

Energy Tidbits

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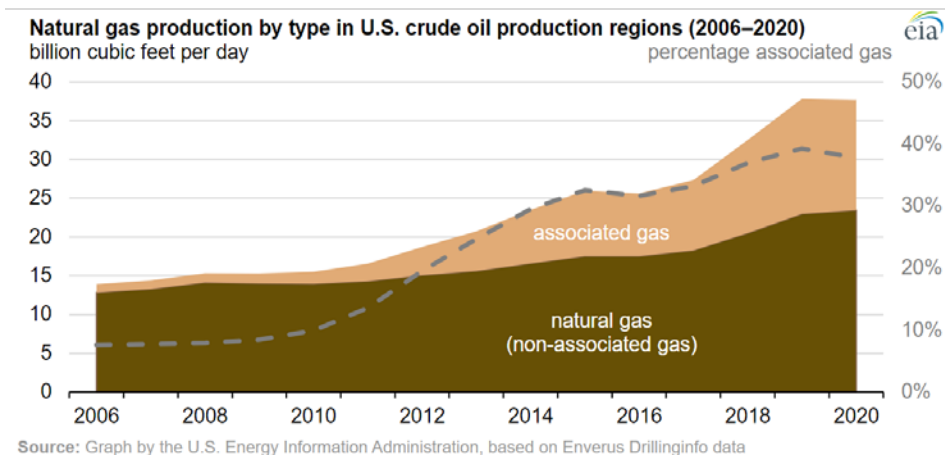
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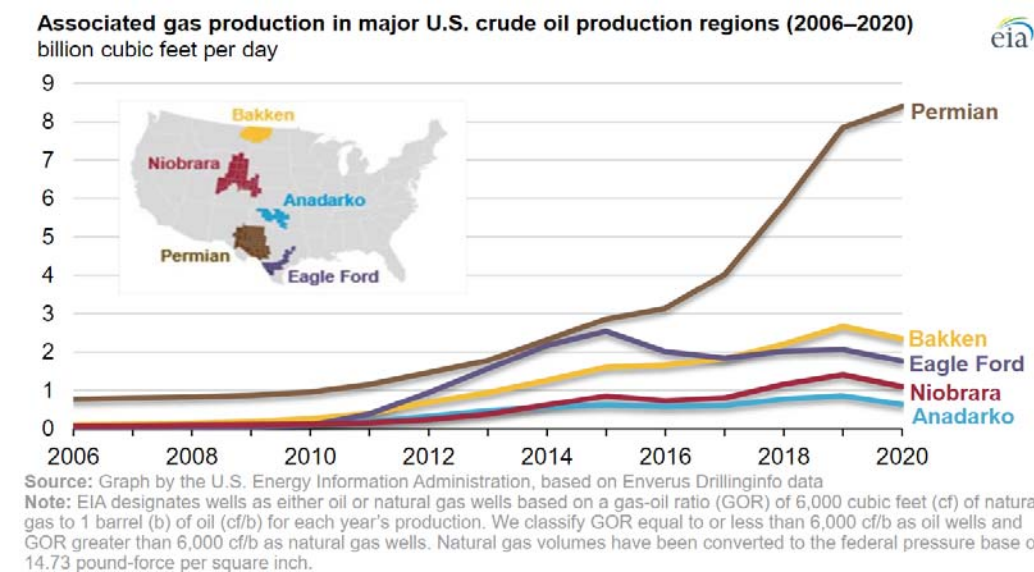
AUGUST 23, 2021

Associated natural gas production declines in 2020, following three years of growth



In 2020, annual production of [associated-dissolved natural gas](#) (or associated gas)—which is natural gas [produced from oil wells](#)—declined in the combined five major U.S. onshore crude oil-producing regions for the first time since 2016. The share of associated gas produced in these five regions (Permian, Bakken, Eagle Ford, Niobrara, and Anadarko) declined by 1.5% year over year and averaged 37.7% of natural gas production in the regions. Associated gas production averaged 14.2 billion cubic feet per day (Bcf/d) in 2020 (a 4.1% decline from 2019) amid a 9.2% drop in oil production in these regions.

When natural gas dissolves in crude oil under the pressure of a rock formation, associated gas is released when the pressure on the crude oil is relieved by bringing it to the surface. Until 2020, the share of associated gas in these five regions, along with oil production, [had been increasing](#). Between 2016 and 2019, associated gas production grew at its most rapid pace (6.1 Bcf/d) because of high levels of new crude oil production. Production of both crude oil and associated gas in 2020 declined with decreased demand for crude oil following responses to the COVID-19 pandemic.



In 2020, the [Permian region](#), which spans parts of western Texas and eastern New Mexico, produced 50% of total U.S. associated gas. Only the Permian region increased its production of both crude oil and associated gas in 2020, but these increases did not offset

declines in both crude oil and associated gas production in the other four regions. Some of this increase in associated gas production can be attributed to [greater natural gas takeaway capacity](#) in the Permian region.

Associated gas contains natural gas plant liquids (NGPLs) such as ethane, propane, normal butane, isobutane, and natural gasoline.

NGPLs are used as feedstocks to produce plastics, fibers, and other products; they are also used for heating and for transportation.

Despite the 2020 decline in associated gas, years of rising associated gas production led to [record high volumes of NGPL production](#) in 2020, driven by high [ethane demand](#). Ethane consumption has been [growing steadily](#) both domestically and through [exports](#) since 2014.

Principal contributors: Max Ober, Jack Perrin, Troy Cook

Tags: [production/supply](#), [natural gas](#), [wells](#), [liquid fuels](#), [crude oil](#), [oil/petroleum](#)

You Can Make It If You Try - New Contracts Inch North American LNG Projects Closer To FID

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Wednesday, 08/25/2021 Published by: [Lindsay Schneider](#)

U.S. LNG is in the midst of a record-breaking year. Total LNG feedgas has averaged nearly 10 Bcf/d so far in 2021 and the country is on track to export somewhere around 1,000 cargoes this year, 40% more than last year. Although pipeline maintenance and flow constraints have knocked feedgas off the all-time highs seen earlier this year, feedgas and exports are likely to hit new record levels to close out the year as Sabine Pass Train 6 and Calcasieu Pass prepare to start service in early 2022. The strength in U.S. LNG export demand this year is underpinned by an incredibly bullish global gas market, which has led prices in both Europe and Asia to hit all-time highs. This has not only benefited the existing fleet of terminals, but the prolonged bullish global gas market has accelerated commercial activity for future LNG projects. Since May, more than 12 MMtpa of capacity from LNG terminals or liquefaction trains under development has been sold, pushing several prospective LNG projects closer to a final investment decision (FID). RBN covers all of the latest in our LNG Voyager Quarterly report, but in today's blog, we take a look at some of the highlights from the report, focusing on the biggest changes in LNG development this summer.

In our [LNG Voyager Quarterly supplement](#), we track the 10 LNG terminals that have already taken FID and the still-standing (some albeit only barely) pre-FID projects (shown on the map in Figure 1). We categorize them into the following groups: operational (in green on the map), those that have already reached FID and are under construction (blue), those that are pre-FID but "probable" to reach FID in the next year (dark orange), and ones that are "possible" to be greenlighted in the next year. Within the "possible" bucket, we further group them into Tier 1 (light orange), Tier 2 (dark yellow), and Tier 3 (cream), based on the likelihood that they will achieve FID in the next 1-3 years.



Figure 1. Map of Proposed and Operational LNG Terminals. Source: [RBN LNG Voyager](#)

When we published our first quarterly report of this year in early March, there were 29 projects on our pre-FID probable and possible list. Now, that number is down to just 18. No projects have achieved a positive FID this year, and that reduction is all from projects being paused, canceled, rejected, or losing investors to the point that they can't reasonably be included in even our most generous definition of "possible" that currently applies to our Tier 3 projects. There are a handful of projects in Tier 3 that look promising in the long run, but most of them will never be built. Our list is likely to keep shrinking as interest continues to coalesce around a smaller subset of projects, and the market continuously reevaluates the economics of North American LNG in the context of global demand growth.

For the ones that fizzled out, you can get the breakdown of what went wrong and where exactly each project on the list stands in our [LNG Voyager Quarterly report](#). It's not all bad news, however, and today, we'll focus on what's going right, particularly the 12.1 MMtpa (1.6 Bcf/d) of new LNG contracts signed this summer for capacity at the pre-FID projects. The specifics of each deal are outlined in Figure 2 below, including the relevant pre-FID terminal, the capacity holder/offtaker, term length, and any deal structure and pricing information that has been announced.

Pre-FID Liquefaction Primary Capacity-Holders/ LNG Offtakers							
Project	Developer	Capacity Holder/ Offtaker	Volume MMtpa	Date Announced	Term Length	Deal Structure	Price Index
Corpus Christi Stage III	Cheniere	Tourmaline	0.85	7/20/2021	15-year	IPM	JKM
Driftwood LNG	Tellurian	Gunvor	3	5/27/2021	10-year	FOB	JKM, TTF
Driftwood LNG	Tellurian	Vitol	3	6/4/2021	10-year	FOB	JKM, TTF
Driftwood LNG	Tellurian	Shell	3	6/29/2021	10-year	FOB	JKM, TTF
Plaquemines LNG	Venture Global	PGNiG	1.5	7/29/2021	20-year	FOB	Not Disclosed
Woodfibre LNG	Pacific Oil and Gas	BP	0.75	5/6/2021	15-year	FOB	Not Disclosed
Total			12.10				

Figure 2. Pre-FID Liquefaction Capacity Sales. Source: [RBN LNG Voyager](#)

The majority of those sales — 9 MMtpa (~1.2 Bcf/d) — came from one project: **Tellurian's Driftwood LNG**. Driftwood LNG was originally proposed as a facility with five plants and four “mini” trains each for a total capacity of 27.6 MMtpa (~3.7 Bcf/d) in Louisiana. Back then, Tellurian's plans included taking on equity investors for 60% of the terminal's capacity and marketing 40% of the capacity on its own or through traditional long-term sales and purchase agreements (SPAs). However, only one such agreement — with TotalEnergies for 1.5 MMtpa marketed by Tellurian and an additional equity stake equivalent to 1 MMtpa — was ever signed, and that deal expired in June. Since then, however, Tellurian has abandoned the equity stake model and focused on sales around a two-train, 11-MMtpa phase 1 of the project. It'll defer additional plants for down the line, if there is more appetite and assuming it is able to get the first two liquefaction trains to FID, which is looking increasingly more likely given the 9 MMtpa of sales that have transpired in just the past few months.

Although the TotalEnergies deal expired, Tellurian has closed three 3-MMtpa (0.4 Bcf/d) SPAs this summer, one each with Gunvor, Vitol and Shell. These deals all have similar terms and are all 10-year SPAs at a price indexed to a blend of JKM and TTF. Tellurian's successful commercial strategy pivot set the project up for a remarkable comeback, after it experienced a number of setbacks last year. With more than 80% of the planned capacity now secured, that's enough for the project to achieve FID. That said, the project still needs to secure financing, which may prove more difficult because of its shorter-term SPAs, rather than the 20-year contracts that were used to underpin the first wave of LNG projects. The company has said it hoped to secure financing this year and take FID in the first quarter of 2022. Tellurian reiterated its plan to produce all of the feedgas supply for the terminal, which is essential to the value proposition of Driftwood LNG and these latest sales. The company has said it would not officially take FID on the project until it had secured the necessary upstream reserves. Although Tellurian has increased its Haynesville acreage position and drilling program, it still needs about 1.5 Bcf/d more to achieve that goal. With its excellent forward momentum, Driftwood looks extremely likely to go ahead next year.

Although Driftwood has been the most active in dealmaking this summer, particularly on the Gulf Coast, there is one North American project that still ranks above it in terms of being closest to FID, and that's Woodfibre LNG. Woodfibre LNG is a single train, 2.1-MMtpa (0.3 Bcf/d) LNG terminal in British Columbia. Woodfibre signed its second SPA with BP for 0.75 MMtpa in May, taking BP's total secured volume from the terminal to 1.5 MMtpa. No pricing information for the deals was released, but both are 15-year contracts. BP now holds more than 70% of the total capacity and that is enough contracted volumes for the project to move forward. It's currently the only project realistically close enough to FID this year, and the company said in May when the BP deal was announced that it was targeting FID in the third quarter.

Turning back to Gulf Coast projects, in mid-July, Cheniere signed its third integrated production management (IPM) deal in support of **Corpus Christi Stage III** with Canadian gas producer Tourmaline Oil Corp. Under the agreement, which is similar to the two other IPMs Cheniere has with Apache and EOG for the project, an affiliate of Tourmaline will supply 140 MMcf/d of feedgas to the terminal, for which Cheniere will pay a JKM-linked price after subtracting liquefaction and shipping charges. Then, Cheniere's marketing arm, CMI, will market 0.85 MMtpa of LNG for Tourmaline. CMI has also had a very busy year. It sold 12 MMtpa (1.6 Bcf/d) of LNG in short- and mid-term deals from Cheniere's portfolio. These deals are not tied to any specific train or terminal, but are mostly sourced from the Cheniere terminals, Sabine Pass and Corpus Christi. With the additional sales this year, the Cheniere portfolio is now 90% contracted, a level the company would like to maintain. With that in mind, Stage III has 2.6 MMtpa of its planned 9.5-MMtpa capacity secured in IPM deals, and Cheniere has said that it must sell another 4 MMtpa of Corpus Christi Stage III capacity before the project takes FID to maintain the company's targeted contracted level. It hopes to achieve this in the next year in order to take FID.

Finally, at the end of July, PGNiG announced that it would purchase an additional 2 MMtpa (0.3 Bcf/d) from Venture Global, 1.5 MMtpa of that from the planned Plaquemines LNG and 0.5 MMtpa from the soon-to-be operational

Calcasieu Pass terminal. This deal was part of a series of moves PGNiG made related to the delaying of another pre-FID project, Semptra's Port Arthur LNG. The company previously held 2 MMtpa at Port Arthur, but that contract has now been canceled. Venture Global and PGNiG are amending their existing sales contracts rather than inking new ones. With the new terms, PGNiG will hold SPAs for 5.5 MMtpa total from Venture Global and 4 MMtpa specifically from Plaquemines LNG. With this deal and the 1-MMtpa SPA with EDF from February 2020, the Plaquemines project now has half of its phase 1 capacity (5 MMtpa out of the 10 MMtpa total) secured in 20-year contracts.

This summer has seen a flurry of commercial activity for new North American LNG and interest still seems to be growing. Several LNG developers have indicated they are in late stages of contract negotiations and have been vocal about the renewed interest in contracts that has been created by the incredible bull run of global gas prices. The only question is, how long might it last? But that's a blog for another day.

With more than 12 MMtpa of new deals already done, it seems like a matter of time before the next North American LNG project takes FID. That said, there is a very fine line between undersupplied and oversupplied. Offtakers are shopping cautiously — and they have plenty of projects to choose from. You can keep up with all the latest in LNG development with our [LNG Voyager report](#).

TotalEnergies Mozambique LNG project may resume within 18 months, says AfDB
2021-08-27 12:13:33.280 GMT

Aug. 27 (National Post) -- JOHANNESBURG - TotalEnergies' liquefied natural gas (LNG) project in Mozambique could be back on track within the next 18 months after African armies deployed to help quell an insurgency, the president of the African Development Bank (AfDB) said on Friday.

The French energy giant declared force majeure on the \$20 billion project in April after Islamic State-linked fighters overran the town of Palma, on the doorstep of its facilities in the northern Cabo Delgado province. It estimated at the time the disruption would delay development by at least a year. Troops from Rwanda and members states from the Southern African Development Community (SADC) have since deployed to support Mozambican forces to help put down the insurgency. AfDB president Akinwumi Adesina told Reuters he did not expect the interruption to affect the LNG project's long-term viability.

"The return of security in that place will give assurances to Total and others to return," he said. "In one year to 18 months, I expect it to be stabilized enough to get back on track."

TotalEnergies did not immediately respond to a request for comment on Adesina's remarks.

The AfDB is lending \$400 million to the project, which is Africa's largest ever foreign direct investment and a lynchpin of Mozambique's economic development strategy.

"It gave us real concern when Total declared force majeure and they had to move out. But you can understand because of the insecurity situation," Adesina said.

Southern African nations agreed in June to send troops to assist Mozambique, and Rwanda, which is not a SADC member, deployed 1,000 soldiers a month later.

Mozambican President Filipe Nyusi has said the army is now retaking ground in Cabo Delgado. Last month, Mozambican and Rwandan security forces recaptured the port town of Mocimboa da Praia, previously an insurgent stronghold.

But Adesina said insecurity was still restricting investment in other parts of Africa, pointing to conflict zones in Chad, Mali, Burkina Faso, northern Nigeria and Cameroon. He said the AfDB was developing facilities, including security-indexed investment bonds, to help African countries tackle insecurity and rebuild after unrest.

"Without security, you can't have investment and you can't have development," he said.

(Reporting by Joe Bavier; Editing by Edmund Blair)

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To view this story in Bloomberg click here:

<https://blinks.bloomberg.com/news/stories/QYHZAL073NCW>

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

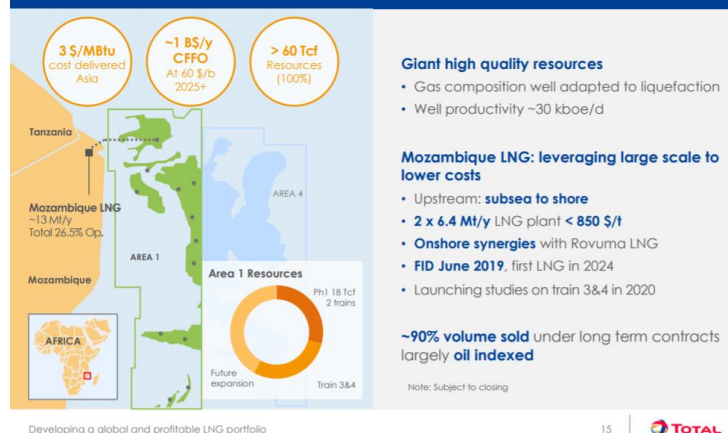
Posted Wednesday April 28, 2021. 9:00 MT

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

Mozambique LNG: unlocking world-class gas resources



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.

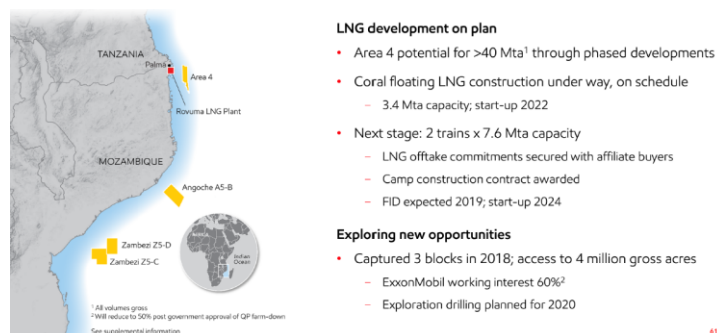
Mozambique's security issues pushes back 5.0 bcf/d of new LNG supply at least a couple years. The global LNG issue is that 5 bcf/d of new Mozambique LNG supply (apart from the Eni Coral FLNG of 0.45 bcf/d) won't start up in 2024 and

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 bcf/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 timeline) 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

UPSTREAM MOZAMBIQUE

Five outstanding developments



Source: Exxon Investor Day March 6, 2019

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

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[\[LINK\]](#) 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 will 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 Buses	
● 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.

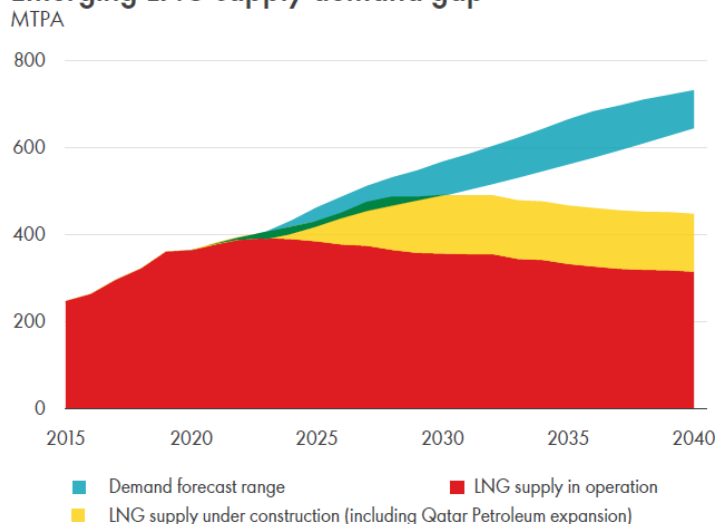
Shell's March 2021 long term outlook for LNG demand was basically unchanged vs 2020 and leads to a LNG supply gap in mid 2020s. Shell does not provide the detailed numbers in their Feb 25, 2021 LNG forecast. We would assume they

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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

Emerging LNG supply-demand gap



Source: Shell LNG Outlook 2021, Feb 25, 2021

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

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

A greenfield LNG project would likely take at least until 2027 to be in operations. Its why we believe the Mozambique delays will effectively force major LNG players to look to see if there are brownfield LNG projects they should look to advance. Prior to the just passed winter, no one would think Shell or other major LNG players would be considering any new LNG FIDs in 2021. All the big companies are in capital reduction mode and debt reduction mode. But Brent oil is now solidly over \$60 and LNG prices hit record levels in Jan and the world's economic and oil and gas demand outlook are increasing with vaccinations. And we are starting to see companies move to increasing capex with the higher cash flows. We would not expect any major LNG players to move to FID right away. But we see them watching to see if 2021 plays out to still support this increasing LNG supply gap. And unless new mutations prevent vaccinations from returning the world to normal, we suspect that major LNG players, like other oil and gas companies, will be looking to increase

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capex as they approve 2022 budgets. The outlook for the future has changed dramatically in the last 5 months. The question facing Shell and others, should they look to FID new LNG brownfield projects in the face of an increasing LNG supply gap that is going to hit faster and harder than expected a few months ago. We expect these decisions to be looked at before the end of 2021. LNG prices will be stronger, but we expect the limiting cap in Asia will be that thermal coal will be used to mitigate some LNG price pressure.

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

A LNG Canada Phase 2 would be a big plus to Cdn natural gas. A LNG Canada Phase 2 FID would be a big plus for Cdn natural gas. It would allow another ~1.8 bcf/d of Cdn natural gas to be priced against Asian LNG prices and not against Henry Hub. And it would provide demand offset versus Trudeau if he moves to make electricity "emissions free" and not his prior "net zero emissions". Mozambique may be in Africa, but, unless sustained peace and security is attained, it is a game changer to LNG outlook creating a bigger and sooner LNG supply gap. And with a stronger tone to oil and natural gas prices in 2021, the LNG supply gap will at least provide the opportunity for Shell to consider FID for its brownfield LNG Canada Phase 2 and provide big support to Cdn natural gas for back half of the 2020s. And perhaps if LNG Canada is exporting 3.6 bcf/d from two phases, it could help flip Cdn natural gas to a premium to US natural gas especially if Biden is successful in reducing US domestic natural gas consumption for electricity. The next six months will be very interesting to watch for LNG markets.

Highlights for the month

- The consumption of petroleum products during April-July 2021 with a volume of 65.3 MMT reported a growth of 15.8% compared to the volume of 56.4 MMT during the same period of the previous year. Except SKO all other petroleum products reported a growth in consumption during April-July 2021 compared to the same period of the previous year. The consumption of petroleum products during July 2021 recorded a growth of 7.9% compared to the same period of the previous year.
- Indigenous crude oil and condensate production during July 2021 was lower by 3.2 % than that of July 2020 as compared to a de-growth of 1.8% during June 2021. OIL registered a growth of 1.1 % and ONGC registered a de-growth of 4.2 % during July 2021 as compared to July 2020. PSC registered de-growth of 2.2 % during July 2021 as compared to July 2020. De-growth of 3.4 % was registered in the total crude oil and condensate production during April- July 2021 over the corresponding period of the previous year.
- Total natural gas consumption (including internal consumption) for the month of July 2021 was 5346 MMSCM which was 4.7% lower than the corresponding month of the previous year. The cumulative consumption of 20936 MMSCM for the current year till July 2021 was higher by 10.9% compared with the corresponding period of the previous year.
- Crude oil processed during July 2021 was 19.4 MMT, which was 9.6 % higher than July 2020 as compared to a growth of 4.9 % during June 2021. Growth of 15.6 % was registered in the total crude oil processing during April- July 2021 over the corresponding period of the previous year.
- Production of petroleum products saw a growth of 6.7 % during July 2021 over July 2020 as compared to a growth of 2.4 % during June 2021. Growth of 13.1 % was registered in the total POL production during April- July 2021 over the corresponding period of the previous year.
- Ethanol blending with Petrol was 9.1% during July 2021 and cumulative during December 2020- July 2021 was 8%.

