SAF GROUP

Energy Tidbits

LNG Game Changer: Baker Hughes Suspended All Equipment & Services Contracts on Russian LNG Projects

Produced by: Dan Tsubouchi

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Dan Tsubouchi
Principal, Chief Market Strategist
dtsubouchi@safgroup.ca

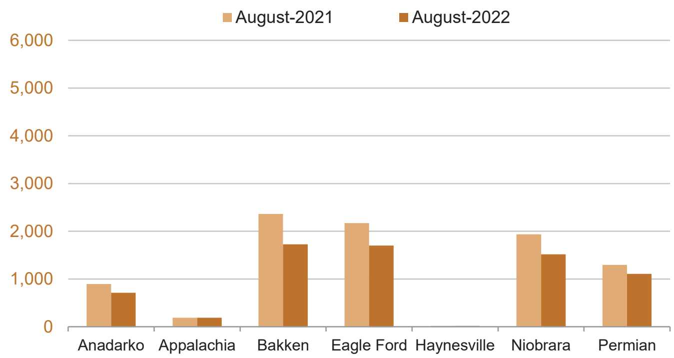
Ryan Dunfield
Principal, CEO
rdunfield@safgroup.ca

Aaron Bunting
Principal, COO, CFO
abunting@safgroup.ca

Ryan Haughn
Principal, Energy
rhaughn@safgroup.ca

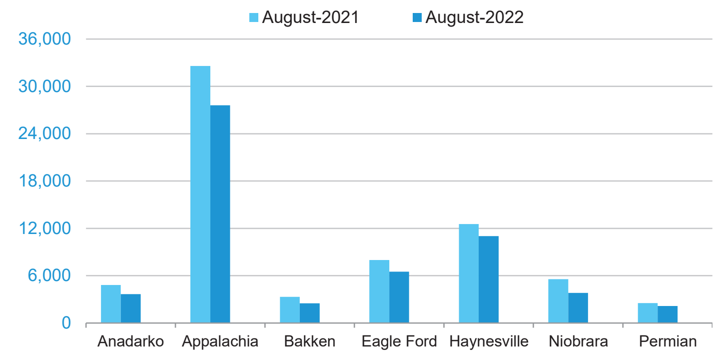
New-well oil production per rig

barrels/day



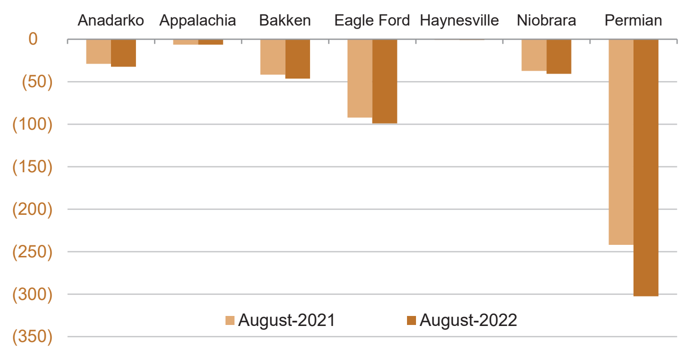
New-well gas production per rig

thousand cubic feet/day



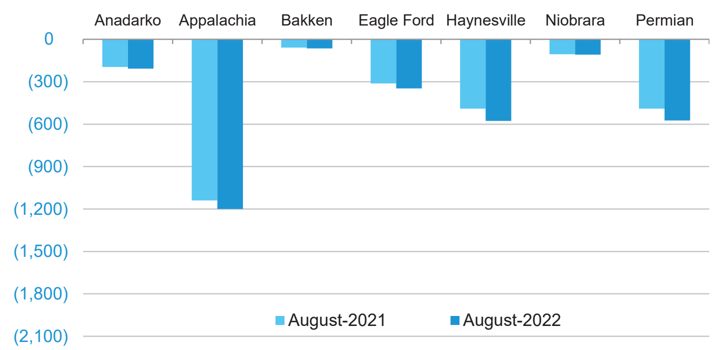
Legacy oil production change

thousand barrels/day



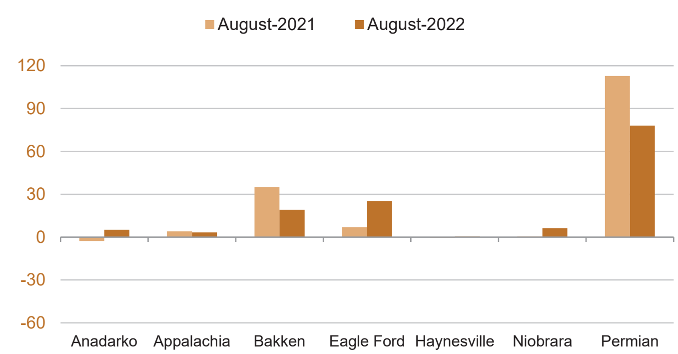
Legacy gas production change

million cubic feet/day



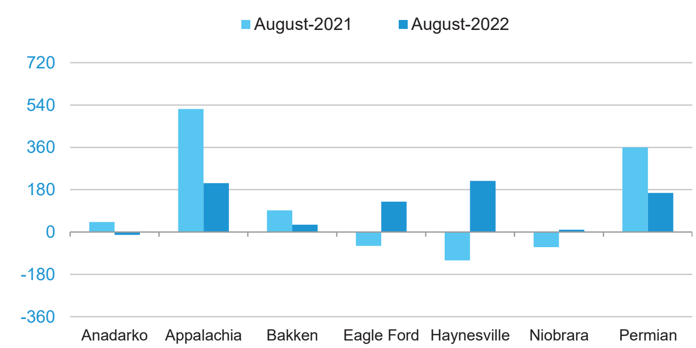
Indicated monthly change in oil production (Aug vs. Jul)

thousand barrels/day



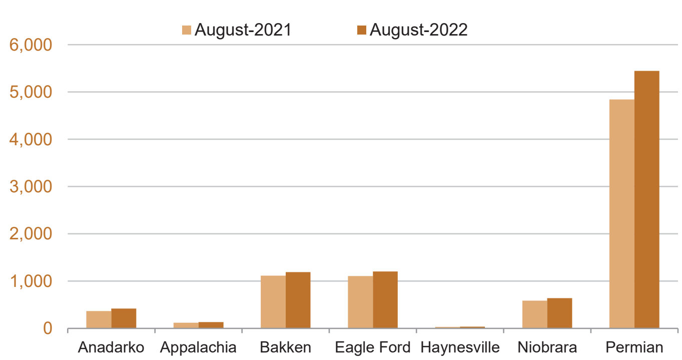
Indicated monthly change in gas production (Aug vs. Jul)

million cubic feet/day



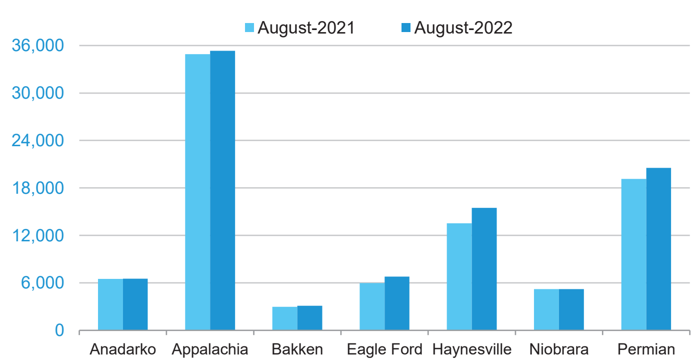
Oil production

thousand barrels/day



Natural gas production

million cubic feet/day



Anadarko Region

Drilling Productivity Report

July 2022

drilling data through June
projected production through August

Oil -1 barrels/day month over month

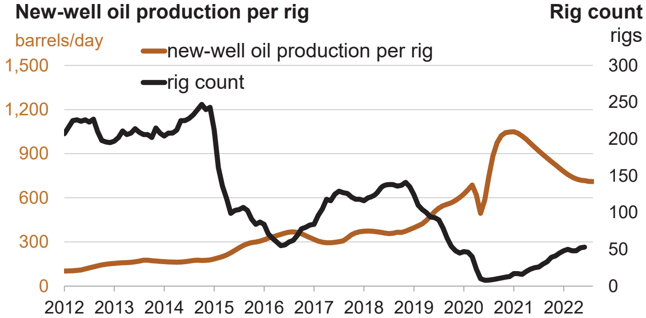
711 *August*
712 *July*
barrels/day

Monthly additions from one average rig

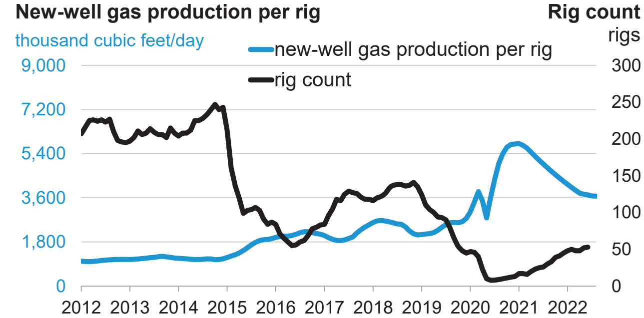
August **3,670**
July **3,678**
thousand cubic feet/day

Gas -8 thousand cubic feet/day month over month

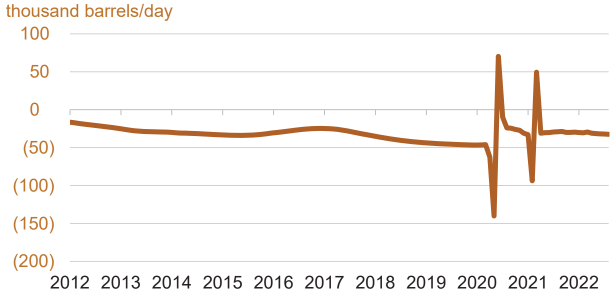
Anadarko Region
New-well oil production per rig **Rig count**



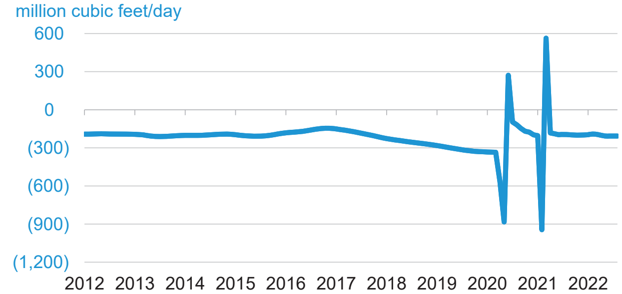
Anadarko Region
New-well gas production per rig **Rig count**



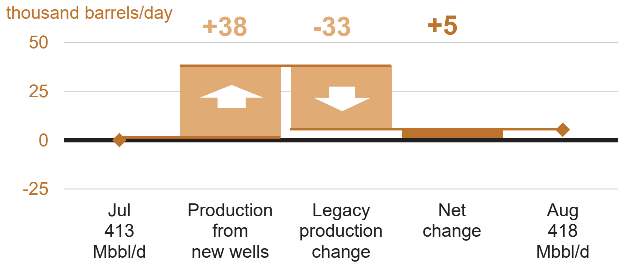
Anadarko Region
Legacy oil production change



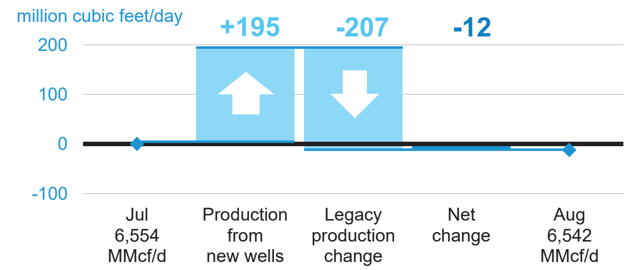
Anadarko Region
Legacy gas production change



Anadarko Region
Indicated change in oil production (Aug vs. Jul)

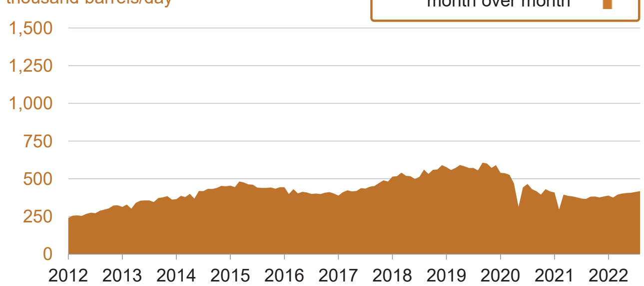


Anadarko Region
Indicated change in natural gas production (Aug vs. Jul)



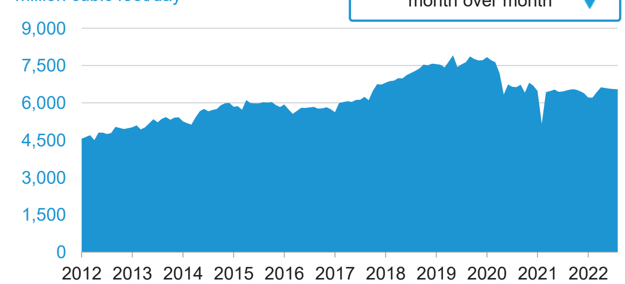
Anadarko Region
Oil production

Oil +5 thousand barrels/day month over month



Anadarko Region
Natural gas production

Gas -12 million cubic feet/day month over month



Appalachia Region

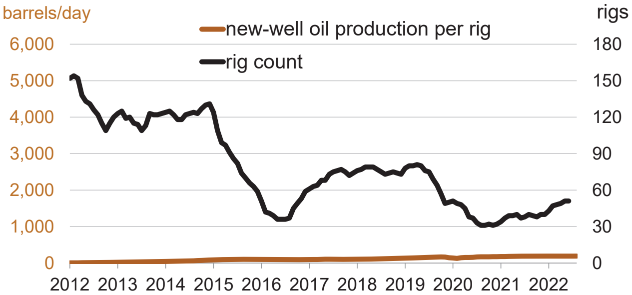
Drilling Productivity Report

July 2022

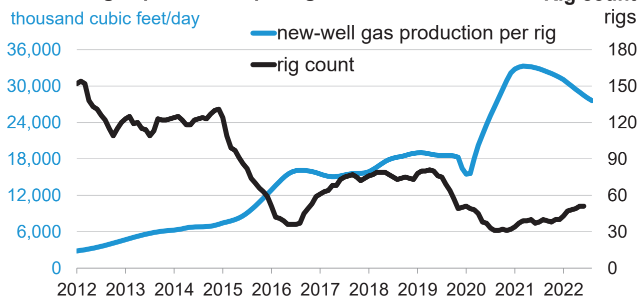
drilling data through June
projected production through August

Oil			Monthly additions from one average rig			Gas
0 barrels/day month over month	191 August	191 July (barrels/day)		27,601 August	27,993 July (thousand cubic feet/day)	-392 thousand cubic feet/day month over month

Appalachia Region
New-well oil production per rig

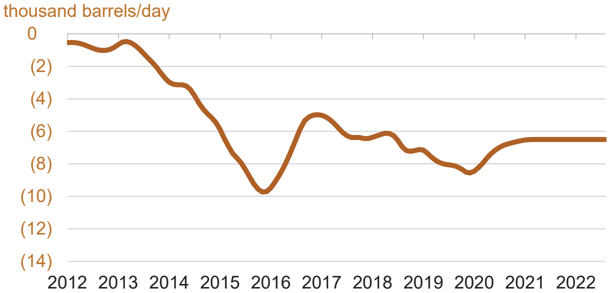


Appalachia Region
New-well gas production per rig



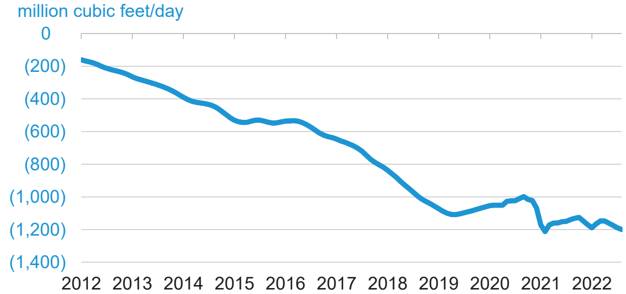
Appalachia Region
Legacy oil production change

thousand barrels/day



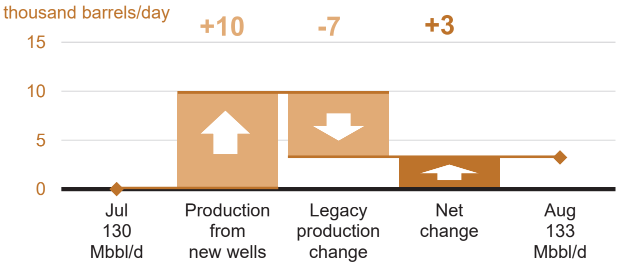
Appalachia Region
Legacy gas production change

million cubic feet/day



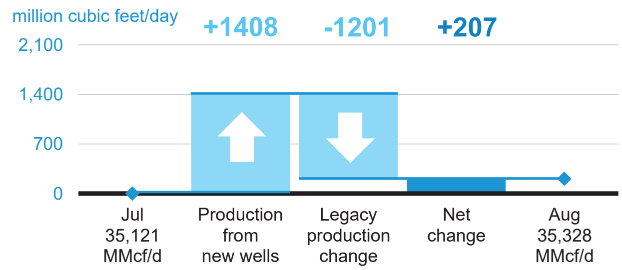
Appalachia Region
Indicated change in oil production (Aug vs. Jul)

thousand barrels/day



Appalachia Region
Indicated change in natural gas production (Aug vs. Jul)

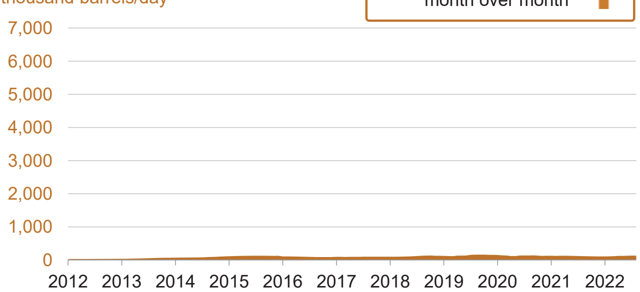
million cubic feet/day



Appalachia Region
Oil production

thousand barrels/day

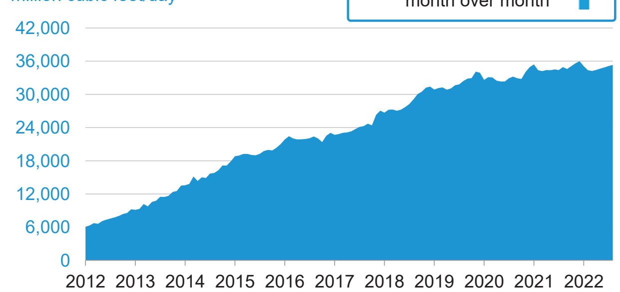
Oil +3
thousand barrels/day
month over month



Appalachia Region
Natural gas production

million cubic feet/day

Gas +207
million cubic feet/day
month over month



Bakken Region

Drilling Productivity Report

July 2022

drilling data through June
projected production through August

Oil +2
barrels/day
month over month

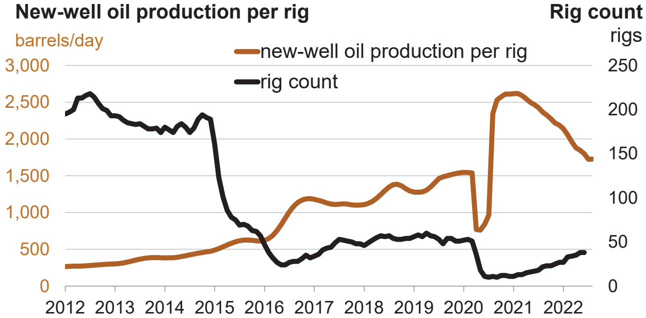
1,726 *August*
1,724 *July*
barrels/day

Monthly additions from one average rig

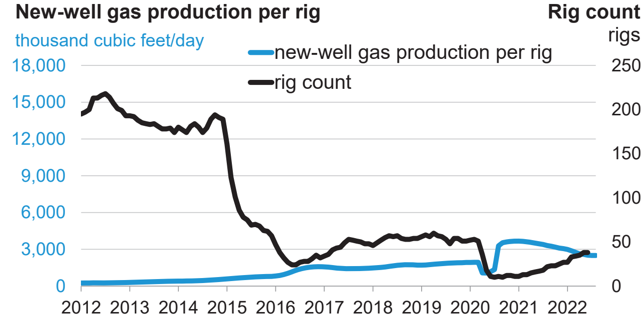
August **2,503**
July **2,499**
thousand cubic feet/day

Gas +4
thousand cubic feet/day
month over month

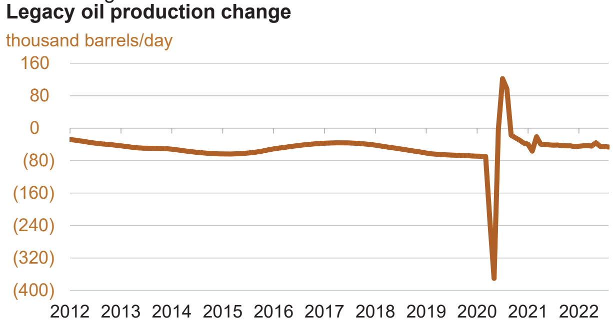
Bakken Region
New-well oil production per rig



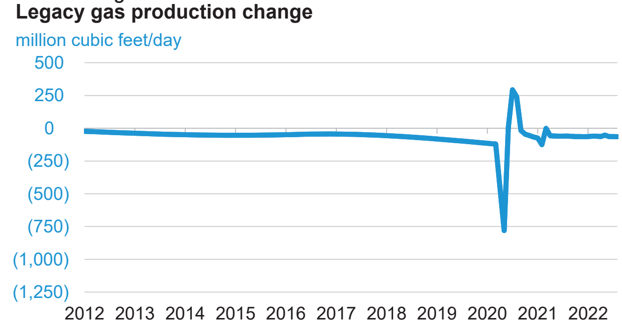
Bakken Region
New-well gas production per rig



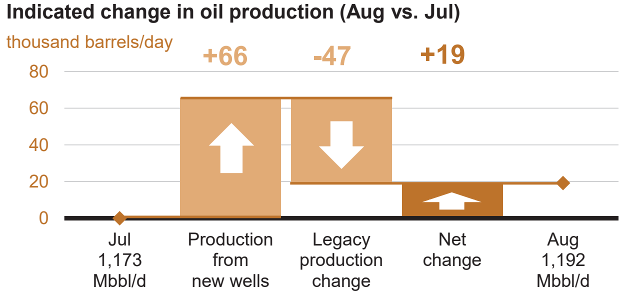
Bakken Region
Legacy oil production change



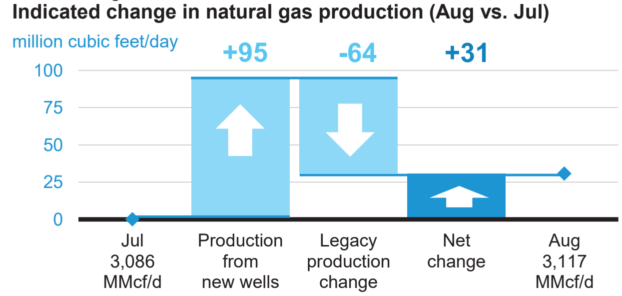
Bakken Region
Legacy gas production change



Bakken Region
Indicated change in oil production (Aug vs. Jul)

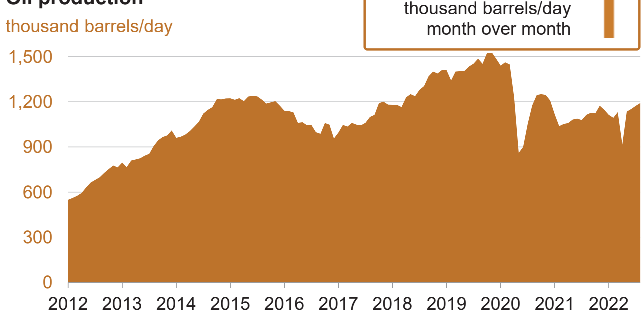


Bakken Region
Indicated change in natural gas production (Aug vs. Jul)



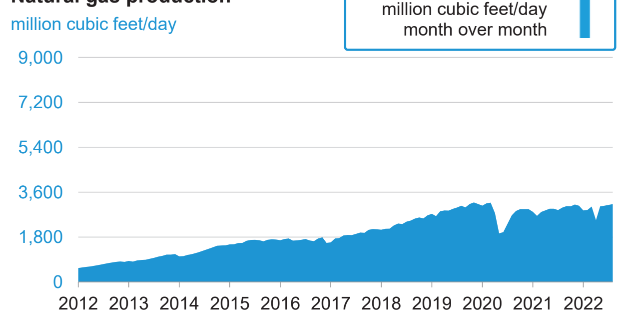
Bakken Region
Oil production

Oil +19
thousand barrels/day
month over month



Bakken Region
Natural gas production

Gas +31
million cubic feet/day
month over month



Eagle Ford Region

Drilling Productivity Report

July 2022

drilling data through June
projected production through August

Oil -80 barrels/day month over month

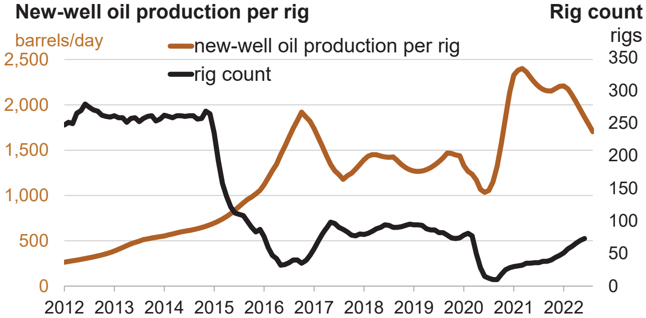
1,703 *August*
1,783 *July*
barrels/day

Monthly additions from one average rig

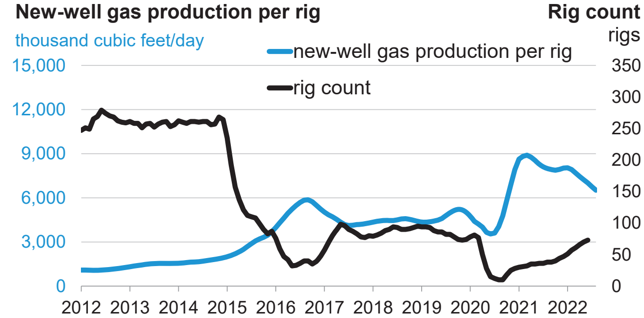
August **6,516**
July **6,752**
thousand cubic feet/day

Gas -236 thousand cubic feet/day month over month

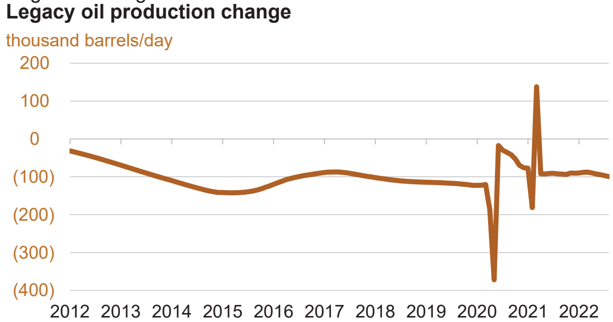
Eagle Ford Region
New-well oil production per rig **Rig count**



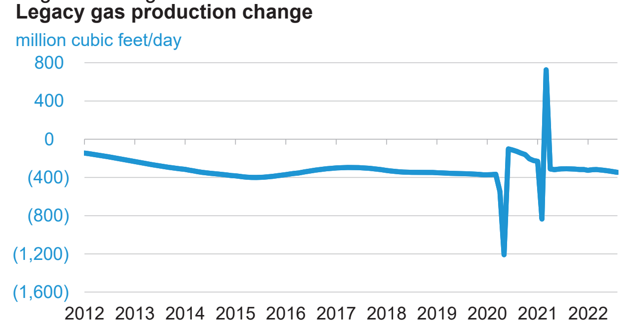
Eagle Ford Region
New-well gas production per rig **Rig count**



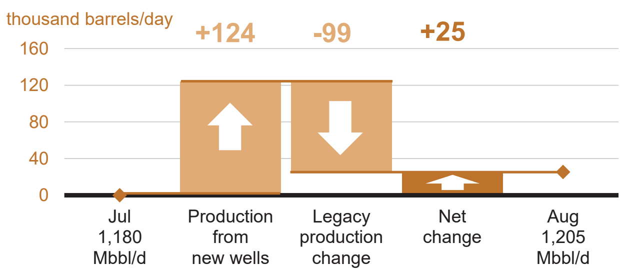
Eagle Ford Region
Legacy oil production change



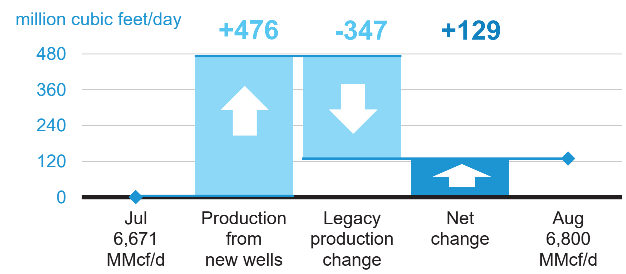
Eagle Ford Region
Legacy gas production change



Eagle Ford Region
Indicated change in oil production (Aug vs. Jul)

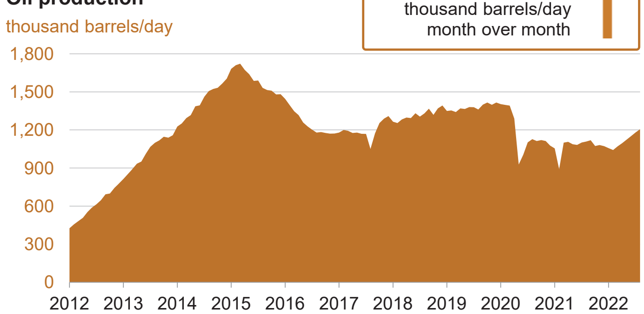


Eagle Ford Region
Indicated change in natural gas production (Aug vs. Jul)



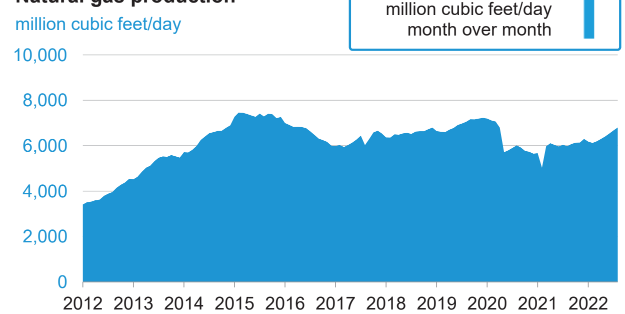
Eagle Ford Region
Oil production

Oil +25 thousand barrels/day month over month



Eagle Ford Region
Natural gas production

Gas +129 million cubic feet/day month over month



Haynesville Region

Drilling Productivity Report

July 2022

drilling data through June
projected production through August

Oil
0
barrels/day
month over month

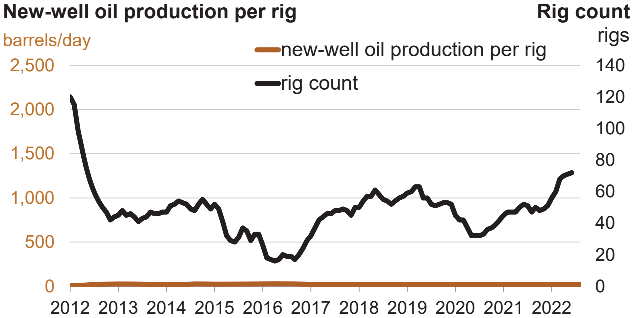
20 *August*
20 *July*
barrels/day

Monthly additions from one average rig

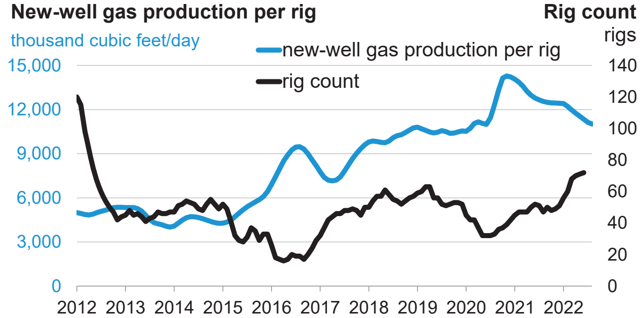
August **11,022**
July **11,134**
thousand cubic feet/day

Gas
-112
thousand cubic feet/day
month over month

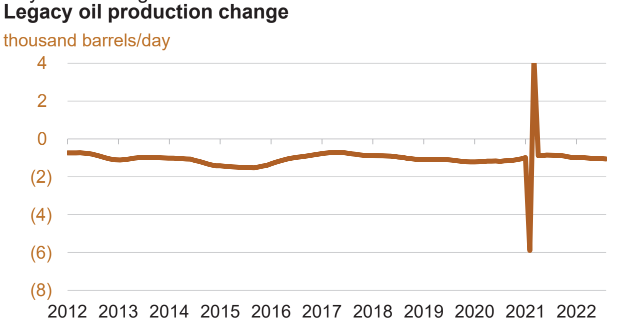
Haynesville Region
New-well oil production per rig **Rig count**



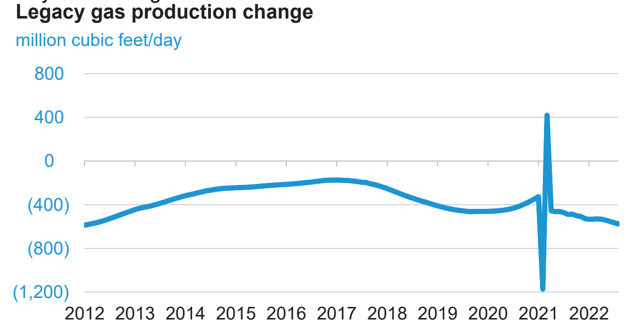
Haynesville Region
New-well gas production per rig **Rig count**



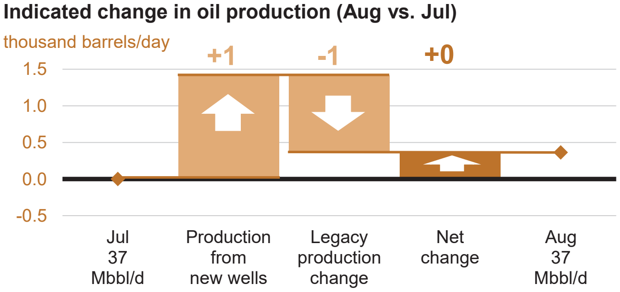
Haynesville Region
Legacy oil production change



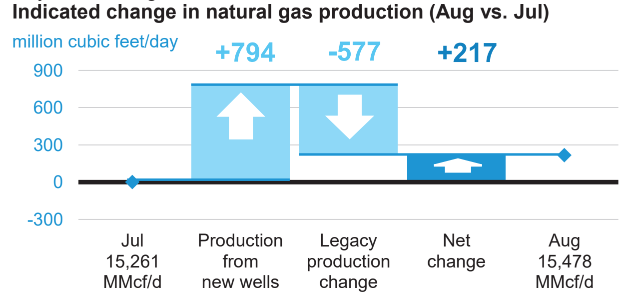
Haynesville Region
Legacy gas production change



Haynesville Region
Indicated change in oil production (Aug vs. Jul)

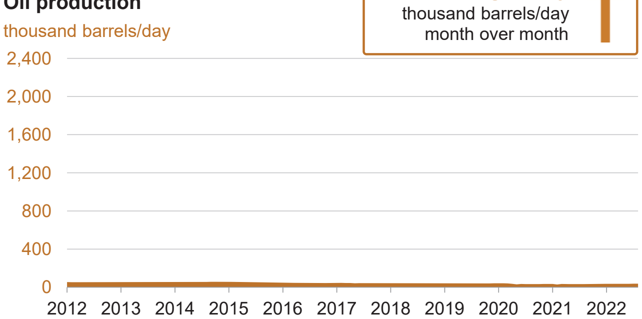


Haynesville Region
Indicated change in natural gas production (Aug vs. Jul)



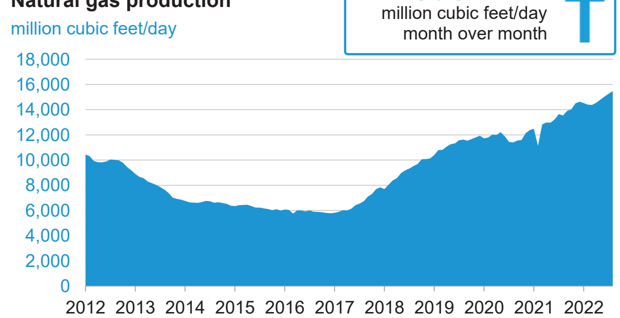
Haynesville Region
Oil production

Oil +0
thousand barrels/day
month over month



Haynesville Region
Natural gas production

Gas +217
million cubic feet/day
month over month



Niobrara Region

Drilling Productivity Report

July 2022

drilling data through June
projected production through August

Oil
-15
barrels/day
month over month

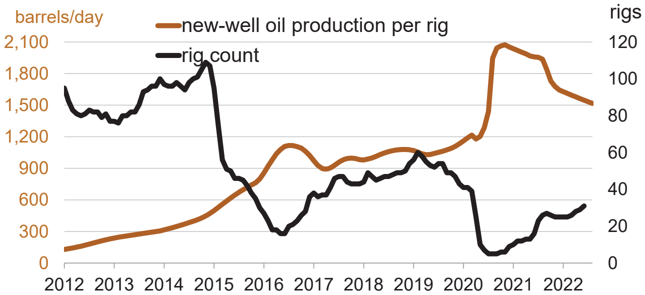
1,517 *August*
1,532 *July*
barrels/day

Monthly additions from one average rig

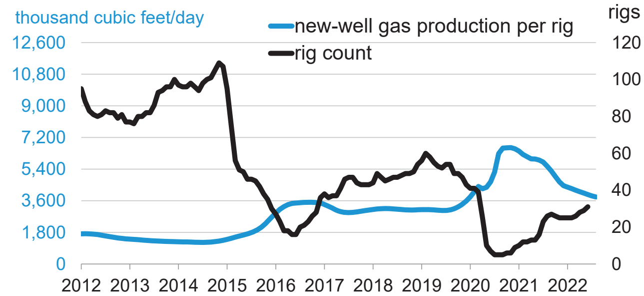
August **3,817**
July **3,875**
thousand cubic feet/day

