Energy Tidbits

Huge Energy Week: RUS Invades Ukraine, JCPOA Deal Getting Close, Nord Stream 2 Halted, Shell's Bullish LNG View

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February 27, 2022

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https://bc-cb.rcmp-grc.gc.ca/ViewPage.action?siteNodeId=2130&languageId=1&contentId=73579

Police look to the public to help identify those individuals responsible for the acts of violence at Coastal Gas Link

Houston

2022-02-22 15:43 PST

File # 2022-310

Police look to the public to help identify those individuals responsible for the acts of violence and damage done at the Coastal Gas Link (CGL) camp near Houston on Thursday, February 17, 2022.

Video footage obtained by investigators show several people, some armed with axes; storm the property, attack a company vehicle while an employee was inside the truck.

The unknown individuals, who were similarly dressed, swung axes at the vehicle; spray painted the window and ignited what is suspected to be a flare gun. Thankfully, the CGL employees were not physically harmed.

Our investigation remains ongoing, with the site awaiting for an environmental analysis to be conducted from the damaged heavy machinery. Access to the area remains controlled at this time to ensure the safety of analysts and investigators, and to preserve evidence at the scene

If you have any information about this or know who the individuals are, you are asked to contact the Houston RCMP at (250) 845-2204.

Video #1

Video shows two people armed with axes walking up to a vehicle

Share this video

PlayMute

Current position:00:00:07
Total time:00:00:08

Show closed captioning

Transcription

Video #2

Video shows two people with axes walk up to a pickup truck, hit the truck with the axe as the vehicle backs up then drives forward

Share this video

PlayMute

Current position:00:00:10
Total time:00:00:11

Show closed captioning

Transcription

Video #3

Video shows several people, similarly dressed, one wearing a strobe light, swinging axes, spray painting and setting off flare guns.

Share this video

PlayMute

Current position:00:00:33
Total time:00:00:34

Show closed captioning

Transcription

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https://www.shell.com/media/news-and-media-releases/2022/lng-industry-rebounds-in-2021-amid-supply-constraints-and-volatile-prices.html

LNG industry rebounds in 2021 amid supply constraints and volatile prices

Feb 21, 2022

The global trade in liquefied natural gas (LNG) increased 6% to 380 million tonnes during 2021 as many countries rebounded from the economic impact of the COVID-19 pandemic, according to Shell's latest annual LNG Outlook published today.

Rising LNG demand, combined with supply constraints, caused gas and LNG prices to remain volatile throughout the year. Prices reached record levels in October 2021 as Europe, with historically low storage levels, struggled to secure LNG cargoes to meet expected winter gas demand.

The volatility emphasises the need for a more strategic approach to secure reliable and flexible gas supply in future to avoid exposure to price spikes. An LNG supply-demand gap is forecast to emerge in the mid-2020s and focuses attention on the need for more investment to increase supply and meet rising LNG demand, especially in Asia.

"Last year showed just how crucial gas and LNG are in providing communities around the world with energy they need as they strived to get back on track following the difficulties caused by the COVID-19 pandemic." said Wael Sawan, Integrated Gas, Renewables and Energy Solutions Director at Shell.

"As countries develop lower-carbon energy systems and pursue net-zero emissions goals, focusing on cleaner forms of gas and decarbonisation measures will help LNG to remain a reliable and flexible energy source for decades to come."

LNG exports grew in 2021 despite a number of unexpected outages that dented LNG available for delivery. The USA led export growth with a year-on-year increase of 24 million tonnes and is expected to become the world's largest LNG exporter in 2022.

China and South Korea led the growth in LNG demand in 2021. China increased its LNG imports by 12 million tonnes to 79 million tonnes, surpassing Japan to become the world's largest LNG importer.

During 2021 Chinese LNG buyers signed long-term contracts for more than 20 million tonnes a year, signalling an ongoing role for LNG in coal-to-gas switching in powering key sectors and helping to reach its ambition to be carbon neutral by 2060.

Overall, global LNG demand is expected to cross 700 million tonnes a year by 2040, a 90% increase on 2021 demand. Asia is expected to consume the majority of this growth as domestic gas production declines, regional economies grow and LNG replaces higher-emissions energy sources, helping to tackle concerns over air quality and to help progress towards carbon emissions targets.

LNG has a key role to play to further the use of renewable energy and as a backup in the event of intermittent supply. Brazil, for example, tripled imports of LNG during 2021 – to over 7 million tonnes – as persistent dry weather led to weaker hydropower generation.

Successful efforts to reduce emissions from natural gas and develop cleaner pathways will bolster this role. During 2021, momentum picked up for decarbonising the LNG value chain with several announcements around investments to address emissions.

To view Shell's LNG Outlook 2022, visit www.shell.com/lngoutlook

01 Natural gas plays a significant role in progressing NZE ambitions

Around the world, more countries announced net-zero emissions targets, adding pressure to decarbonise energy systems. As a reliable, available and lower-emissions energy source, gas has an important role in supporting this transition, both as a partner to renewables for grid stability and an immediate option to lower emissions in hard-to-electrify sectors.