•	Gross production of natural gas for the month of July 2021 was 2892 MMSCM which was higher by 18.4% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 11060 MMSCM for the current financial year till July, 2021 was higher by 2.9% compared with the corresponding period of the previous year.
•	Crude oil imports increased by 21.8% and 16.2% during July 2021 and April-July 2021 respectively as compared to the corresponding period of the previous year.
•	POL products imports decreased by 7.7% and 4.6% during July 2021 and April-July 2021 respectively as compared to the corresponding period of the previous year. Decrease in POL products imports during April-July 2021 was due to decrease in imports of petcoke, high speed diesel (HSD), liquified petroleum gas (LPG) and aviation turbine fuel (ATF).
•	LNG import for the month of July, 2021(P) was 2528 MMSCM which was 14.9% lower than the corresponding month of the previous year. The cumulative import of 10161 MMSCM for the current year till July, 2021 was higher by 1.9% compared with the corresponding period of the previous year.
•	Exports of POL products increased by 19.9% and decreased by 1.3% during July 2021 and April-July 2021 respectively as compared to the corresponding period of the previous year. Decrease in POL products exports during April-July 2021 (P) was due to decrease in exports of petcoke/CBFS, high speed diesel (HSD), naphtha and LOBS/Lube oil.
•	The price of Brent Crude averaged \$75.03/bbl during July, 2021 as against \$73.04/bbl during June 2021 and \$43.35/bbl during July 2020. The Indian basket crude price averaged \$73.54/bbl during July 2021 as against \$71.98/bbl during June 2021 and \$43.35 /bbl during July 2020.

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

Details		Unit/ Base	2019-20	2020-21 (P)	July		April-July	
					2020-21 (P)	2021-22 (P)	2020-21 (P)	2021-22 (P)
1	Crude oil production in India [#]	MMT	32.2	30.5	2.6	2.5	10.3	10.0
2	Consumption of petroleum products*	MMT	214.1	194.6	15.6	16.8	56.4	65.3
3	Production of petroleum products	MMT	262.9	233.5	19.4	20.7	71.4	80.7
4	Gross natural gas production	MMSCM	31,184	28,672	2,443	2,892	10,749	11,060
5	Natural gas consumption	MMSCM	64,144	60,646	5,610	5,346	18,870	20,936
6	Imports & exports [^] :							
Crude oil imports		MMT	227.0	198.1	12.3	15.0	57.2	66.4
		\$ Billion	101.4	62.7	3.8	8.0	12.3	33.1
Petroleum products (POL) imports*		MMT	43.8	43.5	4.0	3.7	14.5	13.9
		\$ Billion	17.7	14.2	1.1	1.6	3.7	5.4
Gross petroleum imports (Crude + POL)		MMT	270.7	241.6	16.4	18.8	71.7	80.3
		\$ Billion	119.1	76.9	4.9	9.6	16.1	38.5
Petroleum products (POL) export		MMT	65.7	56.8	3.9	4.7	20.1	19.9
		\$ Billion	35.8	21.4	1.5	2.9	5.4	11.8
LNG imports*		MMSCM	33,887	32,861	2,971	2,528	9,969	10,161
		\$ Billion	9.5	7.4	0.5	0.9	1.9	3.1
7	Petroleum imports as percentage of India's gross imports (in value terms)	%	25.1	19.5	17.3	20.7	18.1	22.3
8	Petroleum exports as percentage of India's gross exports (in value terms)	%	11.4	7.3	6.2	8.3	7.2	9.0
9	Import dependency of crude (on consumption basis)	%	85.0	84.4	83.5	84.9	82.1	85.4

[#]Includes condensate; *Jul 2020- Jul 2021 2021 DGCIS data prorated;

3. Indigenous crude oil production (Million Metric Tonnes)

Details	2019-20	2020-21 (P)	July			April-July		
			2020-21 (P)	2021-22 Target*	2021-22 (P)	2020-21 (P)	2021-22 Target*	2021-22 (P)
ONGC	19.2	19.1	1.6	1.7	1.6	6.4	6.7	6.2
Oil India Limited (OIL)	3.1	2.9	0.3	0.3	0.3	1.0	1.0	1.0
Private / Joint Ventures (JVs)	8.2	7.1	0.6	0.7	0.6	2.4	2.5	2.4
Total Crude Oil	30.5	29.1	2.5	2.6	2.4	9.8	10.2	9.5
ONGC condensate	1.4	1.1	0.1		0.1	0.4		0.3
PSC condensate	0.3	0.3	0.02		0.03	0.08		0.10
Total condensate	1.6	1.4	0.1		0.1	0.5		0.4
Total (Crude + Condensate) (MMT)	32.2	30.5	2.6	2.6	2.5	10.3	10.2	10.0
Total (Crude + Condensate) (Million Bbl/Day)	0.64	0.61	0.62		0.60	0.62		0.60

*Provisional targets inclusive of condensate.

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

Details	2019-20	2020-21 (P)	July		April-July	
			2020-21 (P)	2021-22 (P)	2020-21 (P)	2021-22 (P)
Total domestic production (MMTOE)	63.4	59.2	5.1	5.4	21.1	21.0
Overseas production (MMTOE)	24.5	21.9	1.8	1.9	7.4	7.3
Overseas production as percentage of domestic production	38.7%	37.0%	35.7%	34.3%	35.4%	34.8%

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

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

Details		2019-20	2020-21 (P)	July		April-July	
				2020-21 (P)	2021-22 (P)	2020-21 (P)	2021-22 (P)
1	High Sulphur crude	192.4	161.4	12.6	14.7	48.2	57.4
2	Low Sulphur crude	62.0	60.3	5.1	4.7	18.1	19.2
Total crude processed (MMT)		254.4	221.8	17.7	19.4	66.3	76.6
Total crude processed (Million Bbl/Day)		5.09	4.45	4.18	4.58	3.98	4.60
Percentage share of HS crude in total crude oil processing		75.6%	72.8%	71.4%	75.6%	72.7%	74.9%

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

7. Self-sufficiency in petroleum products (Million Metric Tonnes)							
Particulars		2019-20	2020-21 (P)	July		April-July	
				2020-21 (P)	2021-22 (P)	2020-21 (P)	2021-22 (P)
1	Indigenous crude oil processing	29.3	28.0	2.3	2.3	9.3	8.8
2	Products from indigenous crude (93.3% of crude oil processed)	27.3	26.1	2.2	2.2	8.7	8.2
3	Products from fractionators (Including LPG and Gas)	4.8	4.2	0.4	0.4	1.4	1.4
4	Total production from indigenous crude & condensate (2 + 3)	32.1	30.3	2.6	2.5	10.1	9.5
5	Total domestic consumption	214.1	194.6	15.6	16.8	56.4	65.3
% Self-sufficiency (4 / 5)		15.0%	15.6%	16.5%	15.1%	17.9%	14.6%

8. Refineries: Installed capacity and crude oil processing (MMTPA / MMT)										
Company	Refinery	Installed capacity (1.8.2021) MMTPA	Crude oil processing (MMT)							
			2019-20	2020-21 (P)	July			April-July		
					2020-21 (P)	2021-22 (Target)	2021-22 (P)	2020-21 (P)	2021-22 (Target)	2021-22 (P)
IOCL	Barauni (1964)	6.0	6.5	5.5	0.4	0.3	0.6	1.5	1.7	2.0
	Koyali (1965)	13.7	13.1	11.6	1.1	1.2	1.1	3.5	4.9	4.2
	Haldia (1975)	8.0	6.5	6.8	0.6	0.7	0.6	1.7	2.8	2.6
	Mathura (1982)	8.0	8.9	8.9	0.8	0.8	0.7	2.8	3.0	2.9
	Panipat (1998)	15.0	15.0	13.2	1.1	1.3	1.3	3.7	5.3	5.0
	Guwahati (1962)	1.0	0.9	0.8	0.09	0.1	0.0	0.17	0.1	0.1
	Digboi (1901)	0.65	0.7	0.6	0.05	0.03	0.06	0.2	0.2	0.2
	Bongaigaon(1979)	2.35	2.0	2.5	0.2	0.2	0.2	0.8	0.9	0.9
	Paradip (2016)	15.0	15.8	12.5	1.0	1.3	1.1	3.9	5.3	4.5
	IOCL-TOTAL	69.7	69.4	62.4	5.4	6.0	5.7	18.3	24.1	22.4
CPCL	Manali (1969)	10.5	10.2	8.2	0.7	0.9	0.8	2.1	2.9	2.9
	CBR (1993)	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CPCL-TOTAL	11.5	10.2	8.2	0.7	0.9	0.8	2.1	2.9	2.9
BPCL	Mumbai (1955)	12.0	15.0	12.9	1.1	1.3	1.3	3.7	5.0	4.7
	Kochi (1966)	15.5	16.5	13.3	0.8	1.4	1.1	3.3	5.6	4.4
BORL	Bina (2011)	7.8	7.9	6.2	0.4	0.6	0.6	1.6	2.3	2.2
NRL	Numaligarh (1999)	3.0	2.4	2.7	0.2	0.2	0.2	0.8	0.9	0.9
	BPCL-TOTAL	38.3	41.8	35.1	2.6	3.5	3.2	9.4	13.7	12.1

Company	Refinery	Installed capacity (1.8.2021) (MMTPA)	Crude oil processing (MMT)							
			2019-20	2020-21 (P)	July			Apr-July		
					2020-21 (P)	2021-22 (Target)	2021-22 (P)	2020-21 (P)	2021-22 (Target)	2021-22 (P)
ONGC	Tatipaka (2001)	0.066	0.087	0.081	0.007	0.006	0.003	0.023	0.019	0.023
MRPL	Mangalore (1996)	15.0	14.0	11.5	0.8	1.4	1.1	2.6	4.6	4.2
	ONGC-TOTAL	15.1	14.0	11.6	0.8	1.4	1.1	2.7	4.6	4.2
HPCL	Mumbai (1954)	7.5	8.1	7.4	0.6	0.7	0.3	2.4	1.3	0.8
	Visakh (1957)	8.3	9.1	9.1	0.7	0.8	0.5	3.0	3.3	2.5
HMEL	Bathinda (2012)	11.3	12.2	10.1	1.0	0.9	1.1	3.1	3.7	4.3
	HPCL- TOTAL	27.1	29.4	26.5	2.4	2.5	1.9	8.4	8.3	7.6
RIL	Jamnagar (DTA) (1999)	33.0	33.0	34.1	2.8	2.8	2.7	11.0	11.0	11.0
	Jamnagar (SEZ) (2008)	35.2	35.9	26.8	1.5	1.5	2.3	8.6	8.6	9.7
NEL	Vadinar (2006)	20.0	20.6	17.1	1.6	1.6	1.7	5.9	5.9	6.7
All India (MMT)		249.9	254.4	221.8	17.7	20.2	19.4	66.3	79.1	76.6
All India (Million Bbl/Day)		5.02	5.09	4.45	4.18		4.58	3.98		4.60

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

9. Major crude oil and product pipeline network (as on 01.08.2021)										
Details		ONGC	OIL	Cairn	HMEL	IOCL	BPCL	HPCL	Others*	Total
Crude Oil	Length (KM)	1,283	1,193	688	1,017	5,301	937			10,419
	Cap (MMTPA)	60.6	9.0	10.7	11.3	48.6	7.8			147.9
Products	Length (KM)		654			9,400	2,241	3,775	2,395	18,465
	Cap (MMTPA)		1.7			47.5	19.5	34.1	9.4	112.2

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

11. Production and consumption of petroleum products (Million Metric Tonnes)												
Products	2019-20		2020-21 (P)		July 2020 (P)		July 2021 (P)		Apr-Jul 2020 (P)		Apr-Jul 2021 (P)	
	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons
LPG	12.8	26.3	12.1	27.6	0.9	2.3	1.0	2.4	3.8	8.7	4.0	8.9
MS	38.6	30.0	35.8	28.0	2.9	2.3	3.2	2.6	10.2	7.3	12.3	9.4
NAPHTHA	20.6	14.3	19.4	14.3	1.5	1.3	1.7	1.2	5.9	4.3	6.6	4.9
ATF	15.2	8.0	7.1	3.7	0.5	0.2	0.6	0.3	1.7	0.6	2.8	1.3
SKO	3.2	2.4	2.4	1.8	0.3	0.2	0.2	0.1	0.9	0.6	0.6	0.5
HSD	111.1	82.6	100.4	72.7	8.5	5.5	8.9	6.1	30.6	20.6	34.3	24.6
LDO	0.6	0.6	0.7	0.8	0.07	0.1	0.05	0.1	0.2	0.2	0.3	0.3
LUBES	0.9	3.8	1.1	3.5	0.1	0.3	0.1	0.3	0.3	0.9	0.3	1.1
FO/LSHS	9.3	6.3	7.4	6.0	0.6	0.5	0.7	0.5	2.6	1.8	2.5	2.0
BITUMEN	4.9	6.7	4.9	7.1	0.3	0.4	0.3	0.4	1.2	1.9	1.5	2.1
PET COKE	14.6	21.7	12.0	18.3	1.0	1.6	1.2	1.7	4.0	6.3	4.5	6.5
OTHERS	31.0	11.4	30.2	10.8	2.7	1.0	2.8	1.0	10.0	3.1	10.9	3.6
ALL INDIA	262.9	214.1	233.5	194.6	19.4	15.6	20.7	16.8	71.4	56.4	80.7	65.3
Growth (%)	0.2%	0.4%	-11.2%	-9.1%	-13.9%	-13.3%	6.7%	7.9%	-17.1%	-23.0%	13.1%	15.8%

Note: Prod - Production; Cons - Consumption

15. LPG consumption (Thousand Metric Tonne)								
LPG category	2019-20	2020-21 (P)	July			April-July		
			2020-21 (P)	2021-22 (P)	Gr (%)	2020-21 (P)	2021-22 (P)	Gr (%)
1. PSU Sales :								
LPG-Packed Domestic	23,076.0	25,117.1	2,096.5	2,115.9	0.9	8,269.1	8,121.6	-1.8
LPG-Packed Non-Domestic	2,614.4	1,884.9	120.2	195.7	62.7	347.1	592.2	70.6
LPG-Bulk	263.5	355.5	26.3	33.1	26.0	73.2	117.6	60.7
Auto LPG	171.9	118.3	8.0	11.6	44.3	22.4	33.6	50.2
Sub-Total (PSU Sales)	26,125.7	27,475.7	2,251.0	2,356.2	4.7	8,711.7	8,864.9	1.8
2. Direct Private Imports*	204.0	114.8	11.9	11.9	0.0	19.9	47.4	138.4
Total (1+2)	26,329.8	27,590.5	2,262.9	2,368.1	4.6	8,731.6	8,912.4	2.1

*Jul 2020 -Jul 2021 DGCIS data prorated

16. LPG marketing at a glance														
Particulars (As on 1st of April)	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 (P)	1.8.2021 (P)
LPG Active Domestic Customers	(Lakh)						1486	1663	1988	2243	2654	2787	2895	2912
	Growth							11.9%	19.6%	12.8%	18.3%	5.0%	3.9%	3.1%
LPG Coverage (Estimated)	(Percent)						56.2	61.9	72.8	80.9	94.3	97.5	99.8	99.9
	Growth							10.1%	17.6%	11.1%	16.5%	3.4%	2.3%	1.6%
PMUY Beneficiaries	(Lakh)								200	356	719	802	800.4	799.9
	Growth									77.7%	101.9%	11.5%	-0.2%	-0.2%
LPG Distributors	(No.)	9686	10541	11489	12610	13896	15930	17916	18786	20146	23737	24670	25083	25125
	Growth	3.4%	8.8%	9.0%	9.8%	10.2%	14.6%	12.5%	4.9%	7.2%	17.8%	3.9%	1.7%	1.4%
Auto LPG Dispensing Stations	(No.)	536	604	652	667	678	681	676	675	672	661	657	651	640
	Growth	19.9%	12.7%	7.9%	2.3%	1.6%	0.4%	-0.7%	-0.1%	-0.4%	-1.6%	-0.6%	-0.9%	-2.6%
Bottling Plants	(No.)	182	183	184	185	187	187	188	189	190	192	196	200	199
	Growth	0.0%	0.5%	0.5%	0.5%	1.1%	0.0%	0.5%	0.5%	0.5%	1.1%	2.1%	2.0%	2.1%

Source: PSU OMCs (IOCL,BPCL and HPCL)

1. Growth rates as on 1.8.2021 are w.r.t. figures as on 1.8.2020. All growth rates as on 1 April of any year are w.r.t. figures as on 1 April of previous year.

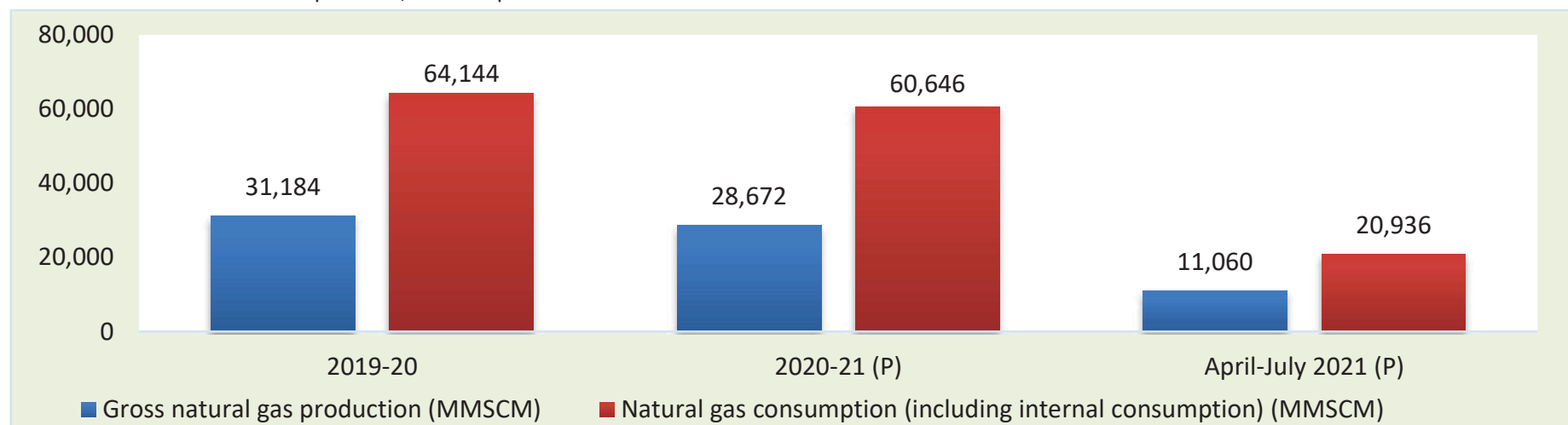
2. LPG coverage has been estimated based on active domestic LPG connections of PSU OMCs divided by households estimated by extrapolating decadal growth of 2001-11 on households in 2011 as per Census 2011 figures. This methodology used by PSU OMCs for estimating LPG Coverage is under review.

18. Natural gas at a glance

(MMSCM)

Details	2019-20	2020-21 (P)	July			April-July		
			2020-21 (P)	2021-22 (Target)	2021-22 (P)	2020-21 (P)	2021-22 (Target)	2021-22 (P)
(a) Gross production	31,184	28,672	2,443	3,220	2,892	10,749	19,304	11,060
- ONGC	23,746	21,872	1,926	1,990	1,729	8,151	13,795	6,781
- Oil India Limited (OIL)	2,668	2,480	203	251	248	916	1,618	924
- Private / Joint Ventures (JVs)	4,770	4,321	315	979	915	1,682	3,891	3,356
(b) Net production (excluding flare gas and loss)	30,257	27,785	2,639		2,818	8,901		10,774
(c) LNG import [#]	33,887	32,861	2,971		2,528	9,969		10,161
(d) Total consumption including internal consumption (b+c)	64,144	60,646	5,610		5,346	18,870		20,936
(e) Total consumption (in BCM)	64.1	60.6	5.6		5.3	18.9		20.9
(f) Import dependency based on consumption (%), {c/d*100}	52.8	54.2	53.0		47.3	52.8		48.5

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



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

Prognosticated CBM resources	91.8	TCF
Established CBM resources	10.4	TCF
CBM Resources (33 Blocks)	62.8	TCF
Total available coal bearing areas (India)	32760	Sq. KM
Total available coal bearing areas with MoPNG/DGH	21659	Sq. KM
Area awarded	16613	Sq. KM
Blocks awarded (ST CBM Block awarded twice in CBM Round II and Round IV)	32	Nos.
Exploration initiated (Area considered if any boreholes were drilled in the awarded block)	10669.55	Sq. KM
Production of CBM gas	April-July 2021 (P)	229.72
Production of CBM gas	July 2021 (P)	57.63
		MMSCM

20. Natural gas pipeline network as on 31.03.2021

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

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

21. Existing LNG terminals

Location	Promoters	Capacity as on 01.08.2021	% Capacity utilisation (Apr-Jun 2021)
Dahej	Petronet LNG Ltd (PLL)	17.5 MMTPA	86.0
Hazira	Shell Energy India Pvt. Ltd.	5 MMTPA	63.1
Dabhol	Konkan LNG Limited	*5 MMTPA	68.4
Kochi	Petronet LNG Ltd (PLL)	5 MMTPA	23.2
Ennore	Indian Oil LNG Pvt Ltd	5 MMTPA	16.0
Mundra	GSPC LNG Limited	5 MMTPA	24.0
Total Capacity		42.5 MMTPA	

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

Nord Stream 2 Loses Case to Have EU Pipeline Rules Waived (2)

2021-08-25 09:35:22.507 GMT

By Karin Matussek and Vanessa Dezem

(Bloomberg) -- Nord Stream 2 AG, the controversial gas pipeline project owned by Gazprom PJSC, lost a German court fight to sidestep European Union rules separating production from transportation, a decision that may delay the start of the operations.

The Dusseldorf Higher Regional Court on Wednesday dismissed a bid by Gazprom to overturn the German Network Agency's decision to impose the EU measures, a spokesman for the tribunal said by phone.

While the ruling means that Nord Stream 2 could be fined if it fails to comply with the EU regulation once gas flows, it doesn't have an impact on the construction of the project, which was licensed under a different set of rules and is expected to be concluded this month. Technically, the EU measures also don't bar starting the flow of gas, but Gazprom would need to restructure Nord Stream 2, a step that could cost time.

Gas prices initially jumped on the decision, before paring gains to trade 2.5% higher at 45.985 euros a megawatt-hour by 10:36 a.m. in Amsterdam. While the ruling was widely expected, some traders say it could delay much needed flows via the pipeline.

Nord Stream 2 said it would evaluate the ruling before announcing any next steps. The Zug, Switzerland-based company reiterated that the pipeline was completed from an economic point of view by May 23, 2019, the key date as to when EU rules apply.

"Based on the applicable legal framework at that time, the company had made investments worth billions of euros long before the European Commission announced its plan to amend" the EU's gas rules.

Why World Frets Over Russian Nord Stream 2 Pipeline:

QuickTake

Germany's regulator in May last year refused to issue a waiver for the project. Under the EU gas directive, exemptions can only be granted to pipelines completed by May 23, 2019. The measures were revised after works on the pipeline had started -- a move that Nord Stream 2 alleges was discriminatory.

In order to comply with the rules, Nord Stream 2 must be certified as an independent transmission or system operator under the EU regulation. While that doesn't require Gazprom to sell ownership rights in the unit, it must give up control and command rights toward its leadership and include other measures like Chinese Walls to guarantee the independence.

As a precaution, Nord Stream 2 has already applied for this kind of certification at the German regulator, known as the Bundesnetzagentur. Documents are being reviewed and more paperwork might be requested, a spokesman for the regulator said by email. Once the application is complete, the agency has four

months to prepare a draft decision.

There have been other pipelines that were already operating before the certification was completed and no fines were issued in the period when the regulator and the company were in talks over the process. It is likely that the same will apply to Nord Stream 2.

The Nord Stream 2 link can ship 5.6 billion cubic meters of fuel to Europe this year, Gazprom said earlier this month. Traders are watching every step of the project, as it will help ease a supply crunch in the European gas market. The news Nord Stream 2 will start operating soon sent benchmark futures in the Netherlands down as much as 7% last week.

The twin link -- which will double the capacity of the existing undersea route from Russian gas fields to Europe -- has been a major source of friction in trans-Atlantic relations for several years, with the U.S. claiming it could give Russia new leverage over Europe and introducing sanctions targeting the project. Joe Biden's administration softened the U.S. stance, reaching a deal with Germany last month to end a longstanding rift over the pipeline.

There is also an arbitration case pending under the European Energy Charter over the issue and Gazprom is also seeking to nullify the rules in a suit filed with the EU's courts.

Wednesday's case is OLG Dusseldorf, VI-3 Kart 211/20 [V].

--With assistance from Elena Mazneva and Dina Khrennikova.

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DOE Announces Notice of Sale of Crude Oil from the Strategic Petroleum Reserve

AUGUST 23, 2021

1. [Office of Fossil Energy and Carbon Management](#)

2. DOE Announces Notice of Sale of Crude Oil from the Strategic Petroleum Reserve

Washington, D.C. – Today, the U.S. Department of Energy's (DOE) Office of Fossil Energy and Carbon Management (FECM) announced a [Notice of Sale](#) of crude oil from the Strategic Petroleum Reserve (SPR). **DOE intends to sell up to 20 million barrels of crude oil from the SPR.** This notice of sale is to fulfill the requirements of Section 403 of the Bipartisan Budget Act of 2015 (Public Law 114-74) and partially fulfill Section 30204 of the Bipartisan Budget Act of 2018 (Public Law 115-123). The proceeds of the sale will be deposited in the U.S. Treasury by the end of the fiscal year.

