost for

energy companies to serve them. The 24 million households protected by the price cap includes around 4.5 million prepayment meter customers. These customers pay an additional £59 compared to those on direct debit, which also reflects the higher cost for energy companies to serve them. The values shown in the text above include VAT and are expressed for the current Typical Domestic Consumption Values (TDCV) of 2,900kWh of electricity, 12,000kWh of gas, and 4,200kWh of electricity for Economy 7. The price cap is a cap on a unit of gas and electricity, with standing charges taken into account. It is not a cap on customers' overall energy bills, which will still rise or fall in line with their energy consumption. From 1 October the equivalent per unit level of the price cap to the nearest pence for a typical customer paying by direct debit will be 52p per kWh for electricity customers and a standing charge of 46p per day. The equivalent per unit level for a typical gas customer is 15p per kWh with a standing charge of 28p per day.

4. **Breakdown of costs in the energy price cap**

Dual fuel customer paying by direct debit, typical energy use (GB £)



5. The charts below shows indexed wholesale prices from cap period 4 (summer 2020) to cap period 9a (Oct – Dec 2022). Wholesale costs make up the majority of a customer's bill.

Prior to October 2022 update – we observed wholesale prices for future delivery over an indexation period. This was carried out twice a year, from the preceding February to August for the winter period (October - March) and from September to January for the summer period (April - September). The fixed horizontal lines show the average wholesale

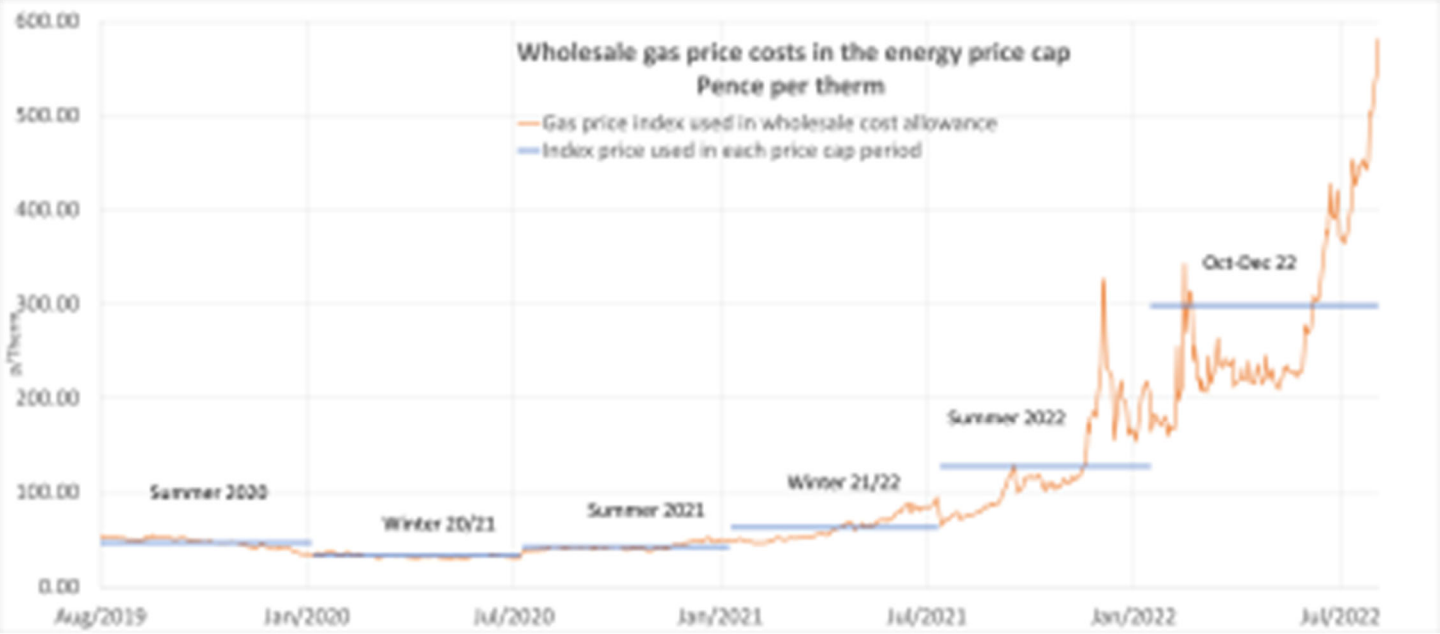
cost allowance for each 6 month price cap period based on the price of the relevant forward looking energy contracts (the jagged line).

From October 2022 - As set out in our 4 August decision document, the October 2022 wholesale allowance calculated within the price cap uses a transitional approach to price indexation compared to previous periods as such they are not directly comparable.

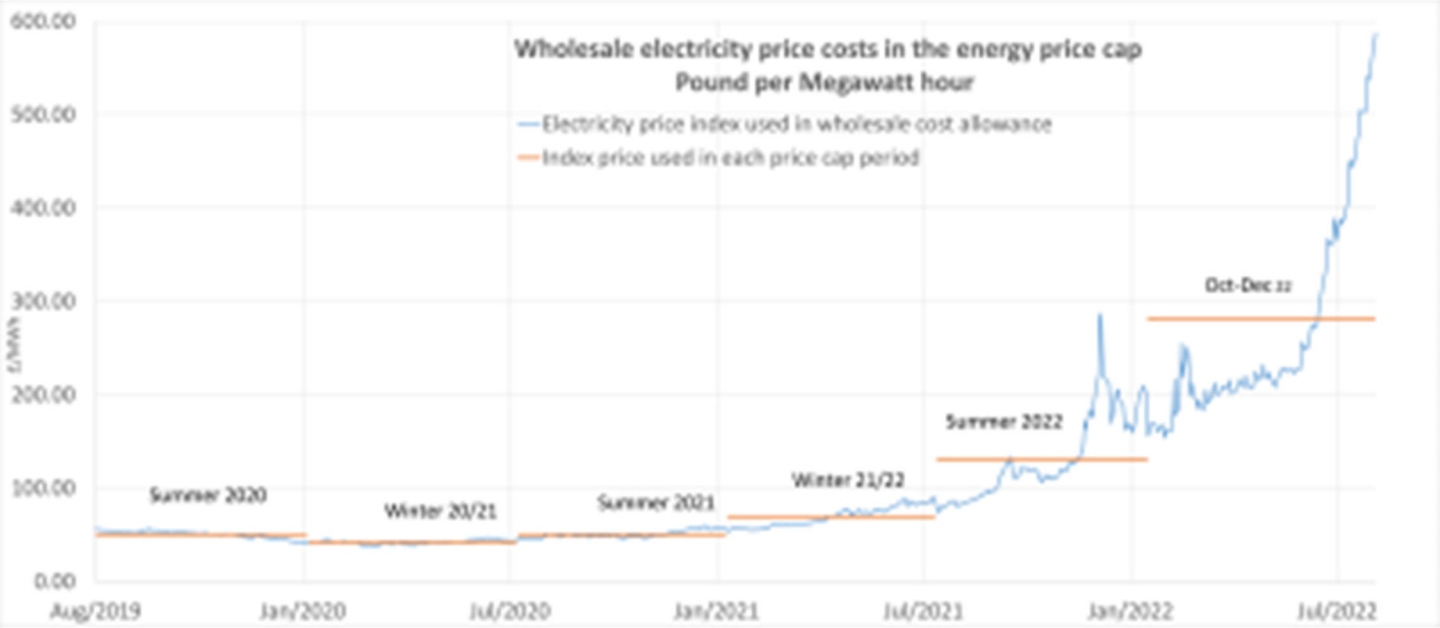
From April 2022 we will determine the wholesale cost allowance within the price cap four times a year, based on the price of the forward-looking energy contracts over the previous three months.

The fixed horizontal line representing the August update, October - December 2022, shows a weighted average wholesale cost allowance for the first 3 month price cap period based on the price of the relevant forward looking energy contracts and number of observed trading days (the jagged line).

Wholesale gas price costs in the energy price cap



Wholesale electricity price costs in the energy price cap



Data sets behind these graphs are proprietary and can be sourced from ICIS.

6. Current government support available for consumers:

- Energy Bills Support Scheme: millions of households across Great Britain will receive a £400 non-repayable discount on their energy bills from October this winter.
- Warm Homes Discount: a £150 Warm Homes Discount will also begin to be paid to 3million low-income households from October.
- Households most in need will be eligible for further support in addition to the Energy Bills discount. This includes:

- £650 one-off Cost of Living Payment for around 8 million households on means tested benefits;

- A one-off £300 Pensioner Cost of Living Payment for over 8 million pensioner households to be paid alongside the Winter Fuel Payment;

- A payment of £150 for around six million people across the UK who receive certain disability benefits;

- A £500 million increase and extension of the Household Support Fund.

7. Information and materials for consumers about the price caps is available at: www.ofgem.gov.uk/energy-price-caps. Information on support and advice for consumers worried about paying their bills is available at: http://www.ofgem.gov.uk/help-with-bills

Media enquiries

Please email press@ofgem.gov.uk or 0203 263 9996.

General enquiries (non-media)

If you are an energy customer looking for help and advice, including complaints about energy firms, please see our Household gas and electricity guide. Citizens Advice also provide a free, impartial helpline service across a range of issues on 0808 223 1133.

We also regularly share news and post general advice to help consumers get the most out of their energy services via our @Ofgem twitter and Facebook pages. If you have an enquiry or complaint relating to Ofgem's policies or functions, contact us at consumeraffairs@ofgem.gov.uk or on 020 7901 7295.

For all other non-media related enquiries, please visit our Contact us page.

About Ofgem

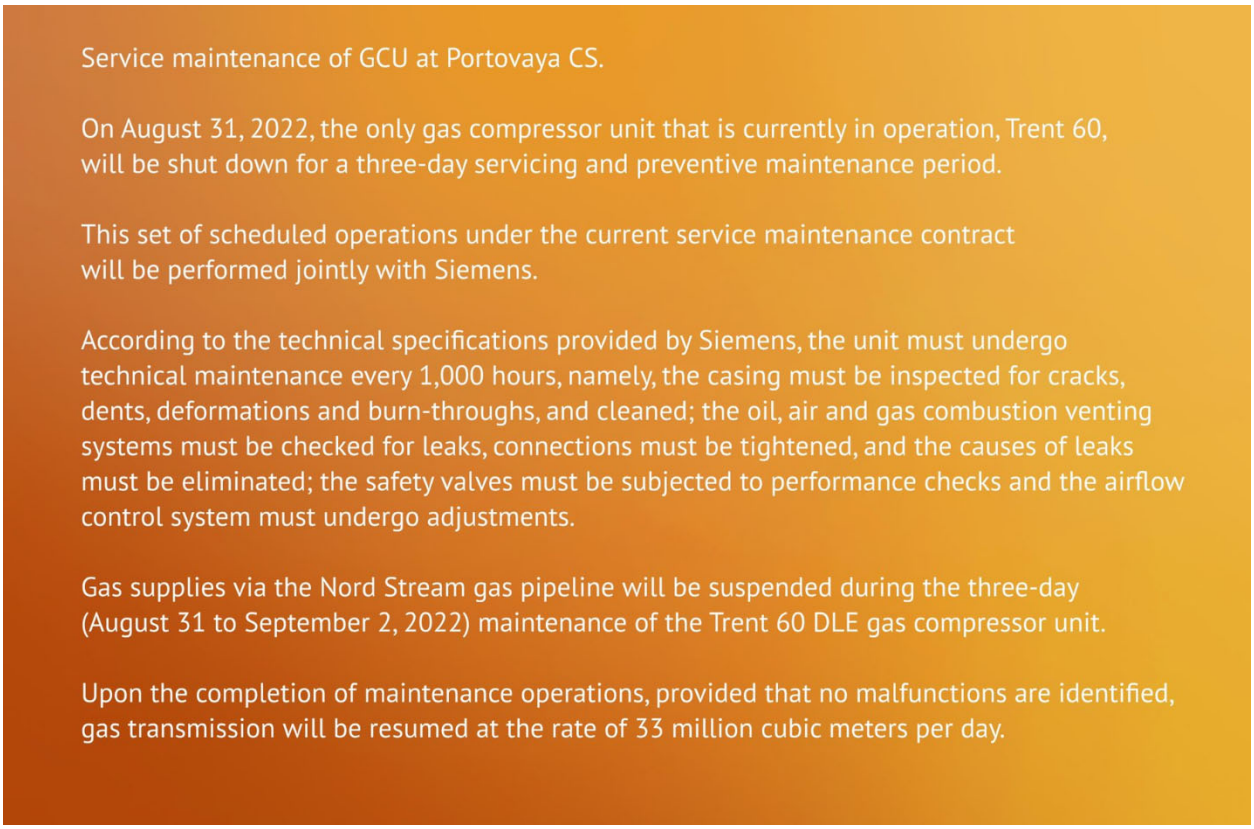
Ofgem is Britain's independent energy regulator. Our role is to protect consumers now and in the future by working to deliver a greener, fairer energy system. We do this by:

- Working with Government, industry and consumer groups to deliver a net zero economy at the lowest cost to consumers.
- Stamping out sharp and bad practice, ensuring fair treatment for all consumers, especially the vulnerable.
- Enabling competition and innovation, which drives down prices and results in new products and services for consumers.

https://twitter.com/GazpromEN/status/1560677160053944321/photo/1

Gazprom
@GazpromEN

11:16 AM · Aug 19, 2022 · Twitter for iPhone



BP Whiting Fire Damage Minimal, Restart May Begin on Weekend (1)
2022-08-26 20:52:46.705 GMT

By Barbara Powell
(Bloomberg) -- (More information on damage, restart beginning in third bullet.)
* BP's Whiting, Indiana, refinery may be able to begin restarting production as soon as the weekend after finding damage from Wednesday's fire was minimal and most of the work will be electrical, people familiar with operations say.
* The biggest Midwest refinery was mostly not operating after the fire in a power house caused a loss of cooling water, which most units must have to operate without incurring damage
** Fire stemmed from an electrical arc flash, meaning the big production units likely escaped damage
* Restarting multiple production units and returning to normal production can take at least several days to a week and longer if issues are discovered during the restart process
* Units shut include the 255k b/d Pipestill 12 section and 70k b/d Pipestill 11A, both of which use heavy sour Canadian off the Enbridge pipeline
** Lengthy outage could back up crude at the Cushing, Okla., storage depot and push regional spot prices higher
* No immediate response to email sent to BP Friday seeking comment
** Co. said Thursday it was working on determining the cause of the electrical fire and assessing when a restart of affected units can take place
* Whiting has a total crude processing capacity of 435k b/d: data from EIA

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Jasmina Kelemen

Excerpt https://www.wsj.com/articles/jennifer-granholms-de-facto-fuel-export-ban-energy-secretary-letter-refiners-oil-europe-11661379613?st=cp5j6h4wolb0ckt

- OPINION

Granholm to Europe: Tough Luck

The Energy Secretary bullies U.S. companies to reduce fuel exports.

By *The Editorial Board* Follow

Aug. 24, 2022 6:43 pm ET

Secretary of Energy Jennifer GranholmPHOTO: CHRIS KLEPONIS - POOL VIA CNP/ZUMA PRESS

America's allies in Europe are desperate for alternative supplies of fuel amid the Ukraine war, and U.S. producers are happy to provide what they can. So wouldn't you know the Biden Administration now wants to limit fuel exports.

That's the message Energy Secretary Jennifer Granholm sent last week in a letter imploring seven major refiners to limit fuel exports. We obtained a copy of the letter, which the Administration didn't release publicly. Ms. Granholm warns that gasoline inventories on the East Coast are at a near-decade low, and diesel stocks are nearly 50% below the five-year average across the region.

"Given the historic level of U.S. refined product exports, I again urge you to focus in the near term on building inventories in the United States, rather than selling down current stocks and further increasing exports," she writes.

"It is our hope that companies will proactively address this need," she adds. "If that is not the case, the Administration will need to consider additional Federal requirements or other emergency measures." In New Jersey they call that an offer you can't refuse.

This is a political escalation from President Biden's June command to refiners to immediately lower gasoline prices. As average gasoline prices nationwide have fallen to $3.88 from about $5 in mid-June, he has been taking a media victory tour. Mr. Biden can thank Americans for driving less, and crude prices have been falling amid a broader selloff in commodities.

Yet fuel storage levels are running low heading into hurricane season when it's not unusual for Gulf Coast refineries to be damaged or shut down. The Administration fears a refinery outage that causes fuel prices to spike in the runup to the November election. Hence, Ms. Granholm's threatening letter.

But the problem isn't U.S. exports. It's the political and regulatory assault on U.S. production and refining. One culprit is the 2019 closure of the Philadelphia Energy Solutions refinery, which removed about 335,000 barrels a day of refining capacity from the Northeast. This made the region more dependent on Gulf Coast and overseas refineries.

Fuel storage levels would be much higher in the Northeast if not for New York state's natural gas pipeline blockade, which has made the region more dependent on oil for energy. One-third of New England residents still use oil to heat their homes, and New York this month is generating more electricity from oil than from solar or wind.

The Granholm export threat is also a slap in the face to European allies trying to diversify energy sources from Russia. Fuel supplies are tight globally amid sanctions on Russia, which had accounted for 40% of Europe's oil imports. Europe has had to look elsewhere for diesel fuel, which some manufacturers and power generators are turning to as a substitute for natural gas. U.S. refiners have recently been exporting more fuel to Europe, but Ms. Granholm is now telling them to stop.

Restricting fuel exports is one more counterproductive Biden policy on fossil fuels that would merely drive up global fuel prices, including U.S. imports. Ms. Granholm's bullying of energy companies shows how little she understands about energy markets.

https://www.cpc.ru/EN/press/releases/2022/Pages/20220825.aspx

SPM 3 buoyancy tank inspection

24 August 2022 a diving structural inspection was completed at CPC Marine Terminal of SPM 3 buoyancy tank. Subsea equipment of the single point mooring system was found fit for further unlimited use, which will enable fulfillment of oil shippers' current nominations. Efficient cooperation is worth noting of CPC and shippers that resulted in a time slot arranged between tanker positions during daylight to facilitate the necessary diving inspection.

At this time on SPM 1 activities are ongoing to flush the lifting system in preparation for replacement of a damaged buoyancy tank (BT) to follow.

The Consortium has now practically completed prequalification of contractors from the available reserve for delivery of services in BT replacement. The selection process included both Russian and foreign companies.

CPC had recently suspended in August 2022 loading from two single point moorings of the available three following discovery of cracks on SPM 1 and SPM 2 in buoyancy tank to subsea hose connections.

CPC has developed an appropriate terms of reference and is preparing to proceed with replacement of the abovementioned tanks.

For information:

The CPC Pipeline System is one of CIS largest energy investment projects that involves foreign capital. The length of the Tengiz – Novorossiysk pipeline is 1,511 km. This route moves over two thirds of all Kazakhstan export oil along with crude from Russian fields including those in the Caspian region. CPC Marine Terminal is equipped with three Single Point Moorings (SPM), allowing tankers to be loaded safely at significant distance offshore, including in poor weather conditions

CPC Shareholders: Federal Agency for State Property Management represented by Transneft (trustee) – 24%, CPC Company – 7%, KazMunayGas – 19%; Kazakhstan Pipeline Ventures LLC – 1.75%, Chevron Caspian Pipeline Consortium Company – 15%, LUKARCO B.V. - 12.5%, Mobil Caspian Pipeline Company - 7.5%, Rosneft-Shell Caspian Ventures Limited - 7.5%, BG Overseas Holding Limited - 2%, Eni International N.A. N.V. - 2%, and Oryx Caspian Pipeline LLC – 1.75%.

https://www.cpc.ru/EN/press/releases/2022/Pages/20220822-1.aspx

SPM-1 and SPM-2 temporarily out of service

 Buoyancy tankThe Caspian Pipeline Consortium's Marine Terminal has two single point moorings, SPM-1 and SPM-2, in operation since 2002 and SPM-3 since 2014.
An oil loading system consists of subsea and sea surface equipment, including a subsea pipeline, a pipeline end manifold (PLEM), suction anchors, anchor chains, subsea hoses and SPM.

 Buoyancy tank-1In August 2022, while performing scheduled maintenance on SPM-1 and SPM-2, divers discovered cracks in subsea hose attachments to buoyancy tanks (Note: a buoyancy tank is a hollow air-filled vessel designed to keep subsea hoses in a necessary configuration).
There is no threat to the flora and fauna of the Black sea. The integrity of the equipment remains intact.

A crack was found on a joining plate connecting some subsea hose piping on a buoyancy tank of SPM-1. Another crack was found on an identical joining plate on a buyancy tank of SPM-2. A swivel joint was found to be displaced at the location of a crack (see photos).

 Buoyancy tank-2Due to the damage discovered on subsea equipment, CPC immediately contacted the SPM manufacturer, IMODCO, and an organization that supervises safe operation of equipment, the ABS classification society, for consultations whether the equipment could continue to be operated, providing comprehensive information about the defects found.
These entities strongly recommended that the operation of the SPMs should be suspended until the buoyancy tanks were replaced. The ABS classification society, in particular, stressed that exceptionally adverse weather conditions had been observed during the 2021-2022 winter season, which could have caused the damage that was discovered. As a reminder, it was the abnormal storms that caused the damage to some sections of floating hoses in March 2022.

The shareholders of the company were notified about the defects on the buoyancy tanks 1 and two on August 5 and 17 respectively. The CPC Marine Terminal is temporarily loading crude oil by using only SPM-3.

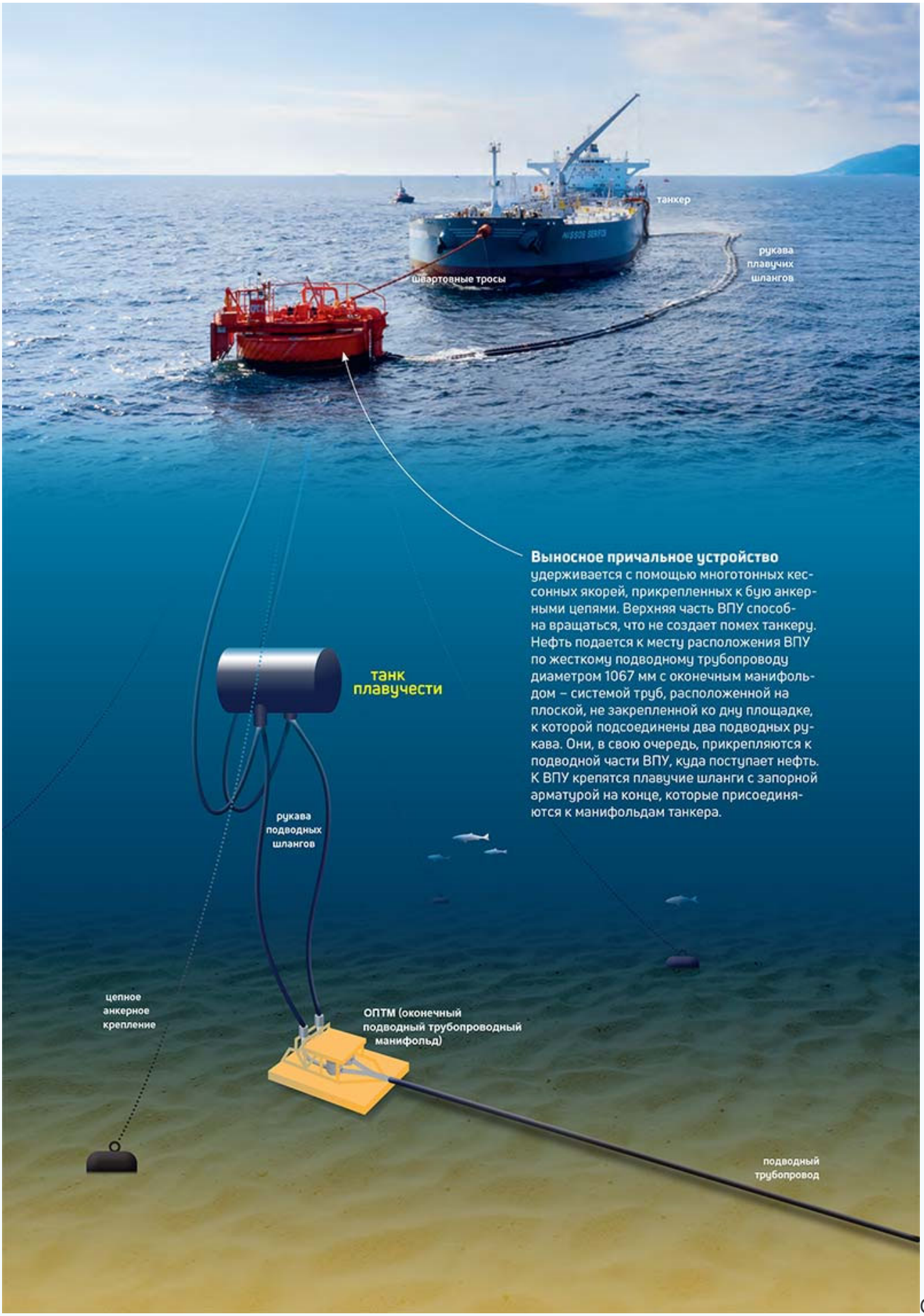
The use of the single SPM will allow to meet shipper nominations with reduced volumes.

CPC takes an uncompromising position on environmental protection and industrial safety while operating its Marine Terminal in the Black Sea as well as prevention of oil spills.

We consider it necessary to stress that the above-mentioned damage did lead to any incident or accident associated with oil spill. There is no threat to the public or the environment. The company has taken action to prevent any such risks on the equipment.

CPC has developed a corresponding task order and intends to replace the tanks with new ones from inventory. A pre-qualification selection of bidders for the job is in progress.

CPC is going to advise how the situation develops at a later date.



Выносное причальное устройство удерживается с помощью многотонных кессонных якорей, прикрепленных к бую анкерными цепями. Верхняя часть ВПУ способна вращаться, что не создает помех танкеру. Нефть подается к месту расположения ВПУ по жесткому подводному трубопроводу диаметром 1067 мм с оконечным манифольдом – системой труб, расположенной на плоской, не закрепленной ко дну площадке, к которой подсоединены два подводных рукава. Они, в свою очередь, прикрепляются к подводной части ВПУ, куда поступает нефть. К ВПУ крепятся плавучие шланги с запорной арматурой на конце, которые присоединяются к манифольдам танкера.

loading system scheme
For information:

The CPC Pipeline System is one of CIS largest energy investment projects that involves foreign capital. The length of the Tengiz – Novorossiysk pipeline is 1,511 km. This route moves over two thirds of all Kazakhstan export oil along with crude from Russian fields including those in the Caspian region. CPC Marine Terminal is equipped with three Single Point Moorings (SPM), allowing tankers to be loaded safely at significant distance offshore, including in poor weather conditions

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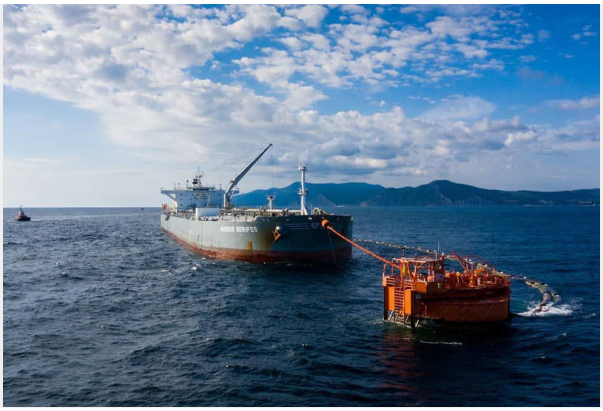
Коммерсантъ
https://www.kommersant.ru/doc/5524764
Activities of the Caspian Pipeline Consortium (CPC)
22.08.2022, 23:083 min.

Oil cracked

Kazakhstani export via CPC is again limited due to equipment breakdown

The main export route for Kazakh oil, the Caspian Pipeline Consortium (CPC) oil pipeline, is facing shipment restrictions for the fourth time this year due to technical problems at the terminal in Novorossiysk. This time, the work of two of the three remote mooring devices was stopped due to the detected damage. According to Kommersant, taking into account the necessary procedures for selecting a contractor and the imminent start of the storm season, restoration work may be delayed until spring. In this case, deliveries of Kazakh oil to the world market via CPC may fall by 15 million tons.



Another breakdown at the CPC terminal in Novorossiysk can permanently reduce shipments of Kazakh oil to the world market Photo: CPC

On August 22, the Russian operator CPC announced the decommissioning of two remote mooring units (TLU) at the terminal in Novorossiysk. During scheduled maintenance, divers found cracks in the attachment points of the underwater hoses to the buoyancy tanks (they maintain the underwater hose hoses through which oil is shipped in the desired position). Also on the VPU-2 tank, a displacement of the swivel joint was recorded at the site of the crack.

The CPC explained that they turned to the manufacturer of the TLU - Imodco (part of the Dutch SBM Offshore) and the ABS classification society for consultations and the organizations recommended suspending the operation of the equipment until the buoyancy tanks are replaced. The ABS classification society suggested that the damage could have been caused by exceptionally difficult weather conditions during the winter period of 2021/22, the CTC said. The company emphasizes that there is no threat to the environment.

CPC is the main export route for Kazakhstani oil, the pumping plan for this year is 67 million tons. The main part of the volumes is supplied by the operator of the giant Tengiz field, Tengizchevroil, where the American Chevron owns the largest share. The shareholders of CPC itself are Russia (31%), Kazakhstan (20.75%), Chevron (15%), LUKARCO BV (12.5%), Mobil Caspian Pipeline Company and Rosneft-Shell Caspian Ventures (7.5% each) , BG Overseas Holding and Eni International (2% each), as well as Oryx Caspian Pipeline LLC (1.75%).

This is the fourth incident in Novorossiysk since the beginning of the year, which led to a decrease in shipments through the CPC. In March, a storm damaged shipping hoses, in May , WWII shells were cleared near an underwater oil pipeline, and in July, the Primorsky District Court of Novorossiysk demanded to stop the work of the consortium for 30 days due to environmental violations.

Now deliveries through one TLU will allow fulfilling the orders of shippers in reduced volumes, the CPC said, refusing to comment further. Also, the company does not comment on the timing of repairs. They explained that the replacement of tanks will be carried out from those available in reserve, and to perform this operation, a pre-qualification selection of organizations is needed.

> **A Kommersant source familiar with the situation says that, given the political situation, repairs will most likely be delayed until spring: even if the company manages to select a contractor and sign a contract with him by October, the storm season will begin, during which it will be impossible to carry out work .**

As a result, according to Kommersant's interlocutor, deliveries through the CPC may decrease by at least 50%, to 28-30 million tons on an annualized basis. Such calculations are confirmed by Igor Yushkov, an expert at the Financial University under the Government of the Russian Federation. He notes that in normal mode, as a rule, two TLUs operate, and the third one is connected when necessary. Therefore, taking into account the plans for pumping up to 67 million tons for 2022, the shutdown of two TLUs threatens to decrease to about 30 million tons on an annualized basis. Therefore, if the repair is delayed for six months, the shipment will amount to 15 million tons by March.

According to Igor Yushkov, foreign companies that deliver oil to CPC as part of a consortium, primarily Chevron, will suffer the greatest losses. Russian companies supplying oil to the CPC from the Caspian fields will have to look for alternative supply routes. CPC oil is now trading at a premium to Urals and, moreover, it is not subject to sanctions imposed by the EU.

> **Kazakhstan can minimize losses due to reduced CPC throughput by redirecting oil to the Russian system and exporting it through the Baltic ports.**

Free capacities for redirecting Kazakh oil to the Transneft system amount to about 20 million tons per year. An alternative route involves the delivery of Kazakh oil by tankers through the Caspian Sea to Azerbaijan, and then its export via the Baku-Tbilisi-Ceyhan oil pipeline. However, free capacities in this direction do not exceed 5 million tons per year. At the same time, any alternative routes will be more expensive than pumping through the CPC. Igor Yushkov believes that if the repair can be completed during September, then there will be no point in looking for new export routes for Kazakhstan.

In the summer, Kazakh President Kassym-Jomart Tokayev instructed the government to explore alternative oil export routes that would bypass Russia. Nur-Sultan later said the measure was not directed against Moscow, and on August 12, Kazakh Energy Minister Bolat Akchulakov said that KazMunayGas had no plans to sign a contract with Azerbaijan to transport oil. Nevertheless, on August 16, the head of Kazmunaigas, Magzum Mirzagaliyev, arrived in Baku, where he met with the head of the Azerbaijani state company Socar, Rovshan Najaf, and discussed "interaction between companies in the development of trans-Caspian infrastructure."

Olga Mordyushenko

https://www.spa.gov.sa/viewfullstory.php?lang=en&newsid=2378353#2378353

Minister of Energy: OPEC+ has the means to deal with market challenges including cutting production at any time and in different forms

Monday 1444/1/24 - 2022/08/22

Riyadh, August 22, 2022, SPA -- HRH Prince Abdulaziz bin Salman, Minister of Energy, says volatility and thin liquidity send erroneous signals to markets at times when clarity is most needed.