Gas
-58
thousand cubic feet/day
month over month

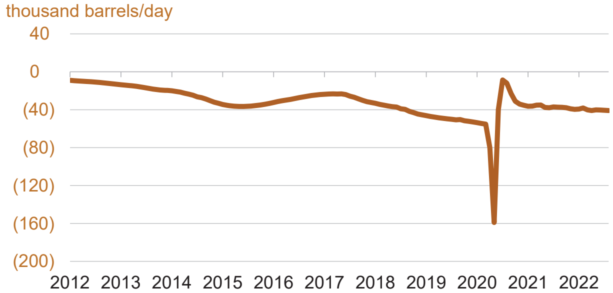
Niobrara Region
New-well oil production per rig



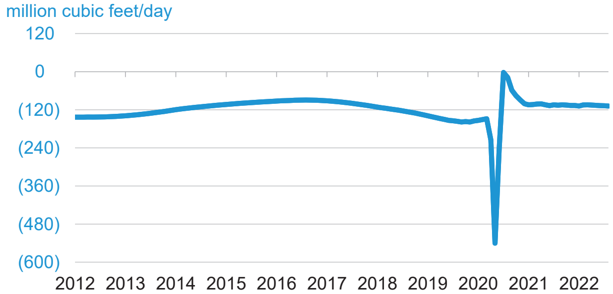
Niobrara Region
New-well gas production per rig



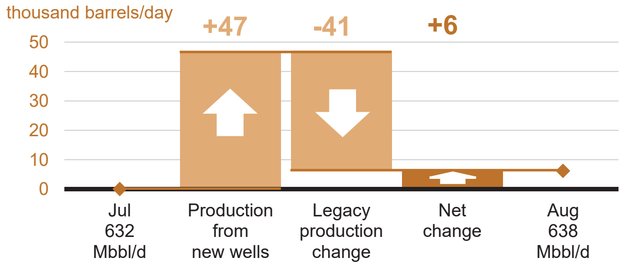
Niobrara Region
Legacy oil production change



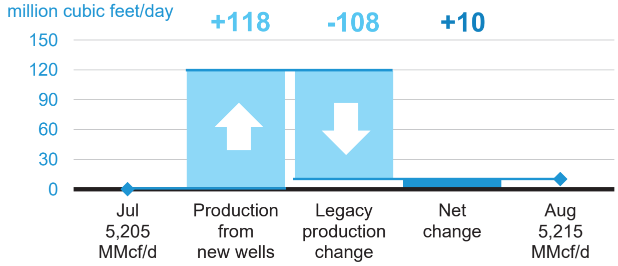
Niobrara Region
Legacy gas production change



Niobrara Region
Indicated change in oil production (Aug vs. Jul)

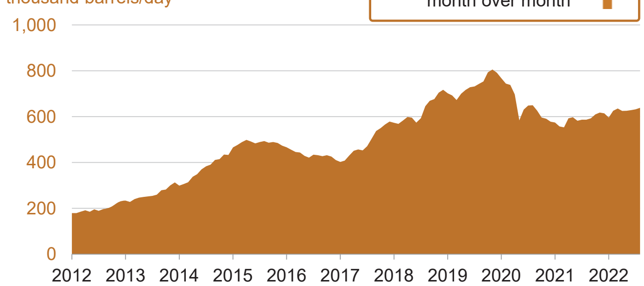


Niobrara Region
Indicated change in natural gas production (Aug vs. Jul)



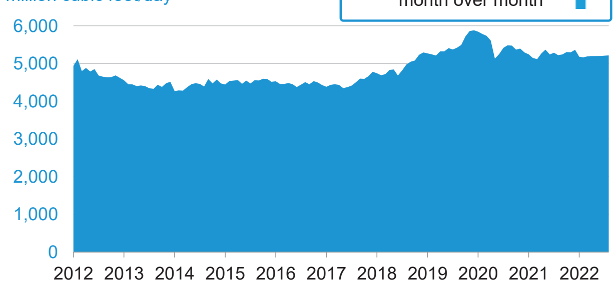
Niobrara Region
Oil production

Oil +6
thousand barrels/day
month over month



Niobrara Region
Natural gas production

Gas +10
million cubic feet/day
month over month



Permian Region

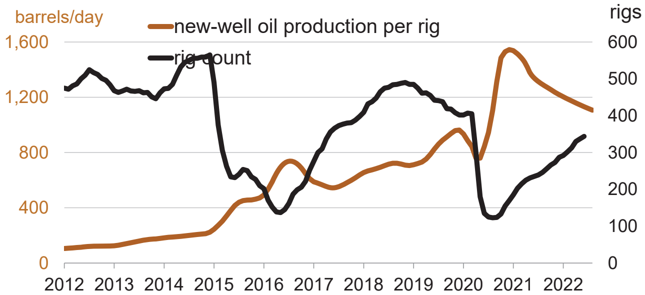
Drilling Productivity Report

July 2022

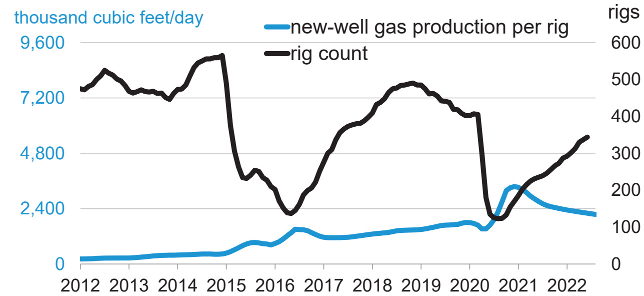
drilling data through June
projected production through August

Oil		Monthly additions from one average rig	Gas	
-12 barrels/day month over month	**1,107** August **1,119** July barrels/day		August **2,150** July **2,174** thousand cubic feet/day	**-24** thousand cubic feet/day month over month

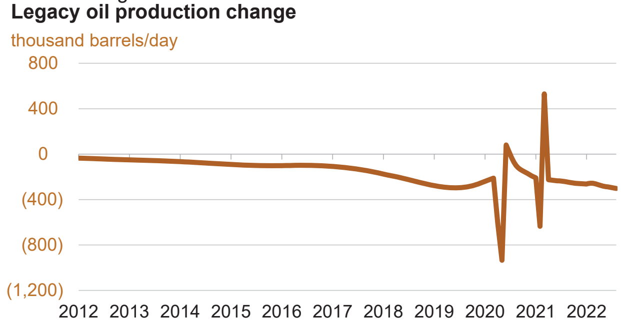
Permian Region
New-well oil production per rig



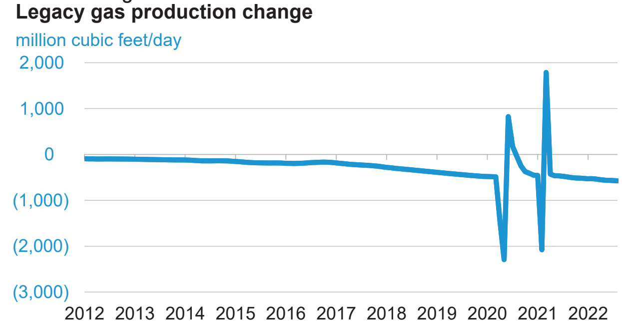
Permian Region
New-well gas production per rig



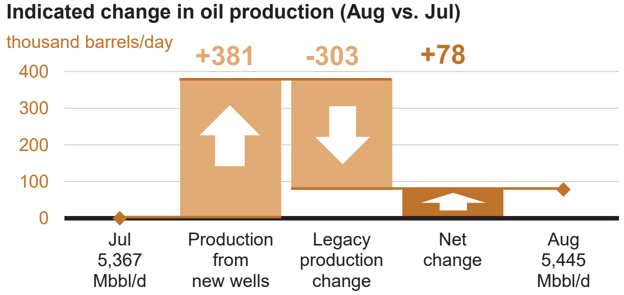
Permian Region
Legacy oil production change



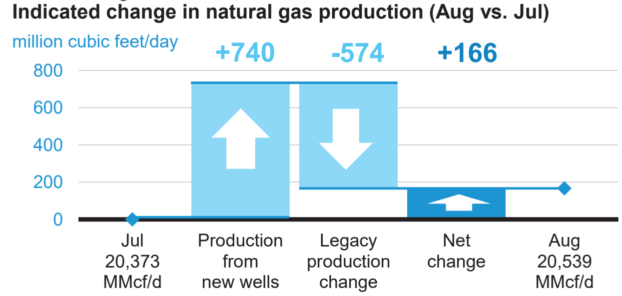
Permian Region
Legacy gas production change



Permian Region
Indicated change in oil production (Aug vs. Jul)

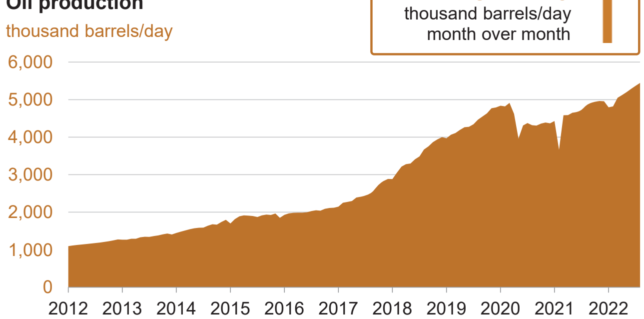


Permian Region
Indicated change in natural gas production (Aug vs. Jul)



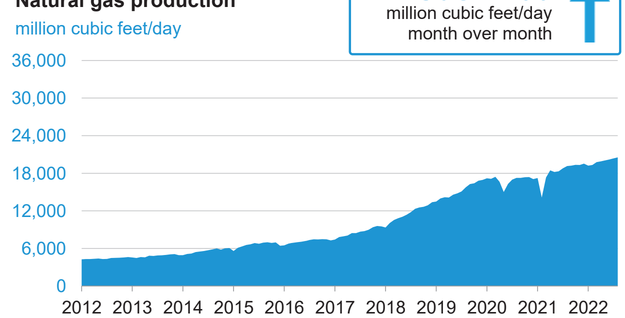
Permian Region
Oil production

Oil +78
thousand barrels/day
month over month



Permian Region
Natural gas production

Gas +166
million cubic feet/day
month over month



The Drilling Productivity Report uses recent data on the total number of drilling rigs in operation along with estimates of drilling productivity and estimated changes in production from existing oil and natural gas wells to provide estimated changes in oil[1] and natural gas[2] production for seven key regions. EIA's approach does not distinguish between oil-directed rigs and gas-directed rigs because once a well is completed it may produce both oil and gas; more than half of the wells do that.

Monthly additions from one average rig
Monthly additions from one average rig represent EIA's estimate of an average rig's[3] contribution to production of oil and natural gas from new wells.[4] The estimation of new-well production per rig uses several months of recent historical data on total production from new wells for each field divided by the region's monthly rig count, lagged by two months.[5] Current- and next-month values are listed on the top header. The month-over-month change is listed alongside, with +/- signs and color-coded arrows to highlight the growth or decline in oil (brown) or natural gas (blue).

New-well oil/gas production per rig
Charts present historical estimated monthly additions from one average rig coupled with the number of total drilling rigs as reported by Baker Hughes.

Legacy oil and natural gas production change
Charts present EIA's estimates of total oil and gas production changes from all the wells other than the new wells. The trend is dominated by the well depletion rates, but other circumstances can influence the direction of the change. For example, well freeze-offs or hurricanes can cause production to significantly decline in any given month, resulting in a production increase the next month when production simply returns to normal levels.

Projected change in monthly oil/gas production
Charts present the combined effects of new-well production and changes to legacy production. Total new-well production is offset by the anticipated change in legacy production to derive the net change in production. The estimated change in production does not reflect external circumstances that can affect the actual rates, such as infrastructure constraints, bad weather, or shut-ins based on environmental or economic issues.

Oil/gas production
Charts present all oil and natural gas production from both new and legacy wells since 2007. This production is based on all wells reported to the state oil and gas agencies. Where state data are not immediately available, EIA estimates the production based on estimated changes in new-well oil/gas production and the corresponding legacy change.

Footnotes:
1. Oil production represents both crude and condensate production from all formations in the region. Production is not limited to tight formations. The regions are defined by all selected counties, which include areas outside of tight oil formations.
2. Gas production represents gross (before processing) gas production from all formations in the region. Production is not limited to shale formations. The regions are defined by all selected counties, which include areas outside of shale formations.
3. The monthly average rig count used in this report is calculated from weekly data on total oil and gas rigs reported by Baker Hughes.
4. A new well is defined as one that began producing for the first time in the previous month. Each well belongs to the new-well category for only one month. Reworked and recompleted wells are excluded from the calculation.
5. Rig count data lag production data because EIA has observed that the best predictor of the number of new wells beginning production in a given month is the count of rigs in operation two months earlier.

The data used in the preparation of this report come from the following sources. EIA is solely responsible for the analysis, calculations, and conclusions.

Drilling Info (http://www.drillinginfo.com) Source of production, permit, and spud data for counties associated with this report. Source of real-time rig location to estimate new wells spudded and completed throughout the United States.

Baker Hughes (http://www.bakerhughes.com) Source of rig and well counts by county, state, and basin.

North Dakota Oil and Gas Division (https://www.dmr.nd.gov/oilgas) Source of well production, permit, and completion data in the counties associated with this report in North Dakota

Railroad Commission of Texas (http://www.rrc.state.tx.us) Source of well production, permit, and completion data in the counties associated with this report in Texas

Pennsylvania Department of Environmental Protection (https://www.paoilandgasreporting.state.pa.us/publicreports/Modules/Welcome/Welcome.aspx) Source of well production, permit, and completion data in the counties associated with this report in Pennsylvania

West Virginia Department of Environmental Protection (http://www.dep.wv.gov/oil-and-gas/Pages/default.aspx) Source of well production, permit, and completion data in the counties associated with this report in West Virginia

Colorado Oil and Gas Conservation Commission (http://cogcc.state.co.us) Source of well production, permit, and completion data in the counties associated with this report in Colorado

Wyoming Oil and Conservation Commission (http://wogcc.state.wy.us) Source of well production, permit, and completion data in the counties associated with this report in Wyoming

Louisiana Department of Natural Resources (http://dnr.louisiana.gov) Source of well production, permit, and completion data in the counties associated with this report in Louisiana

Ohio Department of Natural Resources (http://oilandgas.ohiodnr.gov) Source of well production, permit, and completion data in the counties associated with this report in Ohio

Oklahoma Corporation Commission (http://www.occeweb.com/og/oghome.htm) Source of well production, permit, and completion data in the counties associated with this report in Oklahoma https://lngir.cheniere.com/news-events/press-releases/detail/255/cheniere-and-petrochina-sign-long-term-lng-sale-and

Cheniere and PetroChina Sign Long-Term LNG Sale and Purchase Agreement

Download as PDF JULY 20, 2022 8:00AM EDT

HOUSTON--(BUSINESS WIRE)-- Cheniere Energy, Inc. (“Cheniere” or the “Company”) (NYSE American: LNG) announced today that its wholly-owned subsidiary, Cheniere Marketing, LLC (“Cheniere Marketing”), has entered into a long-term liquefied natural gas (“LNG”) sale and purchase agreement (“SPA”) with a subsidiary of PetroChina Company Limited (“PetroChina”).

Under the SPA, PetroChina subsidiary PetroChina International Company Limited (“PCI”) has agreed to purchase up to approximately 1.8 million tonnes per annum (“mtpa”) of LNG from Cheniere Marketing on a free-on-board basis. Deliveries under the SPA will begin in 2026, reach the full 1.8 mtpa in 2028, and continue through 2050. The purchase price for LNG under the SPA is indexed to the Henry Hub price, plus a fixed liquefaction fee. Half of the total volume, or approximately 0.9 mtpa, is subject to Cheniere making a positive final investment decision to construct additional liquefaction capacity at the Corpus Christi LNG Terminal beyond the seven-train Corpus Christi Stage 3 Project.

“We are pleased to build upon our existing and successful long-term relationship with PetroChina and sign our first LNG contract that crosses over into the second half of this century,” said Jack Fusco, Cheniere’s President and Chief Executive Officer. “PetroChina is a leading energy company in one of the largest and fastest growing markets for LNG. This SPA increases Cheniere’s long-term sales to PetroChina to approximately 3 mtpa, and we are proud to support China’s progress toward a lower-carbon future with our reliable, cleaner burning LNG.”

Commenting on the agreement, Mr. Tian Jinghui, Executive Chairman of PCI stated “Natural gas continues to play a vital role in enabling energy transition in China. We are pleased to further expand our cooperation with Cheniere in delivering LNG, one of the cleanest fuel choices to our millions of customers for many years to come.”

About Cheniere

Cheniere Energy, Inc. is the leading producer and exporter of liquefied natural gas (LNG) in the United States, reliably providing a clean, secure, and affordable solution to the growing global need for natural gas. Cheniere is a full-service LNG provider, with capabilities that include gas procurement and transportation, liquefaction, vessel chartering, and LNG delivery. Cheniere has one of the largest liquefaction platforms in the world, consisting of the Sabine Pass and Corpus Christi liquefaction facilities on the U.S. Gulf Coast, with total production capacity of approximately 45 mtpa of LNG in operation and an additional 10+ mtpa of expected production capacity under construction. Cheniere is also pursuing liquefaction expansion opportunities and other projects along the LNG value chain. Cheniere is headquartered in Houston, Texas, and has additional offices in London, Singapore, Beijing, Tokyo, and Washington, D.C.

For additional information, please refer to the Cheniere website at www.cheniere.com and Quarterly Report on Form 10-Q for the quarter ended March 31, 2022, filed with the Securities and Exchange Commission.

About PetroChina

PetroChina Company Limited is a joint stock limited company incorporated on November 5, 1999, upon the restructuring of China National Petroleum Corporation ("CNPC"). The American Depositary Shares ("ADS"), H shares and A shares of the Company were listed on the New York Stock Exchange, the Stock Exchange of Hong Kong Limited ("HKSE" or "Hong Kong Stock Exchange") and Shanghai Stock Exchange on April 6, 2000, April 7, 2000 and November 5, 2007, respectively. PetroChina is one of the major oil and gas producers and distributors in China, as well as a significant player in the global oil and gas industry. PetroChina is one of the largest natural gas sales enterprises in China and owns two LNG terminals in Jiangsu and Tangshan, with a loading and unloading capacity of 13 million tons. PetroChina is engaged in a wide range of activities related to oil, gas and new energy, and sustainably provide energy and oil products for economic and social development.

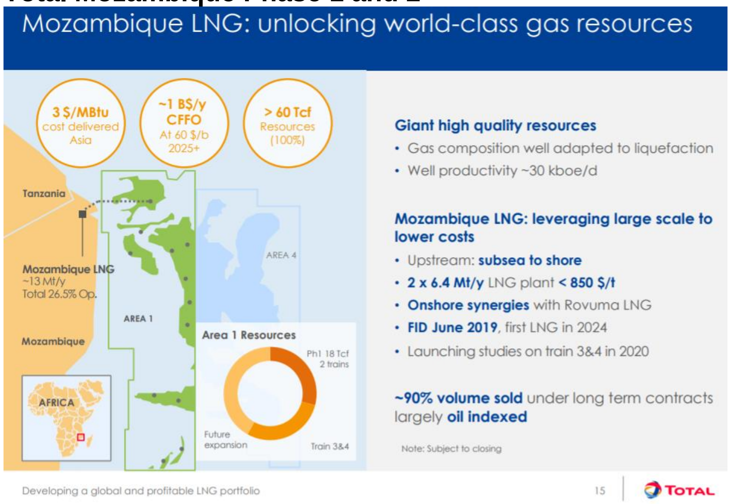
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

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



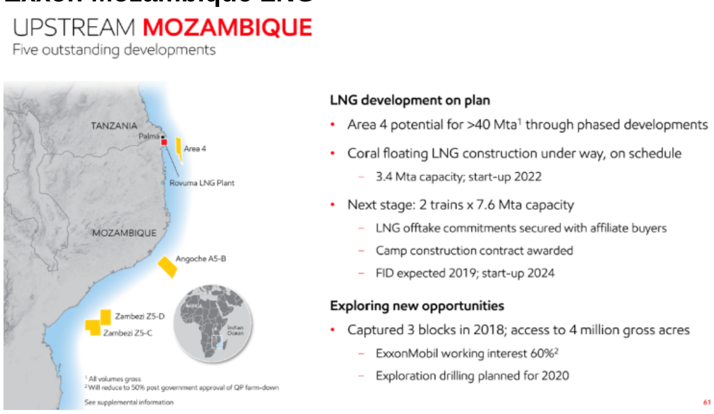
Source: Total Investor Day September 24, 2019

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

<u>Won't LNG and natural gas get hit by Biden's push for carbon free electricity?</u> 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

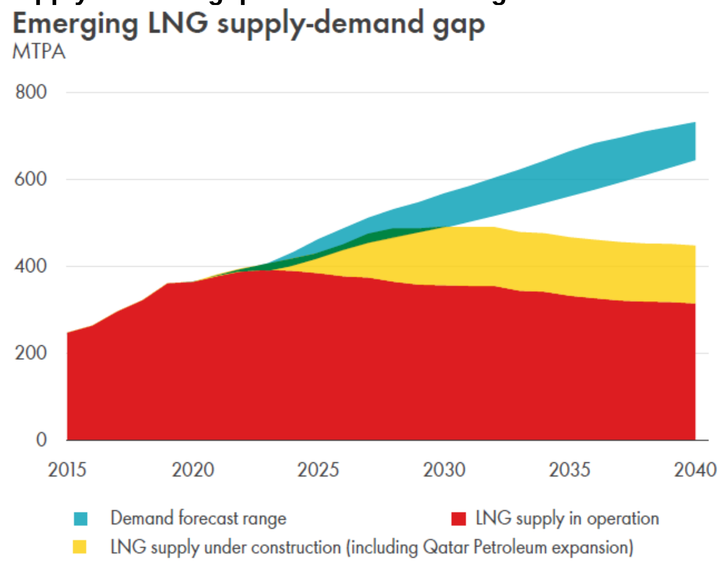
On Track | More Efforts Needed | Not on Track

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

<u>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..</u> 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.

<u>And does this bigger, nearer supply gap force LNG players to look at what brownfield LNG projects they could advance?</u> 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.

<u>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?</u> 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

<u>A LNG Canada Phase 2 would be a big plus to Cdn natural gas.</u> 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.

<u>Sea change in Asian LNG buyers is also the best validation of the LNG supply gap and big to LNG supply FIDs.</u> 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.

<u>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.</u> 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.*

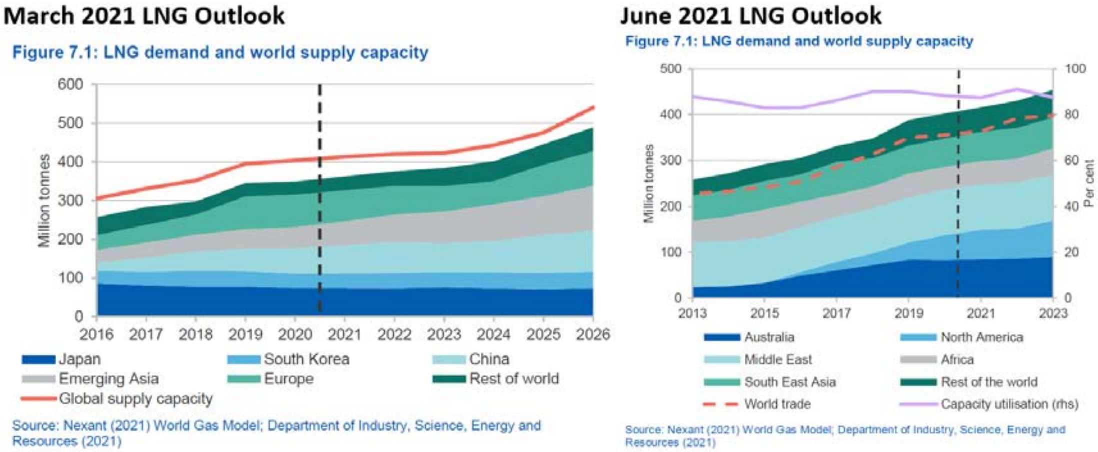
Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required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

<u>Cheniere stopped the game playing the game on June 30</u>. 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

<u>But we still see major LNG suppliers like Australia hinting but not outright saying that LNG supply gap is coming sooner.</u> 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

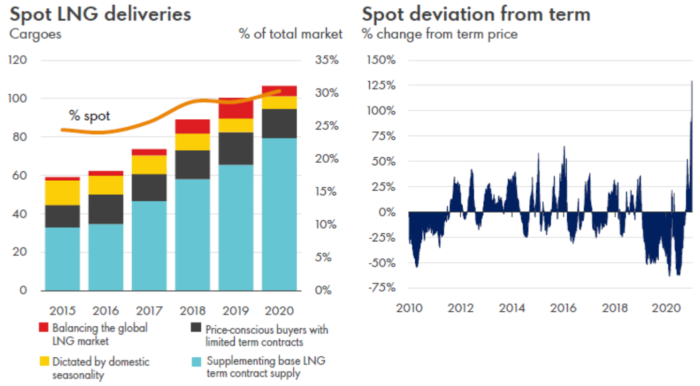


Source: Australia Resources and Energy Quarterly

<u>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.</u> 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.

<u>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</u>. 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://totalenergies.com/media/news/press-releases/total-signs-memorandum-understanding-state-papua-new-guinea-key-terms-gas-agreement-papua-lng

Total signs a Memorandum of Understanding with the State of Papua New Guinea on the key terms of the Gas Agreement of the Papua LNG Project and launches engineering studies

11/16/2018

News

Port Moresby – Total and its partners ExxonMobil and Oil Search have signed a Memorandum of Understanding (MoU) with the Independent State of Papua New Guinea defining the key terms of the Gas Agreement for the Papua LNG Project.

The MoU was signed during the Asia Pacific Economic Conference (APEC) in Port Moresby, in presence of Peter O'Neill, Prime Minister of Papua New Guinea, and Patrick Pouyanné, Chairman and CEO of Total. The proposed Gas Agreement is expected to be finalized by Q1 2019.

Total is the operator of the Elk and Antelope onshore fields and is the largest shareholder in PRL-15 with a 31.1% interest, alongside partners ExxonMobil (28.3%) and Oil Search (17.7%), post the State back-in right of 22.5%.

The Papua LNG Project will encompass two LNG trains of 2.7 MTPA each and will be developed in synergy with the existing PNG LNG project facilities. Total and its partners have agreed to launch the first phase of the engineering studies of this project.

"*The MoU signed by the State of PNG and the partners of the Papua LNG project is an important step in all the parties' commitment to the project*", said Patrick Pouyanné, Chairman and CEO of Total. "*Investing in LNG is a long term enterprise and our objective is to be able to make the project as competitive as possible. Total being the second-largest world private LNG player, we are fully committed to the success of the Papua LNG project, which benefits from a favorable geographical location close to Asian markets*."

About Total

Total is a broad energy company that produces and markets fuels, natural gas and electricity. Our 100,000 employees are committed to better energy that is more affordable, more reliable, cleaner and accessible to as many people as possible. Active in more than 130 countries, our ambition is to become the responsible energy major.

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

Offshore Alliance

11 hrs ·

Shell haven't performed an offtake from the Prelude FLNG since Wednesday 6th July and the way they are going, there is no likelihood of an offtake happening anytime soon.

If Shell follow through with their threat of a lockout of Prelude crew on Monday 25th July, it will provide the Offshore Alliance and ETU the opportunity to take Employee Response Action.

When we include the cost of Shell putting the handbrake on production prior to the 6th July, we estimate the cost of Shell's ideological war on their Prelude workforce at over $750 million in lost production.

The way it's tracking, we anticipate the loss of production reaching the $1 Billion mark by the end of the month.

All because Shell don't want to agree to the same job security clauses which thousands of other employers have agreed to in EBA negotiations around the country over the last decade.

Shell bosses at different stages have mirespresented the true state of affairs by claiming that it was "unlawful" to include job security provisions in Enterprise Agreements.

This garble has been called out for the unadulterated bullshit that it is and the people peddling this rubbish have lost all credibility with the Prelude workforce.

This also applies to the porky pies Shell told the media about the cost of our outstanding bargaining claims amounting to $173,000 per employee. Sure thing Shell.

Shell's refusal to agree to transparent level progression and standard Tier 1 remuneration claims is being driven by ideological zealots who sit at the fringes of the industrial relations fraternity.

Shell's army of industrial relations & HR militants would rather see Shell burn through hundreds of millions of dollars of lost production, than agree to fair industrial outcomes.

The Offshore Alliance and our members won't be intimidated by this mob and will be setting up a Fighting Fund next week to assist members who are out of pocket.

Shell's threat to cancel the scheduled Prelude Turnaround brings into question whether they will continue to hold a Licence to Operate for the Prelude come November.

The Offshore Alliance, ETU and our members won't be backing down or backing away from our key bargaining claims.

https://ec.europa.eu/commission/presscorner/detail/en/ip_22_4608

Press release20 July 2022Brussels

Save Gas for a Safe Winter: Commission proposes gas demand reduction plan to prepare EU for supply cuts

The European Union faces the risk of further gas supply cuts from Russia, due to the Kremlin's weaponisation of gas exports, with almost half of our Member States already affected by reduced deliveries. Taking action now can reduce both the risk and the costs for Europe in case of further or full disruption, strengthening European energy resilience.

The Commission is therefore proposing today a **new legislative tool and a European Gas Demand Reduction Plan, to reduce gas use in Europe by 15% until next spring**. All consumers, public administrations, households, owners of public buildings, power suppliers and industry can and should take measures to save gas. The Commission will also **accelerate work on supply diversification, including joint purchasing** of gas to strengthen the EU's possibility of sourcing alternative gas deliveries.

The Commission is proposing a **new Council Regulation on Coordinated Demand Reduction Measures for Gas**, based on Article 122 of the Treaty. The new Regulation would set a target for all Member States to reduce gas demand by 15% between 1 August 2022 and 31 March 2023. The new Regulation would also give the Commission the **possibility to declare, after consulting Member States, a 'Union Alert' on security of supply, imposing a mandatory gas demand reduction** on all Member States. The Union Alert can be triggered when there is a substantial risk of a severe gas shortage or an exceptionally high gas demand. Member States should update their national emergency plans by the end of September to show how they intend to meet the reduction target, and should report to the Commission on progress every two months. Member States requesting solidarity gas supplies will be required to demonstrate the measures they have taken to reduce demand domestically.

To help Member States deliver the necessary demand reductions, the Commission has also adopted a **European Gas Demand Reduction Plan which sets out measures, principles and criteria for coordinated demand reduction**. The Plan focuses on substitution of gas with other fuels, and overall energy savings in all sectors. It aims to **safeguard supply to households and essential users** like hospitals, but also industries that are decisive for the provision of essential products and services to the economy, and for EU supply chains and competitiveness. The Plan provides guidelines for Member States to take into account when planning curtailment.

Energy saved in summer is energy available for winter

By substituting gas with other fuels and saving energy this summer, more gas can be stored for winter. Acting now will reduce the negative GDP impact, by avoiding unplanned actions in a crisis situation later. Early steps also spread out the efforts over time, ease market concerns and price volatility, and allow for a better design of targeted, cost-effective measures protecting industry.

The Gas Demand Reduction Plan proposed by the Commission is based on consultations with Member States and industry. A wide range of measures are available to reduce gas demand. Before considering curtailments, Member States should exhaust all fuel substitution possibilities, non-mandatory savings schemes and alternative energy sources. Where possible, **priority should be given to switching to renewables** or cleaner, less carbonintensive or polluting options. However, switching to coal, oil or nuclear may be necessary as a temporary measure, as long as it avoids long term carbon lock-in. Market-based measures can mitigate the risks to society and the economy. For example, Member States could launch auction or tender systems to **incentivise energy reduction by industry**. Member States may offer **support in line with the amendment of the State aid Temporary Crisis Framework**, adopted by the Commission today.

Another important pillar of energy saving is the reduction of heating and cooling. The Commission urges all Member States **to launch public awareness campaigns to promote the reduction of heating and cooling** on a broad scale, and to implement the EU 'Save Energy Communication', containing numerous options for short-term savings. To set an example, Member States could mandate a **targeted lowering of heating and cooling in buildings operated by public authorities**.

The Demand Reduction Plan will also **help Member States identify and prioritise**, within their "non-protected" consumer groups, **the most critical customers or installations** based on overall economic considerations and the following criteria:

- **Societal criticality** – sectors including health, food, safety, security, refineries and defence, as well as the provision of environmental services;
- **Cross-border supply chains** – sectors or industries providing goods and services critical to the smooth functioning of EU supply chains;
- **Damage to installations** – to avoid that they could not resume production without significant delays, repairs, regulatory approval and costs;
- **Gas reduction possibilities and product/component substitution** – the extent to which industries can switch to imported components/products and the extent to which demand for products or components may be met through imports.

Background: What the EU has done to secure its energy supply

Following the Russian invasion of Ukraine, the Commission adopted the REPowerEU Plan to end the EU's dependence on Russian fossil fuels as soon as possible. REPowerEU sets out measures on diversification of energy suppliers, energy savings and energy efficiency, and an accelerated roll-out of renewable energy. The EU has also **adopted new legislation requiring EU underground gas storage** to be filled to 80% of capacity by 1 November 2022 to ensure supply for the coming winter. In this context, the Commission has **carried out an in-depth review of national preparedness plans** to face possible major supply disruptions.

The Commission has **set up the EU Energy Platform** to aggregate energy demand at the regional level and facilitate **future joint purchasing** of both gas and green hydrogen, to ensure the best use of infrastructure so that gas flows to where it is most needed, and to reach out to international supply partners. Five regional groups of Member States have already been initiated within the Platform, and a dedicated task force has been created within the Commission to support the process. The EU is **succeeding in diversifying away from Russian gas imports** thanks to higher LNG and pipeline imports from other suppliers. In the first half of 2022, non-Russian LNG imports rose by 21 billion cubic metres (bcm) as compared to the same period last year. Non-Russian pipeline imports also grew by 14 bcm from Norway, Azerbaijan, the United Kingdom and North Africa.

Since long before the Russian invasion of Ukraine, the EU has been **building a clean and interconnected energy system**, focused on increasing the share of domestically-produced renewable energy, phasing out imported fossil fuels, and ensuring connections and solidarity between Member States in the event of any supply interruptions.

By progressively eliminating our dependence on fossil fuel sources and by reducing the EU's overall energy consumption through increased energy efficiency, **the European Green Deal and Fit for 55 package strengthen the EU's security of supply**. Building upon these proposals, REPowerEU aims to accelerate the instalment of renewable energy across the EU and the deployment of energy efficiency investments. Over 20% of the EU's energy currently comes from renewables, and the Commission has proposed to more than double this to at least 45% by 2030. Since the beginning of the year an estimated additional 20 GW of renewable energy capacity have been added. This is the equivalent of more than 4 bcm of natural gas.

Through our investments in LNG terminals and gas interconnectors, every Member State can now receive gas supplies from at least two sources, and reverse flows are possible between neighbours. Under the Gas Security of Supply Regulation, Member States must have in place national preventive action plans and emergency plans, and a solidarity mechanism guarantees supply to ‘protected customers' in neighbouring countries in a severe emergency.

For More Information

https://elpais.com/economia/2022-07-20/espana-rechaza-la-propuesta-de-bruselas-de-recortar-un-15-el-consumo-de-gas.html

Teresa Ribera: "We cannot assume a sacrifice on which we have not been asked for an opinion"

Spain rejects Brussels' proposal to cut gas consumption by 15%: "Unlike other countries, we Spaniards have not lived beyond our means from an energy point of view"

02:09

The Minister for the Ecological Transition and the Demographic Challenge, Teresa Ribera.**Photo: EFE | Video: EUROPE PRESS**

IGNACIO FARIZA AGENCIES

Madrid-JUL 20 , 2022 - 11:14 CDT

56

Spain goes on the attack against the latest proposal from Brussels, which proposes that all European countries cut their gas consumption by 15% until next spring, regardless of their degree of exposure to Russia. “We cannot assume a disproportionate sacrifice on which they have not even asked us for a prior opinion,” said the third vice president and minister for the Ecological Transition, Teresa Ribera , in a practically monothematic press conference held hours after the European Commission revealed a plan that he does not consider “neither the most effective, nor the most efficient, nor the fairest”. Whatever happens, she has said, "Spanish families are not going to suffer gas or electricity cuts in their homes."

The person in charge of Energy of the Government has opted for "savings and efficiency" in gas consumption, but has assured that the Executive is not considering the hypothesis of restricting it to "any type of consumer". Spain, he stated, defends European values and will show solidarity with the rest of the Union, "but not at the expense of domestic and industrial consumers", who have been paying "a very high bill for a long time" and who "do not deserve restrictions no rationing." “Spain is a country committed to solidarity, but we have to see what is the best way to offer solidarity, which is probably more linked to the ability to use our infrastructures to support the Member States that depended on the gas that arrived by gas pipeline. ”.

Ribera's statements, which have used an unusually harsh tone on the Brussels proposal, come hours after community officials proposed a linear cut in gas consumption in the face of Putin's threats, without distinction by country. It is something striking, since the dependency of the Eurasian giant is very variable between some countries and others, but the community argument is that this would free up export capacity in alternative suppliers to Russia.

The harshness also contrasts with the general good atmosphere with the European authorities, especially after they gave the go-ahead —after several back-and-forths— to the so-called Iberian exception, the mechanism that has made it possible to set a ceiling on the price of gas that feeds the combined cycle power plants and has enabled a reduction of around 20% in the electricity bill for households that have a regulated rate.