The sale will be conducted with crude oil from the following four SPR sites (maximum amount from each site listed):

- Up to 8 million barrels from Bryan Mound
- Up to 8 million barrels from Big Hill
- Up to 8 million barrels from West Hackberry
- Up to 1 million barrels from Bayou Choctaw

DOE must receive bids no later than 10:00 a.m. Central Time, Tuesday August 31, 2021 and will award contracts to successful offerors no later than September 13, 2021.

Deliveries will take place between October 1, 2021 and December 15, 2021.

The SPR is the world's largest supply of emergency crude oil, and the federally owned oil stocks are stored in underground salt caverns at four storage sites in Texas and Louisiana. The SPR has a long history of protecting the economy and American livelihoods in times of emergency oil shortages.

Any company registered in the SPR's Crude Oil Sales Offer Program is eligible to participate in this and other SPR crude oil sales. Other interested companies may register through the SPR website's [Crude Oil Sales Offer Program](#)

Note: this was as at April 30 so 634.3 mmb, but I wanted to show that all sites store both sour and sweet

<https://www.energy.gov/fe/strategic-petroleum-reserve>

Crude Oil Storage by Site (as of April 30, 2021)

- Bryan Mound - holds 228.8 MMB in 20 caverns - 66.6 MMB sweet and 162.2 MMB sour.
- Big Hill - holds 142.8 MMB in 14 caverns - 65.2 MMB sweet and 77.6 MMB sour.
- West Hackberry - holds 191.7 MMB in 22 caverns - 102.2 MMB sweet and 89.5 MMB sour.
- Bayou Choctaw - holds 71 MMB in 5 caverns - 18.9 MMB sweet and 52.1 MMB sour.

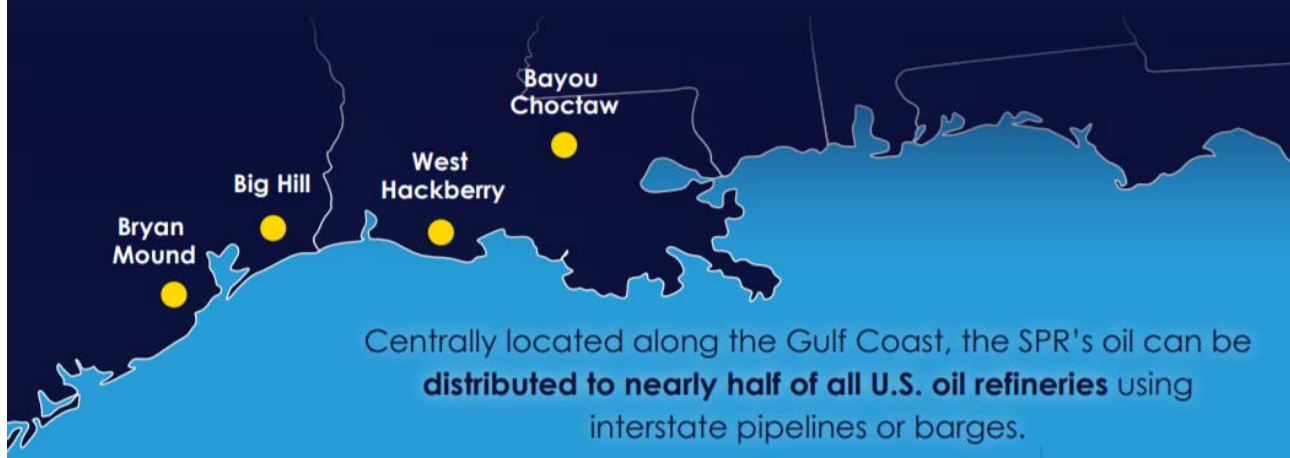
https://www.energy.gov/sites/default/files/2021-06/Strategic%20Petroleum%20Reserve%20%28revised%29_1.pdf

STRATEGIC PETROLEUM RESERVE

Providing energy security for America

BACKGROUND

The Strategic Petroleum Reserve (SPR) is the world's **largest supply of emergency crude oil**. Administered by the U.S. Department of Energy, these federally-owned oil stocks are stored in massive underground salt caverns along the Texas and Louisiana coastlines of the Gulf of Mexico.



SPR Site Locations

These four sites have a combined authorized storage capacity of 714 million barrels.

(As of January 31, 2021)



Bayou Choctaw

BAYOU CHOCTAW

The **Bayou Choctaw** storage site is located in Iberville Parish, Louisiana, approximately 12 miles southwest of Baton Rouge, Louisiana. The site was acquired in April 1977 and became operational in 1987. Bayou Choctaw currently has six storage caverns, an authorized storage capacity of 76.0 million barrels and a cavern inventory of 70.9 million barrels.



Big Hill

BIG HILL

The **Big Hill** storage site is located in Jefferson County, Texas, approximately 26 miles southwest of Beaumont, Texas. The site was acquired in November 1982 and July 1983 and became operational in 1991. Big Hill currently has 14 storage caverns, an authorized storage capacity of 170.0 million barrels and a cavern inventory of 143.7 million barrels.



Bryan Mound

BRYAN MOUND

The **Bryan Mound** storage site is located in Brazoria County, Texas, approximately three miles southwest of Freeport, Texas. The site was acquired in April 1977 and became operational in 1986. Bryan Mound currently has 19 storage caverns, an authorized storage capacity of 247.1 million barrels and a cavern inventory of 230.1 million barrels.



West Hackberry

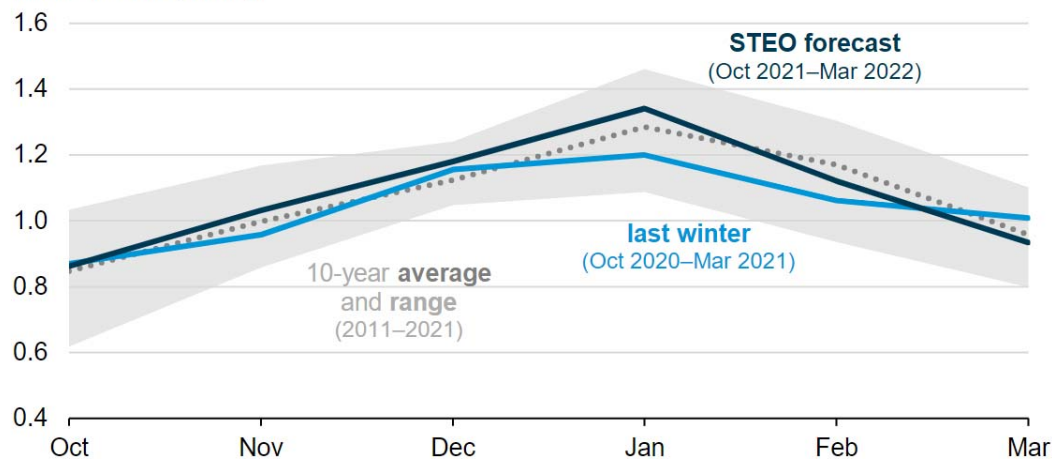
WEST HACKBERRY

The **West Hackberry** storage site is located in Cameron Parish, Louisiana, approximately 25 miles southwest of Lake Charles, Louisiana. The site was acquired in April 1977 and became operational in 1988. West Hackberry currently has 21 storage caverns, an authorized storage capacity of 220.4 million barrels and a cavern inventory of 192.3 million barrels.

AUGUST 25, 2021

EIA expects increased U.S. propane consumption this winter, especially in the Midwest

Monthly U.S. propane consumption (winter months, 2011–2022)
million barrels per day



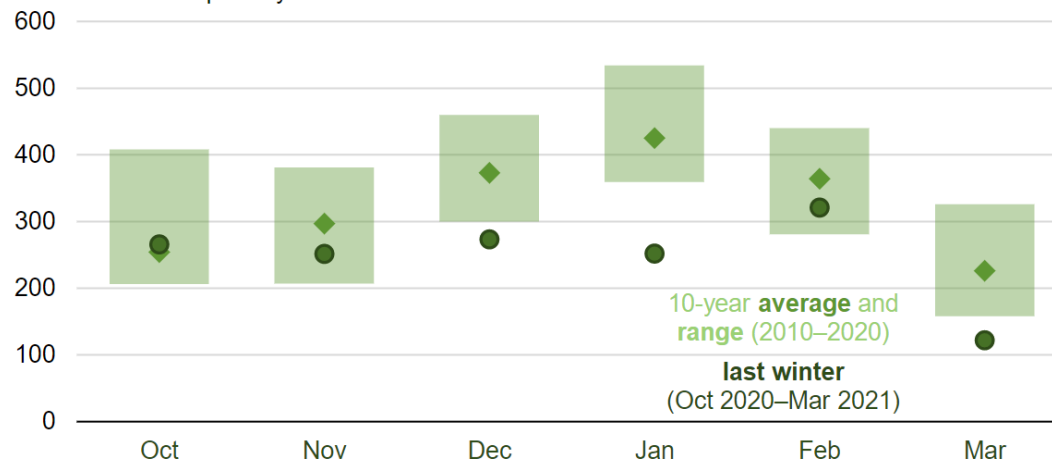
Source: U.S. Energy Information Administration, *Short-Term Energy Outlook* (STEO)

Source: U.S. Energy Information Administration, *Short-Term Energy Outlook* (STEO)

In our latest *Short-Term Energy Outlook* (STEO), we expect 3.4% more U.S. propane consumption this winter compared with last winter, reflecting greater use of propane as a petrochemical feedstock, outpacing expectations of below-normal demand for space heating because of a warmer weather forecast. This pattern is especially pronounced in the Midwest, where 42% of U.S. homes using propane as a [primary space heating fuel](#) are located and where 90% of the [U.S. corn crop](#) is grown.

Propane consumption is highly seasonal, and two-thirds of the annual consumption occurs during the winter heating season (October through March) because of peak demand for both residential space heating and agricultural grain drying. Agricultural demand for [grain drying](#) occurs early in the heating season, usually peaking in October or November, but can vary year to year.

Monthly Midwest propane consumption (Oct 2010–Mar 2021)
thousand barrels per day



Source: U.S. Energy Information Administration, *Petroleum Supply Monthly*

Source: U.S. Energy Information Administration, *Petroleum Supply Monthly*

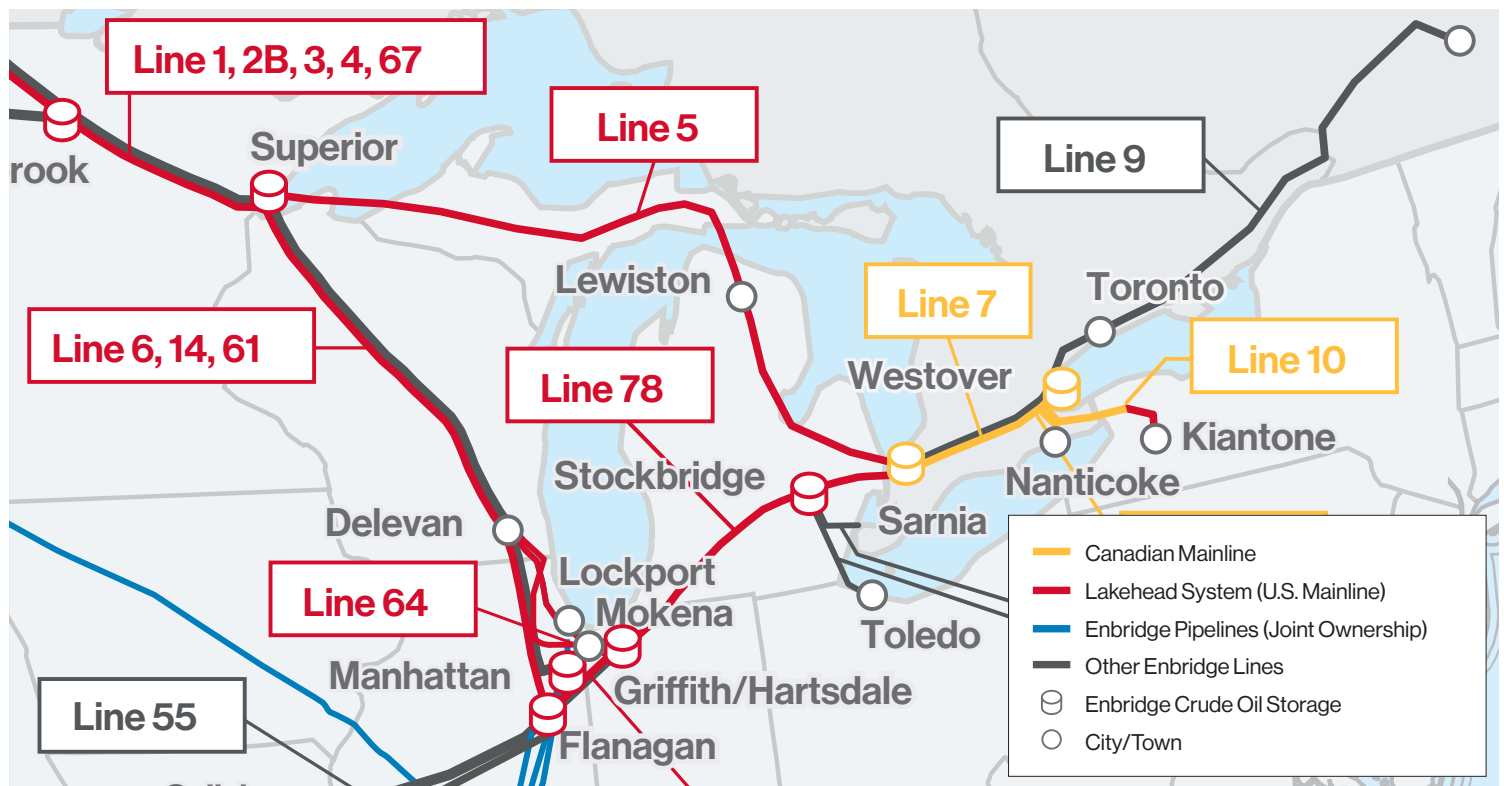
Propane demand for grain drying is expected to decline this year because the [U.S. Department of Agriculture](#) forecasts that the U.S. corn crop will mature early (in September or October), allowing producers to leave the crop in the field to dry rather than using propane-fired commercial grain dryers. In the past 10 years, the most propane demand during October occurred in 2013, when Midwest consumption reached 408,000 barrels per day (b/d), 60% more than its 10-year average, because the corn harvest occurred late in the season and the grain moisture content was high. November consumption reached a [high in 2019](#), when consumption averaged 381,000 b/d, about 30% above the 10-year average, because of a late harvest.

Midwest propane demand during the last winter heating season set a new low relative to the 10-year range because of warmer weather. The National Oceanic and Atmospheric Administration's current forecast calls for relatively normal temperatures this winter in the Midwest, driving our expectations for higher propane consumption this winter compared with last winter. The Midwest has the highest share of propane-heated homes in the country. Although propane is used as a primary heating fuel in 4.3% of all U.S. households, it can exceed 10% in some of the northern Midwestern states such as Minnesota and Wisconsin, where heating demand is greatest.

Demand from the [petrochemical sector](#), which also consumes propane as a feedstock, is also expected to rise above last year. As a result, we expect propane consumption for this winter heating season to average 1.1 million b/d, 1.5% more than the 10-year average level and 36,000 b/d above last winter.

Principal contributors: Warren Wilczewski, Josh Eiermann

Tags: [consumption/demand](#), [weather](#), [Midwest](#), [propane](#)



The impact of a Line 5 shutdown

Enbridge's Line 5 has been a vital piece of energy infrastructure since 1953—not just for Michigan, but for the entire U.S. Midwest and points beyond.

For more than 65 years, Line 5 has delivered the light oil and natural gas liquids (NGL) that heat homes and businesses, fuel vehicles and power industry.

Shutting down Line 5, even temporarily, would have immediate and severe consequences on the economies of Michigan, Ohio, Ontario, and elsewhere.

Enbridge's Line 5 is a 645-mile, 30-inch-diameter pipeline that travels through Michigan's Upper and Lower Peninsulas—originating in Superior, Wisconsin, and terminating in Sarnia, Ontario, Canada.

Line 5 transports up to 540,000 barrels per day (bpd), or 22.68 million US gallons per day, of light crude oil, light synthetic crude and natural gas liquids (NGLs), which are refined into propane.

Line 5 supplies 65% of propane demand in Michigan's Upper Peninsula, and 55% of Michigan's statewide propane needs. The light crude transported by Line 5 feeds refineries in the Upper Midwest and Eastern Canada.

If Line 5 were shut down*:

- Refineries served by Enbridge in Michigan, Ohio, Pennsylvania, Ontario and Quebec **would receive approximately 45% less crude from Enbridge** than their current demand.

- Michigan would face a **756,000-US-gallons-a-day propane supply shortage**, since there are no short-term alternatives for transporting NGL to market.
- The region (Michigan, Ohio, Pennsylvania, Ontario and Quebec) would see a **14.7-million-US-gallons-a-day supply shortage of gas, diesel and jet fuel** (about 45% of current supply).
- Michigan would need to **find an alternative supply for anywhere from 4.2 million to 7.77 million US gallons of refined products** (gas, diesel, jet fuel and propane).

Alternatives for the above shortages are limited—and that would mean massive investment in pipeline infrastructure, or significantly increasing rail or trucking capacity, to make up for the shortfall caused by a Line 5 shutdown.

*Estimates are based on current market conditions, and contingent on similar energy demands in the future (crude oil demand is not expected to see an appreciable change)

The effects of a Line 5 shutdown

Shutting down Line 5, even temporarily, would have a major and immediate impact on crude oil supply for refineries—and, as a result, refined product supply for consumers, motorists and industry.

Crude oil impacts

Regional **crude oil and NGL demand** on Enbridge's Line 5 and Line 78 totals about **40.74 million US gallons a day**.

Demand for crude is not expected to change any time soon—and with Enbridge's pipeline system already essentially full, a Line 5 shutdown would cause federally regulated apportionment, or reduction in deliveries, on our Line 78 by approximately 45%.

In other words, refineries in Michigan, Ohio, Pennsylvania, Ontario and Quebec **will receive approximately 45% less crude from Enbridge** than their current demand.

Refined products impacts

Michigan uses about **15.75 million US gallons of transportation fuel (gas, diesel and jet fuel) every day**—and with Detroit's refining capacity meeting only about 25% of that demand, Michigan relies heavily on surrounding states like Ohio, Illinois and Indiana for its refined products.

A Line 5 shutdown would cause a **shortfall of 14.7 million US gallons of transportation fuel a day** (that's 45% of the current Enbridge supply in Michigan, Ohio, Pennsylvania, Ontario and Quebec) and a **Michigan propane shortage of 756,000 US gallons a day** (or 55% of the current supply).

That means Michigan would **need to find more than 4.2 million US gallons a day of gas, diesel, jet fuel and propane** to make up for the shortfall—assuming Ohio and other regional refineries are receiving crude oil from Line 78 at an apportioned rate of approximately 55%. If those refineries are unable to meet local needs, and stop supplying Michigan, then **that number would rise to 7.77 million US gallons a day**.



The effect on regional refineries

According to PBF Energy, which operates one of two refineries in Toledo:

- A Line 5 shutdown would put Ohio refineries at risk. The closure of one of those refineries could result in the loss of **\$5.4 billion in annual economic output** to Ohio and southeast Michigan, and the **loss of thousands of direct and contracted skilled trades jobs**.
- A Line 5 shutdown would compromise crude supply to 10 refineries in the region to varying degrees, **directly affecting fuel prices**.
- Closing Line 5 would **hurt Ohio and Michigan economies**, and **threaten union jobs**.
- There are **no viable options for replacing** the volume of light crude delivered by Line 5, with **rail able to provide less than 10%** of that volume.
- A Line 5 shutdown puts **at least 15% of northwest Ohio's fuel supply at risk**, as well as more than **half of the jet fuel supplies** for the Detroit Metro Airport.

Demand on Enbridge pipelines (approximate)

Line	Kbpd	US gallons per day
Line 5 (including NGL)	500	21,000,000
Line 78	470	19,740,000
Total	970	40,740,000

Capacity of Enbridge pipelines

Line	Kbpd	US gallons per day
Line 5	540	22,680,000
Line 78	570	23,940,000
Line 78 (ex-Stockbridge)	502	21,084,000

Liberals shift target to Big Banks from Big Oil, but there's little relief in oilpatch

'Not for one moment do I believe that (Trudeau) has shifted away from Big Oil, in particular, the oilsands,' says SAF Group's Dan Tsubouchi

Author of the article:

Geoffrey Morgan

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Prime Minister Justin Trudeau during his election campaign tour, in Surrey, B.C., Aug. 25, 2021. PHOTO BY JENNIFER GAUTHIER/REUTERS

CALGARY – Liberal leader Justin Trudeau’s move to put the Big Six banks in his crosshairs instead of Big Oil, his previous favourite target, is causing some transitory relief in the Calgary oilpatch, but also some anxiety that energy as well as additional sectors may be targeted as the federal election campaign continues.

Trudeau on Wednesday announced plans to slap large financial institutions, including banks and insurers, with an additional three-per-cent tax on profits of more than \$1 billion.

But Dan Tsubouchi, principal and chief market strategist at Calgary-based investment firm SAF Group, said he expects oil and gas executives will suffer “additional hits” from Liberal rhetoric during the current campaign.

“Not for one moment do I believe that he has shifted away from Big Oil, in particular, the oilsands,” he said in an email, adding that oil and gas producers have also posted large profits this year and could be in line for the same tax proposed for the banks.

Others in Alberta also believe that the Liberal campaign’s focus may shift back to either the energy sector, or to a different sector of the economy, which could put a chill on investment confidence and competitiveness just as the broader economy is trying to recover from the COVID-19 pandemic.

“We are an ongoing project, which is the nation of Canada, we’re struggling for competitiveness globally and the last thing we should be doing is fighting amongst ourselves, whether it be regions or sectors,” said Adam Legge, chief executive of the Business Council of Alberta. “Other countries will see that and just fly right by us.”

Legge said the temptation to win votes by campaigning against corporate “boogeymen” in any sector detracts from a more fulsome conversation about policy.

“The optimal way to go is to really address the fundamental underlying issues. If it’s CO2 emissions, then talk about CO2 emissions rather than one sector,” he said. “If it’s outsized profits, then talk about competition as opposed to just the banking sector.”

So far, the banks’ response to Trudeau’s election promise has been tepid and mostly channelled through their industry lobby group.

“The proposed tax increase would reduce income that would otherwise benefit the majority of Canadians who are bank shareholders, either directly through share ownership or indirectly through pension and mutual funds, including the Canada Pension Plan,” the Canadian Bankers Association said in a statement.

Canadian Imperial Bank of Commerce chief executive Victor Dodig, on a Thursday earnings call, said, “Banks have always been in the crosshairs.”

But executives in the energy sector don’t believe the banking sector has always been in the crosshairs, noting that Trudeau’s last two campaigns singled out oil and gas as his target.

During the 2019 election campaign, Trudeau caught the attention of English-speaking oil executives in Alberta when he said that he would “stand up to Big Oil” during the French language television debate.

The 2015 election campaign forced oil and gas executives and workers to deal with “a storm of issues,” including the merits of oil pipelines such as Energy East and the integrity of the pipeline regulator, said Glen Schmidt, the retired chief executive of oilsands producer Laricina Energy Ltd., which has since been acquired by Canadian Natural Resources Ltd.

“In 2015, we certainly saw a change in investment flow,” Schmidt said, adding that he’s worried that campaigning against specific sectors of the economy damages the country’s reputation for attracting foreign direct investment.

“The outcome is that many companies no longer exist,” he said. “There’s less employment and less income to all governments.”

Tsubouchi said the Liberals may propose new policies targeting the oil and gas industry in an effort to boost flagging polling numbers, which show the Conservative Party closing the gap.

“I suspect sooner rather than later, as they need to stop the bleeding,” he said. “Don’t forget, Prime Minister Trudeau’s kickoff speech said, ‘We think more ambition on climate change is needed now.’”

Others don’t expect climate change will play the same major role in the 2021 election as it did in the 2015 and 2019 elections.

“It’s a change in tone from the Liberals to just focus on the Big Banks,” said Duane Bratt, political science professor at Mount Royal University in Calgary, adding that he believes the change is in response to housing affordability becoming a major issue.

“Energy and climate is not as big an issue in this campaign as it was in 2019,” he said, pointing out that the other big issues in this campaign are COVID-19, health care and Afghanistan.

Bratt said the Big Six banks, like Big Oil, are an easy target during and attacking both industries was a favourite campaign tactic of late NDP leader Jack Layton, something Trudeau has now emulated.