In an interview with Bloomberg, HRH Prince Abdulaziz pointed out that OPEC+ has the commitment, the flexibility, and the means within the existing mechanisms of the Declaration of Cooperation to deal with such challenges including cutting production at any time and in different forms as has been clearly and repeatedly demonstrated in 2020 and 2021.

How would you describe the current state of the market?

The paper oil market has fallen into a self-perpetuating vicious circle of very thin liquidity and extreme volatility undermining the market's essential function of efficient price discovery and have made the cost of hedging and managing risks for physical users prohibitive. This has a negative impact on the smooth and efficient operation of oil markets, energy commodities and other commodities creating new types of risks and insecurities. This vicious circle is amplified by the flow of unsubstantiated stories about demand destruction, recurring news about the return of large volumes of supply, and ambiguity and uncertainty about the potential impacts of price caps, embargoes, and sanctions.

How is the current volatility impacting the functioning of markets?

This is detrimental because without sufficient liquidity, markets can't reflect the realities of the physical fundamentals in a meaningful way and can give a false sense of security at times when spare capacity is severely limited and the risk of severe disruptions remains high. Nowadays one need not look far for evidence of this. The paper and physical markets have become increasingly more disconnected. In a way the market is in a state of schizophrenia, and this is creating a type of a yo-yo market and sending erroneous signals at times when greater visibility and clarity and well-functioning markets are needed more than ever to allow market participants to efficiently hedge and manage the huge risks and uncertainties they face.

How can OPEC+ deal with these challenges?

In OPEC+ we have experienced a much more challenging environment in the past and we have emerged stronger and more cohesive than ever. OPEC+ has the commitment, the flexibility, and the means within the existing mechanisms of the Declaration of Cooperation to deal with such challenges and provide guidance including cutting production at any time and in different forms as has been clearly and repeatedly demonstrated in 2020 and 2021. Soon we will start working on a new agreement beyond 2022 which will build on our previous experiences, achievements, and successes. We are determined to make the new agreement more effective than before. Witnessing this recent harmful volatility disturb the basic functions of the market and undermine the stability of oil markets will only strengthen our resolve.

--SPA 18:33 LOCAL TIME 15:33 GMT

https://www.presstv.ir/Detail/2022/08/28/688169/Report--Iran%E2%80%99s-expert-review-of-US-response-to-EU-nuclear-deal-underway,-will-conclude-by-weekend

News / Politics / Nuclear Energy

'Iran's review of US response to EU nuclear deal text underway, will conclude by weekend'

Sunday, 28 August 2022 6:27 AM **[Last Update: Sunday, 28 August 2022 9:46 AM]**

The photo shows a meeting of the Joint Comprehensive Plan of Action (JCPOA) Joint Commission in Vienna, Austria, on December 9, 2021.

An expert review of the response that Iran has received from the United States to Tehran's amendments to the EU nuclear deal text is underway, and will conclude by the weekend.

Iran's Nour News, affiliated with the country's Supreme National Security Council (SNSC), said in a tweet on Sunday that the detailed examination of Washington's response to Tehran regarding the EU's coordinating ideas is still ongoing at expert levels.

It added that the process will continue at least until the end of Friday.

On Wednesday, spokesman for the Iranian Foreign Ministry, Nasser Kan'ani, announced that Iran had received the US's response to Tehran's proposals aimed at resolving the remaining issues in the talks on sanctions removal and revival of the nuclear deal, officially known as the Joint Comprehensive Plan of Action (JCPOA).

Read more:

- **Most countries involved in JCPOA talks agree with EU proposal: Borrell**

Kan'ani said the response was received through the European Union coordinator Enrique Mora, adding that a "careful review" has already commenced.

"A careful review of the US opinions has started, and the Islamic Republic of Iran will announce its views in this context after having completed the review," the Iranian diplomat pointed out.

Four days of intense talks between representatives of Iran and the five remaining parties to the JCPOA ended on August 8 with a modified text proposed by the EU on the table.

The talks came after a five-month hiatus as the US negotiators failed to overcome their indecisiveness.

Iran submitted its response to the EU draft proposal on August 15, a week after the latest round of talks wrapped up. After submitting its response, Tehran urged Washington to show "realism and flexibility" in order to reach an agreement.

However, it took almost ten days for the Biden administration to submit its response to Iran's comments on the EU draft.

On August 22, Kan'ani said Tehran had responded to the EU's draft proposal and was awaiting Washington's response.

"Iran has participated seriously, constructively, and responsibly in the negotiations, responded to the proposals of the European side in a timely manner, acted innovatively, and showed the necessary flexibility for the conclusion of an agreement," the spokesman said at a press conference.

"But what matters now is the procrastination of the American side in providing an answer. The US government is responsible for the JCPOA status quo and the non-implementation of the accord. We can move to the next stage in case the US government shows serious willpower and acts responsibly in its promises and actions," he added.

His remarks came hours after EU foreign policy chief Josep Borrell, addressing a university event in the northern Spanish city of Santander, said the response provided by Iran "was reasonable," expressing "hope that this response will allow us to complete the negotiations."

Read more:

- **EU foreign policy chief says Iran's response to bloc's proposal on JCPOA revival 'reasonable'**

"There was a proposal from me as coordinator of the negotiations... and a response from Iran that I considered reasonable. It was transmitted to the United States, which has not yet responded formally," he said, adding that a possible meeting on reviving the JCPOA could be held "this week".

The United States, under former president Donald Trump, abandoned the deal in May 2018 and reinstated crippling sanctions that the agreement had lifted.

The talks to salvage the agreement kicked off in the Austrian capital in April last year, months after Joe Biden succeeded Trump, to examine the potential of the US return to the deal and removal of sanctions.

Despite notable progress, the US indecisiveness and procrastination caused multiple interruptions in the marathon talks.

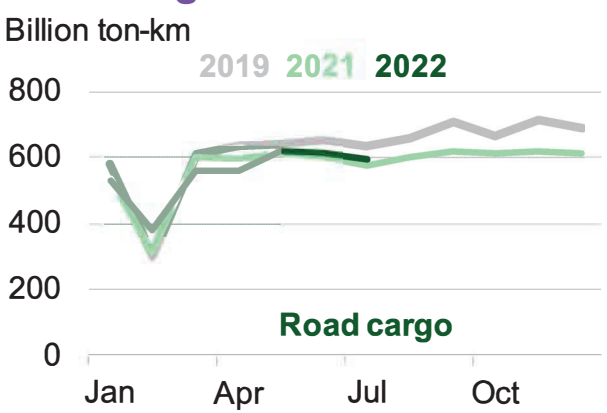
China oil markets monthly snapshot

	Indicator	Value	Change		Last update	Comment
Demand	**Traffic**		**M-o-M**	**Y-o-Y**		• China's oil demand recovery lost steam in August. The road congestion index in the 15 biggest Chinese cities averaged 102% of January 2020 levels over August 1-19, which is 3.5 percentage points lower than the average levels in July. New Covid-19 outbreaks and school holidays contributed to the decline. Diesel demand edged lower in July as road cargo volumes registered a 3% decline month-on-month.
	Road freight volume	596 bln ton-km	-3%	+3%	Jul 2022	
	Air passenger traffic	54 bln ppl-km	+57%	-27%	Jul 2022	
	Port cargo throughput	1.34 bln tons	+1%	+6%	Jul 2022	
	High frequency index		**W-o-W**	**M-o-M**		• Jet fuel demand continued to recover. Flight departures in mid-August remained elevated, increasing by 40% from mid-June levels. However, flight cancellation rates at China's 20 largest airports jumped to 39% for the week ending August 16, as multiple cities tightened travel restrictions. Fuel oil demand has largely returned to pre-pandemic levels. For further details, see the ***demand*** section from page 3.
	Road congestion index	103%	-1 ppt	-0.2 ppt	Aug 17, 2022	
	Subway traffic index	90%	-3 ppt	-1 ppt	Aug 19, 2022	
	Flight schedules		Increase	Increase	Aug 10-16, 2022	
Refining	**Refinery utilization**		**M-o-M**	**Y-o-Y**		• Refinery throughput in July slumped to 12.58 million barrels per day (b/d), a decline of 6% month-on-month. Run rates for independent refiners continued to fall going into August and dropped below seasonal norms in the week ending August 19.
	Country-wide throughput	12.58 m b/d	-6%	-10%	Jul 2022	
	Independent refineries	62%	-7.6 ppt	-3.6 ppt	Aug 19, 2022	
	Refinery output (monthly)					• China brought a 320,000 b/d mega-refinery online in May. Another 500,000 b/d of capacity is set to commission in the second half of 2022, which will intensify the overcapacity issue in the refining sector. BloombergNEF estimates that at least 140,000 b/d of refining capacity has been earmarked for closure in China over 2022-25 due to downstream consolidation. For further details, see the ***refining*** section from page 7.
	Gasoline	11.85m tons	+2%	-14%	Jul 2022	
	Diesel	13.86m tons	-4%	+5%	Jul 2022	
	Jet kerosene	2.55m tons	+21%	-27%	Jul 2022	
Trade	**Crude imports**		**M-o-M**	**Y-o-Y**		• Declining refinery runs have dampened China's appetite for crude oil imports. July imports remained at a low level of 8.8 million b/d, down 9% year-on-year. Year-to-date imports are 4% below the same period in 2021, despite higher quota issuance so far this year.
	National total	8.83m b/d	+1%	-9%	Jul 2022	
	Selected routes (BBG)	3.80m b/d	-12%	-24%	Jul 2022	
	Fuel exports					• Refiners have ramped up product exports due to weakening domestic demand, with total product exports in July climbing by 9% from June. Notably, July gasoline exports jumped by 21% month-on-month. However, total oil products exports in July were still 38% lower than a year ago. For more details, see the ***trade*** section from page 10.
	Quota usage*	61%	(*gasoline, diesel and kerosene only)		Jan-Jul 2022	
	Gasoline	881k tons	+21%	+19%	Jul 2022	
	Diesel	360k tons	+9%	-74%	Jul 2022	

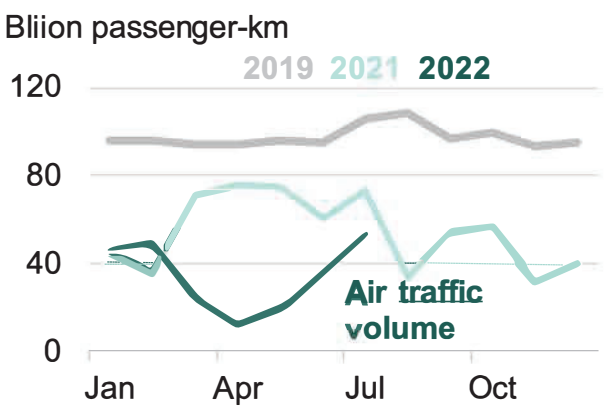
Monthly demand indicators

High temperatures depressed demand for road cargoes

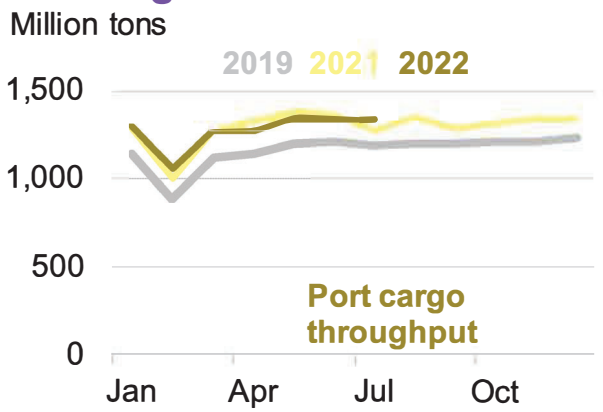
Road freight volume



Air traffic volume

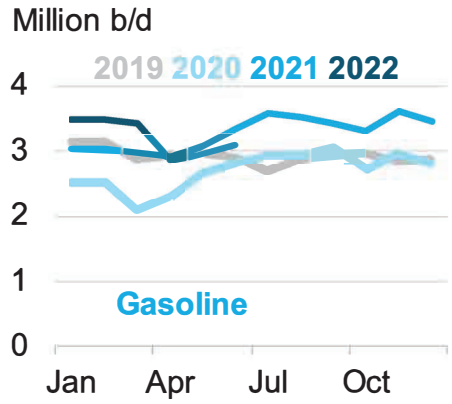


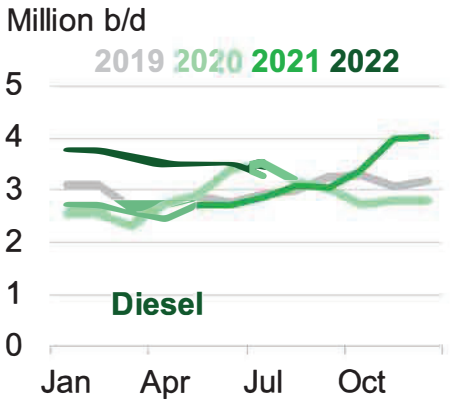
Port cargo volume

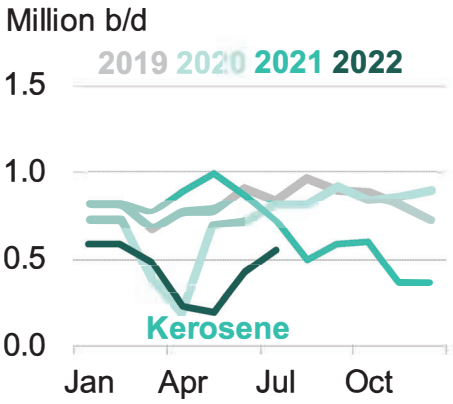


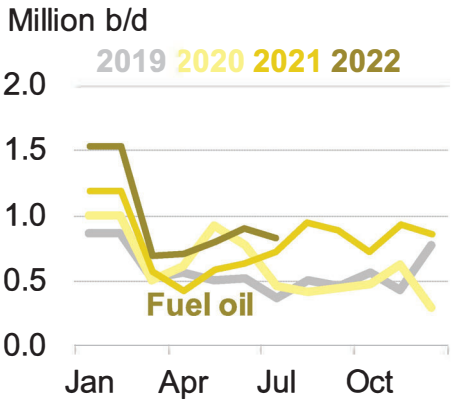
Source: National Bureau of Statistics of China, BloombergNEF.

Apparent demand for transport fuels









Source: Bloomberg Terminal, BloombergNEF. Note: Apparent demand is calculated by deducting net exports from production (apparent demand = production + import – export). China's National Bureau of Statistics reports a combined value for January and February in each year. The charts represent this as an even split between the two months for illustrative purposes. Gasoline demand was not updated for July 2022.

High frequency transport data

Road congestion trended lower amid summer holidays

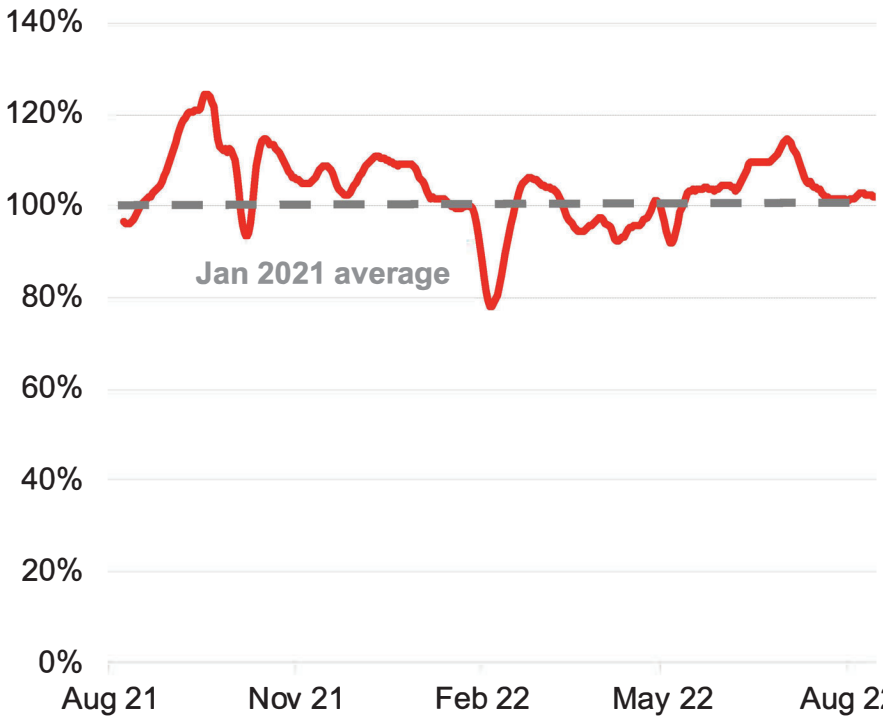
Our weekly **road traffic report** is available on the BNEF website or the Bloomberg Terminal

Our weekly **global aviation report** is available on the BNEF website or the Bloomberg Terminal

- BloombergNEF tracks road congestion data to gauge the impact of the Covid-19 outbreak on road fuel demand.
  - The China-15 congestion level is calculated by taking the weighted average of the congestion levels in the 15 cities and their vehicle registration numbers. The cities are the top 15 cities with the highest number of vehicle registrations. The peak congestion index is calculated based on Jan 2021 average levels (Jan 2021 average = 100%).
- We track the daily subway rides of 11 major cities to measure overall usage of public transportation.

Road congestion

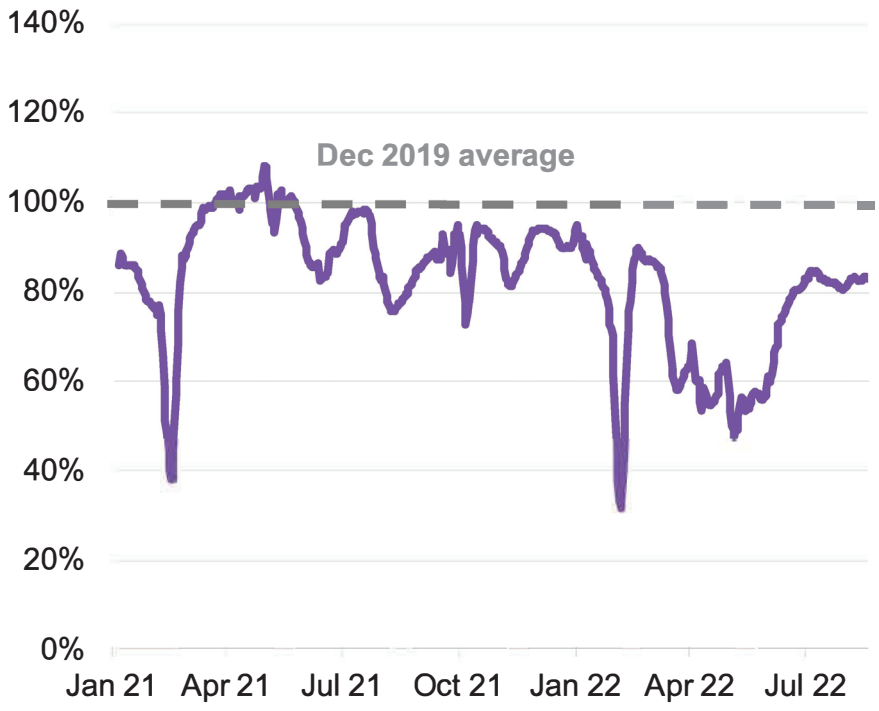
Peak congestion index



Source: Baidu, BloombergNEF. Note: The chart shows seven-day-moving-averages. Last update August 17, 2022.

Subway rides

Rebased Dec 2019 = 100%



Source: BloombergNEF, daily Weibo update from each city's metro company. Note: The chart shows seven-day-moving-averages. Last update August 18, 2022.

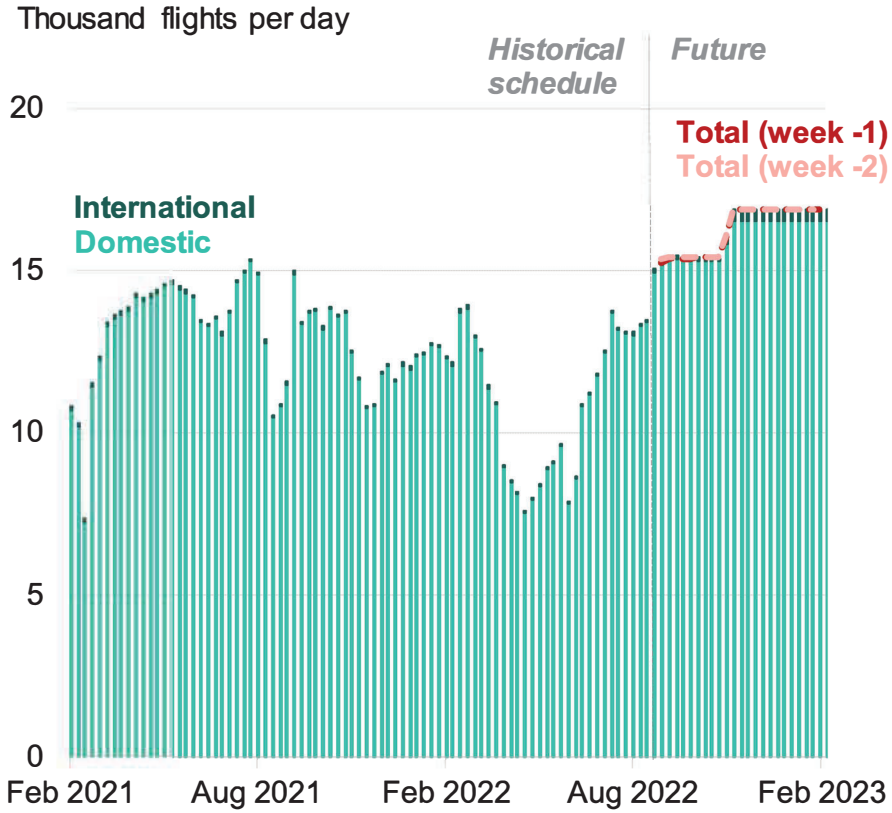
Flight schedules and jet fuel demand

Flight schedules recovered from the nadir in early April

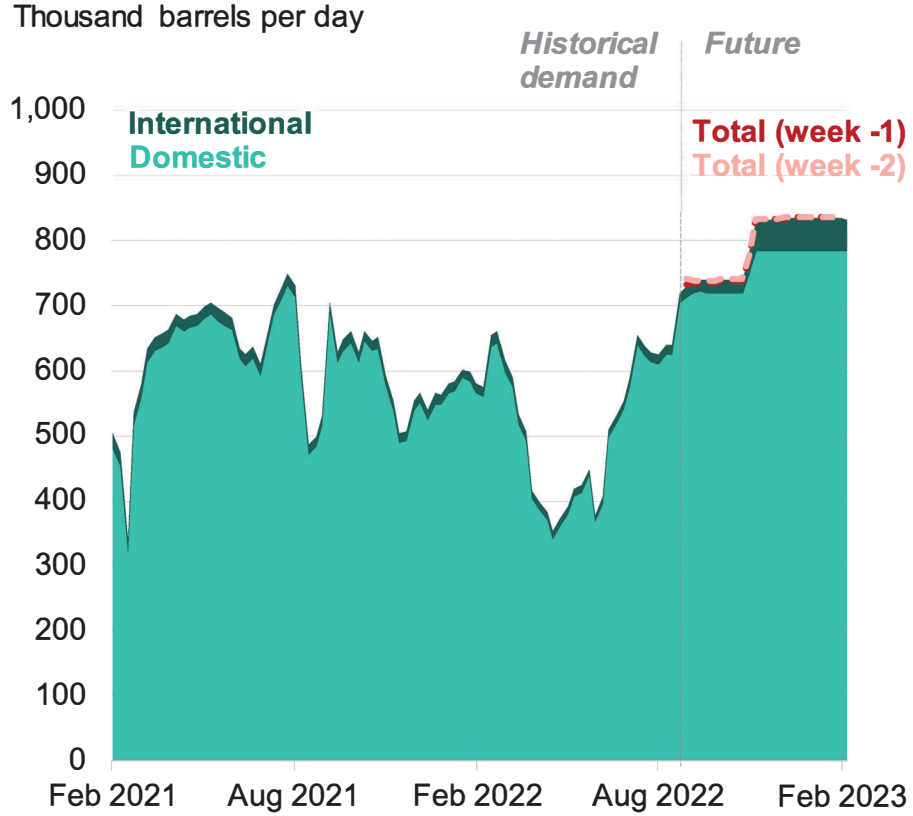
Our weekly **global aviation report** is available on the BNEF website or the Bloomberg Terminal

- We track the flight schedules in major Chinese airports and estimate jet fuel consumption for the next six months based on data for planned routes and aircraft.
  - Schedules are based on the average daily scheduled passenger flight departures from Chinese airports
  - Oil consumption is based on the aircraft type, distance between origin and destination and the average volume of fuel consumed by each aircraft type for a given distance.
- **NEW:** Bloomberg Terminal users can use our new **DSET FLY <GO>** tool to track jet fuel demand and flight schedules.

Chinese airport flight departure schedules



Implied jet fuel demand



Source: BloombergNEF, Bloomberg Terminal FLY <GO>. Note: Last update August 10, 2022. Excludes cargo flights. The future flight schedule is subject to change. Terminal users can check DSET FLY <GO> for more details.

Refinery runs and outages

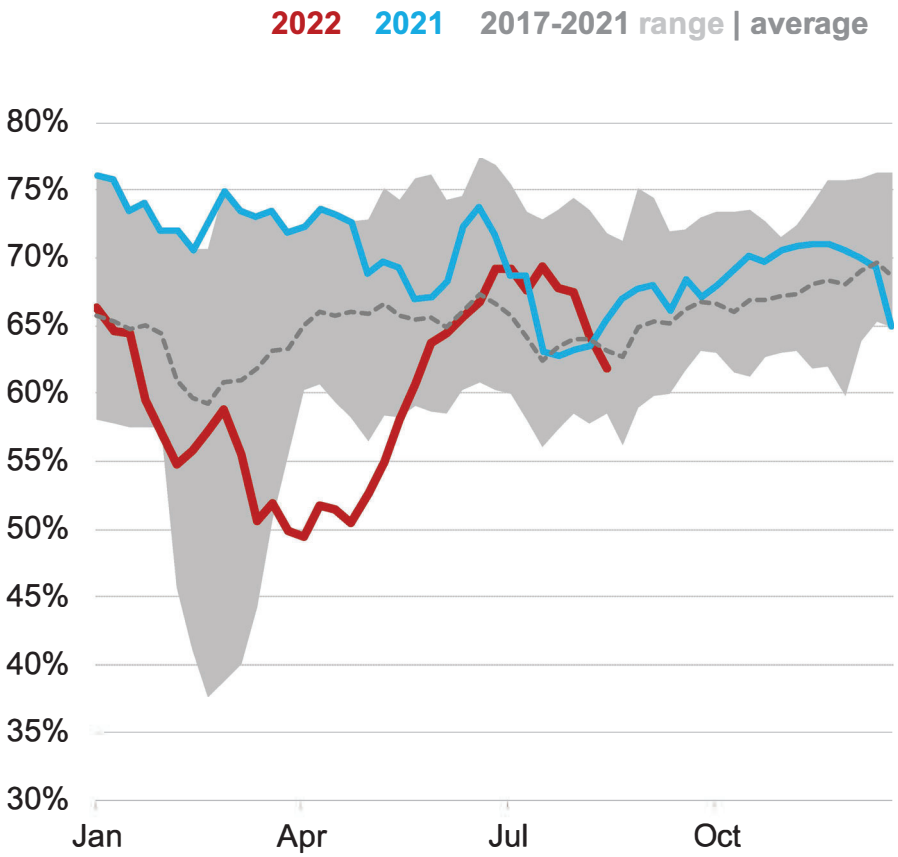
Independent refiners reduce runs to below seasonal norms

Refinery operating data is available on the Bloomberg Terminal via **SCIG <GO>**

Refinery outage data is available on the Bloomberg Terminal via **REFO <GO>**

Shandong independent refinery operating rates

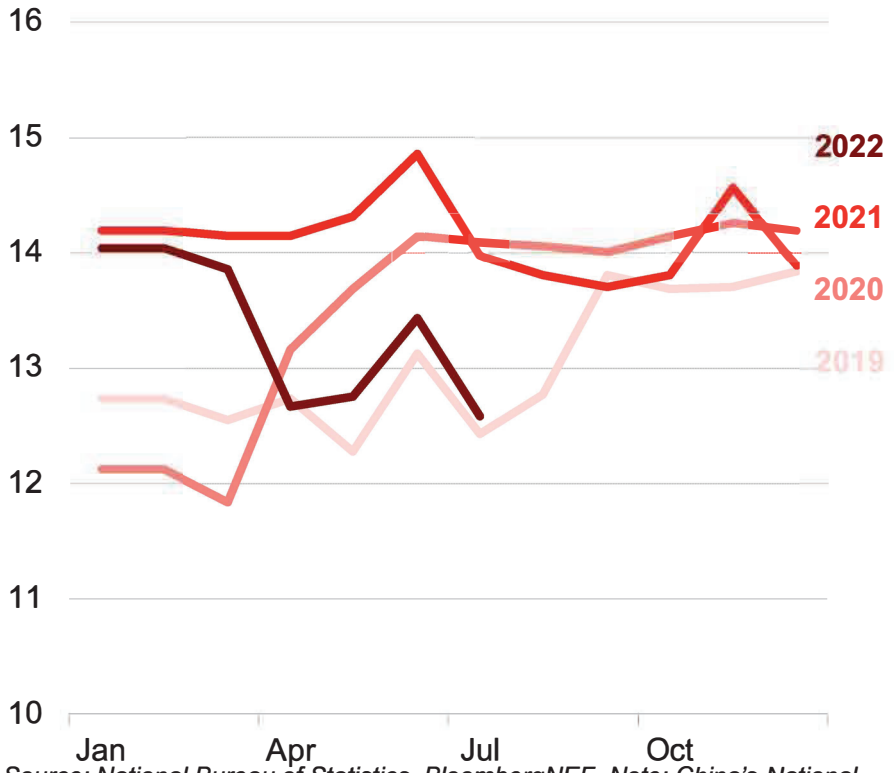
Aggregated utilization rate



Source: BloombergNEF, Shanghai Longzhong Information.

Total crude oil throughput

Million barrels per day



Source: National Bureau of Statistics, BloombergNEF. Note: China's National Bureau of Statistics reports a combined value for January and February. The chart represents this as an even split between the two months for illustrative purposes.