“We have not lived beyond our energy possibilities”

"Our solidarity is much more useful if we can make use of our infrastructures to be able to provide gas to the rest of the Europeans, but not at the expense of some domestic and industrial consumers who have been paying a very high bill for a long time," he pointed out. Spain has spent years investing huge sums of money —which companies and households have paid via higher charges— to equip itself with a powerful network of regasification plants that, in a situation like the current one, shines with its own light. "Unlike other countries, we Spaniards have not lived beyond our means from an energy point of view," she stressed.

For this reason, the minister has urged the community partners to "discuss in an open, transparent and respectful way" on the best way to support each other in this regard. And she has highlighted the "fundamental" role that Spain can play as a "gateway" for more than 30% of liquefied natural gas (LNG) to Europe, with infrastructures prepared to support "its neighbors". "Spain has done its homework in this area, paying more than many European partners, (...) and resists the imposition of obligations above what corresponds to us and what is requested of other community partners in terms of effort." In this way, Ribera has remarked that Spain will go to the summit of energy ministers next Tuesday to "defend the interests of all Spaniards with a supportive, effective, efficient and coordinated proposal".

Large regasification capacity

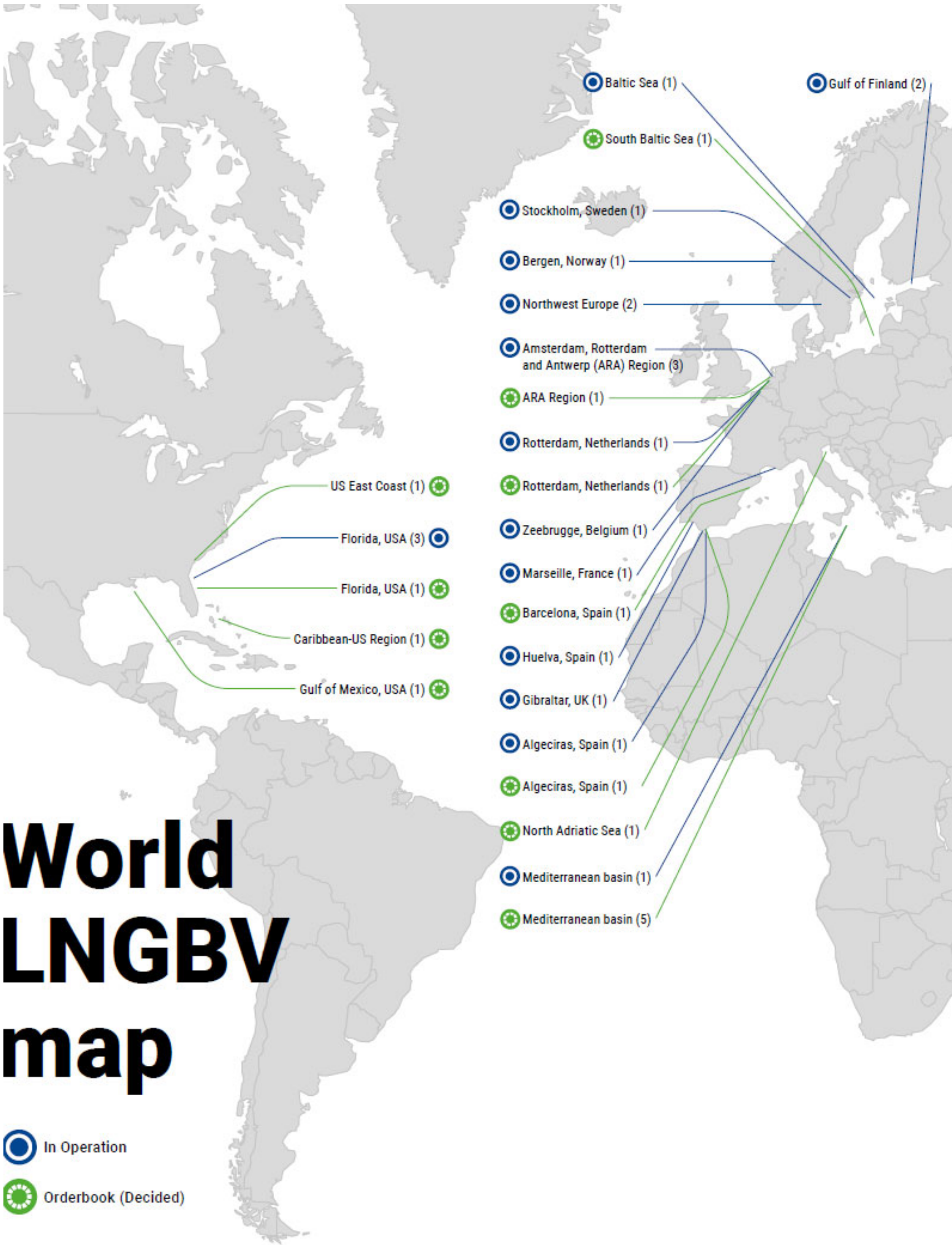
In this sense, he recalled that Spain has "a great regasification capacity and also a great storage and re-export capacity through small methane tankers", and the Government believes that Spanish consumers, "beyond the effort they can make, do not they must suffer the consequences of something they have been paying for for many years”, their own security of supply.

Spanish regasification capacity represents more than 30% of the total in Europe and, therefore, Spain is "the main port of entry for liquefied natural gas into Europe", which "has been reflected in domestic and industrial consumer bills of gas that, therefore, do not deserve restrictions”. “Yes, I think we have to bet on savings and efficiency; and I do believe that we must find out how some consumptions can be replaced by others, to the extent that they can be replaced. But we do not consider the hypothesis of introducing rationing or restrictions to any type of consumer”, Ribera has stated.

“Widespread conviction” that Russia will turn off the tap

The head of Ecological Transition has highlighted that there is a "widespread conviction that, sooner or later, Russia is going to stop supplying Europe ." And she has pointed out that the EU, although today it has not adopted sanctions against the country for the invasion of Ukraine, it does want to do without it as the main supplier of gas, coal, oil and enriched uranium. After pointing out that Russia is currently a fundamental country for energy supplies in Europe, she recalled that it is not "so important for Spain" because its volume of gas imports "is very limited".

Ribera has framed the announcement by Russian President Vladimir Putin that he will reopen the Nord Stream 1 gas pipeline, the main one between Russia and Germany, in a game of “energy blackmail” by the Kremlin: “More than a year ago they began to reduce the gas stored or the gas flows that came from Russia to Europe through the different active gas pipelines. (...) It is very likely that it will continue playing with the volumes of gas that it exports to Europe”, he has sentenced.



World LNGBV map

In Operation

Orderbook (Decided)

LNG imports in 2021 (net of re-exports)

Market	10^6 m^3 liquid	10^6 T	Global Share	Var. 2021/2020
China	180.12	79.27	21.3%	15.0%
Japan	166.21	74.35	20.0%	-0.1%
South Korea	105.59	46.92	12.6%	15.0%
India	53.63	24.02	6.5%	-9.8%
Taiwan	43.43	19.44	5.2%	9.5%
Pakistan	18.45	8.19	2.2%	10.5%
Thailand	14.78	6.55	1.8%	16.8%
Bangladesh	11.52	5.10	1.4%	22.2%
Indonesia	7.58	3.31	0.9%	20.4%
Singapore	7.19	3.12	0.8%	-2.2%
Malaysia	4.73	2.02	0.5%	-21.5%
Myanmar	0.49	0.22	0.1%	19.0%
ASIA	613.73	272.51	73.2%	7.1%
Spain	31.34	13.82	3.7%	-10.1%
France	27.84	12.34	3.3%	-5.6%
United Kingdom	25.04	11.04	3.0%	-17.8%
Turkey	22.68	9.99	2.7%	-6.8%
Italy	15.59	6.88	1.8%	-24.1%
Netherlands	12.94	5.64	1.5%	5.8%
Portugal	9.25	4.11	1.1%	0.9%
Belgium	7.54	3.32	0.9%	3.3%
Poland	6.49	2.83	0.8%	4.7%
Greece	3.73	1.64	0.4%	-25.5%
Croatia	2.76	1.20	0.3%	#N/A
Lithuania	2.60	1.12	0.3%	-21.9%
Sweden	0.83	0.36	0.1%	1.0%
Malta	0.66	0.29	0.1%	-10.1%
Norway	0.50	0.22	0.1%	86.4%
Finland	0.47	0.20	0.1%	33.3%
Gibraltar	0.14	0.06	0.0%	29.6%
EUROPE	170.41	75.05	20.2%	-8.0%

Market	10^6 m^3 liquid	10^6 T	Global Share	Var. 2021/2020
Brazil	16.19	7.01	1.9%	193.0%
Chile	7.27	3.14	0.8%	16.7%
Argentina	5.79	2.52	0.7%	84.9%
Puerto Rico	3.51	1.52	0.4%	62.8%
Dominican Republic	3.41	1.47	0.4%	26.1%
Mexico	1.42	0.61	0.2%	-67.5%
Jamaica	1.24	0.52	0.1%	-26.9%
Canada	1.16	0.50	0.1%	-21.1%
United States	0.99	0.42	0.1%	-52.7%
Panama	0.47	0.21	0.1%	-4.4%
Colombia	0.10	0.04	0.0%	-85.0%
AMERICAS	41.56	17.97	4.8%	36.3%
Kuwait	11.99	5.34	1.4%	31.3%
United Arab Emirates	2.66	1.19	0.3%	-18.4%
Israel	0.41	0.18	0.0%	-60.4%
Egypt	0.12	0.05	0.0%	#N/A
MIDDLE EAST & AFRICA	15.19	6.76	1.8%	-2.3%
GLOBAL NET IMPORTS	840.88	372.29	100.0%	4.5%

Source: GIIGNL, Kpler

Source of LNG imports in 2021

Country	10^6 m^3 liquid	10^6 T	Global Share	Var. 2021/2020
Australia	177.24	78.52	21.1%	1.0%
Malaysia	56.78	24.94	6.7%	4.6%
Indonesia	31.49	13.82	3.7%	-7.8%
Russia (Asia)	22.56	10.15	2.7%	-9.8%
Papua New Guinea	17.84	8.30	2.2%	-0.4%
Brunei	12.28	5.50	1.5%	-10.2%
Peru	5.68	2.55	0.7%	-32.1%
PACIFIC BASIN	323.87	143.87	38.6%	-1.6%
United States	155.09	67.03	18.0%	49.8%
Russia (Europe)	44.53	19.46	5.2%	6.1%
Nigeria	36.35	16.42	4.4%	-20.1%
Algeria	26.19	11.78	3.2%	11.3%
Egypt	15.23	6.56	1.8%	390.5%

Country	10^6 m^3 liquid	10^6 T	Global Share	Var. 2021/2020
Trinidad and Tobago	14.51	6.19	1.7%	-38.6%
Angola	8.17	3.63	1.0%	-21.6%
Equatorial Guinea	6.20	2.72	0.7%	4.0%
Cameroon	2.69	1.20	0.3%	9.8%
Norway	0.53	0.24	0.1%	-92.5%
ATLANTIC BASIN	309.47	135.23	36.3%	15.2%
Qatar	172.18	76.96	20.7%	-0.2%
Oman	22.26	10.22	2.7%	4.7%
United Arab Emirates	13.10	6.02	1.6%	5.5%
MIDDLE EAST	207.53	93.19	25.0%	0.6%
TOTAL	840.88	372.29	100.0%	4.5%

Source: GIIGNL, Kpler

RUSSIAN NEWS AGENCY

TASS

https://tass.com/economy/1482237

19 JUL, 17:20

Gas supplies via Nord Stream 1 to reduce if turbine not returned to Russia — Putin

Russian President noted that currently two turbines are functioning pumping about 60 mln cubic meters daily

TEHRAN, July 20. /TASS/. If Russia does not get a turbine for Nord Stream 1 back, this route can be used to pump only 30 mln cubic meters of gas daily instead of the current 60 mln, Russian President Vladimir Putin said following the Astana Troika summit held in Tehran on Tuesday.

He noted that currently two turbines are functioning pumping about 60 mln cubic meters daily. "If another one arrives, good, two of them will be working. And if not, only one will which is only 30 mln cubic meters per day," the president explained.

The Russian leader noted that Gazprom has not yet received any official documents that the turbine for Nord Stream 1 would be returned to Russia from Canada soon.

"Now they tell us that the turbine for Nord Stream 1 will soon be returned to Russia from Canada. However, Gazprom does not yet have any official documents to this effect. And we, of course, should receive them because this is our property, this is Gazprom's property. And Gazprom should receive not only […] the machine itself but its paperwork as well," Putin stressed.

http://en.kremlin.ru/events/president/transcripts/69040

Meeting with Energy Minister Nikolai Shulginov

Vladimir Putin had a working meeting with Energy Minister Nikolai Shulginov to discuss the fuel and energy sector performance and preparations for the autumn and winter season.

July 21, 202214:15Novo-Ogaryovo, Moscow Region

Meeting with Energy Minister Nikolai Shulginov.

1 of 3

Meeting with Energy Minister Nikolai Shulginov.

President of Russia Vladimir Putin: Mr Shulginov, let us talk about the industry's performance in the first six months of the year. We are currently actively preparing for the autumn and winter season, so the second question is: how is this work proceeding in terms of the sector's readiness?

Go ahead, please.

Energy Minister Nikolai Shulginov: Mr President, I would like to begin by thanking you, on behalf of all sectors of the fuel and energy complex, for your constant attention and support, for all the decisions and instructions that have facilitated the development of the right energy policy and adaptation of the energy sector to new challenges.

As for the industry's performance in the first six months of the year as compared to the previous six months, I must say that, despite the current economic reality and given the need to adjust to new challenges, it has overall shown good results.

Oil production in the past six months has exceed last year's result by 3.4 percent; the production of energy grew by 1.9 percent, which means that energy consumption has been respectively higher.

Coal production remains at last year's level. The production of petrol and diesel fuel is 4.5 percent higher than last year. For obvious reasons, gas production has fallen by 5 percent.

The domestic market is stable and consumers are provided with all types of energy resources. There have been no problems with supplying energy resources in full.

Several months ago, we began preparations for the winter, which is one of our current priorities. We are getting ready for this difficult period knowing that our partners in unfriendly countries are nervously anticipating especially rough times. We continue working in accordance with our plans and schedules as normal.

The plans and schedules have been created on the basis of the past autumn and winter season and the instructions you issued in December when evaluating the sector's readiness for the winter. It is a serious document with instructions that outlined the tasks both related to consolidating territorial grid organisations and ownerless grids, increasing the reliability of heat supply, and financing programmes related to improving the reliability of the distribution grid complex because there are still certain problems with it.

I would like to make some important points regarding our preparations for the winter.

First, we do not face any challenges in accumulating any type of fuel – reserve, main, or emergency fuel reserves. We will have no problem pumping gas into underground reservoirs. Today, the level of gas injection stands at 81 percent of the target figure set for November.

As for repairs, we are using a more flexible repair planning system. We make repairs on the basis of technical condition rather than in accordance with the preventive maintenance schedule. This is quicker and the quality is of a fairly high standard.

We are paying special attention to the work of imported gas turbines. This is a widely discussed issue. Overall, they amount to 22 gigawatts. What must be understood is that our de facto reserve exceeds the norm in the uniform power energy grid by 35–40 gigawatts. Yet, we have nevertheless devised an algorithm for managing the resources of these turbines. One option is to transfer them from energy units where they are optional to units where they are necessary.

At the same time, we have been working with the Ministry of Industry on implementing a sectoral order on spare parts, equipment, and, most importantly, servicing organisation. As for servicing, the companies that produce innovative gas turbines will also be in charge of servicing them. There are also other companies that want to arrange servicing, including in the hot part of the gas turbine, so I do not see any risks here for the time being.

Just like last year, by winter we must ensure the restoration of the lines affected by fires and floods. Today, about 700 supports are still in waterlogged areas and there is monsoon flooding ahead in the Far East. More areas may be flooded and our task is to check their condition by winter.

Of course, we have hydrological problems. This year, there is a very low inflow at the Sayano-Shushenskaya HPP. Its water supply level is about 61 percent of the figure we have had for many years. The inflow is half of what it used to be.

There is the same situation in Vilyui, Lena's tributary, and at the Krasnoyarskaya HPP.

What will we do? Today, we have calculated the amount of additional fuel we need at thermal power stations in order to reduce the energy output of hydropower stations.

Another issue under our special control is gas and electricity supply to Crimea and Kaliningrad. Regarding Kaliningrad, we are ready to supply electricity in island mode, and the issue of fuel supply will involve the use of the underground storage facility and the FSRU Marshal Vasilevsky [floating storage and re-gasification unit], as well as the purchase of two more gas carriers.

As for Crimea, we need to replenish the gas supply following the reduction of production by Chernomorneftegaz. We have decided that additional gas will be stored in the Glebovskoye storage facility for use during peak periods and that the Krasnodar system will be used to supply gas to Crimea. Now we need to resolve the issue of funding. We are discussing options with the Finance Ministry and the Republic of Crimea.

The preparation for the winter season in the Donetsk and Lugansk people's republics and the territories that have been liberated or are being liberated is a serious matter. We are working both to prepare them for winter and to rebuild electricity lines and backbone networks. There is a great deal to do, and there is more work ahead.

Our special focus is on preparing the Kursk, Bryansk and Belgorod border regions, where the grid infrastructure has been damaged, for the winter. We are working to repair it and to complete all the projects by winter.

There are no problems with goods deliveries to the northern territories. All the contracts have been signed, and deliveries are underway. We will start checking the areas' readiness in August, as usual. By November, we will complete the assessment and report the results to the Government.

Vladimir Putin: Good. Mr Shulginov, the production of petrochemicals has decreased in the first four months of the year. But as far as I know, the situation has…

Nikolai Shulginov: The output is growing.

Vladimir Putin: By about 5 percent, correct?

Nikolai Shulginov: By nearly 5 percent.

Vladimir Putin: And the production of oil for export has increased as well?

Nikolai Shulginov: Yes, it has increased.

Vladimir Putin: What about electricity production? Are production and consumption growing throughout the country?

Nikolai Shulginov: Yes, they are growing, although the pace of growth has dwindled in the past few months. The growth was 0.4 percent in the past month and 2 percent since the beginning of the year. I believe the year-end figure will be around 1.5 percent if the trend keeps up.

We expect to see growth under any conditions.

Vladimir Putin: Both in production and consumption?

Nikolai Shulginov: Yes, consumption is growing, which means that we must increase production to meet growing consumption demand.

Vladimir Putin: Good.

<…>

NORTH Dakota | Mineral Resources
Be Legendary.

Release Date: 7/19/2022
Director Lynn Helms

`Director's Cut
May 2022 Production

Oil Production

April	27,160,713 barrels = 905,357 barrels/day (final)
(New Mexico)	**43,604,623 barrels = 1,453,487 barrels/day**
May	32,820,339 barrels = 1,058,721 barrels/day **(+17%)**

1,052,086 barrels/day or 96% from Bakken and Three Forks
40,573 barrels/day or 4% from legacy pools

1,519,037 all-time North Dakota high Nov 2019

Revised Revenue Forecast **= 1,200,000→1,100,000→1,000,000 barrels/day**

Crude Price[1] ($/barrel)

	North Dakota Light Sweet	WTI	ND Market estimate
April	100.16	101.64	99.97 **(RF +100%)**
May	105.77	109.26	105.08 **(RF +102%)**
Today	100.50	102.60	101.55 **(Est. RF +103%)**
All-time high (6/2008)	$125.62	$134.02	$126.75
Revised Revenue Forecast			**= $50.00**

Gas Production & Capture

April Production	73,550,356 MCF = 2,451,679 MCF/day
Gas Captured: 93%	68,684,183 MCF = 2,215,619 MCF/day
May Production	86,417,791 MCF = 2,787,671 MCF/day **(+14%)**
Gas Captured: 94%	81,352,932 MCF = 2,711,764 MCF/day

3,145,172 MCF/day all-time high production Nov 2019
2,902,655 MCF/day all-time high capture Mar 2021

Fort Berthold Reservation Activity

	Total	Fee Land	Trust Land
Oil Production (barrels/day)	207,927	82,656	125,271
Drilling Rigs	4	1	3
Active Wells	2,644	659	1,985
Waiting on completion	20		
Approved Drilling Permits	303	49	269
Potential Future Wells	3,908	1,105	2,803

[1] Pricing References: WTI: EIA and CME Group; ND Light Sweet: Flint Hills Resources

Rigs & Wells

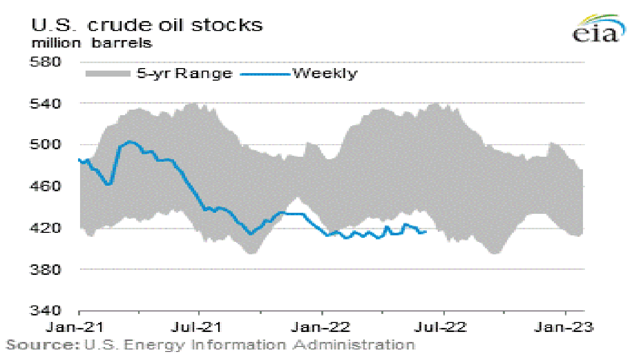
	April	May	June	Today
Rigs	38	40	42	42 New Mexico – 110 Federal Surface 1 All-time high – 218 (5/29/2012)
Permitted	55 drilling 0 seismic	68 drilling 0 seismic	77 drilling 1 seismic All-time high – 370 (10/2012)	-
Completed	33 (Preliminary)	53 (Revised)	27 (Preliminary) Revenue Forecast **30→40→50→60** **(-32% below RF)**	-
Inactive[2]	1,909	2,448	-	-
Waiting on Completion[3]	494	496	-	-
Producing	16,896	16,953 (Preliminary) *All-time high 17,245 (11/2021)* *14,727 (87%) from unconventional Bakken – Three Forks* *2,226 (13%) from legacy conventional pools*	-	-

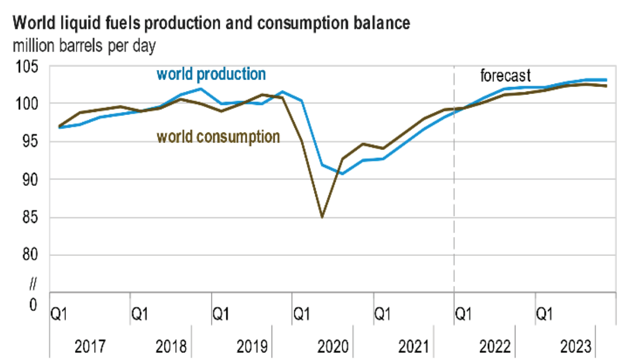
Drilling and Completions Activity & Crude Oil Markets

The drilling rig count is slowly increasing.

The number of active completion crews increased to 18 this week.

OPEC+ continues to phase out oil production cuts beginning September 2021 through the end of 3Q 2022. At their June 2022 meeting OPEC+ decided increase production approximately 680,000 barrels per day in July and August. Russia sanctions have exacerbated an already tight market. The strategic petroleum reserve releases by OECD countries resulted in a very short term drop in oil prices.





[2] Includes all well types on IA and AB statuses: **IA** = Inactive shut in >3 months and <12 months;
AB = Abandoned (Shut in >12 months)

[3] The number of wells waiting on completions is an estimate on the part of the director based on idle well count and a typical five-year average. Neither the State of North Dakota, nor any agency officer, or employee of the State of North Dakota warrants the accuracy or reliability of this product and shall not be held responsible for any losses caused by this product. Portions of the information may be incorrect or out of date. Any person or entity that relies on any information obtained from this product does so at his or her own risk.

Crude oil transportation capacity including rail deliveries to coastal refineries is adequate, but could be disrupted due to:

- US Appeals Court for the ninth circuit upholding of a lower court ruling protecting the Swinomish Indian Tribal Community's right to sue to enforce an agreement that restricts the number of trains that can cross its reservation in northwest Washington state.
- DAPL Civil Action No. 16-1534 continues, but the courts have now ruled that DAPL can continue normal operations until the USACOE EIS is completed.

Drilling activity is expected to slowly increase while operators maintain a permit inventory of approximately 12 months.

Gas Capture

US natural gas storage is now 12% below the five-year average. Crude oil inventories remain well below normal in the US, and world storage is now below the five-year average.

The price of natural gas delivered to Northern Border at Watford City has returned to an elevated level of \$6.36/MCF today for a current oil to gas price ratio of 16 to 1. The statewide gas flared volume from April to May increased 1,177 MCFD to 163,382 MCF per day, the statewide percent flared decreased to 5.9% while Bakken capture percentage increased to 95%. The historical high flared percent was 36% in 09/2011.

Gas capture details are as follows:

Statewide	95%
Statewide Bakken	95%
Non-FBIR Bakken	94%
FBIR Bakken	95%
Trust FBIR Bakken	97%
Fee FBIR	87%
Big Bend	80%
Deep Water Creek Bay	88%
Twin Buttes	74%
Charlson	80%

The Commission established the following gas capture goals:

74%	October 1, 2014 - December 31, 2014
77%	January 1, 2015 - March 31, 2016
80%	April 1, 2016 - October 31, 2016
85%	November 1, 2016 - October 31, 2018
88%	November 1, 2018 - October 31, 2020
91%	November 1, 2020

Seismic

There are currently 0 active oil and gas seismic surveys.

Active Surveys	Recording	NDIC Reclamation Projects	Remediating	Suspended	Permitted
1	1	0	0	5	1

Agency Updates

BLM on 1/20/21 DOI issued order 3395 implementing a 60 day suspension of Federal Register publications; issuing, revising, or amending Resource Management Plans; granting rights of way and easements; approving or amending plans of operation; appointing, hiring or promoting personnel; leasing; and permits to drill. On 1/27/21 President Biden issued an executive order that mandates a "pause" on new oil and gas leasing on federal lands, onshore and offshore, "to the extent consistent with applicable law," while a comprehensive review of oil and gas permitting and leasing is conducted by the Interior Department. There is no time limit on the review, which means the president's moratorium on new leasing is indefinite. The order does not restrict energy activities on lands the government holds in trust for Native American tribes.
What is the percentage of federal lands in ND?
Mineral ownership in ND is 85% private, 9% federal (4% Indian lands and 5% federal public lands), and 6% state. 66% of ND spacing units contain no federal public or Indian minerals, 24% contain federal public minerals, 9% contain Indian minerals,1% contain both.
How many potential wells could be delayed or not drilled by a Biden administration ban on drilling permits and hydraulic fracturing on federal lands?
A spatial query found 3,443 undrilled wells in spacing units that would penetrate federal minerals, 2,902 undrilled wells in spacing units would penetrate BIA Trust minerals (700 tribal minerals and 2,202 allotted minerals), and the total number of wells potentially impacted is 6,345. The minimum number of future Bakken wells is 24,000 so the 3,443 wells on federal public lands = 14%, and the 2,902 wells on trust lands = 12%.
What is the potential federal royalty loss from a Biden administration ban on drilling permits and hydraulic fracturing on federal lands?
A recent study from University of Wyoming estimated the ND loss as follows: 2021-2025 $76 million, 2026-2030 $113 million, 2031-2035 $160 million, and 2036-2040 $221 million for a total of $570 million over 15 years. Please note that 50% of the royalties on federal public lands go to the state and 50% of the state share goes to the county where the oil was produced.

The U.S. Interior Department launched its review of the federal oil and gas leasing program on 3/25/21, a key step that will determine whether the Biden administration will permanently halt new leases on federal land and water. The review kicked off with a public forum on oil and gas leasing on federal land and water, with participants representing industry, environmental conservation and justice groups, labor and others, and commence an online comment period. This input will inform an interim report to be released in early summer outlining next steps and recommendations on the future of the program and what can be done to reform how leases are managed and how much revenue should go to taxpayers and other issues.

On 7/7/21 North Dakota sued the Department of Interior (DOI), Secretary of Interior Debra Haaland, Bureau of Land Management (BLM), Director of the BLM Nada Culver, and Director of the Montana-Dakotas BLM John Mehlhoff in US District Court for the District of North Dakota. The lawsuit requested the court:
Compel the Federal Defendants to hold quarterly lease sales. Oral arguments are scheduled for 1/12/22 in Bismarck.
Prohibit the Federal Defendants from cancelling quarterly lease sales.
Enjoin the Secretary implementing a moratorium on federal lease sales.
Declare that Federal Defendants are in violation of MLA, FLPMA, NEPA, and APA.
Grant other relief sought and as the court deems proper to remedy the violations.
There are 811 tracts nominated for pending lease sales in ND:

> 569 are pending NEPA or surface manager concurrence
> 242 are fully evaluated with Record of Decision by US Forest Service and Corp of Engineers, and waiting for scheduled auction – value to ND 1,037 wells and $4.9 billion (GPT, OET, NDTL royalties, federal royalties, sales tax and income tax)

On 01/14/2022 Judge Traynor denied North Dakota's motion without prejudice. In the Order on Mandamus, the Court noted that "a fully developed factual record is necessary to resolve the instant dispute." The Court also held that because Federal Defendants had given the Court "assurances at the hearing the process to start Federal oil and gas leasing sales in North Dakota was imminent" mandamus relief was "unnecessary." However, the Court noted that "if the Defendants do not hold to their word and cancel any planned future sale, North Dakota may bring this action for review of the specifically cancelled sales once this Court has the benefit of a complete record.". Federal Defendants have cancelled the Q1 2022 lease sale, but have now published a potential Q2 sales listing with a protest period ending 5/18/22. The matters at issue in Louisiana v. Biden et al. continue to be litigated. For these reasons, North Dakota filed a motion with the Court to enter

a Scheduling Order setting the following schedule for resolving North Dakota's case:
1. Federal Defendants will prepare an administrative record for lodging and certification to this Court by no later than March 25, 2022.
2. North Dakota will file any motion to complete the administrative record within fourteen days from when the administrative record is lodged.
3. The dispositive briefing schedule will then proceed as follows:
a. North Dakota will file its opening brief within four weeks of when the administrative record is complete.
b. The Federal Defendants and Intervenors will simultaneously file their responsive briefs within four weeks of North Dakota's opening brief.
c. North Dakota will file its reply brief within two weeks from the Federal Defendants' and Intervenors' responses.

The BLM and North Dakota filed documents to complete the administrative record on April 8, 2022. DOI administrative record is incomplete therefore, NDIC motion to complete was filed 5/9/22 and follow up reply on 5/27/22.

BLM published a new final rule 43 CFR Parts 3100, 3160 and 3170 to update and replace its regulations on venting and flaring of natural gas effective 1/17/16. The final rule can be viewed online at https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/operations-and-production/methane-and-waste-prevention-rule. North Dakota, Wyoming, Montana, Western Energy Alliance, and IPAA filed for a preliminary injunction to prevent the rule going into effect until the case is settled. A hearing in Casper, Wyoming was held 1/6/17. On 1/16/17 the court denied all of the petitioners' motions for preliminary injunctions. **On 2/3/17 the US House of Representatives voted 221-191 to approve a Congressional Review Act resolution against the rule.** On 3/28/17 President Trump issued an executive order which in part directs "The Secretary of the Interior shall review the following final rules, and any rules and guidance issued pursuant to them, for consistency with the policy set forth in section 1 of this order and, if appropriate, shall, as soon as practicable, suspend, revise, or rescind the guidance, or publish for notice and comment proposed rules suspending, revising, or rescinding those rules". This rule is included in the list as item (iv). North Dakota plans to continue active participation in the litigation of this rule until the BLM takes final action eliminating the rule. **On 5/10/17 the Senate voted 51 to 49 against the CRA, allowing the rule to remain in effect.** On 6/27/17 U.S. D. Ct. Judge Skavdahl granted BLM's motion to extend the merits briefing schedule by 90 days, based on BLM's APA 705 stay and BLM's representations regarding its plans to reconsider the VF Rule. Opening briefs were filed 7/3/17. On 7/5/17 California and New Mexico sued BLM in the U.S. District Court for the Northern District of California, seeking a declaratory judgement that BLM's APA 705 stay was illegal and vacating the stay. The relief they request would vacate the stay of the January 2018 compliance et al deadlines, bringing them all back into force. BLM officials encouraged North Dakota to intervene. On 7/12/17 a group of NGOs including the Fort Berthold Protectors of Water and Earth Rights filed a separate suit against the BLM in federal court in the U.S. District Court for the Northern District of California, seeking a declaratory judgement that BLM's APA 705 stay was illegal and vacating the stay. California and New Mexico, along with various environmental groups, have challenged BLM's stay in the Northern District of California, and filed a motion for summary judgment on 7/26/17. On 8/24/17 North Dakota filed a response supporting BLM's motion, a motion to intervene, and a motion to change venue to Wyoming in an attempt to prevent all of the litigation regarding the timing of the Flaring Rule, including the future rulemakings further extending compliance deadlines that BLM has stated that it intends to publish, could end up in front of the magistrate judge in the Northern District of California instead of Judge Skavdahl in Wyoming. On 10/04/17 the federal magistrate judge in the Northern District of California granted the summary judgement motion by California, New Mexico, and several NGOs throwing out BLM's administrative and temporary postponement of several of the future rules compliance dates/obligations. On 10/05/17 the BLM issued a Federal Register Notice for a proposed rule that if finalized will delay certain requirements of the BLM Rule until 1/17/2019. North Dakota submitted comments to (1) support BLM's decision to delay certain compliance requirements and (2) continue to make the record that BLM exceeded its authority to promulgate the rule in the first place with particular emphasis on the specific/unique North Dakota considerations at issue. NDIC comments are available at http://www.nd.gov/ndic/ic-press/dmr-blm-comments17-11.pdf. BLM, the states of CA & NM, and the NGOs supporting the current final rule were granted an extension to file response briefs to December 11th in the WY court. On 11/29/17 North Dakota filed a response to industry petitioner's motion for a preliminary injunction supporting a preliminary or permanent injunction. On 12/4/17 USDOJ petitioned the 9th US Judicial Circuit Court in San Francisco to review and overturn the Northern District of California court's November decision ordering the US Bureau of Land Management to make oil and gas producers comply with the methane emissions requirements while the rules are being reviewed. On 12/7/17 BLM published a rule in the Federal Register delaying the methane regulation until January 2019, saying the previous rule is overly burdensome to industry. Officials said the delay will allow the federal Bureau of Land Management time to review the earlier rule while avoiding tens of millions of dollars in compliance costs to industry that may turn out to be unnecessary. On 12/19/17 BLM was https://www.willistonherald.com/news/oil_and_energy/bakken-appears-to-be-on-track-for-a-2-percent-annual-production-increase-despite-blizzard/article_941e13a2-084b-11ed-b338-bb8cfcf9091b.html

Bakken appears to be on track for a 2 percent annual production increase despite blizzard

- By Renee Jean rjean@willistonherald.com
- Jul 20, 2022 Updated 5 hrs ago


Lynn Helms talks about May production figures for the July Director's Cut.

The Bakken was still about 60,000 barrels short production according to May production reports, but things appear to be on track for a 2 percent production increase overall for the year, according to the state's top oil and gas regulator.

Department of Mineral Resources Director Lynn Helms said May production figures were around 1.06 million barrels per day.

"We anticipate that June will show a full recovery from that and that July is actually going to show a significant increase in production, so we are marching towards that maybe 2 percent production increase of rate year, which should put us in the neighborhood of 1.3 million a day by year-end. I think that's kind of what the target is for industry."

May posted an overall 17 percent increase in oil production, but due to the drop in production from the back-to-back blizzards in April, that was still about 4 percent below production figures in the state's revenue forecast. Fortunately, prices were more than double forecast, making up for it.

"The May price realized was $105.08 a barrel," Helms said. "North Dakota market price and the revenue forecast was based on $50 still."

Natural gas production, meanwhile, showed a similar increase to production, although slightly smaller at 14 percent, with gas capture jumping 1 percent to 95.

Permitting has continued to rise along side rig counts, Helms said, although the oil and gas sector in North Dakota continues to struggle to find workforce. The rig count on Wednesday was 42.

“As of this week it looks like we have 18 track crews running,” Helms said. “That’s a big improvement. Prior to COVID, we had 25, as you recall, and we stayed pretty steady.”

Helms said the optimum for North Dakota would be between 50 5o 55 drilling rigs and 25 hydraulic fracturing crews, which would allow a slow, steady production build.

“That would allow us to build month to month small production increases,” he said. We could make up for any decline in wells, an it would allow us to grow our production at that 2 percent annual rate. And so that would be just an ideal slow growth opportunity for the Tate of North Dakota.”

New Mexico, meanwhile, has continued to outpace the Bakken in terms of drilling, and has been pulling away in terms of production as well, with 1.5 million barrels per day production in April. Helms indicated he expects that trend to continue, particularly as the Bakken continues to face a big workforce shortage.

“I visited with one company a couple of weeks ago, and they had hired eight people,” Helms said. “It was actually for a worker rig crew. Day one, two of the eight showed up, and day two, only one. So they had to send that one person. Home. So it’s not even just finding people who will apply for the job and sign the contract, but people who will actually show up on the job to do the work.”

One surprise for the May report’s stats, Helms said, was the jump in inactive well counts to more than 2,400 wells.

“A large part of that is we had a large group of wells on non-completed well waivers,” Helms said. “And the commission had institute d a policy to allow people who had drilled new Bakken wells to leave then in a non-completed status. But that expired, because oil price is so high. (And) it expired when load limits went off in the month of May.”

Completions were also down in the month of June, Helms said, but that may simply be a reporting issue, since the website was down for a significant portion of time.

As the Bakken and other shale plays in the nation have ramped up production, U.S. storage has begun to normalize, Helms said, and that’s helped bring gasoline prices down a little.

“It’s partially that, and it’s partially the concern about recession coming,” Helms said. “And Maybe it’s more recession worries than it is U.S. storage volumes.”