“Who’s going to come out and defend big banks? All sorts of companies lost money during COVID, but the banks were not one of them,” he said, adding that he expects bankers and finance professionals will try to avoid the spotlight until the election wraps up on Sept. 20.

However, Trudeau’s pledge to slap an additional tax on massive bank profits comes at the end of earnings season for the Big Six, all of which, except for National Bank of Canada, posted net income well in excess of \$1 billion in their most recent quarter. National Bank earned \$839 million.

CIBC on Thursday reported a quarterly profit of \$1.7 billion, while Royal Bank of Canada, the country’s largest bank, on Wednesday announced a record quarterly profit of \$4.3 billion.

But National Bank analyst Gabriel Dechaine said the banks will not delay further reports or investor presentations in an effort to avoid attracting more political attention.

“I don’t think they’re going to make any antagonistic remarks in the public sphere,” he said. “At most, I think they would provide some argument against a move to increase their taxes and I think the arguments around that would revolve around what they did to support Canadians during the financial crisis by deferring mortgage payments or reducing interest rates on certain products.”

With a file from Bloomberg

• Email: gmorgan@nationalpost.com / Twitter: [geoffreymorgan](https://twitter.com/geoffreymorgan)

SAF Group created transcript of PM Trudeau post G7 press conference June 13, 2021.

At 49:00 min mark of CBC Rosemary Barton Live [\[LINK\]](#)

Question: *"COP-26 coming up as well, the oil sands/tar sands producers, they've got a plan to Net Zero by 2050, is that good enough, a lot of it is based on technology, which as of yet is unproven on a mass scale, sequestration as well. Do you Sir, does Canada need to be more ambitious?"*

Trudeau: *"Canada has put in place one of the strongest, broad based prices on pollution in the world. We know putting a price on pollution is one of the strongest ways not just to move forward on fighting climate change, but to incentivize business to make investments that decarbonize the workings of our economy. We also at the same time know that transforming our energy mix is going to be extremely important. that's why the energy expertise by workers across this country are going to be put forward in initiatives like a recent agreement we signed on hydrogen for example. Investing in critical minerals that will be essential for zero emissions vehicles of the future. when we talk of critical minerals, we know that china is right now a strong provider to the world of critical minerals. But Canada is a place where we have strong and stable supplies of that as well that could be of use in a reliable supply chain to the world. There are many many conversations we have on strengthening our environment and creating good jobs in the future and that involves being ambitious as we have been in setting not just ambitious targets for 2030 but showing a very clear plan on how we are going to reach those targets as well as being deeply committed to being net Zero by 2050, which is something actually we are working very hard to pass in the House of Commons in Canada right now. Hopefully we will see the necessary progressive parties come together to support that Net Zero legislation so Canada can continue to demonstrate real leadership in fighting climate change".*

<https://www.newswire.ca/news-releases/canada-s-largest-oil-sands-producers-announce-unprecedented-alliance-to-achieve-net-zero-greenhouse-gas-emissions-866303015.html>

Canada's largest oil sands producers announce unprecedented alliance to achieve net zero greenhouse gas emissions



NEWS PROVIDED BY **MEG Energy Corp.**
Jun 09, 2021, 06:45 ET

CALGARY, AB, June 9, 2021 /CNW/ - Canadian Natural Resources, Cenovus Energy, Imperial, MEG Energy and Suncor Energy formally announced today the Oil Sands Pathways to Net Zero initiative. These companies operate approximately 90% of Canada's oil sands production. The goal of this unique alliance, working collectively with the federal and Alberta governments, is to achieve net zero greenhouse gas (GHG) emissions from oil sands operations by 2050 to help Canada meet its climate goals, including its Paris Agreement commitments and 2050 net zero aspirations.

Canada's largest oil sands producers announce unprecedented alliance to achieve net zero greenhouse gas emissions (CNW Group/MEG Energy Corp.)

- This collaborative effort follows welcome announcements from the Government of Canada and the Government of Alberta of important support programs for emissions-reduction projects and infrastructure. **Collaboration between industry and government will be critical** to progressing the Oil Sands Pathways to Net Zero vision and achieving Canada's climate goals.
- The Pathways vision is anchored by a major Carbon Capture, Utilization and Storage (CCUS) trunkline connected to a carbon sequestration hub to enable multi-sector 'tie-in' projects for expanded emissions reductions. The proposed CCUS system is similar to the multi-billion dollar Longship/Northern Lights project in Norway as well as other CCUS projects in the Netherlands, U.K. and U.S., all of which involve significant collaboration between industry and government.
- The Pathways initiative is ambitious and will require significant investment on the part of both industry and government to advance the research and development of new and emerging technologies.
- The companies involved look forward to continuing to work with the federal and Alberta governments, and to engaging with local Indigenous communities in northern Alberta to make this ambitious, major emissions-reduction vision a reality so those communities can continue to benefit from Canadian resource development.

As proud Canadian companies, members of the Pathways alliance share the aspiration of Canadians to find realistic and workable solutions to the challenge of climate change. The oil sands industry is a significant source of GHG emissions and the initiative will develop an actionable approach to address those emissions, while also preserving the more than \$3 trillion in estimated oil sands contribution to Canada's gross domestic product (GDP) over the next 30 years. The initiative will create jobs, accelerate development of the clean tech sector, provide benefits for multiple other sectors and help maintain Canadians' quality of life. The members of the Pathways alliance will do their part by making the economic investments needed to ensure that our companies successfully make the transition to a net zero world, and hence, deliver long-term value to shareholders.

Because there is no single solution to achieving net zero emissions, the initiative incorporates a number of parallel pathways to address GHG emissions, including:

- **A core Alberta infrastructure corridor linking oil sands facilities in the Fort McMurray and Cold Lake regions to a carbon sequestration hub near Cold Lake via a CO₂ trunkline. The trunkline would also be available to other industries in the region interested in capturing and sequestering CO₂. There is also potential to link the infrastructure corridor to the Edmonton region.**
- Deploying existing and emerging GHG reduction technologies at oil sands operations along the corridor, including CCUS technology, clean hydrogen, process improvements, energy efficiency, fuel switching and electrification.
- Evaluating, piloting and accelerating application of potential emerging emissions-reducing technologies including direct air capture, next-generation recovery technologies and small modular nuclear reactors.

In addition to collaborating and investing together with industry, it is essential for governments to develop enabling policies, fiscal programs and regulations to provide certainty for this type of long-term, large-scale investment. This includes dependable access to carbon sequestration rights, emissions reduction credits and ongoing investment tax

credits. We look forward to continued collaboration with both the federal and Alberta governments to create the regulatory and policy certainty and fiscal framework needed to ensure the economic viability of this initiative.

Canada is uniquely positioned to be a global leader in responsible oil production. The country has the world's third-largest oil reserves, some of the most stringent regulations and standards governing energy projects anywhere in the world, a strong track record for technology development and an established reputation of industry working together with Indigenous communities and municipalities. Members of the Pathways initiative believe the most effective way to address climate change is by developing and advancing new technologies and that this unprecedented challenge can and will be solved by Canadian ingenuity, leadership and collaboration.

While alternative energy sources will play an increasingly important role in the decades ahead, all internationally recognized forecasts indicate fossil fuels will continue to be an essential requirement through 2050 and beyond as part of a diversified energy mix, including as a feedstock for carbon fibres, asphalt, plastics and other important products. That's why it's critical to take action now to ensure Canada takes its place as a leading supplier of responsibly produced oil to meet the world's demand for energy well into the future.

QUOTES:

Government of Alberta

"The Oil Sands Pathways to Net Zero initiative is an industry driven, made-in-Alberta solution which will strengthen our position as global ESG leaders," said Sonya Savage, Alberta's Minister of Energy. "Every credible energy forecast indicates that oil will be a major contributor to the energy mix in the decades ahead and even beyond 2050. Alberta is uniquely positioned and ready to meet that demand. This initiative will also pave the way for continued technological advancements, ultimately leading to the production of net zero barrels of oil."

Canadian Natural Resources Limited

"Canada has an opportunity to lead on climate change by delivering meaningful emissions reductions as well as balancing sustainable economic development," said Tim McKay, Canadian Natural President. "Canadian ingenuity has enabled oil sands development and with continued innovation, positions Canada to be the ESG-leading barrel to meet global energy demand. We are committed to working together with industry partners and governments to help meet Canada's climate objectives while providing sustainable long-term economic and social benefits for Canadians from the oil sands."

Cenovus Energy

"This collaborative effort amongst oil sands peers shows our serious commitment to global climate leadership," said Alex Pourbaix, Cenovus President and CEO. "We are doing more than just talking about the need to play a role – we are taking bold action to address our emissions challenge and earn our spot as the supplier of choice to meet the world's growing demand for energy."

Imperial

"Canada has what it takes to be the responsible energy provider to the world," said Brad Corson, Imperial Chairman, President and Chief Executive Officer. "Canada's long-term success in achieving its climate goals lies in a collective commitment to innovation, global competitiveness, supportive public policy and open and ongoing dialogue on constructive solutions. Imperial is collaborating with others in industry and governments to develop and commercialize the breakthrough technologies that will reduce emissions and support society's net zero ambitions."

MEG Energy

"We are pleased to be part of this collaborative effort committed to the critical measures needed to achieve net zero green house gas emissions in the oil sands," said Derek Evans, President and Chief Executive Officer of MEG Energy. "Bold action today demonstrates our commitment to tackling climate change and global climate leadership. This alliance working collectively with the federal and Alberta governments and all stakeholders will ensure that Canada continues to be a leading supplier to the world of responsibly produced oil."

Suncor Energy

"Collaboration among companies, innovators and governments is critical to achieving ambitious goals. That's how we built a budding oil sands resource into one of the world's most reliable and ESG-leading oil basins in the world," said Mark Little, Suncor President and Chief Executive Officer. "Canada - as one of the few jurisdictions with industrial-scale commercial CCUS projects in operation -- coupled with Alberta's abundant natural gas resources, geology and relevant technological expertise - is well positioned to lead in this area."

About the Pathways initiative member companies

Canadian Natural Resources Limited

Canadian Natural Resources Limited (Canadian Natural) is a senior oil and natural gas production company, with continuing operations in its core areas located in Western Canada, the U.K. portion of the North Sea and Offshore Africa. Canadian Natural shares trade under the symbol CNQ on the Toronto and New York stock exchanges. Refer to the Company's website for complete forward-looking statements at www.cnrl.com

Cenovus Energy Inc.

Cenovus Energy Inc. is an integrated energy company with oil and natural gas production operations in Canada and the Asia Pacific region, and upgrading, refining and marketing operations in Canada and the United States. The company is focused on managing its assets in a safe, innovative and cost-efficient manner, integrating environmental, social and governance considerations into its business plans. Cenovus common shares and warrants are listed on

the Toronto and New York stock exchanges, and the company's preferred shares are listed on the Toronto Stock Exchange under the symbol CVE. For more information, visit cenovus.com.

Imperial

After more than a century, Imperial continues to be an industry leader in applying technology and innovation to responsibly develop Canada's energy resources. As Canada's largest petroleum refiner, a major producer of crude oil, a key petrochemical producer and a leading fuels marketer from coast to coast, our company remains committed to high standards across all areas of our business.

MEG Energy

MEG is an energy company focused on sustainable [in situ](#) thermal oil production in the southern Athabasca oil region of Alberta, Canada. MEG is actively developing innovative enhanced oil recovery projects that utilize steam-assisted gravity drainage ("[SAGD](#)") extraction methods to improve the responsible economic recovery of oil as well as lower carbon emissions. MEG transports and sells its thermal oil ([AWB](#)) to customers throughout North America and internationally.

Suncor Energy

Suncor Energy is Canada's leading integrated energy company, with a global team of over 30,000 people. Suncor's operations include oil sands development, production and upgrading, offshore oil and gas, petroleum refining in Canada and the US, and our national Petro-Canada retail distribution network (now including our Electric Highway network of fast-charging EV stations). A member of Dow Jones Sustainability indexes, FTSE4Good and CDP, Suncor is responsibly developing petroleum resources, while profitably growing a renewable energy portfolio and advancing the transition to a low-emissions future. Suncor is listed on the UN Global Compact 100 stock index. Suncor's common shares (symbol: SU) are listed on the Toronto and New York stock exchanges.

Imperial to produce renewable diesel at Strathcona refinery

August 25, 2021

- Strathcona project will leverage hydrogen produced with carbon capture and storage technology to help Canada meet low-carbon fuel standards.
- Facility could produce about 20,000 barrels, or 3 million litres of renewable diesel, per day in 2024.
- Renewable diesel has the potential to reduce annual CO₂ emissions by about 3 million tonnes compared to conventional fuels.
- The Government of British Columbia has entered into an agreement with Imperial on this project under Part 3 of its low-carbon fuel legislation.

CALGARY, Alberta--(BUSINESS WIRE)-- Imperial (TSE:IMO, NYSE American:IMO) is moving forward with plans to construct a world-class renewable diesel complex at its Strathcona refinery near Edmonton, Alberta. This new complex is expected to produce more than 1 billion litres per year of renewable diesel from locally sourced and grown feedstocks. The project is expected to realize about 3 million tonnes per year in emissions reductions in the Canadian transportation sector.



Strathcona Refinery near Edmonton, AB (Photo: Business Wire)

“Imperial is excited to announce our plan to build the largest renewable diesel manufacturing facility in Canada,” said Brad Corson, Imperial chairman, president and chief executive officer. “This world-class facility will be a significant value-generating, forward-looking project that brings together our proprietary technologies and refining scale to the benefit of the environment, the economy and local job creation. Today’s announcement further demonstrates Imperial’s commitment and support for Canada’s transition to lower-emission fuels, as well as Canada’s ambition to achieve net zero by 2050.”

Renewable diesel production will source blue hydrogen (hydrogen produced from natural gas with carbon capture and storage) to substantially reduce greenhouse gas emissions relative to conventional hydrogen production. Approximately 500,000 tonnes of CO₂ are expected to be captured

annually. The blue hydrogen and biofeedstock will be combined with a proprietary catalyst to produce premium low-carbon diesel fuel.

Imperial is currently in partnership discussions with government and industry, including the Government of Alberta, as well as the Government of British Columbia who have agreed to support this project with an agreement under Part 3 of its low-carbon fuel legislation.

A final investment decision will be based on several factors, including government support and approvals, market conditions and economic competitiveness. The project is expected to create about 600 direct construction jobs, along with hundreds more through investments by our business partners. Renewable diesel production is anticipated to start in 2024.

Third-party studies have shown renewable diesel from various non-petroleum feedstocks can provide life-cycle greenhouse gas emissions reductions of approximately 40 percent to 80 percent compared to petroleum-based diesel. The reduction of 3 million tonnes of greenhouse gases is estimated to be the equivalent to taking more than 650,000 passenger vehicles off the road for one year.

Today's announcement builds on Imperial's commitment to reducing emissions. In June, Imperial announced its participation as a founding member of the Oil Sands Pathways to Net Zero Alliance. The goal of this unique alliance, working collectively with the broader oil and gas industry and the federal and Alberta governments, is to achieve net-zero greenhouse gas emissions from oil sands operations by 2050 to help Canada meet its climate goals, including its Paris Agreement commitments and 2050 net-zero aspirations. The company is committed to achieving this through projects that drive value for our shareholders.

This investment at the Strathcona refinery underscores its strategic importance to Imperial's operations. As the largest refinery in western Canada, Strathcona provides valuable products that keep our communities and the economy moving.

Imperial Oil outlines plan to produce plant-based renewable fuel

EMMA GRANEY ENERGY REPORTER

EDMONTON



Imperial Oil is part of an alliance of oil sands producers that announced its intention to reduce emissions from oil sands operations to net-zero by 2050.

JOHN ULAN/THE CANADIAN PRESS

Imperial Oil Ltd. wants to build Canada's largest renewable diesel facility just outside Edmonton, converting vegetable oil into about one billion litres of fuel each year.

The plan comes as oil companies ramp up their emissions-reduction goals, responding to investor, policy and social pressure to meet climate goals. Imperial, for example, is part of an alliance of oil sands producers that in June announced its intention to reduce emissions from oil sands operations to net-zero by 2050.

Imperial, a subsidiary of ExxonMobil, says its new facility could reduce emissions in Canada's transportation sector by about three million tonnes a year.

Imperial Oil investors defeat shareholder motion to set net-zero emission target

The facility is slated for the company's Strathcona refinery. It would take raw vegetable oil – such as soy or canola – add hydrogen, put it through some additional proprietary polishing steps and convert it into diesel.

The resulting fuel can be used year-round in Canada's harsh winter climate, in any type of engine that uses diesel for combustion. It differs from biodiesel, which converts used cooking and other oils into fuel.

Imperial vice-president Jon Wetmore told The Globe and Mail that Canada's new Clean Fuel Standard regulations, due by the end of the year, played a large role in plans for the new renewable diesel project.

Those standards will require fuel suppliers, such as refineries, to reduce the lifecycle carbon intensity of the fossil fuels they supply.

Mr. Wetmore expects the new standards will shift diesel use in Canada from traditional to renewable, but that likely won't make a dent in Imperial's fossil fuel diesel production.

If the company can't sell its fossil fuel diesel here under the new regulations, Mr. Wetmore said, it will simply move the product to other markets where regulations lag behind Canada.

"You can ship diesel on vessels going down to Mexico or Latin America and beyond," he said.

"We want to continue to run our fossil fuel facilities as full as we can."

While the fuel that will be produced at the facility is called renewable diesel, it won't be emissions-free.

It will be made using blue hydrogen (which itself comes from natural gas, using carbon capture), and will release emissions when combusted as a fuel. However, a recent analysis by the U.S. government's National Renewable Energy Laboratory found, on average, renewable diesel reduces carbon-dioxide emissions by 4.2 per cent compared with petroleum diesel.

Feedstock for the planned facility – both the oil and the hydrogen – will be provided by third parties.

The crops will be locally grown, but Mr. Wetmore said the facility will only use vegetable oil that isn't needed for North America's food supply chain.

"If we can provide a source of domestic consumption for that material instead of it being exported ... we feel like we won't be disrupting or creating any risk to the food supply chain," he said.

Mr. Wetmore expects a final investment decision on the plant by mid-2022. He said it will hinge on government support, market conditions and nailing down the final feedstock suppliers. If it goes ahead, Imperial expects production to start in 2024.

Although the project is slated for Alberta, the oil company has already entered into an agreement with the B.C. government for carbon credits under that province's low-carbon fuel legislation.

Mr. Wetmore said Imperial is also in discussions with the Alberta government, but no agreements have been reached.

The province recently gave \$4.7-million from its carbon tax on large emitters to help fund a renewable fuel facility in the Southern Alberta city of Lethbridge. That project is different, however, in that it will turn local agricultural waste, inedible animal fats and used cooking oil into biodiesel fuel and glycerin.

Alberta's associate minister of natural gas Dale Nally said in an e-mail that he's encouraged by Imperial's plans to utilize hydrogen for the new facility. "Strong hydrogen demand is an important component of Alberta's commitment to building a provincial hydrogen economy," he said.

Mr. Wetmore wouldn't put a price tag on Imperial's project, but he said it would be "hundreds of millions of dollars" of investment in the facility, with a similar-sized investment from both feedstock suppliers.

"This is not a cheap venture by any stretch," he said.

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Giant Dangote Refinery Will Take 300k b/d of Nigerian Oil: NNPC
2021-08-26 12:20:48.889 GMT

By Ruth Olurounbi

(Bloomberg) -- Nigeria's giant new Dangote oil refinery that's being built by Africa's richest man will purchase at least 300k b/d of the nation's crude, according to the African country's state oil company.

* Purchases are tied up with an equity share in the refinery that NNPC is taking: Mele Kyari, Nigerian National Petroleum Corp. group managing director, says in statement

* "We will have right to 20% of production from this facility. We structured our equity participation on the basis that the refinery must buy at least 300,000 barrels of crude oil per day of our production. This guarantees our market at a period when every country is struggling to find market for their crude oil":

Kyari

* NOTE: Nigeria exported about 1.6m b/d of crude oil in the past year and has almost no operational oil refining capacity at this time, according to tanker tracking data compiled by Bloomberg

* NOTE: Nigeria is often viewed as a bellwether for the global oil market because it's cargoes flow to different regions depending on pricing dynamics

* NOTE: Dangote refinery to process 650k b/d with an emphasis on gasoline

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<https://www.reuters.com/business/energy/opec-could-reconsider-output-increase-says-kuwaiti-oil-minister-2021-08-29/>

August 29, 2021 3:37 AM MDT Last Updated an hour ago

[Energy](#)

OPEC+ could reconsider output increase, says Kuwaiti oil minister

By Ahmed Hagagy

KUWAIT, Aug 29 (Reuters) - The increase in oil output agreed last month by OPEC+ nations could be reconsidered at its next meeting on Sept. 1, Kuwait's oil minister said on Sunday.

The Organization of the Petroleum Exporting Countries (OPEC) and allies including Russia, collectively known as OPEC+, will meet on Wednesday to discuss the previously agreed increase of 400,000 barrels per day (bpd) for the next several months.

"The markets are slowing. Since COVID-19 has begun its fourth wave in some areas, **we must be careful and reconsider this increase. There may be a halt to the 400,000 (bpd) increase,**" Mohammad Abdulatif al-Fares told Reuters on the sidelines of a government-sponsored event in Kuwait City.

Economies of East Asian countries and China remain affected by COVID-19 and caution must be exercised, Fares added.

Report ad

U.S. President Joe Biden's administration has urged OPEC and its allies to boost oil output to tackle rising gasoline prices that it views as a threat to the global economic recovery. [read more](#)

Asked about the U.S. call, Fares said OPEC+ members had different views on the matter.

"There are meetings with OPEC countries, especially the Gulf Cooperation Council countries, and so far there are different views on how to handle this issue," Fares said.

OPEC+ last year implemented a record output cut of 10 million bpd, equating to about 10% of world demand, when energy demand plunged because of travel restrictions and national lockdowns to counter the spread of COVID-19.

Writing by Aziz El Yaakoubi Editing by David Goodman
Our Standards: [The Thomson Reuters Trust Principles.](#)

SAF Group created transcript of Israel PM Bennett comments at Bennett/Biden press conference before the detailed meeting. Aug 27, approx. 10:35am MT.

Items in “*italics*” are SAF Group created transcript

“Obviously **the main issue we’re going to be talking about today here is Iran’s race to a nuclear weapon.** We talked about inside the room and I was happy to hear your clear words that Iran will never be able to acquire a nuclear weapon. And that you emphasized that you will try the diplomatic route, but there’s other options if that doesn’t work out. So, these very days illustrate what the world would look like if a radical Islamic regime acquired a nuclear weapon. That marriage would be a nuclear nightmare for the entire world. Iran is the world’s number one exporter of terror, instability, and human right violations. And as we sit here right now, the Iranians are spinning their centrifuges at Natanz and Fordow. **We’ve got to stop that and we both agree.**”

So we’ve developed a comprehensive strategy that we’re going to be talking about with two goals. The first goal is **to stop Iran on its regional aggression and start rolling it back into the box.** And the second is **to permanently keep Iran away from ever being able to break out to nuclear weapon.** As I told you Mr. President, Israel never have and never will ask America to send troops to defend ourselves. That’s our job. **We will never outsource our security. Its our responsibility to take care of our fate.** But we do thank you for the tools and the back you’ve been giving us and you’re giving us.”

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

Arabian Gulf Oil Company - Approved Page

Hrs Comes With 13 ·

The management committee of the Arabian Gulf Oil Company announces that the company has become completely unable to continue its activity and carry out its work without allocating the necessary funds for this, and that the company was conducting its business without referring the budgets for the years 2020 and 2021 to it or monetizing the funds required to carry out the work despite continuous promises to provide budgets And money, which led to the accumulation of debts and obligations, its inability to provide the necessary spare parts, equipment, operating and production requirements, and its inability to continue the technical or service contractual obligations associated with the presence of workers in the company's fields and sites.

Therefore, the company will not be able to continue to operate without the availability of budgets and funds to run its business, and it will be forced to suspend all activities and works unless it is provided with the funds necessary to operate production.

The management committee of the Arabian Gulf Oil Company announces that the company has become completely to its activity and carry out its allocating the company, and that the company has been unable to fund its business without referring the two budgets in 2020 And 2021 for it or the money required to carry out the work despite the continued promises to provide budgets and funds, which led to accumulation of debt and liabilities, its inability to provide necessary spare parts, equipment, operating and production requirements, and its inability to continue Technical or service contractual obligations associated with the presence of workers in the company's fields and sites. The company will not be able to continue working without the budgets and funds to operate,

Translated

• 07 Apr 2021 | 09:46 UTC

Expanding storage, energy security push to keep China's crude inventories high

HIGHLIGHTS

Traders place larger bets, shipping in plentiful cargoes

Refiners still cautious on feedstock buying amid high prices

China to see 70 mil barrels new storage in 2021: Platts Analytics

Author Analyst Oceana Zhou Sambit Mohanty

Singapore — China's crude inventories will stay at relatively high levels in 2021 and beyond as market players ship in incremental barrels to take advantage of the fast-expanding storage capacity, at a time when Beijing is keen to encourage stock building for energy security, market sources and analysts said.