Multiple outlooks differ on the share of gas in the long-term energy mix, but there is agreement that it will continue to be needed. Decarbonising gas and liquefied natural gas (LNG) value chains and developing cleaner pathways will strengthen their role in the energy transition.

02 2021 showed fragility and interdependence of the energy system

A faster than expected economic rebound following the lifting of pandemic lockdowns, extended European winter and drought conditions in Brazil accelerated demand for LNG in 2021, a year which also saw gas supply constraints. Prices remained pressured all year, reaching record levels towards the end of the year with European gas storage levels at historical lows and continued uncertainty around Russian gas supplies. Rising coal prices and carbon prices added further pressure.

China overtook Japan as the world's largest LNG importer while US led growth in LNG exports.

03 Energy security, emissions and economic growth in Asia to drive future LNG demand

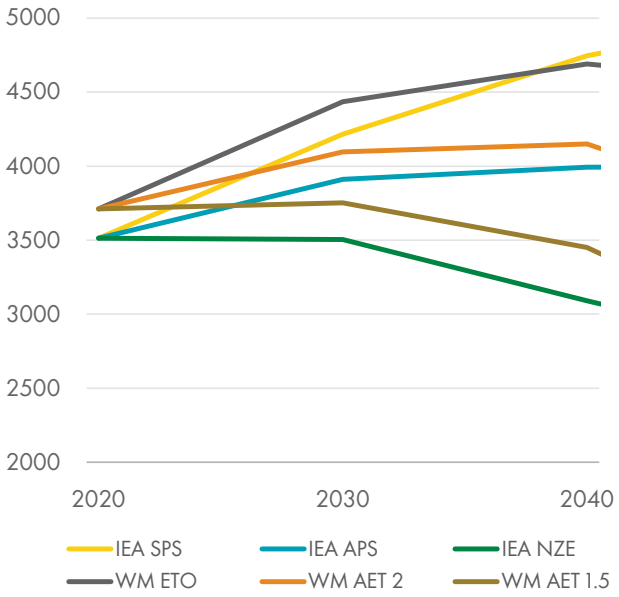
LNG has a key role to play as a reliable and lower-emission energy source, particularly in Asia, replacing declining domestic gas production, enabling coal-to-gas switching and supporting economic growth. The volatility in energy prices in 2021 shows how the energy market can destabilise quickly without sufficient reliable supply. The global LNG market is expected to remain tight in the near term, with a supply-demand gap forecast to emerge in the middle of the current decade.

2021 saw increased momentum in efforts to decarbonise the LNG value chain, a crucial factor for its long-term role in the energy mix.