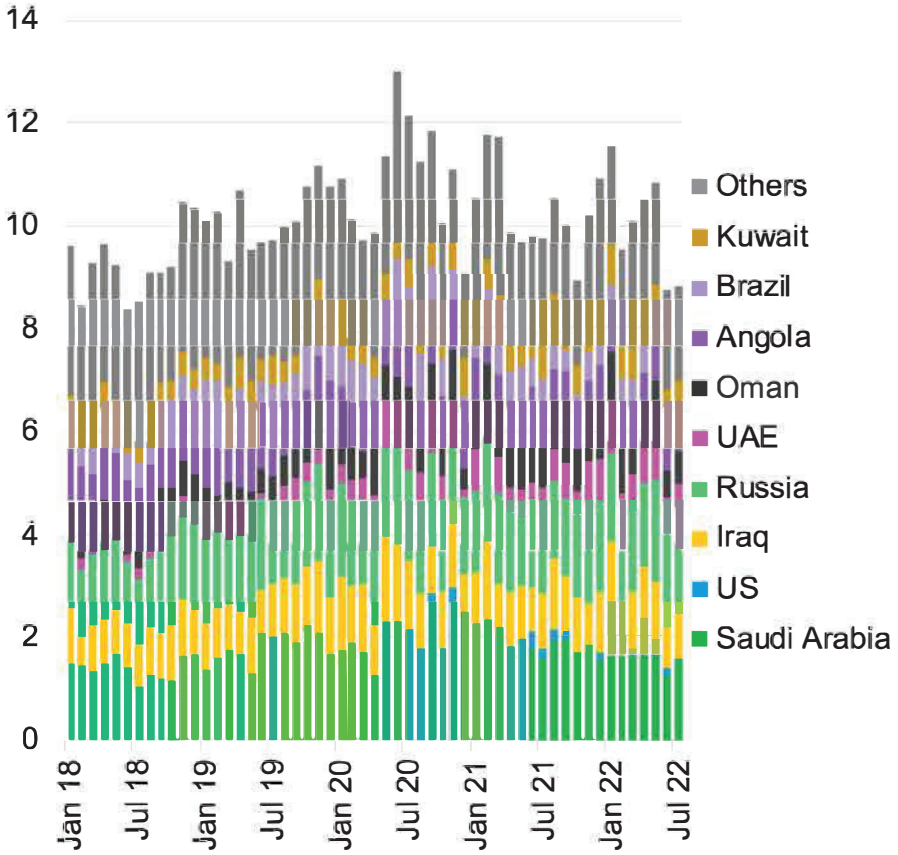
BloombergNEF

Crude imports – China total

July crude imports remained at a low level

China customs crude imports

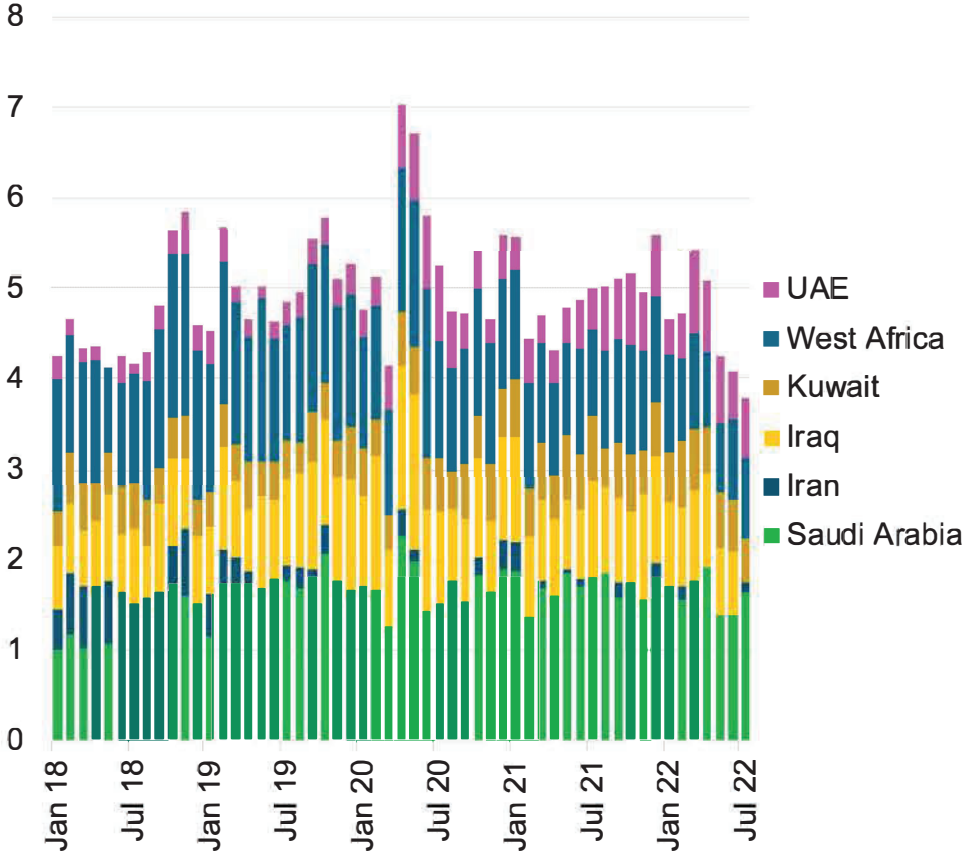
Million barrels per day



Source: China Customs, BloombergNEF. Note: The original data are published in metric tons per month. Conversion rate used is 7.33 barrels per metric ton.

Bloomberg tanker tracker crude imports to China

Million barrels per day



Source: Bloomberg, BloombergNEF. Note: Selected countries only. Data based on departure dates. See LINE <GO> on the Bloomberg Terminal for more information.

TomTom | Google | Baidu

Comparing the three mobility indicators

Strong weekly showings from major regions worldwide

China-15 (Baidu) congestion index

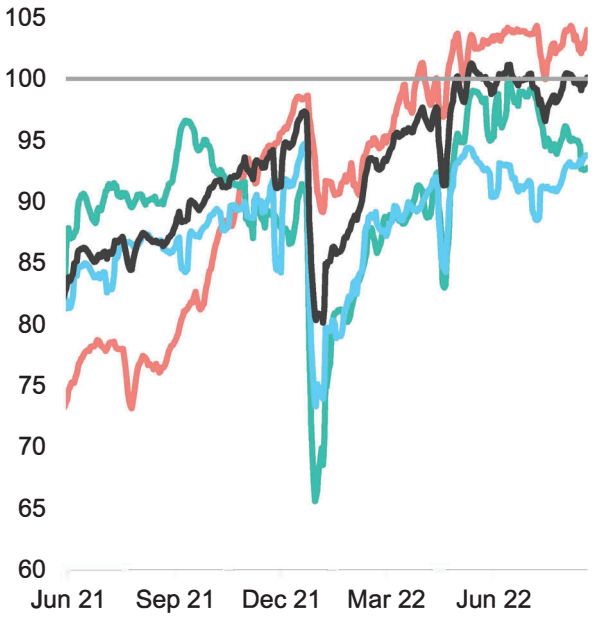
Daily peak congestion levels, indexed to January 2021 (seven-day MA)

	Latest	Week Δ	Four-week Δ
China-15	104.93	2.38 (+2.32%)	3.01 (+2.95%)

*Source: BloombergNEF, calculated from Baidu's data. Note: Data updated to **August 24, 2022**.*

Google mobility index

Indexed to Jan – Feb 2020 (seven-day MA)

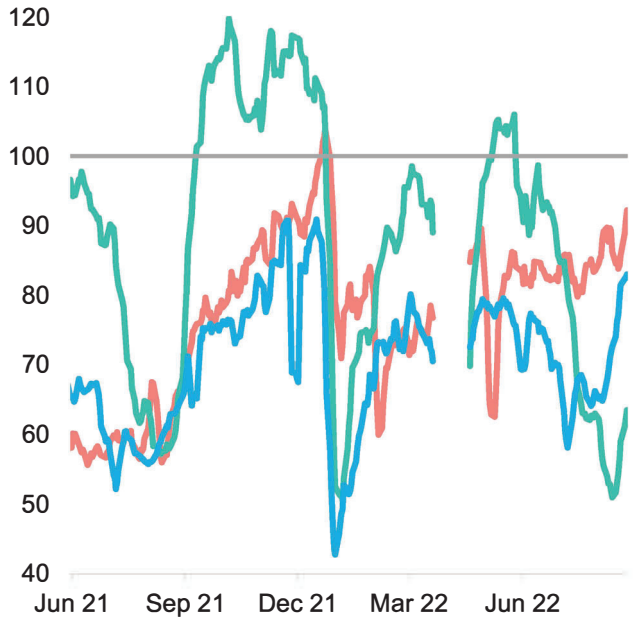


	Latest	Week Δ	Four-week Δ
Asia Pacific	104.0	1.6 (+1.6%)	1.1 (+1.1%)
World	100.1	0.6 (+0.6%)	1.5 (+1.5%)
Europe	93.8	-2.0 (-2.1%)	-1.9 (-2.0%)
Americas	92.7	0.7 (+0.7%)	2.7 (+3.0%)

*Source: Google Community Mobility Report, BloombergNEF. Note: **Data exclude China and Russia.** Calculation includes retail and recreation, workplaces, transport hubs. **Data updated to August 20, 2022.** The world index rating is weighted by the 2019 road fuels demand of each country.*

TomTom congestion index

Indexed to the peak congestion of the average week in 2019 (five-day weekday MA)



	Latest	Week Δ	Four-week Δ
Asia Pacific	92.2	8.4 (+10.0%)	7.9 (+9.4%)
Europe	63.5	9.0 (+16.5%)	0.8 (+1.2%)
North America	83.0	5.7 (+7.4%)	18.5 (+28.7%)

*Source: TomTom road congestion data, BloombergNEF. Note: **Asia Pacific excludes China. Data updated to August 24, 2022.***

BloombergNEF

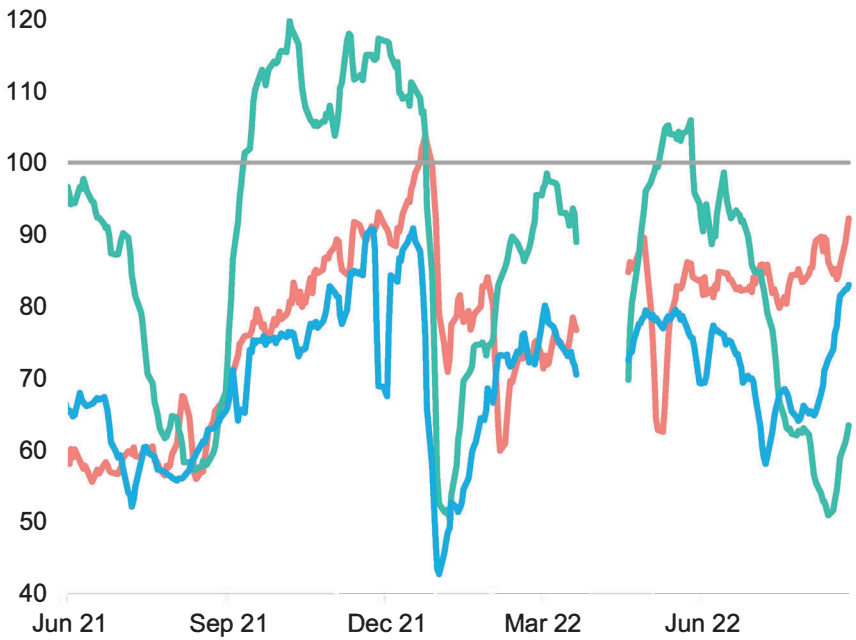
Apple Mobility reports were discontinued on April 14, 2022. We have resumed updating TomTom congestion data, which was previously updated to March 16.

TomTom congestion index

Weekly picture bullish as levels in all regions climb strongly

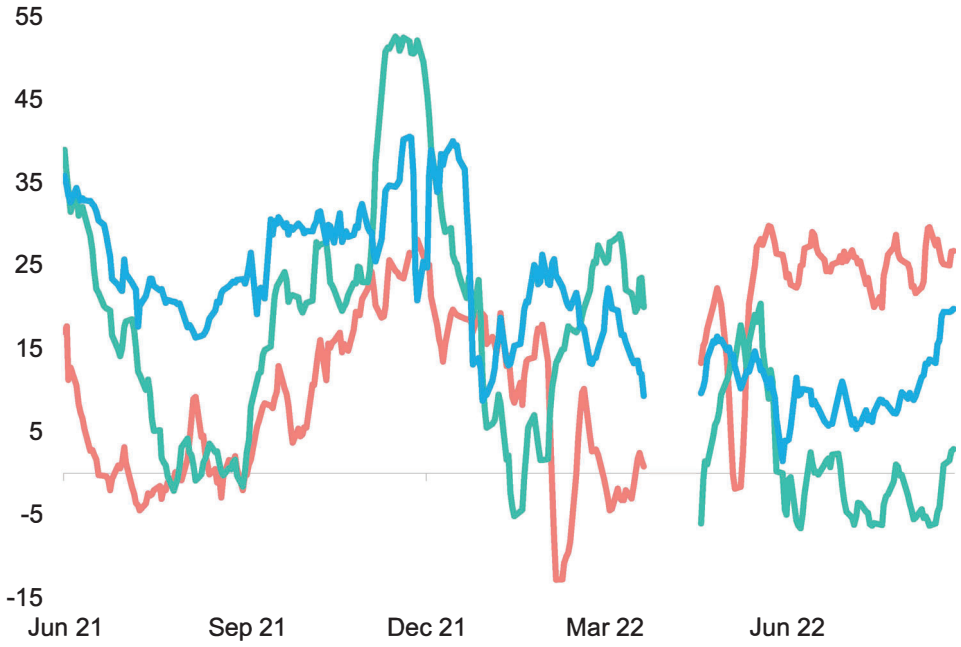
Regional road congestion index

Indexed to the peak congestion of the average week in 2019 (five-day weekday moving average)



Index point change versus the previous year

Percentage point change vs. the year before (seven-day moving average)



	Latest	Week Δ	Four-week Δ	Index point Δ vs year before	Index point Δ vs year before (last week)
Europe	**63.5**	9.0 (+16.5%)	0.8 (+1.2%)	1.34	-5.57
Asia Pacific	**92.2**	8.4 (+10.0%)	7.9 (+9.4%)	25.76	28.29
North America	**83.0**	5.7 (+7.4%)	18.5 (+28.7%)	19.37	13.73

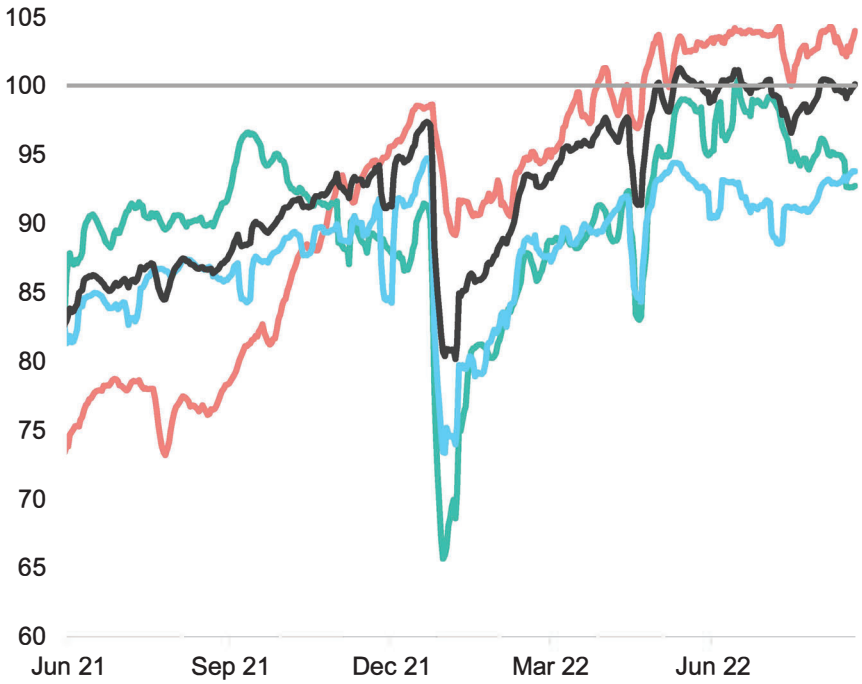
Source: TomTom, BloombergNEF. Note: ***Asia Pacific excludes China. Data updated to August 24, 2022,*** *with weekly addition from August 17, 2022. Index point change versus the previous year is obtained by averaging the latest weekly values.*

Google mobility index

European levels drop amid global rebound

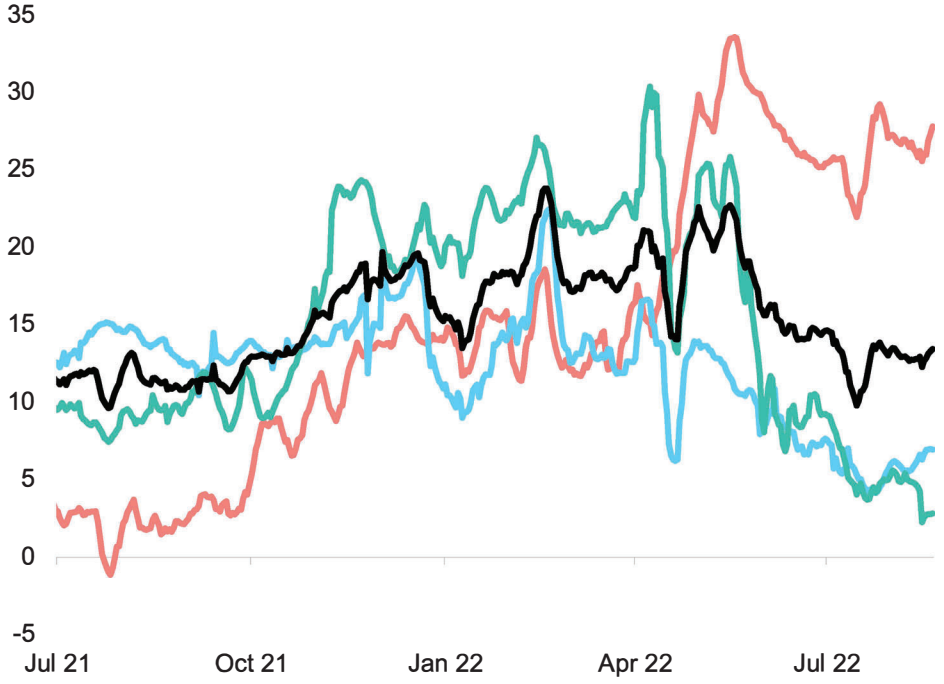
Global and regional road mobility index

Indexed to Jan – Feb 2020 (seven-day moving average)



Index point change versus the previous year

Percentage point change vs. the year before (seven-day moving average)



	Latest	Week Δ	Four-week Δ	Index point Δ vs year before	Index point Δ vs year before (last week)
Asia Pacific	**104.0**	1.6 (+1.6%)	1.1 (+1.1%)	26.5	26.4
World	**100.1**	0.6 (+0.6%)	1.5 (+1.5%)	12.9	12.8
Europe	**93.8**	-2.0 (-2.1%)	-1.9 (-2.0%)	2.9	4.9
Americas	**92.7**	0.7 (+0.7%)	2.7 (+3.0%)	6.7	5.8

Source: Google Community Mobility Report, BloombergNEF. Note: ***Data excludes China and Russia.*** *Calculation includes retail and recreation, workplaces and transport hubs.* ***Data updated to August 20, 2022,*** *with weekly addition from August 13, 2022. The world/regional index is weighted by the 2019 road fuels demand of each country. Index point change versus the previous year is obtained by averaging the latest weekly values.*

US Oil Indicators Weekly

Takeaways: West Texas Intermediate crude prices bounced back above $90 a barrel on Friday, August 19 after spending most of the week below the mark, as strong US gasoline demand figures coupled with a sharp decline in crude inventories push back against recession concerns, and expectations for growth in supply amid Iran nuclear talks.

Total nationwide oil inventories — including commercial stockpiles and oil held in the Strategic Petroleum Reserve — fell by 10.46 million barrels in the week to August 12, according to this week's inventory report from the US Energy Information Administration, marking the largest draw since May. The decline can largely be explained by a massive jump in crude exports that climbed to a record 5 million barrels a day. A surge in exports was mostly anticipated by traders, who've been watching the figures closely as Europe ramps up purchases in an effort to wean itself off Russian supplies.

Gasoline demand is bouncing back, giving some credibility to claims from refiners and other demand forecasters that demand destruction implied by EIA figures was overblown. The gains bring the four-week moving average above 9M b/d for the first time since June, putting it at around 93% of the 2015-19 seasonal average.

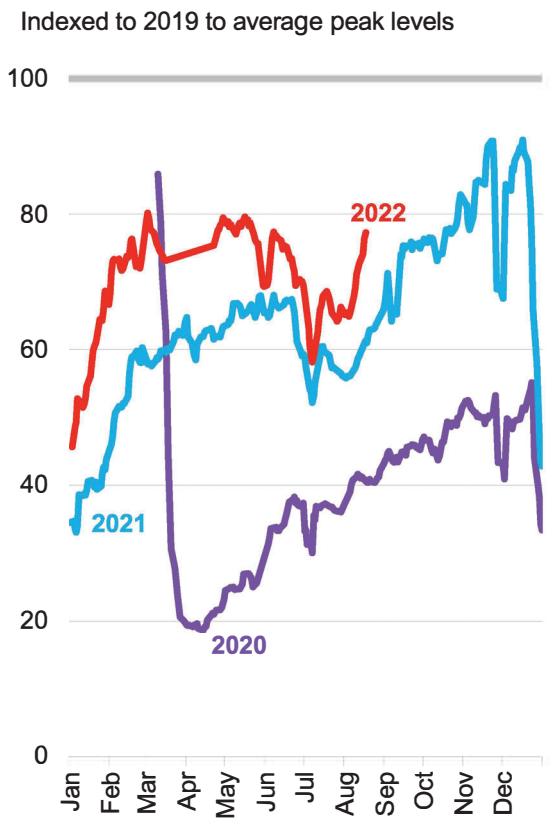
	Frequency	Source	Snapshot: August 19, 2022
Overall market indicators:			
Mobility	Daily	Google and TomTom mobility	TomTom congestion levels have surged dramatically in recent weeks following a typical late-summer lull in city traffic
Economic activity	Daily	New York MTA, Moovit, OpenTable, Prodco	NYC subway ridership is reversing course yet again – daily ridership has sunk well below 2 million entries a day to just 37% of February 2020 levels
Crude oil prices	Daily	Bloomberg	West Texas Intermediate front-month prices jumped back above $90 a barrel to close out the week as backwardation continues to narrow
Oil demand:			
Road congestion and gasoline	Weekly, Hourly	US EIA, TomTom	Implied demand surged to the highest level this year as easing pump prices and more demand from drivers during the back-to-school season lend support
Air travel and jet fuel	Daily	US TSA, FlightStats	Jet fuel demand slipped last week. Refiners have been maximizing the fuel over diesel to meet the summer travel, but flight cancellations have made things choppy
Refinery operations	Daily	US EIA	Refinery-utilization rates dropped on the Gulf, East and West coasts, offsetting an increase in the Midwest. Nationwide utilization rates fell to 93.5% of capacity
Crude and product inventories	Weekly	US EIA	US crude stockpiles, including oil held in the SPR, fell by 10.46 million barrels in the week to August 12. That's the biggest total crude draw since May
Oil production	Weekly	US EIA	US crude production held largely steady even as an onshore pipeline outage forced some platforms in the Gulf of Mexico to shut temporarily

Source: BloombergNEF. Note: Green signals an upturn from the disruption caused by Covid-19, red indicates a downturn, orange indicates no or mixed change

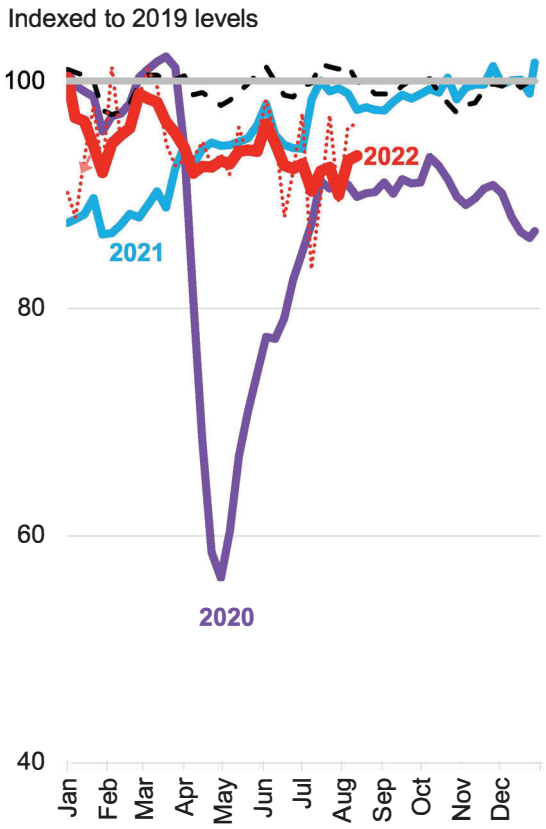
Spotlight

Traffic levels in North America remain well above 2021 levels, based on peak daily congestion, even as gasoline demand lags behind

TomTom congestion index, North America



EIA implied gasoline demand



Source: BloombergNEF, EIA, TomTom Traffic Index. Note: 'Peak congestion index' is calculated by BNEF. Index is the arithmetic daily average of the hourly weekday peak congestion data of various cities within the region, compared to the 2019 average values. ***Data updated to August 17, 2022.***

Implied gasoline demand, based on weekly product supplied reported by the EIA, has rebounded sharply over the past two weeks.

- Last weeks gains drove the four-week moving average above 9 million barrels a day - its highest level in the year.
- Still, demand lags far behind typical seasonal levels and has held below 2021 levels since dipping below the mark in April.

According to TomTom data, however, traffic congestion levels in North America have yet to slip below 2021 levels this year.

- For the week leading up to August 17, congestion sits at 77% of 2019 levels during the same week, compared to just 61% for last year's figures.
- Implied demand sits at a much stronger level on an absolute basis – now 93% of 2019 levels based on this week's report – but lags far behind what it was last year which looked to be back in line with typical seasonal norms.

Its important to note that the TomTom figures also include congestion out of both Canada and Mexico, although it is weighted more heavily towards US traffic activity and non-US congestion is in line with domestic levels.

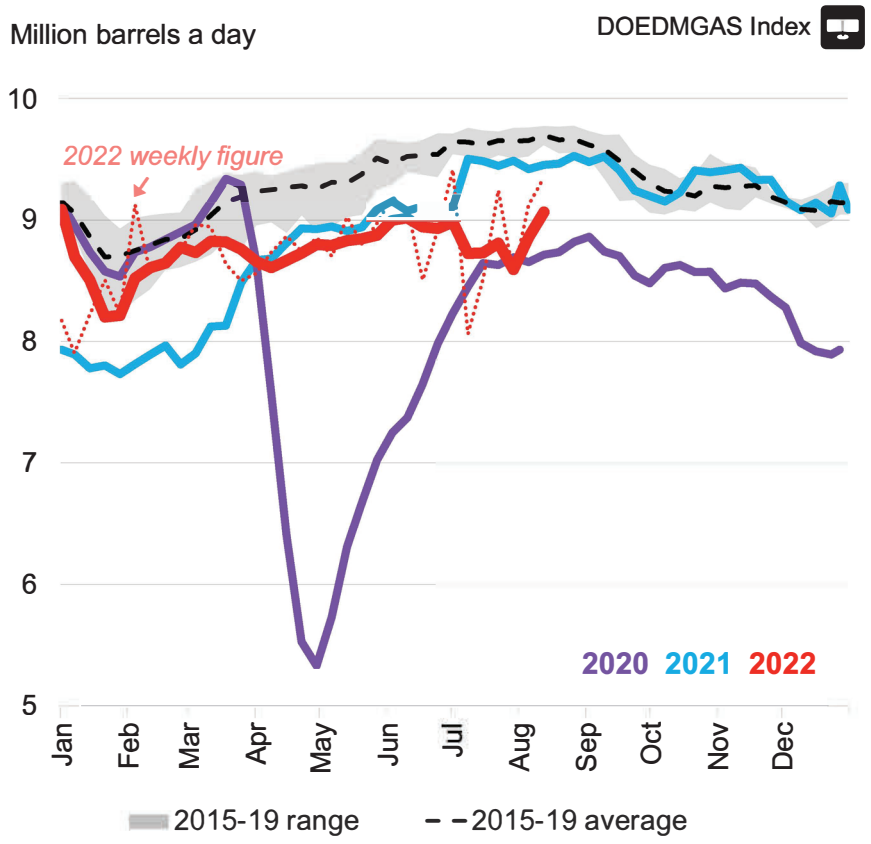
This indicates that 'demand destruction' from high pump prices, perhaps unsurprisingly, is not occurring from commuters finding alternative forms of transportation to save costs. Rather, most of the decline is likely attributable to reduced leisure travel over the summer as consumers change behavior. If this trend holds true through year's end, we may see more demand gains heading into the fall.

Gasoline demand

For more data on congestion around the world, see BNEF's Covid-19 Indicators: Road Traffic

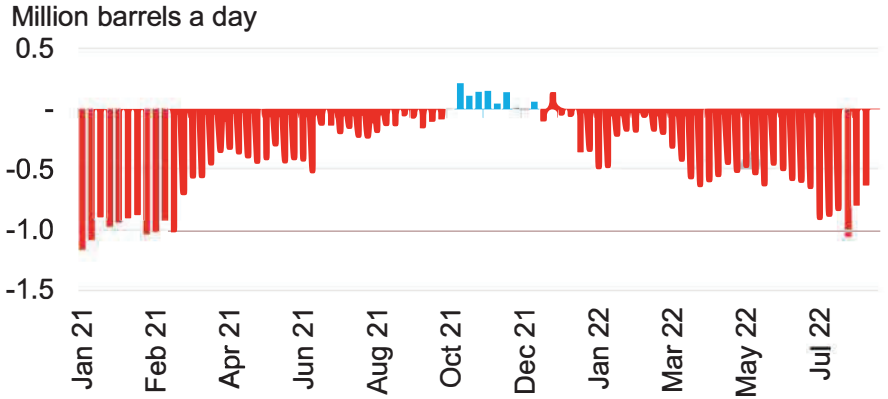
Implied demand surged to the highest level this year as easing pump prices and more demand from drivers during the back-to-school season lend support

Implied gasoline demand*

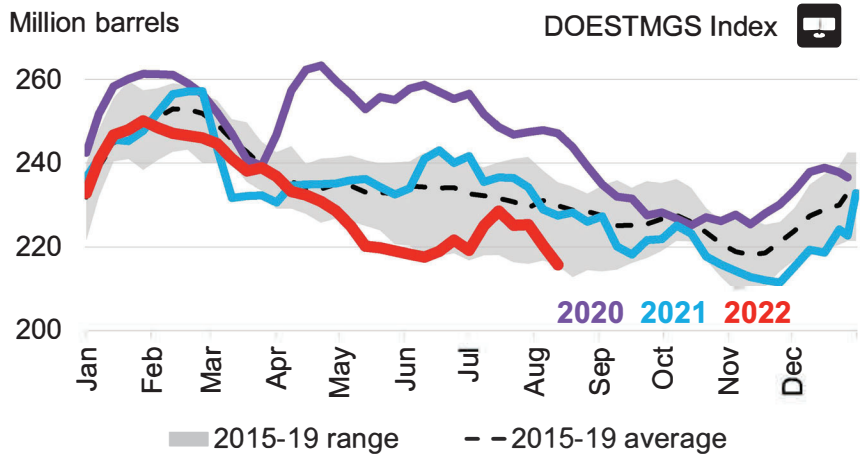


*Source: BloombergNEF, US Energy Information Administration (EIA). Note: *Based on the four-week moving average, except the 2022 weekly figure.*

Demand difference to five-year seasonal average



Gasoline inventory

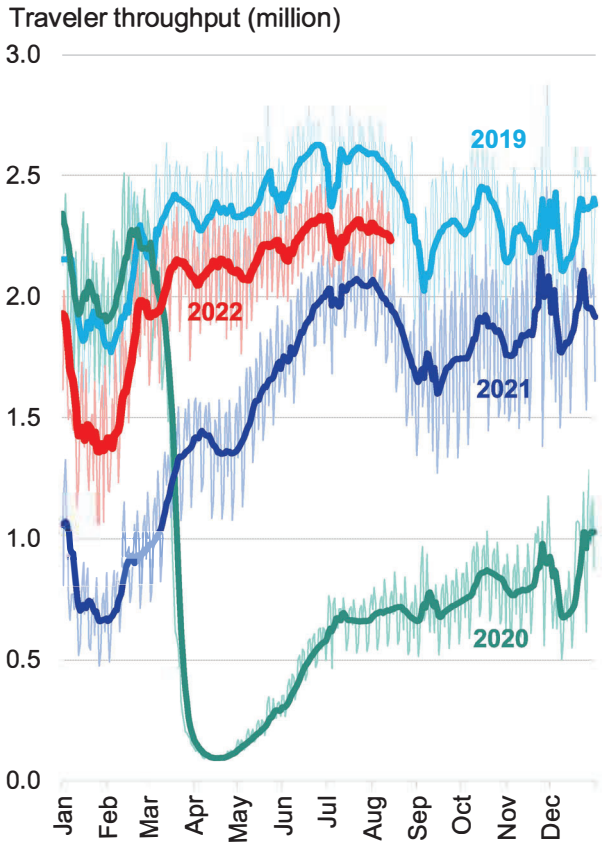


Source: BloombergNEF, US EIA

Jet fuel demand

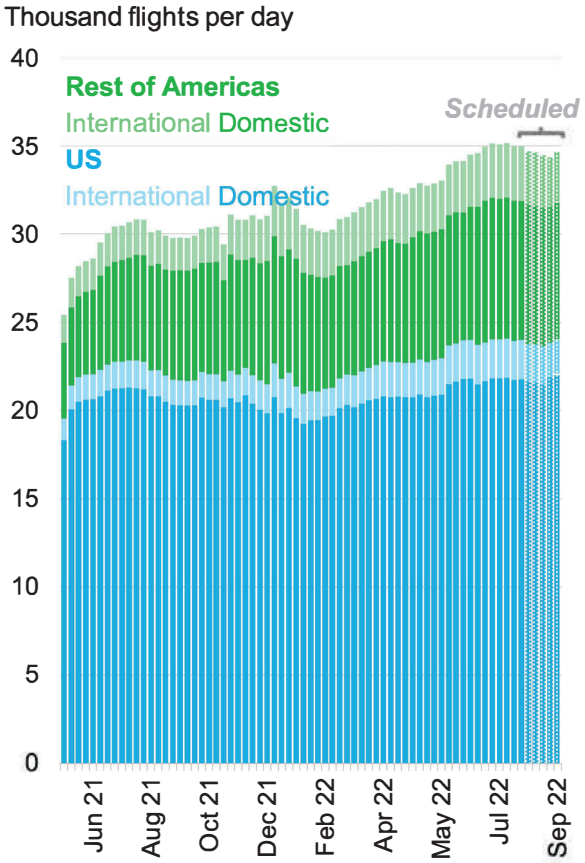
Jet fuel demand slipped last week. Refiners have been maximizing the fuel over diesel to meet the summer travel, but flight cancellations have made things choppy

TSA checkpoint traffic



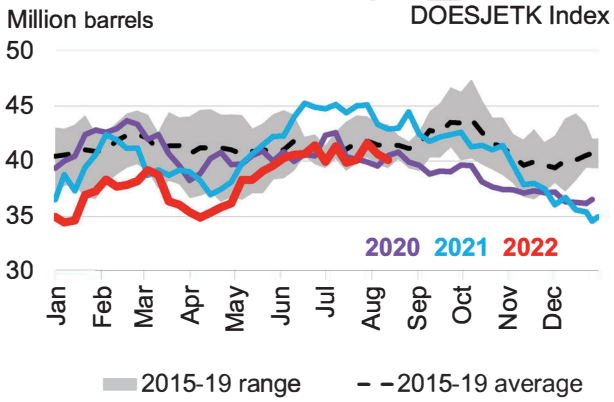
Source: BloombergNEF, US Transportation Security Administration (TSA)

Daily flight departures

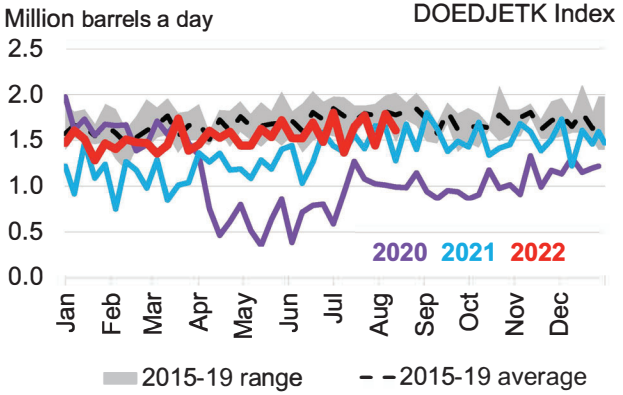


Source: BloombergNEF, FlightStats

Jet kerosene storage



Jet kerosene implied demand



Source: BloombergNEF, US EIA

For more data on congestion around the world, see BNEF's Covid-19 Indicators: Aviation

Aviation Indicators Weekly

BloombergNEF is tracking the evolution of passenger flight schedules and departures globally. This note provides a weekly update of these data points to guide expectations of the demand for aviation fuel.