MONTHLY UPDATE

JULY 2022 PRODUCTION & TRANSPORTATION

Published: July 19, 2022

Justin J. Kringstad, Director
North Dakota Pipeline Authority
Office: 701.220.6227
www.northdakotapipelines.com

MONTHLY UPDATE

JULY 2022 PRODUCTION & TRANSPORTATION

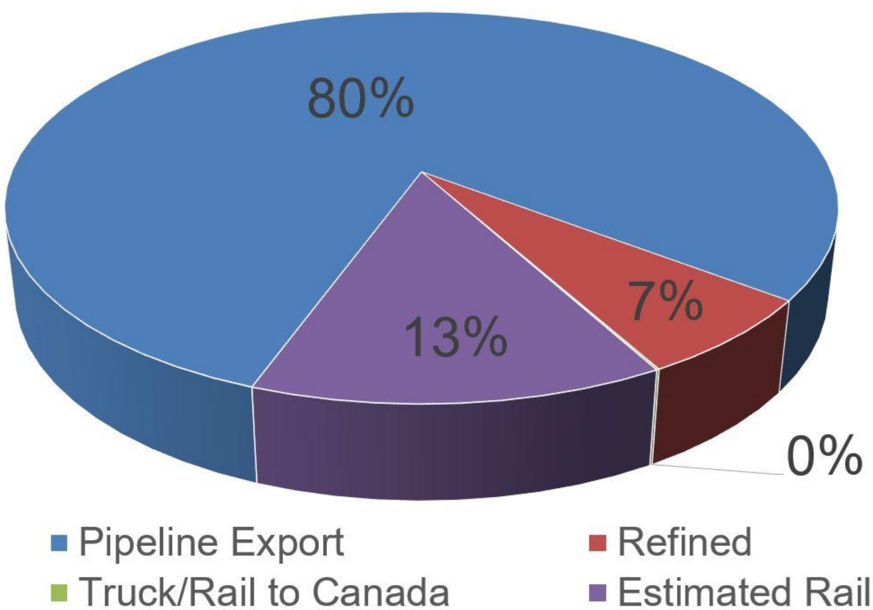
North Dakota Oil Production

Month	Monthly Total, BBL	Average, BOPD
Apr. 2022 - Final	27,160,713	905,357
May 2022 - Prelim.	32,820,339	1,058,721

North Dakota Natural Gas Production

Month	Monthly Total, MCF	Average, MCFD
Apr. 2022 - Final	73,550,356	2,451,679
May 2022 - Prelim.	86,417,791	2,787,671

Estimated Williston Basin Oil Transportation, May 2022



CURRENT DRILLING ACTIVITY:

NORTH DAKOTA[1]

42 Rigs

EASTERN MONTANA[2]

2 Rigs

SOUTH DAKOTA[2]

0 Rigs

SOURCE (JULY 18, 2022):

1. ND Oil & Gas Division
2. Baker Hughes

PRICES:

Crude (WTI): $100.74

Crude (Brent): $104.69

NYMEX Gas: $7.27

SOURCE: BLOOMBERG (JULY 19, 2022 8AM CST)

GAS STATS*

94% CAPTURED & SOLD

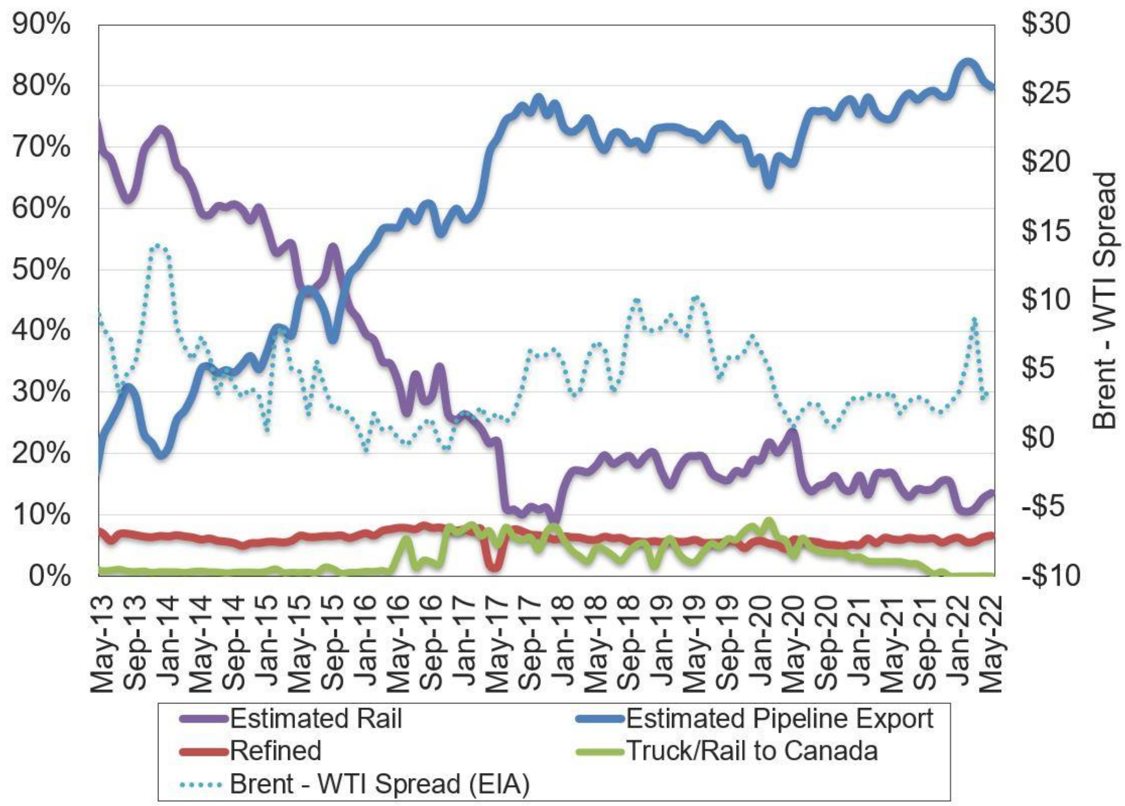
5% FLARED DUE TO CHALLENGES OR CONSTRAINTS ON EXISTING GATHERING SYSTEMS

1% FLARED FROM WELL WITH ZERO SALES

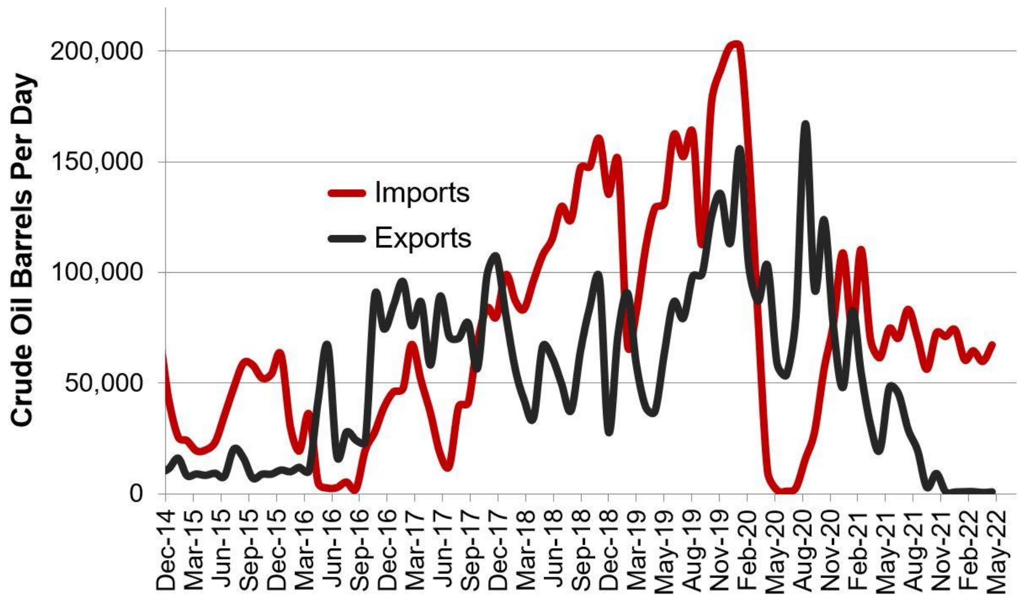
MAY 2022 NON-CONF DATA

Estimated North Dakota Rail Export Volumes

Estimated Williston Basin Oil Transportation

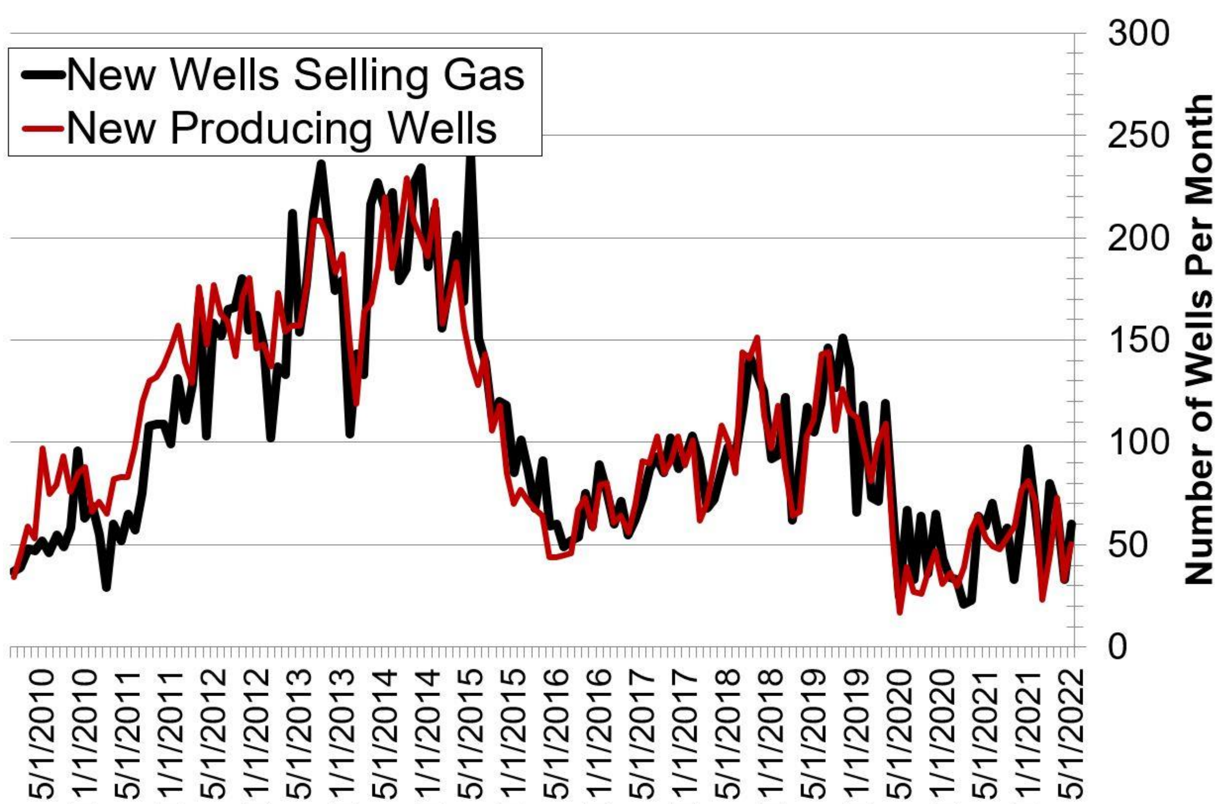


Williston Basin Truck/Rail Imports and Exports with Canada



Data for imports/exports chart is provided by the US International Trade Commission and represents traffic across US/Canada border in the Williston Basin area.

New Gas Sales Wells per Month



US Williston Basin Oil Production, BOPD

2021

MONTH	ND	EASTERN MT*	SD	TOTAL
January	1,147,724	50,415	2,874	1,201,012
February	1,083,820	48,246	2,828	1,134,895
March	1,109,005	49,520	2,744	1,161,269
April	1,121,776	48,440	2,644	1,172,860
May	1,129,785	47,277	2,640	1,179,702
June	1,134,758	44,100	3,103	1,181,962
July	1,078,883	43,758	2,884	1,125,525
August	1,108,084	47,284	2,892	1,158,260
September	1,113,963	50,410	2,847	1,167,220
October	1,110,828	49,462	2,853	1,163,143
November	1,158,553	48,588	2,780	1,209,921
December	1,144,999	48,199	2,717	1,195,914

2022

MONTH	ND	EASTERN MT*	SD	TOTAL
January	1,088,613	47,671	2,709	1,138,993
February	1,089,091	46,948	2,742	1,138,782
March	1,122,640	45,573	2,709	1,170,922
April	905,357		2,338	
May	1,058,721			
June				
July				
August				
September				
October				
November				
December				

** Eastern Montana production composed of the following Counties: Carter, Daniels, Dawson, Fallon, McCone, Powder River, Prairie, Richland, Roosevelt, Sheridan, Valley, Wibaux* https://www.tcenergy.com/newsroom/statements/keystone-pipeline-system-update/

Keystone Pipeline System update

Updated: July 23, 2022

TC Energy has safely resumed normal operations of the Keystone Pipeline System.

We would like to thank our workforce, the local utility provider and its crews for their efficient work in restoring power.

We are communicating directly with our customers as we resume normal operations.

Updated: July 20, 2022

Repair work is continuing following third-party damage to the power supply to a facility on the Keystone Pipeline System near Huron, South Dakota. Our system continues to operate safely at a reduced rate as a result of the incident. We are unable to further discuss operations as it involves commercially sensitive information. We can confirm there was no material impact to TC Energy-owned facilities during the incident. Currently, there is no timeline for completion of repairs and restoration of power service. As updates are available, we will share them here.

July 18, 2022

On July 17, 2022, we were made aware of a non-operational incident resulting from third-party damage to the power supply to a facility on the Keystone Pipeline System near Huron, South Dakota. Our system continues to operate safely. Initial damage assessments have been completed with no material impact to TC Energy owned facilities.

A force majeure has been declared on Keystone, which is operating at a reduced rate due to damage to the third-party power utility. Repairs are being undertaken and we are working to restore full service as soon as possible. A timeline for full-service restoration is not available at this time.

The safety of our people, communities and protection of the environment remains a primary focus and we continue to actively respond. We have informed our customers and key stakeholders and will keep them apprised of updates.

Keystone Pipeline Flow to Key US Hub Cut by 15% After Power Snag
2022-07-21 23:50:32.269 GMT

By Sheela Tobben and Robert Tuttle

(Bloomberg) -- TC Energy has reduced operating rates on a segment of the Keystone pipeline running from Canada's oil sands to America's largest crude hub by about 15% following a disruption to power supplies.

The rate cut impacts the section stretching from Hardisty, Canada, to Cushing, Oklahoma, according to people familiar with the matter. Clients that receive crude on the system's Marketlink segment, which runs from Cushing to Texas's Gulf Coast haven't experienced any disruptions to deliveries, they said.

Pipeline operator TC Energy declared a force majeure on deliveries earlier this week after power supply was disrupted to a facility on the system near Huron, South Dakota. No TC Energy-operated facilities were damaged in the incident, the company said in an update Wednesday. A nearby power supplier said one of its substation transformers was damaged over the weekend.

A prolonged disruption could pressure already tight inventories at the nation's most important crude hub, which serves as the delivery point for oil futures contracts traded on the New York Mercantile Exchange. A tightening in supplies can trigger sharp rises in prices for crude barrels that are available immediately versus those delivered in the future. High energy prices, a main driver of inflation, have been a challenge for President Joe Biden, who has sought more oil output from the world's producers.

The transcontinental Keystone network begins in western Canada and runs to Nebraska, where it splits. One branch heads east to Illinois and the other runs south through Oklahoma and onward to America's refining hub on the Texas Gulf Coast. The line had a capacity of 611,000 barrels-a-day, according to Canada Energy Regulator data published in March.

There is still no timeline for the restoration of power service, TC Energy said in its last update. Media officials declined to respond to questions, saying in an email the company doesn't comment on commercially sensitive matters.

To contact the reporters on this story:
Sheela Tobben in New York at vtobben@bloomberg.net;
Robert Tuttle in Calgary at rtuttle@bloomberg.net
To contact the editor responsible for this story:
Jasmina Kelemen at jkelemen2@bloomberg.net

https://www.jpost.com/middle-east-news/iran-news/article-712327

Khamenei adviser says Tehran 'capable of building nuclear bomb'

Tehran will also directly respond against Israel should its security be targeted, the report says citing the advisor.

By REUTERS, JERUSALEM POST STAFF

Published: JULY 17, 2022 16:35

Updated: JULY 17, 2022 16:50

Tehran is technically capable of making a nuclear bomb but has yet to decide whether to build it, a senior adviser to Iran's Supreme Leader Ali Khamenei told Al Jazeera's Arabic service on Sunday.

Tehran will also directly respond against Israel should its security be targeted, the report says citing the advisor.

"In a few days we were able to enrich uranium up to 60% and we can easily produce 90% enriched uranium ... Iran has the technical means to produce a nuclear bomb but there has been no decision by Iran to build one," Kamal Kharrazi said.

"In a few days we were able to enrich uranium up to 60% and we can easily produce 90% enriched uranium ... Iran has the technical means to produce a nuclear bomb but there has been no decision by Iran to build it."

Kamal Kharrazi

Background

In 2018, former US President Donald Trump ditched Tehran's 2015 nuclear deal with world powers, under which Iran curbed its uranium enrichment work, a potential pathway to nuclear weapons, in exchange for relief from economic sanctions.

About a year into Trump's "maximum pressure" policy on Iran, Tehran started violating the pact's nuclear restrictions.

Iran has long denied seeking nuclear weapons, saying it is refining uranium only for civilian energy uses, and has said its breaches of the international deal are reversible if the United States lifts sanctions and rejoins the agreement.

Indirect talks between Iran and President Joe Biden's administration, which aim to bring both Washington and Tehran back into compliance with the nuclear pact, have stalled since March.

Kharrazi said Tehran would never negotiate over its missile program and regional policy, as demanded by the West and its allies in the Middle East.

Just recently, the US-Israel agreement on the Jerusalem Declaration of the US-Israel Strategic Partnership includes a joint stance against Iran's nuclear program and regional aggression, stating they will utilize “all elements of national power” to prevent Iran from obtaining a nuclear weapon.

Last Saturday, the US and Saudi Arabia agreed on the importance of stopping Iran from "acquiring a nuclear weapon," during a visit by US President Joe Biden, a joint statement carried by the Saudi state news agency (SPA) said.

A *New York Times* report from last month found that there's a new Iranian nuclear facility that is under construction south of the Natanz nuclear complex.

Russian Oil Going About 10% Cheaper in China as Flows Upended
2022-07-19 21:00:00.3 GMT

By Serene Cheong
(Bloomberg) -- China's appetite for cheap Russian oil continues to reverberate through the global market, with buyers being offered their favorite crude from the OPEC+ producer at a deep discount to similar-quality barrels.
Russian ESPO oil from the nation's east is being offered at a discount of $10 to $12 a barrel to competing varieties from Brazil, said traders with knowledge of the matter. The flow of cheap Russian crude to China has already forced Iran to discount some of its grades and crimped imports from West Africa.
The price of ESPO is about 10% lower than Brazilian crudes such as Lula and Sapinhoa, taking into account costs such as freight, traders said. The grades are sought after by Chinese refiners because of the relatively low sulfur content and sizable yield of distillates such as diesel.
China and India have become willing buyers of Russian crude after most in Europe and the US halted direct imports following the invasion of Ukraine. US Treasury Secretary Janet Yellen is currently traveling through Asia championing a price cap on Russian oil to limit revenues that help the Kremlin fund its war, while still keeping flows from the OPEC+ producer on global markets.
ESPO is being offered at a discount of about $1 to $2 a barrel to London's Brent oil price, said traders, compared with Lula and Sapinhoa that are being offered at premium of around $10 to the global benchmark. Prices are quoted on a delivered basis to China, they added. Tight physical markets are lifting spot differentials for cargoes from all corners of the world.
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*T
Traders said Russian grades such as ESPO are among the cheapest available in the spot market after taking into account its quality and yield. Cargoes can be shipped to China in around five days, compared with two months for oil from Brazil.
China's independent refiners, known as teapots, and state-own processors have purchased most of the cargoes of ESPO that are shipped from Kozmino port in the past weeks, traders said.
Cheaper Russian crude is allowing companies to cash in on improving refining margins as they boost processing rates.

--With assistance from Sarah Chen.

To contact the reporter on this story:
Serene Cheong in Singapore at scheong20@bloomberg.net
To contact the editors responsible for this story:
Serene Cheong at scheong20@bloomberg.net
Ben Sharples, Jake Lloyd-Smith

To view this story in Bloomberg click here:
https://blinks.bloomberg.com/news/stories/REL6CODWRGG0

Oil price outlook – Snapshot: July 19, 2022

Disclaimer: Please note that BNEF does not offer investment advice. Clients must decide for themselves whether current market prices fully reflect the issues discussed in this note.

Category	Indicator	Signal	Comment
Fundamentals	**Refinery margins**	↔	• Refinery margins rebounded slightly after seeing a strong decline over the previous two weeks.
	Crude stocks	↓	• In the week ending July 8, land crude-oil storage levels in BloombergNEF's tracked regions (the US, ARA and Japan) grew by 0.9% to 549.4 million barrels (m bbl). The stockpile **deficit** against the five-year average (2015-19) **narrowed from 61.6m bbl to 54.8m bbl**. *ARA stands for Asterdam, Rotterdam and Antwerp.* • Including global floating crude stockpiles from the same week, total crude oil inventories increased by 0.8% to 640.5m bbl, with the stockpile **deficit narrowing from 25.0m bbl to 20.8m bbl.**
	Product stocks	↓	• In the week ending July 8, gasoline and light distillate stockpiles in BNEF's tracked regions (the US, ARA, Singapore, Japan and Fujairah) rose by 1.6% week-on-week to 265.5m bbl, with the stockpile **deficit** against the three-year average (2017-19) **narrowing from 10.0m bbl to 5.1m bbl**. Gasoil and middle distillate stockpiles in BNEF's tracked regions were up 1.8% to 144.7m bbl, with the stockpile **deficit** against the three-year average **narrowing from 34.9m bbl to 34.1m bbl**. • Total oil product stockpiles in tracked regions increased 1.7% to 929.9m bbl, with the stockpile **deficit** against the three-year seasonal average **narrowing from 66.4m bbl to 55.0m bbl**. Altogether, crude and product stockpiles rose 1.3% to 1,580.4m bbl, with the stockpile **deficit narrowing from 91.3m bbl to 75.8m bbl.**
	Demand indicators	↓	• In the week to July 19, global jet fuel demand from commercial passenger flights grew just 0.1% week-on-week to 5.71 million barrels per day. Jet fuel consumption by international passenger flight departures was up by 22,200 barrels per day (or +0.7%) week-on-week, while consumption by domestic passenger flight departures decreased by 15,200 barrels per day (or -0.6%). In the week to July 17, flight departures in the Eurocontrol area dropped to 86.3% of the equivalent week in 2019 (down from 87.3% last week, 4-week MA flat at 87.0%), while in the week to July 16, passenger throughput in the US rose to 87.9% of the equivalent week in 2019 (up from 83.2% last week, 4-week MA fell to 89.4% from 89.5%). • Global mobility indices were weaker over the past week, according to BNEF's calculations based on Google, TomTom and Baidu data. The Google global mobility index dropped by 1.8% in the week to July 13, as declines in Europe (-2.7%), Asia Pacific ex-China (-2.9%), the Middle East (-13.2%) and Africa (-10.8%) offset growth in the Americas (+2.6%). Meanwhile, in the same week, TomTom's peak congestion data showed a strong recovery in North America (+11.4%) but was met with declines in Europe (-12.3%) and Asia Pacific ex-China (-4.7%). Road congestion in China's key 15 cities was down by 8.0 percentage points to 104.0% of January 2021 levels in the week to July 13, according to BNEF's calculation based on Baidu data. • Daily average Covid-19 cases rose by 7% to 944,000 in the week to July 16. The Asia Pacific number increased by 36% to 240,000 daily cases (with China flat at 429 cases), the Americas was up 19% to 269,000 daily cases, and Europe fell by 8% to 405,000 daily cases.
Financial	**Macro indicators**	↓	• The dollar index averaged 108.1 over the past week and was 1.5% higher than the week before.
	Hedge fund positioning	↔	• In the week to July 12, Managed Money net positioning in the oil complex was up by 8.5m bbl (or +1.9%) week-on-week to 453.7m bbl, and rose to the 10th percentile (versus the 9th percentile last week) of the past five years.
	Options chains and volatility	↔	• There was a significant surge in open interest for WTI Dec-22 calls. Brent and WTI 1M volatility skews fell over the past week.
Outlook	**Weekly call**	↓	• BNEF is bearish on oil prices for the week ahead, with Brent Sep-22 trading at \$105.88/bbl and WTI Sep-22 trading at \$99.03/bbl at the time of writing. • The global mobility index inched lower over the past week, particularly in Europe and Asia. Global jet fuel demand was virtually flat following multiple weeks of consecutive growth, with the 4-week average air traffic in Europe and passenger throughput in the US largely unchanged against their respective 2019 levels. Weekly road congestion levels in China fell significantly over the past week, losing most of the gains made during the easing of Covid-19 restrictions in June. Shandong private refinery run rates fell for the first time in 10 weeks. • Weekly crude and oil product inventories - particularly crude oil and gasoline - made a bearish move over the past week, as its deficit against the three-year (2017-19) seasonal range shrank to January levels. Crude stocks on land inched back to its five-year (2015-19) seasonal range for the first time since January. • The International Energy Agency (IEA) and US Energy Information Administration (EIA) made bearish revisions to their oil fundamentals 2022 expectations, as their call on OPEC crude forecasts were revised down by 0.42-0.43m b/d (million barrels per day). On average, for 2022, key agencies expect global demand to grow by 2.4m b/d, and non-OPEC supply to grow by 2.1m b/d. For 2023, key agencies expect demand to grow by 2.3m b/d, and non-OPEC supply to grow by 0.79m b/d.

BloombergNEF

Past outlooks

Disclaimer: Please note that BNEF does not offer investment advice. Clients must decide for themselves whether current market prices fully reflect the issues discussed in this note

Date of report	Refinery margins	Crude stocks	Product stocks	Demand indicators	Commitment of traders	Options chain and volatility	BNEF week ahead call	Brent/WTI price at time of writing ($/bbl)	Web Link
July 19	↔	↓	↓	↓	↔	↔	↓	Brent-Sep: 105.88 WTI-Sep: 99.03	
July 11	↓	↓	↑	↓	↓	↓	↓	Brent-Sep: 105.18 WTI-Aug: 102.34	
July 5	↓	↑	↓	↑	↓	↓	↔	Brent-Sep: 111.71 WTI-Aug: 107.91	
June 21	↑	↓	↑	↑	↓	↓	↔	Brent-Aug: 115.81 WTI-Aug: 110.34	
June 13	↔	↑	↔	↔	↑	↔	↔	Brent-Aug: 120.06 WTI-Jul: 118.58	
June 6	↔	↑	↑	↔	↑	↔	↔	Brent-Aug: 119.88 WTI-Jul: 118.94	
May 30	↔	↑	↓	↔	↔	↔	↔	Brent-Aug: 116.46 WTI-Jul: 115.81	
May 23	↑	↑	↑	↔	↑	↑	↑	Brent-Aug: 110.88 WTI-Jul: 111.11	
May 16	↓	↓	↔	↑	↓	↓	↔	Brent-Jul: 112.22 WTI-Jul: 109.69	
May 9	↔	↓	↔	↑	↓	↔	↑	Brent-Jul: 109.93 WTI-Jun: 107.22	
May 2	↑	↔	↑	↑	↔	↔	↑	Brent-Jul: 103.87 WTI-Jun: 101.25	
April 25	↑	↑	↔	↓	↑	↔	↔	Brent-Jul: 101.31 WTI-Jun: 97.39	
April 18	↑	↓	↔	↑	↓	↓	↔	Brent-Jun: 111.97 WTI-Jun: 106.31	
April 11	↑	↓	↔	↓	↓	↓	↓	Brent-Jun: 98.34 WTI-May: 93.69	

To view past reports on terminal, go to NI BNEFOIL, search for the report and click on the icon to the far right:

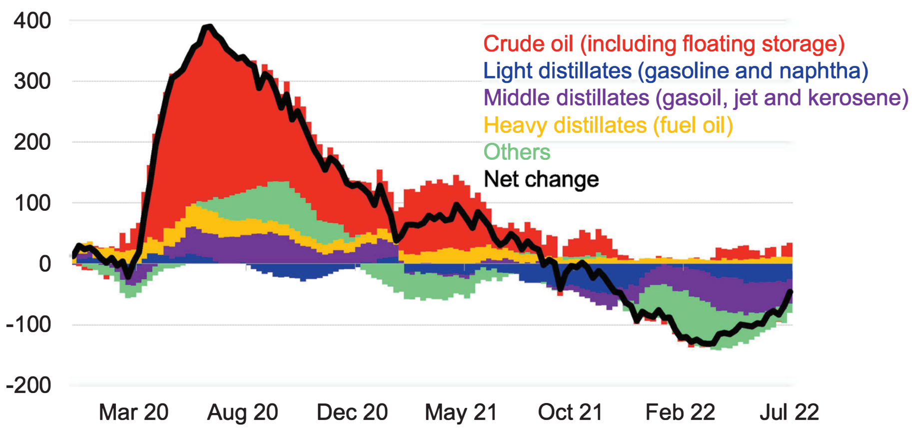
BloombergNEF

Weekly oil inventories

Stockpiles see some growth momentum

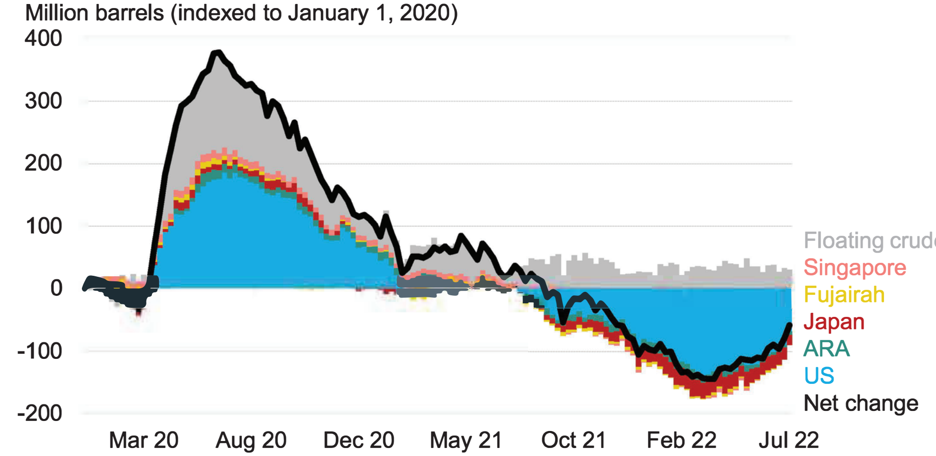
Weekly oil inventories by type

Million barrels (indexed to January 1, 2020)



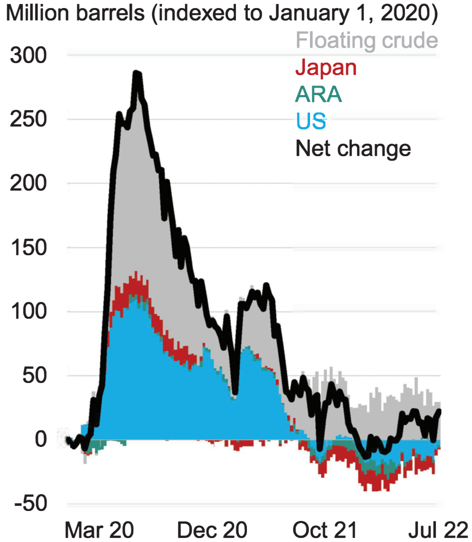
Weekly oil inventories by region

Million barrels (indexed to January 1, 2020)



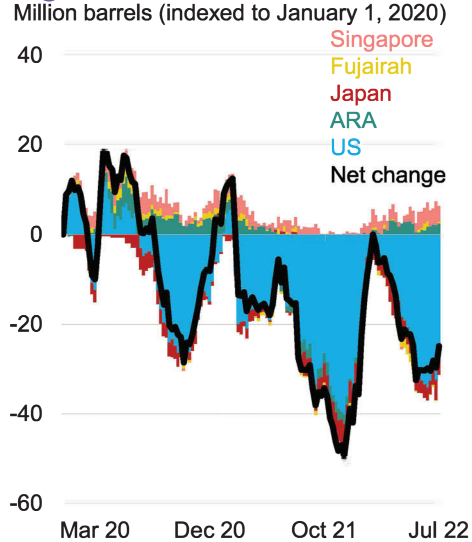
Crude inventories

Million barrels (indexed to January 1, 2020)



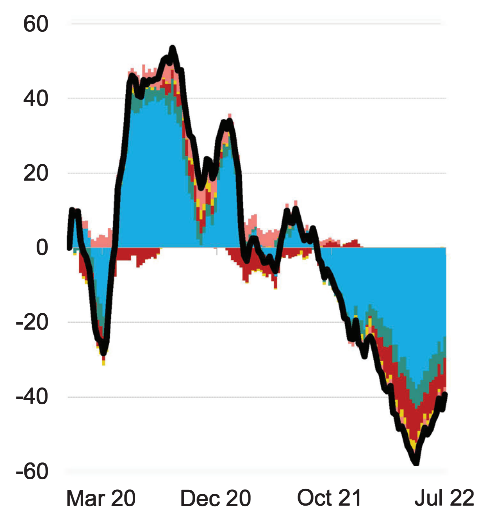
Light distillate inventories

Million barrels (indexed to January 1, 2020)



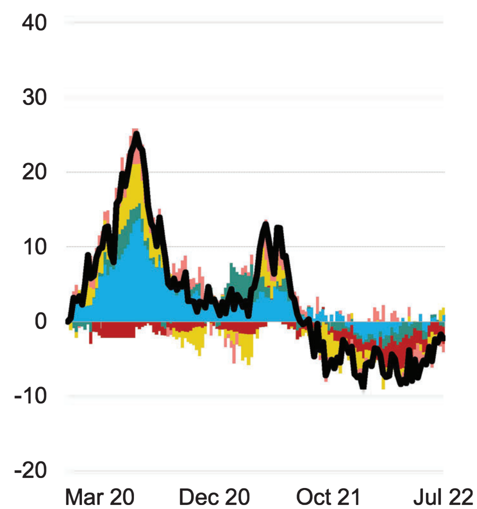
Middle distillate inventories

Million barrels (indexed to January 1, 2020)



Heavy distillate inventories

Million barrels (indexed to January 1, 2020)



*Source: BloombergNEF, US EIA, PJK, IE Singapore, FEDCom/Platts, PAJ ,Vortexa, Genscape. As of the week ending **July 8, 2022**.*

Fundamentals | Financial

Aggregated oil stockpiles

Note: We will continue to compare current inventory levels with the three-year (2017-19) seasonal average for the time being. Crude inventory data for Shandong teapots were excluded since January 10.

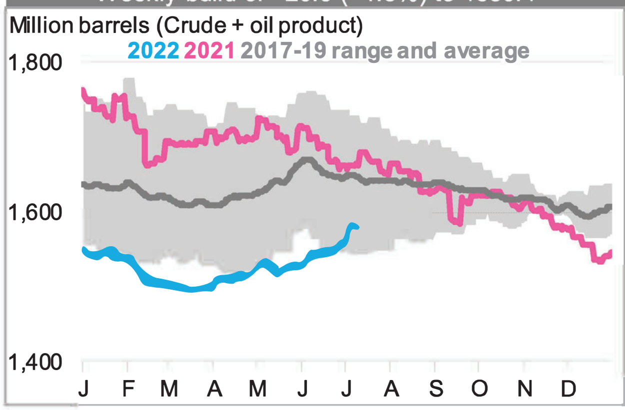
Bearish: Stockpiles deficit narrowed from 91.3m bbl to 75.8m bbl

- Charts below use the **2017-19** (three-year) seasonal stockpiles. All calculations are recalibrated to measure against their respective three-year seasonal averages, so the values below may differ from the previous slides.
- Land crude inventories include the US, ARA, Japan and Shandong Teapots. Floating storage data are global. Oil product storage includes the US, ARA, Japan, Singapore, Shandong Teapots and Fujairah. Floating crude inventories may have been adjusted since the previous report – see slide 8 for further info.