The role of gas in a changing energy system

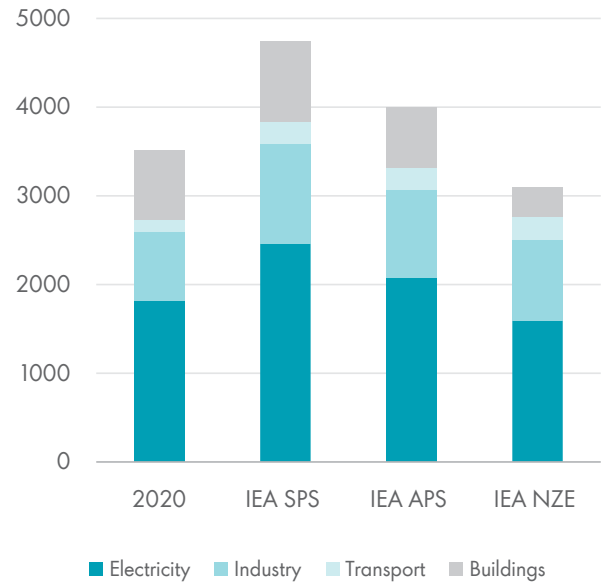
Gas scenarios 2020-2040

BCM

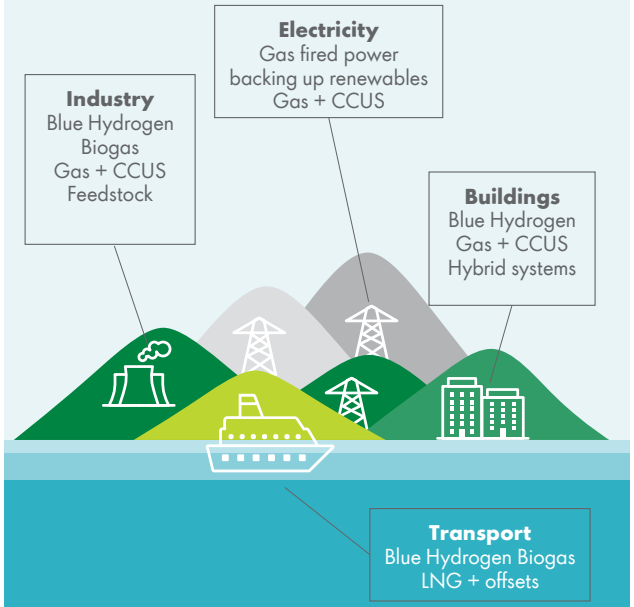


Gas demand by sector in 2040

BCM



Use of gas in a decarbonised world

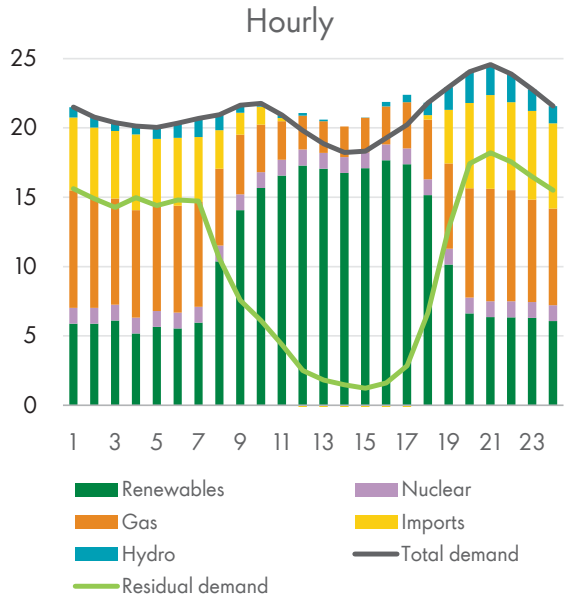


Source: Shell's interpretation of IEA World Energy Outlook 2021 and Wood Mackenzie 2021 data
Wood Mackenzie's Energy Transition Outlook (ETO) and Accelerated Energy Transition (AET); IEA's Stated Policies Scenario (SPS), Announced Pledges Scenario (APS) and Net Zero Emissions Roadmap (NZE).

Gas is there when the sun does not shine, wind does not blow or rain does not fall

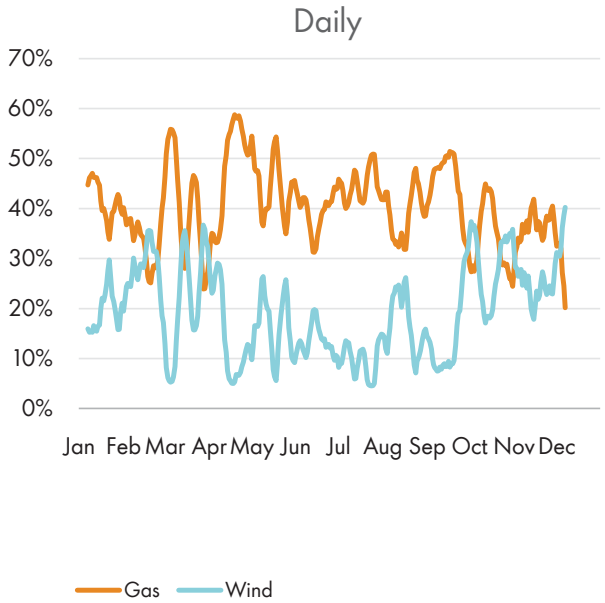
California electricity mix 24-04-2021

GW



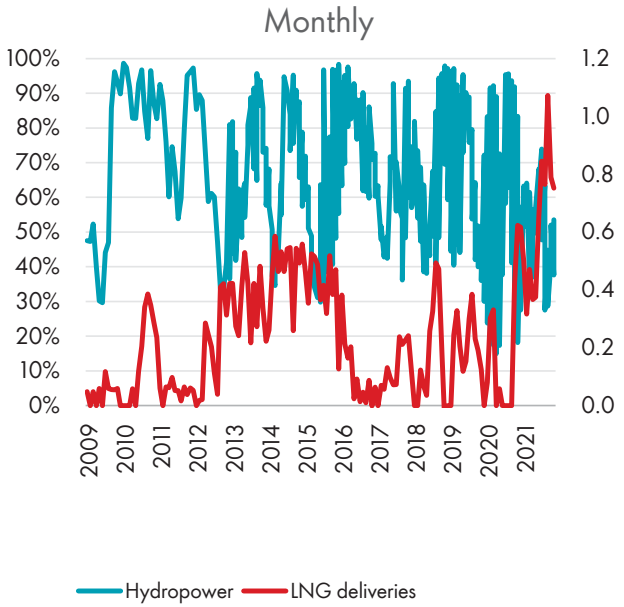
Share of UK generation 2021

7 day rolling average



Brazil hydro levels & LNG deliveries

% hydropower available LNG MT



Source: Shell's interpretation of California Independent System Operator, National Grid, Grid Watch UK, IHS Markit, ONS and ANP 2021 and 2022 data