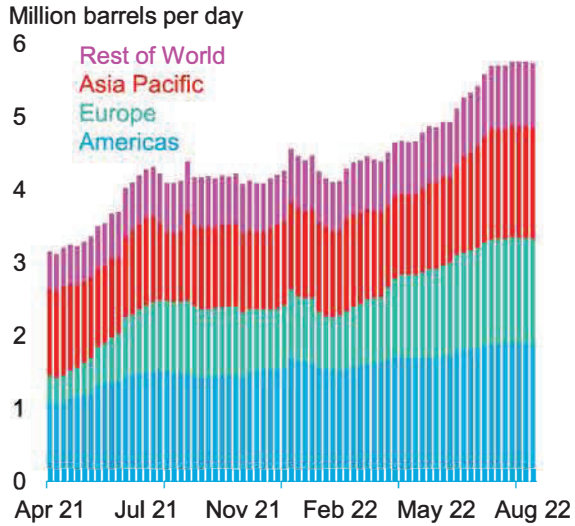
Metric	Frequency	August 11 to 17
Passenger flight schedule	Weekly	Scheduled departures increased by a small number week-on-week
Implied fuel consumption	Weekly	Implied fuel consumption decreased week-on-week but increased year-on-year
Asia-Pacific jet fuel demand	Weekly	Jet fuel demand in Asia Pacific decreased week-on-week but increased year-on-year
Europe jet fuel demand	Weekly	Jet fuel demand in Europe increased week-on-week and year-on-year
Americas jet fuel demand	Weekly	Jet fuel demand in the Americas decreased week-on-week but increased year-on-year
Rest of World jet fuel demand	Weekly	Rest of World jet fuel demand increased week-on-week year-on-year

Source: DSET FLY<GO>, BloombergNEF. Note: Green signals an upturn from the disruption caused by Covid-19, red indicates no upturn, orange indicates a possible upturn.

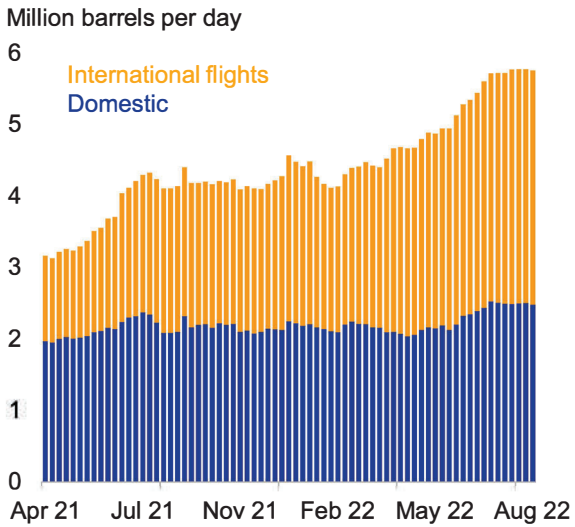
- Global passenger jet fuel demand from August 11-17 dropped slightly from the previous week, by 0.35%. This reflects weekly reductions of 0.8% and 0.9% in Asia Pacific and the Americas, respectively, outweighing a 0.3% uptick in Europe and 0.6% increase in the 'Rest of World' grouping of countries.
- Flight cancellations since the previous week have removed on average 32,847 barrels per day of jet fuel demand over the next four weeks.
- In Europe, departures in the Eurocontrol area were down by 0.1% against the previous week as the summer travel season peaks in line with seasonal norms. Air France and KLM were among the carriers that reduced activity in the week of August 15-21.
- The slight dip in summer flight schedules coincided with a shortage of staff, mechanics and pilots, as well as operational issues at airports and worker strikes. These disruptions may see flight cancellations, delays and passenger caps at airports persist over the next few weeks.
- US passenger numbers from August 13-20 dropped by 2.8% week-on-week as the summer travel months peak. Downside risks exist due to flight cancellations, high fuel costs, bad weather, and logistical and operational issues at both airlines and airports.
- In China, the number of scheduled domestic flights is set to increase by 14% over the next four weeks, according to current flight schedules, as some travel restrictions ease. However, this growth may not materialize, as China has routinely cut several thousands of scheduled flights a week or so before the intended departure date.

Commercial passenger flight jet fuel demand

Demand by departure region



Demand by flight type



- Global passenger jet fuel demand across August 11-17 decreased by 0.35% from a week earlier.
- This reduction was led by the Americas, with the region's weekly jet fuel demand falling by 0.9%. By contrast, demand from Europe and the 'Rest of World' grouping of countries recorded a weekly uptick of 0.3% and 0.6%, respectively.
- Jet fuel demand from domestic flights was sluggish, dropping by 1.0% week-on-week. However, demand from international flights edged up, rising by 0.2% from the previous week.
- For more cuts of this data, see DSET FLY<GO>.

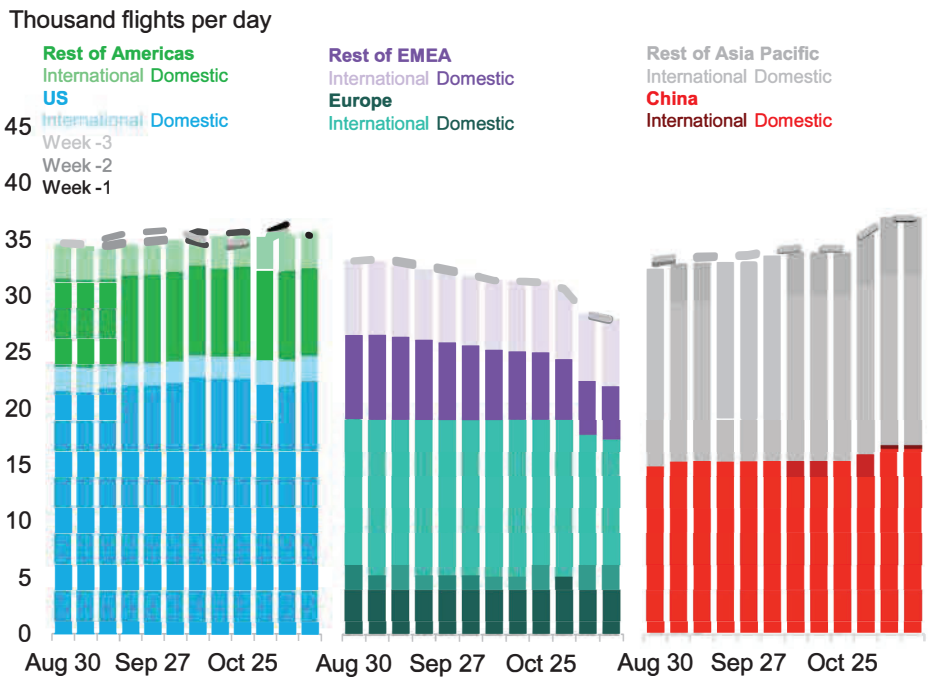
For more on demand and pricing fundamentals, see BNEF's Oil Price Indicators Weekly

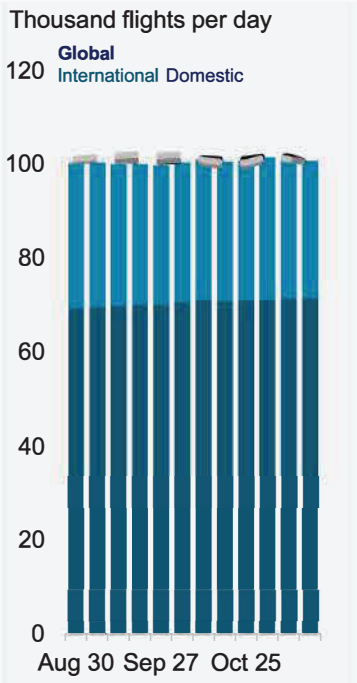
K bbl per day	Latest	Week Δ	Four-week Δ	Year-on-year Δ
World	**5,737**	-20.3 (-0.35%)	34.1 (+0.6%)	1,640.9 (+40.1%)
Americas	**1,877**	-17.2 (-0.91%)	-17.6 (-0.9%)	393.8 (+26.5%)
Europe	**1,448**	4.9 (+0.3%)	15.8 (+1.1%)	477.9 (+49.3%)
Asia Pacific	**1,524**	-13.0 (-0.8%)	27.7 (+1.8%)	572.0 (+60.1%)
Rest of World	**888**	5.0 (+0.6%)	8.3 (+0.9%)	197.2 (+28.5%)

K bbl per day	Latest	Week Δ	Four-week Δ	Year-on-year Δ
International	**3,267**	5.7 (+0.2%)	50.3 (+1.6%)	1251.8 (+62.1%)
Domestic	**2,470**	-26.1 (-1.0%)	-16.2 (-0.7%)	389.1 (+18.7%)

Source: BloombergNEF, Bloomberg Terminal DSET FLY<GO>. Note: The model does not account for load factors of aircraft, route inefficiencies or cargo flights.

12-week-ahead passenger departure schedule

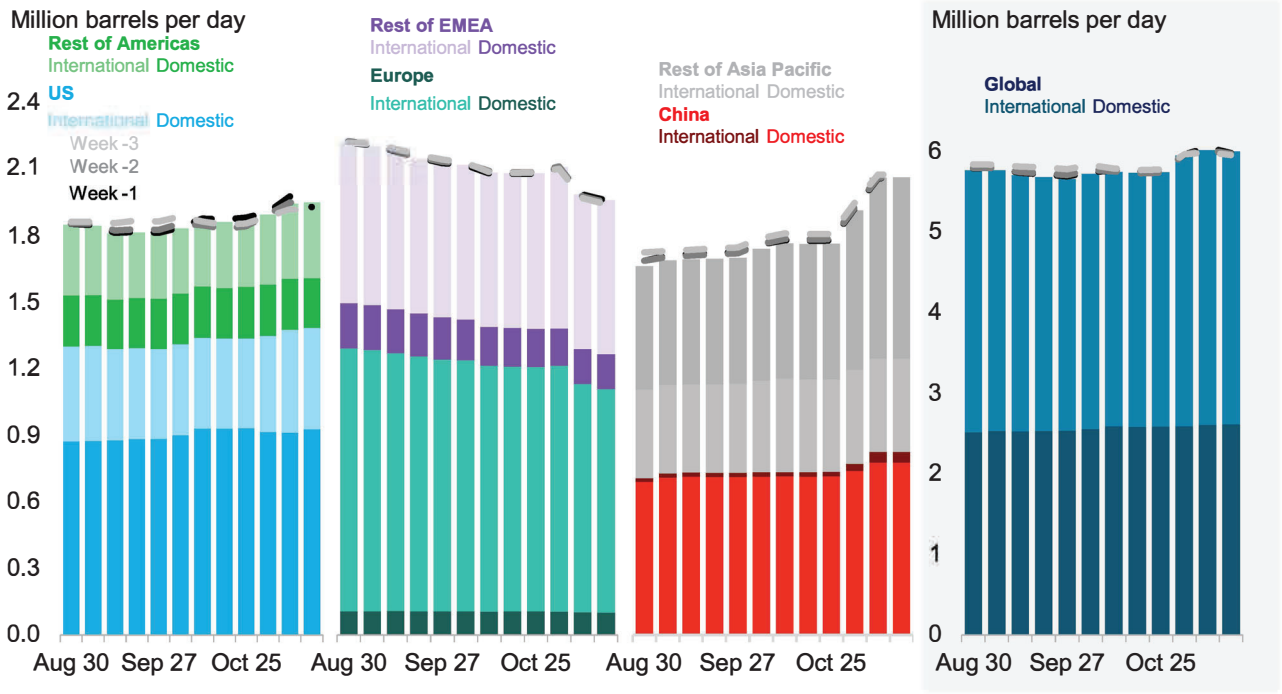




- Globally, the passenger flight schedule for the 12 weeks ahead is 0.59% lower than the previous week.
- The number of passenger flights for the week of August 16 are essentially unchanged, with a weekly increase of 0.27%.
- The number of domestic passenger flights in Russia for the week of August 16 grew by 0.4% from a week earlier. Departures remain depressed as the country continues to grapple with sanctions and as the summer season peaks.
- Turkey and Tajikistan are still the main destinations for international flights departing from Russia, with the number of flights recording weekly changes of 0.9% and -0.4%, respectively, for the week starting August 16.
- Terminal users can track the Russian aviation market here.

Source: BloombergNEF, Bloomberg Terminal DSET FLY<GO>. Note: As of August 16, 2022. Based on more than 11,000 commercial airports, taking the average daily scheduled flight departures per week. Excludes cargo flights. Europe is defined as the EU 27, European Free Trade Association (EFTA) and the UK. Intra-Europe flights are defined as international.

Jet fuel demand implied by scheduled flights



- Based on the number of passenger flights scheduled, jet fuel demand over the next four weeks will average 5.71 million barrels per day. Fuel consumed in cargo flights is not included in this number.
- Cancellations since last week have removed on average 32,847 barrels per day of jet fuel demand over the same four weeks.
- For more cuts of this data, see DSET FLY<GO>.

Source: BloombergNEF, Bloomberg Terminal DSET FLY<GO>. Note: As of August 16, 2022. Oil consumption is based on the aircraft model, distance between origin and destination airport and the fuel efficiency of each aircraft type. Consumption is allocated to the departure airport and does not account for load factor, or inefficiencies such as longer routes or circling at an arrival airport. Intra-Europe flights are defined as international.

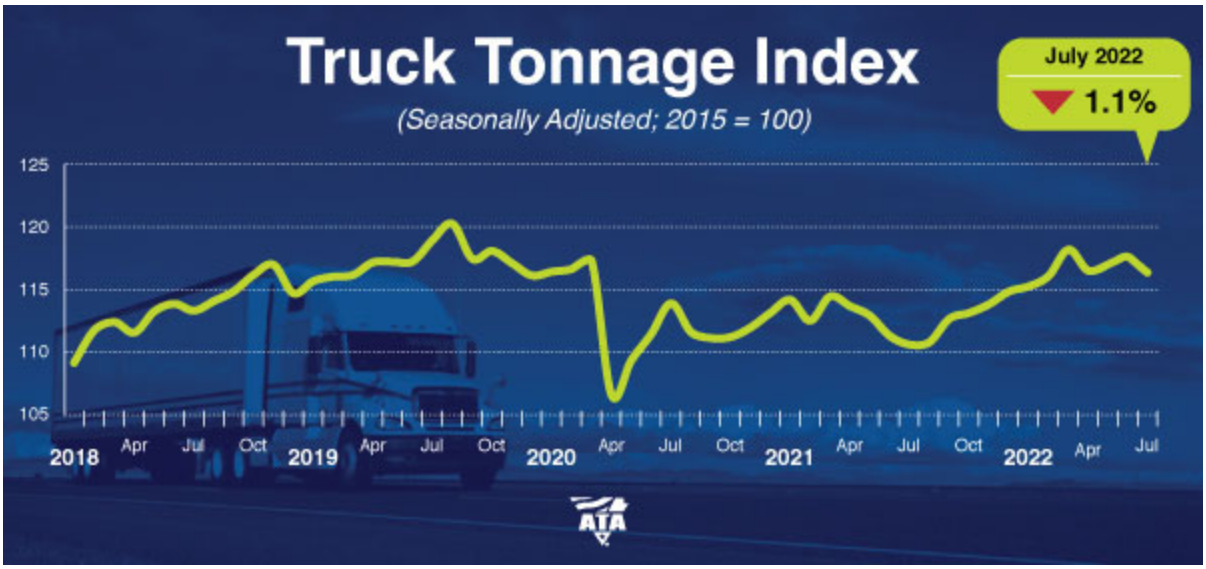
https://www.trucking.org/news-insights/ata-truck-tonnage-index-decreased-11-july

ATA Truck Tonnage Index Decreased 1.1% in July

Aug 23 Media Contact: Sean McNally

- Index 5.1% Above July 2021

Washington — American Trucking Associations' advanced seasonally adjusted (SA) For-Hire Truck Tonnage Index fell 1.1% in July after rising 0.5% in June. In July, the index equaled 116.2 (2015=100) versus 117.5 in June.



"Tonnage declined sequentially in July for only the second time during the last twelve months. Despite the dip from June, tonnage remains at elevated levels and increased significantly from a year earlier," said **ATA Chief Economist Bob Costello**. "While tonnage is much stronger than a year ago, the monthly gains have moderated as the year has gone on. The combination of softer consumption of goods, home construction falling and slower manufacturing activity are the main reasons."

June's increase was revised down from our July 19 press release.

Compared with July 2021, the SA index increased 5.1%, which was the eleventh straight year-over-year gain. In June, the index was up 5.6% from a year earlier. Year-to-date, compared with the same period in 2021, tonnage was up 3.4%.

The not seasonally adjusted index, which represents the change in tonnage actually hauled by fleets before any seasonal adjustment, equaled 115.5 in July, 5.2% below the June level (121.9). 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 10.23 billion tons of freight in 2020. Motor carriers collected $732.3 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.

https://www.tipro.org/newsroom/tipro-news/new-tipro-analysis-shows-texas-upstream-job-growth-continues-to-rise-while-oil-and-gas-industry-again-pays-record-breaking-taxes

AUGUST 19, 2022

NEW TIPRO ANALYSIS SHOWS TEXAS UPSTREAM JOB GROWTH CONTINUES WHILE OIL AND GAS INDUSTRY AGAIN PAYS RECORD-BREAKING TAXES

Austin, Texas - As drilling activity in Texas continues to increase, so are job levels for the state's oil and natural gas industry. Citing the latest Current Employment Statistics (CES) report from the U.S. Bureau of Labor Statistics (BLS), the Texas Independent Producers and Royalty Owners Association (TIPRO) today highlighted new employment figures showing significant growth in monthly employment for the Texas upstream sector. According to TIPRO's analysis, direct Texas upstream employment for July 2022 totaled 202,800, an increase of 6,800 jobs from June employment numbers. Texas upstream employment in July 2022 represented an increase of 35,400 positions compared to July 2021, including an increase of 8,600 in oil and natural gas extraction and 26,800 jobs in the services sector.

The Houston metropolitan area, the largest region in the state for industry employment, showed an increase of 2,000 upstream jobs last month compared to June, for a total of 68,800 direct positions, according to TIPRO. Houston metro upstream employment in July 2022 represented an increase of 11,000 jobs compared to July 2021, including an increase of 5,200 in oil and natural gas extraction and 5,800 jobs in the services sector.

TIPRO once again noted strong job posting data for upstream, midstream and downstream sectors for the month of July. According to the association, there were 13,614 active unique jobs postings for the Texas oil and natural gas industry in July, an increase of nearly 10 percent compared to June numbers.

Among the 14 specific industry sectors TIPRO uses to define the Texas oil and natural gas industry, Support Activities for Oil and Gas Operations once again ranked the highest in July for unique job listings with 3,571 postings, followed by Oil and Gas Field Machinery and Equipment Manufacturing (1,674 postings), and Crude Petroleum Extraction (1,624 postings), indicating a continued emphasis on increasing exploration and production activities in the state. The leading three cities by total unique oil and natural gas job postings were Houston (4,864), Midland (1,383) and Odessa (639), said TIPRO.

The top three companies ranked by unique job postings in July were Baker Hughes with 1,152 positions, KBR (486) and Weatherford International (451), according to TIPRO's analysis. Of the top ten companies listed by unique job postings last month, five companies were in the services sector, followed by three companies in oil and natural gas extraction and two midstream companies.

Top posted industry occupations for July included heavy tractor-trailer truck drivers (752), managers (351) and software developers (340). Top qualifications for unique job postings included Commercial Driver's License (870), Master of Business Administration (250) and Bachelor of Science in Business (210). When analyzing education requirements for unique industry job postings last month, TIPRO reports that 43 percent required a bachelor's degree, 34 percent a high school diploma or GED, and 26 percent had no education requirement listed as part of the criteria.

TIPRO also highlights new data released from the Texas comptroller's office showing record levels of tax contributions paid by Texas oil and natural gas producers. In July, $694 million in oil production taxes were paid, 84 percent higher than July 2021. Texas energy producers also paid $532 million in natural gas production taxes for the same month, up 185 percent from last July. Both figures represented the highest monthly collections on record, continuing a trend of producers paying record amounts in taxes to the state. Oil and natural gas severance taxes support all aspects of the Texas economy, including roads and infrastructure investments, water conservation projects, schools and education, first responders and other essential public services.

Additionally, TIPRO reports that oil and gas output in Texas is on track to reach new production records in September. Experts with the U.S. Energy Information Administration (EIA) forecast that oil production in the Permian Basin, the nation's most prolific shale oil basin, will rise 79,000 barrels per day (bpd) to a record 5.408 million bpd in September. Oil production in the Eagle Ford Shale in South Texas is also expected to increase 26,000 bpd in August, reaching 1.230 million bpd. Further, natural gas production will rise in the Permian to record highs of 20.58 billion cubic feet per day (bcfd), according to the EIA, and in the Eagle Ford, natural gas production will grow to 7.1 bcfd.

"The growth in July upstream employment once again illustrates a high demand for available talent in-line with increasing levels of exploration and production activities in the state to meet growing energy needs here and

abroad," said Ed Longanecker, president of TIPRO. "Despite this growth, Texas operators face numerous challenges, including workforce shortages, supply chain disruptions and growing concerns over policy decisions coming from Washington, D.C. TIPRO remains committed to advancing energy policies at all levels of government to strengthen our nation's energy security and economic opportunities," concluded Longanecker.

https://www.elnacional.cat/en/world/macron-france-grave-message-end-of-abundance-speak-clearly_873453_102.html

ENERGY CRISIS

Macron's grave message: "This is the end of abundance. We need to speak clearly"

President gives a frank overview of the situation facing France and the world: "I believe we are facing a great upheaval"

Lluís Bou

Barcelona. Friday, 26 August 2022. 11:03
Updated Friday, 26 August 2022. 11:54
Reading time: 3 minutes

The French president, **Emmanuel Macron**, has delivered the gravest message heard from a European head of state since the Second World War, warning that "the end of abundance" is arriving, as well as the end of "shared assumptions" on things as basic as democratic rights. Speaking in a televised cabinet speech this Wednesday, Macron used these terms to refer to the problems to be faced once the summer is over, and reflected that what is being seen is the arrival of **"a series of crises, each more serious than the last".**

Unlike the approach taken in other countries up till now, where the current crisis is only being discussed tactically based on the immediate news of the day, Macron decided to make a general summing-up coinciding with France's *rentrée* after the summer recess and, before the media, he sketched out an extremely difficult predicament. He took advantage of the moment to ask the French people for "unity", and not to fall for conspiracy theories or demagoguery. "Our compatriots may react with great uneasiness", he acknowledged, alluding to the tendency of French politics to easily take conflicts to the streets. And that is why he told his ministers that, from now on, they should speak "very clearly" to the population, but always without falling into "catastrophism".

"We see a series of crises, each one more serious than the last, and it could be seen that we are destined to be permanently managing crises and emergencies. **For my part I believe that what we are going through is a great upheaval, a radical change.** In the first place, because we are

experiencing - not just this summer, but for the last few years - what could be seen as the end of abundance, of endless liquidity, and we will have to face the consequences of that in the public finances. The world is reorganizing and we are seeing the end of perpetually available products and technologies, we saw it during Covid. The interruption of value chains, scarcity of one material technology or another is reappearing, the end of an abundance of land or raw materials, and water as well, on this we have to draw all the consequences " said the French president, mentioning the French conference on water held this year and its conclusions on a restructuring that "it is up to us to implement".

Then, continuing: "It is also the end of shared assumptions. If we look at France, Europe and the course the world is taking, if people thought that democracy and human rights were the theological pillar of the international order, recent years have destroyed some of the evidence for this. We are witnessing the rise of illiberal regimes, the consolidation and reinforcement of authoritarian regimes." "And it is also the end - for those who had it - of a kind of carefree attitude. It is six months since war returned to Europe," he said. "In the same way, the climate crisis with all its consequences is perceived, and the new risks are also appearing these days, such as cyber risks."

"This situation that I am describing, the end of abundance, the end of a carefree approach, the end of our assumptions shows that we are going through a profound shift, to which our compatriots may react with great uneasiness, and therefore **we have some duties: the first is to call things by their name, very clearly and without catastrophism.** To state the fact that our regime of liberty, which we are accustomed to, has a cost and when we have to defend it that may mean sacrifices."

Macron has admitted that in the context of rampant inflation, the war in Ukraine and the climate crisis, "it is easy to promise anything and even say anything". But he has asked "not to give in to these temptations", and not to fall into "demagoguery". Given this, he made a call to defend democracy and "real equality of opportunity."

The French president made the statements, before his cabinet and before the TV cameras, after speaking with the Russian president, Vladimir Putin, last week, in a long telephone conversation, and shortly before embarking on a three day trip to Algeria to discuss the gas issue.

https://www.france24.com/en/france/20220824-macron-warns-french-of-tough-times-ahead-end-to-energy-price-cap

Macron warns France of 'the end of abundance' and tough times ahead

Issued on: 24/08/2022 - 13:49
03:27

French President Emmanuel Macron on June 16, 2022. © Ludovic Marin, AFP

Text by:FRANCE 24Follow

After a summer marked by drought, massive wildfires and the war in Ukraine, French President Emmanuel Macron delivered a stark speech on Wednesday at the first cabinet meeting following the summer holiday break, warning of tough months ahead as the world faces a possible "end of abundance".

"I believe that we are in the process of living through a tipping point or great upheaval. Firstly because we are living through... what could seem like the end of abundance," said Macron, 44.

The speech appeared designed to prepare the country for what promises to be a difficult winter ahead, with energy prices rising sharply and many families struggling with inflation.

"The moment we are living ... may seem to be structured by a series of crises, each more serious than the other," Macron said, referring to the drought, fires and storms that have hit France during the summer as well as the Ukraine war and disruptions to global trade.

“Freedom has a cost,” Macron said, urging his ministers to be ambitious and the French to accept new policies adapted to current circumstances. “The battles we have to fight ... will only be won through our efforts.”

Government spokesman Olivier Véran said that the cap on energy prices – which has helped households cope with soaring inflation – could not continue "indefinitely".

Gas prices in France are currently frozen and there is a cap on energy price hikes. But the billion-euro price cap is set to expire at the end of the year.
This has helped keep French inflation lower than the rates experienced by many of its EU peers, but the measures weigh heavily on the public purse.

The government will present legislation in September to speed up energy infrastructure projects and hammer out a short-term plan to secure energy supplies for the winter, Véran said.

France is also working on an “energy restraint plan” that Macron said in July would ask all citizens to commit to saving energy, including such practices as turning off lights when leaving offices.

France is less reliant than some EU neighbours on gas imports from Russia, which account for about 17% of its gas consumption, but concerns about supply nevertheless remain.

Unions swiftly rejected Macron’s call for sacrifices to be made, saying workers needed higher pay to cope with rising inflation. Philippe Martinez, the head of the hardline CGT labour union, told BFM TV after Macron's comments that protests in September would call for measures to boost wages and limit price increases.

Pension and unemployment benefit reforms are also in the works and will likely trigger more street protests.

Philippe Gosselin, a lawmaker from the opposition conservative Les Républicains party, said Macron needed to press ahead with his proposed reforms.

"It's back to reality," Gosselin told Reuters.

(*FRANCE 24 with Reuters and AFP*)

https://www.lemonde.fr/en/politics/article/2022/08/24/macron-warns-france-faces-sacrifices-after-end-of-abundance_5994602_5.html

Le Monde

Macron warns France faces 'sacrifices' after 'end of abundance'

Speaking at the start of the first cabinet meeting after the government's traditional August holiday, the French president prepared the country for a difficut winter ahead.

Le Monde with AFP

Published on August 24, 2022 at 12h47, updated at 16h13 on August 24, 2022

French President Emmanuel Macron warned Wednesday that France faced "sacrifices" in a new era marked by climate change and instability caused by Russia's invasion of Ukraine that signalled "the end of abundance".

After a summer marked by drought, massive wildfires and continuing loss of life in Ukraine, the 44-year-old leader delivered a stark speech at the start of the first cabinet meeting after the country's traditional August holiday break.

"I believe that we are in the process of living through a tipping point or great upheaval. Firstly because we are living through... the end of what could seem like the end of abundance."

Referring to the war in Ukraine, he added: "Our system based on freedom in which we have become used to living, sometimes when we need to defend it, it can entail making sacrifices."

Read more **Questions hang over Macron's lack of direction as government returns from break**

The speech appeared designed to prepare the country for what promises to be a difficult winter ahead, with energy prices rising sharply and many families struggling with inflation.

The severe drought over the summer, leading to water restrictions across most of the country, has also caused many French people to express fears about the increasingly obvious impact of climate change.

"This overview that I'm giving − the end of abundance, the end of insouciance, the end of assumptions − it's ultimately a tipping point that we are going through that can lead our citizens to feel a lot of anxiety," Mr. Macron continued. "Faced with this, we have duties, the first of which is to speak frankly and very clearly without doom-mongering," he said.

Read more **French President Macron to visit Algeria in bid to mend ties**

French inflation was clocked at 6.1% last month, one of the lowest rates in Europe thanks to costly government price caps on electricity and gas, as well as tax cuts on petrol and diesel.

"Our measures have worked. Apart from Malta, no one is doing better than us," government spokesman Olivier Veran said after the cabinet meeting.

But trade unions are pushing for higher wages and have called for a day of strikes and rallies on September 29.

The head of the hard-left CGT union, Philippe Martinez, told BFM television that the president's speech was "inappropriate", adding that the poorest were already paying the price of the war and that further sacrifices could not be expected. "He'll ask for them (sacrifices) and we will oppose them," Mr. Martinez said.

Le Monde with AFP
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https://www.ft.com/content/8385f5d8-b045-46a7-a822-47a9ba09e219

Macron warns of threat to global economy from energy crisis

French president urges world leaders to act on climate change with more financial pledges ahead of COP26 summit

Leila Abboud in Paris and Leslie Hook in London YESTERDAY

President Emmanuel Macron has warned that an energy crisis threatens the world's post-pandemic recovery, calling for leaders at a G20 summit in Rome this weekend to work together to stabilise supplies.

In an interview, the French president also urged bigger financial commitments towards the fight against global warming on the eve of the COP26 climate summit in Scotland, and for particular attention to be paid to a deal to phase out coal power.

The G20 needed to co-ordinate between energy producers and consuming countries to prevent a supply breakdown this winter, which risked "extreme tensions both economically and socially", Macron said.