The rise in inventories is taking place despite refiners keeping their feedstock buying plan at modest levels because of high global prices and refinery maintenance. But traders are shipping in plentiful cargoes and placing larger bets on a market that has seen wild price swings since last year.

"It is unlikely that China's crude inventories will return to pre-COVID levels due to rising storage capacity, while the government is encouraging stock building for energy security," an official with a storage company in southern China said.

In April, the country's crude stocks stood at about 933.82 million barrels, occupying 67% of its storage capacity, according to data intelligence company Kpler on April 7. This was just 2.5% lower than the record high of 958.19 million barrels seen in September 2020, and 9.2% higher than the levels seen in the same month of 2020 when China's stock was rising sharply amid low crude prices.

CHINA'S CRUDE STOCK HOVERS AT HIGH LEVELS



Source: Kpler

"Refiners have slowed crude buying for stockpiling during the maintenance season because of higher crude prices compared to last year. But trading houses keep bringing in the barrels to store in tanks and wait for their luck to shine," a Beijing-based analyst said.

Front-month ICE Brent, which closed at as low as \$19.15/b in April 2020 following the spread of COVID-19, recovered to close to \$70/b earlier this year. It was trading at around \$62.41/b on April 7.

China aims to step up efforts to build and hold relatively larger crude stocks during the 14th Five Year Plan (2021-25) in an effort to strengthen the country's energy security. As a result, Chinese enterprises are expanding their storage capacity.

The country has at least 1.39 billion barrels of crude storage capacity as of April, according to Kpler.

New storage

S&P Global Platts Analytics expects about 70 million barrels of new commercial tanks to come on stream in 2021, compared to around 100 million barrels of known capacity that came online last year.

Despite China's rising refining throughput and slower growth in crude imports, S&P Global Platts Analytics expects to see this year a continuation of the implied crude stocks build — crude available for actual storage capacity filling as well as other uses, in addition to refining runs and direct crude burning.

The country's implied crude oil stocks were 51.63 million barrels higher at the end of February from the end of December, Platts calculations based on the latest official data showed. But the implied increase in the first two months of 2021 was 62.6% lower than the 138 million barrels implied increase seen in the same period a year earlier.

China does not release official stock or storage capacity data. Platts calculates the country's net build or draw in implied crude stocks by subtracting refinery throughput data from the country's crude supply data.

The latter takes into account both net crude imports and domestic production, which rose 2.8% year on year to 889.03 million barrels in January-February, according to data from General Administration of Customs.

Meanwhile, crude throughput jumped 15.2% year on year to 837.39 million b/d in the first two months. China also consumes crude for uses in addition to refining throughput.

Kpler data showed that China's crude inventories increased by 17.26 million barrels in the January-February period, less than the increase of 26.6 million barrels in the first two months of last year.

The implied crude build is estimated to have gone up by nearly 55 million barrels in the first quarter, and looking ahead, it is expected to see an increase of some 44 million barrels in Q2, according to Platts Analytics.

"The actual flows in and out of storage sites will vary from time and time, with both flat oil prices and changing oil price structures being important factors," Platt Analytics said.

China's January-February crude data (million barrels)

	Jan-Feb 21	Jan-Feb 20	change
Crude imports	656.53	630.95	4.1%
Crude exports	2.67	0.45	492.5%
Net crude imports	653.86	630.50	3.7%
Crude output domestic	235.16	234.56	0.3%
Refinery throughput	837.39	727.06	15.2%
Crude stock build/draw*	51.63	138.00	-62.6%

* S&P Global Platts calculations

Note: Original data in mt, converted into barrels using a conversion factor of 7.33

Sources: National Bureau of Statistics, General Administration of Customs

ARA Crude Storage Falls to 17-Month Low, Led by Rotterdam (1)
2021-08-25 09:05:11.734 GMT

By Rachel Graham

(Bloomberg) -- (Updates with historical context.)

* Crude inventories in the Amsterdam-Rotterdam-Antwerp oil trading hub slid last week to the lowest since March 2020, Genscape data show

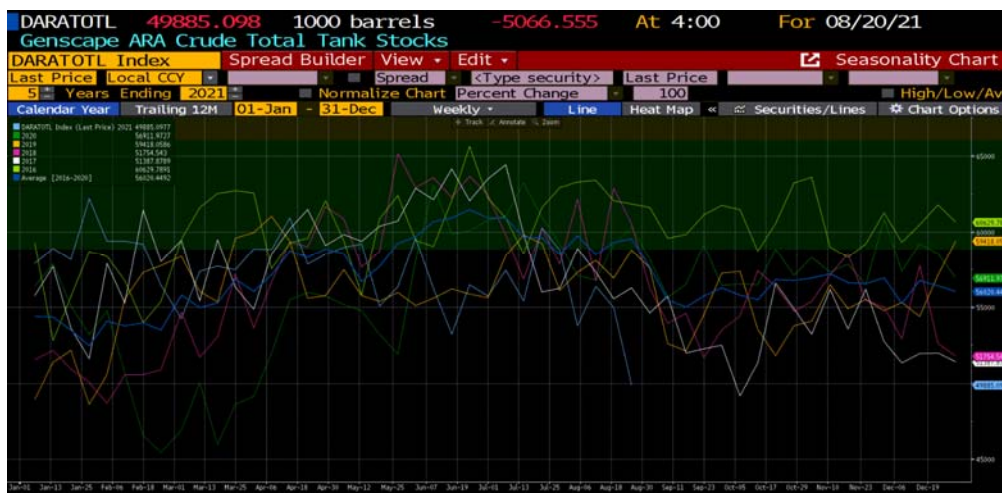
* Stockpiles are now at the lowest for the time of year since 2014; see seasonal graph

** Stocks fell by 5.1m bbl in the week ended Aug. 20, to 49.9m bbl

** The biggest regional net weekly change was in Rotterdam, with a decline of almost 5.1m bbl

* See GENS for Amsterdam, Rotterdam, Antwerp, Flushing breakdown, covering over 95% of region's storage

* NOTE: Click here for a chart of ARA region crude inventories



OIL DEMAND MONITOR: Delta Variant Casts Pall Over Fuel Use

2021-08-24 07:13:56 GMT

- Berlin congestion grows; traffic thins elsewhere in Europe
- China clawing back airline seat capacity lost in early August

By Stephen Voss

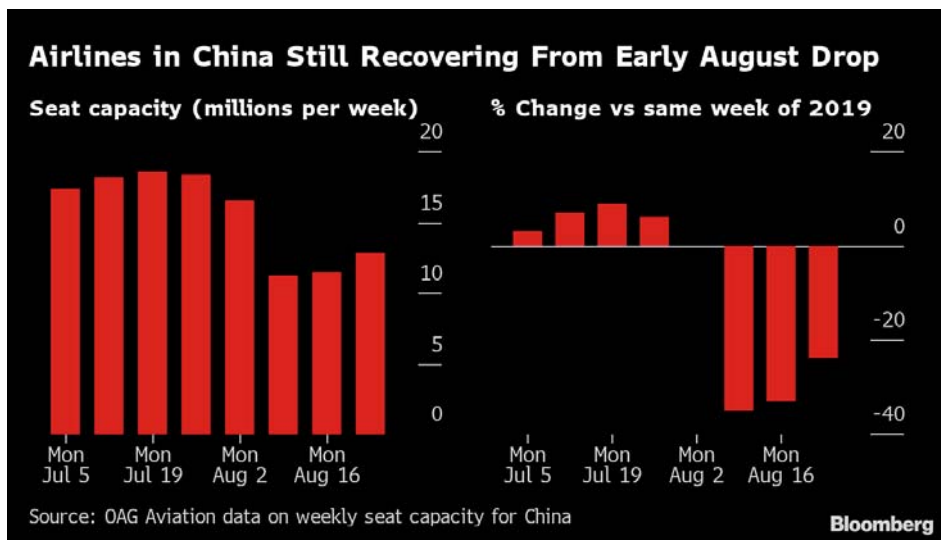
(Bloomberg) -- The spread of the coronavirus delta variant has already taken a swipe at the aviation fuel market and analysts are now trying to assess how badly it may dent a broader recovery in demand for oil-based fuels.

Falling mobility in Asia led analysts at Australia & New Zealand Banking Group Ltd. to cut their third-quarter oil demand forecast for Asia excluding China by 300,000 barrels a day, even as global inventories tighten.

"This is taking the shine off an otherwise positive backdrop elsewhere," ANZ analysts Daniel Hynes and Soni Kumari said in a research note. "Demand in Europe and the U.S. remains robust, as mobility continues to improve."

Goldman Sachs Group Inc. is more upbeat, saying oil prices are currently "oversold," given that the delta variant is a "transient event to oil demand" while the ongoing supply-demand deficit is more persistent. Regional mobility indicators outside of the Asia-Pacific region remain "robust," according to Goldman.

China had been leading gains in airline seat capacity until new travel restrictions led to a plunge in early August, from which it is still recovering.

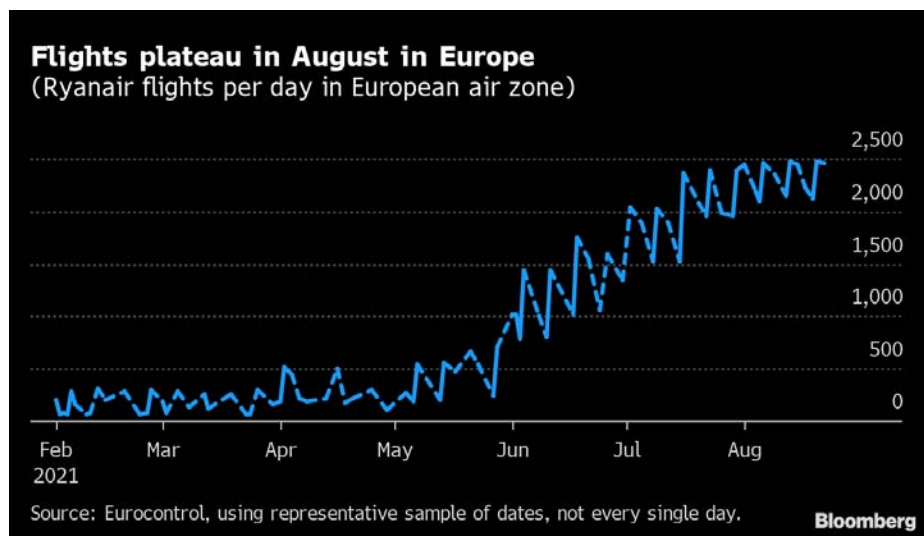


Among the largest markets, only Mexico is catering for a similar number of passengers as it did in the year before the pandemic. Mexico's seat capacity for this week was only 3.3% less than the same week of 2019 whereas China was down 24%, according to data compiled by OAG Aviation. The U.S, India and Spain were down by 12%, 27% and 26%, respectively.

"Australia is also winding back capacity this week as the ongoing lockdowns continue to hamper domestic travel," OAG said. Seats withdrawn from the schedule this week have taken "Australia back down to just under a quarter of 2019 capacity levels."

Europe's air space had been getting busier since early May, steadily reducing the deficit versus two years ago. However, that progress appears to have stagnated in August with air traffic holding at about 30% below the same time in 2019, according to Eurocontrol, an agency that helps coordinate traffic.

For instance, the region's highest volume carrier, Ryanair, is leveling out at just under 2,500 flights per day on its busiest day of the week after growing steadily from about 500 a day in early May.



Putting it all together, the number of global commercial flights is currently 29% lower than it was at the same point in 2019, a wider margin than the 24% gap seen in mid-July, and worldwide seat capacity is down 34%, according to estimates from FlightRadar24 and OAG.

Road Fuel Strength

Broader measures of oil demand appear more robust. Total oil products demand in the U.S. in the week ended Aug. 13, which includes gasoline and diesel as well as jet fuel, was 2.2% higher than in 2019, and also up 4.3% from a month earlier, according to estimates from the Energy Information Administration. Data for the week ended Aug. 20 will be published on Wednesday.

Direct measurements of road fuel usage usually take longer to compile. Spain and Portugal, for instance, have reported data on gasoline consumption for the month of July which was 3.1% higher and 5.2% lower, respectively, compared with July 2019. Diesel demand was running about 5% below the pre-pandemic period in both countries.

Another positive sign for road fuel demand is an increase in congestion levels in Chinese cities such as Beijing, according to real-time traffic data from Baidu. Berlin is also seeing much heavier congestion in recent weeks even as other European cities thin out for the summer holiday season, data from TomTom NV show.

The Bloomberg weekly oil-demand monitor uses a range of high-frequency data series to help identify trends that may become clearer later in more comprehensive monthly figures.

Following are the latest indicators, in the four tables below. The first two show fuel demand and mobility, the next shows air travel globally and the last is refinery activity:

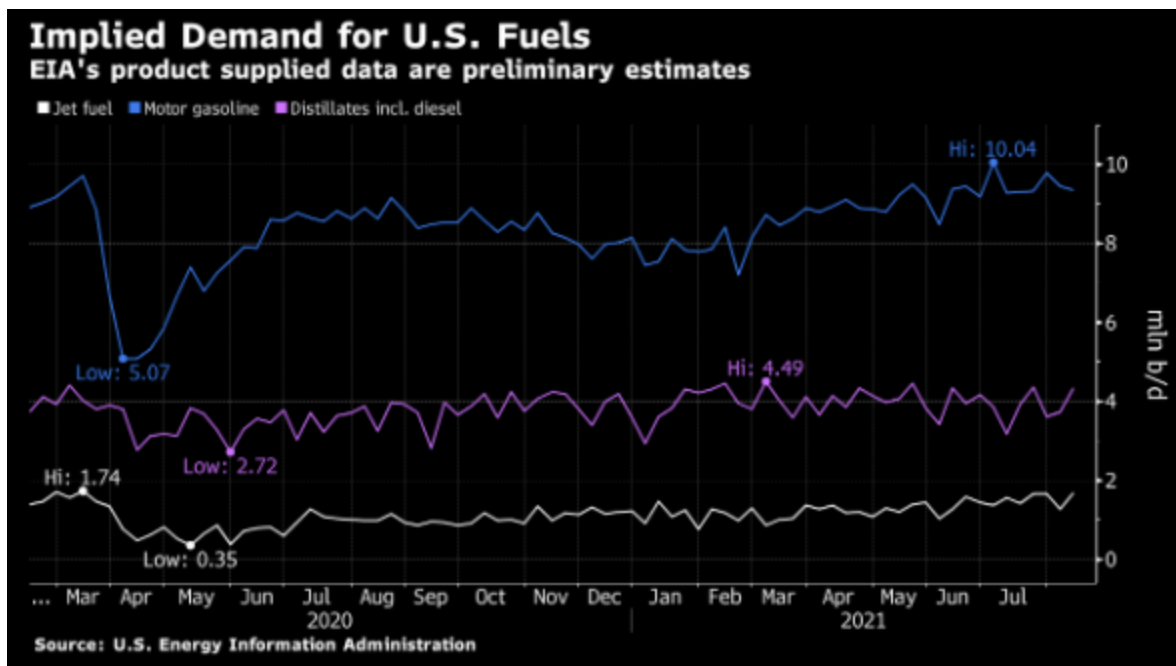
Measure	Location	% y/y	% vs 2019	% m/m	Freq.	Latest as of Date	Latest Value	Source
Gasoline demand	U.S.	+8.1	-3	+0.4	w	Aug. 13	9.33m b/d	EIA
Distillates demand	U.S.	+33	+15	+10	w	Aug. 13	4.32m b/d	EIA
Jet fuel demand	U.S.	+71	-12	+19	w	Aug. 13	1.67m b/d	EIA
Total oil products demand	U.S.	+25	+2.2	+4.3	w	Aug. 13	21.5m b/d	EIA
All vehicles miles traveled	U.S.		unch		w	Aug. 15	16.6b miles	DoT
Passenger car VMT	U.S.		-2		w	Aug. 15	n/a	DoT
Truck VMT	U.S.		+8		w	Aug. 15	n/a	DoT
All motor vehicle use index	U.K.	+8.8	-1	unch	d	Aug. 16	99	DfT
Car use	U.K.	+9.1	-4	+1.1	d	Aug. 16	96	DfT
Heavy goods vehicle use	U.K.	+4	+4	-2.8	d	Aug. 16	104	DfT
Gasoline (petrol) avg sales per filling station	U.K.	+8.3	-6	-2.2	m	Aug. 1	6,824 liters/d	BEIS
Diesel avg sales per station	U.K.	+4.4	-8.3	-2	m	Aug. 1	9,560 liters/d	BEIS
Total road fuels sales per station	U.K.	+6	-7.4	-2.1	m	Aug. 1	16,383 liters/d	BEIS
Gasoline	India		+3.7	-4.9	2/m	Aug. 1-15	986k tons	Bberg
Diesel	India		-7.9	-15	2/m	Aug. 1-15	2.11m tons	Bberg
LPG	India		-2.5	-2.7	2/m	Aug. 1-15	1.06m tons	Bberg
Jet fuel	India		-45	+25	2/m	Aug. 1-15	166k tons	Bberg
Total Products	India	+7.9	-6.5	+2.9	m	July 2021	16.83m tons	PPAC
Passenger car traffic	Poland	+6	+4	+4.4	w	Aug. 9-15	27,526	GDDKiA
Heavy goods traffic	Poland	+10	+30	-4.5	w	Aug. 9-15	4,446	GDDKiA
Toll roads volume	Italy	+9.4	+4.3		w	Aug. 2-8	n/a	Atlantia
Toll roads volume	Spain	+22	-3.4		w	Aug. 2-8	n/a	Atlantia
Toll roads volume	France	-4.9	-1.7		w	Aug. 2-8	n/a	Atlantia

Toll roads volume	Brazil	+9.6	+3.1		w	Aug. 2-8	n/a	Atlantia
Toll roads volume	Chile	+104	+16		w	Aug. 2-8	n/a	Atlantia
Toll roads volume	Mexico	+19	+0.3		w	Aug. 2-8	n/a	Atlantia
All vehicles traffic	Italy	+7		+10	m	July	n/a	Anas
Heavy vehicle traffic	Italy	+4		+2	m	July	n/a	Anas
Gasoline	Portugal	+7.2	-5.2	+12	m	July	94k tons	ENSE
Diesel	Portugal	+3.2	-5.3	+12	m	July	419k tons	ENSE
Jet fuel	Portugal	+110	-49	+31	m	July	85k tons	ENSE
Gasoline	Spain	+13	+3.1		m	July	565k m3	Exolum
Diesel	Spain	+7.5	-4.8		m	July	2341k m3	Exolum
Jet fuel	Spain	+122	-45		m	July	422k m3	Exolum

The frequency column shows d for data updated daily, w for weekly, 2/m for twice a month and m for monthly.

* In DfT U.K. data, the column showing versus 2019 is actually showing the change versus the first week of February 2020, to represent the pre-Covid era.

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



City Congestion:

Measure	Location	% chg vs 2019	% chg m/m	Aug. 23	Aug. 16	Aug. 9	Aug. 2	Jul. 26	Jul. 19	Jul. 12	Jul. 5	Jun. 28	Jun. 21
		(Aug. 23)		Minutes of congestion at 8am local time									
Congestion	Tokyo	-24	unch	28	11	7	28	28	29	31	36	27	28
Congestion	Mumbai	-79	+8	8	7	7	9	7	9	5	6	5	5
Congestion	New York	-50	unch	16	13	17	16	16	14	18	0	16	16
Congestion	Los Angeles	-24	+67	27	24	17	16	16	18	17	3	17	16
Congestion	London	-59	-19	16	15	19	15	19	25	19	34	38	37
Congestion	Rome	-89	-75	5	2	7	16	22	23	23	35	13	36
Congestion	Madrid	-92	-44	3	2	2	5	5	8	13	14	16	18
Congestion	Paris	-69	-15	14	9	7	17	16	22	29	39	37	44
Congestion	Berlin	+14	+178	38	29	26	16	14	13	16	16	19	28
Congestion	Mexico City	-54	+23	23	20	19	20	19	20	22	23	24	21
Congestion	Sao Paulo	-39	+22	26	25	25	21	22	22	22	20	23	26

Source: TomTom. Note: M/m comparison is Aug 23 vs July 26. Japan had a public holiday on Aug 9. TomTom has been unable to provide Chinese data since late April.

Air Travel:

Measure	Location	% chg y/y	% chg vs 2019	% chg m/m	Freq.	Latest as of Date	Latest Value	Source
Airline passenger throughput	U.S.	+133	-2.5	-9.7	d	Aug. 22	1.97m people	TSA
Commercial flights	Worldwide	+28	-29	-7	d	Aug. 23	88,586	FlightRadar24
Air traffic (flights)	Europe		-30	+4.8	d	Aug. 22	25,373	Eurocontrol
Seat capacity	Worldwide	+30	-34		w	Aug. 23	76.89m	OAG
Seat cap.	U.S.	+62	-12		w	Aug. 23	19.16m	OAG
Seat cap.	China	-18	-24		w	Aug. 23	12.77m	OAG
Seat cap.	India	+100	-27		w	Aug. 23	2.9m	OAG
Seat cap.	Spain	+42	-26		w	Aug. 23	2.69m	OAG
Seat cap.	Japan	-13	-52		w	Aug. 23	2.04m	OAG
Seat cap.	U.K.	+17	-55		w	Aug. 23	1.78m	OAG
Seat cap.	France	+35	-32		w	Aug. 23	1.74m	OAG
Seat cap.	Mexico	+93	-3.3		w	Aug. 23	1.72m	OAG
Seat cap.	Germany	+49	-50		w	Aug. 23	1.71m	OAG
Seat cap.	Brazil	+113	-33		w	Aug. 23	1.68m	OAG
Seat cap.	Australia	+30	-76		w	Aug. 23	479k	OAG
Seat cap.	S. Africa	+204	-56		w	Aug. 23	259k	OAG



Refineries:

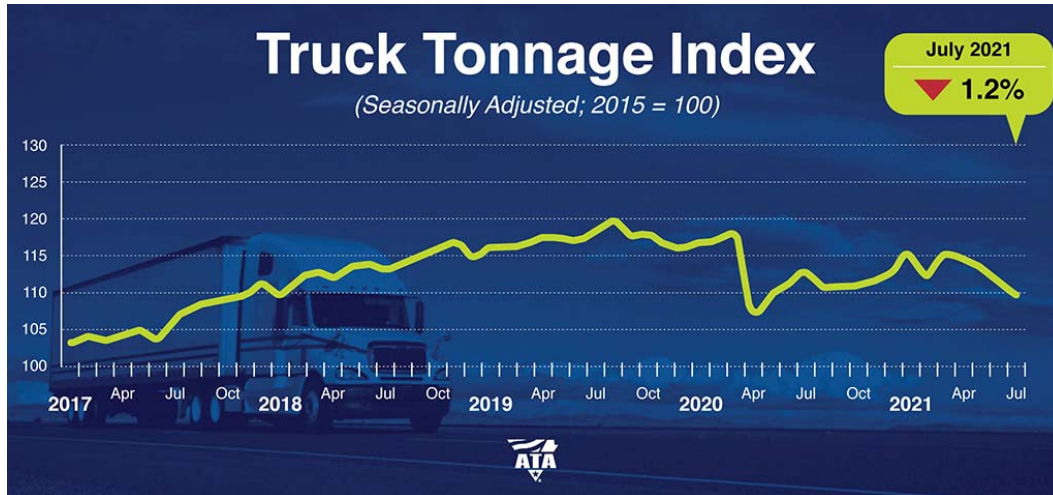
Measure	Location	y/y chg	vs 2019 chg	m/m chg	Latest as of Date	Latest Value	Source
Crude intake	U.S.	+10%	-9.6%	unch	Aug. 13	16m b/d	EIA
Utilization	U.S.	+11 ppt	-3.7 ppt	+0.8 ppt	Aug. 13	92.2 %	EIA
Utilization	Gulf Coast U.S.	+11 ppt	-4 ppt	+0.8 ppt	Aug. 13	93.1 %	EIA
Utilization	East Coast U.S.	+19 ppt	+21 ppt	+9.2 ppt	Aug. 13	89.6 %	EIA
Utilization	Midwest U.S.	+7.5 ppt	-6 ppt	-2.2 ppt	Aug. 13	93.9 %	EIA
Apparent Oil Demand	China	-2.3%		-2.5%	July 2021	13.47m b/d	NBS
Indep. refs run rate	Shandong province, China	-6.3 ppt	+7.2 ppt	-4.1 ppt	Aug. 20	67.3 %	SCI99
State refs run rate	East China	+2.2 ppt	-1.9 ppt	-1.6 ppt	Aug. 13	80.6 %	SCI99
State refs run rate	South China	-0.9 ppt	+4.1 ppt	+1.3 ppt	Aug. 13	82 %	SCI99

NOTE: All of the refinery data is weekly, except for SCI99 state refineries, which is twice per month, and the NBS apparent demand, which is usually monthly.