Electricity sector

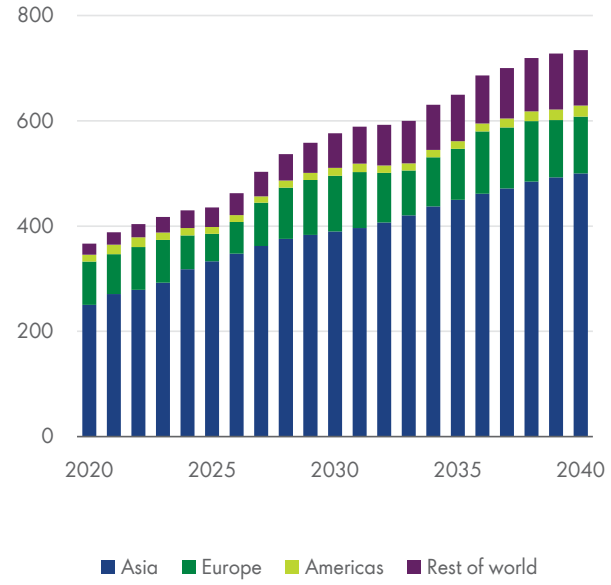
Asian gas demand to drive future LNG growth

LNG needed to replace declining domestic gas and coal-to-gas switching

Shell LNG Outlook 2022

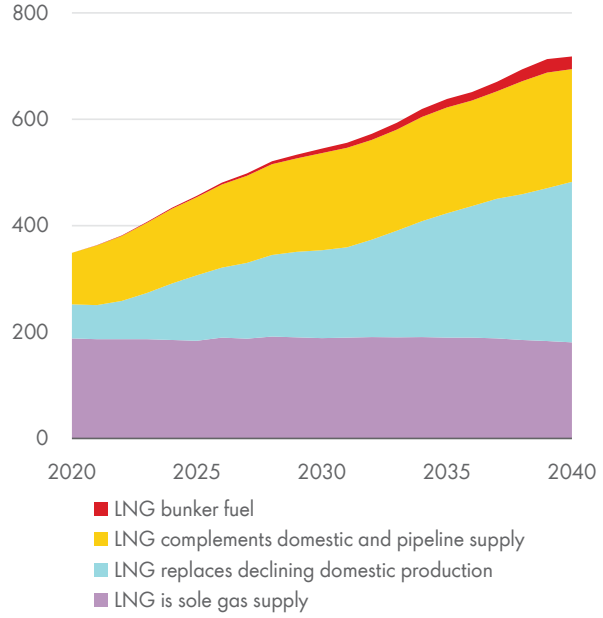
LNG imports by region

MTPA



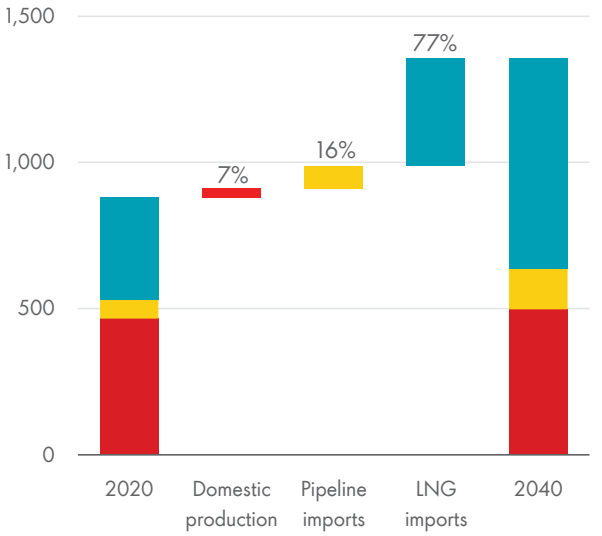
Demand drivers of LNG in Asia

BCM



Asian gas demand by supply source

BCM



Source: Shell interpretation of Wood Mackenzie 2021 data

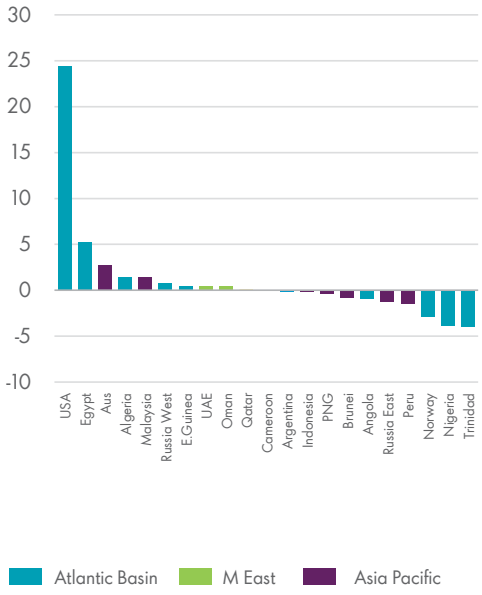
Domestic production is net of LNG exports

Global LNG supply increases by 21 million tonnes

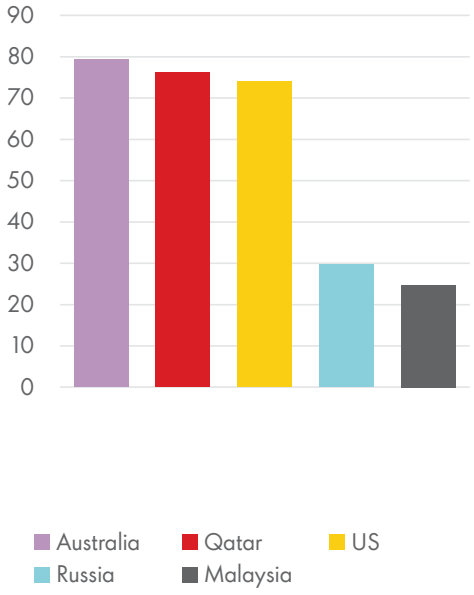
US LNG export growth offsets supply constraints elsewhere