"In the coming weeks and months, we need to get better visibility and stability on prices so tension on the energy prices doesn't generate uncertainties, and undermine the global economic recovery, " he told the Financial Times in the Elysée Palace. "What we expect is to have co-ordination to avoid soaring prices."

Global energy costs have surged this year, disrupting industry and hitting consumers with higher prices. Eurozone inflation surged in October to a 13-year-high of 4.1 per cent, according to a flash estimate published by the EU's statistics arm on Friday.

"I don't think we're going to be able to lower prices given tensions on the demand side," Macron said. "But what we need to avoid is to have a break in supply [and further] increases in prices, particularly as we're moving into the winter period for the northern hemisphere."

Emmanuel Macron: 'I don't think we're going to be able to lower [gas] prices given tensions on the demand side' © Magali Delporte/FT

Rapid economic recovery from the pandemic has pushed up energy prices "almost too rapidly" which risked "weighing on economic growth and putting a burden on households", Macron said.

France and a number of other EU governments have sought to protect consumers and businesses with billions in aid and price freezes.

Concerns have mounted that Russia's state-backed gas producer Gazprom has kept storage levels unusually low in western Europe, exacerbating fears over supplies and driving up prices.

Asked whether he blamed high European energy prices on Russia, Macron said: "I have no evidence that there's been manipulation of prices and I'm not accusing anybody. These are trading relations. They shouldn't be used for geopolitical reasons."

Asked about Gazprom's power over Europe, Macron said: "It's not a matter of whether we're too dependent on a company or not, it's how do we create alternatives. And the only alternatives are to have European renewables and of course, European nuclear."

France is the EU's biggest user of nuclear power, contrasting with a move away from atomic power by Germany and some other countries.

Macron called for Europe to develop a more diverse gas supply but also to speed up a transition away from fossil fuels, which will be necessary to slow rising temperatures and tame the climate disruptions caused by global warming.

“What is happening now is ironic, because we are building a system where in the medium and long term fossil energy will cost more and more, that’s what we want [to fight climate change],” he said. “The problem is that industries and households will need to be accompanied in this transition . . . or it won’t be sustainable.”

The French president, who is facing national elections in April, has been a vocal advocate of multilateralism. He has pushed for more co-operation globally and at EU level to reach deals on issues including international taxation and global warming.

“The first subject for the G20 is to accelerate the exit from coal power” Emmanuel Macron

Against a backdrop of global tensions, a supply chain crisis and the Covid-19 pandemic, Macron said the G20 had a responsibility to work together, especially to help low-income countries. He urged leaders at the Rome summit to agree a plan for faster vaccine delivery to developing countries.

“France has always stressed the importance of maintaining multilateralism, but we have to get concrete results from it,” he said.

The leaders of China, Russia and Japan will not attend the summit in Rome in person this weekend because of Covid-19 concerns and an election in Japan.

Macron said the G20 meeting, which is being hosted by Italian leader Mario Draghi on the eve of COP26, would also give countries a chance to hammer out more ambitious plans to fight climate change.

“When we’ll be meeting in Rome, the major challenge is to ensure that members of G20 can usefully contribute in Glasgow, to making this COP26 a success,” he said. “Nothing can be taken for granted before a COP,” he added.

“The first subject for the G20 is to accelerate the exit from coal power,” he said. G20 leaders expect a heated debate this weekend over including a pledge to end international coal financing.

“We need the G20 to go right through to the eradication of all international financing of coal-fired power plants,” Macron said.

Macron also called for rich countries, particularly the US, to commit more financially to help developing countries meet their climate goals. And he called on China to bring forward the date at which it will peak emissions, from 2030, to 2025.

“So as not to lose more time, we have to do as much as is absolutely possible in terms of financing, and encourage the US administration so that they can convince Congress to front-load its financing.”

Another issue will be to hold countries to their emissions targets for 2030 and 2050. “Our objective is to get maximum results from all countries,” he said. “This pathway is possible, even if it’s a challenge, especially for emerging countries which at the same time are trying to recover from the Covid crisis.”

Macron also urged the G20 leaders to do more to help vaccinate the world against Covid-19. The group should end vaccine export bans, increase its donations of vaccine doses, and support vaccine production in Africa, he said.

“Every French person has given one vaccine to somebody else in the world,” he said, referring to the roughly 60m doses that were on the way to Covax, the World Health Organisation’s procurement scheme for low-income countries. “If everybody in the G20 could do that we would get to the 20 per cent of the population vaccinated. This is vital,” he said.

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https://www.praguemorning.cz/the-crucial-cause-behind-energy-crisis-is-green-fanaticism-says-czech-president/

The Crucial Cause Behind Energy Crisis is ‘Green Fanaticism,’ Says Czech President

BY**PRAGUE MORNING**
AUGUST 26, 2022

Despite the war with Ukraine and central banks printing trillions of euros in dollars in recent years, Czech President Miloš Zeman believes the primary cause of the energy crisis is “green fanaticism.”

“Whether it’s called the Green Deal or whatever, I’m afraid. However, I won’t be here anymore when we find out where the green madness will take us. The abolition of cars with internal combustion engines will lead to the advent of far more demanding electromobility. The biggest consumers of electricity will be electric cars with a short range and a high price,” said Zeman while receiving Czech ambassadors at Prague Castle on Tuesday.

According to Zeman, the solution to the energy crisis is not to succumb to the Green Deal and to pursue a sovereign foreign policy. He considers it crucial that issues affecting the country’s sovereignty continue to be voted on unanimously in the European Union.

Zeman considers cooperation in the Visegrad Group beneficial. According to him, it is foolish to question it. The V4 prevented, for example, the mandatory introduction of migration quotas a few years ago.

“I condemn the attacks coming from some in Brussels against Poland and Hungary,” he noted.

“Let’s not play superpower. Let’s not look at the central issues of our foreign policy through the lens of great power. We would be ridiculous. We are a small to medium-sized country with 80 percent of our gross domestic product being exported. I have always expressed that the main task of our ambassadors is to take care of the promotion of our exporters on foreign markets and, on the other hand, to bring effective foreign investments to the Czech Republic,” the president stated.

Zeman criticized the “provocative gestures of unsuccessful Prague municipal politicians,” which allegedly complicate exporters’ access to the market in China.

Zeman also addressed the war in Ukraine, which he said is due to Russian aggression. According to him, it is necessary to ask why this aggression occurred. Attacking Ukraine, Russia gains nothing and loses practically everything.

“The Israeli president offered me a plausible explanation for this aggression. He told me that Putin attacked Ukraine in connection with NATO’s capitulation in Afghanistan,” Zeman noted.

According to the Czech leader, Russia expected that NATO would capitulate again. Fortunately, according to Zeman, this did not happen.

Zeman fully supports the supply of weapons to Ukraine and the reception of Ukrainian refugees in the Czech Republic; he also believes Czechia will participate in the invaded country’s reconstruction. However, the Ukrainians must expect a rather long and exhausting war.

The meeting of Czech ambassadors started on Monday with a speech by Prime Minister Petr Fiala, who encouraged the Czech ambassadors to look for all, even hitherto overlooked, opportunities in the energy sector. He also talked about helping Ukraine to withstand Russian aggression with as few losses as possible.

https://www.uniper.energy/news/uniper-brings-heyden-4-hard-coal-fired-power-plant-back-onto-the-market
Dusseldorf, 22 August 2022

Uniper brings Heyden 4 hard coal-fired power plant back onto the market

- **Temporary deployment until 30.04.2023 to secure electricity supply in Germany**
- **The 875-megawatt unit has been system-relevant since June 2021 and most recently served as a reserve power plant**

Uniper's Heyden 4 hard-coal-fired power plant in Petershagen near Minden will again produce electricity for the market from 29 August 2022 and probably until 30 April 2023. The deployment of the 875-megawatt unit is part of the "Ersatzkraftwerkebereithaltungsgesetz", which serves to secure Germany's energy supply in the coming winters. Should the deadlines of this law be extended, Heyden 4 could remain on the market for another year.

The envisaged operation of Heyden 4 will be restricted due to limitations on the rail transportation capacity of hard coal to the site, which might get lifted once additional transportation capacity becomes available.

Uniper can revoke the decision to return to the market at any time with four weeks' notice. A prerequisite for use is also the activation of at least the alert level in the federal government's gas emergency plan, which is currently the case. Since mid-2021, Heyden 4 has supported the electricity system as a reserve power plant, but has not produced any electricity for the market. At the end of 2020, Uniper had ended commercial operation of the power plant as part of its decarbonisation plan, which envisages CO2 neutrality in European electricity generation by 2035. On 1 June 2021, the German regulator Bundesnetzagentur had certified the power plant to be "systemically relevant" and thus necessary for the secure supply of the region. Otherwise, Uniper would have shut down the power plant permanently on 8 July 2021.

About Uniper

Uniper is a leading international energy company, has around 11,500 employees, and operates in more than 40 countries. The company plans for its power generation business in Europe to be carbon-neutral by 2035. Uniper’s roughly 33 GW of installed generation capacity make it one of the world‘s largest electricity producers. The company's core activities include power generation in Europe and Russia as well as global energy trading and a broad gas portfolio, which makes Uniper one of Europe’s leading gas companies. In addition, Uniper is a reliable partner for communities, municipal utilities, and industrial enterprises for planning and implementing innovative, lower-carbon solutions on their decarbonization journey. Uniper is a hydrogen pioneer, is active worldwide along the entire hydrogen value chain, and is conducting projects to make hydrogen a mainstay of the energy supply.

The company is based in Düsseldorf. Together with its main shareholder Fortum, Uniper is also Europe’s third-largest producer of zero-carbon energy.

https://www.yomiuri.co.jp/science/20220823-OYT1T50350/

Seven nuclear power plants, including Kashiwazaki-Kariwa, to restart next summer

2022/08/24 07:51

The Ministry of Economy, Trade and Industry announced at a government meeting on the 24th that it aims to restart seven domestic nuclear power plants, including Tokyo Electric Power Company's Kashiwazaki-Kariwa Nuclear Power Station, from the summer of 2023. Prepare an environment for operating a total of 17 units, including the 10 units that have already restarted, and improve the supply and demand of electricity. tightness and promote decarbonization.

This will be announced at the GX (Green Transformation) Executive Committee (chaired by Prime Minister Kishida), which discusses measures to realize a decarbonized society.

In addition to Units 6 and 7 at Kashiwazaki-Kariwa Nuclear Power Station, Tohoku Electric Power's Onagawa Nuclear Power Station Unit 2, Kansai Electric Power Company's Takahama Nuclear Power Station Units 1 and 2, Chugoku Electric Power Company's Shimane Nuclear Power Station Unit 2, and Japan Atomic Power Company's Tokai No. 2 Nuclear Power Station. 7 units.

Local consent has already been obtained for the Onagawa Unit 2, Takahama Units 1 and 2, and Shimane Unit 2, so we aim to steadily complete safety measures and other construction work. For the other three reactors, including Kashiwazaki-Kariwa, the national government will take the lead in coordinating with local governments.

The Ministry of Economy, Trade and Industry intends to appeal that a political decision to bring together the collective strengths of those concerned is necessary for the restart of nuclear power plants. In addition, it is requested to consider extending the operating period, which is 40 years in principle and 60 years at the longest, and accelerating the development of the nuclear fuel cycle.

Japan imports almost all of its fossil fuels, including liquefied natural gas (LNG) and coal, which are used as fuel for thermal power generation. Russia's invasion of Ukraine has caused energy prices to skyrocket worldwide, affecting people's lives through higher fuel costs. The Ministry of Economy, Trade and Industry estimates that the operation of one nuclear power plant will reduce the use of LNG by about 1 million tons, and that the operation of 17 reactors will lead to the avoidance of the "outflow of national wealth" of about 1.6 trillion yen. .

In Japan, 10 reactors have been restarted so far based on new regulatory standards that became stricter after the Great East Japan Earthquake. However, due to delays in the completion of anti-terrorism facilities, only five reactors were in operation as of July this year. Prime Minister Kishida has announced a policy to move up to nine nuclear power plants into operation this winter, but all will be concentrated in western Japan. If Kashiwazaki-Kariwa and other facilities start operating, it will be of great benefit to eastern Japan, where the supply and demand for electricity is even tighter.

At the first meeting of the GX Executive Committee in July, Prime Minister Kishida asked relevant ministries and agencies to "clearly indicate the items that require political decisions" regarding nuclear power and renewable energy.

The government's basic energy plan calls for raising the proportion of nuclear power in total power generation to 20-22% by fiscal 2030. The Ministry of Economy, Trade and Industry plans to compile an emergency response plan for the public and private sectors as early as this autumn. The aim is to further accelerate the restart of nuclear power plants from the mid-2020s onwards.

https://electrek.co/2022/08/21/which-electric-vehicles-still-qualify-for-us-federal-tax-credit/

AUGUST 21!

Here's every electric vehicle that qualifies for the current and upcoming US federal tax credit!

Scooter Doll - Aug. 21st 2022 4:03 am PT @SCOOTERDOLL

As sales of electric vehicles continue to surge, many new and prospective customers have questions about qualifying for federal tax credit on electric vehicles, especially now that a slew of new credits have been reinstated to US consumers.

Whether you qualify is not a simple yes or no question… well, actually it sort of is, but the amount you may qualify for varies by household due to a number of different factors. Furthermore, there are other potential savings available to you that you might not even know about yet.

Luckily, we have compiled everything you need to know about tax credits for your new or current electric vehicle into one place. The goal is to help ensure you are receiving the maximum value on your carbon-conscious investment because, let's face it, you've gone green and you deserve it.

How does a federal tax credit work for my EV?

The idea in theory is quite simple — "All electric and plug-in hybrid vehicles that were purchased new in or after 2010 may be eligible for a federal income tax credit of up to $7,500," according to the US Department of Energy.

With that said, you cannot simply go out and buy an electric vehicle and expect Uncle Sam to cut $7,500 off your taxes in April. In reality, the amount you qualify for is based on both your income tax as well as the size of the electric battery in the vehicle you own.

Now, thanks to the freshly inked Inflation Reduction Act, there are a lot more parameters to be mindful of, like the requirement that the EV must be assembled in North America for instance. We have dug into those new terms more below.

To begin, here's how the Federal EV tax credit currently works.

How much is the federal tax credit?

First and foremost, it's important to understand three little words the government slips in front of the $7,500 credit – "may" and "up to." As in, you ***may*** qualify for ***up to*** $7,500 in federal tax credit for your electric vehicle. At first glance, this credit may sound like a simple flat rate, but that is unfortunately not the case.

For example, if you purchased a Ford F-150 Lightning and owed say, $3,500 in income tax this year, then that is the federal tax credit you would receive. If you owed $10,000 in federal income tax, then you would qualify for the full $7,500 credit.

It's important to note that any unused portion of the $7,500 is not available as a refund, nor as a credit for next year's taxes. Bummer.

However, under new terms of the tax deal, you may be able to snag that credit up front at the point of sale of your EV. More on that below.

The Biden administration continues to expand EV adoption

President Biden first vowed to make the nation's entire federal fleet all electric. The White House has introduced two bills to expand EV adoption, one of which was signed by the President and includes funding for heavily expanded EV charging infrastructure.

Previously, there were rumors that the federal tax credit would be increased to $10,000. In President Biden's previous $174 billion investment plan for electrification, the tax credit was quickly mentioned as a reform. However, the summary remained vague about the reform – only confirming that it will not only take the form of tax rebates but also "*point of sale rebates*" and it will now be for "*American-made EVs*."

The second and larger bill sat within Biden's "Build Back Better Act" and subsequent increases to the federal tax credit, but it couldn't get past the Senate in late 2021. At that point, the revamped tax credit we all have sought was in limbo, possibly DOA. Until this past summer…

Revived EV tax credits have officially been signed by POTUS

In late July 2022 the US Senate shared it was moving forward to vote on EV tax credit reform after Senator Joe Manchin took a break from huffing coal to finally agree to include investments to curb climate change.

One of the most prominent parts of the bill (to us) includes the long-awaited and fought over electric vehicle tax credit reform. In this iteration of the bill, access to the tax credit will be returned to those who have already exhausted the threshold, including Tesla and GM vehicles.

On August 7, 2022 it was approved by the Senate and a week later signed into law by President Biden.

The biggest issue we all are having with the Inflation Reduction act, is how cloudy and confusing its EV requirements are. Bear with us as we sort through it all, to once again provide you with the most up to date details of this ever evolving tale.

We have learned that the reform bill will also apply to EVs delivered after December 31, 2022. Here's a breakdown of the terms of the new Inflation Reduction Act.

New Federal Tax Credits under the Inflation Reduction Act

- Federal tax credit for EVs will remain at $7,500
    - Timeline to qualify is extended a decade from January 2023 to December 2032
- Tax credit cap for automakers after they hit 200,000 EVs sold is eliminated, making GM, Tesla and Toyota once again eligible
- The language in the bill indicates that the tax credit would be implemented at the point of sale instead of on taxes at the end of the fiscal year
    - That means you can get your credit up front at the dealer, but these terms may not kick in until 2024
    - In order to get the full credit, the EV must be assembled in North America and…
    - The majority of battery components need to come from North America and…
    - A certain percentage of "critical minerals" must come form North America or countries with free trade agreements with the US
- New federal tax credit of $4,000 for used EVs priced below $25k
    - Subject to other requirements like lower annual income (see below)
- Revised credit applies to BEV cars with an MSRP below $55k
- Also includes zero-emission vans, SUVs, and trucks with MSRPs up to $80,000
- New credit also expands to commercial fleet customers
    - Includes separate qualifications and limits
- The federal EV tax credit will be available to individuals reporting adjusted gross incomes of $150,000 or less, or $300,000 for joint filers
- The new credit will also continue to apply to Plug-in Hybrid EVs (PHEVs) as long as they meet the same requirements outlined above and are equipped with a battery over 7 kWh.

Here are more detailed terms of the tax credits under the inflation reduction act, detailed byl awyer, Chris Stidham:

Revamped Credit for new BEV/PHEVs

1. Manufacturer caps eliminated. (Page 370, line 15)

2. Credit applies for vehicles purchased beginning January 1, 2023. (Page 386, line 1)
3. Transition provision for EVs with written sales orders dated in 2022 prior to the date of President signing the bill but delivered in 2023 allows purchaser to claim the "old" credit in 2023. (Page 386, line 20)
4. Vehicle must be assembled in North America to qualify for new credit. (Page 366, line 15)
5. North American assembly requirement applies to vehicles sold after the date of adoption of the bill. (Page 386, line 3)
6. $7,500 credit is broke into two binary pieces meaning the vehicle either qualifies for each piece of the credit or it doesn't. No longer based on size of battery. (Page 366, line 6)
7. $3,750 of the new credit is based upon the vehicle having at least 40% of its battery critical minerals from the United States or countries with a free trade agreement with the United States. This is a list of countries with free trade agreements with the US. (Page 371)
8. The other $3,750 of the new credit is based on at least 50% of the battery components of the vehicle coming from the United States or countries with a free trade agreement with the US. (Page 372, line 13)
9. The 40% minerals requirement increases to 50% in 2024, 60% in 2025, 70% in 2026 and 80% in 2027. (page 371 line 23)
10. The 50% battery components requirement increases to 60% in 2024, 70% in 2026, 80% in 2027, 90% in 2028 and 100% in 2029. (Page line 373)
11. The government has until the end of the year to develop guidance on the battery requirements. (Page 374)
12. Beginning in 2025, any vehicle with battery minerals or components from a foreign entity of concern are excluded from the tax credit. (Page 374, line 20).
13. One credit per vehicle. (Page 375, line 12)
14. Modified gross income limit of $150k for individuals, $225k for head of household, and $300k for joint returns. Definition of MAGI (page 375, line 22)
15. MSRP of vehicle must be $80k or less for SUVs, Vans and Trucks. $55k for all other vehicles. (Page 377, line 4)
16. Dealer can apply credit at time of sale. Dealer must disclose to buyer the MSRP of the vehicle, the applicable tax credit amount and the amount of any other available incentive applicable to the purchase. (Page 378, line 6)
17. Credit terminates December 31, 2032.

Revamped Used Vehicle Credit

1. Tax credit of 30% of value of used EV with $4,000 cap (Page 387, line 23).
2. Used vehicle must be at least two model years old at time of sale. (Page 389, line 7).

3. The original use of the vehicle must have occurred with an individual other than the one claiming the used tax credit. (Page 389, line 10).
4. Used vehicle must be purchased from a dealer. (Page 390, line 3).
5. Used vehicle price must be $25k or less. (Page 390, line 5).
6. Used vehicle qualifies for tax credit only once in its lifetime. (Page 390, line 7)
7. Purchaser must be an individual (no businesses) to qualify for used credit. (Page 390, line 14).
8. Purchaser may only claim one used vehicle credit per three years. (Page 390, line 20).
9. Modified gross income cap of $75k for individuals, $112,500 for head of household and $150k for joint returns. (Page 388).
10. Credit may be applied at time of sale by dealer. (Page 391, line 15).
11. Credit terminates on December 31, 2032. (Page 391, line 12).

Lock in current electric vehicle credits before the terms change

As you'll see from the rather barren list below of EVs that currently qualify under the new terms of the Inflation Reduction Act, a majority of EVs currently available for credits to US consumers will soon no longer qualify.

That isn't to say they won't be back on in the yes column come January 1, 2023 since many of these automakers do have North American production facilities. Other EVs like Rivian models for example are American made, but some are priced above the $80k threshold for trucks.

Fisker has been long touting is flagship Ocean SUV as an EV priced below $30k for those who qualify for the entire $7,500 credit. However, under the new terms, the Austrian built SUV will qualify for zero federal credits. That being said, its current MSRP of $37,499 is still pretty enticing, but this is a major blow to its marketing strategy to the point that the American automaker is now considering adding US production for the Ocean.

The quick workaround that felt like a mad scramble was some verbiage allowing for "written binding contracts" under a "transition rule" in the Inflation Reduction Act. That rule allowed consumers to still qualify if they signed the binding contract before the date of bill being signed into law, even if the car is delivered after the bill is signed. This is covered on page 393-394 of the bill.

Since the bill has been signed into law, this quick workaround is no longer possible. We've put together a full breakdown of where those tax credits stand for EV automakers not currently assembling in the North America.

 The upcoming Fisker Ocean, starting at an MSRP of $37,499 / Source: Fisker Inc.

What electric vehicles could qualify under the latest tax credit?

Alright, this is probably the main reason why you're here. If you scrolled through the details above, you may want to consider going back and at least skimming, because there are some major changes to federal tax credits to electric vehicles under the Inflation Reduction Act.

Under the terms mentioned above, these are the EVs that **could** qualify for the full $7,500 credit beginning January 1, 2023.

Please note that the list below features EVs assembled in North America and comes directly from fueleconomy.gov who, like all of us is still figuring out which EVs will actually qualify. Bear with us and trust we will keep this list updated often.

All-electric vehicles

Make and Model	Full Tax Credit
CADILLAC (GM) (does not qualify until 1/1/23)	
Lyriq (2023)	$,7500
CHEVROLET (GM) (does not qualify until 1/1/23)	
Bolt EUV (2022)	$7,500
Bolt EV (2022-2023)	$7,500
FORD	
F-150 Lightning (2022)	$7,500
Mustang Mach-E (2022)	$7,500
E-Transit (2022)	$7,500
MERCEDES-BENZ	
EQS SUV (2023)	$7,500
NISSAN	
LEAF (2022-2023)	$7,500
RIVIAN	
EDV 700 (2022)	$7,500

R1T (2022)	$7,500
R1S (2022)	$7,500
TESLA (does not qualify until 1/1/23)	
Model 3 (2022)	$7,500
Model Y (2022)	$7,500

Current as of 8/21/22

Hummer EV off road Source: GMC

Plug-in Hybrid Electric Vehicles

Make and Model	Full Tax Credit
AUDI	
Q5 (2022)	$7,500
BMW	
330e (2022-2023)	$7,500
X5 xDrive45e (2022)	$7,500
CHRYSLER	
Pacifica Plug-in Hybrid (2022)	$7,500
FORD	
Escape Plug-in Hybrid (2022)	$7,500
JEEP	
Grand Cherokee PHEV (2022)	$7,500
Wrangler Unlimited PHEV (2022)	$7,500
LINCOLN	
Aviator PHEV (2022)	$7,500
Corsair Plug-in Hybrid (2022)	$7,500

VOLVO	
S60 (2022)	$7,500

Current as of 8/21/22

What electric vehicles qualify under the previous tax credit?

Although the credits above should be the focus going forward, we wanted to keep the previous credit details below. Less of a trip down memory lane, but more of a list of what EVs previously qualified, so you can gather how many will be lost under current terms.

As we previously mentioned however, some of these EVs could eventually once again qualify, as automakers pivot to bring their assembly to North America.

All-electric vehicles

Make and Model	Full Tax Credit
AUDI	
e-tron Sportback (2020-2022)	$7,500
e-tron SUV (2019, 2021-2022)	$7,500
e-tron GT / RS e-tron GT (2022)	$7,500
e-tron S (Standard and Sportback)	$7,500
Q4 50 e-tron Quattro	$7,500
BMW	
i3 Sedan (2014-2021)	$7,500
i3s (2018-2021)	$7,500
i4 eDrive40/M50 Gran Coupe (2022)	$7,500
iX xDrive50/M60 (2022)	$7,500
BYD	
e6 (2012-2017)	$7,500
ELECTRIC LAST MILE SOLUTIONS (ELMS)	
ELMS Urban Delivery (2022)	$7,500
FIAT	
500e (2013-2019)	$7,500
FORD	
Focus EV (2012-2018)	$7,500
Mustang Mach-E (all 2021/2022 trims including GT)	$7,500
E-Transit (2022)	$7,500
F-150 Lightning (standard/extended range) (2022)	$7,500
GENERAL MOTORS (GM)	
Not currently eligible for tax credits	———
GENESIS	
GV60 (2023)	$7,500
HYUNDAI	

Ioniq Electric (2017-2021)	$7,500
Ioniq 5 (2022)	$7,500
Kona Electric (2019-2022)	$7,500
JAGUAR	
I-Pace (2019-2022)	$7,500
I-Pace HSE (2022-2023)	$7,500
KANDI	
EX3 (2019-2021)	$7,500
K22 (2019-2020)	$7,500
K23 (2020-2022)	$7,500
K27 (2020-2022)	$7,500
KIA	
Niro EV (2019-2022)	$7,500
Soul Electric (2015-2020)	$7,500
EV6 (58 kWh, 77.4 kWh) (2022)	$7,500
LUCID MOTORS	
Lucid Air Dream Edition (2022)	$7,500
Lucid Air Grand Touring (2022)	$7,500
MAZDA	
MX-30 (2022)	$7,500
MERCEDES-BENZ	
AMG EQS (2022)	$7,500
EQS 450+ (2022)	$7,500
EQS 580 4matic (2022)	$7,500
B-Class EV (2014-2017)	$7,500
MINI	
Cooper S E Hardtop 2 & 4 Door (2020-2023)	$7,500
MITSUBISHI	
i-MiEV (2012, 2014, 2016, 2017)	$7,500
NISSAN	
LEAF (2011-2022)	$7,500
POLESTAR	
Polestar 2 (2021)	$7,500
Polestar 2 Long Range – Single & Dual Motor (2022)	$7,500
PORSCHE	
Taycan (2020-2022) (all trims)	$7,500
RIVIAN	
R1T (2022)	$7,500
R1S (2022)	$7,500
EDV 700 (2022)	$7,500
SMART USA	
EQ fortwo Coupe (2019)	$7,500

EQ fortwo Cabrio (2019)	$7,500
SUBARU	
Solterra (2023)	$7,500
TESLA	
Not currently eligible for tax credits	———
TOYOTA	
Toyotas purchased after 9/30/23 are no longer eligible for tax credits	———
RAV4 EV (2012-2014)	$7,500
VOLKSWAGEN	
e-Golf (2015-2019)	$7,500
ID.4 EV (First/Pro/Pro S) (2021)	$7,500
VOLVO	
C40 Recharge Pure Electric (2022)	$7,500
XC40 Recharge Pure Electric (2021-2022)	$7,500

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The 2023 Subaru Solterra

Plug-in hybrid electric vehicles (PHEVs)

The US Department of Energy offers the full detailed list on its website.

Make and Model	Full Tax Credit
AUDI	
A3 e-tron / e-tron ultra (2016-2018)	$4,502
A7 55 TFSI e Quattro (2021)	$6,712
A7 TFSI e Quattro (2022)	$7,500

A8L PHEV (2020)	$6,712
A8L 60 TFSI e Quattro (2021)	$6,712
Q5 PHEV (2020)	$6,712
Q5 55 TFSI e Quattro (2021)	$6,712
Q5 TFSI e Quattro (2022)	$7,500
BENTLEY	
Bentayga Hybrid (2020-2021)	$7,500
BMW	
i3 Sedan w/ Range Extender (2014-2021)	$7,500
i3s w/ Range Extender (2018-2021)	$7,500
BMW i8 (2014-2017)	$3,793
i8 Coupe/Roadster (2018-2020)	$5,669
X3 xDrive30e (2020-2021)	$5,836
X5 xDrive40e (2016-2018)	$4,668
X5 xDrive45e (2021-2022)	$7,500
330e (2016-2018)	$4,001
330e/330e xDrive (2021-2022)	$5,836
530e/530e xDrive (2018-2019)	$4,668
530e/530e xDrive (2020-2022)	$5,836
740e (2017)	$4,668
740e xDrive (2018-2019)	$4,668
745e xDrive (2020-2022)	$5,836
CHRYSLER	
Pacifica Plug-In Hybrid (2017-2022)	$7,500
FERRARI	
SF90 Stradale (2020-2021)	$3,501
FISKER AUTOMOTIVE	
Karma Sedan (2012)	$7,500
FORD	
C-Max Energi (2013-2017)	$4,007
Fusion Energi (2013-2018)	$4,007
Fusion Energi (2019-2020)	$4,609
Escape Plug-in Hybrid (2020-2022)	$6,843
GENERAL MOTORS (GM)	
Not currently eligible for tax credits	———
HONDA	
Accord Plug-in Hybrid (2014)	$3,626
Clarity Plug-in Hybrid (2018-2021)	$7,500
HYUNDAI	
Ioniq Plug-in Hybrid (2018-2022)	$4,543
Sonata Plug-in Hybrid (2016-2019)	$4,919
Tucson Plug-in Hybrid (2022)	$6,587

Santa Fe Plug-in Hybrid (2022)	$6,587
JEEP	
Grand Cherokee PHEV (2022)	$7,500
Wrangler Unlimited PHEV (2021-2022)	$7,500
KARMA	
Revero (2018-2020)	$7,500
KIA	
Niro Plug-in Hybrid (2018-2022)	$4,543
Optima Plug-in Hybrid (2017-2020)	$4,919
Sorento Plug-in Hybrid (2022)	$6,587
LAND ROVER	
Range Rover/Sport PHEV (2019)	$7,087
Range Rover/Sport PHEV (2020-2022)	$6,295
Range Rover SE PHEV (2023)	$7,500
Rover Range Rover Sport Autobiography PHEV (2023)	$7,500
LEXUS	
Lexus' purchased after 9/30/23 are no longer eligible for tax credits	———
NX Plug-in Hybrid (2022)	$7,500
LINCOLN	
Aviator Grand Touring (2020-2022)	$6,534
Corsair Reserve Grand Touring PHEV (2021-2022)	$6,843
Corsair Grand Touring PHEV (2022)	$6,843
McLAREN	
Artura (2022)	$4,585
MERCEDES-BENZ	
S550e Plug-in Hybrid (2015-2017)	$4,460
GLE550e 4matic (2016-2018)	$4,460
GLC350e 4matic (2018-2019)	$4,460
GLC350e 4M EQ (2020)	$6,462
S560e EQ PHEV (2020)	$6,462
C350e (2016-2018)	$3,501
MINI	
Cooper S E Countryman ALL4 (2018-2019)	$4,001
Cooper S E Countryman ALL4 (2020-2022)	$5,002
MITSUBISHI	
Mitsubishi Outlander Plug-in (2018-2020)	$5,836
Mitsubishi Outlander Plug-in (2021-2022)	$6,587
POLESTAR	
Polestar 1 (2020-2021)	$7,500
PORSCHE	
Cayenne S E-Hybrid (2015-2018)	$5,336
Cayenne E-Hybrid / Coupe (2019-2020)	$6,712

Cayenne Turbo S E-Hybrid / Coupe (2021)	$7,500
Cayenne E-Hybrid / Coupe (2021-2022)	$7,500
Panamera S E-Hybrid (2014-2016)	$4,752
Panamera 4 E-Hybrid (2018)	$6,670
Panamera 4 E-Hybrid (2019-2020)	$6,712
Panamera 4 E-Hybrid (2021-2022)	$7,500
SUBARU	
Crosstrek Hybrid (2019-2022)	$4,502
TESLA	
Not currently eligible for tax credits	———
TOYOTA	
Toyotas purchased after 9/30/23 are no longer eligible for tax credits	———
Prius Plug-in Hybrid (2012-2015)	$2,500
Prius Prime Plug-in Hybrid (2017-2022)	$4,502
RAV4 Prime Plug-in Hybrid (2021-2022)	$7,500
VOLVO	
S60 (2019)	$5,002
S60 (2020-2022)	$5,419
S60 Extended Range (2022)	$7,500
S90 (2018-2019)	$5,002
S90 (2020-2022)	$5,419
S90 Extended Range (2022)	$7,500
V60 (2020-2022)	$5,419
V60 Extended Range (2022)	$7,500
XC60 (2018-2019)	$5,002
XC60 (2020-2022)	$5,419
XC60 Extended Range (2022)	$7,500
XC90 (2016-2017)	$4,585
XC90 / XC90 Excellence (2018-2019)	$5,002
XC90 (2020-2022)	$5,419
XC90 Extended Range (2022)	$7,500

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Other tax credits available for electric vehicle owners

So now you should know if your vehicle does in fact qualify for a federal tax credit, and how much you might be able to save.