Total oil and product stocks = Total crude stocks (land + floating) + Total oil product stockpiles

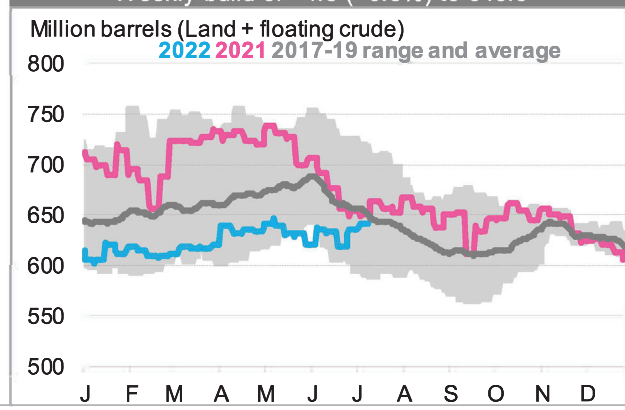
Total oil and product stocks

Weekly build of +20.9 (+1.3%) to 1580.4



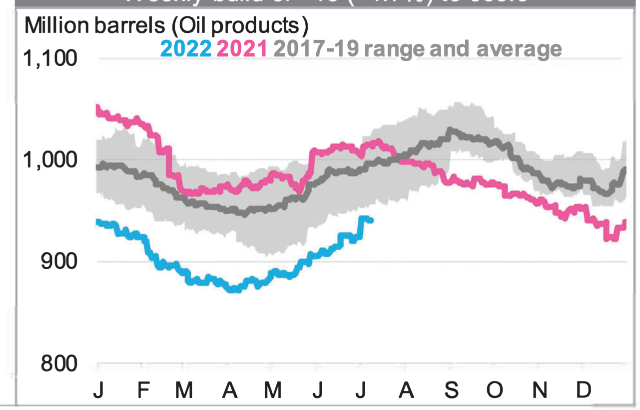
Total crude stocks (land + floating)

Weekly build of +4.8 (+0.8%) to 640.5



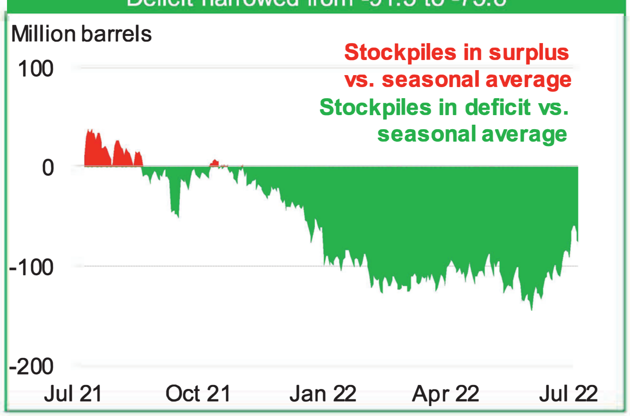
Total oil product stockpiles

Weekly build of +16 (+1.7%) to 939.9

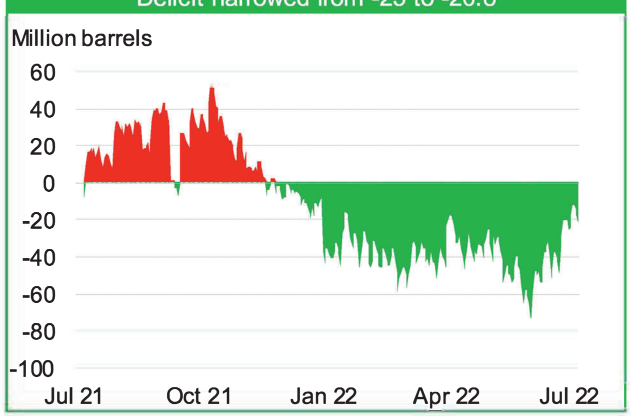


Charts below subtract current stockpiles by the 2017-19 (three-year) seasonal average

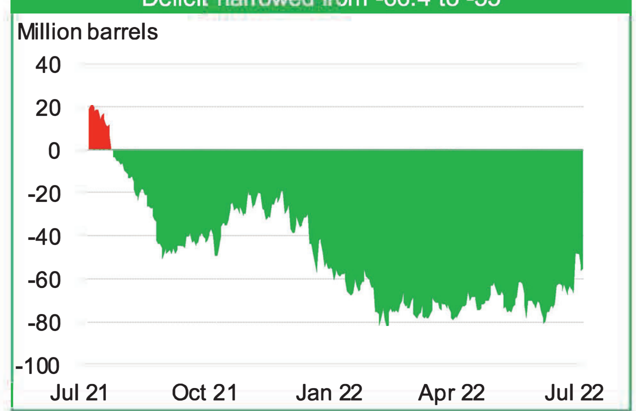
Deficit narrowed from -91.3 to -75.8



Deficit narrowed from -25 to -20.8



Deficit narrowed from -66.4 to -55



*Source: BloombergNEF, US EIA, PJK, IE Singapore, FEDCom/Platts, PAJ ,Vortexa, Genscape. As of the **week ending July 8, 2022.***

Crude stocks: Land

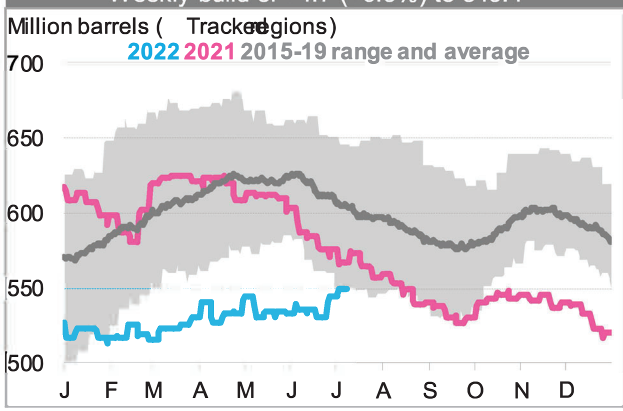
Note: We will continue to compare current inventory levels with the three-year (2017-19) seasonal average for the time being. Crude inventory data for Shandong teapots have been excluded since January 10.

Bearish: Deficit narrowed from 61.6m bbl to 54.8m bbl against the seasonal average

- Crude inventory rises when supply outstrips demand (meaning more physical oil is available than is needed). High or rising inventories are therefore a bearish factor for oil prices. Every year, storage levels fluctuate due to seasonal demand trends. The intra-year directional movement of stockpile levels is somewhat predictable, yet the magnitude of movement can differ significantly from expectations.
- A useful way to gauge if the intra-year storage levels differ from the norm is to measure the difference between the current and seasonal average inventory levels.

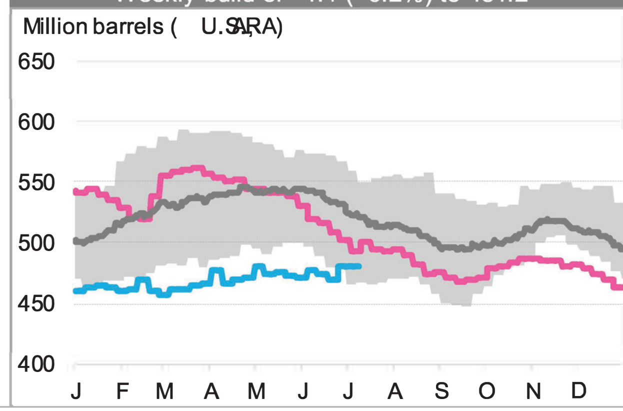
Land storage: Total

Weekly build of +4.7 (+0.9%) to 549.4



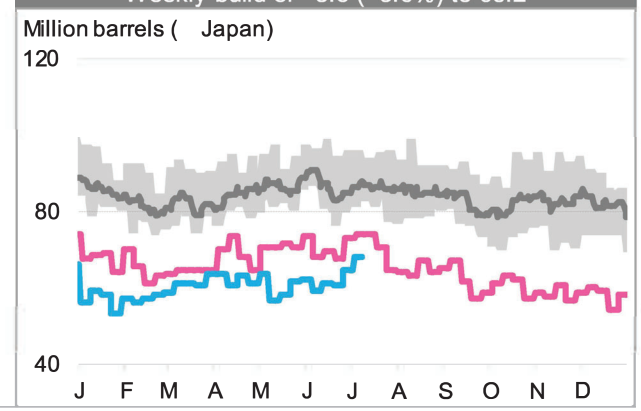
Land storage: West of Suez

Weekly build of +1.1 (+0.2%) to 481.2



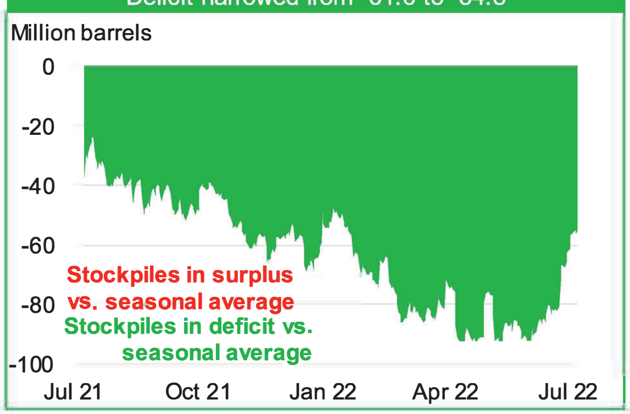
Land storage: East of Suez

Weekly build of +3.6 (+5.6%) to 68.2

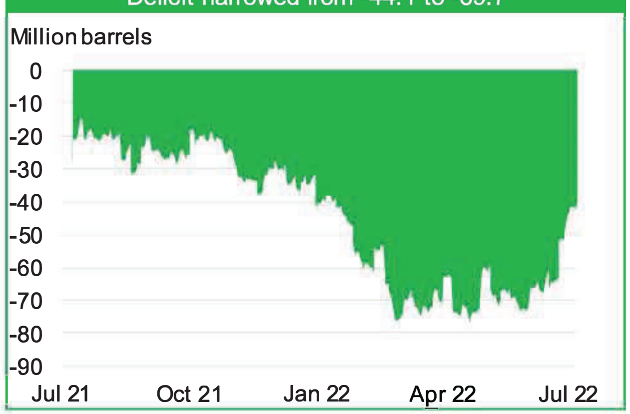


Charts below subtract current stockpiles by the 2015-19 (five-year) seasonal average

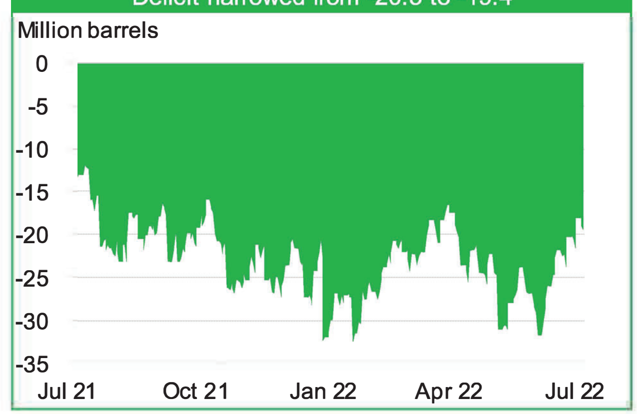
Deficit narrowed from -61.6 to -54.8



Deficit narrowed from -44.1 to -39.7



Deficit narrowed from -20.5 to -19.4



*Source: BloombergNEF, US EIA, Genscape, PAJ. Note: As of the **week ending July 8, 2022.***

Fundamentals Financial

Crude stocks: Floating

Neutral: Surplus flat over the past week

- Floating storage is only profitable if the strength of contango (future versus prompt price) is greater than the tanker costs. Therefore, tankers become floating storage when the profit from a storage play exceeds the cost of the forward freight agreement (FFA).
- The floating storage data used in the "Oil Price Outlook" slide is for the previous week (i.e., the week before the latest data shown below). That data are available in the table to the right.

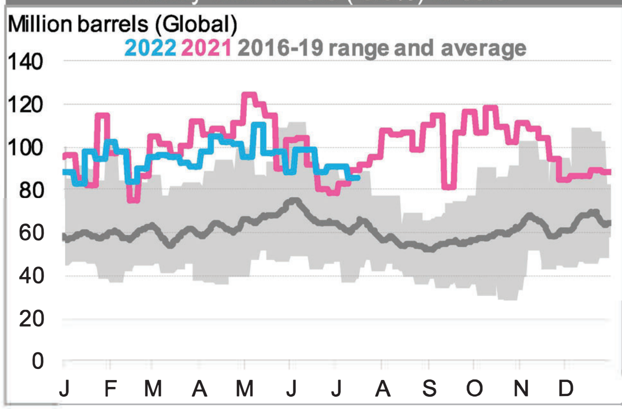
Vortexa's revision to global floating crude inventories

Million barrels	Previous report	Current report	Vortexa's revision
Inventories in week of July 8	78.2	**91.1***	+12.9
Inventories in week of July 1	93.4	91.0	-2.4

*Note: *Figure used to aggregate total oil inventories on page 8.*

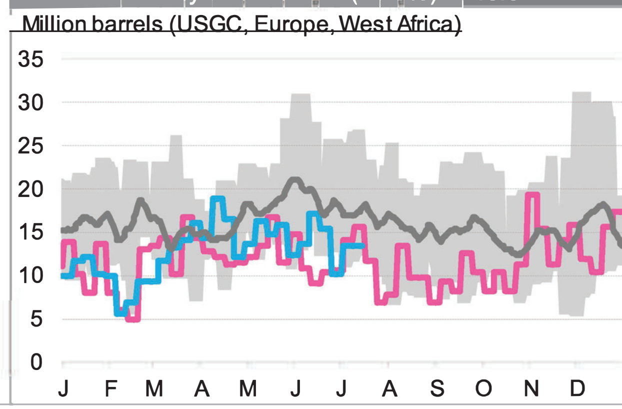
Floating storage: Total

Weekly draw of -5.8 (-6.3%) to 85.3



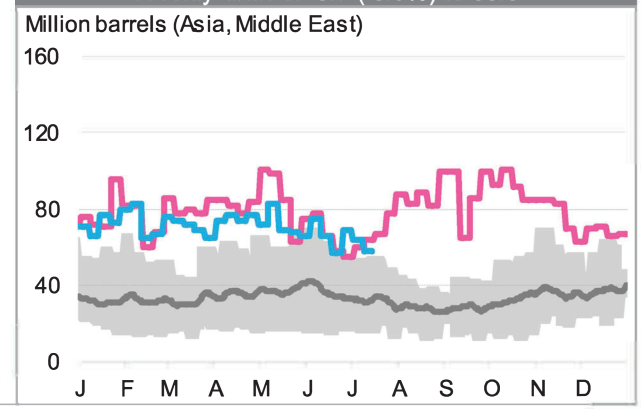
Floating storage: West of Suez

Weekly build of +0.2 (+1.0%) to 13.5



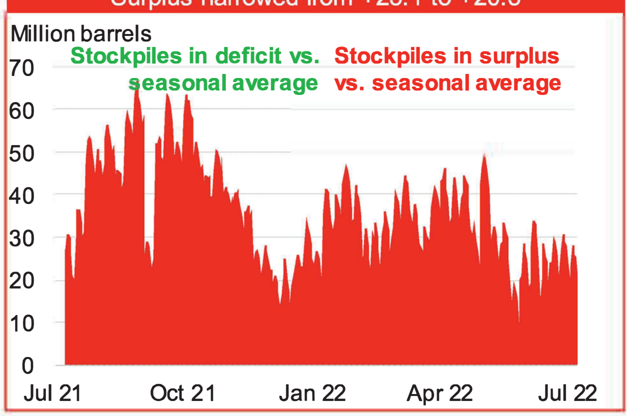
Floating storage: East of Suez

Weekly draw of -5.7 (-8.9%) to 58.3

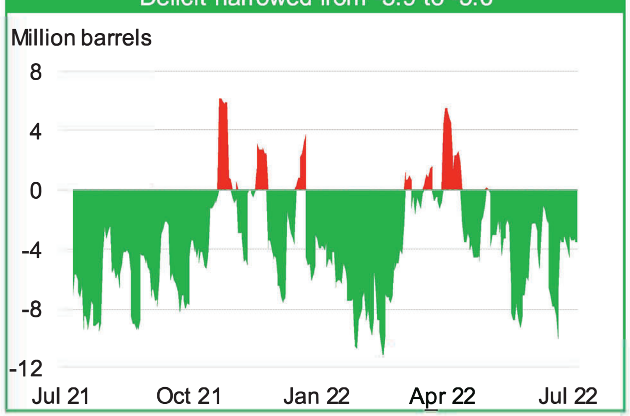


Charts below subtract current stockpiles by the 2016-19 (four-year) seasonal average

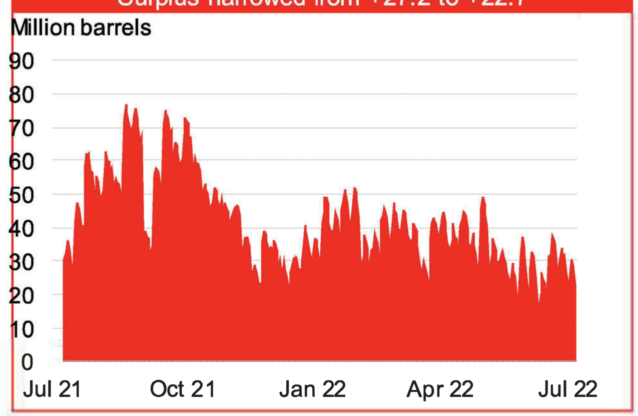
Surplus narrowed from +23.1 to +20.3



Deficit narrowed from -3.9 to -3.6



Surplus narrowed from +27.2 to +22.7



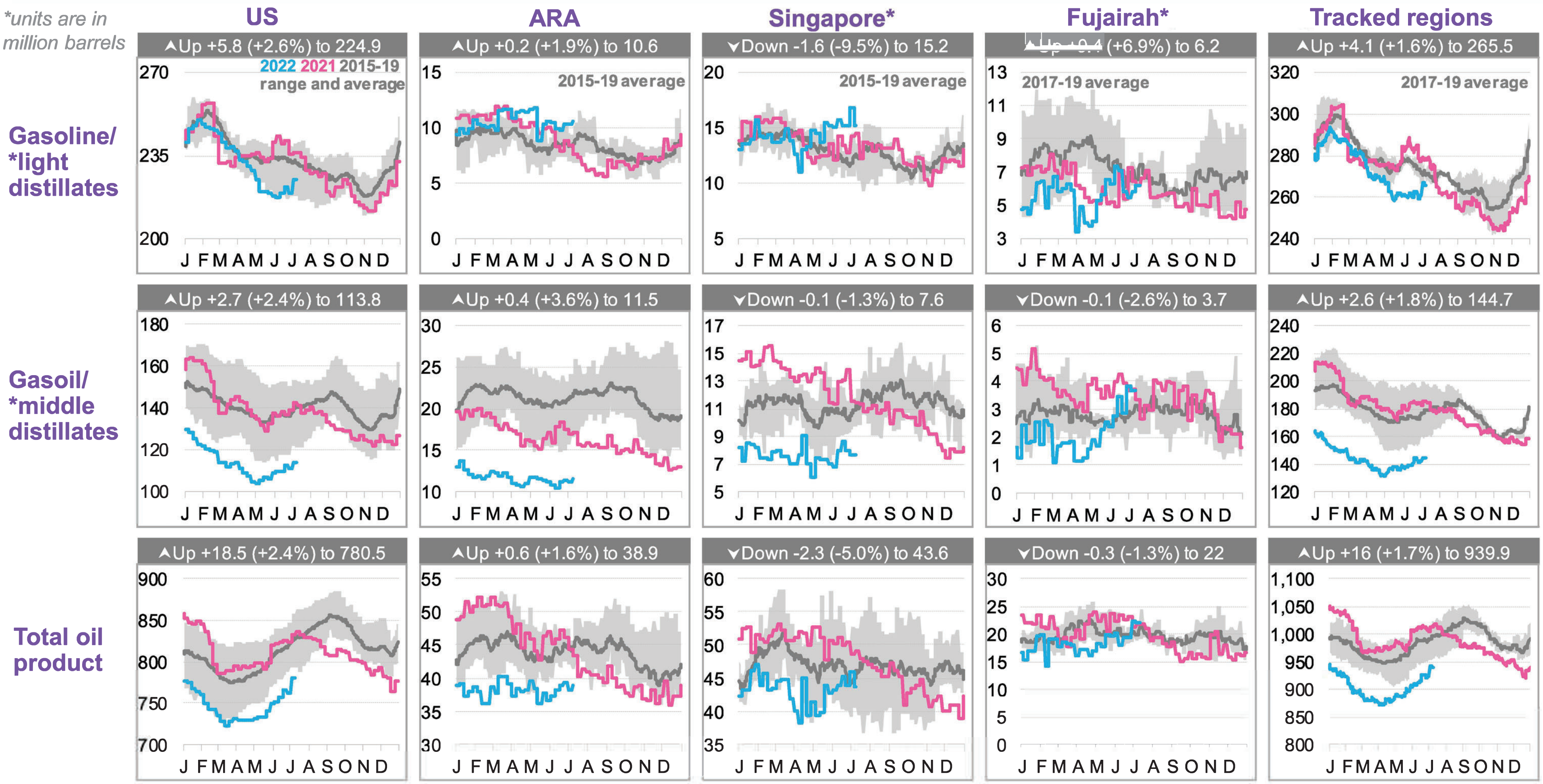
Source: BloombergNEF, Vortexa. Note: As of the ***week ending July 15, 2022. *Raw data from Vortexa are revised frequently, so the data in this report might change week-to-week.***

Fundamentals | Financial

Product stocks: Current versus seasonal average

Bearish: Oil product stockpiles in tracked regions rose 1.7% week-on-week

- Chart legend are as follows: 2022, 2021 and the 2015-19 range and average. For Fujairah and tracked regions, the **2017-19 (three-year) seasonal range** is shown. Tracked regions include US, ARA, Singapore, Japan and Fujairah



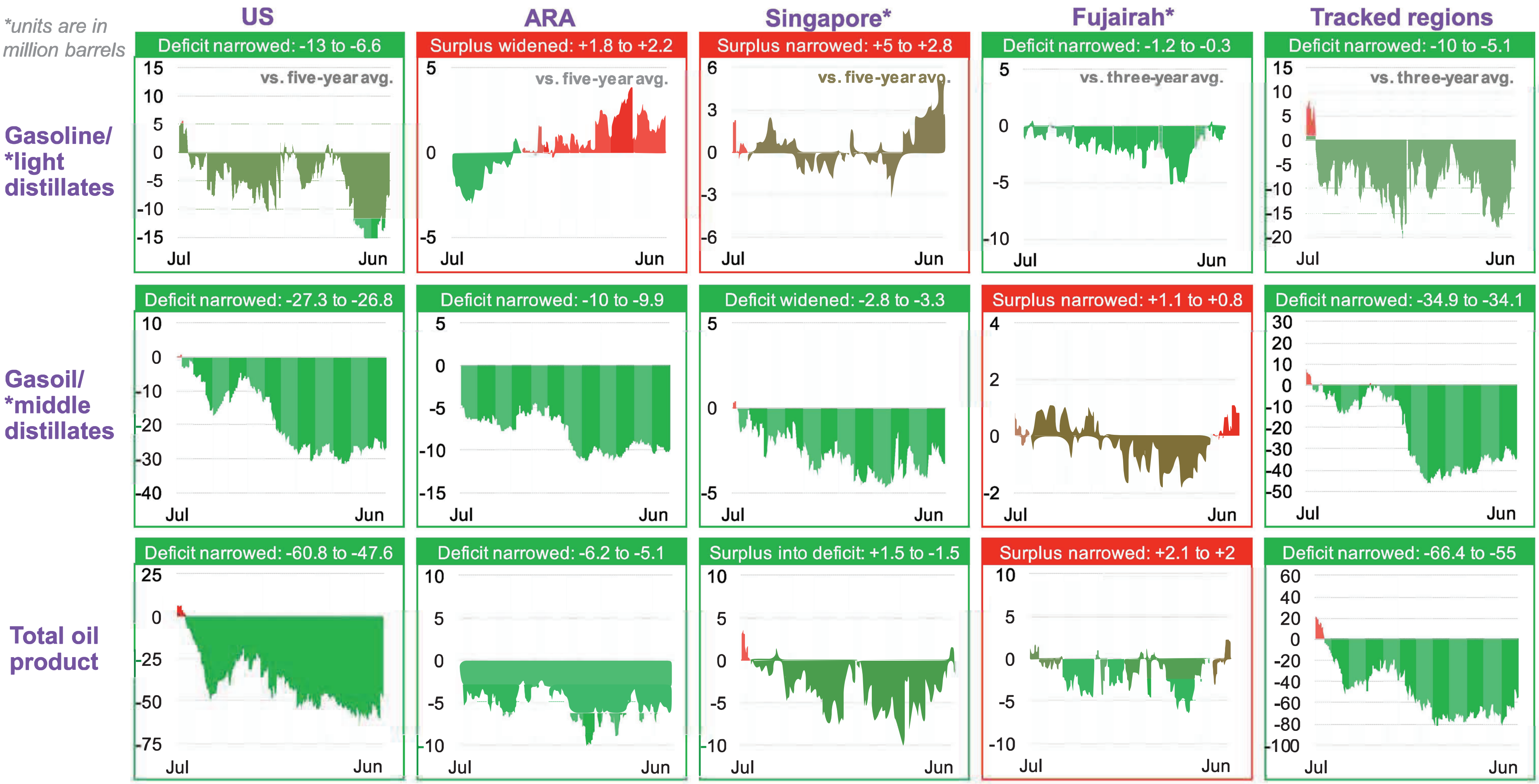
*Source: BloombergNEF, US EIA, PJK, IE Singapore, FEDCom/Platts, PAJ. Note: As of the **week ending July 8, 2022.***

BloombergNEF

Product stocks: Current versus seasonal average

Bearish: Oil product stockpile deficit against the seasonal average narrowed from 66.4m bbl to 55.0m bbl

- The charts below compare each respective regional product stockpile level against the seasonal average defined in the previous slide.
- **Red** signifies that the current stockpile levels are higher (in surplus) than the seasonal average, while **green** signals that the current stockpiles are lower (in deficit).



*Source: BloombergNEF, US EIA, PJK, IE Singapore, FEDCom/Platts, PAJ. Note: As of the **week ending July 8, 2022.***

Jul 21, 2022 09:08:02

OIL DEMAND MONITOR: US, UK Lag Behind Asia's Gasoline Recovery

Beijing, Shanghai traffic congestion surged again in June

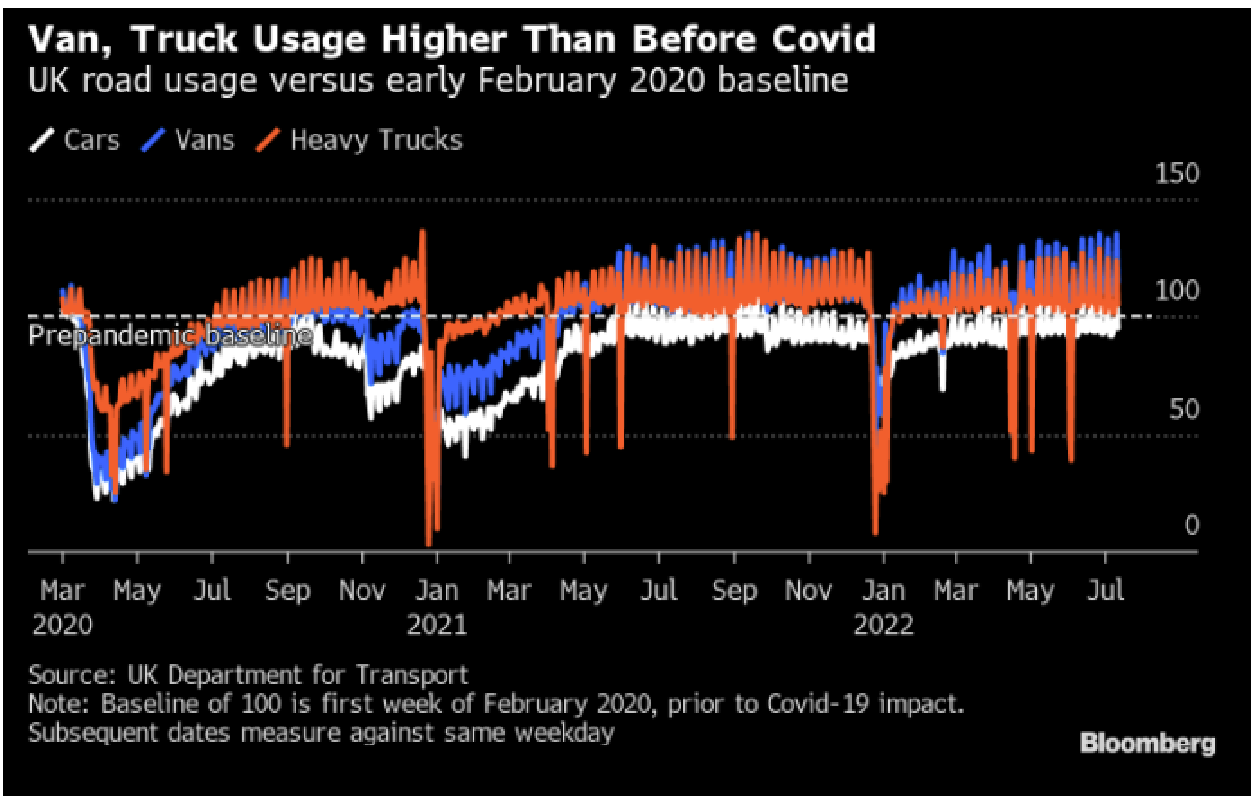
US gasoline demand rose w/w though still lower than in 2019

By Stephen Voss

(Bloomberg) -- Gasoline demand remains sub-par in the US and UK with high retail prices denting the appeal of long summer vacation trips while other parts of the world, including India and China, show a more robust post-pandemic recovery in road fuel consumption.

US demand rose in the week ended July 15 though it still trailed 2019 levels by about 8%. The total number of vehicles miles traveled in the US in May, though higher than the prior two years, didn't surpass 2019 levels, government estimates show. Gasoline currently costs more than $4 a gallon across almost all US states.

Sales of diesel and gasoline combined in the UK in the week ended July 17 were 12% less than a baseline level set in early 2020, before the country's first Covid-19 lockdown. Another set of government data shows car usage across Great Britain is 5% less than pre-pandemic times, while the volume of trucks and vans is higher -- a nod to the work-from-home and on line-delivery culture.



The impact of high oil prices will differ across countries as governments try to shield consumers from inflation through a patchwork of tax relief, subsidies and export bans. Gasoline sales in Italy last month were 4.7% higher than the same month of 2019, and the tally for diesel and gasoil was up 0.5%, according to the Ministry of Economic Development.

India, China

Road fuel demand is relatively buoyant in India, and is recovering fast in China, two nations that are hugely important to future trends in energy use.

India's total oil products consumption in June was 5.6% higher than the equivalent month in 2019, according to a planning and analysis unit of the country's petroleum ministry. More recent data, from a Bloomberg survey of refinery officials, show a month-on-month decline into early July, though gasoline and diesel sales remain comfortably ahead of 2019 levels, unlike jet fuel. A seasonal dip in Indian fuel consumption is typical at this time of the year because of monsoon rains that lasts till September.

China's apparent gasoline demand rose back above pre-virus levels last month as the nation cautiously eased Covid restrictions, according to Bloomberg Intelligence calculations based on government data. Demand for gasoline climbed to 10.94 million tons in June, or about 3 million barrels a day, which was 7.4% higher than in June 2019.

Average traffic congestion in 15 Chinese cities with the highest vehicle registrations has now been above a January 2021 baseline since early May, according to BloombergNEF calculations using Baidu data. Beijing and Shanghai also recovered above that level in June after lengthy coronavirus lockdowns subdued activity for many weeks earlier this year. Several cities have shown a dip in congestion in recent days, including Shenzhen where new lockdowns have been implemented in some neighborhoods as infections continue to spread.

Elsewhere around the world, city traffic levels aren't particularly bustling, which may be a sign of summer vacations beginning in the Northern Hemisphere.

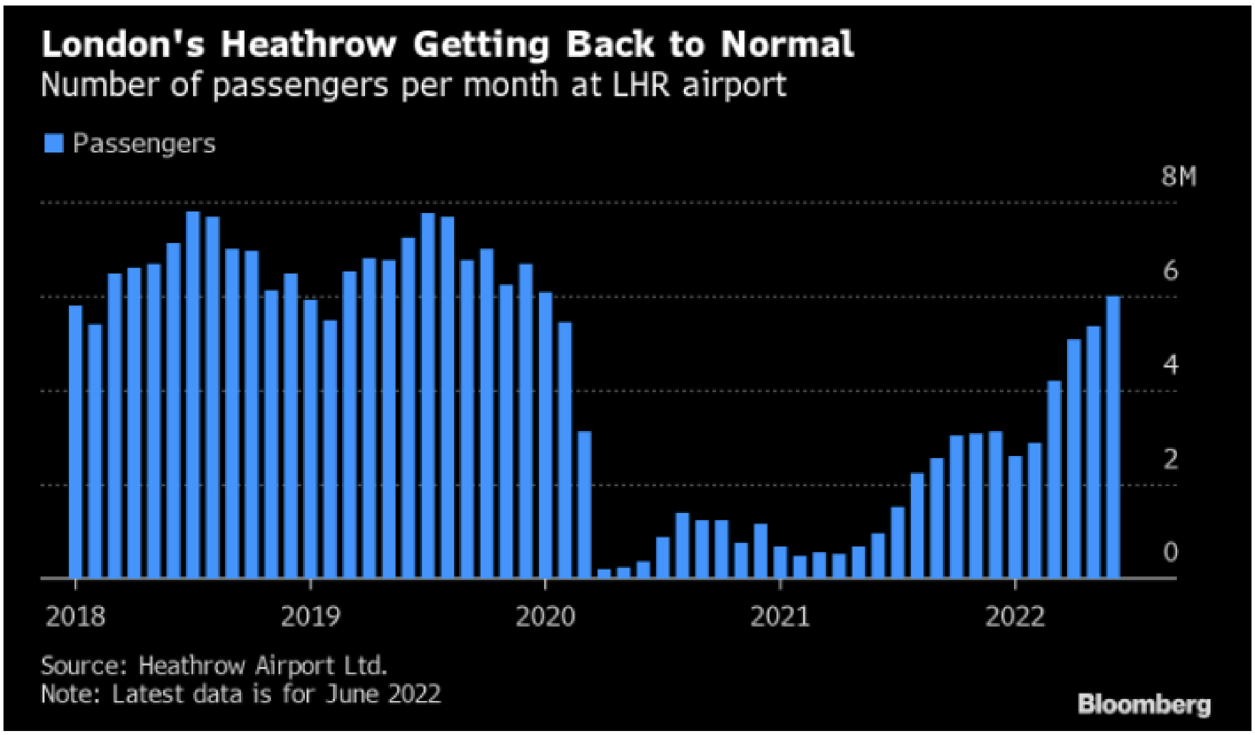
None of the 13 cities regularly tracked in this monitor had congestion above typical 2019 levels at 8 a.m. local time on Monday morning, according to data from navigation technology company TomTom NV.

Jakarta was closest, registering a decline of 9%, with Taipei next at -25%. Tokyo traffic was extremely light, due to a holiday.

Air Travel

Information from several countries and sources corroborates the view that the global airline industry is still not yet back to normal, with recent weekly and monthly data showing that jet fuel consumption remains below pre-pandemic levels by 12% in the US, 18% in India, 19% in France, 7% in Portugal and 19% in Italy.

The biggest hole in the global market is the lack of international flights to and from China due to Covid-19 restrictions, though seat capacity data shows China's domestic market is pretty much back to normal. In some locations around the world, such as London, a recent upswing in passenger flow has been so rapid that airports and airlines have struggled to cope with the number of customers and baggage, after running down staff levels during the pandemic.



A steady recovery in European flights that was notable during February, March and April, has slowed down in recent weeks, according to a daily tally of arrival and departures recorded by Eurocontrol, which helps coordinate the region's air traffic.

The latest tally shows 30,772 flights per day in Europe on July 20, with the seven-day rolling average trailing the same period of 2019 by 13%. That's little changed from a 15% deficit at the start of May, though much improved from late January when the gap was as large as 37%.

Tracking by Rightradar24 shows that the worldwide number of commercial flights is about 14% less than the equivalent pre-pandemic date in 2019. That 14% is the same as the deficit estimated by DAG Aviation in its measurement of the number of seats offered by airlines globally, compared with the same week of 2019.

The Bloomberg weekly oil-demand monitor uses a range of high-frequency data to help identify emerging trends.

Following are the latest indicators. The first three tables shows fuel demand and road congestion, the next shows air travel globally and the fifth is refinery activity:

Demand Measure	Location	% y/y	% vs 2020	% vs 2019	% m/m	Freq	Latest Date	Latest Value	Source
Gasoline	US	-8.3	-0.3	-7.5	+0.2	w	July 15	8.52m b/d	EIA
Distillates	US	-5.8	+15	+3.7	-4.3	w	July 15	3.70m b/d	EIA
Jet fuel	US	+17	+53	-12	-3	w	July 15	1.64 b/d	EIA
Total oil products	US	+2.2	+19	+3.8	+5.6	w	July 15	21.0 b/d	EIA
All motor vehicle use index	UK	+6.4	+19	unch	unch	w	July 11	100	DfT
Car use	UK	+4.4	+19	-5	-1	w	July 11	95	DfT
Heavy goods vehicle use	UK	+1.9	+7.1	+5	-3.7	w	July 11	105	DfT
Gasoline (petrol) avg sales per filling station	UK	-1	+14	-8.7	-0.5	w	July 17	6,655 liters/d	BEIS
Diesel avg sales per station	UK	-5.3	+2.3	-15	-2.2	w	July 17	8,922 liters/d	BEIS
Total road fuels sales per station	UK	-3.5	+6.8	-12	-1.5	w	July 17	15,578 liters/d	BEIS
China 15 cities	China				-3.4	d	July 11	106	Baidu / BNEF

Gasoline	India	+23		+28	-7.8	2/m	July 1-15	1.28m tons	Bberg
Diesel	India	+27		+14	-14	2/m	July 1-15	3.17m tons	Bberg
LPG	India	+14		+8.6	+8.3	2/m	July 1-15	1.25m tons	Bberg
Jet fuel	India	+77		-18	-6.7	2/m	July 1-15	248k tons	Bberg
Total Products	India	+18	+16	+5.6	+2.3	m	June	18.7m tons	PPAC
Toll roads volume	France	+9.9		-4.1		m	June	n/a	Atlantia
Toll roads volume	Italy	+6		+0.5		m	June	n/a	Atlantia
Toll roads volume	Spain	+3.6		-3.8		m	June	n/a	Atlantia
Toll roads volume	Brazil	+4.6		+3.6		m	June	n/a	Atlantia
Toll roads volume	Chile	+20		+8.9		m	June	n/a	Atlantia
Toll roads volume	Mexico	+5.1		+10		m	June	n/a	Atlantia
Gasoline	Spain	+4.5			+7.5	m	June	522 m3	Exolum
Diesel (and heating oil)	Spain	+1.6			+0.2	m	June	2236k m3	Exolum
Jet fuel	Spain	+112			+4.2	m	June	578 m3	Exolum
Total oil products	Spain	+12			+2	m	June	3335 m3	Exolum

Road fuel sales	France	+13			+5.2	m	May	4.246m m3	UFIP
Gasoline	France	+25		+18		m	May	n/a	UFIP
Road diesel	France	+9.3		-4.5		m	May	n/a	UFIP
Jet fuel	France	+122		-19	+9.3	m	May	601k m3	UFIP
All petroleum products	France	+16		-3.4	+4	m	May	4.576m tons	UFIP
All vehicles traffic	Italy	+5			+4.1	m	June	n/a	Anas
Heavy vehicle traffic	Italy	+0.2			+0.8	m	June	n/a	Anas
Gasoline	Portugal	+17	+50	-1.9	+29	m	May	92k tons	ENSE
Diesel	Portugal	+11	+24	-2.9	+28	m	May	421k tons	ENSE
Jet fuel	Portugal	+189	+1051	-7.3	+7.7	m	May	134k tons	ENSE
Total fuel sales	Italy	+1.4	+20	-2	+0.7	m	June	4.53m tons	Ministry
Gasoline	Italy	+3.3	+28	+4.7	+5.2	m	June	692k tons	Ministry
Diesel /gasoil	Italy	-1.9	+15	+0.5	+0.5	m	June	2.30m tons	Ministry
Jet fuel	Italy	+126	+419	-19	+13	m	June	379k tons	Ministry

Notes: Click here for a PDF with more information on sources, methods. The frequency column shows w for data updated weekly, 2/m for twice a month and m for monthly. The column showing "vs 2020" is used for some data, such as comparing Italian jet fuel sales for May 2022 vs May 2020.