Shell LNG Outlook 2022

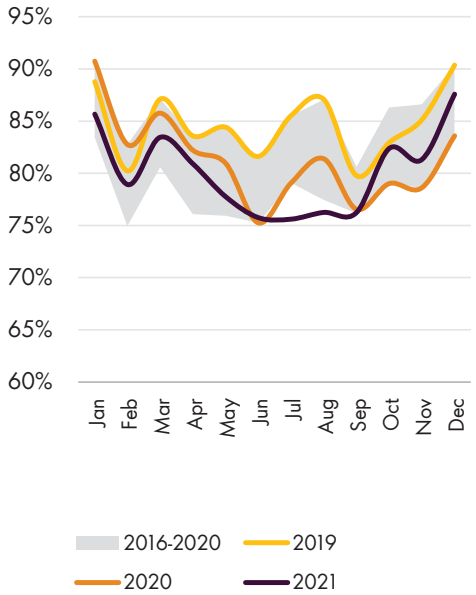
Net LNG exports 2021 y-o-y
MT



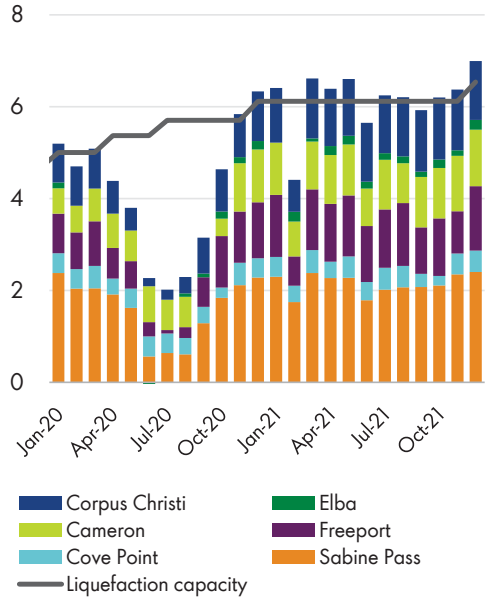
Top exporting countries 2021
MT



Non-US liquefaction utilisation
%



US exports by month vs capacity
MT

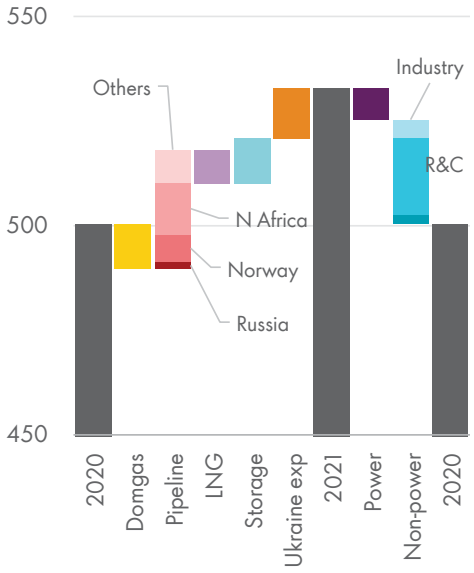


Shell interpretation of Kpler, Wood Mackenzie & Customs 2021 data

Extended winter, economic rebound and gas supply constraints kept European gas storage at historical lows