State tax incentives

In additional to any federal credit you may or may not qualify for, there are a number of clean transportation laws, regulations, and funding opportunities available at the state level.

For example, in the state of California, drivers can qualify for a $2,000-$4,500 rebate or a grant up to $5,000 under the Clean Vehicle Assistance Program on top of any federal credit received (all rebate and grant amounts are based on income). Furthermore, states like California offer priority driving lanes and parking spots for EV drivers who qualify.

In New York, residents can receive either a $500 or $2,000 rebate depending on the base price of the EV purchased. Again, these incentives vary by state, and much like the federal tax credit, are contingent on multiple factors.

To check what incentives you may qualify for, the *Alternative Fuels Data Center* is a great resource from the US Department of Energy. This page allows you to tap or click your respective state and research what options might be available to you and your electric vehicle.

Source: Fueleconomy.gov

Tax incentives on electric vehicles are worth the research

Hopefully this post has helped to incentivize you to use the resources above to your advantage.

Whether it's calculating potential savings or rebates before making a new EV purchase or determining what tax credits might already be available to you for your current electric vehicle, there is much to discover.

Ditching fossil fuels for greener roadways should already feel rewarding, but right now the government is willing to reward you further for your environmental efforts.

Use it to your full capability while you can, because as more and more people start going electric, the less the government will need to reward drivers.

https://www.iseecars.com/electric-cars-pricing-study

Electric Car Prices Continue to Increase Much More Than Gas-Powered Models

Electric car prices went up 54.3% in July from last year compared to 10.1% for conventional/internal combustion cars

BY JULIE BLACKLEY · AUGUST 23, 2022 8:50 PM EDT

Used car prices remain elevated in the wake of the global microchip shortage, but they began to level off in the second half of 2022. However, according to iSeeCars' recent analysis, over the same period prices for electric cars continued to increase significantly. In July, electric car prices saw an increase of 54.3% from the same month last year while gas-powered cars were up just 10.1%.

iSeeCars analyzed the prices of over 13.8 million 1-5 year old used cars sold between January and July of 2021 and 2022 to determine the price growth of electric cars compared to conventional fuel vehicles.

"Until recently, mainstream electric vehicles typically depreciated rapidly due to improvements in battery technology and a lack of demand in the secondary market," said iSeeCars Executive Analyst Karl Brauer. "However, soaring gas prices, improvements in public charging infrastructure, and a lack of inventory for new EVs have led to soaring demand for used electric vehicles."

Monthly 2022 vs. 2021 Year-Over-Year Average Price Comparisons: Conventional Fuel Vehicles Vs. EVs		
	Y-o-Y % Change, Conventional Fuel Vehicles	**Y-o-Y % Change, EVs**
Jan	36.3%	54.1%
Feb	34.4%	43.1%
Mar	30.4%	34.3%
Apr	23.3%	37.5%
May	16.3%	36.2%
Jun	9.8%	40.6%
Jul	10.1%	54.3%

Electric vehicles started the year with a price increase of 54.1 percent over January of 2021, while conventional fuel vehicle prices were 36.3 percent higher. “The sharp price increase for electric vehicles in January was driven by a sudden spike in demand due to rising fuel prices plus the ongoing shortage of used gasoline vehicles,” said Brauer.

The price increases for both EVs and conventional fuel vehicles declined until March and continued to decline for conventional fuel vehicles through June. Meanwhile, the price increase for EVs rose in April and continues to far outpace the price growth of conventional fuel vehicles. “March marked the aggressive upward pricing trend for gasoline as a result of the Russia-Ukraine conflict, and we have seen increased demand for EVs and decreased demand for gas-powered cars since,” said Brauer.

Electric Vehicle Annual Price Increase By Model

iSeeCars analyzed the used car prices across electric cars to determine which had the highest price increase in July 2022 compared to 2021.

Electric Vehicle Year-over-year Price Increase By Model, July 2022 vs. 2021				
Rank	**Electric Vehicle**	**% Y-o-Y Price Increase**	**$ Y-o-Y Price Increase**	**Average Used Car Price**
1	Nissan LEAF	45.0%	$8,930	$28,787
2	Chevrolet Bolt EV	29.3%	$6,417	$28,291
3	Tesla Model S	27.5%	$17,906	$83,078
4	Tesla Model X	19.7%	$14,863	$90,484

5	Tesla Model 3	16.2%	$7,781	$55,766
6	Kia Niro EV	15.7%	$5,124	$37,732
7	Tesla Model Y	13.6%	$8,381	$70,065
8	Audi e-tron	9.9%	$5,867	$65,420
9	Jaguar I-Pace	3.5%	$1,980	$59,338
10	Porsche Taycan	-3.5%	-$5,042	$138,033

The used electric vehicle that has risen the most in price is the Nissan LEAF, which has a 45 percent price increase over last year. “The price increase for the Nissan LEAF, which was once the highest depreciating car on the market, is likely due to heightened gas prices as well as the heightened desirability for the redesigned 2018 model that offers increased range and is now coming off lease to enter the used car market,” said Brauer.

The Chevrolet Bolt hatchback ranks second. “The Chevrolet Bolt is the most affordable used electric vehicle on the market, and its relative affordability plus heightened interest in all-electric vehicles have led to its steep used car price increase,” said Brauer.

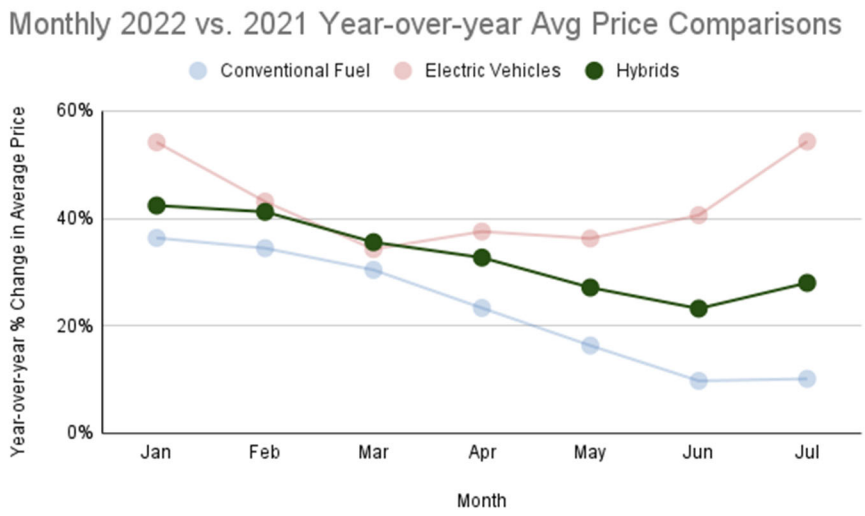
Four Tesla models make the list including the third-ranked Model S, the fourth-ranked Model X, the fifth-ranked Model 3, and the seventh-ranked Model Y. “Demand for the Model S waned last year as used car shoppers embraced the more affordable Model 3 and the Model X and Model Y SUVs,” said Brauer. “Demand for used versions of the Model 3, Model X, and Model Y was high last year before the rise of gas prices because they were relatively scarce in the used car marketplace, which helps explain why they havenot had as steep of a yearly price increase.”

The Kia Niro EV ranks sixth with an average annual price increase of 15.7 percent. “The Kia Niro has a relatively small price increase compared to other electric vehicles, which is surprising given its value proposition as a practical electric crossover with an impressive EPA estimated 239 miles of range,” said Brauer.

The remaining three models come from luxury automakers and include the Audi e-tron, the Jaguar I-Pace, and the Porsche Taycan. “The Porsche Taycan is the only electric vehicle that has gone down in price compared to last year, perhaps suggesting an upper limit to what consumers are generally willing to pay for used EVs,” said Brauer. “The Jaguar I-Pace has seen a decrease in new car sales since 2019, while Audi e-tron sales have improved, but both models are not widely embraced by used car buyers.”

Month-By-Month Pricing Analysis: Hybrid Vehicles

iSeeCars also analyzed the year-over-year price increases of hybrid vehicles by month and found that price increases slowed since January but began to rise in July.



“Hybrid vehicles likely saw an increase in demand in January because of the scarcity of conventional fuel vehicles in the used car marketplace,” said Brauer. “While EVs have risen in price, hybrid vehicles have trended more like conventional fuel vehicles and remain a practical choice for used car buyers who want a more fuel-efficient option.”

Bottom Line:

The U.S. government just announced a federal tax credit for used EVs as part of the Inflation Reduction Act, which will provide an added incentive for used car shoppers as prices continue to increase for used electric vehicles. “More and more affordable new electric vehicles are entering the market, which means that used EVs won’t be as much of a novelty, especially once supply chain issues begin to improve,” said Brauer. “While prospective used car buyers will see steep price increases for EVs in the short term, it’s important to be patient because used EV prices are expected to decline in the coming months.”

Methodology:

iSeeCars.com analyzed over 13.8 million 1-5 year old used car sales between January and July of 2021 and 2022. The average price of each model was calculated monthly in 2022 and compared to the average price of the same model from a year prior. Average prices were also aggregated by fuel type and compared similarly. Low-volume vehicles, vehicles no longer in production as of the 2022 model year, and heavy-duty vehicles were excluded from the analysis.

About iSeeCars:

iSeeCars.com is a car search engine that helps shoppers find the best car deals by providing key insights and valuable resources, like the iSeeCars free VIN check reports and Best Cars rankings. iSeeCars.com has saved users over $343 million so far by applying big data analytics powered by over 25 billion (and growing) data points and using proprietary algorithms to objectively analyze, score and rank millions of new cars and used cars.

https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii

Advanced Clean Cars II

Proposed Advanced Clean Cars II Regulations: All New Passenger Vehicles Sold in California to be Zero Emissions by 2035

California is Taking Your Ride to Zero Emissions

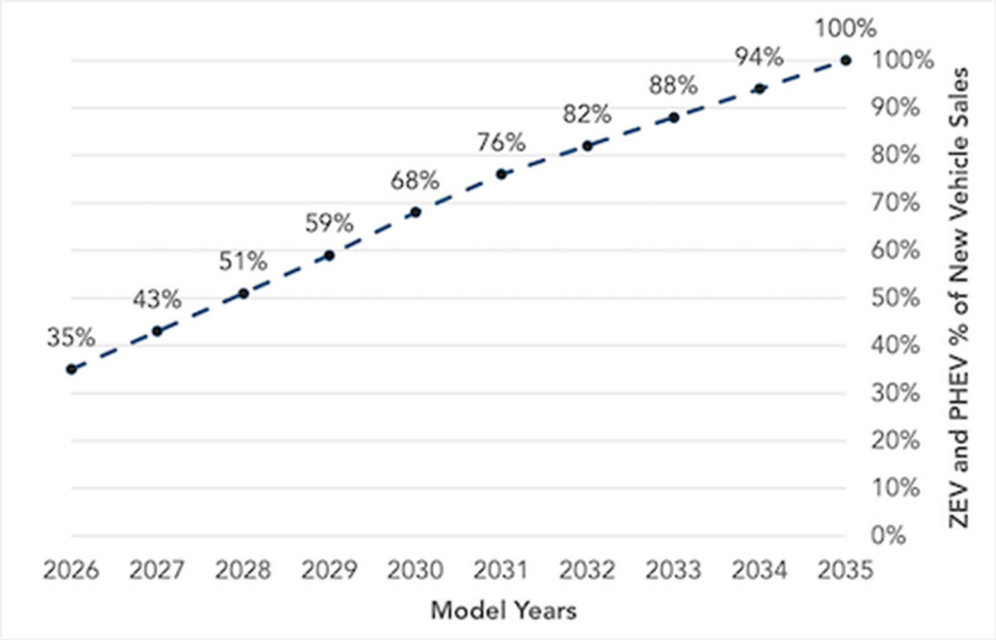
By 2035 all new passenger cars, trucks and SUVs sold in California will be zero emissions. The proposed Advanced Clean Cars II proposal would take the state's already growing zero-emission vehicle market and robust motor vehicle emission control rules and augment them to meet more aggressive tailpipe emissions standards and ramp up to 100% zero-emission vehicles. The proposal was presented to the Board on June 9, 2022 with a second hearing planned for August 25, 2022 when the Board will vote on the item. View the Official Rulemaking Documents. Visit our Frequently Asked Questions to learn more abut ACCII and zero-emission vehicles.

Proposed Regulations

The Advanced Clean Cars II proposal would rapidly scale down light-duty passenger car, truck and SUV emissions starting with the 2026 model year through 2035.

The proposal is two-pronged. First, it amends the Zero-emission Vehicle Regulation to require an increasing number of zero-emission vehicles, and relies on advanced vehicle technologies, including battery-electric, hydrogen fuel cell electric and plug-in hybrid electric vehicles, to meet air quality and climate change emissions standards. These amendments support Governor Newsom's 2020 Executive Order N-79-20 that requires all new passenger vehicles sold in California to be zero emissions by 2035. Second, the proposal amends the Low-emission Vehicle Regulations to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions while the sector transitions toward 100% electrification by 2035.

California enjoys the largest zero-emission vehicle market in the nation with more than 16% of new vehicles sold being zero-emissions or plug-in hybrids. The figure below shows the proposed annual zero-emission vehicle requirement.



The proposal will substantially reduce air pollutants that threaten public health and cause climate change. While further developing the zero-emission vehicle market, the proposal also takes additional steps to clean up internal combustion engines and will provide public health benefits of at least $12 billion over the life of the regulation by reducing premature deaths, hospitalizations and lost workdays associated with exposure to air pollution.

Zero-emission Vehicle Assurance and Equity

The impacts of climate change and air pollution affect all Californians, but residents in frontline communities are especially vulnerable and often face the most severe impacts. In developing the regulatory proposals and analysis, staff have met with more than 20 national, state, and local advocacy organizations to learn more about the recommendations these groups have regarding staff's proposals and how transportation electrification could be made more equitable. Staff's approach to environmental justice and equity in Advanced Clean Cars II is multi-faceted and draws on these recommendations and staff's own analysis; it does not take every suggestion but does seek to create a responsive regulatory design.

First and foremost, by increasing the number of ZEVs on the road and continuing to clean up conventional internal combustion vehicles, the regulatory proposals will reduce exposure to vehicle pollution in communities throughout California, including in frontline communities that are disproportionately exposed to vehicular pollution.

In addition, the proposed zero-emission vehicle assurance measures, which include proposals to set minimum warranty and durability requirements, increase serviceability, and facilitate charging and battery labeling, will help ensure all consumers can successfully replace their fossil fuel-powered vehicles with new or used vehicles that meet their needs for transportation and protect the emission benefits of the program. These measures are particularly important for consumers in low-income and underserved communities where used vehicle sales are significant. Giving consumers additional assurance that their used zero-emission vehicle purchase meets minimum requirements is key for broader market uptake.

Finally, the proposal offers automakers additional compliance opportunities for actions to improve access to zero-emission vehicles in overburdened and low-income communities,

such as providing reduced price zero-emission vehicles for community mobility programs, producing affordable zero-emission vehicles, and retaining those used vehicles in California to support the state's complimentary policies and incentives.

Incentive Programs and Savings for Consumers

A suite of incentive programs is available for consumers who want to make the switch to electric vehicles or use other modes of clean transportation. Incentives are developed by the California Air Resources Board and include rebates for new and used clean cars, and funding for charging options, and alternatives to owning a car, such as car sharing and ride hailing. The proposed regulation will be backed by Governor Newsom's $2.4 billion dollar investment in vehicle incentives, charging infrastructure and public outreach.

Zero-emission vehicle buyers are likely to realize as much as $7500 in maintenance and operational savings over the first 10 years of ownership. It is estimated that automakers will offer 179 zero-emission and plug-in hybrid-electric vehicle models by 2025, making it easier than ever for consumers to find a clean vehicle that fits their daily needs and lifestyle.

Many Other States Follow California's Automotive Emissions Regulations

To date, 17 states have adopted all or part of California's low-emission and zero-emission vehicle regulations, as allowed under Section 177 of the Clean Air Act. This additional support for the clean vehicle market means that more than 35% of national new light-duty vehicle sales meet California automotive emissions standards.

Background

Since the 1960s the California Air Resources Board has been ratcheting down motor vehicle emissions to cut smog and protect public health and the environment. Today California faces a crisis driven by climate change — catastrophic weather, extreme and prolonged drought, sea level rise and wildfires — that require immediate and bold action. Protection of the most vulnerable in our society, particularly those who are overburdened by air pollution and the impacts of climate change, is a top priority.

The transportation sector, including all passenger cars and light trucks, heavy-duty trucks, off-road vehicles, and the fuels needed to power them, is responsible for half of California's greenhouse gas emissions. It is also responsible for 80% of smog-causing pollutants and is a significant source of toxic air contaminants that directly impact community health, the environment and the economy.

In developing the Advanced Clean Cars II proposal over the past two years, staff have conducted four virtual public workshops and a community listening session while developing the proposal – in September 2020, May 2021, June 2021, August 2021, and October 2021. Event materials, including slide presentations and event recordings, are posted and available to the public. Staff have also held numerous internal and external workgroups and meetings to discuss regulatory concepts and to solicit feedback.

Electric vehicles are available to buy or lease right now. Learn more about these cars and the available incentives at:

- DriveClean
- Electric For All

Timeline and Documents for ACC II Rulemaking

- April 15, 2022: ISOR with Proposed Regulation Order Posted for 45-day Public Comment Period
- June 9, 2022: First of Two Public Hearings by CARB Board
- July 12, 2022: Hearing Action and Supplemental 15 Day Notices
- August 25, 2022: Second of Two Public Hearings by CARB Board

Resources

- Advanced Clean Cars II Frequently Asked Questions
- Workshop materials
- Draft Standardized Regulatory Impact Assessment (SRIA) on the California Department of Finance's website

How to Participate

If you wish to receive information regarding the Advanced Clean Cars II regulations, please subscribe to the Advanced Clean Cars listserv

https://www.metsagroup.com/metsatissue/news-and-publications/news/2022/the-european-energy-crisis-leads-to-additional-curtailments-in-tissue-production/

The European energy crisis leads to additional curtailments in tissue production

Metsä Tissue announced earlier this year temporary production stops due to extremely high energy prices driven by the energy crisis in Europe. The situation has been continuously worsening, and is impacting all of Metsä Tissue's markets in Europe, and is especially demanding on the company's Western and Eastern European mills.

26.08.2022 13:18 EET

Metsä Tissue

During the recent weeks, Metsä Tissue has had to curtail its production both in its Zilina and Kreuzau mills for several days because of the high energy price peaks. With the high energy cost inflation, further production curtailments are likely and they may also impact the availability of daily Tissue products in the markets, as substantial amounts of daily production losses will occur.

"To mitigate the situation, we have explored all possible energy efficiency improvement actions and mitigation actions to replace Russian gas with alternative energy sources are on-going. We have also been forced to revise our offering and the crisis will also speed up the move towards fresh fibre focused strategy, which enables lower energy use in the paper making, compared to recycled fibers", says Tobias Lüning, SVP Central Europe, Metsä Tissue.

Tissue profitability will continue to be reviewed on a daily basis and the high energy costs will most likely continue to cause additional temporary production shutdowns.

https://www.metsagroup.com/metsatissue/news-and-publications/news/2022/metsa-tissue-mills-in-western-and-eastern-europe-to-have-day-long-temporary-production-stops-due-to-extremely-high-energy-prices/

Metsä Tissue mills in Western and Eastern Europe to have day-long temporary production stops due to extremely high energy prices

Metsä Tissue, part of Metsä Group, announces day-long temporary production stops in the week commencing 11 July in its Kreuzau mill in Germany and Zilina mill in Slovakia due to extremely high energy prices. Profitability will continue to be reviewed on a daily basis and high energy costs may continue to cause temporary production shutdowns.

11.07.2022 10:00 EETa

Metsä Tissue

Tissue business is very energy intensive and the extremely high energy prices are making the situation critical. The great volatility in the current business environment and the recent extreme developments in cost inflation have resulted in these temporary production stops.

Metsä Tissue has been implementing all actions possible to mitigate the price conditions to safeguard the continuity of its operations and the ability to deliver hygiene necessities to its markets. Despite these actions, the cost situation has emerged critical and is expected to continue very volatile. The temporary production stops may also result in further challenges in the delivery capability of tissue hygiene products.

"We are diligently taking all actions possible to deliver hygiene necessities to Western and Eastern European markets and we are evaluating the situation on a daily basis. However, there is a risk that out-of-stock situations will occur if these extreme cost conditions prevail", says Tobias Lüning, SVP, Central Europe, Metsä Tissue.

https://www.metsagroup.com/metsatissue/news-and-publications/news/2021/metsa-tissue-investigated-the-carbon-footprint-of-toilet-paper-high-quality-and-soft-tissue-paper-is-also-environmentally-friendly/

Metsä Tissue investigated the carbon footprint of toilet paper: high-quality and soft tissue paper is also environmentally friendly

In cooperation with AFRY, Metsä Tissue, a part of Metsä Group, has calculated the carbon footprint of toilet paper in its eight European mills, and explored also the differences in the footprints of toilet papers made of fresh and recycled fibres. The results for the products analysed by the company indicate that a roll of toilet paper made of fresh fibre has a carbon footprint that is approximately one fifth smaller than a roll made of recycled fibre.

Press releases

25.11.2021 09:00 EET

Metsä Tissue

Metsä Tissue is one of Europe's largest tissue paper producers, having production in five countries at eight tissue paper mills, producing products from both fresh and recycled fibres. Fresh fibre based tissue papers and their production close to the markets are key elements of the company's strategy and the use of fresh fibres in Metsä Tissue's production will continue to increase. Currently, fresh fibres account for around half of the raw material.

"Our carbon footprint analysis was inspired partly by the fact that products made of recycled fibre are often considered a better alternative for the environment, and partly by the increasing challenges in availability and quality of recycled raw material. The biggest differences in the carbon footprints arise from the amount of energy and water needed to purify recycled fibre. To be suitable for hygiene use and food contact, recycled fibre requires effective purification, while fresh fibre is naturally suitable for hygiene use," says Johanna Kesti, Senior Vice President, Marketing, Communications and Sustainability, at Metsä Tissue.

The carbon footprint analysis offers positive news to tissue paper consumers and producers. The average carbon footprint of tissue papers produced at Metsä Tissue's mills was 1.4 t CO2e per tonne of paper. The average European consumes around 12.8 kg of toilet paper a year, which is equivalent to approximately 17.92 kg of CO2. In turn, this corresponds to only around 0.27% of each European's overall annual carbon footprint. When we use premium fresh fibre based products for hygiene purposes, we create a smaller carbon footprint than when using products made of recycled fibre. Because of its declining availability, recycled fibre will in the future be used in solutions that have lower hygiene and quality requirements than tissue papers, where material yield is higher and where the fibres stay longer in circulation. These include for example transport cardboard packaging.

"Fresh fibre is the hygiene material of the future. By using fresh-fibre products, consumers get sustainably produced tissues with high quality. The production of fresh-fibre paper consumes less energy and water at the tissue mill, and more than 90 per cent of the raw material can be utilised. The use of recycled fibre is less efficient, as only around 60 per cent of the raw material ends up in hygienic tissues and the rest is waste that needs to be processed. In other words, a responsible tissue consumer does not need to compromise on pleasant quality, product safety or sustainability," Kesti adds.

The EU's product environmental footprint category rules (PEFCR) were used in the carbon footprint study to calculate the global warming potential (GWP) of base paper production. Product calculations were performed by AFRY in accordance with the ISO 14067:2018 standard and based on the data supplied by Metsä Tissue's mills.*

THE INVESTMENT FUNDS INSTITUTE OF CANADA | L'INSTITUT DES FONDS D'INVESTISSEMENT DU CANADA

IFIC Monthly Investment Fund Statistics – July 2022

Mutual Fund and Exchange-Traded Fund Assets and Sales

August 25, 2022 (Toronto) – The Investment Funds Institute of Canada (IFIC) today announced investment fund net sales and net assets for July 2022.

Mutual fund assets totalled $1.864 trillion at the end of July 2022. Assets increased by $76.2 billion or 4.3% compared to June 2022. Mutual funds recorded net redemptions of $4.5 billion in July 2022.

ETF assets totalled $303.7 billion at the end of July 2022. Assets increased by $14.8 billion or 5.1% compared to June 2022. ETFs recorded net sales of $1.5 billion in July 2022.

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

Asset Class	Jul. 2022	Jun. 2022	Jul. 2021	YTD 2022	YTD 2021
Long-term Funds					
Balanced	(3,278)	(4,980)	4,958	(7,246)	44,681
Equity	(1,377)	(3,441)	1,886	2,124	27,842
Bond	(311)	(3,358)	2,075	(6,594)	11,456
Specialty	(80)	64	413	890	3,986
Total Long-term Funds	(5,045)	(11,716)	9,332	(10,827)	87,965
Total Money Market Funds	500	1,287	(447)	2,754	(6,546)
Total	(4,546)	(10,429)	8,885	(8,073)	81,419

Mutual Fund Net Assets ($ Billions)*

Asset Class	Jul. 2022	Jun. 2022	Jul. 2021	Dec. 2021
Long-term Funds				
Balanced	916.8	882.4	979.5	1,024.9
Equity	661.5	626.5	701.8	747.7
Bond	234.6	228.6	259.5	261.5
Specialty	21.8	21.6	19.5	22.2
Total Long-term Funds	1,834.7	1,759.1	1,960.2	2,056.3
Total Money Market Funds	29.5	28.9	27.2	26.4
Total	1,864.2	1,788.0	1,987.4	2,082.7

* Please see below for important information regarding this data.

ETF Net Sales/Net Redemptions ($ Millions)*

Asset Class	Jul. 2022	Jun. 2022	Jul. 2021	YTD 2022	YTD 2021
Long-term Funds					
Balanced	202	23	292	1,368	2,620
Equity	(730)	(2,248)	2,449	8,814	20,535
Bond	719	1,499	(362)	3,494	7,667
Specialty	375	(609)	273	1,139	6,073
Total Long-term Funds	566	(1,336)	2,651	14,814	36,895
Total Money Market Funds	938	666	357	2,730	(1,216)
Total	1,505	(670)	3,009	17,544	35,680

ETF Net Assets ($ Billions)*

Asset Class	Jul. 2022	Jun. 2022	Jul. 2021	Dec. 2021
Long-term Funds				
Balanced	12.1	11.3	10.5	12.1
Equity	194.1	184.6	200.4	225.2
Bond	77.7	75.2	85.9	89.6
Specialty	10.7	9.7	10.6	13.6
Total Long-term Funds	294.7	280.8	307.5	340.5
Total Money Market Funds	9.1	8.1	6.0	6.6
Total	303.7	288.9	313.6	347.1

* 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. Starting with January 2022 data, ETF data is adjusted to remove double counting arising from Canadian-listed ETFs that invest in units of other Canadian-listed ETFs. Any references to IFIC ETF assets and sales figures prior to 2022 data should indicate that the data has not been adjusted for ETF of ETF double counting.
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 approximately 150 organizations, including fund managers, dealers, professional and back-office service providers, to strengthen the integrity of the investment funds industry, foster public confidence in investment funds, and enable investors to achieve good outcomes. By connecting savers to Canada's economy, our industry contributes significantly to Canadian economic growth and job creation.

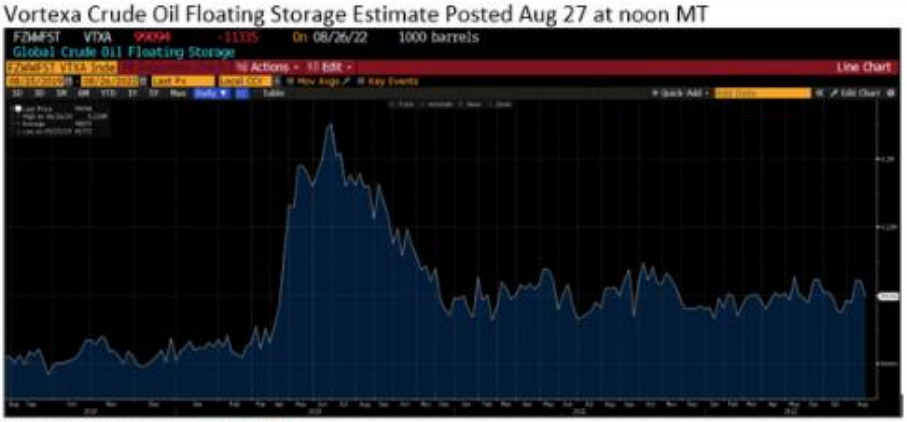
For more information please contact:

Carolyn Quick
Vice President, Communications & Public Affairs
cquick@ific.ca
416-309-2306

Dan Tsubouchi @Energy_Tidbits · 10h

#Vortexa crude #Oil floating storage at 08/26 est 99.09 mmbm, -11.34 mmb WoW vs revised up 08/19 of 110.43 mmb. 11 of last 12 weeks were revised up. Thx @Vortexa @business. #OOTT

Vortexa Crude Oil Floating Storage Estimate Posted Aug 27 at noon MT



Source: Bloomberg, Vortexa

Posted Aug 27, noon MT

FZWWFST VTXA Inde

08/25/2019 - 08/26/2022

1D 3D 1M 6M YTD 1Y

Date	FZWWFST VT... Last Px
Fr 08/26/2022	99094
Fr 08/19/2022	110.429k
Fr 08/12/2022	110.706k
Fr 08/05/2022	94431
Fr 07/29/2022	96372
Fr 07/22/2022	87209
Fr 07/15/2022	89237
Fr 07/08/2022	99286
Fr 07/01/2022	102.682k
Fr 06/24/2022	102.696k
Fr 06/17/2022	111.583k

Aug 20, noon MT

FZWWFST VTXA Inde

08/18/2019 - 08/19/2022

1D 3D 1M 6M YTD 1Y 5Y

Date	FZWWFST VT... Last Px
Fr 08/19/2022	104.631k
Fr 08/12/2022	111.571k
Fr 08/05/2022	91956
Fr 07/29/2022	91904
Fr 07/22/2022	84582
Fr 07/15/2022	86346
Fr 07/08/2022	95063
Fr 07/01/2022	94835
Fr 06/24/2022	93158
Fr 06/17/2022	103.26k
Fr 06/10/2022	101.878k

Aug 13, noon MT

FZWWFST VTXA Inde

08/11/2019 - 08/12/2022

1D 3D 1M 6M YTD 1Y

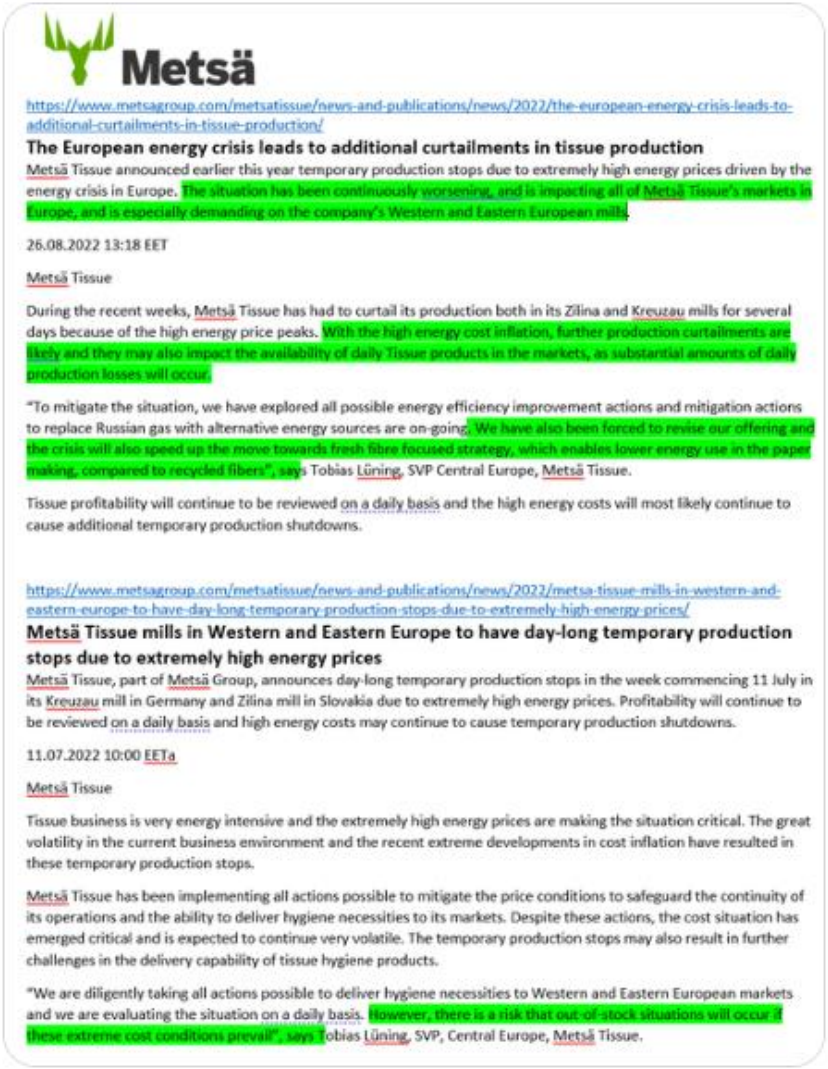
Date	FZWWFST VT... Last Px
Fr 08/12/2022	106.908k
Fr 08/05/2022	92319
Fr 07/29/2022	91794
Fr 07/22/2022	85237
Fr 07/15/2022	87468
Fr 07/08/2022	93508
Fr 07/01/2022	94246
Fr 06/24/2022	92554
Fr 06/17/2022	101.729k
Fr 06/10/2022	98995
Fr 06/03/2022	82782

Source: Bloomberg, Vortexa

1 2

Dan Tsubouchi @Energy_Tidbits · 13h

Headline is #ToiletPaper shortage in EU. But also a reminder of overlooked added climate impact cost to be Green. #Metsa "will speed up the move towards fresh fibre focused strategy, which enables lower energy use in the paper making, compared to recycled fibers." #NatGas #OOTT



Metsä

https://www.metsagroup.com/metsatissue/news-and-publications/news/2022/the-european-energy-crisis-leads-to-additional-curtailments-in-tissue-production/

The European energy crisis leads to additional curtailments in tissue production

Metsä Tissue announced earlier this year temporary production stops due to extremely high energy prices driven by the energy crisis in Europe. The situation has been continuously worsening, and is impacting all of Metsä Tissue's markets in Europe, and is especially demanding on the company's Western and Eastern European mills.