In Dfr UK daily data, which is updated once a week, the column showing versus 2019 is actually showing the change versus the first week of February 2020, to represent the pre-Covid era.

In BEIS UK daily data, which is updated once a week, the column showing versus 2019 is actually showing the change versus the average of Jan. 27-March 22, 2020, to represent the pre-Covid era.

Atlantia is publishing toll road data on a monthly basis, rather than the weekly format seen in 2021, and DoT also switched to monthly data after the week ended April 3.

City congestion:

Measure	Location	% chg vs avg 2019	% chg m/m	Jul 18	Jul 11	Jul 4	Jun 27	Jun 20	Jun 13	Jun 6	May 30	May 23
		(for July 18)		Congestion mins added to 1 hr trip at 8am* local time								
Congestion	Tokyo	-81	-75	7	31	38	35	29	29	38	31	33
Congestion	Taipei	-25	+13	26	26	25	23	23	22	20	14	12
Congestion	Jakarta	-9	+7	35	26	29	28	33	37	43	41	39
Congestion	Mumbai	-39	-2	29	27	26	22	30	20	18	16	19
Congestion	New York	-33	+94	21	17	zero	22	11	29	27	1	29
Congestion	Los Angeles	-44	+65	20	17	2	20	12	22	29	2	28
Congestion	London	-32	-39	26	32	35	38	42	44	43	18	38
Congestion	Rome	-35	-25	32	32	33	30	43	41	57	49	52
Congestion	Madrid	-68	-46	11	13	14	13	21	27	28	29	29
Congestion	Paris	-38	-32	28	31	37	37	41	49	2	40	41
Congestion	Berlin	-59	-66	14	17	29	27	40	27	1	26	27
Congestion	Mexico City	-52	-20	23	25	26	28	29	33	34	37	38
Congestion	Sao Paulo	-57	-23	19	19	20	21	24	25	29	30	28

Source: TomTom. Click here for a PDF with more information on sources, methods.
* 9am statistics are used for Mumbai, rather than 8am. All other cities, including Sao Paulo, use 8am.
NOTE: m/m comparisons are July 18 vs June 20. There were holidays in New York and Los Angeles on June 20 that likely reduced traffic flow, as well as a holiday in Tokyo on July 18. TomTom has been unable to provide Chinese data since April 2021. Taipei and Jakarta were added to the table in December 2021.

Chinese City Congestion:

Measure	Location	% chg vs Jan. 2021	% chg m/m	% chg w/w	Jul. 11	Jul. 4	Jun. 27	Jun. 20	Jun. 13	Jun. 6	May 30	May 23	May 16	May 9
		(compare vs July 11)												
Congestion	Beijing	+24	+25	-4.6	124	130	109	97	99	84	76	76	76	77
Congestion	Guangzhou	+9	-10	-5.7	109	116	113	115	121	112	117	115	110	99
Congestion	Shanghai	+6	unch	-12	106	119	111	105	106	89	78	78	77	76
Congestion	China-15	+6	-3.4	-8	106	115	111	109	109	103	104	104	103	96

Source: BNEF calculations based on Baidu congestion data, showing a seven-day moving average indexed against a January 2021 baseline of 100. China-15 is the weighted average of the 15 cities with the highest number of vehicle registrations. m/m comparisons are July 11 vs June 13

Air Travel:

Measure	Location	y/y	vs 2 yrs ago	vs 2019	m/m	w/w	Freq.	Latest Date	Latest Value	Source
		changes shown as %								
Airline passenger throughput	US	+14	+301	-22	-0.8	+3.1	d	July 19	2.13m	TSA
Airline passenger throughput (7d avg)	US	+11	+247	-11	-0.5	+3.4	d	July 19	2.30m	TSA
All flights	Worldwide	+12	+51	+4.4	+3.7	unch	d	July 19	223,121	Flightradar24
Commercial flights	Worldwide	+13	+70	-14	+4.8	-0.4	d	July 19	107,966	Flightradar24
Air traffic (flights)	Europe			-13	unch	-0.2	d	July 19	30,412	Eurocontrol
Air traffic (flights)	UK			-15	-2	-2.3	d	July 19	5,617	Eurocontrol
Air traffic (flights)	Germany			-21	-6.4	-1.8	d	July 19	4,847	Eurocontrol
Seat capacity	Worldwide	+23	+83	-14	+3.6	-0.1	w	July 18-24	102.1m	OAG
Seat capacity	North America			-9		unch	w	July 18-24	n/a	OAG
Seat capacity	North East Asia			-20		+0.7	w	July 18-24	n/a	OAG
Seat capacity	South East Asia			-31		-0.5	w	July 18-24	n/a	OAG
Seat capacity	South Asia			-7		-0.8	w	July 18-24	n/a	OAG
Seat capacity	Western Europe			-12		-0.6	w	July 18-24	n/a	OAG
Seat capacity	Central America			+6.3		unch	w	July 18-24	n/a	OAG
Heathrow airport passengers	UK	+526	+1610	-17	+12		m	June 2022	5.99m	Heathrow

NOTE: Comparisons versus 2019 are a better measure of a return to normal for most nations, rather than y/y comparisons.
FlightRadar24 data shown above, and comparisons thereof, all use 7-day moving averages, except for w/w which uses single day data.

Refineries:

Measure	Location	y/y	chg vs 2019	m/m chg	Latest as of Date	Latest Value	Source
		Changes are in ppt unless noted					
Crude intake	US	+1.9%	-5.5%	+0.3%	July 15	16.3m b/d	EIA
Apparent Oil Demand	China	-5.6%	+6.2%	+4.7%	June 2022	13.04m b/d	NBS
Utilization	US	+2.3	-0.7	-0.3	July 15	93.7 %	EIA
Utilization	US Gulf	+5.7	+2.6	+2.4	July 15	98 %	EIA
Utilization	US East	+18	+29	+0.1	July 15	97.9 %	EIA
Utilization	US Midwest	-6.3	-8.1	-4.6	July 15	89.8 %	EIA

NOTE: All of the refinery data is weekly, except NBS apparent demand, which is usually monthly. Changes are shown in percentages for the rows on crude intake and Chinese apparent oil demand, while refinery utilization changes are shown in percentage points. S CI99 data on Chinese refinery run rates was discontinued in late 2021.

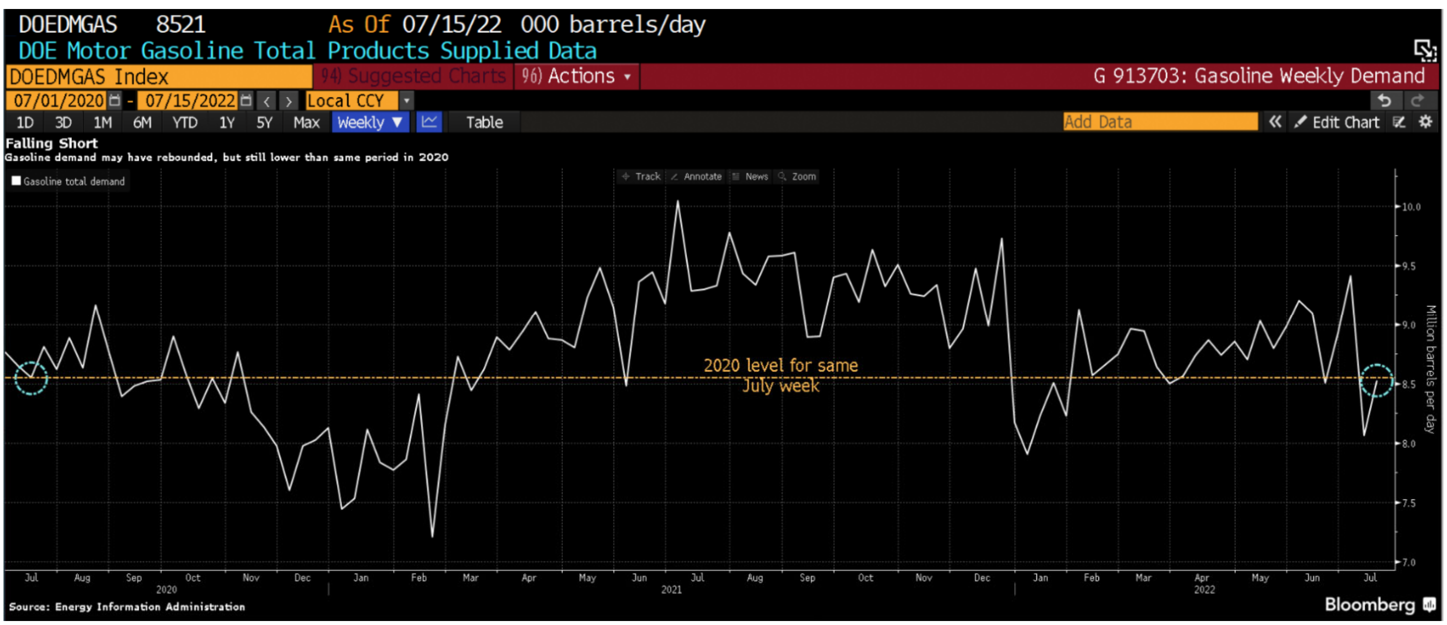
Gasoline Demand Stalls at Height of US Summer Driving Season (1)
2022-07-20 16:51:11.225 GMT

By Chunzi Xu

(Bloomberg) -- US gasoline demand remains below where it was this time two years ago as historically high prices keep more drivers off the road than Covid-19 did in the summer of 2020.

A small week-over-week rebound in demand last week was not enough to top the same period in 2020. On a seasonal four-week rolling average -- which smooths out weekly fluctuations -- consumption is just above the same time two years ago, but below every other year going back to 2000, according to data from the US Energy Information Administration. Gasoline inventories rose by 3.5 million barrels, a larger build than was reported by the American Petroleum Institute earlier in the week.

Stalling demand in the middle of summer suggests the recent drop in pump prices has not been enough to entice drivers back on the road. The summer months are when demand tends to be more elastic than the rest of the year, and it appears more people are doing away with road trips in 2022. Daily life has become costlier with high gasoline prices helping push inflation to 9.1% in June on an annual basis.



The build in national gasoline inventories does not preclude shortages in areas where supply is most vulnerable. East Coast gasoline stockpiles fell last week amid a drop in imports from Europe. Seasonally, stockpiles are at their lowest level in a decade in the Central Atlantic region, where physical deliveries into Nymex futures contracts take place. Any supply disruptions can have an outsized impact on gasoline futures trading in New York, the benchmark for US and global physical fuel.

Average pump prices in the US have fallen for 36 straight

days in the longest streak of declines since April 2020, with some states seeing costs below $4 a gallon, according to auto club AAA. But the national average of $4.467 a gallon is still 41% higher than the same time last year.
The drop in Nymex gasoline futures, the basis for wholesale and therefore retail prices, has largely stalled in the past two weeks. This could moderate the decline in pump prices in the near future.

--With assistance from Sophie Caronello.

To contact the reporter on this story:
Chunzi Xu in Houston at cxu358@bloomberg.net
To contact the editors responsible for this story:
Jasmina Kelemen at jkelemen2@bloomberg.net
Sophie Caronello

To view this story in Bloomberg click here:
https://blinks.bloomberg.com/news/stories/RFBR6KDWX2PS

Rhine Oil-Barge Capacity Dips as Water Levels Ebb in Heatwave
2022-07-18 10:08:21.162 GMT

By Jack Wittels
(Bloomberg) -- The Rhine River's low water levels mean that barges hauling middle distillate-type oil products -- typically gasoil/diesel -- past the German chokepoint of Kaub are limited to just 30% of their full capacity, according to maritime brokerage services firm Riverlake.
* A barge loading in Amsterdam-Rotterdam-Antwerp -- which can usually haul 2.5k tons when fully laden -- is restricted currently to taking on 750 tons if planning to sail to destinations beyond Kaub
** Loads had been limited to about 800k tons, Riverlake said previously
** NOTE: The water level at Kaub is at its lowest on a seasonal basis since at least 2007. The latest reading was 76cm, compared with about 115cm a week earlier
* Rhine water levels are likely to drop over coming weeks, according to estimates from Germany's Waterways and Shipping Administration cited by FGE
** Potentially they could soon fall close to the level at which barges can no longer safely transit Kaub, FGE note dated July 15
** "Low water levels along the Rhine significantly disrupt barge gasoil/diesel movements along the river from ARA to inland Europe and gasoline flows in the opposite direction": FGE
** An estimated 200k-300k b/d of gasoil/diesel is transported up the Rhine from ARA to Germany, with an additional 50k b/d going to Switzerland: FGE
** And an estimated 50k-150k b/d of gasoline is transported down the Rhine from Germany to ARA: FGE
* READ: (July 15) Lack of Water in Europe's Most Important River Starts to Bite
* READ: (July 12): Fuel Barges Sail 500 Miles to Berlin in Pivot From Russia (1)

To contact the reporter on this story:
Jack Wittels in London at jwittels1@bloomberg.net
To contact the editors responsible for this story:
Alaric Nightingale at anightingal1@bloomberg.net
John Deane

To view this story in Bloomberg click here:
https://blinks.bloomberg.com/news/stories/RF7GOIDWRGG1


Northwest Europe – Rhine River
eia
North Sea
Amsterdam
Netherlands
Rotterdam
Duisburg
Antwerp
Germany
Belgium
Rhine River
Kaub
Frankfurt
Main River
Lux.
Mosel River
Karlsruhe
Neckar River
France
Basel
Switzerland
Source: U.S. Energy Information Administration

Source: EIA

Swiss to Release Strategic Fuel Stocks as River Rhine Dries Up
2022-07-22 12:33:04.169 GMT

By Dylan Griffiths

(Bloomberg) -- Switzerland will tap its strategic fuel stocks as logistical bottlenecks disrupt the supply of fuels to the land-locked country.

Dwindling water levels on Europe's Rhine river following a prolonged drought, coupled with disruptions to cross-border rail services, are curbing the delivery of petroleum products, the country's government said Friday.

To ensure supply, the government will release about 245,000 cubic meters -- about 1.5 million barrels -- of fuel from its strategic stocks until September. That equates to about 25% of monthly sales and will take the inventories to 6.5% below mandated levels, it said in a statement.

Read: Low Rhine Water Levels Risk Worsening Europe's Energy Crunch

Because it is land-locked, Switzerland relies on the fuel it refines domestically as well as deliveries by river and across land. That makes the water levels of the Rhine critical.

A heat wave across Europe has made parts of the Rhine, western Europe's most important waterway, the shallowest for the time of year since at least 2007. There are several weeks of summer weather to come.

The situation is affecting the delivery of oil products as the region faces its worst energy crunch in decades amid heightened tensions with Moscow following the invasion of Ukraine.

Switzerland last released fuel from its strategic stockpile in 2018, when a dry summer also curbed transport on the Rhine.

--With assistance from Alex Longley and Julian Lee.

To contact the reporter on this story:
Dylan Griffiths in Geneva at dgriffiths1@bloomberg.net
To contact the editors responsible for this story:
Claudia Maedler at cmaedler@bloomberg.net
Alaric Nightingale

To view this story in Bloomberg click here:
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https://www.trucking.org/news-insights/ata-truck-tonnage-index-increased-27-june

ATA Truck Tonnage Index Increased 2.7% in June

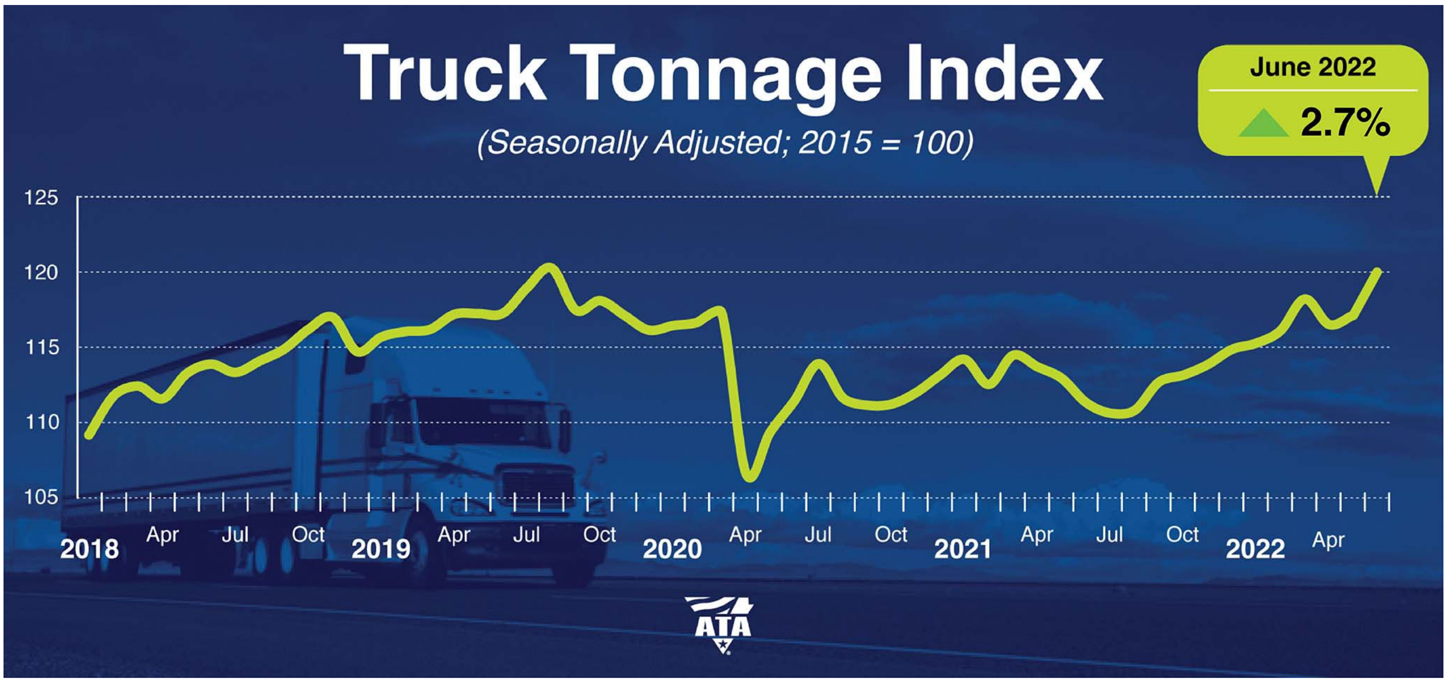
Jul 19

Media Contact: Sean McNally

Index 7.9% Above June 2021

Washington — American Trucking Associations' advanced seasonally adjusted (SA) For-Hire Truck Tonnage Index increased 2.7% in June after rising 0.3% in May. In June, the index equaled 120.1 (2015=100) versus 116.9 in May.

Image



"June's jump tells me a couple of things: first, the transition in the freight market from spot back to contract continues. ATA's tonnage index is dominated by contract freight, so while the spot market has slowed as freight softens, contract carriers are backfilling those losses with loads from shippers reducing spot market exposure," said **ATA Chief Economist Bob Costello**. "Essentially, the market is transitioning back to pre-pandemic shares of contract versus spot market.

"Second, and perhaps equally important, while economic growth is expected to be soft overall in the second quarter, the goods-economy wasn't as bad as feared," he said.

May's increase was revised down from our June 21 press release.

Compared with June 2021, the SA index increased 7.9%, which was the tenth straight year-over-year gain and the largest since June 2018. In May, the index was up 3.5% from a year earlier. During the third quarter, the index rose 1.1% from the previous quarter and 4.6% from the same quarter in 2021.

The not seasonally adjusted index, which represents the change in tonnage actually hauled by fleets before any seasonal adjustment, equaled 124.5 in June, 4.2% above the May level (119.5). 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.

Biden Crackdown on Permian Smog to Pare Oil Output, Groups Warn
2022-07-21 15:30:16.983 GMT

By Jennifer A Dlouhy
(Bloomberg) -- The Biden administration's plan to crack down on smog in the oil-rich Permian Basin threatens to curb crude production while gasoline prices are near record highs and energy scarcity grips the globe, the industry warned Thursday.
Oil's lobbying heavyweights are appealing directly to top White House officials to slam the brakes on the plan, arguing that any move to redesignate drilling hotbeds in Texas and New Mexico as violating ozone air quality standards poses such high economic risks it should be subject to greater analysis and public scrutiny.
The Environmental Protection Agency's proposal to cut smog raises "the potential for increased operating expenses, decreased federal leasing revenues, permitting delays and decreased oil and natural gas production in the nation's most productive basin," the groups said in a letter to leaders of the White House Office of Management and Budget and its regulatory affairs office. The missive was sent Thursday by the American Petroleum Institute, American Exploration and Production Council, Texas Oil and Gas Association and other groups, who have spent weeks huddling over the potential consequences of the ozone plan since it was first outlined in a public notice last month.
The move by the EPA to consider giving the Permian a so-called non-attainment designation was encouraged by conservationists who say they are alarmed by indications ground-level ozone has surged along with oil and gas development.
Ozone, which is the key ingredient of smog, is formed when volatile organic compounds and other air pollution that escapes smokestacks, tailpipes and oil wells reacts with sunlight. Even at low levels, it can worsen asthma, emphysema and other respiratory illnesses.
While Texas does not have monitors taking ozone readings on its side of the Permian, those just over the border in New Mexico's Eddy and Lea counties have recorded average ground-level ozone exceeding the 2015 federal standard of 70 parts per billion several years running.
If the region is deemed in violation, state regulators would have three years to develop plans for lowering ozone levels, including by preventing new industrial facilities from worsening air quality and ensuring existing sites deploy technology to keep pollution at bay.
"A non-attainment designation would ensure that people and communities throughout the Permian Basin no longer suffer the harmful and costly effects of smog," grassroots environmental and public health groups said in a July 12 letter to President Joe Biden.
The oil groups argue that the clampdown could result in existing facilities being forced to shut down and "could have the unintended consequence of slowing the approval of oil and

natural gas infrastructure designed to reduce greenhouse gas emissions across the basin." The potential economic impacts are so severe, they contend, the White House should consider the proposal a "significant regulatory action," a designation that triggers more stringent review, and the EPA should open it up for public comment.

To contact the author of this story:
Jennifer A Dlouhy in Washington at jdlouhy1@bloomberg.net
To contact the editor responsible for this story:
Simon Casey at scasey4@bloomberg.net
Catherine Traywick

https://time.com/6192857/biden-climate-scotus-west-virginia/

'We Have to Be Creative.' How the Biden Administration Is Responding to the SCOTUS Climate Setback

BY **JUSTIN WORLAND** JUNE 30, 2022 6:13 PM EDT

You might expect that Gina McCarthy, President Joe Biden's national climate advisor, would be frustrated this week.

The Supreme Court dealt a significant blow on Thursday to what was once the most promising avenue for tackling climate change, curtailing the authority of the Environmental Protection Agency (EPA) to regulate emissions from the power sector. McCarthy has been at the center of climate policy efforts for the last decade, and as the head of the Obama Administration's EPA, she crafted the agency rule at issue in the Court's ruling.

Yet in conversation in the days leading up to the ruling, McCarthy was surprisingly optimistic—not that the ruling would go the Administration's way, but rather that the White House could chart a path to slash emissions even if it didn't. "We've set very solid goals, we're making significant progress on the transition to clean energy," she told TIME on June 28. "And that is not going to live and die by the Supreme Court's decision."

To meet the White House's goals, she said, the Administration needs to get "creative" and find novel ways to galvanize the energy transition. That includes inventive use of regulations at places like EPA, as well as the Administration's engagement with the private sector, use of its own purchasing power, and use of the Defense Production Act to accelerate the production of domestic clean energy technology, she says. "It can't just be about using regulations or using Congress to fix this; to actually continue accelerating, we have to be creative," she said, one of at least ten times she used the word creative in the course of the conversation.

It is certainly true that EPA power plant regulations are far from the only—or even the most important—tool in the climate policy toolkit in 2022. But in order to get the U.S. anywhere near the Administration's goal of slashing emissions in half from 2005 levels by 2030, the creativity that McCarthy speaks about needs to be matched with speed and focus. There's a lot to do and little time—not to mention many distractions.

'It was an entirely different conversation'

One of the reasons McCarthy is hopeful, she says, is the government now has a wider range of options for how to address climate change than when she first engaged in the fight.

After failing to pass climate legislation in his first term, President Barack Obama turned to the EPA to pass new regulations that would cut emissions from power plants. With McCarthy as its administrator, the agency issued the Clean Power Plan in 2015. The regulation set state-by-state emissions reduction standards for the power sector and was designed to shut down coal-fired power plants—though states were left to decide on their own how to meet their targets. While it never actually took effect as it wound its way through the courts, it quickly became the centerpiece of Obama's climate strategy.

On the surface, the circumstances today look similar. Congress continues to drag its feet on climate funding and the Administration is turning to second-best options to regulate emissions. But McCarthy says the picture is actually radically different. While large utility companies opposed the Clean Power Plan, they have since embraced the need to transition to clean energy and have partnered with the

Biden Administration. And with climate change now seeping into a range of other areas—from trade to agriculture—the Administration no longer needs to rely on narrow authorities under the Clean Air Act. "During the Obama Administration, you know, it was so much earlier on in the climate challenge," said McCarthy. "When I ran the EPA, it was the linchpin, and the options were limited. It was an entirely different conversation."

In discussing climate actions Biden has taken that wouldn't have been imaginable during the Obama years, McCarthy cites his use of the Defense Production Act, which will allow the government to coordinate with industry on the production of a range of clean energy technologies including solar panels, heat pumps, and insulation. The Biden Administration's commitment for the federal government to transition its fleet of cars and trucks to zero-emissions vehicles shows how it's setting a market signal for industry to transition, she says. And she touts the work the Administration has done to expand offshore wind, bringing together state governments and the private sector to help rapidly expand the clean energy source.

Despite the Supreme Court ruling in *West Virginia v. EPA*, the EPA's work remains a key component of the Biden Administration's strategy. While the Supreme Court significantly curtailed the agency's authority to make major changes to the nation's power sector under a particular provision of the Clean Air Act, it didn't limit the agency from addressing climate change in other ways. On Wednesday, EPA Administrator Michael Regan said on a TIME-moderated panel at the Aspen Ideas Festival that following the Supreme Court ruling, the agency planned to show the industry other environmental regulations it can implement under its remaining authority. "We have a suite of regulations that we can present to the power sector in one fell swoop, looking at regulating water, waste, and air quality," he said. "And the power sector then can take a look at the economics to comply with those rules at one time, or they can say 'hey, to hell with the past, let's invest more quickly in the future.'"

It's not clear that all of these so-called 'creative' measures put the Administration on track to meet its emissions reductions goals. It's hard to have an up-to-the-minute accounting of where all of these initiatives leave those targets, but an in-depth analysis from the Rhodium Group earlier this month that takes account for a range of policy developments suggests it will be tough without Congress' help. Right now, without further policy action, emissions will remain flat and lead to a decline of 17-25% below 2005 levels in 2030, the report finds. Congressional legislation that would provide tax incentives for clean energy deployment, among other things, combined with much of the work McCarthy mentions, could get the U.S. above the 50% reduction threshold that the Administration promised.

Congress does appear likely to enact some form of bipartisan climate spending bill, though the exact contours remain unclear. McCarthy, of course, says she's optimistic. "This is all about getting to a 50% reduction in greenhouse gases by 2030," she says. "We think that the work that we're doing now will get us very close to that."

https://energynow.ca/2016/02/feature-c-suite-energy-executive-chairperson-of-the-year-george-fink-bonterra-energy/

Feature: C-Suite Energy Executive – Chairperson of the Year – George Fink – Bonterra Energy

February 10, 2016 EnergyNow Media

ALBERTA OIL
The Business of Energy

Bonterra Energy and Pine Cliff Energy share the same iconic, and iconoclastic, board chair. That's good news for both of them – and even better news for their shareholders

George Fink is a man who likes to go against the grain. "My whole life I've been contrarian," says the chairman and CEO of Bonterra Energy. "When everyone is selling we tend to buy, and when everyone is buying we tend to sell." Fink might be contrarian but he's also highly effective, particularly in his role as chairman. In fact, Fink is the chairman not only of Bonterra – a light oil-weighted company that produced approximately 12,400 boe/d during the first six months of 2015 – but natural gas producer Pine Cliff Energy too. Despite a climate where many junior companies are in distress, Bonterra and Pine Cliff are doing fine. That's due in no small part to Fink and the leadership he provides for both companies. During a career in the resource extraction business spanning four decades, Fink has founded gold producer Comaplex Minerals in the 1980s (it was bought by Agnico Eagle in 2010), Bonterra in the 1990s and Pine Cliff in 2007. And during that time he's developed a reputation as a visionary whose companies are successful in large part because they use their capital wisely. Fink needed all of his talents during the dark days of 2015, a period he says is "tied for second" as the worst industry downturn he's ever experienced.

But while other juniors spent the year swimming in red ink and fighting for survival, Bonterra reported a loss of only $4.6 million during the first two quarters of 2015, and still managed to continue paying a monthly dividend of 15 cents per share. As its CEO, Fink must focus on the day-to-day operations of Bonterra. The chairman's role, on the other hand, requires a different mindset. The chair of a company's board of directors must be many things – a big-picture thinker, a mentor, a networker and a critical mind who is willing to challenge management if necessary.

As a mentor, Fink was responsible for bringing Pine Cliff CEO Phil Hodge into the fold in 2012. Hodge has praised Fink's work ethic, business acumen and low-key leadership style as Pine Cliff has continued to grow production from unloved assets in Western Canada, mostly dry natural gas in its core Carrot Creek area in Alberta. Fink has plenty to do as CEO and chairman of Bonterra, but he still works closely with Hodge on Pine Cliff's business. "He and I spend on average an hour together every day talking about things," Fink says. "There would not be a day that would go by that we would not speak."

Challenging management on its strategic decisions, a key responsibility of any board chair, might seem like a difficult thing to achieve at Bonterra given that Fink is both chairman and CEO. It's an arrangement that's frowned upon by some institutional investors, but Fink says 70 per cent of the company's shares are owned by retail investors who have been with the company for over 20 years, and they want him holding both roles. He believes having senior management so invested at the board level can be a big plus for a company. "I'd invest in other companies if the CEO was heavily involved in the board and not just a person who is going to take advice from the board," Fink says. "It may not be what the street wants us to do, but it seems to work for us."

Indeed, it does. Production volumes were flat in 2015, but Bonterra managed to do that despite slashing capital spending by nearly $60 million during the first six months of the year compared to the same period in 2014. The company saw its well costs drop from an average of between $2.8 million and $3 million per well, to $2 million. And Fink continued with his contrarian ways. In February of 2015, Bonterra announced a $172-million deal to acquire oil and gas assets from Enerplus in the Pembina Cardium oil field at a time when most juniors were laying low or selling off assets.

Q + A with our Chair of the Year: George Fink

What is the most important quality that a senior executive can have?
Have long term well thought out objectives and goals and don't panic when short term events happen.

What is the least important quality that a senior executive can have?
Being moody and blaming other people for your own errors.

What is your greatest fear?
I don't have a greatest fear.

Which living person do you admire most?
I admire many people.

What is your greatest extravagance?
I don't have one. I am pretty laid back and boring.

If you could change one thing about yourself, what would it be?
I really enjoy work and should work less and enjoy hobbies more.

What do you consider your greatest achievement?
Being able to help people in need, whether it be because of health, advancing careers, being poor, addictions or building up confidence.

JULY 22, 2022

TEXAS PRODUCTION AND SEVERANCE TAXES REACH NEW RECORD, UPSTREAM EMPLOYMENT SHOWS SIGNIFICANT INCREASE IN JUNE

Austin, Texas - 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 a significant increase in monthly employment for the Texas upstream sector. According to TIPRO's analysis, direct Texas upstream employment for June 2022 totaled 194,900, an increase of 6,100 jobs from May numbers, subject to revisions. Texas upstream employment in June 2022 represented an increase of 31,000 positions compared to June 2021, including an increase of 8,300 in oil and natural gas extraction and 22,700 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 May, for a total of 67,000 direct positions, according to TIPRO. Houston metro upstream employment in June 2022 represented an increase of 10,000 jobs compared to June 2021, including an increase of 4,400 in oil and natural gas extraction and 5,600 jobs in the services sector.

TIPRO once again noted strong job posting data for upstream, midstream and downstream sectors for the month of June. According to the association, there were 12,391 active unique jobs postings for the Texas oil and natural gas industry in June, an increase of 6 percent compared to May 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 June for unique job listings with 3,247 postings, followed by Oil and Gas Field Machinery and Equipment Manufacturing (1,547 postings), and Crude Petroleum Extraction (1,431 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 (4,594), Midland (1,199) and Odessa (520), said TIPRO.

The top three companies ranked by unique job postings in May were Baker Hughes with 1,073 positions, KBR (490) and Halliburton (436), according to TIPRO's analysis. Of the top ten companies listed by unique job postings last month, six companies were in the services sector, followed by two companies in midstream and two in oil and natural gas extraction.

Top posted industry occupations for June included heavy tractor-trailer truck drivers (627), software developers and software quality assurance analysts and testers (335) and personal service managers (313). Top qualifications for unique job postings included Commercial Driver's License (687), Master of Business Administration (221) and Bachelor of Science in Business (182). When analyzing education and experience requirements for unique industry job postings last month, TIPRO reports that 42 percent required a bachelor's degree, 34 percent a high school diploma or GED, and 8 percent listed a master's degree as part of their criteria.

TIPRO also highlights new data released from the Texas comptroller's office showing record levels of severance taxes paid by Texas oil and natural gas producers. In June, $679 million in oil production taxes were paid, an increase of $84 million compared to May and 87 percent higher than June 2021. Taxes paid by natural gas producers also reached a new record, with $439 million paid in June, an increase of $26 million compared to May and 176 percent higher than June 2021 numbers. TIPRO explains that 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.

Further, as announced recently by the Texas comptroller, elevated tax revenue driven by the oil and gas sector will give the state legislature more funding to use towards the state budget in 2023. According to the comptroller's office, the state will have nearly $14 billion extra in funds available for general-purpose spending, money which will be used by lawmakers during the next legislative session to support legislative priorities and other important needs in Texas.

TIPRO reports that oil and gas output in Texas is projected to experience further growth in the months to come. Experts with the U.S. Energy Information Administration (EIA) forecast that oil production in the Permian Basin, the most nation's most prolific shale oil basin, will rise 78,000 barrels per day (bpd) to a record 5.445 million bpd in August. Oil production in the Eagle Ford Shale in South Texas is also expected to increase 25,000 bpd in August, reaching 1.205 million bpd. Additionally, natural gas production will rise in the Permian to record highs of 20.5 billion cubic feet per day (bcfd), according to the EIA, and in the Eagle Ford, natural gas production will grow to 6.8 bcfd.

"As expected, the dip in May upstream employment appeared to be an anomaly, and June numbers reflect continued demand for talent and increasing exploration and production activities in the Texas oil and natural gas industry," said

Ed Longanecker, president of TIPRO. “Recessionary fears and the potential impact of China’s draconian COVID-19 policies have continued to be offset by concerns over tight oil supplies, but we are seeing these market forces impact WTI futures. Demand will continue to outpace global supply this year, but we can expect increasing levels of volatility in the months ahead due to these and other factors, including geopolitical conflicts and growing unrest over the escalating energy crisis in Europe,” added Longanecker.

TIPRO says the hostile federal policy environment and related rhetoric for domestic oil and natural gas production is also contributing to uncertainty in the U.S. and global markets, which could drive the cost of goods and services higher for American consumers, despite the economic dampening rate-setting efforts by the Federal Reserve Board.

“U.S. policymakers are placing undue demands on energy producers. If we want price stability, and if we want to ensure a secure domestic energy supply, we need a stable regulatory environment in the U.S,” Longanecker emphasized. “Policymakers and the current administration must stop vilifying our industry and should work collaboratively with operators to develop a coherent federal energy policy strategy, including opening federal leasing, approving permitting for energy infrastructure and again providing the regulatory certainty needed to support long-term investments that are necessary to address our own energy needs and those of our allies abroad.”

Ivy League Endowments Brace for Losses With PE Values Tumbling
2022-07-20 14:45:04.589 GMT

By Janet Lorin, Hema Parmar and Dawn Lim
(Bloomberg) -- Princeton, Harvard and Yale generated robust returns for their endowments in recent years, fueled in part by billions of dollars of investments in private equity and venture capital.
That golden era appears to be over, at least for now.
College endowments across the US are likely to report losses for the fiscal year ended June 30 as valuations for startups and other closely held companies deflate, following a sharp decline in public markets and the end of cheap leverage.
"The magnitude of the drawdown in venture companies and public markets is so much greater than it has been going back to the financial crisis," said Jay Ripley, co-head of investments at Global Endowment Management, which runs $12 billion for colleges and foundations.
Rising rates and recession risks are threatening startup valuations. The consequences will ripple across private equity, where firms such as Blackstone Inc. made big bets on fast-growing companies in recent years. Markdowns have already bruised other money managers, contributing to record losses at the hedge funds of Tiger Global Management and D1 Capital Partners.
Many are being hit both by writedowns on venture holdings as well as losses on publicly traded stocks. Earlier this year, Coatue Management side-pocketed some assets rather than unload them at depressed prices. The California Public Employees' Retirement System recently sold about $6 billion of privates at a 10% discount.