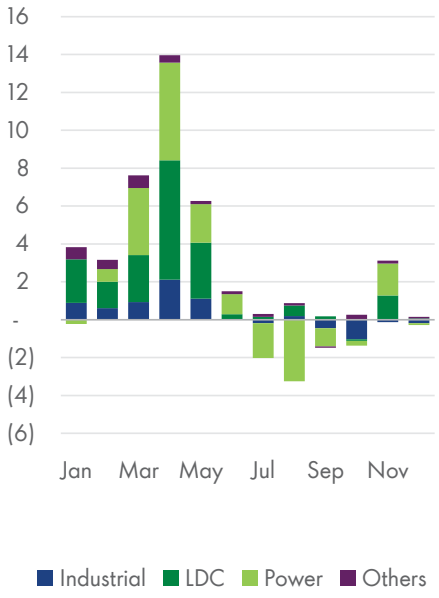
Gas demand & supply*

BCM



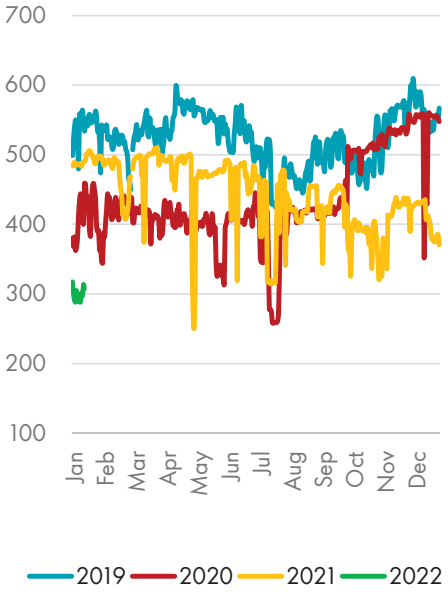
Gas demand y-o-y change*

BCM



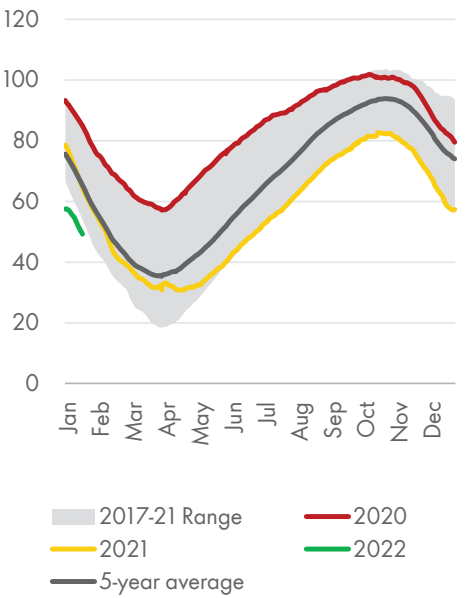
Russian pipeline supply

MMCM/d



Inventory level**

BCM



Shell interpretation of Wood Mackenzie, ENTSO-G and GIE 2021 data
* Europe 34 ** EU 27+UK

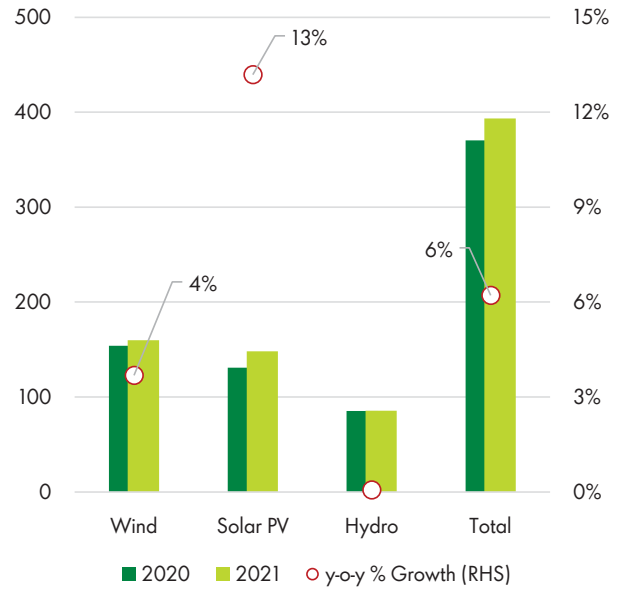
LDC: Local Distribution Company

1 BCM = ~10.47 TWh

Renewable generation across Europe* declines despite increased installed capacity in 2021