ATA Truck Tonnage Index Decreased 1.2% in July

Aug 24 Media Contact: [Sean McNally](#)

Arlington, Virginia -- American Trucking Associations' advanced seasonally adjusted (SA) For-Hire Truck Tonnage Index decreased 1.2% in July after falling 2% in June. In July, the index equaled 109.8 (2015=100) compared with 111.1 in June.



“Softness in tonnage over the last few months is due more to supply constraints, rather than a big drop in freight volumes,” said **ATA Chief Economist Bob Costello**. “Not only are there broader supply chain issues, like semiconductors, holding tonnage back, but there are also industry specific difficulties, including the driver shortage and lack of equipment. For-hire truckload carriers are operating fewer trucks than a year earlier. It is difficult to haul significantly more freight with fewer trucks and drivers.

“In addition to these supply issues, retail sales and housing starts, both large drivers of truck freight, retreated in July, although both rose on a year-over-year basis,” he said.

June’s reading was revised down to -2% from our July 20 press release.

Compared with July 2020, the SA index fell 2.9%, which was the first year-over-year drop since March. In June, the index was flat from a year earlier. Year-to-date, compared with the same seven months in 2020, tonnage is down 0.2%.

The not seasonally adjusted index, which represents the change in tonnage actually hauled by the fleets before any seasonal adjustment, equaled 111.9 in July, 3.2% below the June level (115.6). In calculating the index, 100 represents 2015. ATA’s For-Hire Truck Tonnage Index is dominated by contract freight as opposed to spot market freight.

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

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



August 26, 2021

US E&P Comps: Environmental Policy in Focus

Weekly Valuation Update: August 26, 2021

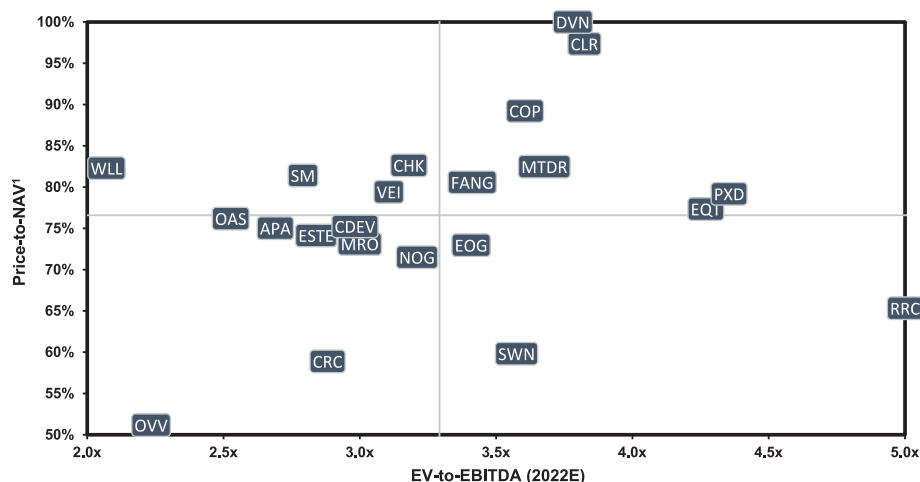
Our view: E&P equities recovered some this week on easing Covid-driven demand fears. The environmental impact of the O&G industry and activity on federal lands continues to be a focal point with the Biden administration's announcement that it would resume the federal leasing program. However, we think it could be anything but business as usual with the administration's continued focus on the climate impacts of the industry. Last week, oil-weighted E&Ps traded up 8.5%, outperforming natural gas peers, which were up 4%. Large-caps traded up 7.2%, underperforming SMids which were up 8.8%. The XOP traded up 8.8% while WTI oil traded up 6.8%.

Leasing program to resume. On Tuesday the Biden administration said it would restart the federal O&G leasing program with plans to hold a GoM auction as early as October. The announcement comes in response to a motion by the state of Louisiana to compel the DOI to restart the leasing program and an appeal from the Biden administration on the federal ruling that it could not pause the leasing program. While leasing will restart, it might not be business as usual, as a statement from the DOI suggested it could use environmental review and climate impacts as a means to block or further delay lease sales.

Environmental policy. Climate change has been a key focus for policy initiatives and is the focus of extensive provisions in the reconciliation bill blueprint. However, policy makers are finding that outright emissions taxes may have many unintended consequences. While the fossil fuel industry tends to be the focus for many of the emission reduction initiatives, including a proposed "methane polluter fee", the O&G industry is far from being the only emissions culprit nor is it the largest according to EPA data ([here](#)). Policymakers could use exceptions to address the issue, but that ultimately lessens the intended impact of the initiative. The API and E&Ps have been supportive of emissions regulation and recognize it needs to earn the social license to operate. Our ESG tables on page 4 highlight the YoY progress E&Ps have made on reducing emissions.

- **Implied valuation:** \$53.71/bbl (WTI) and \$2.63/Mcf (HH)
- **EV-to-EBITDA:** 4.4x (2021E using \$68/\$3.10) and 3.3x (2022E using \$72/\$2.95)
- **EV-to-EBITDA (Strip):** 3.5x (2021E using \$65/\$3.50) and 3.2x (2022E using \$64/\$3.60)

Valuation quadrant



1-Based on \$55/\$2.65 Oil/Nat Gas long-term price deck. Source: RBC Capital Markets estimates, FactSet, Company reports

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ENVIRONMENTAL STANDARDS / HEAT MAP

Source: Company Reports & RBC Capital Market Estimates

Company	Ticker	Stock Rating	GHG Emissions Intensity ⁽¹⁾		Methane Emissions Intensity ⁽¹⁾		Fresh Water Usage (% of Water Used)		Recycled Water Usage (% of Water Used)		Flaring (% of gross gas prod)		Methane Emissions (% of gross gas prod)		Hydrocarbon Spill Rate (>1 bbl. per Mboe)	
			2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Apache Corporation	APA	Sector Perform	20.5	NA	5.02	NA	5%	NA	78%	NA	3.3%	NA	0.45%	NA	See Note ⁽²⁾	NA
ConocoPhillips	COP	Outperform	34.8 ⁽¹¹⁾	32.9 ⁽¹¹⁾	3.03 ⁽¹¹⁾	3.40 ⁽¹¹⁾	10%	9%	56%	52%	1.7%	1.0%	0.24%	0.28%	0.003	0.001
Continental Resources	CLR	Sector Perform	19.2	13.9	3.44	2.28	NA	NA	14%	11%	4.4%	2.0%	0.25%	0.16%	0.009	0.004
Devon Energy	DVN	Sector Perform	10.0 ⁽³⁾	NA	2.80 ⁽³⁾	NA	46% ⁽³⁾	NA	19% ⁽³⁾	NA	0.8% ⁽³⁾	NA	0.28% ⁽³⁾	NA	0.010	NA
Diamondback Energy	FANG	Outperform	11.6	12.0	1.46	NA	35%	NA	17%	18%	5.6%	2.0%	0.18%	NA	0.038	NA
EOG Resources	EOG	Outperform	14.8	NA	1.21	NA	25%	NA	34%	NA	1.2%	NA	0.12%	NA	0.009 ⁽⁴⁾	NA
Marathon Oil Corp	MRO	Outperform	30.8	NA	2.18	NA	44%	NA	3%	NA	5.6%	NA	0.16%	NA	0.004	NA
Pioneer Natural Res.	PXD	Outperform	10.7 ⁽⁵⁾	NA	2.67 ⁽⁵⁾	NA	43%	NA	17% ⁽⁶⁾	NA	0.7%	NA	0.32% ⁽⁵⁾	NA	0.023	NA
Large Cap Average			19.0	19.6	2.73	2.84	30%	9%	30%	27%	2.9%	1.7%	0.25%	0.22%	0.014	0.003
California Resources	CRC	Outperform	22.2	NA	1.83	NA	50% ⁽⁷⁾	NA	NA ⁽⁷⁾	NA	1.5%	NA	0.25%	NA	0.002	NA
Callon Petroleum	CPE	Restricted	27.3 ⁽⁶⁾	19.7	7.62 ⁽⁶⁾	5.70	48% ⁽⁶⁾	50%	17% ⁽⁸⁾	19%	7.3% ⁽⁶⁾	4.0%	0.95% ⁽⁶⁾	0.62%	0.013 ⁽⁸⁾	0.003
Centennial Resource De	CDEV	Sector Perform	14.2	14.2	3.00	3.00	14%	4%	8%	36%	7.1%	4.4%	0.33%	0.30%	0.014	0.019
Earthstone Energy	ESTE	Outperform	17.3	12.4	1.60	1.80	NA	NA	NA	NA	1.2%	2.2%	0.10%	0.10%	0.000	0.000
Matador Resources	MTDR	Outperform	28.4	22.9	5.63	5.19	NA	NA	NA	NA	4.1%	2.5%	0.51%	0.45%	0.011 ⁽⁴⁾	0.008 ⁽⁴⁾
Oasis Petroleum	OAS	Outperform	26.5	13.1	2.15	1.08	NA	NA	NA	NA	11.9%	4.6%	0.22%	0.10%	0.016	0.005
Penn Virginia Corp.	PVAC	Restricted	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SM Energy	SM	Sector Perform	12.4	7.9	1.27	0.90	NA	NA	NA	NA	3.4%	0.8%	0.12%	0.08%	0.004	0.004 ⁽⁹⁾
Whiting Petroleum	WLL	Sector Perform	33.6	NA	9.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Small Cap Average			22.7	15.0	4.03	2.94	37%	27%	12%	28%	5.2%	3.1%	0.35%	0.28%	0.009	0.006
Chesapeake Energy	CHK	Outperform	8.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.17%	NA	NA	NA
EQT Corporation	EQT	Outperform	2.9	2.3	1.92	1.38	74%	76%	26%	24%	0.0%	0.0%	0.06%	0.05%	0.000	0.001
Range Resources	RRC	Outperform	1.8	NA	0.93	NA	58%	NA	42%	NA	0.1%	NA	0.04%	NA	0.000	NA
Southwestern Energy	SWN	Sector Perform	2.4	NA	1.06	NA	83% ⁽¹⁰⁾	NA	18%	NA	NA	NA	0.05%	NA	0.000	NA
Vine Energy	VEI	Outperform	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05%	NA	NA	NA
Natural Gas Average			3.8	2.3	1.30	1.38	71%	76%	29%	24%	0.0%	0.0%	0.08%	0.05%	0.000	0.001
Total Coverage Average			17.5	15.1	3.05	2.75	41%	34%	27%	27%	3.5%	2.4%	0.24%	0.24%	0.009	0.005

⁽¹⁾Scope-1 emissions in metric tonnes CO2e/gross Mboe from production & gathering ⁽²⁾APA reported only total spills of 187 in '19

⁽³⁾DVN divested its CDN assets mid-2019. 2019 reported data represents US operations only. ⁽⁴⁾Based on US operations only. EOG & MTDR report hydrocarbon spill volumes of >5 bbl.

⁽⁵⁾Calculated based on reported Scope 1 emissions by EPA standards. ⁽⁶⁾Does not include reclaimed water usage. Reclaimed water made up 25% of PXDs '19 water usage.

⁽⁷⁾CRC does not provide recycled water used as % of total water usage, however CRC does reuse 90% of all produced water and delivers 3x the amount of fresh water used back to local communities.

⁽⁸⁾CPE includes CRZO: past 3rd party facility issues caused higher flaring & emissions. CPE '19 stand-alone flaring was 4.8%.

⁽⁹⁾Estimated spill rate bbl/Mboe based on reported spill rate of 0.014 bbl/Mbbl liquids produced.

⁽¹⁰⁾SWN freshwater usage does not account for conservation & offset efforts. When including conservation & offset efforts, SWN reports it is fresh water neutral.

⁽¹¹⁾COP includes emission sources from all of its operated assets, which reflects a wider range of the value chain than is reported in scope 1 emissions of pure-production companies that sell product directly at the well-head. As a scope 1 emissions intensity calculation only, emissions from these sources are not captured in peer metrics, and accordingly, are not comparable.

SOCIAL & GOVERNANCE STANDARDS / HEAT MAP

Source: Company Reports & RBC Capital Market Estimates

Company	Ticker	Stock Rating	Recordable Incident Rates ⁽¹⁾			CEO Pay Ratio ⁽²⁾			Work Force Composition			Board of Director Composition		
			Employee			(to Median Employee)			Minority ⁽³⁾			Female ⁽⁴⁾		
			2019	2020	Total	2019	2020	2020	2019	2020	2020	2019	2020	Current
Apache Corporation	APA	Sector Perform	0.09	NA	0.41	NA	91x	NA	33%	NA	NA	NA	10%	10%
ConocoPhillips	COP	Outperform	0.05	0.09	0.15	0.12	163x	175x	25%	25%	26%	27%	20%	20%
Continental Resources	CLR	Sector Perform	0.69	0.55	0.47	0.40	100x	100x ⁽⁶⁾	11%	11%	26%	26%	0%	0%
Devon Energy	DVN ⁽⁵⁾	Sector Perform	0.48	NA	0.55	NA	84x	86x	19%	NA	25%	NA	9%	9%
Diamondback Energy	FANG	Outperform	0.42	0.42	0.37	NA	116x	91x	25%	NA	32%	NA	13%	13%
EOG Resources	EOG	Outperform	0.20	NA	0.61	NA	73x	49x	25%	NA	30%	NA	0%	0%
Marathon Oil Corp	MRO	Outperform	0.08	NA	0.32	NA	97x	91x	30%	NA	30%	NA	25%	25%
Pioneer Natural Res.	PXD ⁽⁶⁾	Outperform	0.50	NA	0.20	NA	78x	63x	40%	NA	26%	NA	8%	8%
Large Cap Average			0.31	0.35	0.39	0.26	100x	94x	26%	18%	28%	27%	11%	11%
California Resources	CRC	Outperform	0.00	NA	0.34	NA	68x	147x	35%	NA	20%	NA	NA	NA
Callon Petroleum	CPE	Restricted	NA	NA	0.60	0.54	40x	38x	35%	36%	20%	18%	9%	9%
Centennial Resource De	CDEV	Sector Perform	0.00	NA	0.54	NA	18x	43x	25%	NA	41%	NA	0%	0%
Earthstone Energy	ESTE	Outperform	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	0%	0%
Matador Resources	MTDR	Outperform	0.00	0.00	NA	NA	40x	8x	NA	NA	NA	NA	9%	9%
Northern Oil & Gas	NOG	Outperform	NA	NA	NA	NA	5x	8x	NA	NA	NA	NA	13%	13%
Oasis Petroleum	OAS	Outperform	0.30	0.49	0.98	0.65	54x	53x	22%	21%	29%	32%	0%	0%
Penn Virginia Corp.	PVAC	Restricted	NA	NA	NA	NA	8x	NA ⁽⁷⁾	NA	NA	NA	NA	20%	20%
SM Energy	SM	Sector Perform	0.15	NA	0.46	0.26	31x	16x	25%	NA	33%	NA	22%	22%
Whiting Petroleum	WLL	Sector Perform	0.29	NA	0.90	NA	34x	NA	NA	NA	24%	NA	0%	0%
SMid Cap Average			0.08	0.16	0.58	0.48	33x	45x	28%	29%	29%	25%	11%	11%
Chesapeake Energy	CHK	Outperform	0.16	NA	NA	NA	120x	NA	NA	NA	NA	NA	17%	17%
EQT Corporation	EQT	Outperform	0.49	0.78	NA	0.56	NA ⁽⁷⁾	65x	6%	6%	25%	23%	0%	0%
Range Resources	RRC	Outperform	0.62	NA	0.62	NA	60x	43x	NA	NA	10%	NA	0%	0%
Southwestern Energy	SWN ⁽⁶⁾	Sector Perform	0.33	NA	0.56	NA	76x	63x	13%	NA	25%	NA	22%	22%
Vine Energy	VEI	Outperform	0.47	NA	NA	NA	NA	NA	NA	NA	NA	40%	NA	NA
Natural Gas Average			0.40	0.78	0.59	0.56	85x	57x	10%	6%	20%	23%	10%	10%
Total Coverage Average			0.27	0.33	0.51	0.42	70x	67x	25%	20%	26%	28%	10%	23%
79%														

⁽¹⁾ Calculated per 200,000 hours worked, based on company employees only. Total includes company employees and contractors, calculated per 200,000 hours worked.

⁽²⁾ We do not heat map CEO compensation because it is based on a range of factors (including overall financial and stock performance) and awarded in different methods.

⁽³⁾ Minority Composition is % of US workforce only. ⁽⁴⁾ Female Composition is % of global workforce. ⁽⁵⁾ DVN 2019 based on US workforce only.

⁽⁶⁾ PXD and SWN report incident rates per 100 workers. ⁽⁷⁾ PVAC/EQT changed its CEOs in 2020/2019 resulting in the CEO pay ratio reported not accurately reflecting a full year of pay.

⁽⁸⁾ CLR 2020 CEO pay adjusted to reflect one year's annual target value. Unadjusted ratio of total annual compensation for 2020 was 260:1 due to the impact of initial share grants.

AUGUST 23, 2021

TEXAS UPSTREAM EMPLOYMENT INCREASES BY 1,500 IN JULY

Austin, Texas - Today, the Texas Independent Producers and Royalty Owners Association (TIPRO) highlighted updated employment figures for the Texas upstream sector. According to the Current Employment Statistics (CES) report from the U.S. Bureau of Labor Statistics (BLS), Texas upstream employment for July 2021 totaled 175,100, an increase of 1,500 jobs from June, and the third consecutive month of job growth since April, subject to revisions. Texas upstream employment in July 2021 represented an increase of 15,800 positions compared to July 2020, which reflects a rise of 17,000 jobs in the services sector and decrease of 1,200 jobs in oil and natural gas extraction.

"We believe the spread of the Delta coronavirus variant will impact the near-term pace of recovery to some degree, including Texas oil and natural gas job growth, but data suggest that vaccinations, natural immunity and public caution will help keep the latest variant at bay and avoid the major economic disruptions we experienced previously," said Ed Longanecker, president of TIPRO. "We continue to anticipate a strong recovery in world oil demand this year and further growth in 2022. Prominent U.S. producers will maintain a highly disciplined approach to their production goals and we can expect OPEC to do the same in efforts to reach and maintain global supply demand equilibrium," added Longanecker.

<https://www.tipro.org/newsroom/tipro-news/texas-upstream-employment-continues-to-rise>

JULY 16, 2021

TEXAS UPSTREAM EMPLOYMENT CONTINUES TO RISE

Austin, Texas - Today, the Texas Independent Producers and Royalty Owners Association (TIPRO) highlighted updated employment figures for the Texas upstream sector. For the first half of 2021, upstream employment increased by 8,766 net jobs in the Lone Star State when compared to the second half of last year, spurred by an uptick in economic activity and strengthening global demand for oil and natural gas. According to the Current Employment Statistics (CES) report from the U.S. Bureau of Labor Statistics (BLS), Texas upstream employment totaled 168,450 from January to June of 2021, with the majority of the gains coming from the oil and natural gas services sector.

"Demand for our product and commodity prices are continuing to improve, with some analysts forecasting the largest increase in global oil demand ever in the coming months," said Ed Longanecker, president of TIPRO.

Despite challenging market conditions over the past year, TIPRO emphasizes that the Texas oil and natural gas sector continued to provide significant economic support to the state during the downturn. According to TIPRO's analysis for upstream, midstream and downstream employment, the industry employed over 347,000 direct workers last year, and supported another 2 million in-direct jobs in Texas. In 2020, the total direct Gross Regional Product (GRP), which is essentially GDP for a region of study, for the Texas oil and natural gas industry exceeded \$278 billion, or 15 percent of the Texas economy. Once you incorporate the standard multiplier for GRP, that number more than doubled, further illustrating the impact and importance of the oil and natural gas industry for our state, according to TIPRO.

"The Texas oil and gas industry is resilient and will remain a cornerstone of our state economy for decades to come," said Longanecker. "While the job losses were significant last year for many sectors, improving market conditions will further strengthen employment opportunities for Texas families and the tremendous economic benefits provided by oil and natural gas production in our state."

Germany Flirts With Power Crunch in Nuclear and Coal Exit

2021-08-22 05:00:00.0 GMT

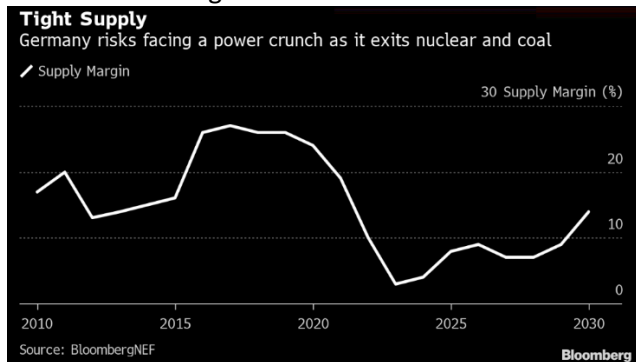
By Vanessa Dezem and Josefine Fokuhl

(Bloomberg) -- One of Germany's biggest challenges in the fight against climate change is to keep the lights on.

As Europe's biggest economy shuts its last nuclear reactor next year and utility RWE AG warns that coal plants may close earlier than planned, critics say green energy isn't being added quickly enough. Germany's ability to meet peak demand is poised to shrink rapidly over the next two years, increasing the risk of blackouts.

In a last push to save her fading reputation as 'The Climate Chancellor' before stepping down after next month's election, Angela Merkel announced Europe's strictest emissions goals. But the green power revolution she fronted for almost two decades is running out of steam just as the electrification of the economy will increase demand.

"There is no doubt that security of supply must be high on the priority list of the next government and political action is urgent," said Alexander Nolden, chief economist at RWE. "The new climate law is a real game changer for Germany. It means a much higher ambition and will demand much higher speed for the changes needed."



Merkel admits her government got it wrong. Power demand will probably increase more than official forecasts by the end of the decade, she said in June. A month earlier she recognized that increasing local opposition and too much bureaucracy have curbed investments in green power.

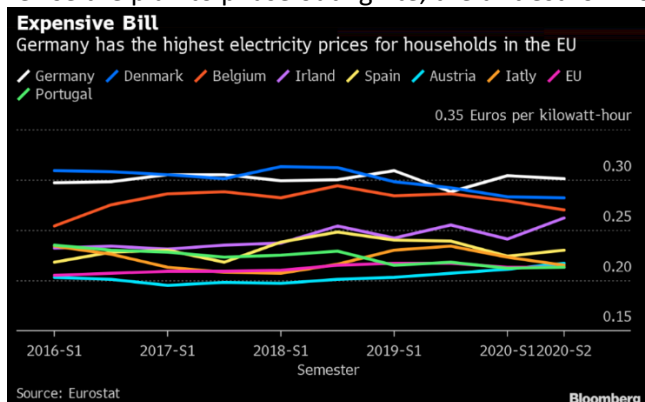
For a long time, Germany showed the world how renewable energy could be added to make up a substantial share of the power mix. Now, the Norwegian utility Statkraft SF says it takes twice as long to build a wind park in Germany compared with the U.S. Complaints from locals, a lack of space, stricter environmental standards and a longer permitting process are just some of the reasons growth is slowing.

Take Roland Schueren. He runs 19 bakeries in western Germany and to save on power bills and help speed up the energy transition, he wants to add more solar panels for his power-hungry ovens and electric delivery vans. But the prohibitive rules are holding him back. He's now targeting a parliamentary seat for the Green Party.

"We can't build more photovoltaic, our roofs are full," he said by phone from one of his shops in Hilden, a small town outside Dusseldorf. "We could rent our neighbor's roof and build more photovoltaic there, but this is not allowed. The energy transition is slowed down by the government."

Merkel's coalition is still ahead in the polls, but the Green Party has emerged as a real contender in the Sept. 26 election. Utilities, energy traders and analysts are pondering what policy changes might come next to help meet the new goal of a 65% reduction of carbon dioxide emissions by the end of the decade.

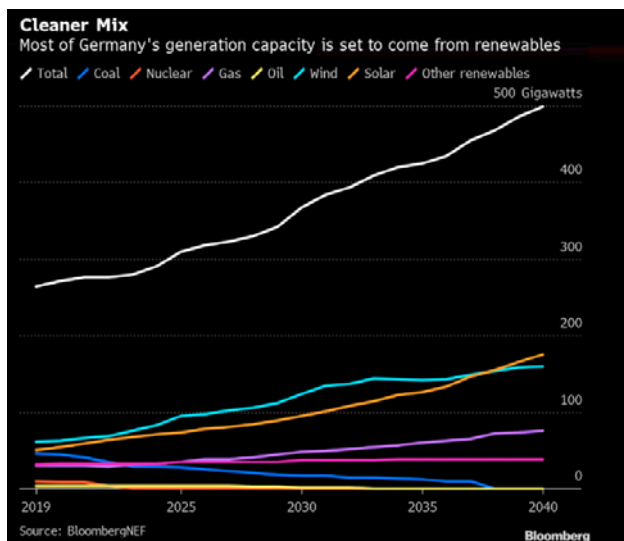
RWE, which operates coal plants in Germany and abroad, said Aug. 12 that it is "conceivable" the next government will revise the plan to phase out lignite, the dirtiest form of coal. Currently, the exit should be complete by 2038.