26.08.2022 13:18 EET

Metsä Tissue

During the recent weeks, Metsä Tissue has had to curtail its production both in its Zilina and Kreuzau mills for several days because of the high energy price peaks. With the high energy cost inflation, further production curtailments are likely and they may also impact the availability of daily Tissue products in the markets, as substantial amounts of daily production losses will occur.

"To mitigate the situation, we have explored all possible energy efficiency improvement actions and mitigation actions to replace Russian gas with alternative energy sources are on-going. We have also been forced to revise our offering and the crisis will also speed up the move towards fresh fibre focused strategy, which enables lower energy use in the paper making, compared to recycled fibers", says Tobias Lüning, SVP Central Europe, Metsä Tissue.

Tissue profitability will continue to be reviewed on a daily basis and the high energy costs will most likely continue to cause additional temporary production shutdowns.

https://www.metsagroup.com/metsatissue/news-and-publications/news/2022/metsa-tissue-mills-in-western-and-eastern-europe-to-have-day-long-temporary-production-stops-due-to-extremely-high-energy-prices/

Metsä Tissue mills in Western and Eastern Europe to have day-long temporary production stops due to extremely high energy prices

Metsä Tissue, part of Metsä Group, announces day-long temporary production stops in the week commencing 11 July in its Kreuzau mill in Germany and Zilina mill in Slovakia due to extremely high energy prices. Profitability will continue to be reviewed on a daily basis and high energy costs may continue to cause temporary production shutdowns.

11.07.2022 10:00 EETa

Metsä Tissue

Tissue business is very energy intensive and the extremely high energy prices are making the situation critical. The great volatility in the current business environment and the recent extreme developments in cost inflation have resulted in these temporary production stops.

Metsä Tissue has been implementing all actions possible to mitigate the price conditions to safeguard the continuity of its operations and the ability to deliver hygiene necessities to its markets. Despite these actions, the cost situation has emerged critical and is expected to continue very volatile. The temporary production stops may also result in further challenges in the delivery capability of tissue hygiene products.

"We are diligently taking all actions possible to deliver hygiene necessities to Western and Eastern European markets and we are evaluating the situation on a daily basis. However, there is a risk that out-of-stock situations will occur if these extreme cost conditions prevail", says Tobias Lüning, SVP, Central Europe, Metsä Tissue.

1 1

Dan Tsubouchi @Energy_Tidbits · Aug 26

Every man for himself! @SecGranholm urges US #Oil refiners to build inventories, not sell down stocks & further increase exports. Or, Admin need to consider added Fed requirements or other emergency measures. Excerpt 👇, worth reading full @WSJ opinion. #OOTT

Excerpt https://www.wsj.com/articles/jennifer-granholms-de-facto-fuel-export-ban-energy-secretary-letter-refiners-oil-europe-11661379613?st=cp5j6h4wolb0ckt

- OPINION

Granholm to Europe: Tough Luck

The Energy Secretary bullies U.S. companies to reduce fuel exports.

By *The Editorial Board* Follow

Aug. 24, 2022 6:43 pm ET

Secretary of Energy Jennifer GranholmPHOTO: CHRIS KLEPONIS - POOL VIA CNP/ZUMA PRESS

America's allies in Europe are desperate for alternative supplies of fuel amid the Ukraine war, and U.S. producers are happy to provide what they can. So wouldn't you know the Biden Administration now wants to limit fuel exports.

That's the message Energy Secretary Jennifer Granholm sent last week in a letter imploring seven major refiners to limit fuel exports. We obtained a copy of the letter, which the Administration didn't release publicly. Ms. Granholm warns that gasoline inventories on the East Coast are at a near-decade low, and diesel stocks are nearly 50% below the five-year average across the region.

"Given the historic level of U.S. refined product exports, I again urge you to focus in the near term on building inventories in the United States, rather than selling down current stocks and further increasing exports," she writes.

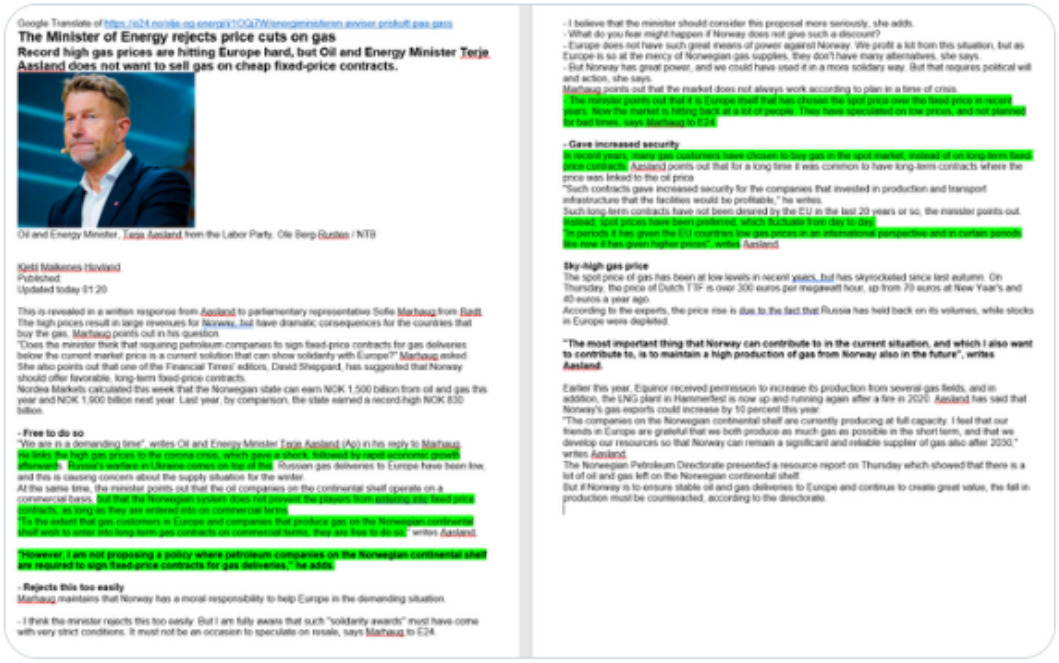
"It is our hope that companies will proactively address this need," she adds. "If that is not the case, the Administration will need to consider additional Federal requirements or other emergency measures." In New Jersey they call that an offer you can't refuse.

This is a political escalation from President Biden's June command to refiners to immediately lower gasoline prices. As average gasoline prices nationwide have fallen to $3.88 from about $5 in mid-June, he has been taking a media victory tour. Mr. Biden can thank Americans for driving less, and crude prices have been falling amid a broader selloff in commodities.

8 12 40

Dan Tsubouchi @Energy_Tidbits · Aug 26

Norway will supply #NatGas to EU but not at discount prices ie. almost sounds like RUS. Prices were high pre RUS/UKR. EU went for spot prices, not long term supply contracts, so seeing higher prices now. Rejects imposing price cuts on #NatGas exports to EU. Thx @malkyl. #OOTT



Google Translate of https://e24.no/olje-og-energi/i/1OQ2W/energiministeren-avviser-prikkutt-paa-gass

The Minister of Energy rejects price cuts on gas

Record high gas prices are hitting Europe hard, but Oil and Energy Minister Terje Aasland does not want to sell gas on cheap fixed-price contracts.

Oil and Energy Minister, Terje Aasland from the Labor Party. Ole Berg-Rusten / NTB

Kjetil Malkenes Hovland
Published:
Updated today 01:20

This is revealed in a written response from Aasland to parliamentary representative Sofie Marhaug from Rødt. The high prices result in large revenues for Norway, but have dramatic consequences for the countries that buy the gas, Marhaug points out in his question.
"Does the minister think that requiring petroleum companies to sign fixed-price contracts for gas deliveries below the current market price is a current solution that can show solidarity with Europe?" Marhaug asked.
She also points out that one of the Financial Times' editors, David Sheppard, has suggested that Norway should offer favorable, long-term fixed-price contracts.
Nordea Markets calculated this week that the Norwegian state can earn NOK 1,500 billion from oil and gas this year and NOK 1,900 billion next year. Last year, by comparison, the state earned a record-high NOK 830 billion.

- Free to do so

"We are in a demanding time", writes Oil and Energy Minister Terje Aasland (Ap) in his reply to Marhaug.
He links the high gas prices to the corona crisis, which gave a shock, followed by rapid economic growth afterwards. Russia's warfare in Ukraine comes on top of that. Russian gas deliveries to Europe have been low, and this is causing concern about the supply situation for the winter.
At the same time, the minister points out that the oil companies on the continental shelf operate on a commercial basis, but that the Norwegian system does not prevent the players from entering into fixed price contracts, as long as they are entered into on commercial terms.
"To the extent that gas customers in Europe and companies that produce gas on the Norwegian continental shelf wish to enter into long-term gas contracts on commercial terms, they are free to do so," writes Aasland.

"However, I am not proposing a policy where petroleum companies on the Norwegian continental shelf are required to sign fixed-price contracts for gas deliveries," he adds.

- Rejects this too easily

Marhaug maintains that Norway has a moral responsibility to help Europe in the demanding situation.

- I think the minister rejects this too easily. But I am fully aware that such "solidarity awards" must have come with very strict conditions. It must not be an occasion to speculate on resale, says Marhaug to E24.

- I believe that the minister should consider this proposal more seriously, she adds.
- What do you fear might happen if Norway does not give such a discount?
- Europe does not have such great means of power against Norway. We profit a lot from this situation, but as Europe is so at the mercy of Norwegian gas supplies, they don't have many alternatives, she says.
- But Norway has great power, and we could have used it in a more solidary way. But that requires political will and action, she says.
Marhaug points out that the market does not always work according to plan in a time of crisis.
- The minister points out that it is Europe itself that has chosen the spot price over the fixed price in recent years. Now the market is hitting back at a lot of people. They have speculated on low prices, and not planned for bad times, says Marhaug to E24.

- Gave increased security

In recent years, many gas customers have chosen to buy gas in the spot market, instead of on long-term fixed-price contracts, Aasland points out that for a long time it was common to have long-term contracts where the price was linked to the oil price.
"Such contracts gave increased security for the companies that invested in production and transport infrastructure that the facilities would be profitable," he writes.
Such long-term contracts have not been desired by the EU in the last 20 years or so, the minister points out. Instead, spot prices have been preferred, which fluctuate from day to day.
"In periods it has given the EU countries low gas prices in an international perspective and in certain periods also now it has given higher prices", writes Aasland.

Sky-high gas price

The spot price of gas has been at low levels in recent years, but has skyrocketed since last autumn. On Thursday, the price of Dutch TTF is over 300 euros per megawatt hour, up from 70 euros at New Year's and 40 euros a year ago.
According to the experts, the price rise is due to the fact that Russia has held back on its volumes, while stocks in Europe were depleted.

"The most important thing that Norway can contribute to in the current situation, and which I also want to contribute to, is to maintain a high production of gas from Norway also in the future", writes Aasland.

Earlier this year, Equinor received permission to increase its production from several gas fields, and in addition, the LNG plant in Hammerfest is now up and running again after a fire in 2020. Aasland has said that Norway's gas exports could increase by 10 percent this year.
"The companies on the Norwegian continental shelf are currently producing at full capacity. I feel that our friends in Europe are grateful that we both produce as much gas as possible in the short term, and that we develop our resources so that Norway can remain a significant and reliable supplier of gas also after 2030," writes Aasland.
The Norwegian Petroleum Directorate presented a resource report on Thursday which showed that there is a lot of oil and gas left on the Norwegian continental shelf.
But if Norway is to ensure stable oil and gas deliveries to Europe and continue to create great value, the fall in production must be counteracted, according to the directorate.

2 6 20

Dan Tsubouchi @Energy_Tidbits · Aug 26

Think about it. Henry Hub is $9.58/mmbtu. That's big, but EU TTF #NatGas price is 10 times HH! Crazy JKM #LNG & TTF prices keep going up. Thurs settle, TTF >$560/boe at $95.27/mmbtu for Oct. JKM >$425/boe at $72.95/mmbtu. Need a warm winter. Thx @SStapczynski #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Aug 25
>
> 
> Push to cut #NatGas consumption/max switching to #PetroleumProducts to accelerate with crazy high #NatGas #LNG prices . Wed settle, TTF still >$500/boe at $86.46/mmbtu for Oct, JKM $68.14/mmbtu for Nov. Asia/EU need a warm winter. ...

1 2 5

Dan Tsubouchi @Energy_Tidbits · Aug 26

Buckle up! UK energy price cap increase +80% or +$1,870 to $4,200 per year for average household from Oct 1. And it gets even worse come Jan 1. Note @ofgem warms "the market for #NatGas in Winter means that prices could get significantly worse through 2023". #OOTT

ofgem

Excerpt https://www.ofgem.gov.uk/publications/ofgem-updates-price-cap-level-and-tightens-rules-suppliers

Ofgem updates price cap level and tightens up rules on suppliers

Today (26 August 2022) Ofgem has announced the energy price cap will increase to £3,549 per year for dual fuel for an average household from 1 October 2022.

This comes as Ofgem's CEO warns of the hardship energy prices will cause this winter and urges the incoming Prime Minister and new cabinet to provide an additional and urgent response to continued surging energy prices.

The new price cap level is based on a transparent methodology and calculations by Ofgem. The data is published on the Default tariff cap level: 1 October 2022 to 31 December 2022 publication.

The increase reflects the continued rise in global wholesale gas prices, which began to surge as the world unlocked from the Covid pandemic and have been driven still higher to record levels by Russia slowly switching off gas supplies to Europe.

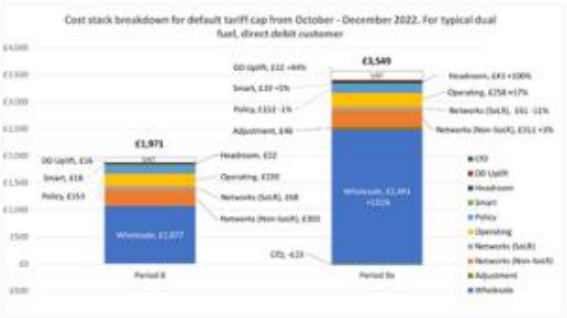
The price cap, as set out in law, puts a maximum per unit price on energy that reflects what it costs to buy energy on the wholesale market and supply it to our homes. It also sets a strict and modest profit rate that suppliers can make from domestic energy sales. However, unlike energy producers and extractors, most domestic suppliers are currently not making a profit.

The price cap protects against the so called 'loyalty premium' where customers who do not move suppliers or switch to better deals can end up paying far more than others. Ultimately, the price cap cannot be set below the true cost of buying and supplying energy to our homes and so the rising costs of energy are reflected in it.

Although Ofgem is not giving price cap projections for January because the market remains too volatile, the market for gas in Winter means that prices could get significantly worse through 2023.

4. **Breakdown of costs in the energy price cap**

Dual fuel customer paying by direct debit, typical energy use (GB £)



1

Dan Tsubouchi @Energy_Tidbits · Aug 25

Listing by #EV for its tax credit eligibility under #Biden Inflation Reduction Act. "Here's every electric vehicle that qualifies for the current and upcoming US federal tax credit". Thx @ElectrekCo @SCOOTERDOLL. #OOTT

Here is the link. electrek.co/2022/08/21/whi...

> **Dan Tsubouchi** @Energy_Tidbits · Aug 25
>
> Unfortunately, this just means higher up front purchase price as #Ford Mustang Mach-E was already eligible for $7,500 federal tax credit under the existing #EV tax credits so no added $$ benefit under new EVs tax credit system in #Biden Inflation Reduction Act. #OOTT twitter.com/MikeMartinez_A...

Dan Tsubouchi @Energy_Tidbits · Aug 25

Unfortunately, this just means higher up front purchase price as #Ford Mustang Mach-E was already eligible for $7,500 federal tax credit under the existing #EV tax credits so no added $$ benefit under new EVs tax credit system in #Biden Inflation Reduction Act. #OOTT

> **Michael Martinez** @MikeMartinez_AN · Aug 25
>
> Breaking: @Ford announces it's increasing Mustang Mach-E prices between $3,000 and $8,100, depending on trim, as order banks re-open. It's also increasing shipping costs by $200 on all models. Here's the breakdown:
>
> Show this thread

	Current MSRP	Updated MSRP	Adjust
t RWD Standard Range	$ 43,895	$ 46,895	$
t AWD Standard Range	$ 46,595	$ 49,595	$
nia Route 1 AWD Extended Range	$ 55,475	$ 63,575	$
um RWD Standard Range	$ 49,100	$ 54,975	$
um AWD Standard Range	$ 51,800	$ 57,675	$
WD Extended Range	$ 61,995	$ 69,895	$
nation and Delivery	$ 1,100	$ 1,300	$
ded Range Battery for Premium RWD	$ 6,000	$ 8,600	$
erformance Package	$ 6,000	$ 6,000	$
Exterior Package	$ -	$ 800	$

3 2

Dan Tsubouchi @Energy_Tidbits · Aug 25

More #NatGas #LNG will be needed in Europe. Delays in the restart of several of #EDF #Nuclear power reactors in FR to at least mid-Nov delaying in an adjustment of outage schedules, further delaying 5.2 GW of #Electricity capacity. Thx @forrest_crellin @EckertVera #OOTT

https://www.reuters.com/article/france-nuclear/restarts-at-several-french-nuclear-power-reactors-delayed-idUSL8N3012B2
INDUSTRY, MATERIALS AND UTILITIES
AUGUST 25, 20222:42 AMUPDATED 9 HOURS AGO

Restarts at several French nuclear power reactors delayed

By Reuters Staff
2 MIN READ

PARIS, Aug 25 (Reuters) - Several of EDF's nuclear power reactors in France have had their restart pushed back to at least mid-November in an adjustment of outage schedules, further delaying 5.2 gigawatts (GW) of supply at a time of historically low availability.

Issues with corrosion on the piping of several reactors, along with a delayed maintenance schedule, has reduced the French nuclear fleet to 30-year lows in 2022 as the rest of Europe scrambles to find new sources of natural gas supplies amid disputes with Russia over its invasion of Ukraine.

France is historically an exporter of power throughout Europe but has had to lean on its neighbours and import electricity recently, which is stressing the gas supplies in other countries that are trying to fill their storage ahead of the winter.

European power prices have surged to records because of the nuclear shortage as well as several other factors over the past several months.

The 1.3 GW Penly 1 reactor in northwestern France is expected offline on Oct. 2 and will now remain out until Jan. 23.

Corrosion was discovered last January on the piping of the safety injection circuit and the reactor cooling circuit at Penly 1.

The delay is nearly a month from the previously announced restart date of Dec. 25.

Delays were also announced at several 1.3 GW reactors at the Cattenom site in northeastern France.

The restart of the Cattenom 3 reactor, where indications of corrosion were detected during testing after going offline in March, was delayed two months to Dec. 11 from an initial return date of Oct. 8.

The restart of the Cattenom 1 reactor will be delayed two months to Nov. 1 from Sept. 14 initially, while the Cattenom 4 reactor was pushed back one month to Nov. 14 from Oct. 10.

Both reactors have been identified as potentially susceptible to the corrosion issue. (Reporting by Forrest Crellin and Vera Eckert; Editing by Christian Schmollinger)

Our Standards: The Thomson Reuters Trust Principles.

3 5 12

Dan Tsubouchi @Energy_Tidbits · Aug 25

When The Man, Saudi Energy Minister Abdulaziz, speaks, markets should listen. He doesn't say things unless he can deliver. #OPEC members publicly endorsing 👇 08/22 tweet. Libya & Congo follow ALGR, GNQ, IQ, KWT, VEN. Thx @business Grant Smith, @Khalidansary, @V_Ratcliffe. #OOTT

OPEC Deepens Support for Saudi Call to Consider Market Action
2022-08-25 10:12:34.193 GMT

By Grant Smith, Khalid Al-Ansary and Verity Ratcliffe
(Bloomberg) -- OPEC's united front on possible action grew stronger, as more nations endorsed Saudi Arabia's view that supply curbs may be needed to stabilize world oil markets.
Within 48 hours of comments from Saudi Arabian Energy Minister Prince Abdulaziz bin Salman that OPEC might have to curtail production, fellow members Iraq, Algeria, Kuwait, Equatorial Guinea and Venezuela released statements expressing their support. Further endorsements came on Thursday from Libya and Congo.
Oil markets are suffering a "disconnect" as international futures contracts -- which have tumbled in recent months -- fail to accurately reflect the fundamentals of supply and demand, Prince Abdulaziz said in an interview on Monday. The result has been "extreme" volatility in prices, he added.
The Organization of Petroleum Exporting Countries and its partners are prepared to reduce output in order to bring the two sides of the market back into equilibrium, the prince said.
Messages of support have appeared from Baghdad to Caracas.
Crude traders were surprised by the pivot from the Saudis, which have been under pressure from the US to help tame gasoline prices by opening the taps. President Joe Biden had been hopeful of action following a visit to the kingdom last month, but Riyadh and its OPEC+ partners responded with a token hike of just 100,000 barrels a day.
OPEC+ is also having to contend with the prospect of renewed exports from member nation Iran, which is edging closer to resurrecting an international nuclear accord that could remove US sanctions on its oil trade. At the same time, EU measures are set to squeeze supplies from OPEC+ member Russia in protest over its invasion of Ukraine.
Clarity should come on Sept. 5, when the 23-nation OPEC+ alliance is due to hold its next meeting.

--With assistance from Will Kennedy, Nayla Razzouk, Omar Tamo, Hatem Mohareb and Michael Gunn.

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Grant Smith, Andrew Reierson

Dan Tsubouchi @Energy_Tidbits · Aug 22

Don't say The Man, Saudi Energy Minister Abdulaziz, didn't warn everyone. See 👇 He may not talk about oil prices, but seems clear that $90 #Oil doesn't reflect the realities of the physical market. And BTW, Saudi can control the realities of the physical market. #OOTT

1 6 17

Dan Tsubouchi @Energy_Tidbits · Aug 25

Push to cut #NatGas consumption/max switching to #PetroleumProducts to accelerate with crazy high #NatGas #LNG prices . Wed settle, TTF still >$500/boe at $86.46/mmbtu for Oct, JKM $68.14/mmbtu for Nov. Asia/EU need a warm winter. Thx @SStapczynski. #OOTT

4 5

Dan Tsubouchi @Energy_Tidbits · Aug 24

#JCPOA. Reminder Iran crude is a good API/H2S substitute for Russian #Oil. See 👇 excerpt SAF Group March 13, 2022 Energy Tidbits memo. #OOTT safgroup.ca/news-insights/

> **Dan Tsubouchi** @Energy_Tidbits · Aug 15
>
> Hmmm! A return to #JCPOA deal would be just in time for EU RUS #Oil sanctions start in Dec. See 👇, Iran Light API/H2S is good substitute for RUS Urals. Excerpt SAF Group Mar 13, 2022 Energy Tidbits memo safgroup.ca/news-insights/ #OOTT

Excerpt SAF Group March 13, 2022 Energy Tidbits Memo

Oil – Iran's oil would be a good crude quality replacement for Urals crude to Europe

On Wednesday, we tweeted [LINK] on a good reminder from the Gulf Intelligence daily Podcast [LINK] that Iran's crude oil quality would be a good replacement for Russian Urals crude oil to Europe. We tweeted *"#JCPOA. Good reminder from @gulf_intel podcast. Matt Stanley @starfuels reminds Iran light matches API and H2S very well and is a good substitute RUS Urals. See below @SPGlobalPlatts crude specs map. #OOTT"*. Our tweet included the below Platts map that noted crude qualities for Russia were Urals (Primorsk) 31.5 API 1.44% H2S, Urals (Ust Luga) 31.5 API 1.44% H2S, and Urals Gdansk 31.5 API 1.44% H2S, which compares to Iranian Light 33.4 API 1.36% H2S.

Figure 29: Platts Specifications Guide Europe and Africa Crude Oil

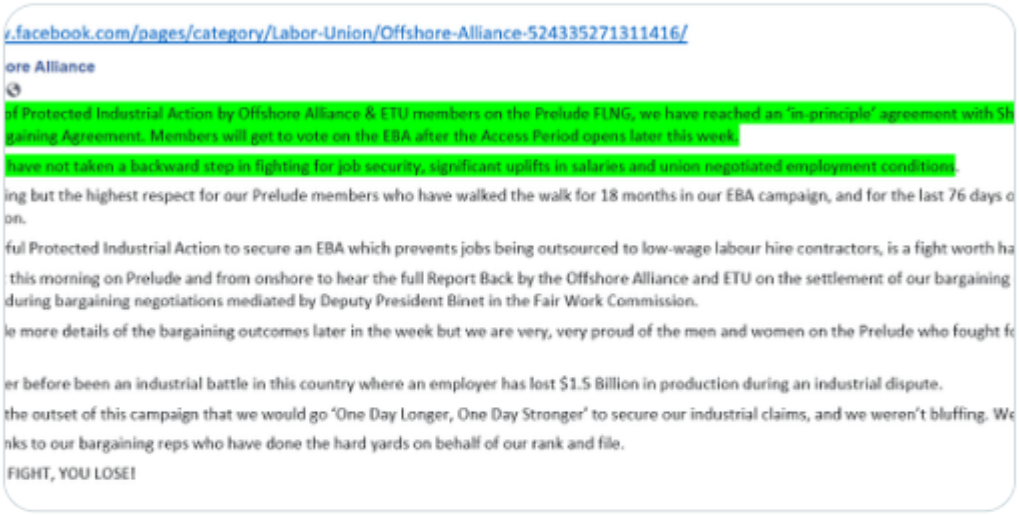
Source: Platts

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

2

Dan Tsubouchi @Energy_Tidbits · Aug 24

Union says reached a deal with #Shell #PreludeFLNG 0.47 bcf/d. No details yet or when #LNG loadings can resume. But have to believe LNG cargos resume sometime in Sept. #NatGas #OOTT

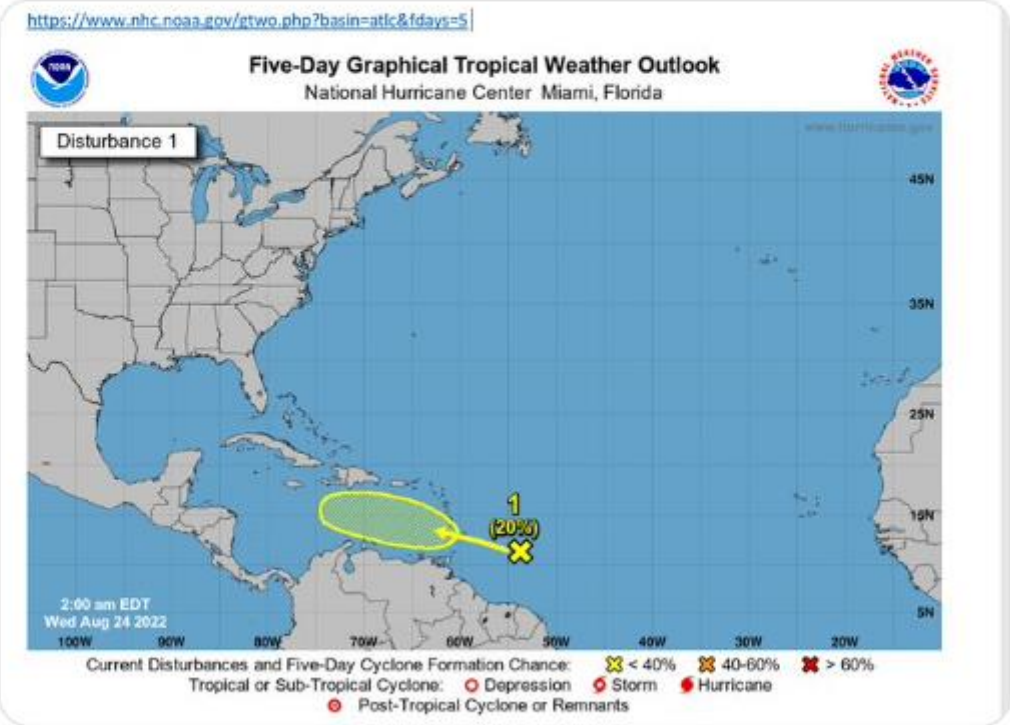


> **Dan Tsubouchi** @Energy_Tidbits · Aug 19
>
> 
>
> Did union give clear deal maker/breaker to #Shell to get its 0.47 bcf/d Prelude FLNG back loading #LNG cargos? "Our Prelude members have drawn a line in the sand on job security" ie. no outsourcing union jobs to contractors. Last loading was July 6. #NatGas ...