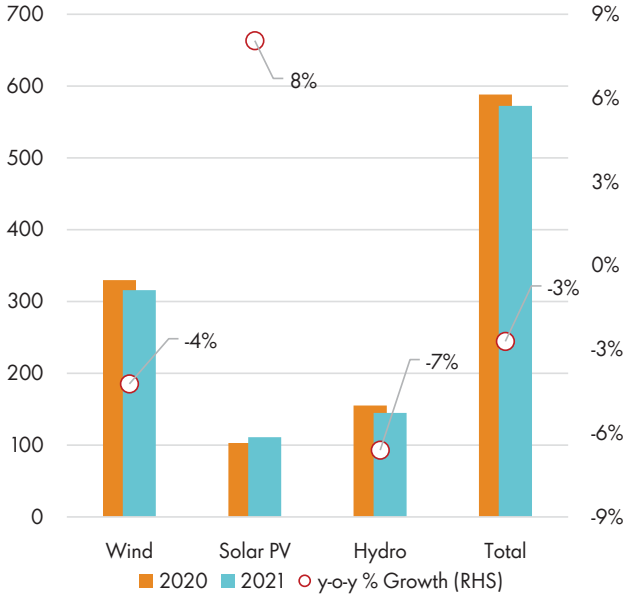
RES capacity y-o-y change

GW



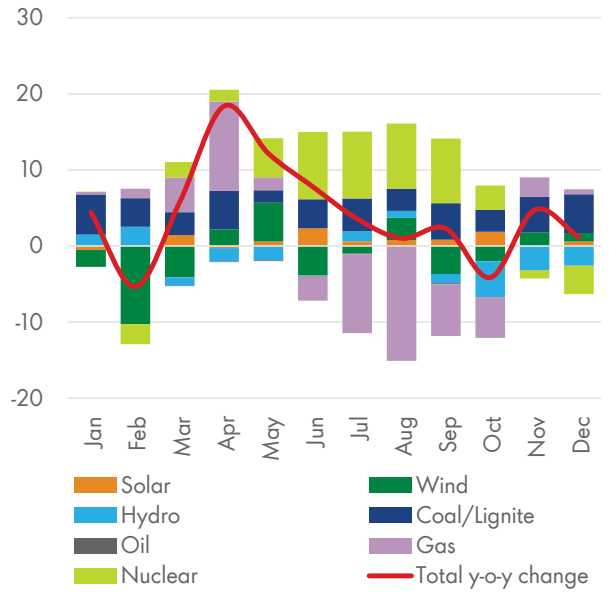
RES generation y-o-y change

TWh



Generation by source y-o-y change

TWh

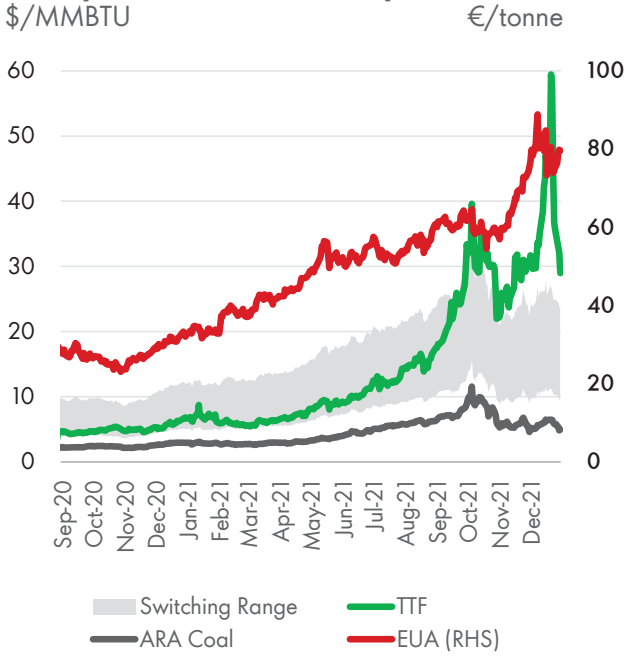


Source: Shell interpretation of Global Data TSOs / ENTSO-E 2021 data

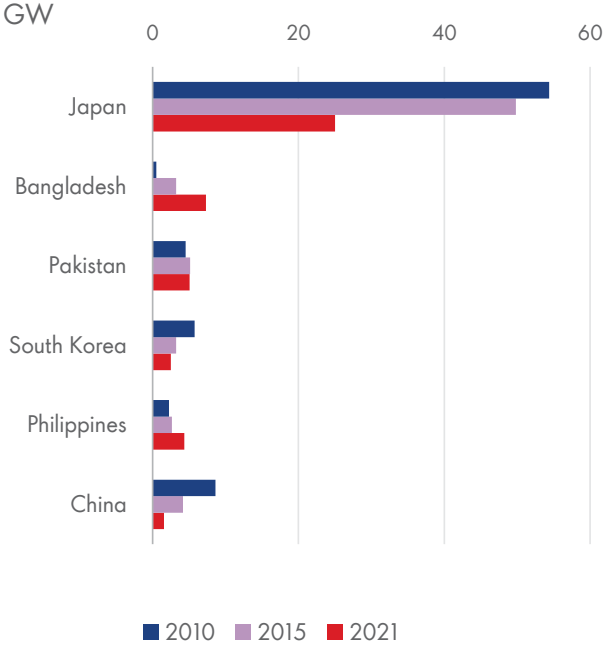
*EU7: DE, NL, ES, FR, BE, IT + UK

Gas in Europe at the centre of a pressured energy complex

Europe coal & carbon price

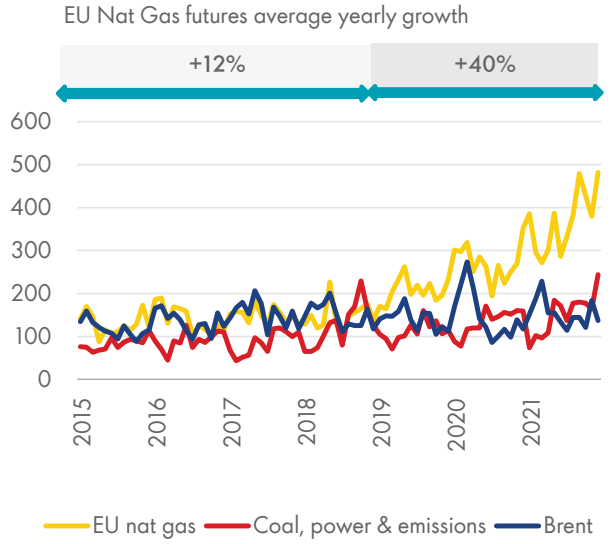


Oil-fired capacity



ICE Futures exchange data only – (excludes OTC)

Number of lots (base 2014*)