The richest US colleges have the most exposure. Those with endowments of more than $1 billion had about 30% of their holdings in private equity and venture capital as of fiscal 2021, according to TIAA and the National Association of College & University Business Officers.
When colleges report financial results for the year ended June 30, "you're going to see a large proportion of endowments over-allocated to private equity," said Karen Rode, head of

private equity and infrastructure research at Aon Plc, which helps endowments invest capital.
It's a stark reversal from fiscal 2021, when endowments generated fat returns and the richest schools faced pressure to increase spending on faculty, facilities and financial aid. But the pandemic dealt a sharp financial blow, crimping revenue from tuition, room and board as students sat out or studied remotely.
Now, surging inflation is eroding colleges' spending power and the stock market decline may further constrain parents' budgets.

Princeton's Portfolio

Princeton, with a $37.7 billion endowment led by Andrew Golden, has steadily boosted its allocation to private equity. Such investments accounted for 42% of the portfolio -- 12 percentage points above target -- as of June 2021.
The rationale for the increase?
"Spectacular performance," the managers said in the endowment's annual report. Indeed, private equity was Princeton's best-performing asset for the period, returning 99%.
At Harvard, the richest US college with a fund valued at about $53.2 billion, the portion of the portfolio dedicated to private equity has more than doubled in the three years through June 2021 to 34%, under endowment chief N.P. "Narv" Narvekar.
Yale University's private equity and venture holdings accounted for 38% of the endowment as of June 2020, compared with 31% in mid-2016. The fund, led by Chief Investment Officer Matt Mendelsohn, declined to provide 2021 data.
Representatives for the schools declined to comment.
While private colleges aren't required to disclose their holdings, public records show that state schools put money to work with some of the biggest hedge funds, venture capital and private equity firms.
The University of California's endowment has invested with Sequoia Capital and Blackstone. The University of Michigan is a client of Bridgewater Associates and Farallon Capital Management. The University of Texas Management Co. invests with Fortress.
Rising recession risks and lackluster returns could alter the spending outlook for colleges after a period in which the strongest returns since the 1980s allowed them to add money for initiatives including financial aid and staff benefits.
Endowment leaders, however, say budgets are based on multi-year averages, not one-year returns.

What Bloomberg Intelligence Says:

"Private equity's oft-discussed outperformance is limited to the best months of equity markets and doesn't come to the rescue in the worst down markets."
--Gaurav Patankar, BI senior strategist.
Many private equity managers have big incentives to hold off on marking down the value of their investments, allowing

them to maintain healthy returns while hoping for the market turmoil to end. That’s likely to set up a clash between investment firms and endowments.

“Private equity will slowly get written down if the market doesn’t rebound quickly,” said Philip Zecher, CIO of Michigan State University’s $3.9 billion endowment. As of the middle of last year, 40% of the school’s portfolio was allocated to private investments.

This year, Blackstone executives told investors in a crossover fund, which bets on both public and private firms, that they would wait until private company valuations reset before they get comfortable investing more of the fund there.

Some endowments are pushing investors to devalue their assets as soon as possible to avoid the prospect of protracted writedowns. Scott Wilson, CIO of Washington University in St. Louis, is among them. The school’s fund returned 65% last year.

“We’re encouraging our partners to be aggressive in writedowns,” said Wilson, who manages $15.3 billion. “I’d rather have the marks reflect reality.”

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Further reading:

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Tiger Global’s 52% Plunge Prompts Fee Cut, Redemption Plan

Calpers Unloads Record $6 Billion of Private Equity at Discount

Sundheim’s D1 Loses 8.2% in June on Drop in Private Holdings

*T

--With assistance from Amelia Pollard.

To contact the reporters on this story:
Janet Lorin in New York at jlorin@bloomberg.net;
Hema Parmar in New York at hparmar6@bloomberg.net;
Dawn Lim in New York at dlim308@bloomberg.net
To contact the editors responsible for this story:
Peter Eichenbaum at peichenbaum@bloomberg.net
Alan Mirabella

https://www.pewresearch.org/fact-tank/2022/07/20/young-adults-in-u-s-are-much-more-likely-than-50-years-ago-to-be-living-in-a-multigenerational-household/
JULY 20, 2022

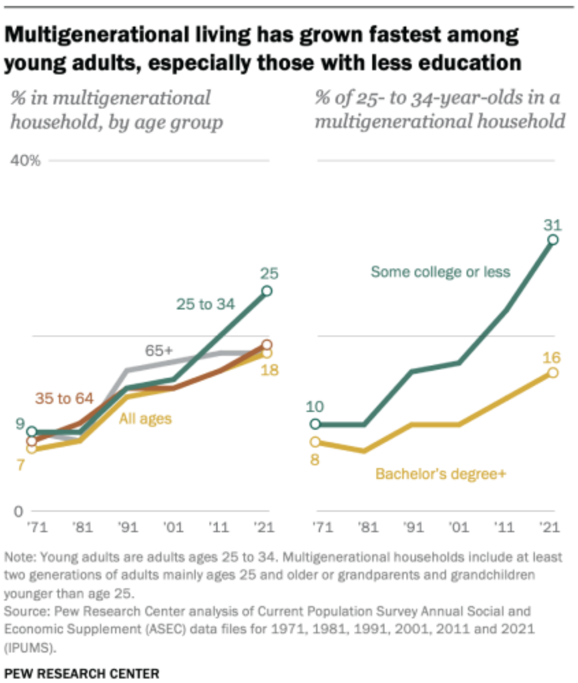
Young adults in U.S. are much more likely than 50 years ago to be living in a multigenerational household

BY RICHARD FRY


A recent college graduate prepares a meal with his mother at her home in Boston in May 2018. (Barry Chin/The Boston Globe via Getty Images)

As successive generations of young adults in the United States cope with rising student debt and housing costs, multigenerational living is increasingly providing a respite from the storm. A quarter of U.S. adults ages 25 to 34 resided in a multigenerational family household in 2021, up from 9% in 1971.

How we did this



Multigenerational living – that is, living in a household that includes two or more adult generations, typically consisting of those ages 25 and older – has increased among all age groups over the past five decades. But the increase has been fastest among adults ages 25 to 34. In 1971, similar shares of adults across age groups lived in a multigenerational household, but by 2021, young adults were far more likely than older Americans to have this type of living arrangement.

The growth in multigenerational living among 25- to 34-year-olds has been especially pronounced among those without a college degree. Multigenerational living has tripled among these young adults, compared with doubling among young adults with at least a bachelor's degree. In 1971, the prevalence of multigenerational living among young adults was similar regardless of educational attainment. By 2021, 31% of young adults who had not finished college were in a multigenerational arrangement – almost double the share of their peers who had completed at least a bachelor's degree (16%).

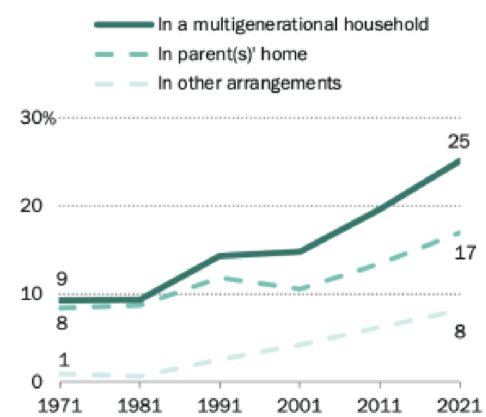
A [Pew Research Center survey](#) conducted last October found that financial issues are a major reason why adults live in multigenerational households. Young adults who have not completed at least a bachelor's degree tend to [earn substantially less](#) than those who have. Thus, financial pressures might at least partly explain why multigenerational living is more common for young adults with less education.

Living in home of parents is the most common arrangement

Since the Great Recession, much attention has been focused on the rising share of young adults who [live in the home of one or both of their parents](#). That is, in fact, the most common arrangement for young adults in multigenerational households.

A growing share of young adults are living in a parent's home – or in other multigenerational living arrangements

% of 25- to 34-year-olds living ...



Note: Multigenerational households include at least two generations of adults mainly ages 25 and older or grandparents and grandchildren younger than age 25.
Source: Pew Research Center analysis of Current Population Survey Annual Social and Economic Supplement (ASEC) data files for 1971, 1981, 1991, 2001, 2011 and 2021 (IPUMS).

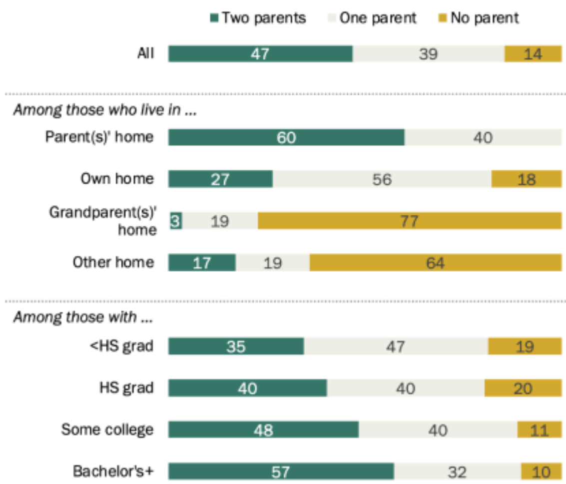
PEW RESEARCH CENTER

In 2021, 68% of 25- to 34-year-olds in a multigenerational home were living in the home of one or both of their parents. Still, 15% were living in their own home and had a parent or other older relative living with them. Another 14% of young adults in multigenerational households were living in a home headed by a family member other than their parent, such as a grandparent or sibling, or by an unmarried partner or a roommate (3%).

While the increase in multigenerational living among young adults since 1971 partly reflects the growing tendency of young adults to live in a parent's home, these other arrangements are also contributing to the growth in multigenerational living. The share of young adults who live in a parent's home rose from 8% in 1971 to 17% in 2021, while the share in other multigenerational living arrangements rose from 1% to 8%.

Most young adults in multigenerational households live with a parent, many with a single parent

% of 25- to 34-year-olds in multigenerational households who live with ...



Note: Figures may not add to 100% due to rounding. "Some college" includes those with an associate degree and those who attended college but did not obtain a degree. Multigenerational households include at least two generations of adults mainly ages 25 and older or grandparents and grandchildren younger than age 25. "Own home" includes households headed by the young adult or the young adult's spouse. "Other home" includes a sibling's home or other relative's home and nonrelative's home such as an unmarried partner's home.
Source: Pew Research Center analysis of 2021 Current Population Survey Annual Social and Economic Supplement (IPUMS).

PEW RESEARCH CENTER

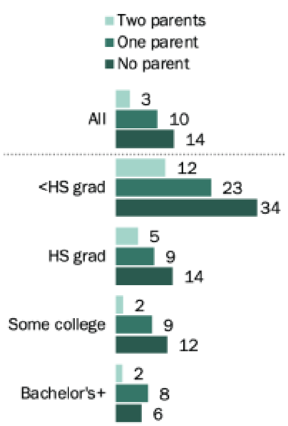
Regardless of whose home they lived in, most 25- to 34-year-olds living in a multigenerational household (86%) had a parent in the home in 2021. This included 47% who lived with two parents and 39% who lived with only one parent.

A 60% majority of young adults who were living in a parent's home in 2021 were living with two parents. In contrast, a 56% majority of those who had a parent or another older relative living in *their* home had only one parent living with them; 27% had two parents living in their home.

Living arrangements also vary by educational attainment. A majority of 25- to 34-year-olds who were living in a multigenerational household and had at least a bachelor's degree (57%) were living with two parents in 2021, compared with 48% of those with some college, 40% of those with a high school diploma and 35% of those who did not complete high school.

Young adults in multigenerational households with two parents are less likely to be in poverty

% of 25- to 34-year-olds in multigenerational households who are in poverty and live with …



Note: "Some college" includes those with an associate degree and those who attended college but did not obtain a degree. Multigenerational households include at least two generations of adults mainly ages 25 and older or grandparents and grandchildren younger than age 25.
Source: Pew Research Center analysis of 2021 Current Population Survey Annual Social and Economic Supplement (IPUMS).

PEW RESEARCH CENTER

Adults ages 25 to 34 who lived in multigenerational arrangements tended to be economically better off if they live with two parents than if they live with one or no parent. The median household income of young adults living with two parents was about $113,000 in 2021, compared with less than $75,000 for those living with one or no parent in their multigenerational household, after controlling for the size of the household. Similarly, young adults in multigenerational households with two parents (3%) were less likely than those with one parent (10%) or no parent in the household (14%) to be in poverty.

The financial advantages from living in a two-parent household may partly reflect that the young adults living in this arrangement are more likely to have completed at least a bachelor's degree than young adults living with one or no parent. Still, across most levels of educational attainment, young adults in multigenerational households with two parents are less likely than those with one or no parent to be living in poverty.

When it comes to financial contributions, the typical 25- to 34-year-old in a multigenerational household contributed 22% of the household's total income in 2021. In households headed by the young adult's parent, the young adult contributed 20% of the total income. In households headed by the young adult or the young adult's spouse, the median share of total household income contributed by the young adult was 37%.

Dan Tsubouchi @Energy_Tidbits · 9h

Hard to see #Shell #LNG cargos at 0.47 bcf/d #PreludeFLNG for some time. Last Shell cargo was 07/06. Not even meeting so nowhere near a deal. Locking out people, so how long after a labor deal to get people back & go thru restart procedures? #OOTT #NatGas

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

Offshore Alliance

11 hrs ·

Shell haven't performed an offtake from the Prelude FLNG since Wednesday 6th July and the way they are going, there is no likelihood of an offtake happening anytime soon.

If Shell follow through with their threat of a lockout of Prelude crew on Monday 25th July, it will provide the Offshore Alliance and ETU the opportunity to take Employee Response Action.

When we include the cost of Shell putting the handbrake on production prior to the 6th July, we estimate the cost of Shell's ideological war on their Prelude workforce at over $750 million in lost production.

The way it's tracking, we anticipate the loss of production reaching the $1 Billion mark by the end of the month.

All because Shell don't want to agree to the same job security clauses which thousands of other employers have agreed to in EBA negotiations around the country over the last decade.

Shell bosses at different stages have mirespresented the true state of affairs by claiming that it was "unlawful" to include job security provisions in Enterprise Agreements.

This garble has been called out for the unadulterated bullshit that it is and the people peddling this rubbish have lost all credibility with the Prelude workforce.

This also applies to the porky pies Shell told the media about the cost of our outstanding bargaining claims amounting to $173,000 per employee. Sure thing Shell.

Shell's refusal to agree to transparent level progression and standard Tier 1 remuneration claims is being driven by ideological zealots who sit at the fringes of the industrial relations fraternity.

Shell's army of industrial relations & HR militants would rather see Shell burn through hundreds of millions of dollars of lost production, than agree to fair industrial outcomes.

The Offshore Alliance and our members won't be intimidated by this mob and will be setting up a Fighting Fund next week to assist members who are out of pocket.

Shell's threat to cancel the scheduled Prelude Turnaround brings into question whether they will continue to hold a Licence to Operate for the Prelude come November.

The Offshore Alliance, ETU and our members won't be backing down or backing away from our key bargaining claims.

Dan Tsubouchi @Energy_Tidbits · Jul 20

Looks like #Shell #LNG loadings at 0.47 bcf/d #PreludeFLNG will be cancelled for longer. @angelamacd reports union extended industrial action to Aug 4, Shell then said it would lock out these workers from July 25. Shell has refused to meet unions for past 2 weeks. #OOTT #NatGas twitter.com/Energy_Tidbits...

Dan Tsubouchi @Energy_Tidbits · 12h

#Vortexa crude #Oil floating storage at 07/22 est 78.94 mmb, -6.31 mmb WoW vs revised up 07/15 of 85.25 mmb. Last 6 weeks revised up, but floating storage more ~90 mmb vs ~100 mmb from 2 mths ago. Thx @Vortexa @business. #OOTT

Vortexa Crude Oil Floating Storage Estimate Posted July 23 at noon MT

Source: Bloomberg, Vortexa

Posted July 23, noon MT

FZWWFST VTXA Index — 07/21/2019 - 07/22/2022

	Date	Last Px
Fr	07/22/2022	78939
Fr	07/15/2022	85254
Fr	07/08/2022	91919
Fr	07/01/2022	92209
Fr	06/24/2022	91266
Fr	06/17/2022	101.914k
Fr	06/10/2022	100.055k
Fr	06/03/2022	85570
Fr	05/27/2022	94962
Fr	05/20/2022	95161
Fr	05/13/2022	108.167k

Posted July 16, 2pm MT

FZWWFST VTXA Index — 07/14/2019 - 07/15/2022

	Date	Last Px
Fr	07/15/2022	78398
Fr	07/08/2022	88687
Fr	07/01/2022	90512
Fr	06/24/2022	87995
Fr	06/17/2022	98441
Fr	06/10/2022	99311
Fr	06/03/2022	88065
Fr	05/27/2022	97476
Fr	05/20/2022	97121
Fr	05/13/2022	111.462k
Fr	05/06/2022	96728

Posted July 9, noon MT

FZWWFST VTXA Index — 07/07/2019 - 07/08/2022

	Date	Last Px
Fr	07/08/2022	78183
Fr	07/01/2022	93395
Fr	06/24/2022	87214
Fr	06/17/2022	98475
Fr	06/10/2022	97636
Fr	06/03/2022	87377
Fr	05/27/2022	96332
Fr	05/20/2022	95807
Fr	05/13/2022	110.171k
Fr	05/06/2022	94790
Fr	04/29/2022	100.197k

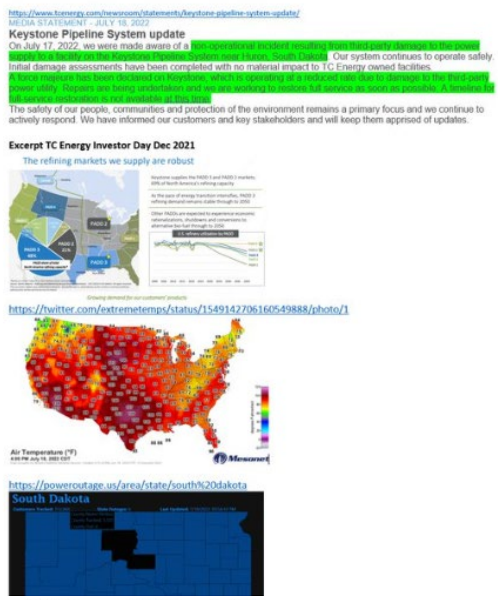
Source: Bloomberg, Vortexa

Dan Tsubouchi @Energy_Tidbits · 13h

Breaking: @TCEnergy announces #Keystone #Oil pipeline restored to normal operations ie. back to 590,000 b/d capacity. It was a localized power issue that was able to be restored relatively quickly. #OOTT

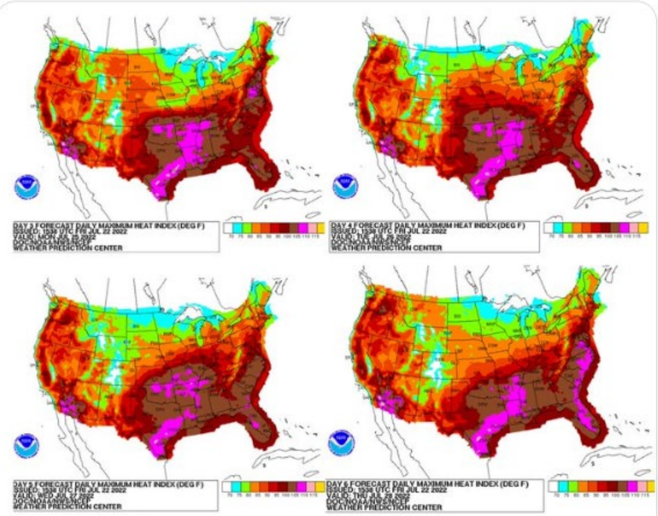
tcenergy.com/newsroom/state...

> **Dan Tsubouchi** @Energy_Tidbits · Jul 18
>
> Power supply interruption to @TCEnergy facility leads to majeure on 590,000 b/d #Keystone #Oil pipeline to PADD2, PADD 3. Down to undisclosed reduced rates, no ETA for full volumes. Not a major SD power issue so hopefully get fixed or temp power (ie. diesel) quickly. #OOTT



Dan Tsubouchi @Energy_Tidbits · Jul 22

Not as hot as this week, but today's @NOAA daily max temp forecast for Mon thru Thurs shows continued weather (warm temps) support for US #NatGas consumption, HH closed $8.25. #OOTT



Source: NOAA https://www.wpc.ncep.noaa.gov/heat_index_MAX.shtml

Dan Tsubouchi @Energy_Tidbits · Jul 22

Potential big risk to #LNG #TTF prices?? Yes, likely a slip of the tongue, but surely DEU govt has had internal discussions on trade-offs if #NatGas picture becomes ugly. As Mike Tyson said everyone has a plan until they get punched in the mouth. Thx @vonderburchard. #OOTT

Hans von der Burchard @vonderburchard · Jul 22

Big communication blunder by 🇩🇪 FM Baerbock

"If we don't get the gas turbine, then we won't get any more gas, and then we won't be able to provide any support for Ukraine at all, because then we'll be busy with popular uprisings." She immediately backtracked but damage was done.

Show this thread

k

Dan Tsubouchi @Energy_Tidbits · Jul 22

Another key factor driving 2020s #Oil #NatGas supply crunch - service sector capacity. $SLB CEO highlights "more specifically the tightening service supply capacity, both in NAM and increasingly in international markets." #OOTT

Schlumberger

SAF Group notes on Schlumberger Q2 call on July 22, 2022. CEO Olivier le Peuch.

Item in "*italics*" are SAF Group created transcript/

An item marked [xxx} is a word that we couldn't understand.

734am. Spending visibly higher across all customer types

At 7:36am MT. Le Peuch "*Turning to the macro. First, energy security and urgency to establish more diverse and reliable sources of oil and gas has become increasingly apparent through the year. Exacerbated by the effect of ongoing conflict in Ukraine and [???] increase in supply disruptions in certain regions. Second, surplus and spare capacity remains very tight as recent OPEC and IEA demand outlooks for 2022 and 2023 remain constructive. Continue to suggest a call on supply from North America and a more significant call on supply from international basins. Third, despite near-term concerns over a global economic slowdown, the combination of energy security, favorable break-even prices, and urgency to grow long term oil and gas production capacity will continue to support strong upstream E&P spending growth. Consequently, we are witnessing a decoupling of upstream spending from potential near-term demand volatility, resulting in resilient global oil and gas activity growth in 2022 and beyond. Additionally, the factors supporting pricing tailwinds, more specifically the tightening service supply capacity, both in NAM and increasingly in international markets will continue to [xxx] as defining characteristics of this upcycle and will support both revenue growth and margin expansion more than offsetting inflation.*"

At 7:48am MT, in Q&A, Le Peuch "*I want to enforce that the macro environment we are facing is quite unique. It's confidence on unprecedented low spare capacity, 8 years of underinvestment in international basins, and a call for energy security that is creating a [xxx] sourcing of both oil and gas in international basins. So, when you put that together, it creates not only a [xxx] short cycle [xxx] on production enhancements to respond to that energy security. But also reinforce the need for expanding oil capacity, accelerating gas development and entire set of international basins, both offshore and onshore [xxx] as we seen. So we have seen an inflection in sentiment of our customers, both national oil companies, international oil companies and international independents to respond to that call and turning and accelerating investments. And rotating their investments internationally. So this is certainly a multi legs, I would call it multi phase, both oil and gas positive on balance for awhile.*"

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

Dan Tsubouchi @Energy_Tidbits · Jul 22

Fear indicator for 2020s supply crunch. ".. combination of energy security, favorable break-even prices and the urgency to grow #Oil and #NatGas production capacity... we are witnessing a decoupling

Dan Tsubouchi @Energy_Tidbits · Jul 22

#EU will be hurt the most if #EPA does this. lower #Permian #Oil #NatGas production = lower US production = lower US exports of #LNG #Oil #Diesel and #Gasoline. Eu hurt the most as they have switched from RUS to US as natural gas supplier of choice. #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Jul 21
>
> Hugely bullish for #Oil #LNG #NatGas prices in 2020s if @EPA adds regs that lead to Permian #Oil #NatGas production decline. Add that to MBS said Saudi oil capacity peaks at 13 mmbd in 2027 & sanctions mean RUS doesn't go back to prior levels. Thx @jendlouhyhc. #OOTT

Biden Crackdown on Permian Smog to Pare Oil Output, Groups Warn
2022-07-21 15:30:16.983 GMT

By Jennifer A Dlouhy
(Bloomberg) -- The Biden administration's plan to crack down on smog in the oil-rich Permian Basin threatens to curb crude production while gasoline prices are near record highs and energy scarcity grips the globe, the industry warned Thursday.
Oil's lobbying heavyweights are appealing directly to top White House officials to slam the brakes on the plan, arguing that any move to redesignate drilling hotbeds in Texas and New Mexico as violating ozone air quality standards poses such high economic risks it should be subject to greater analysis and public scrutiny.
The Environmental Protection Agency's proposal to cut smog raises "the potential for increased operating expenses, decreased federal leasing revenues, permitting delays and decreased oil and natural gas production in the nation's most productive basin," the groups said in a letter to leaders of the White House Office of Management and Budget and its regulatory affairs office. The missive was sent Thursday by the American Petroleum Institute, American Exploration and Production Council, Texas Oil and Gas Association and other groups, who have spent weeks hudding over the potential consequences of the ozone plan since it was first outlined in a public notice last month.
The move by the EPA to consider giving the Permian a so-called non-attainment designation was encouraged by conservationists who say they are alarmed by indications ground-level ozone has surged along with oil and gas development. Ozone, which is the key ingredient of smog, is formed when volatile organic compounds and other air pollution that escapes smokestacks, tailpipes and oil wells reacts with sunlight. Even at low levels, it can worsen asthma, emphysema and other respiratory illnesses.
While Texas does not have monitors taking ozone readings on its side of the Permian, those just over the border in New Mexico's Eddy and Lea counties have recorded average ground-level ozone exceeding the 2015 federal standard of 70 parts per billion several years running.
If the region is deemed in violation, state regulators would have three years to develop plans for lowering ozone levels, including by preventing new industrial facilities from worsening air quality and ensuring existing sites deploy technology to keep pollution at bay.
"A non-attainment designation would ensure that people and communities throughout the Permian Basin no longer suffer the harmful and costly effects of smog," grassroots environmental and public health groups said in a July 12 letter to President Joe Biden.
The oil groups argue that the clampdown could result in existing facilities being forced to shut down and "could have the unintended consequence of slowing the approval of oil and natural gas infrastructure designed to reduce greenhouse gas emissions across the basin." The potential economic impacts are so severe, they contend, the White House should consider the proposal a "significant regulatory action," a designation that triggers more stringent review, and the EPA should open it up for public comment.

To contact the author of this story:
Jennifer A Dlouhy in Washington at jdlouhy1@bloomberg.net
To contact the editor responsible for this story:
Simon Casey at scasey4@bloomberg.net
Catherine Traywick

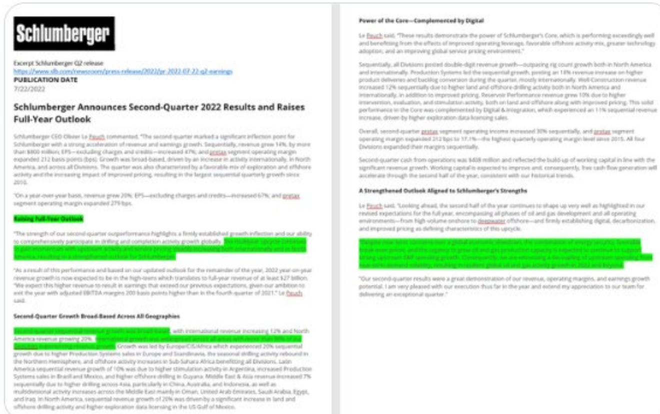
Dan Tsubouchi @Energy_Tidbits · Jul 22

George Fink retires as $BNE CEO. what do you consider your greatest achievement? George "being able to help people in need, whether it be because of health, advancing careers, being poor, addictions or building up confidence" Great CEO, even better person

energynow.ca
Feature: C-Suite Energy Executive – Chairperson of the Year – George ...
Bonterra Energy and Pine Cliff Energy share the same iconic, and iconoclastic, board chair. That's good news for both of them – and ev...

Dan Tsubouchi @Energy_Tidbits · Jul 22

Fear indicator for 2020s supply crunch. ".. combination of energy security, favorable break-even prices and the urgency to grow #Oil and #NatGas production capacity... we are witnessing a decoupling of upstream spending from near-term demand volatility" $SLB CEO Le Peuch. #OOTT



Schlumberger

Excerpt Schlumberger Q2 release

PUBLICATION DATE

7/22/2022

Schlumberger Announces Second-Quarter 2022 Results and Raises Full-Year Outlook

Schlumberger CEO Olivier Le Peuch commented, "The second quarter marked a significant inflection point for Schlumberger with a strong acceleration of revenue and earnings growth. Sequentially, revenue grew 14%, by more than $800 million; EPS—excluding charges and credits—increased 47%; and pretax segment operating margin expanded 212 basis points (bps). Growth was broad-based, driven by an increase in activity internationally, in North America, and across all Divisions. The quarter was also characterized by a favorable mix of exploration and offshore activity and the increasing impact of improved pricing, resulting in the largest sequential quarterly growth since 2010.

"On a year-over-year basis, revenue grew 20%; EPS—excluding charges and credits—increased 67%; and pretax segment operating margin expanded 279 bps.

Raising Full-Year Outlook

"The strength of our second-quarter outperformance highlights a firmly established growth inflection and our ability to comprehensively participate in drilling and completion activity growth globally. ... resulting in a strengthened outlook for Schlumberger.

"As a result of this performance and based on our updated outlook for the remainder of the year, 2022 year-on-year revenue growth is now expected to be in the high-teens which translates to full-year revenue of at least $27 billion. "We expect this higher revenue to result in earnings that exceed our previous expectations, given our ambition to exit the year with adjusted EBITDA margins 200 basis points higher than in the fourth quarter of 2021," Le Peuch said.

Second-Quarter Growth Broad-Based Across All Geographies

Second-quarter sequential revenue growth was broad-based, with international revenue increasing 12% and North America revenue growing 20%. ... Growth was led by Europe/CIS/Africa which experienced 20% sequential growth due to higher Production Systems sales in Europe and Scandinavia, the seasonal drilling activity rebound in the Northern Hemisphere, and offshore activity increases in Sub-Sahara Africa benefitting all Divisions. Latin America sequential revenue growth of 10% was due to higher stimulation activity in Argentina, increased Production Systems sales in Brazil and Mexico, and higher offshore drilling in Guyana. Middle East & Asia revenue increased 7% sequentially due to higher drilling across Asia, particularly in China, Australia, and Indonesia, as well as multidivisional activity increases across the Middle East mainly in Oman, United Arab Emirates, Saudi Arabia, Egypt, and Iraq. In North America, sequential revenue growth of 20% was driven by a significant increase in land and offshore drilling activity and higher exploration data licensing in the US Gulf of Mexico.

Power of the Core—Complemented by Digital

Le Peuch said, "These results demonstrate the power of Schlumberger's Core, which is performing exceedingly well and benefiting from the effects of improved operating leverage, favorable offshore activity mix, greater technology adoption, and an improving global service pricing environment."

Sequentially, all Divisions posted double-digit revenue growth—outpacing rig count growth both in North America and internationally. Production Systems led the sequential growth, posting an 18% revenue increase on higher product deliveries and backlog conversion during the quarter, mostly internationally. Well Construction revenue increased 12% sequentially due to higher land and offshore drilling activity both in North America and internationally, in addition to improved pricing. Reservoir Performance revenue grew 10% due to higher intervention, evaluation, and stimulation activity, both on land and offshore along with improved pricing. This solid performance in the Core was complemented by Digital & Integration, which experienced an 11% sequential revenue increase, driven by higher exploration data licensing sales.

Overall, second-quarter pretax segment operating income increased 30% sequentially, and pretax segment operating margin expanded 212 bps to 17.1%—the highest quarterly operating margin level since 2015. All four Divisions expanded their margins sequentially.

Second-quarter cash from operations was $408 million and reflected the build-up of working capital in line with the significant revenue growth. Working capital is expected to improve and, consequently, free cash flow generation will accelerate through the second half of the year, consistent with our historical trends.

A Strengthened Outlook Aligned to Schlumberger's Strengths

Le Peuch said, "Looking ahead, the second half of the year continues to shape up very well as highlighted in our revised expectations for the full year, encompassing all phases of oil and gas development and all operating environments—from high-volume onshore to deepwater offshore—and firmly establishing digital, decarbonization, and improved pricing as defining characteristics of this upcycle.

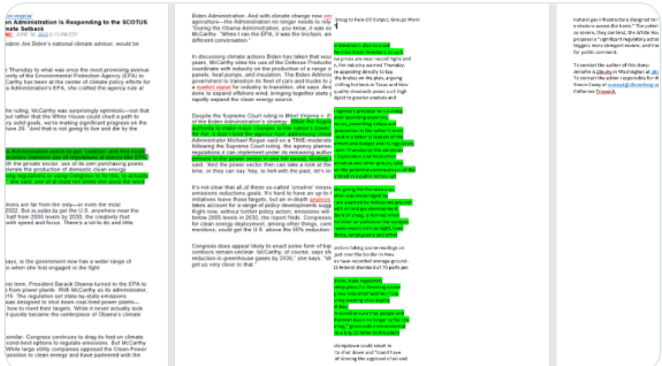
"Our second-quarter results were a great demonstration of our revenue, operating margins, and earnings growth potential. I am very pleased with our execution thus far in the year and extend my appreciation to our team for delivering an exceptional quarter."

Dan Tsubouchi @Energy_Tidbits · Jul 21

never get tired seeing the local #Canmore elk gang going down for an evening feed beside the Bow River

Dan Tsubouchi @Energy_Tidbits · Jul 21

Permian/EPA risk. #Oil #NatGas sector was warned @EPA would be "creative". See 👇 @JustinWorland report @ginamccarthy46 said Admin "needs to get “creative” & find novel ways to galvanize the energy transition. That includes inventive use of regulations at places like EPA, #OOTT



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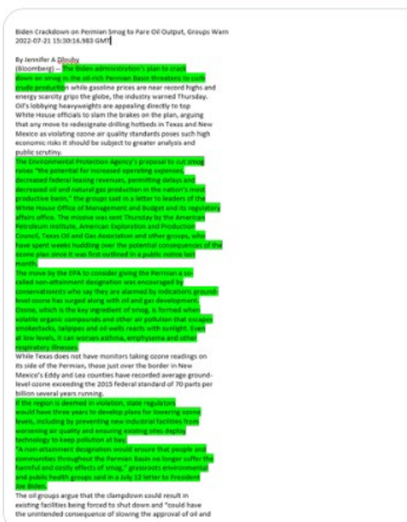
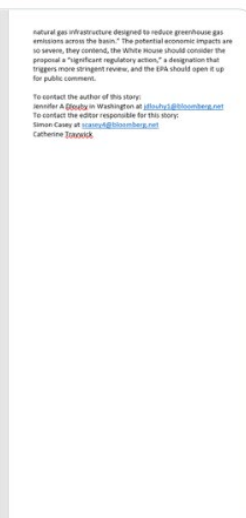
Hugely bullish for #Oil #LNG #NatGas prices in 2020s if @EPA adds regs that lead to Permian #Oil #NatGas production decline. Add that to MBS said Saudi oil capacity peaks at 13 mmbd in 2027 & sanctions mean RUS doesn't go back to prior levels. Thx @jendlouhyhc. #OOTT



Biden Crackdown on Permian Smog to Pare Oil Output, Groups Warn
2022-07-21 15:30:16.983 GMT

By Jennifer A Dlouhy
(Bloomberg) -- The Biden administration's plan to crack down on smog in the oil-rich Permian Basin threatens to curb crude production while gasoline prices are near record highs and energy scarcity grips the globe, the industry warned Thursday.
Oil's lobbying heavyweights are appealing directly to top White House officials to slam the brakes on the plan, arguing that any move to redesignate drilling hotbeds in Texas and New Mexico as violating ozone air quality standards poses such high economic risks it should be subject to greater analysis and public scrutiny.
The Environmental Protection Agency's proposal to cut smog raises "the potential for increased operating expenses, decreased federal leasing revenues, permitting delays and decreased oil and natural gas production in the nation's most productive basin," the groups said in a letter to leaders of the White House Office of Management and Budget and its regulatory affairs office. The missive was sent Thursday by the American Petroleum Institute, American Exploration and Production Council, Texas Oil and Gas Association and other groups, who have spent weeks huddling over the potential consequences of the ozone plan since it was first outlined in a public notice last month.
The move by the EPA to consider giving the Permian a so-called non-attainment designation was encouraged by conservationists who say they are alarmed by indications ground-level ozone has surged along with oil and gas development. Ozone, which is the key ingredient of smog, is formed when volatile organic compounds and other air pollution that escapes smokestacks, tailpipes and oil wells reacts with sunlight. Even at low levels, it can worsen asthma, emphysema and other respiratory illnesses.
While Texas does not have monitors taking ozone readings on its side of the Permian, those just over the border in New Mexico's Eddy and Lea counties have recorded average ground-level ozone exceeding the 2015 federal standard of 70 parts per billion several years running.
If the region is deemed in violation, state regulators would have three years to develop plans for lowering ozone levels, including by preventing new industrial facilities from worsening air quality and ensuring existing sites deploy technology to keep pollution at bay.
"A non-attainment designation would ensure that people and communities throughout the Permian Basin no longer suffer the harmful and costly effects of smog," grassroots environmental and public health groups said in a July 12 letter to President Joe Biden.
The oil groups argue that the clampdown could result in existing facilities being forced to shut down and "could have the unintended consequence of slowing the approval of oil and



natural gas infrastructure designed to reduce greenhouse gas emissions across the basin." The potential economic impacts are so severe, they contend, the White House should consider the proposal a "significant regulatory action," a designation that triggers more stringent review, and the EPA should open it up for public comment.