Sabrina Kernbichler, a European power analyst at S&P Global Platts, expects the phase-out to be done early next decade. That would need higher wind and solar output for 2030 and beyond, as well as expanding the grids to carry the extra power.

But the crunch could come much earlier. By 2023, the margin of supply over peak demand is expected to plunge to 3%, or two gigawatts, from 26% before the pandemic, according to BNEF.

And by 2026, output from coal plants could fall as much as 70% compared with levels prior to the Covid-19 crisis, BNEF said. At the same time, power consumption is poised to return to pre-pandemic levels next year, according to BNEF. Demand would then increase 4% by the end of the decade and as much as 25% by 2040, according to the researcher. A supply squeeze would send power prices soaring for the many thousands of companies that make up the backbone of the economy. Wholesale rates have already jumped almost 60% this year to their highest level since 2008. That increase will feed through to the nation's 40 million homes already paying the highest bills in the European Union, partly to fund the energy transition.



The decisions to exit nuclear, and coal were preceded by careful research, said a spokesman at energy regulator Bnetza. "The security of electricity supply is regularly examined."

In the state of Rhineland-Palatinate, once home to two nuclear plants, the head of chemicals company Berger-Lacke GmbH rues the closures and worries about future supplies. "Blackouts is one of the biggest risks we face," said Thomas M. Adam. "Even a couple of days without stable power supply would be very serious."

In the meantime, Germany may have to rely more on neighboring markets for imports. But the closure of fossil-fuel plants in other nations too means that availability could be limited during harsh winters, just when the power is needed the most, according to BNEF analyst Andreas Gandolfo. "During a collective crunch, Germany could find itself in a tight spot."

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<https://blinks.bloomberg.com/news/stories/QVKFC4T0G1L1>

Will green electricity get even more expensive, Mr. Bruch?

Siemens Energy builds wind turbines, gas-fired power plants and power grids. CEO Christian Bruch on the future of the energy supply and anger in his own company.

Siemens Energy wants to benefit from the energy transition: Onshore wind turbines are currently losing money for the company.

Mr. Bruch, renewable energies are the future, but your Siemens Gamesa wind division is delivering catastrophic results. What's wrong? Siemens Gamesa is at the forefront of the wind and participates in growth. The picture is only very mixed: the offshore and service sectors are doing very well, even better than planned. About two handfuls of projects in the onshore sector are not going well. Very annoying.

What exactly is so difficult about setting up wind turbines on land? It's not that management doesn't know how to install wind turbines on land. Currently, there are only three problems that can be solved, but cause additional costs: the introduction of a new product, the X.5 turbines, projects in Brazil under difficult conditions - keyword Covid - **and the extreme price increase for the raw material, above all Steel and copper that affects the entire industry. The raw material consumption in the construction of wind turbines is high.**

You criticize the lack of transparency in your wind division, which is based in Spain. Does Siemens in Munich and Berlin only notice problems when the child is in the well? We need to recognize such problems sooner. The conditions are clear: Siemens Gamesa is an independently listed company, we are represented on the supervisory board by three people.

Then they should have sounded the alarm earlier? You always have to see: there is the supervisory board and the operational management of a separate company, Siemens Gamesa, and they have to be clearly separated. Of course, I am not satisfied if we are surprised there with an ad hoc announcement of higher losses. Something like that is always unpleasant.

How much patience do you have with the new Gamesa boss, who has only been in office for a year? This is the wrong discussion. The new management around Andreas Nauen is working off old mistakes that it found. The CEO has replaced the executives in all areas, that now takes some time. The important thing for me now is: I want to understand the problems and see progress.

Will you join the Gamesa supervisory board yourself to show that the wind is now a top priority! No, that wouldn't change anything. Wind is already a matter for the boss. I absolutely believe in the future of wind energy; in the medium term, it offers us extremely good growth opportunities.

How much dry spell has to be survived beforehand? The turnaround in the onshore sector has been delayed, but it has to come. And again: In the other areas, the company earns money with wind, even more than expected.

The trouble in Spain has accompanied Siemens since joining Gamesa. Wouldn't it be time to take the company off the stock market to gain full access? The solution to the current problems has nothing to do with the size of our shares. Ownership is a strategic question: Can we generate more business and also more value if we hold more than 67 percent of Siemens Gamesa? Would 100 percent be better? First of all, operational performance has priority. In general, we stick to it: Siemens Energy wants to be the driver of the energy transition, wind is one of the pillars for this, but we also need transmission technology and gas-fired power plants as a transition technology. We work in all of these three fields.

Solar energy is not an issue? **But. Simply because solar will play a major role in the future energy world. We just have to decide: In which position can we earn money with it? Certainly not as a manufacturer of solar modules, that's in Asian hands. But for example when integrating solar parks into the entire energy system. We are currently testing this with pilot projects.**

Can solar energy play a key role for Siemens Energy alongside wind? Yes. The market is only just developing, there is still a lot of music in it.

That means: Are you looking for takeover targets? We look around, of course, but don't look for anything larger at first, at most smaller things. My motto is: first we want to stabilize Siemens Energy, then make it profitable - and then grow.

Do we need our own production facility for solar modules in Germany? Comparable to the battery production for e-mobility, which is now being set up by the car manufacturers? You have to at least think about how you want to achieve the expansion targets for solar energy. Especially when you look at the supply chains. It would be naive to believe that the procurement market will remain as it is. All states are pursuing their own interests, especially China.

Does China use the solar modules for power-political goals? Most of the modules come from Chinese suppliers. And as much as solar energy is to be expanded, in China and around the world, the question arises: How will the demand be met? Where are the modules delivered first? **At the moment the prices for goods from China are rising massively, which will have consequences for the prices for solar power. Under these circumstances, it will not be possible to maintain the current low prices. It is similar with the wind. If raw material prices continue to rise, electricity prices will have to rise there too. We have to face that. So far the attitude has been: Renewable energies are getting cheaper and cheaper. It was the same in the past few years.**

And not more in the future? **If the underlying material cost continues to rise, that won't be possible. Society then has to decide: How will the energy transition continue under these conditions? What are renewables worth to us? Just setting goals will not be enough. To believe that we can quickly expand renewable energies and that electricity is becoming cheaper and cheaper, that doesn't go together. The energy transition will cost money.**

So the energy transition will be even more expensive, even though we are already paying the highest electricity prices in Germany? **The CO2-free energy generation is not available for free. The energy source that has grown the fastest worldwide in 2020 and 2021 is coal. You have to see that clearly. And there is a reason for this: Energy from coal is the cheapest, especially in emerging countries with corresponding coal resources. If we want to change our energy supply - and we have to - then we have to talk about the basic rules in this market.**

They advocate the construction of new gas-fired power plants. Isn't that just self-interest because you want to keep selling your fossil fuel power plants? **The demand for electricity in Germany will grow considerably, by 30, 40 or even 100 percent, as some say. The federal government recently increased its demand forecast, but I also think the new forecast is too low. If we are really serious about the change in mobility, industry and heating, then we will need a lot more electricity. Renewable energies form the backbone. But we will also need gas-fired power plants as a bridging technology for a transition phase. Not only for weather conditions with little wind and sun, but because otherwise we simply cannot meet the demand. The only alternative to this is to continue operating coal-fired power plants. And that is clearly worse. If you replace an old coal-fired power plant with a new gas-fired power plant, you reduce CO2 emissions by around two thirds. In Germany, with the phase out of nuclear and coal, almost 40 percent of electricity generation capacity will be lost. We need a replacement quickly for this.**

But do new gas-fired power plants pay off economically? They are only intended for a transitional period and would have to be scrapped prematurely if Germany is to become climate neutral by 2045. **Not necessarily. Gas turbines can already be operated with a share of 30 to 60 percent climate-neutral hydrogen. We are working to ensure that full hydrogen operation will also be possible in two years. So at least they will not become "stranded assets" that have to be written off prematurely.**

The biggest problem with climate protection, however, is not the German power plants, but those in China and other emerging countries. Clear. China still has a 70 percent share of coal-fired electricity. In South Africa, a new coal-fired power plant with an output of 4800 megawatts went online this year. **If we do not replace coal with gas in the emerging countries, we can forget about global climate protection goals. That is a question that must be discussed at the world climate summit in Glasgow in November. In the Paris climate protection agreement it is said that the rich countries support the other states in the energy transition. So far, this has not been done sufficiently. If we don't like the fact that emerging countries that have coal use it to generate electricity, then we have to be ready for financial transfers.**

Do you seriously believe that developed countries will fund the shutdown of coal-fired power plants in China? At least a discussion between the two sides will be needed on how economic development and sustainability can be reconciled. **If you are not ready for that, then I wonder why it was written into the Paris Agreement at the time.** The fact is: there will be no solution to the CO2 problem without an intensive discussion with China.

Siemens Energy's coal phase-out was criticized as half-hearted. When will you consistently draw a line? **We stopped building coal-fired power plants in November 2020. It was painful because it was a profitable business for us. However, we are maintaining maintenance and service because we are reducing emissions with our highly efficient technology. The power plants are up, so the aim is to reduce their emissions.**

When will Siemens Energy book the last euro from the coal-fired power plant business? I cannot give you an appointment for this.

Siemens, on the other hand, withdrew from nuclear energy a long time ago. Will nuclear power become more important again because of climate change? Internationally, **nuclear energy as a CO2-neutral power source is again being discussed more intensively. France is already betting very strongly on this. There is talk of small modular nuclear power plants in Canada and the United States.** In Germany, however, the issue has been dealt with. You can't get out of such technologies and get back on again. Germany is facing completely different challenges that we urgently need to talk about.

Go ahead. What do you mean? **The energy transition will fail without a much faster expansion of wind power, solar energy and power grids. If we want to prevent that, we need a new set of rules that will allow us to move faster. It will be a huge process for society. We have to discuss this intensively.**

What exactly has to be faster? All. We have to talk about fundamental things. We have a federal system in Germany, there are lengthy objection procedures. **The construction of a power line currently takes up to 13 years. But if I want an important energy project to be through in twelve months and not in five years, then I have to do it differently than before. Whoever provides the new federal government will have to deal with this challenge.**

Does that mean a restriction of the rule of law? No, that's a normal legislative process. Sometimes you just have to take something old away when you want to build something new. That's change, but it's important. Politicians must be ready to hold this fundamental discussion.

Chinese planning law is difficult to enforce in Germany. It's not that black and white. "Business as usual" does not work. As Albert Einstein said: It is madness to do the same thing over and over again and expect different results. This also applies to the energy transition. **I find the narrative that sustainability shouldn't cost anything is extremely difficult. The energy transformation will cost a lot of money.** And of course we also have to think about how Germany can secure its prosperity at the same time. But if there is always an outcry of indignation that stifles any debate, then we will not be able to change anything.

Politicians have to be elected. That is why the question of who bears the costs is relevant. Yes absolutely. But we have to create a culture of discussion that enables such a debate. It is not just politics that is challenged, but society as a whole. The media too. What use is a politician to me who says: I cannot look into the future for more than one term? It must be clear to everyone: We are not just talking about a new technology here. **We are talking about a fundamental restructuring of the system. The IPCC climate report speaks a clear language.**

In your opinion, which party has the most convincing concept for this before the federal election? It is not my job to evaluate the individual party programs. What is important, however, is that all parties involved in government in the autumn must be aware of the size of this task. That is why I very much hope that we will quickly get a federal government capable of acting. The worst would be a long hang-out until a government is formed.

Your supervisory board boss Joe Kaeser is clear for the Green Annalena Baerbock. Then you can say that too, right? My supervisory board boss can speak for himself. In the end, the decision is in the hands of the voters.

The interview was conducted by Georg Meck and Marcus Theurer

Dow CEO Warns of Price Tag on Clean-Energy Plans

Jim Fitterling says the chemical company supports net zero carbon targets, but warns against restrictions on natural-gas use



'We need to get down to some pragmatic discussions and then work our way back to what are the right policies,' says Dow CEO Jim Fitterling.

PHOTO: GIAN EHRENZELLER/EPA/SHUTTERSTOCK

By Christopher M. Matthews and Timothy Puko

Aug. 27, 2021 5:30 am ET

Dow Inc. Chief Executive Jim Fitterling wants to know how Congress plans to pay for a proposed move to zero-carbon emission electricity that he says could dramatically increase energy costs, especially if it restricts natural-gas use.

Mr. Fitterling expressed his concerns in an interview this week as the White House and Democrats seek to implement [a clean-electricity standard](#) in their proposed budget. He warned about the potential consequences of any policy that would exclude natural gas from the energy mix.

Dow supports efforts to reduce carbon emissions to address the threat of climate change, he said, but called the current debate in Washington over how to get there polarizing and not rooted in economic realities.

"It's not incrementally more expensive than what we do today, it's much more expensive than what we do today, and the challenge...is the government has to figure out how to pay for it," Mr. Fitterling said. "What we have to do is create a clear rationale for this move to zero carbon, and start to get some economics behind it."

The company, one of the world's largest chemical manufacturers, has a lot at stake in the continuing debate. It has invested billions of dollars in new and expanded U.S. petrochemical

facilities, seeking to capitalize on the bounty of fossil fuels unlocked by fracking to make, among other things, [the little plastic pellets](#) that are eventually fashioned into everything from car parts to shampoo bottles.

Dow supported the Biden administration's decision to rejoin the Paris climate agreement and has set a net-zero target for its carbon emissions by 2050. But Mr. Fitterling said that as the U.S. moves to electrify a wider swath of the economy, it needs to use not only wind and solar power, but nuclear sources and natural gas coupled with carbon capture, a technology that captures emissions.

Democrats' latest proposals eye a plan to encourage utilities to generate more electricity from clean sources, setting a goal of generating 80% of electricity in the U.S. from clean sources by 2030.

Mr. Fitterling said he drew a line at what he saw as proposals to phase out natural gas prematurely. "We don't want to make ourselves vulnerable," he said. "We want to make ourselves more reliable, because we're going to be more electricity-dependent in this new future."

President Biden has outlined a goal of 100% clean-power sources in the U.S. by 2035. To get there, the White House and Democrats are proposing a policy known as a clean-electricity standard that would create massive incentives for cleaner power sources, and penalties for dirtier ones.

The policy is a centerpiece of the [\\$3.5 trillion spending plan](#) passed by Democrats in the House on Tuesday. The details of the policy, like much of the plan, aren't set and will be heavily debated as Democrats seek to pass the blueprint through a budget process known as reconciliation.

The proposal has put natural gas in the crosshairs, making it a flashpoint in the budget debate. Some progressives want to use a clean-energy standard to phase out gas and worry that further investments in gas may lock its use for decades. Moderates fear that the country will suffer [economic and geopolitical harm](#) if it can't keep relying on cheap, domestic gas supplies. Many Democrats want to heed warnings from scientists that aggressively reducing emissions from fossil-fuel consumption is the only way to avert the [most catastrophic outcomes of climate change](#). But progressives and moderates differ on whether the technology exists for power companies to stop those emissions by capturing them or whether the government should just try to stop companies from using those fuels altogether.

Dow is a significant industrial consumer of electricity and natural gas, and **Mr. Fitterling said the transition to cleaner energy sources carries huge costs for businesses that would need to be motivated by financial markets and carefully tailored government policy.**

Mr. Fitterling said Dow supports voluntary emissions caps and creating a market for trading emissions credits, joining other major companies that support such policies, including [Exxon Mobil](#) Corp. But these types of programs, effectively a tax on carbon and other greenhouse-gas emissions, lack broad political support among Republicans and Democrats alike, including President Biden.

That puts many of the favored policies of companies such as Dow on the sidelines, for now.

“We need to get down to some pragmatic discussions and then work our way back to what are the right policies,” Mr. Fitterling said. “The politics is not helping get the right kind of discussion.”

Write to Christopher M. Matthews at christopher.matthews@wsj.com and Timothy Puko at tim.puko@wsj.com

<https://www.maersk.com/news/articles/2021/08/24/maersk-accelerates-fleet-decarbonisation>

A.P. Moller - Maersk accelerates fleet decarbonisation with 8 large ocean-going vessels to operate on carbon neutral methanol

24 August 2021

Copenhagen – In the first quarter of 2024, A.P. Moller - Maersk will introduce the first in a groundbreaking series of 8 large ocean-going container vessels capable of being operated on carbon neutral methanol. The vessels will be built by Hyundai Heavy Industries (HHI) and have a nominal capacity of approx. 16,000 containers (Twenty Foot Equivalent - TEU). The agreement with HHI includes an option for 4 additional vessels in 2025. The series will replace older vessels, generating annual CO₂ emissions savings of around 1 million tonnes. As an industry first, the vessels will offer Maersk customers truly carbon neutral transportation at scale on the high seas.

More than half of Maersk's 200 largest customers have set – or are in the process of setting – ambitious science-based or zero carbon targets for their supply chains. As part of Maersk's ongoing collaboration with customers, corporate sustainability leaders including Amazon, Disney, H&M Group, HP Inc., Levi Strauss & Co., Microsoft, Novo Nordisk, The Procter and Gamble Company, PUMA, Schneider Electric, Signify, Syngenta and Unilever have committed to actively use and scale zero carbon solutions for their ocean transport, with many more expected to follow.

The vessels come with a dual fuel engine setup. Additional capital expenditure (CAPEX) for the dual fuel capability, which enables operation on methanol as well as conventional low Sulphur fuel, will be in the range of 10-15% of the total price, enabling Maersk to take a significant leap forward in its commitment to scale carbon neutral solutions and lead the decarbonisation of container logistics.

"The time to act is now, if we are to solve shipping's climate challenge. This order proves that carbon neutral solutions are available today across container vessel segments and that Maersk stands committed to the growing number of our customers who look to decarbonise their supply chains. Further, this is a firm signal to fuel producers that sizable market demand for the green fuels of the future is emerging at speed." Soren Skou CEO, A.P. Moller - Maersk



Maersk will operate the vessels on carbon neutral e-methanol or sustainable bio-methanol as soon as possible. Sourcing an adequate amount of carbon neutral methanol from day one in service will be challenging, as it requires a significant production ramp up of proper carbon neutral methanol production, for which Maersk continues to engage in partnerships and collaborations with relevant players.

The vessels will be designed to have a flexible operational profile, enabling them to perform efficiently across many trades, and add flexibility regarding customer needs. They will feature a methanol propulsion configuration developed in collaboration with makers including MAN ES, Hyundai (Himsen) and Alfa Laval which represents a significant scale-up of the technology from the previous size limit of around 2,000 TEU. The vessels will be classed by the American Bureau of Shipping and sail under Danish flags.

"We are very excited about this addition to our fleet, which will offer our customers unique access to carbon neutral transport on the high seas while balancing their needs for competitive slot costs and flexible operations. To us, this is the ideal large vessel type to enable sustainable, global trade on the high seas in the coming decades and from our dialogue with potential suppliers, we are confident we will manage to source the carbon neutral methanol needed." Henriette Hallberg Thygesen CEO, Fleet & Strategic Brands, A.P. Moller - Maersk

Replacing Maersk tonnage reaching end-of-life

The new vessels come as part of Maersk's ongoing fleet renewal program and will replace tonnage of more than 150,000 TEU which is reaching end-of-life and leaving the Maersk managed fleet between 2020 and Q1 2024.

CAPEX for the announced vessels is included in current guidance for 2021-2022 of USD 7bn. Maersk further reiterates its strategy of maintaining a fleet capacity in the 4.0 to 4.3 million TEU range, as a combination of Maersk managed and time-chartered vessels.

Customer quotes

H&M Group *"As an industry leader, H&M Group has a responsibility to fight climate change. We have the ambition to become climate neutral by 2030 and climate positive by 2040. We truly believe that our climate actions should be co-created with our partners. Maersk's investment in large vessels operating on green methanol is an important innovative step supporting H&M Group's climate goals within International Freight and we are proud to take part in this pioneer journey."* Leyla Ertur Head of Sustainability - H&M Group

HP Inc *"Sustainability is embedded across our business and remains a core value at HP. We recently announced some of the most ambitious climate action goals in our industry and to achieve them we are implementing more sustainable transportation solutions within our supply chain, including this green fuels collaboration with Maersk. It's an important step for all companies involved to make the greatest impact possible and help combat the climate crisis."* Antoine Simonnet chief supply chain officer - HP Inc

Signify *"Today, the world is finally waking up to the climate crisis. The next decade has to be one of 'climate action.' With Brighter Lives, Better World 2025 – our five-year sustainability program – we've set a new goal to go beyond carbon neutrality and to double the pace at which we will meet the 1.5°C scenario set out by the Paris Agreement. The pledge is to meet this ambitious target across our entire value chain and do this six years early. Our renewed partnership with Maersk will help us to scale zero carbon solutions in our supply chain and logistical operations, providing rich pickings for emission reductions."* Maurice Loosschilder Head of Sustainability – Signify

Unilever *"Unilever is committed to accelerating the transition to clean transport solutions, not just in our own operations but along global value chains as we work to achieve net zero emissions by 2039. With logistics and distribution accounting for around 15% of our greenhouse gas emissions footprint, it's important that we work with partners shifting to lower carbon fuels. We are proud to partner with Maersk as they pioneer carbon neutral transportation on the high seas."* Michelle Grose Head of Logistics and Fulfilment – Unilever

About A.P. Moller - Maersk

A.P. Moller - Maersk is an integrated container logistics company working to connect and simplify its customers' supply chains. As the global leader in shipping services, the company operates in 130 countries and employs around 80,000 people. For more information [check](#) here.

China announces massive greening plan to achieve carbon goals

Updated: Aug 25, 2021 07:30 AM Xinhua

BEIJING — China plans to plant 500 million mu (about 33.33 million hectares) of forests and grasslands in the next five years — 100 million mu per year — to help achieve its carbon emission reduction goals, according to the country's forestry authorities.

The task includes planting 54 million mu of trees and 46 million mu of grass each year, said Zhang Wei, head of the ecological protection and restoration department of the National Forestry and Grassland Administration (NFGA).

The afforestation plan is part of China's efforts to fulfill its commitment to peaking carbon dioxide emissions by 2030 and achieve carbon neutrality by 2060, as forests and grasslands are important carbon sinks that absorb and store carbon dioxide from the atmosphere.

China aims to increase its forest coverage rate to 24.1 percent and its grassland vegetation coverage to 57 percent by 2025, as outlined in the country's 14th Five-Year Plan (2021-2025) on the protection and development of forests and grasslands.

The country also aims to raise its forest stock volume to 19 billion cubic meters by the end of 2025, an increase of 1.4 billion cubic meters from last year.

The carbon peak and carbon neutrality targets are a huge opportunity for the development of forests and grasslands, as the country eyes the expansion of forest coverage and the improvement of forest quality to facilitate attainment of the climate goals and contribute to global ecological security.

China's forest carbon reserves have hit 9.2 billion metric tons, with an average annual increase of over 200 million tonnes over the past five years, which is equivalent to a carbon sink of 700 million to 800 million tons, according to NFGA data.

The country has created the world's largest planted forests, raising its forest cover from 12 percent in the early 1980s to 23.04 percent in 2020, with its forest stock volume hitting 17.56 billion cubic meters.

As a result of sustained forest conservation and tree planting efforts, at least 25 percent of the global foliage expansion since the early 2000s came from China, according to a study published in the journal *Nature Sustainability* in 2019.

In addition to afforestation, Zhang said work will be carried out to improve the quality of forests and their ability to reserve carbon. He said work will be done to protect natural resources to reduce carbon pool loss, and forest bioenergy will be developed. Construction materials such as steel and cement will be replaced with bamboo and timber to cut emissions.

Over the next five years, China will also improve its measuring and monitoring of carbon sinks, promote carbon sink trading, and explore ways to build a platform for forest and grassland carbon sink trading, he said.

In Inner Mongolia, an important ecological barrier in north China, an average of 600,000 hectares of land have been afforested annually over the past five years, raising the region's forest coverage rate to 22.1 percent.

Local forestry authorities in the region's Greater Hinggan Mountains forest area have been piloting a carbon sink trading project since 2014, allowing companies that surpass their emission caps to purchase carbon sinks in the area to offset excess emissions.

By April this year, the transaction volume of the carbon sink trade in the area totaled 4.9 million yuan (about \$756,114).

Zhang said that the participation of private capital in the carbon emissions reduction campaign will be encouraged, and the government is ready to help key regions, organizers of major events, enterprises and the public to achieve carbon neutrality with forest and grassland carbon sinks.

Concern about endangered whales cited in suit over wind farm

By PHILIP MARCELO yesterday

BOSTON (AP) — The construction of dozens of wind turbines off the coast of Nantucket threatens the survival of a dwindling number of endangered Northern Atlantic right whales that inhabit the waters, a group of residents on the affluent resort island in Massachusetts argue in a [federal lawsuit](#) filed Wednesday.

ACK Residents Against Turbines said Vineyard Wind's proposed project of some 60 turbines 14 miles (22 kilometers) south of the island is located in a crucial area for foraging and nursing for the species, which researchers estimate number less than 400.

Mary Chalke, a Nantucket resident and member of the opposition group, said the lawsuit isn't just about Vineyard Wind, but other turbine projects also in the pipeline up and down the Eastern Seaboard.