1 1

Dan Tsubouchi @Energy_Tidbits · Aug 24

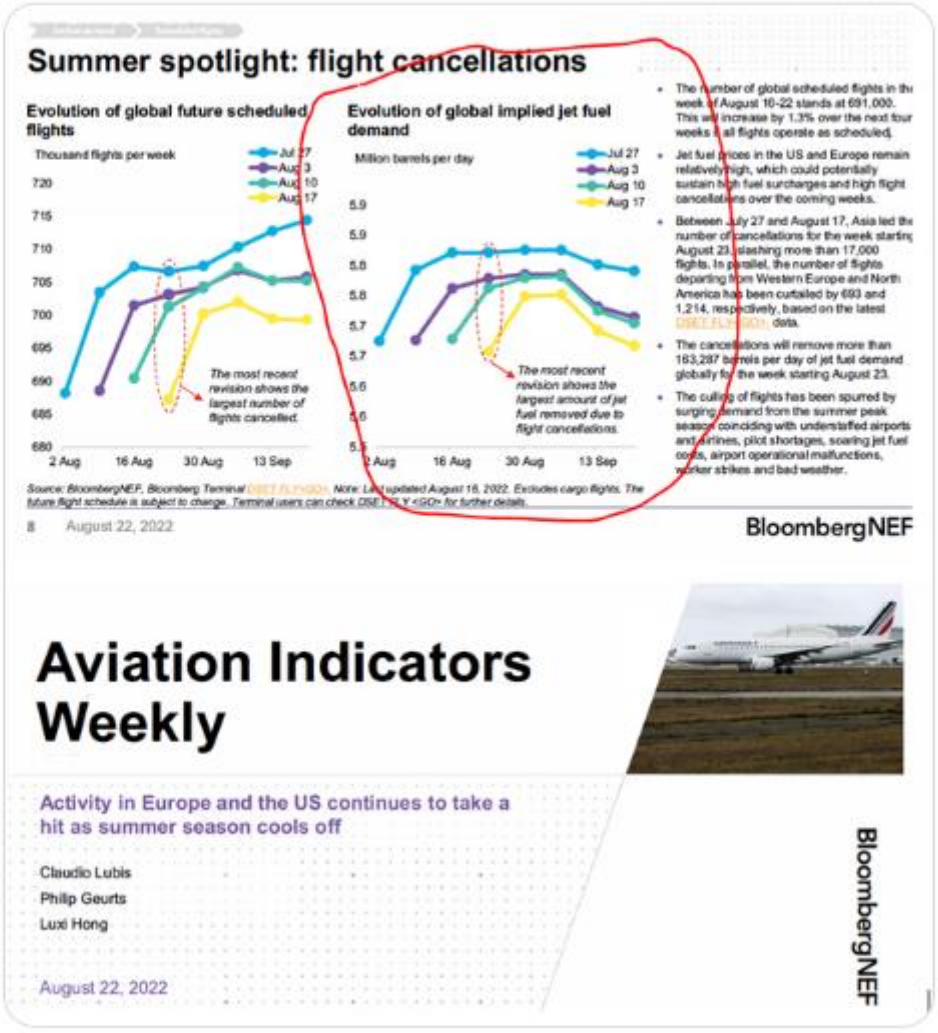
Will we see a tropical storm/hurricane hit GoM in Aug? too early to know if this will develop into tropical storm strength and, if so, will it hit Central America or turn a little north into GoM to impact #Crude #NatGas #LNG production & infrastructure. #OOTT



1 8

Dan Tsubouchi @Energy_Tidbits · Aug 23

Reminder that summer peak air travel is over. But estimated global implied #JetFuel demand only expected down 0.2 mmb/d over coming month. Thx @BloombergNEF team. #OOTT



8

Dan Tsubouchi @Energy_Tidbits · Aug 23

A later restart date for #FreeportLNG. Now, initial production can commence in early to mid-Nov, ramp up to >2 bcfd by end of Nov. Full Volumes expected Mar 2023. Was early Oct at ~2 bcfd. #NatGas #LNG #OOTT

http://freeportlng.newsrouter.com/news_release.asp?intRelease_ID=9749&intAcc_ID=77

Freeport LNG Provides Update on Restart Timeline for its Liquefaction Facility

Aug 23rd, 2022

FREEPORT LNG PROVIDES UPDATE ON RESTART TIMELINE FOR ITS LIQUEFACTION FACILITY

Houston, TX, August 23, 2022 – Freeport LNG Development, L.P. (Freeport LNG) has completed a detailed assessment of alternatives for resuming operations at its liquefaction facility following the June 8th incident and has identified a recovery plan for reinstatement of partial operations that it believes ensures the long-term safety and integrity of the facility, provides recovery execution certainty, and minimizes procurement and performance testing risks. Although typical construction risks could impact the recovery plan, it is anticipated that initial production can commence in early to mid-November, and ramp up to a sustained level of at least 2 BCF per day by the end of November, representing over 85% of the export capacity of the facility. The recovery plan will utilize Freeport LNG's second LNG loading dock as a lay berth until loading capabilities at the second dock are reinstated in March 2023, at which time we anticipate being capable of operating at 100% of our capacity.

Freeport LNG has engaged Kiewit Energy Group Inc. (Kiewit) to perform the engineering, procurement, and reconstruction activities necessary to implement Freeport LNG's recovery effort. Kiewit has significant LNG facility experience including both greenfield and brownfield developments and large and small/mid- scale LNG projects. They have been involved in LNG projects from start to finish including, front-end engineering design, detailed engineering, procurement, construction and commissioning.

Freeport LNG continues to coordinate closely with representatives of the Pipeline Hazardous Materials Safety Administration, the Federal Energy Regulatory Commission, the U.S. Coast Guard and other applicable regulatory agencies to implement its recovery plan and corrective measures to ensure a safe and confident resumption of operations.

ABOUT FREEPORT LNG

Freeport LNG is an LNG export company headquartered in Houston, Texas. The company's three train, 15 MTPA liquefaction facility is the seventh largest in the world and second largest in the U.S. Freeport LNG's liquefaction facility is the largest all-electric drive motor plant of its kind in the world, making it the most environmentally sustainable site of its kind. The facility's electric drive motors reduce carbon emissions by over 90% relative to gas turbine-driven liquefaction facilities. Freeport plans to expand by adding a fourth liquefaction train, which has received all regulatory approvals for construction. Freeport was formed in 2002 to develop, own and operate an LNG terminal on Quintana Island, near Freeport, Texas. The terminal started LNG import operations in June 2008 and began LNG export operations in 2019. Further information can be found on Freeport's website at www.freeportlng.com.

1 4 12

Dan Tsubouchi @Energy_Tidbits · Aug 23

Is market fulling pricing likelihood of #JCPOA? "We think they have finally crossed the Rubicon and moved toward possibly getting back into the deal on terms that President Biden can accept" says senior US official. Thx @steveholland1 @ArshadReuters #OOTT

reuters.com

Exclusive: Iran has dropped some demands for nuclear deal, U.S. offic...

Iran has dropped some of its main demands on resurrecting a deal to rein in Tehran's nuclear program, bringing the possibility of an ...

1

SAF GROUP

Dan Tsubouchi @Energy_Tidbits · Aug 23

Hmmm! Most ignore #Kommersant warns "repairs will most likely be delayed until spring" ie. see 👇 big hit to Kazakhstan #Oil exports likely for 8 mths. Reuters says CPC confirmed at least 1 mtn disruption "once repairs begin" but no ETA for repairs. #OOTT
reuters.com/business/energ...

> SAF **Dan Tsubouchi** @Energy_Tidbits · Aug 22
>
> Must read! #Kommersant equipment failure to lead to big cut in #Oil exports via CPC from planned 1.35 mmbd to 0.60 mmbd as "given the political situation, repairs will most likely be delayed until spring". some alternative route via Transneft 0.40 mmbd & BTC 0.10 mmbd. #OOTT

Коммерсантъ

Oil cracked

Kazakhstani export via CPC is again limited due to equipment breakdown

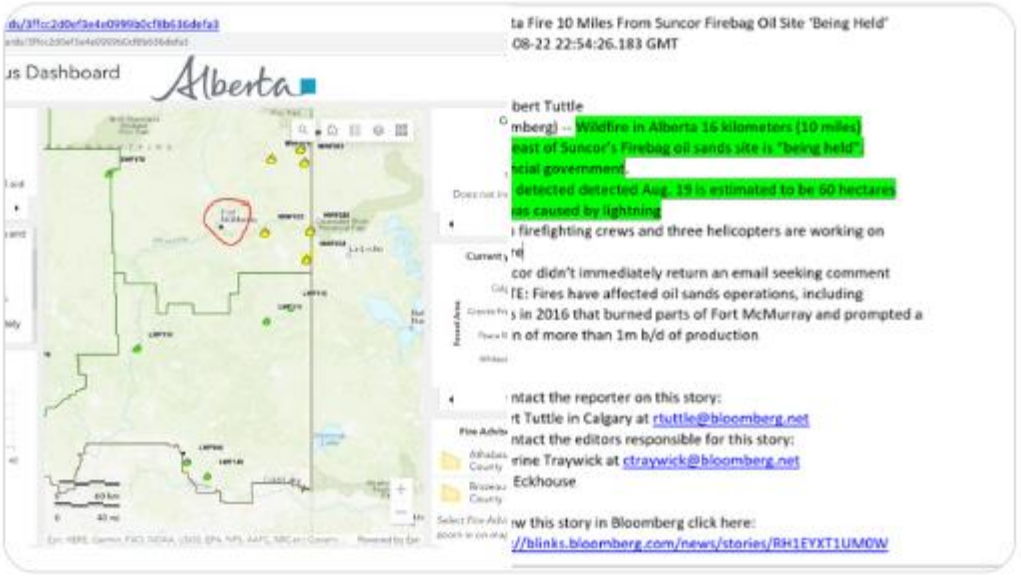
The main export route for Kazakh oil, the Caspian Pipeline Consortium (CPC) oil pipeline, is facing shipment restrictions for the fourth time this year due to technical problems at the terminal in Novorossiysk. This time, the work of two of the three remote mooring devices was stopped due to the detected damage. According to Kommersant, taking into account the necessary procedures for selecting a contractor and the imminent start of the storm season, restoration work may be delayed until spring. In this case, deliveries of Kazakh oil to the world market via CPC may fall by 15 million tons.

Another breakdown at the CPC terminal in Novorossiysk can permanently reduce shipments of Kazakh oil to the world market Photo: CPC

4 15

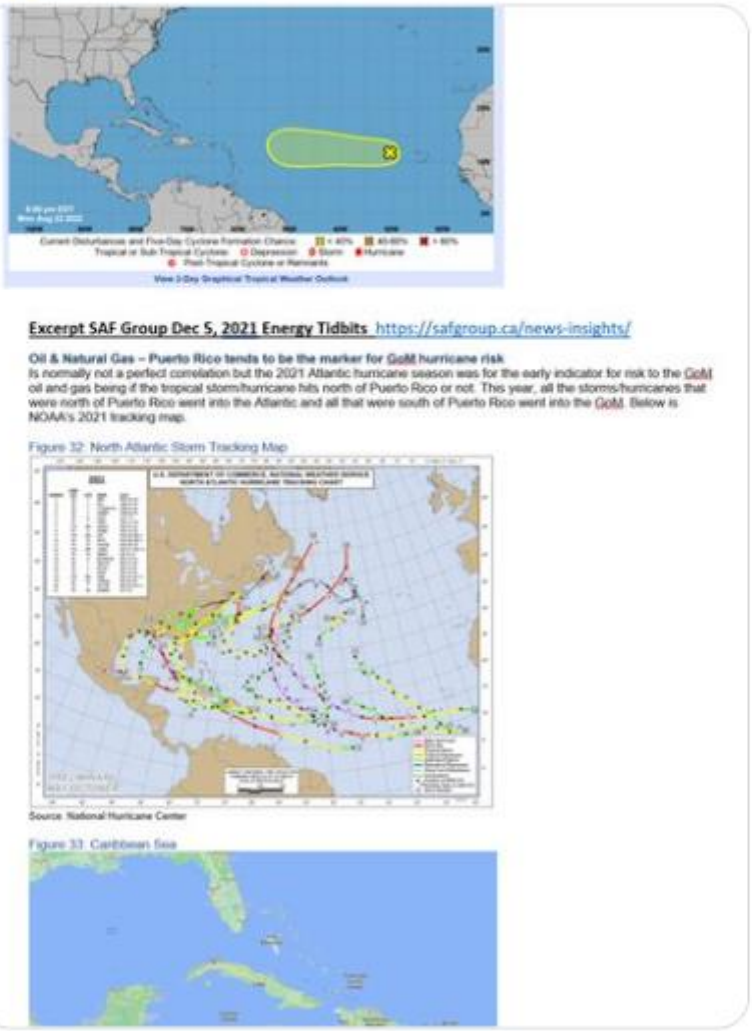
Dan Tsubouchi @Energy_Tidbits · Aug 23

Here Alberta Wildfire Status Dashboard link. @roberttuttle reports wildfire 10 miles NE of #Suncor's Firebag #OilSands is "being held", est to be 60 hectares & was caused by lightning. Hope wildfires won't be an issue to our friends in Fort McMurray. #OOTT
arcgis.com/apps/dashboard...



Dan Tsubouchi @Energy_Tidbits · Aug 22

Potential storm development off Africa. Forecasting Atlantic hurricane paths is impossible even for experts. But hurricane risk to GoM #Oil #NatGas #LNG #Refinery tends to increase if hurricanes are south of Puerto Rico. See 👇 excerpt SAF Group Dec 5, 2021 Energy Tidbits #OOTT



Excerpt SAF Group Dec 5, 2021 Energy Tidbits https://safgroup.ca/news-insights/

Oil & Natural Gas – Puerto Rico tends to be the marker for GoM hurricane risk

Is normally not a perfect correlation but the 2021 Atlantic hurricane season was for the early indicator for risk to the GoM oil and gas being if the tropical storm/hurricane hits north of Puerto Rico or not. This year, all the storms/hurricanes that were north of Puerto Rico went into the Atlantic and all that were south of Puerto Rico went into the GoM. Below is NOAA's 2021 tracking map.

Figure 32: North Atlantic Storm Tracking Map

Source: National Hurricane Center

Figure 33: Caribbean Sea

4 7

Dan Tsubouchi @Energy_Tidbits · Aug 22

Must read! #Kommersant equipment failure to lead to big cut in #Oil exports via CPC from planned 1.35 mmbd to 0.60 mmbd as "given the political situation, repairs will most likely be delayed until spring". some alternative route via Transneft 0.40 mmbd & BTC 0.10 mmbd. #OOTT

Коммерсантъ

Activities of the Caspian Pipeline Consortium (CPC)

Oil cracked

Kazakhstani export via CPC is again limited due to equipment breakdown

The main export route for Kazakh oil, the Caspian Pipeline Consortium (CPC) oil pipeline, is facing shipment restrictions for the fourth time this year due to technical problems at the terminal in Novorossiysk. This time, the work of two of the three remote mooring devices was stopped due to the detected damage. According to Kommersant, taking into account the necessary procedures for selecting a contractor and the imminent start of the storm season, restoration work may be delayed until spring. In this case, deliveries of Kazakh oil to the world market via CPC may fall by 15 million tons.

Another breakdown at the CPC terminal in Novorossiysk can permanently reduce shipments of Kazakh oil to the world market Photo: CPC

On August 22, the Russian operator CPC announced the decommissioning of two remote mooring units (TLU) at the terminal in Novorossiysk. During scheduled maintenance, divers found cracks in the attachment points of the underwater hoses to the buoyancy tanks (they maintain the underwater hose hoses through which oil is shipped in the desired position). Also on the VPU-2 tank, a displacement of the swivel joint was recorded at the site of the crack.

The CPC explained that they turned to the manufacturer of the TLU - Imodco (part of the Dutch SBM Offshore) and the ABS classification society for consultations and the organizations recommended suspending the operation of the equipment until the buoyancy tanks are replaced. The ABS classification society suggested that the damage could have been caused by exceptionally difficult weather conditions during the winter period of 2021/22, the CTC said. The company emphasizes that there is no threat to the environment.

CPC is the main export route for Kazakhstani oil, the pumping plan for this year is 67 million tons. The main part of the volumes is supplied by the operator of the giant Tengiz field, Tengizchevroil, where the American Chevron owns the largest share. The shareholders of CPC itself are Russia (31%), Kazakhstan (20.75%), Chevron (15%), LUKARCO BV (12.5%), Mobil Caspian Pipeline Company and Rosneft-Shell Caspian Ventures (7.5% each), BG Overseas Holding and Eni International (2% each), as well as Oryx Caspian Pipeline LLC (1.75%).

This is the fourth incident in Novorossiysk since the beginning of the year, which led to a decrease in shipments through the CPC. In March, a storm damaged shipping hoses, in May, WWII shells were cleared near an underwater oil pipeline, and in July, the Primorsky District Court of Novorossiysk demanded to stop the work of the consortium for 30 days due to environmental violations.

Now deliveries through one TLU will allow fulfilling the orders of shippers in reduced volumes, the CPC said, refusing to comment further. Also, the company does not comment on the timing of repairs. They explained that the replacement of tanks will be carried out from those available in reserve, and to perform this operation, a pre-qualification selection of organizations is needed.

A Kommersant source familiar with the situation says that, given the political situation, repairs will most likely be delayed until spring: even if the company manages to select a contractor and sign a contract with him by October, the storm season will begin, during which it will be impossible to carry out work.

As a result, according to Kommersant's interlocutor, deliveries through the CPC may decrease by at least 50%, to 28-30 million tons on an annualized basis. Such calculations are confirmed by Igor Yushkov, an expert at the Financial University under the Government of the Russian Federation. He notes that in normal mode, as a rule, two TLUs operate, and the third one is connected when necessary. Therefore, taking into account the plans for pumping up to 67 million tons for 2022, the shutdown of two TLUs threatens to decrease to about 30 million tons on an annualized basis. Therefore, if the repair is delayed for six months, the shipment will amount to 15 million tons by March.

According to Igor Yushkov, foreign companies that deliver oil to CPC as part of a consortium, primarily Chevron, will suffer the greatest losses. Russian companies supplying oil to the CPC from the Caspian fields will have to look for alternative supply routes. CPC oil is now trading at a premium to Urals and, moreover, it is not subject to sanctions imposed by the EU.

Kazakhstan can minimize losses due to reduced CPC throughput by redirecting oil to the Russian system and exporting it through the Baltic ports.

Free capacities for redirecting Kazakh oil to the Transneft system amount to about 20 million tons per year. An alternative route involves the delivery of Kazakh oil by tankers through the Caspian Sea to Azerbaijan, and then its export via the Baku-Tbilisi-Ceyhan oil pipeline. However, free capacities in this direction do not exceed 5 million tons per year. At the same time, any alternative routes will be more expensive than pumping through the CPC. Igor Yushkov believes that if the repair can be completed during September, then there will be no point in looking for new export routes for Kazakhstan.

In the summer, Kazakh President Kassym-Jomart Tokayev instructed the government to explore alternative oil export routes that would bypass Russia. Nur-Sultan later said the measure was not directed against Moscow, and on August 12, Kazakh Energy Minister Bolat Akchulakov said that KazMunayGas had no plans to sign a contract with Azerbaijan to transport oil. Nevertheless, on August 16, the head of Kazmunaigas, Magzum Mirzagaliyev, arrived in Baku, where he met with the head of the Azerbaijani state company Socar, Rovshan Najaf, and discussed "interaction between companies in the development of trans-Caspian infrastructure."

Olga Mordyushenko

3 16 59

Dan Tsubouchi @Energy_Tidbits · Aug 22

#Oil markets should keep pricing in return to #JCPOA. Today, @StateDeptSpox reminds JCPOA would be PROFOUNDLY in our national security interest, See 👇 Aug 16 tweet, no greater challenge to US national security than Iran w/ nuke, big JCPOA issues have been largely settled. #OOTT

PBS is an American public broadcast service. Wikipedia

WATCH LIVE: State Department spokesman Ned Price holds news briefing

SAF Group created transcript of comments by US State Department spokesman Ned Price on Aug 22, 2022.
https://www.youtube.com/watch?v=MHDXVcs8PB8

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

At 12:15 min mark, Price "*I am going to let lawmakers speak for themselves. What is our obligation is to continue to ensure that our partners around the world, the American people and American lawmakers understand the dynamics at play. Understand the details of where we are. Understand the advancements that Iran has been in a position to make since May of 2018. We continue to believe on the basis of all of that. And I can tell you our intelligence community, this building, others throughout the interagency constantly look at these issues. It is still the assessment of the United States government that a mutual return to compliance with the JCPOA would be profoundly in our national security interest.*"

At 18:00 min mark. Price "*... when it comes to the FTO and the IRGC, what the President has been clear, he has been firm, he has been consistent that he will not lift the terrorism designation on the IRGC. Iran's demand that we do so has been removed from the latest version of the text that we have seen. And that's part of the reason why a deal is closer now than it was two weeks ago. But the outcome of these ongoing discussions still remains uncertain as gaps do remain. We, in the end, President Biden in the end, will only sign off on a deal that meets our core national security interests*".

At 22:00 min mark, Price "*... The JCPOA would not take any of those tools off the table. And, in fact, it would allow us to train our focus in some ways much more effectively on these threats were we to take off the table what would be the core, the central threat to all of us and that would be an Iranian nuclear weapon.*"

At 23:30 min mark, Price "*... we want to see this mutual return to compliance completed as quickly as we can, knowing the stakes of the status quo.*"

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

Dan Tsubouchi @Energy_Tidbits · Aug 16

Hmm! 3 separate @StateDeptSpox comments point to US return to #JCPOA. no greater challenge to US national security than Iran w/ nuke, deal will be dead if no longer in national security interest to pursue, big issues have been largely settled. See 👇 SAF Group ...

1 1

Dan Tsubouchi @Energy_Tidbits · Aug 22

Don't say The Man, Saudi Energy Minister Abdulaziz, didn't warn everyone. See 👇 He may not talk about oil prices, but seems clear that $90 #Oil doesn't reflect the realities of the physical market. And BTW, Saudi can control the realities of the physical market. #OOTT

https://www.spa.gov.sa/viewfullstory.php?lang=en&newsid=2378353#2378353

Minister of Energy: OPEC+ has the means to deal with market challenges including cutting production at any time and in different forms

Monday 1444/01/24 - 2022/08/22

Riyadh, August 22, 2022, SPA -- HRH Prince Abdulaziz bin Salman, Minister of Energy, says volatility and thin liquidity send erroneous signals to markets at times when clarity is most needed.

In an interview with Bloomberg, HRH Prince Abdulaziz pointed out that OPEC+ has the commitment, the flexibility, and the means within the existing mechanisms of the Declaration of Cooperation to deal with such challenges including cutting production at any time and in different forms as has been clearly and repeatedly demonstrated in 2020 and 2021.

How would you describe the current state of the market?

The paper oil market has fallen into a self-perpetuating vicious circle of very thin liquidity and extreme volatility undermining the market's essential function of efficient price discovery and have made the cost of hedging and managing risks for physical users prohibitive. This has a negative impact on the smooth and efficient operation of oil markets, energy commodities and other commodities creating new types of risks and insecurities. This vicious circle is amplified by the flow of unsubstantiated stories about demand destruction, recurring news about the return of large volumes of supply, and ambiguity and uncertainty about the potential impacts of price caps, embargoes, and sanctions.

How is the current volatility impacting the functioning of markets?

This is detrimental because without sufficient liquidity, markets can't reflect the realities of the physical fundamentals in a meaningful way and can give a false sense of security at times when spare capacity is severely limited and the risk of severe disruptions remains high. Nowadays one need not look far for evidence of this. The paper and physical markets have become increasingly more disconnected. In a way the market is in a state of schizophrenia, and this is creating a type of a yo-yo market and sending erroneous signals at times when greater visibility and clarity and well-functioning markets are needed more than ever to allow market participants to efficiently hedge and manage the huge risks and uncertainties they face.

How can OPEC+ deal with these challenges?

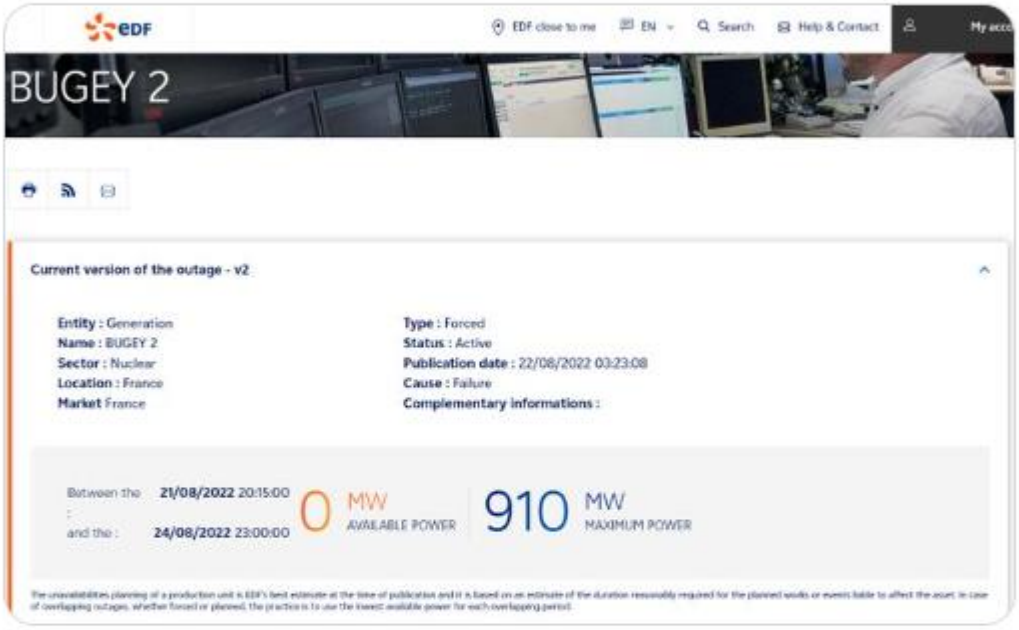
In OPEC+ we have experienced a much more challenging environment in the past and we have emerged stronger and more cohesive than ever. OPEC+ has the commitment, the flexibility, and the means within the existing mechanisms of the Declaration of Cooperation to deal with such challenges and provide guidance including cutting production at any time and in different forms as has been clearly and repeatedly demonstrated in 2020 and 2021. Soon we will start working on a new agreement beyond 2022 which will build on our previous experiences, achievements, and successes. We are determined to make the new agreement more effective than before. Witnessing this recent harmful volatility disturb the basic functions of the market and undermine the stability of oil markets will only strengthen our resolve.

--SPA 10:33 LOCAL TIME 15:33 GMT

11 76 301

Dan Tsubouchi @Energy_Tidbits · Aug 22

Terrible timing for another #EDF unplanned #Nuclear outage. EDF expects #Bugey-2 to be only down 3 days post a failure. As a result, @MathisWilliam reports France's nuclear reactors now operating at 43% of capacity vs 48% Friday. #NatGas #LNG #OOTT



> **Dan Tsubouchi** @Energy_Tidbits · Aug 22
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> EU #NatGas prices >$500/boe. #NatGas price response to #Gazprom's planned 3-day shut-down of #NordStream. Earlier, 👇 Dutch TTF #NatGas prices hit $85.60/mmbtu, have backed off a bit to ~$83.50/mmbtu. On oil equivalent basis, both are ov...

6 5

Dan Tsubouchi @Energy_Tidbits · Aug 22

EU #NatGas prices >$500/boe. #NatGas price response to #Gazprom's planned 3-day shut-down of #NordStream. Earlier, 👇 Dutch TTF #NatGas prices hit $85.60/mmbtu, have backed off a bit to ~$83.50/mmbtu. On oil equivalent basis, both are over $500/boe. #OOTT

https://tass.com/economy/1496617
22 AUG, 03:21

Gas price in Europe exceeds $3,000 per 1,000 cubic meters first since early March

It is reported that the increase in the gas price since the beginning of trading almost totals 20%

MOSCOW, August 22. /TASS/. The price of gas in Europe surged above $3,000 per 1,000 cubic meters during Monday trading for the first time since March 8, extending gains amid reports on suspension of supplies via Nord Stream for three days starting August 31 due to the repair of gas compressor unit, according to data provided by London's ICE.

The price of gas futures for September delivery at the TTF hub in the Netherlands went up to $3,024 per 1,000 cubic meters, or 292.4 euro per MWh (on the basis of the current euro exchange rate against the dollar, prices at ICE are in euro per MWh).

The increase in the gas price since the beginning of trading almost totals 20%.

Meanwhile, the price of gas futures for December delivery has approached $3,100.

Last week Gazprom said gas supplies via Nord Stream would be completely stopped from August 31 to September 2 due to the repair of the only gas compressor unit remaining in operation. Upon completion of works and the absence of technical malfunctions of the unit, gas supplies will be resumed at the volume of 33 mln cubic meters per day.

The Nord Stream gas pipeline, which supplies gas from Russia to Europe, has been used at about 20% of its maximum capacity since July 27 due to the shutdown of two gas turbines. One of them, built in Canada by Siemens Energy, was sent to Montreal for repairs. Due to Ottawa's sanctions against Russia, the manufacturer initially refused to return the repaired turbine to Germany, but after numerous requests from Berlin, the company decided to do it. On July 25, Gazprom announced the forced shutdown of another gas turbine engine at the Portovaya compressor station. Consequently, only one turbine remains in working condition now.

Dan Tsubouchi @Energy_Tidbits · Aug 19

Hmmm! #Gazprom says #NordStream to shut down on Aug 31 for 3 days and will resume #NatGas flows at 1.17 bcf/d "provided that no malfunctions are identified". wonder what the betting line is on more than 3 days! #OOTT

7 15

Dan Tsubouchi @Energy_Tidbits · Aug 21

ICYMI. @coreconn just about sank his approach on 18 and has a tap in birdie. be watching him next weekend in the tour championship.

> **Dan Tsubouchi** @Energy_Tidbits · Aug 21
>
> ICYMI, @Coreconn just about sank this for an eagle.
> twitter.com/PGATOUR/status...

1

Dan Tsubouchi @Energy_Tidbits · Aug 21

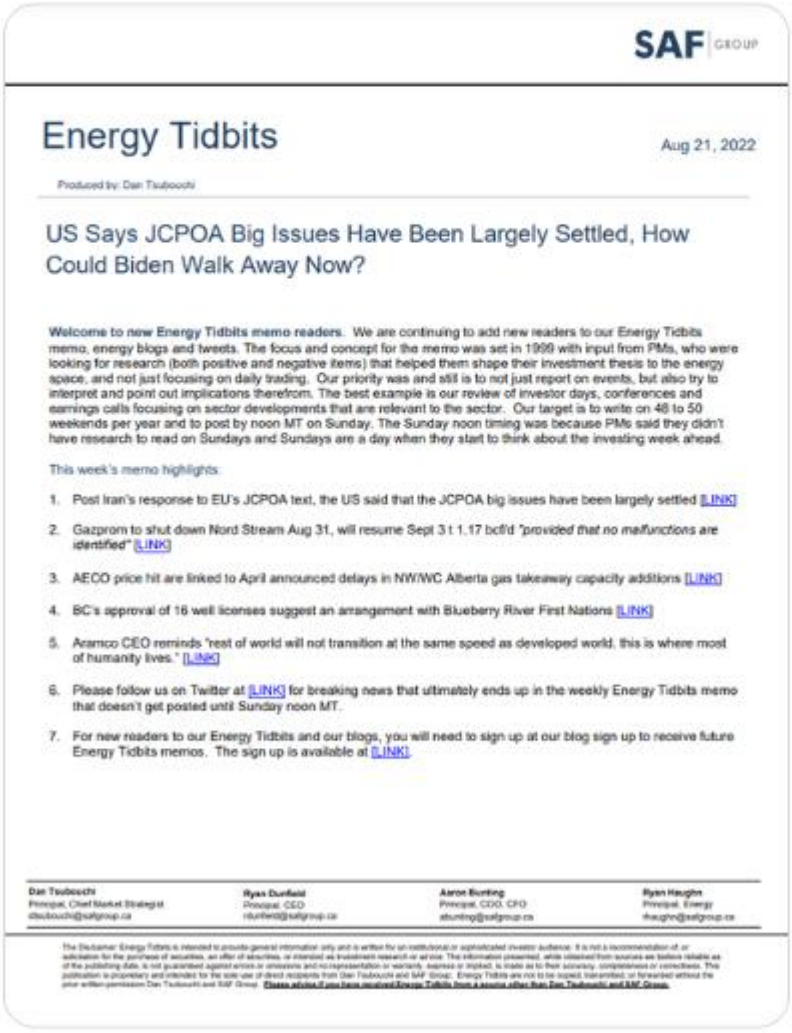
ICYMI, @Coreconn just about sank this for an eagle.

> **PGA TOUR** @PGATOUR · Aug 21
>
> On the bubble and hitting clutch shots 💪
>
> @CoreConn's birdie at No. 16 moves him from 30th to 26th in the projected #FedExCup standings.

1 1

Dan Tsubouchi @Energy_Tidbits · Aug 21

Our weekly SAF Aug 21, 2022 Energy Tidbits memo is posted on SAF Group website. this 56-pg energy research memo expands upon & covers more items than tweeted this week. See news/insights section of SAF website #Oil #OOTT #LNG #NatGas #EnergyTransition safgroup.ca/news-insights/



SAF GROUP

Energy Tidbits

Aug 21, 2022

Produced by: Dan Tsubouchi

US Says JCPOA Big Issues Have Been Largely Settled, How Could Biden Walk Away Now?

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. Our target is to write on 48 to 50 weekends per year and to post by noon MT on Sunday. The Sunday noon timing was because PMs said they didn't have research to read on Sundays and Sundays are a day when they start to think about the investing week ahead.

This week's memo highlights

1. Post Iran's response to EU's JCPOA text, the US said that the JCPOA big issues have been largely settled [LINK]
2. Gazprom to shut down Nord Stream Aug 31, will resume Sept 3 t 1.17 bcf/d *"provided that no malfunctions are identified"* [LINK]
3. AECO price hit are linked to April announced delays in NW/WC Alberta gas takeaway capacity additions [LINK]
4. BC's approval of 16 well licenses suggest an arrangement with Blueberry River First Nations [LINK]
5. Aramco CEO reminds "rest of world will not transition at the same speed as developed world, this is where most of humanity lives." [LINK]
6. Please follow us on Twitter at [LINK] for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.
7. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK].

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