To contact the author of this story:
Jennifer A Dlouhy in Washington at jdlouhy1@bloomberg.net
To contact the editor responsible for this story:
Simon Casey at scasey4@bloomberg.net
Catherine Traywick

Dan Tsubouchi @Energy_Tidbits · Jul 21

Continued weather support for #NatGas. #OOTT

> **The Weather Channel** @weatherchannel · Jul 21
>
> 43 million of you will have highs in the triple digits today...
>
> Many more temperature records are expected to be broken through the weekend. Catch our coverage for your city's summer forecast!

Dan Tsubouchi @Energy_Tidbits · Jul 21

US airlines cutting H2/22 capacity is not airfare, recession related, it's lack of infrastructure to support demand. $AAL asked any concerns as fares go up, what effect that might have on elasticity going forward?" Mgmt "no, we don't spend a lot of time worrying about it". #OOTT

American Airlines

Excerpts from Q&A portion of the Bloomberg transcript of American Airlines Q2 2022 Earnings Call on July 21, 2022

Analyst. *:"Hey. Good morning, everyone. Could I just ask a question on your 3Q revenue guide. If I look at other airlines I think you guys are now the one that's not pointing to a sequential acceleration in total revenue growth 2Q to 3Q. As why do you think that is and are you just trying to be a little bit more conservative, given what's going on out there in the macro environment right now?*
CFO Derek Kerr: *"Well. Let me let me start by saying, we're actually really encouraged by demand and the demand for our product has been under a high and a like in a historical way, that continues. And indeed the way demand is coming back is both really encouraging and somewhat different than what was there before from my earlier commentary.*
But really what you see when you go from 2Q to 3Q, is first of all, just a change in capacity production, we're taking a more conservative view of just how we sizing airlines of the resources we have for Robert's comments, that impacts a lot of it and then beyond that really them there's a wide range that we have and unit revenue production because we're really encouraged by the trends that we see, but if we've learned anything over the last couple of quarters, things could go change a lot, but right now our optimism, we see nothing really materially does is our optimism in any way."

Analyst. *"Hi. Thanks for taking my question this morning. I just wanted to I guess get your thoughts on elasticity and if you have any concerns about that going forward, we're seeing fares continue to go up. Do you have any concerns about as fares go up, what effect that might have on elasticity going forward?"*
CCO Vasu Raja: *Hi, thanks for the question. This is Vasu and no, we don't spend a lot of time worrying about it just for one simple reason that what we try to do is create the most value for our customers and when they like it they pay, of course. And so, a lot of what you see out there is much demand that's surging back in the travel, as people went through the pandemic the -- you see an intense data that consumers crave experiences and there's no experience like the experience travel and it's bringing a lot of people back and a lot of people are coming back and doing things very different reason than before.*
And so that's what's really driving things as much as anything and concepts such as the elasticity of our debt demand. While it's pretty intellectually satisfying to talk about the reality of it is that consumers really like what they're getting being able to go and travel the world again and they're taking advantage of it and that's turning into relatively higher fares."

Dan Tsubouchi @Energy_Tidbits · Jul 21

Another airline cutting back flights. It is to deal with the lack of capacity across the air flying supply chain, but does impact #Oil demand. American Airlines. Q2/22 capacity at 8.5% below pre-Covid Q2/19. Guidance for Q3/22 capacity is 8-10% below pre-Covid Q3/19. #OOTT

American Airlines Reports Second-Quarter 2022 Financial Results

July 21, 2022

FORT WORTH, Texas, July 21, 2022 (GLOBE NEWSWIRE) – American Airlines Group Inc. (NASDAQ: AAL) today reported its second-quarter 2022 financial results, including:

- **Second-quarter net income of $476 million, or $0.68 per diluted share. Excluding net special items[1], second-quarter net income of $533 million, or $0.76 per diluted share.**
- **Record second-quarter revenue of $13.4 billion, which represents a 12.2% increase over the same period in 2019, despite flying 8.5% less capacity.**
- **Ended the second quarter with $15.6 billion of total available liquidity.**
- **Company continues to execute on its plan to pay down approximately $15 billion of total debt[2] by the end of 2025.**

"We are very pleased to report a quarterly profit, excluding net special items, for the first time since the start of the pandemic, driven by the strong demand environment and the hard work of our team," said American's CEO Robert Isom. "The American Airlines team has stepped up to meet the surge in demand for air travel while running a reliable operation in very challenging conditions. We are encouraged by the trends we're seeing across the business, and we remain well-positioned for the continued recovery."

Running a reliable operation

In the second quarter, American flew a schedule that was more than 25% larger than its closest competitor as measured by total departures. American and its regional partners operated more than 500,000 flights in the quarter, an 8% increase over the second quarter of 2021, with an average load factor of 87%, which is 10 points higher than the second quarter of 2021. Despite a challenging operating environment in June, American's on-time departure rate, on-time arrival rate and completion factor for the second quarter of 2022 were each improved versus the second quarter of 2019.

American is proud to offer customers the youngest fleet among U.S. network carriers and the largest network of any U.S. airline, with an expected average of more than 5,400 daily departures for the remainder of the summer.

Returning to profitability

American produced revenues of $13.4 billion in the second quarter, a 12.2% increase versus 2019 and a record for any quarter in company history. This record revenue was achieved while flying 8.5% less capacity than the same period in 2019, and there remains significant revenue potential going forward to the extent business and international travel improve further.

Domestic leisure travel remains very strong and surpassed 2019 levels in the second quarter and American also saw improvements in corporate and government revenue in the quarter. Demand for international travel also improved steadily during the second quarter and the company expects this to continue following the lifting of the COVID-19 testing requirement for inbound travel to the U.S.

Liquidity and balance sheet

American ended the second quarter with $15.6 billion of total available liquidity. Total debt reduction continues to be a top priority and the company remains on track to reduce overall debt levels by $15 billion by the end of 2025.

In the second quarter, the company made $1.0 billion in scheduled debt and finance lease payments, including paying off the remaining $433 million outstanding balance of its $750 million unsecured senior notes that matured in June. To date, American has reduced its overall debt by $5.2 billion from peak levels in the second quarter of 2021.

Guidance and investor update

American will continue to match its forward capacity with the resources required to support its operation. Based on current trends, the company expects its third-quarter total revenue to be 10% to 12% higher versus the third quarter of 2019 on 8% to 10% lower capacity. Based on these demand trends and the current fuel price forecast, the company expects to be profitable in the third quarter.

Dan Tsubouchi @Energy_Tidbits · Jul 21

One relief for EU #NatGas. Russia won't have to say they can't export gas as they need it for their own storage refill. RUS is at 81% of their target storage volumes to start winter so look in good shape to get to 100%. Thx @d_khrennikova. #OOTT

Shulginov: Russia Gas Storage Vol at 81% of Winter Reserve Goal
2022-07-21 12:04:31.18 GMT

By Bloomberg News
(Bloomberg) -- Russia's gas storage volumes have reached 81% of the amount needed before the winter peak-demand season, Energy Minister Nikolai Shulginov told President Vladimir Putin at a meeting broadcast on state TV.
* "We are preparing for this difficult period with full understanding that our partners in unfriendly states, for example, are expecting the very complicated season nervously. We, on the other hand, are working normally, based on our plans and timelines"
* NOTE: Gazprom's management board in April ordered to raise the storage volumes ahead of winter 2022/23 to 72.662 billion cubic meters and increase the maximum daily withdrawal to 852.4 million cubic meters
* READ: Russia Resumes Nord Stream Gas Flow, Bringing Europe Respite
* EARLIER: Kremlin Rejects Accusations of Using Gas As a Weapon: Peskov

To contact Bloomberg News staff for this story:
Dina Khrennikova in Dubai at dkhrennikova@bloomberg.net
To contact the editors responsible for this story:
James Herron at jherron9@bloomberg.net
Andrew Reierson

To view this story in Bloomberg click here:
https://blinks.bloomberg.com/news/stories/RFDBN8DWRGG0

Dan Tsubouchi @Energy_Tidbits · Jul 21

321 crack spread is still >$33 so big profits (and incentives) for US refiners to keep consuming #Oil, running refineries at high volume and cranking out #Gasoline, #Diesel, etc. But weakening crack spread is another indicator for risk to near term demand response. #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Jul 21
>
> 
>
> Negative #Oil story today. "US #Gasoline demand remains below where it was tis time two years ago as historically high prices keep more drivers off the road than Covid-19 did in the summer of 2020" reports @business Chunzi Xu. #OOTT

Dan Tsubouchi @Energy_Tidbits · Jul 21

"If you extrapolate the first four hours of gas flows from #NordStream1 to the day, we end up at around 700 GWh/d & the pre-maintenance level of 40%. But in view of the missing 60% & the political instability, there is still no reason to sound the all-clear" #NatGas #OOTT

> **Klaus Müller** @Klaus_Mueller · Jul 21
>
> Wenn man die ersten vier Stunden Gasflüsse aus der #NordStream1 auf den Tag hochrechnet, landen wir bei ca. 700 GWh/d & dem Vor-Wartungsniveau von 40%. Aber angesichts der fehlenden 60% & der politischen Instabilität gibt es noch keinen Anlass zur Entwarnung. @bnetza @bmwk twitter.com/Klaus_Mueller/...
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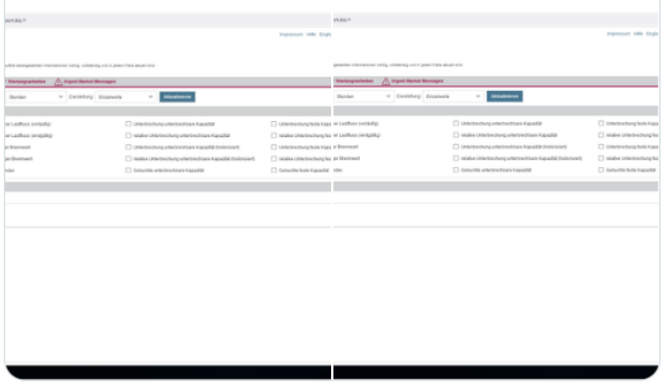
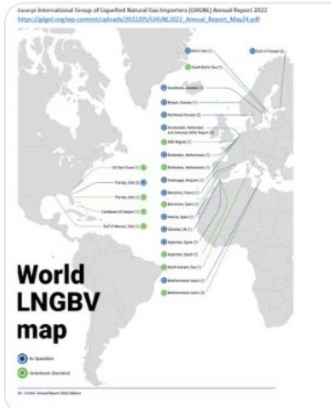
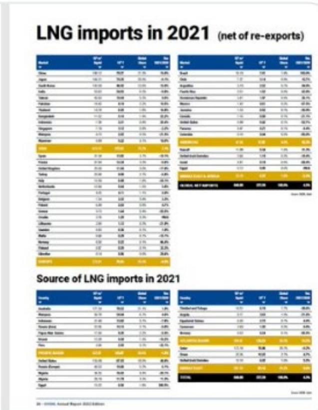
> 

Dan Tsubouchi @Energy_Tidbits · Jul 20

Spain is #1 EC #LNG importer so isn't reliant on RUS #NatGas. ESP rejects Brussels' proposal to cut gas consumption by 15%: "Unlike other countries, we Spaniards have not lived beyond our means from an energy point of view". Thx @nacho_fariza @GIIGNL #OOTT elpais.com/economia/2022-...

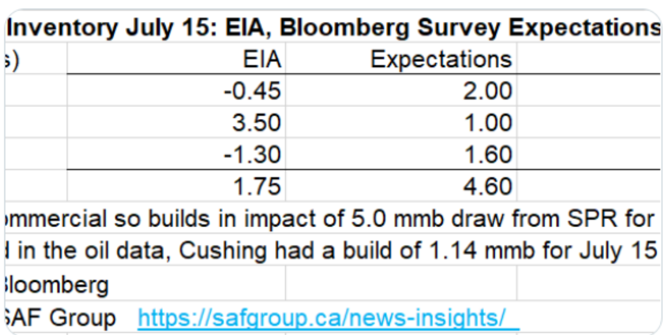




Dan Tsubouchi @Energy_Tidbits · Jul 20

For those not near their laptop, @business reported @EIAgov #Oil #Gasoline #Distillates inventory as of July 15 . Table below compares vs @APIenergy yesterday and expectations. Prior to release, WTI was $102.50. #OOTT

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



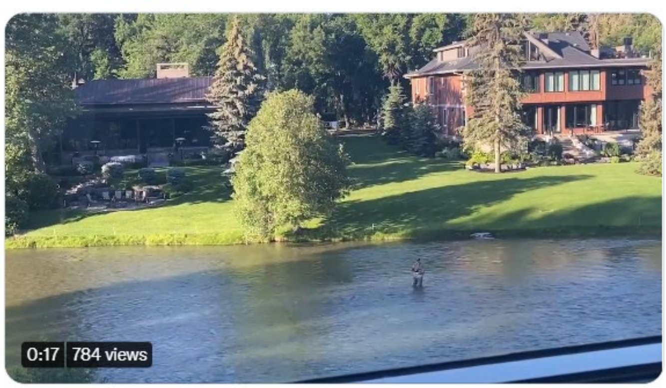
Inventory July 15: EIA, Bloomberg Survey Expectations

;)	EIA	Expectations
	-0.45	2.00
	3.50	1.00
	-1.30	1.60
	1.75	4.60

ımmercial so builds in impact of 5.0 mmb draw from SPR for
ł in the oil data, Cushing had a build of 1.14 mmb for July 15
3loomberg
;AF Group https://safgroup.ca/news-insights/

Dan Tsubouchi @Energy_Tidbits · Jul 20

great day in #Calgary. doesn't seem like the fish at biting in the Elbow River



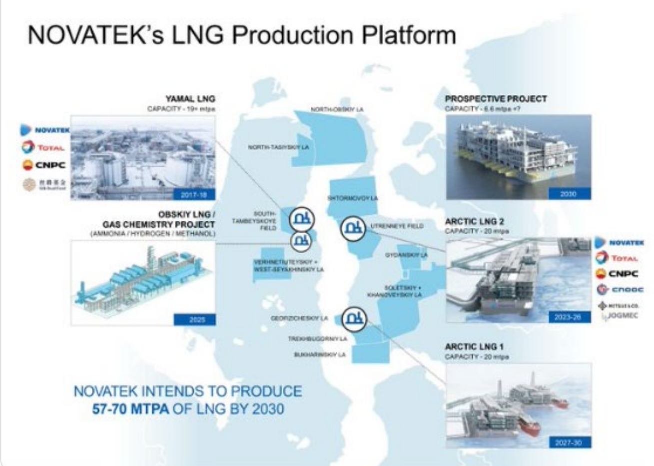
Dan Tsubouchi @Energy_Tidbits · Jul 20

Bullish #LNG. $BKR Q2 call ongoing. @simonelli_l "we continue to expect 100 to 150 mtpa [13.2 to 19.7 bcf/d] of LNG FIDs over the next two years with additional FIDS in 2024 and 2025". Surely this includes #LNGCanada Phase 2 of 1.8 bcf/d? It's a huge plus to CAN #NatGas. #OOTT

Dan Tsubouchi @Energy_Tidbits · Jul 20

Here's why #BakerHughes suspending substantially all Russia operations is a game changer for #LNG. See 👇 06/16 thread. Adds delays to 2.6 bcfd under construction LNG & ongoing servicing to 3.6 bcfd of existing LNG. #NatGas #OOTT

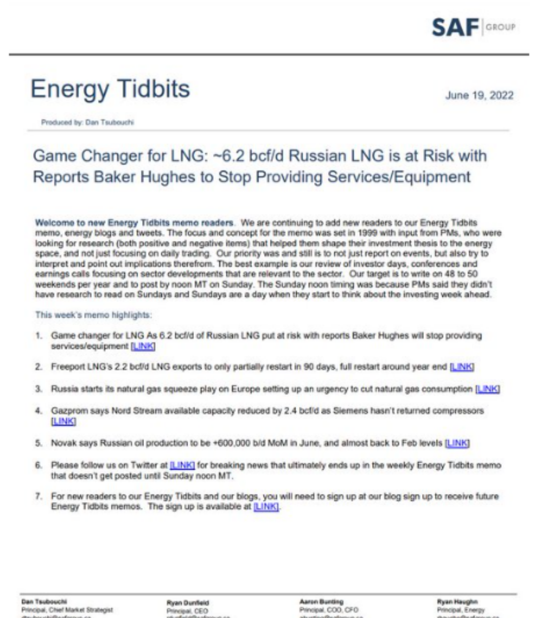
> **Dan Tsubouchi** @Energy_Tidbits · Jun 16
>
> 1/2. Game Changer for #LNG. 6.2 bcfd RUS LNG is now at risk incl operating 1.3 bcfd Sakhalin-2 LNG & 2.3 bcfd Yamal LNG, and under construction 2.6 bcfd Arctic LNG-2 w/ phase 1 0.87 planned 2023 in service. #OOTT #NatGas
>
> Show this thread



Dan Tsubouchi @Energy_Tidbits · Jul 20

Game changer for #LNG? $BKR Q2 "suspension of substantially all of $BKR operations in RUS". See SAF Group 👇 06/19 Energy Tidbits. If so, puts at risk for delays ~2.6 bcfd under construction Arctic LNG-2, ongoing servicing of 3.6 bcfd Sakhalin-2 LNG/Yamal LNG. #NatGas #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Jun 19
>
> Our weekly SAF June 19, 2022 Energy Tidbits memo is posted on our SAF Group website. his 47-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

June 19, 2022

Produced by: Dan Tsubouchi

Game Changer for LNG: ~6.2 bcf/d Russian LNG is at Risk with Reports Baker Hughes to Stop Providing Services/Equipment

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. Game changer for LNG As 6.2 bcf/d of Russian LNG put at risk with reports Baker Hughes will stop providing services/equipment [LINK]
2. Freeport LNG's 2.2 bcf/d LNG exports to only partially restart in 90 days, full restart around year end [LINK]
3. Russia starts its natural gas squeeze play on Europe setting up an urgency to cut natural gas consumption [LINK]
4. Gazprom says Nord Stream available capacity reduced by 2.4 bcf/d as Siemens hasn't returned compressors [LINK]
5. Novak says Russian oil production to be +600,000 b/d MoM in June, and almost back to Feb levels [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].

Dan Tsubouchi, Principal, Chief Market Strategist, dtsubouchi@safgroup.ca
Ryan Dunfield, Principal, CEO, rdunfield@safgroup.ca
Aaron Bunting, Principal, COO, CFO, abunting@safgroup.ca
Ryan Haughn, Principal, Energy, rhaughn@safgroup.ca

Dan Tsubouchi @Energy_Tidbits · Jul 20

Looks like #Shell #LNG loadings at 0.47 bcf/d #PreludeFLNG will be cancelled for longer. @angelamacd reports union extended industrial action to Aug 4, Shell then said it would lock out these workers from July 25. Shell has refused to meet unions for past 2 weeks. #OOTT #NatGas

> **Dan Tsubouchi** @Energy_Tidbits · Jul 14
>
> No surprise: #Shell cancels #LNG loadings at 0.47 bcf/d #PreludeFLNG thru July after a workers' strike extended an outage at the facility, according to people with knowledge of the matter, reports @SStapczynski. Still wonder if 👇 union email raises risks to timing? #NatGas #OOTT twitter.com/Energy_Tidbits...

Dan Tsubouchi @Energy_Tidbits · Jul 19

#NordStream. Putin points to return to service at 2.12 bcfd (40% of 5.3 bcfd capacity) but down to 1.06 bcfd if gas turbine not returned. reduced volumes ensure EU storage doesn't get to 90% fill, he saves #NatGas nuke option until Nov/Dec. #OOTT

RUSSIAN NEWS AGENCY TASS

https://tass.com/economy/1482237
19 JUL, 17:20

Gas supplies via Nord Stream 1 to reduce if turbine not returned to Russia — Putin

Russian President noted that currently two turbines are functioning pumping about 60 mln cubic meters daily

TEHRAN, July 20. /TASS/. If Russia does not get a turbine for Nord Stream 1 back, this route can be used to pump only 30 mln cubic meters of gas daily instead of the current 60 mln, Russian President Vladimir Putin said following the Astana Troika summit held in Tehran on Tuesday.

He noted that currently two turbines are functioning pumping about 60 mln cubic meters daily. "If another one arrives, good, two of them will be working. And if not, only one will which is only 30 mln cubic meters per day," the president explained.

The Russian leader noted that Gazprom has not yet received any official documents that the turbine for Nord Stream 1 would be returned to Russia from Canada soon.

"Now they tell us that the turbine for Nord Stream 1 will soon be returned to Russia from Canada. However, Gazprom does not yet have any official documents to this effect. And we, of course, should receive them because this is our property, this is Gazprom's property. And Gazprom should receive not only [...] the machine itself but its paperwork as well," Putin stressed.

Dan Tsubouchi @Energy_Tidbits · Jul 19

Why fire a missile today when RUS can drop a #NatGas nuke in Nov? @MaznevaElena @a_shiryaevskaya report #NordStream says its sticking to pipeline maintenance plan ie. volumes resume Thurs. RUS can keep reduced volumes, make sure EU...

Dan Tsubouchi @Energy_Tidbits · Jul 19

Hmmm! Wonder why big plug # to reconcile the +4.84 mmb MoM increase in @JODI_Data for Saudi #Oil inventory at May 31 vs MoM changes in production, oil used for electricity, oil input to refineries & exports? Maybe revision to March refinery oil from March missile attack? #OOTT

JODI @JODI_Data · 14h

The JODI-Oil World Database July update has just been published.
53 countries updated the database with the most recent May 2022 data.

JODI Oil World Database July Update for May 2022 data for Saudi Arabia

Saudi Arabia JODI Data

Updated July 19, 2022 for June data

	Inventories (mb)	Production (mb/d)	Direct Use (mb/d)	Refinery Intake (mb/d)	Exports (mb/d)	MoM Changes: Inventories (mb)	Inventories (mb/d)	Production (mb/d)	Direct Use (mb/d)	Refinery Intake (mb/d)	Exports (mb/d)
Sep-20	143,983	8,982	615	2,354	6,066	-1,584	-53	-2	-87	-224	98
Oct-20	144,659	8,974	391	2,402	6,159	676	22	-8	-224	48	93
Nov-20	143,432	8,972	320	2,339	6,354	-1,227	-41	-2	-71	-63	195
Dec-20	140,016	8,980	267	2,328	6,495	-3,416	-110	8	-53	-11	141
Jan-21	137,207	9,103	269	2,343	6,582	-2,809	-91	123	2	15	87
Feb-21	134,575	8,147	335	2,281	5,625	-2,632	-94	-956	66	-62	-957
Mar-21	133,338	8,138	319	2,431	5,427	-1,237	-40	-9	-16	150	-198
Apr-21	134,085	8,134	407	2,295	5,408	747	25	-4	88	-136	-19
May-21	135,775	8,544	451	2,389	5,649	1,690	55	410	44	94	241
Jun-21	135,139	8,927	586	2,398	5,965	-636	-21	383	135	9	316
Jul-21	135,105	9,474	691	2,457	6,327	-34	-1	547	105	59	362
Aug-21	133,164	9,562	654	2,521	6,450	-1,941	-63	88	-37	64	123
Sep-21	136,542	9,662	543	2,490	6,516	3,378	113	100	-111	-31	66
Oct-21	136,806	9,780	328	2,611	6,833	264	9	118	-215	121	317
Nov-21	132,378	9,912	339	2,772	6,949	-4,428	-148	132	11	161	116
Dec-21	134,662	10,022	318	2,694	6,937	2,284	74	110	-21	-78	-12
Jan-22	133,742	10,145	402	2,777	6,966	-920	-30	123	84	83	29
Feb-22	137,149	10,225	291	2,506	7,307	3,407	110	80	-111	-271	341
Mar-22	135,847	10,300	335	2,773	7,235	-1,302	-42	75	44	267	-72
Apr-22	139,579	10,441	397	2,538	7,382	3,732	124	141	62	-235	147
May-22	144,421	10,538	582	2,749	7,050	4,842	156	97	185	211	-332

Source: JODI, Bloomberg

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

Dan Tsubouchi @Energy_Tidbits · Jul 19

Why fire a missile today when RUS can drop a #NatGas nuke in Nov? @MaznevaElena @a_shiryaevskaya report #NordStream says its sticking to pipeline maintenance plan ie. volumes resume Thurs. RUS can keep reduced volumes, make sure EU #NatGas storage is nowhere near 90% full. #OOTT

Nord Stream Says It's Sticking to Pipeline Maintenance Plan (1)
2022-07-19 16:59:29.631 GMT

By Elena Mazneva and Anna Shiryaevskaya
(Bloomberg) -- (Updates with additional comments in headline and first bullet.)
* "So far, we stick to the schedule," the pipeline's operator said in statement to Bloomberg on Tuesday
* Some small gas volumes moved via the link earlier, including 27.1 MWh/h at 2 pm local time and 23.7 MWh/h at 4 pm, its data show
* "These small volumes of gas were used for technically required pressure equalization between Nord Stream and the downstream operator," Nord Stream said in a separate statement
* Gas shipment orders will be published when they have been confirmed
** "We have little ability to influence this timing"
* NOTE: Nord Stream's normal capacity is ~73 GWh/h; actual volumes had been at ~40% of that level since mid-June before the link halted for planned maintenance July 11-21
* EARLIER: Gazprom Poised to Restart Gas Flows Through Nord Stream Pipeline

To contact the reporters on this story:
Elena Mazneva in London at emazneva@bloomberg.net;
Anna Shiryaevskaya in London at ashiryaevska@bloomberg.net
To contact the editor responsible for this story:
Isis Almeida at ialmeida3@bloomberg.net

To view this story in Bloomberg click here:
https://blinks.bloomberg.com/news/stories/RFA1M9DWLU68

Dan Tsubouchi @Energy_Tidbits · Jul 19

"tightness around oil supply is not something that's resolved quickly after 7, 8 years of underinvestment" "i am equally excited about the duration. This is multiples of years. it was a decade in the making, it's many years in the undoing in terms of producing" $HAL CEO. #OOTT

HALLIBURTON

SAF Group created transcript of excerpts of comments made by CEO Jeff Miller from Halliburton Q2 call webcast on July 19, 2022

Items in "italics" are SAF Group created transcript

At 7:35am. Analyst *".. there seems to be. At least from what I can tell, a growing urgency from the customer base to bring production or accelerate activity levels from here. And so we could be in a position where you see growth that moves much higher than kind of the steady growth we've seen so far, but could be a tipping point?"* Miller *"James, yes agreed in terms of the outlook. in fact what I see is a lot of duration in this cycle. Obviously, it's been moving up and I expect it continues to move up. But the reality is that if operators can be busy, particularly international they are, and the tightness around oil supply is not something that's resolved quickly after 7, 8 years of underinvestment. So while I am excited about the Inflection and the improvement in the upcycle that we see. I have to say I am equally excited about the duration. This is multiples of years. it was a decade in the making, it's many years in the undoing in terms of producing. And so I think this is a fantastic time for operators and an even better time for Halliburton".*

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

Dan Tsubouchi @Energy_Tidbits · Jul 19

Buckle up. Limiting factor for US #Oil #NatGas growth in 2023 is service sector is tapped out. #Halliburton CEO "The market remains all but sold out. Supply chain bottlenecks, even for diesel fleets, make it almost impossible to add incremental capacity this year". #OOTT

ALLIBURTON

up created transcript of excerpts of comments made by CEO Jeff Miller from Halliburton Q2 call webcast
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"italics" are SAF Group created transcript

MT, Miller *"... as I stated before, this is a margin cycle, not a build cycle. In North America, net pricing ments drove our strong C&P margin expansion in the second quarter. And I expect pricing gains to contin hy. Existing active equipment and experienced crews are in high demand and will continue to be highly s efficiently execute programs in the second half of this year and into 2023. The market remains all but sol hain bottlenecks, even for diesel fleets, make it almost impossible to add incremental capacity this year."*

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

Dan Tsubouchi @Energy_Tidbits · Jul 19

#Halliburton Q2 call on right now. Q&A, CEO Miller just said in North America, "see tighter 23 than we see in 22". limiting factor for US #Oil #NatGas production growth in 2023 will be services sector. #OOTT twitter.com/Energy_Tidbits...

Dan Tsubouchi @Energy_Tidbits · Jul 19

#Halliburton Q2 call on right now. Q&A, CEO Miller just said in North America, "see tighter 23 than we see in 22". limiting factor for US #Oil #NatGas production growth in 2023 will be services sector. #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Jul 19
>
> Limiting factor for US #Oil #NatGas production growth. $HAL Q2 "In North America, I expect Halliburton to uniquely maximize value in this strong, steadily growing, and all but sold-out market." Service sector is almost tapped out. #OOTT
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> HALLIBURTON
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> https://ir.halliburton.com/news-releases/news-release-details/halliburton-announces-second-quarter-2022-results
>
> Press Release
>
> **Halliburton Announces Second Quarter 2022 Results**
>
> - Reported net income of $0.12 per diluted share
> - Adjusted net income of $0.49 per diluted share, excluding impairments and other charges
>
> HOUSTON--(BUSINESS WIRE)--Jul. 19, 2022-- Halliburton Company (NYSE: HAL) announced today net income of $109 million, or $0.12 per diluted share, for the second quarter of 2022. This compares to net income for the first quarter of 2022 of $263 million, or $0.29 per diluted share. Adjusted net income for the second quarter of 2022, excluding impairments and other charges, was $442 million, or $0.49 per diluted share. This compares to adjusted net income for the first quarter of 2022, excluding impairments and other charges and a loss on the early extinguishment of debt, of $314 million, or $0.35 per diluted share. Halliburton's total revenue for the second quarter of 2022 was $5.1 billion compared to revenue of $4.3 billion in the first quarter of 2022. Reported operating income was $374 million in the second quarter of 2022 compared to reported operating income of $511 million in the first quarter of 2022. Excluding impairments and other charges, adjusted operating income was $718 million in the second quarter of 2022 compared to adjusted operating income of $533 million for the first quarter of 2022.
>
> "Our strong second quarter performance demonstrates that our strategy is working well, and Halliburton's strategic priorities are driving value. Total company revenue grew 18% sequentially, as activity increased simultaneously in North America and international markets, and adjusted operating income grew 35% with strong margin performance in both divisions," commented Jeff Miller, Chairman, President and CEO.
>
> "I expect the international markets will experience multiple years of growth, and I am confident that Halliburton is positioned to benefit more from this multi-year upcycle than ever before. We have a leading technology portfolio, the right geographic presence, and new service line opportunities that align perfectly with our strategy to deliver profitable international growth.
>
> "In North America, I expect Halliburton to uniquely maximize value in this strong, steadily growing, and all but sold-out market. Pricing gains across all product service lines supported significant sequential margin expansion in the second quarter.
>
> "Halliburton's competitive position is unique among our peers. We have the scale and technology to benefit meaningfully and differentially from the international market expansion, and we are the leader in the extremely busy North American market. I'm excited about the future of Halliburton and expect us to deliver profitable growth, margin expansion, strong free cash flow, and industry-leading returns in this upcycle," concluded Miller.
>
> **Operating Segments**
>
> **Completion and Production**
>
> Completion and Production revenue in the second quarter of 2022 was $2.9 billion, an increase of $558 million, or 24%, when compared to the first quarter of 2022, while operating income was $499 million, an increase of $203 million, or 69%. These results were driven by increased pressure pumping services in the Western Hemisphere, higher completion tool sales globally, increased artificial lift activity in North America land and Kuwait, and improved cementing activity in the Eastern Hemisphere. These improvements were partially offset by lower stimulation activity in Oman and decreased artificial lift activity in Latin America.

Dan Tsubouchi @Energy_Tidbits · Jul 19

have to agree with @andrewrsorkin that there will likely be some correlation (legally won't be causation) of underperformers to remote working. but @JoeSquawk knows there will always be kellen mond situations. great show as usual

> **Ian Kenyon** @IanKenyonNFL · Jan 2
>
> This is the coldest thing I've ever heard from a coach. My goodness.

Dan Tsubouchi @Energy_Tidbits · Jul 19

Another Germany energy price hit. @JWittels reports #RhineRiver low water levels cut #Diesel #Gasoline barge loads by 70% south of Kaub (~halfway point). Alternative transport, if available, is very $$$ ie. rail tank cars or long distance tanker trucks. Thx @EIAgov for map #OOTT

Source: EIA

Dan Tsubouchi @Energy_Tidbits · Jul 19

Another post #Biden/#MBS reminder from Saudi "we don't see a lack of #Oil in the market, there is a lack of refining capacity". Also don't expect them to abandon Russia as "RUS is an integral part of #OPEC+". KSA Al-Jubeir on Sat, Foreign Minister Prince Faisal today. #OOTT

Saudi Foreign Minister discusses bilateral ties, regional politics at Arab News Japan event

Dan Tsubouchi @Energy_Tidbits · Jul 18

#NordStream: See 👇, Best case post 07/21 maintenance, IF no delays in customs, return at 40% of capacity thru at least early Aug. Worst case, zero until confirmation of "unconditional fulfillment by #Siemens" of their ongoing obligations on gas turbines. #NatGas #LNG #OOTT

Turbine moved to destination

Repaired car for Nord Stream sent to Germany

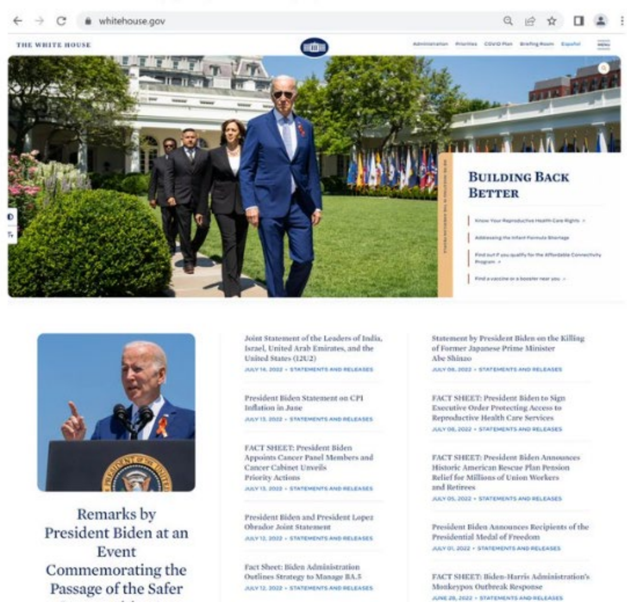
Dan Tsubouchi @Energy_Tidbits · Jul 17

just checked @WhiteHouse website at 7:45pm ET. still no mention on home page of where #Biden was on July 15/16. Best indicator that he didn't get any wins on #Oil supply or #Iran from #MBS and Gulf Arab leaders. #OOTT

Dan Tsubouchi @Energy_Tidbits · Jul 17

Ouch! Best indicator #Biden didn't get any wins on #Oil supply or #Iran from MBS & Gulf Arab leaders meetings. Go to @WhiteHouse home page, nothing to even indicate he was in Jeddah. Didn't expect the MBS fist bump, but there would be something he thought he won something. #OOTT

Picture of White House home page at 4;28am MT on July 17, 2022



Dan Tsubouchi @Energy_Tidbits · Jul 17

Is this a challenge to @IsraeliPM Lapid (see 👇) or warning to #Biden to give in on #JCPOA? "Khamenei adviser says Tehran 'capable of building nuclear bomb'' report @Jerusalem_Post @Reuters. Either way should add #Oil risk premium? #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Jul 14
>
> Note @IsraeliPM Lapid "only thing that will stop Iran is knowing that, if they CONTINUE TO DEVELOP their nuclear program, the free world will use force". Vs @POTUS "never obtains a nuclear weapon". #Oil risk premium? #OOTT

SAF Group created transcript of excerpts from Biden/Lapid press conference on July 14, 2022

Items in "italics' are SAF Group created transcript

At 5:36am MT, Lapid *"… our way of life is what threatens them. It's what makes the Iranian regime develop its nuclear program, Hezbollah aim its missiles at us and terrorist organizations worldwide send suicide bombers. They want to destroy the only Jewish state in the world. That, we will never let happen. Words will not stop them Mr. President. Diplomacy will not stop them. The only thing that will stop Iran is knowing that, if they continue to develop their nuclear program, the free world will use force. The only way to stop them is to put a credible military threat on the table. You have said many times, Mr. President, that big countries do not bluff. I completely agree. It should not be a bluff but the real thing the Iranian regime must know that if they continue to deceive the world, they will pay a heavy price"*.

At 5:45am MT. Biden *"… Today, you and I also discussed America's commitment to ensuring Iran never obtains a nuclear weapon….. I continue to believe that diplomacy is the best way to achieve this outcome."*

At 5:58am MT. Lapid *"… we cannot allow Iran to become nuclear. Iran reserves the right to act freely on the subject."*

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

Dan Tsubouchi @Energy_Tidbits · Jul 17

Our weekly SAF July 17, 2022 Energy Tidbits memo is posted on SAF Group website. this 44-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

July 17, 2022

Produced by: Dan Tsubouchi

Turning Point For Oil Markets: MBS Warns Saudi Can Take "Capacity" to 13 mmb/d And Then No More

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. A turning point for oil markets and reinforce peak oil supply is coming as MBS warned peak Saudi oil "capacity" will be reached once they get to 13 mmb/d by 2027 [LINK]
2. Has MBS's success this week with Biden's visit now set the stage for him to become Saudi King in the coming months? [LINK]
3. Looks like Europe's big fear is coming true – increased expectation for Nord Stream maintenance to be extended [LINK]
4. Oil consumers better hope OPEC MOMR's first look at oil demand is too optimistic [LINK]
5. Israel PM reminds it has a much sooner threshold than the US and others on Iran's nuclear efforts [LINK]
6. We had an earlier than normal news cut off at 5am MT due to travel.
7. 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.
8. 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].

Dan Tsubouchi	**Ryan Dunfield**	**Aaron Bunting**	**Ryan Haughn**
Principal, Chief Market Strategist	Principal, CEO	Principal, COO, CFO	Principal, Energy
dtsubouchi@safgroup.ca	rdunfield@safgroup.ca	abunting@safgroup.ca	rhaughn@safgroup.ca