"We all want renewable energy," she said after the group filed the suit in Boston federal court. "This represents the transformation and industrialization of a pristine natural environment."

The U.S. Bureau of Ocean Energy Management and the National Oceanic and Atmospheric Administration, which are named in the suit, declined to comment, citing the pending litigation. Vineyard Wind, a joint project of a Danish company and a U.S. subsidiary of the Spanish energy giant, Iberdrola, also declined to comment.

But the American Clean Power Association, a group that represents renewable energy companies, stressed the project has undergone a lengthy environmental review, permitting and public comment process.

"It appears this lawsuit is being brought by residents motivated by aesthetic concerns as much as anything alleged in their complaint," Tom Vinson, a vice president with the association, said in a statement.

Vallorie Oliver, a Nantucket resident, acknowledged that visibility of the towering structures — which could be as tall as 850-feet (260 meters) and eclipse Boston's 790-foot (240 meter) Hancock Tower — is among the group's concerns.

But she argues federal officials also haven't provided adequate research to back up their claims that the wind project will have minimal impact on right whales and other marine life.

"We're simply asking for real science-based answers to the impact on our natural environment," she said, speaking with other group members in front of the Massachusetts Statehouse.

[Approved in May](#), the nearly \$3 billion, 800-megawatt project would be the first utility-scale wind power development in federal waters. It's slated to become operational in 2023 and create enough electricity to power 400,000 homes.

The project and Ocean Wind, a proposed 1,100-megawatt offshore wind project off New Jersey, are keystones in the Biden administration's push to [grow offshore wind](#) as a way to fight climate change and create jobs.

The projects could be joined by as many as five other large scale projects totaling more than 2,000 turbines across 2,000 square miles (5,180 square kilometers) of ocean, according to ACK Residents Against Turbines.

Despite the enthusiasm, U.S. offshore wind development is still far behind progress made in Europe. A small wind farm operates near Block Island in waters controlled by the state of Rhode Island, and another small wind farm operates off the coast of Virginia.

The Nantucket group, whose name references the three-letter code for the island's airport, is the latest effort opposed to large scale wind projects.

Fishermen who ply the lucrative waters from New Bedford, Massachusetts, to Montauk, New York, have [long worried](#) about the potential impacts to their livelihood.

Bob Vanasse, who heads the fishing advocacy group Saving Seafood, said Vineyard Wind and other projects proposed in the region could impact a range of significant fisheries, including squid, clams and scallops.

"There are a number of groups in various fisheries who have raised concerns about the insufficiency of the planning and review effort," he said Wednesday. "This group is far from alone in that."

Vineyard Wind also comes years after the infamous Cape Wind project, which failed after bitter litigation from another group that included Nantucket property owners.

Supporters of Vineyard Wind have said the newer project is better sited than Cape Wind, which was proposed closer to shore.

Recent wind projects proposed off North Carolina and New York, though, have been pushed farther offshore after environmental concerns were raised, said David Stevenson, of the Caesar Rodney Institute, a Delaware-based group that also opposes wind farm proposals.

He argued that Vineyard Wind's project should be placed as far as 30 miles (48 kilometers) from shore.

"Fifteen miles was not okay in North Carolina or Long Island, then why is it okay for Nantucket?" Stevenson said. "It's just wrong."



Dan Tsubouchi @Energy_Tidbits · 4h

...

#OPEC+ "we must be careful and reconsider this increase. there may be a halt to the 400,000 (bpd) increase" says Kuwait oil minister. Early given #Pemex #HurricaneIda #Oil supply interruptions? OPEC+ meeting Wed. Wonder what Abdulaziz believes? #OOTT



OPEC+ could reconsider output increase, says Kuwaiti oil minister
The 400,000 barrel per day increase in oil output agreed by OPEC+ nations in previous gatherings might be reconsidered at its next meet...
[reuters.com](#)



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Dan Tsubouchi @Energy_Tidbits · 4h

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Here is our SAF Group detailed map of #Oil refineries terminals in New Orleans in direct path of #HurricaneIda, now a Cat 4 at 140 mph making landfall shortly. Hope people can be as safe as possible. #OOTT #NatGas

safgroup.ca



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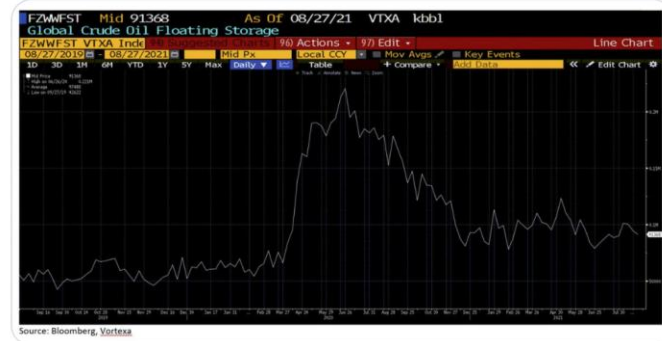
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Dan Tsubouchi @Energy_Tidbits · 22h

Increased #OPEC+ #Oil since June not being fully absorbed by market. Vortexa floating crude oil storage estimated 08/27 at 91.37 mmb, down vs revised 08/20 of 94.30 mmb. Closer but still +12.57 mmb vs 06/25 revised trough of 78.80 Thx @Vortexa @TheTerminal #OOT



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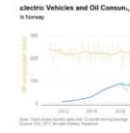
Dan Tsubouchi @Energy_Tidbits · Aug 28

Thx @ronbousso1 for highlighting #EVs are growing but #Oil consumption is much more than passenger vehicles use of #Gasoline. Here is the @bp_plc historical split of oil consumption by end product for EU in total. #OOT

J1: Regional consumption - by product group													Growth rate per annum		Share	
Thousand barrels daily	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	2008-19	2020	2010	
of which: European Union	2718	2534	2412	2304	2249	2266	2296	2304	2274	2119	-6.6%	-1.9%	21.7%	22.7%		
Light distillates	1873	1802	1716	1670	1666	1641	1649	1633	1573	1377	-12.5%	-1.2%	14.1%	13.9%		
of which: gasoline	1545	931	896	884	846	808	817	835	782	700	-16.0%	-3.3%	7.8%	8.0%		
Medium distillates	5912	5783	5598	5627	5537	5770	5871	6029	6049	6113	-16.0%	0.5%	52.6%	49.3%		
of which: diesel/gas oil	5987	4847	4782	4810	4713	4913	4973	5098	5036	5077	-19.9%	0.1%	47.9%	42.4%		
of which: jet/kerosene	825	836	817	817	824	858	898	961	1012	1036	-55.3%	2.4%	4.7%	6.9%		
Fuel oil	1148	1106	1003	885	820	784	822	825	852	824	-31.0%	-3.9%	5.8%	9.6%		
Others	2220	2209	2140	2088	2076	2108	2132	2166	2143	2087	-4.5%	-0.8%	20.0%	18.5%		
of which: ethane and LPG	667	662	677	796	796	781	798	822	838	799	-9.9%	1.9%	7.4%	5.6%		
Total European Union	11989	11632	11154	10954	10748	10911	11099	11218	11248	11299	-13.9%	-6.7%	100.0%	100.0%		



Ron Bousso @ronbousso1 · Aug 27



Interesting note from Morgan Stanley looking at why in Norway, where electric vehicles made 64% of new car sales, #oil consumption hasn't declined:

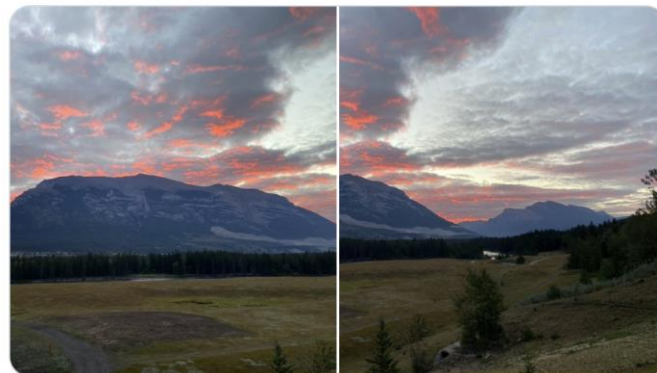
- Cars are only 20-25% of oil demand...

3 8



Dan Tsubouchi @Energy_Tidbits · Aug 28

great sunrise in #Canmore looking over the Bow River



6



Items in "italics" are SAF Group created transcript

So we've developed a comprehensive strategy that we're going to be talking about with two goals. The first goal is to **stop Iran on its regional aggression and start rolling it back into the box**. And the second is **to permanently keep Iran away from ever being able to break out to nuclear weapon**. As I told you Mr. President, Israel never have and never will ask America to send troops to defend ourselves. That's our job. **We will never outsource our security. It's our responsibility to take care of our fate.** But we do thank you for the tools and the back you've been giving us and you're giving us."

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



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Dan Tsubouchi @Energy_Tidbits · Aug 27

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Agoco shut in would put at risk ~280,000 b/d Libya Sarir crude oil. Thx @Platts @eklavyagupte #OOTT #OPEC

spglobal.com/platts/en/mark...



Dan Tsubouchi @Energy_Tidbits · Aug 27

No oilfield/plant workers = shut in production. Libya oil shut in will happen soon if no pay/budget deal. Agoco Facebook posting says don't have money to continue to have "presence of workers in the company's fields and sites". #OOTT #OPEC
facebook.com/Agocoarabian

...ances that the company has become completely unable to continue its activity and carry out its work without conducting its business without referring the budgets for the years 2020 and 2021 to it or monetizing the funds ...ide budgets And money, which led to the accumulation of debts and obligations, its inability to provide the ...ements, and its inability to continue the technical or service contractual obligations associated with the

...hout the availability of budgets and funds to run its business, and it will be forced to suspend all activities and ...duction.

...ances that the company has become completely to its activity and carry out its allocating the company, and that ...g the two budgets in 2020 And 2021 for it or the money required to carry out the work despite the continued ...of debt and liabilities, its inability to provide necessary spare parts, equipment, operating and production ...ractical obligations associated with the presence of workers in the company's fields and sites. The company will ...operate,



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Dan Tsubouchi @Energy_Tidbits · Aug 27

...

No oilfield/plant workers = shut in production. Libya oil shut in will happen soon if no pay/budget deal. Agoco Facebook posting says don't have money to continue to have "presence of workers in the company's fields and sites". #OOTT #OPEC
facebook.com/Agocoarabian

<https://www.facebook.com/Agocoarabian>

Arabian Gulf Oil Company - Agocoarabian

View Content (Web 2.2)

The management committee of the Arabian Gulf Oil Company announces that the company has become completely unable to continue its activity and carry out its work without allocating the necessary funds for this, and that the company was conducting its business without referring the budgets for the years 2020 and 2021 to it or monetizing the funds required to carry out the work despite continuous promises to provide budgets And money, which led to the accumulation of debts and obligations, its inability to provide the necessary spare parts, equipment, operating and production requirements, and its inability to continue the technical or service contractual obligations associated with the presence of workers in the company's fields and sites.

Therefore, the company will not be able to continue to operate without the availability of budgets and funds to run its business, and it will be forced to suspend all activities and works unless it is provided with the funds necessary to operate production.

The management committee of the Arabian Gulf Oil Company announces that the company has become completely to its activity and carry out its allocating the company, and that the company has been unable to fund its business without referring the two budgets in 2020 And 2021 for it or the money required to carry out the work despite the continued promises to provide budgets and funds, which led to accumulation of debt and liabilities, its inability to provide necessary spare parts, equipment, operating and production requirements, and its inability to continue technical or service contractual obligations associated with the presence of workers in the company's fields and sites. The company will not be able to continue working without the budgets and funds to operate.

Translated



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Dan Tsubouchi @Energy_Tidbits · Aug 27

"Not Ready for Prime Time" is how to describe #G7 push to accelerate #EnergyTransition. Its happening but will take longer, cost more & as Japan is warning, be a bumpy road. METI already warning more severe power shortfalls ahead. Thx @SStapczynski #NatGas #LNG will be needed



Stephen Stapczynski @SStapczynski · Aug 26

Japan may encounter more severe power shortfalls in the fiscal year ending March 2023 than before as power companies plan to shut thermal plants, according to METI

~12GW of thermal power capacity will be suspended or scrapped by FY2024

[Show this thread](#)

厳気象H1需要

※安定供給に最低限必要な水準は3%。9月の東京・中部エリアについても、現時点では3%を満たしていないため、今後、補修調整等の追加的対策が必要。

	7月	8月	9月	12月	1月	2月	3月
北海道	12.9%	18.9%	23.8%	14.1%	9.0%	11.4%	16.2%
東北	8.4%	5.0%	7.8%	13.2%	9.0%	11.4%	16.2%
東京	3.0%	5.0%	2.4%	9.5%	-2.1%	-2.4%	0.8%
中部	3.0%	5.0%	2.4%	9.5%	6.6%	3.2%	9.1%
北陸	3.0%	5.0%	7.9%	9.5%	6.6%	5.4%	14.1%
関西	3.0%	5.0%	7.9%	9.5%	6.6%	5.4%	14.1%
中国	3.0%	5.0%	7.9%	9.5%	6.6%	5.4%	14.1%
四国	3.0%	5.0%	7.9%	9.5%	6.6%	5.4%	14.1%
九州	3.0%	5.0%	19.7%	9.5%	6.6%	5.4%	14.1%
沖縄	28.8%	29.2%	34.3%	30.7%	31.3%	51.2%	63.1%

関調

11



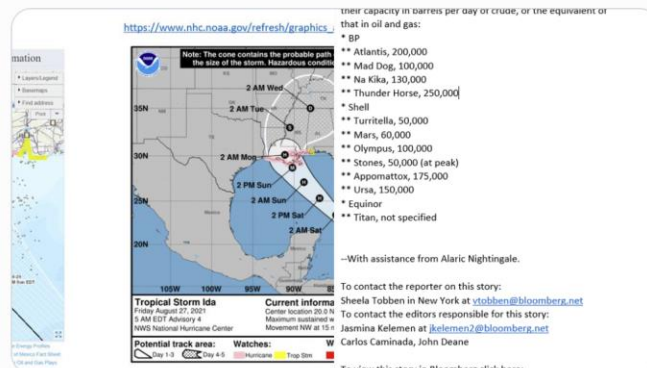
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Dan Tsubouchi @Energy_Tidbits · Aug 27

Thx @vtobben for recap already ~1.2 mmb/d offshore GoM #Oil #NatGas production shut in. This is for "major", so total is much higher. #Ida to hit #Hurricane strength today, hit major offshore deepwater platforms Sat, then major LA refineries, #LNG Sun. Great map @EIAgov #OOTT



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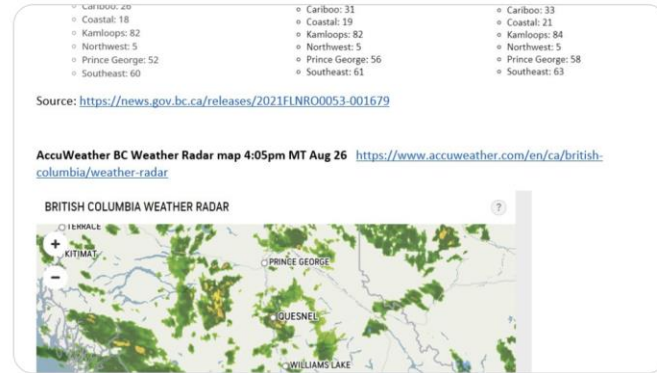




Dan Tsubouchi @Energy_Tidbits · Aug 26

...

Finally getting drop in BC #Wildfires. BC Aug 26 update shows 243 wildfires as of last night. Decent weather conditions hopefully help contain & reduce wildfires. Thx to the many firefighters & emergency services for huge dedication to the 🇨🇦 public.
news.gov.bc.ca/releases/2021F...



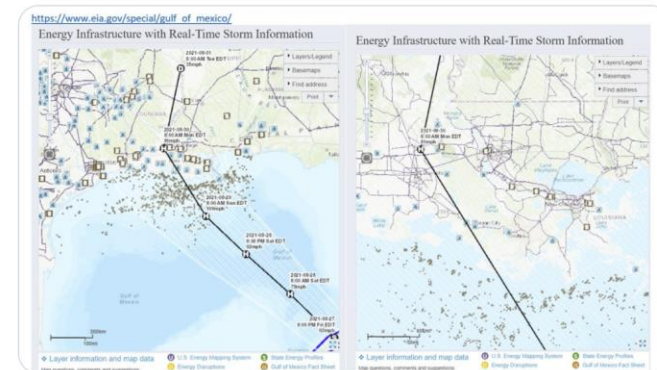
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Dan Tsubouchi @Energy_Tidbits · Aug 26

...

Great @EIAgov interactive map system, shows potential #Hurricane strength impact w/ path right thru heart of offshore deepwater #Oil #NatGas fields, and towards major refineries in LA. reminder the east side of hurricanes tend to have more damage. #OOTT eia.gov/special/gulf_o...



National Hurricane Center @NHC_Atlantic · Aug 26

Here are the 11 am EDT Thursday, August 26 Key Messages for Tropical Depression #Nine. The risk of life-threatening storm surge, damaging winds, and heavy rainfall is increasing for portions of the northern Gulf coast...

3 2



Dan Tsubouchi @Energy_Tidbits · Aug 26

Still a few days away, but looking like expected [#TropicalStorm](#) development to go right thru the heart of offshore GoM [#Oil](#) [#NatGas](#) fields, and landfall somewhere in the major LA/TX refineries and [#LNG](#) export terminals. [#OOTT](#) thx @TropicalTidbits @EdValleeWx



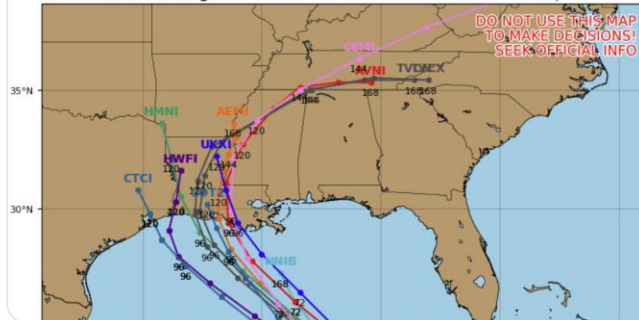
Ed Vallee | Empire Weather LLC @EdValleeWx · Aug 26

96 hours from now may be pretty interesting along the LA coast... [#99L](#) [#energy](#) [#oott](#)

Invest 99L Model Track Guidance

Initialized at 06z Aug 26 2021

Levi Cowan - tropicaltidbits.com



Dan Tsubouchi @Energy_Tidbits · Aug 25

Cdn [#Oil](#) [#NatGas](#) co's watch out. Big banks are easy target. Note why [#Trudeau](#) "ask" for double hit to big banks - done very well post Pandemic. [#Oil](#) [#NatGas](#) is already at risk as fossil fuels, but now also making big profits. Other logical target higher income/wealthy Cdns [#OOTT](#)

@CPAC_TV video of PM Trudeau on Aug 25 that he will "ask" big financial institutions to pay a little more.

Note: This "ask" is a double hit - higher taxes & "also" to contribute more to new Canada Recovery Dividend

Aug 25. https://twitter.com/CPAC_TV/status/1430582861686624264

Items in "italics" are SAF Group created transcript

0:01 min mark. *"this pandemic has been really hard on so many Canadians, so many small businesses. but the truth is for some businesses, it's been really good. look no further than the financial institutions. Big banks and insurance companies have been doing very well over these past many months."*

At 1:00 min mark, *"and for your part, you worked very hard, you tightened your belt. Because you did that, because you sacrificed, because you saved, big banks got a windfall. So as we rebuild, we're going to ask big financial institutions to pay a little back, to pay a little more so that we can do more for you. and in particular so that we can help you own your home. so own your future. we will raise the corporate income tax rate for Canada's largest banks and insurance companies by 3 percentage points on all earnings over a billion dollars. We'll also establish the Canada Recovery Dividend so these institutions contribute more over the next four years of Canada's recovery."*

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



CPAC @CPAC_TV · Aug 25



"Because you sacrificed, because you saved, big banks got a windfall," says Justin Trudeau in Surrey, B.C., as he explains Liberals' proposal to raise corporate income tax rate on largest banks and insurance companies and to establish Canada Recovery ...





Dan Tsubouchi @Energy_Tidbits · Aug 25

#FedExCup. let's hope @GolfChannel @damonhackGC is right on potential dark horse pack to win 🇨🇦@coreconn



3



Dan Tsubouchi @Energy_Tidbits · Aug 25

ICYMI. High #LNG prices means Japan has been giving priority to thermal coal in what's been a hot summer. Japan LNG imports July 9.58 bcf/d, +2.5% YoY, +4.9% MoM, whereas thermal coal imports July were +10.9% YoY, +27% MoM. #NatGas

customs.go.jp/toukei/shinbun...

Prepared by SAF Group

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

Source: Japan Ministry of Finance



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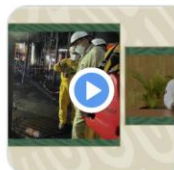
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Dan Tsubouchi @Energy_Tidbits · Aug 25

#Pemex says restored 71,000 b/d so far, another 110,000 b/d in next 36 hrs, balance 240,000 b/d by Mon. Video incl good look at damage. Thx lkassai@bloomberg.net for translation. #OOTT

Pemex restoring oil production video update.



Mensaje del director general de PEMEX, Ing. Octa...
Mensaje del director general de Petróleos Mexicanos, Ing. Octavio Romero Oropeza
youtube.com



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Dan Tsubouchi @Energy_Tidbits · Aug 25

Positive for global #LNG #NatGas prices this winter if #NordStream2 5.3 bcf/d capacity doesn't start for Nov 1 as its the biggest relief valve to global prices. Better hope its not a cold winter in Asia/Europe. Good read from @kmatusek @vanessadezem @SStapczynski



Stephen Stapczynski @SStapczynski · Aug 25

Nord Stream 2, the controversial gas pipeline project owned by Gazprom, lost a court case to sidestep EU rules separating production from transportation ••

The decision (while widely expected) may delay NS2's start just as Europe faces a supply crunch

[bloomberg.com/news/articles/...](https://www.bloomberg.com/news/articles/...)

[Show this thread](#)



2

4



Dan Tsubouchi @Energy_Tidbits · Aug 24

India's #Oil consumption up again in July. India monthly #PetroleumProducts consumption in July +2.9% MoM, followed June +8.1% MoM off May trough. Good monthly report from India's Petroleum Planning & Analysis Cell. #OOTT

ppac.gov.in/WriteReadData/...



Excerpt Petroleum Planning & Analysis Cell "Industry POL & NG Consumption Report, July 2021" Posted Aug 24, 2021
<https://www.ppac.gov.in/WriteReadData/Reports/202108240128159926904IndustryConsumptionJuly2021WebVer.pdf>

Consumption

The growth (%) in consumption of petroleum products, category-wise, for the month of July 2021 is given in Table-1.

Table-1: Petroleum Products Consumption (Quantity in TMT)

Product Type	Share %	July - 2020	July - 2021	Growth (%)	Products Included
Sensitive Products	14.8	2421	2498	3.1	SKO & LPG
Major Decontrolled Products	68.7	10572	11555	9.3	HSD, MS, Naphtha, Lubes, LDO, FO/LSHS, Bitumen & ATF
Minor Decontrolled Products	16.5	2607	2773	6.4	Petcoke & other minor products
Total	100	15600	16825	7.9	

Petroleum Planning & Analysis Cell



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Dan Tsubouchi @Energy_Tidbits · Aug 22

...

No word from @Pemex yet as to cause, effect, injuries. Lets hope injured being taken to hospital aren't badly injured. Hoping the best for #Pemex employees. #OOTT



Alertas #CiudadDelCarmen @SocorrosCarmen · Aug 22

22/08/21 -Explosión en plataforma petrolera Ku- Alfa en la Sonda de Campeche, heridos son trasladados vía helicópteros a #CiudadDelCarmen, ambulancias a la espera en el helipuerto.



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Dan Tsubouchi @Energy_Tidbits · Aug 22

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Our weekly SAF Aug 22, 2021 Energy Tidbits memo was just posted to our SAF Group website. This 49-pg energy research piece expands upon and covers many more items than tweeted this week. See the research section of the SAF website #Oil #OOTT #LNG #NatGas safgroup.ca/news-insights/

SAF GROUP

Energy Tidbits

Aug 22, 2021

Produced by: Dan Tsubouchi

Siemens CEO Bruch "The Energy Transformation Will Cost a Lot of Money"

Welcome to new Energy Tidbits memo readers. We are continuing to add new readers to our Energy Tidbits memo, energy blogs and tweets. The focus and concept for the memo was set in 1999 with input from PMs, who were looking for research (both positive and negative items) that helped them shape their investment thesis to the energy space, and not just focusing on daily trading. Our priority was and still is to not just report on events, but also try to interpret and point out implications therefrom. The best example is our review of investor days, conferences and earnings calls focusing on sector developments that are relevant to the sector and not just a specific company results. Our target is to write on 48 to 50 weekends per year and to post by noon mountain time on Sunday.



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