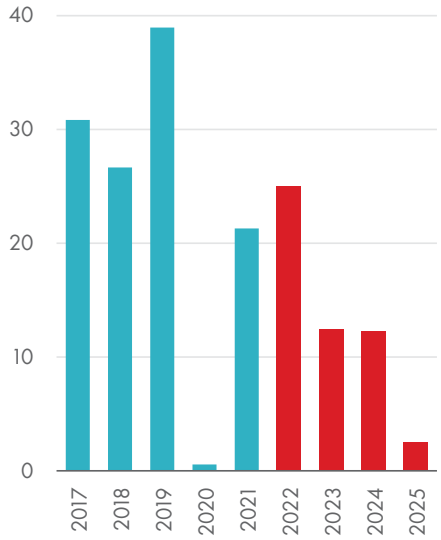
Source: Shell interpretation of Global Data and ICE 2021 data

Y-axis reflects change in monthly traded volumes vs volumes traded in the same month of the year 2014 (= 100)

Expectations of a tight near-term global LNG market drives new contracting

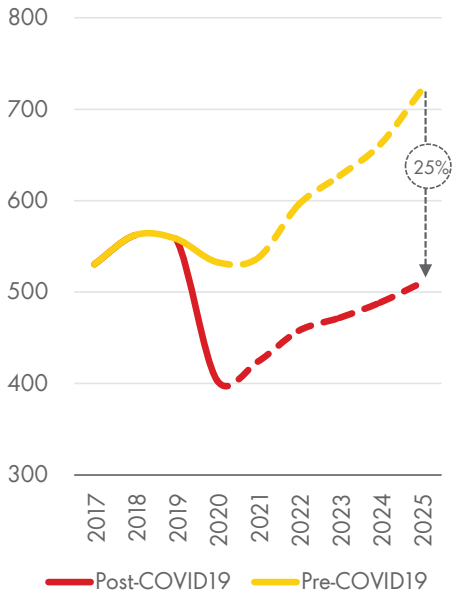
Global LNG supply growth

MT



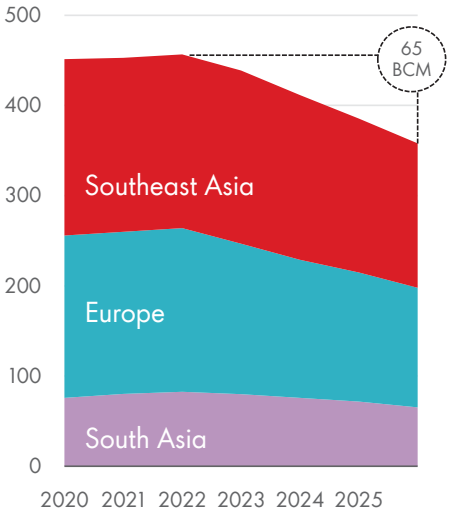
Global upstream capex

$billion



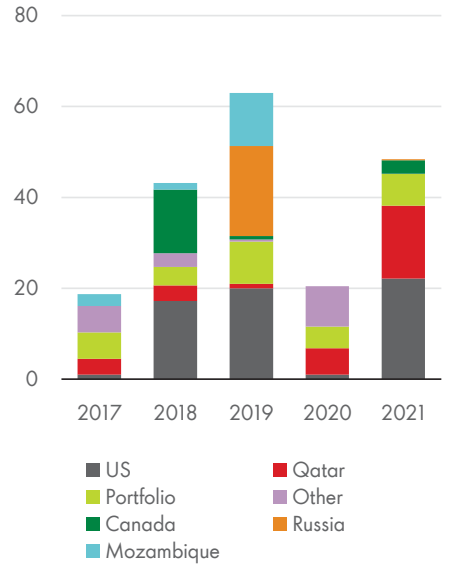
Domestic gas production

BCM



Term contracts for new liquefaction projects

MTPA



Source: Shell interpretation of Wood Mackenzie and Rystad 2021 data

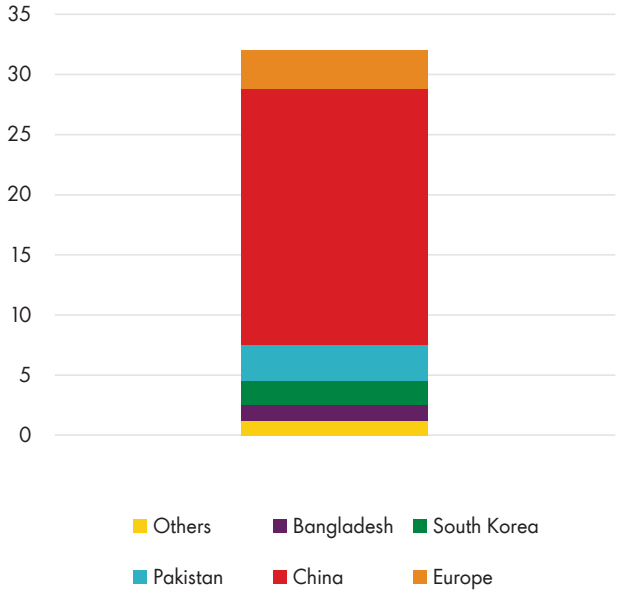
Excludes Heads of Agreement

China dominates term contracting last year

>20 million tonnes of LNG supply secured for coming decades

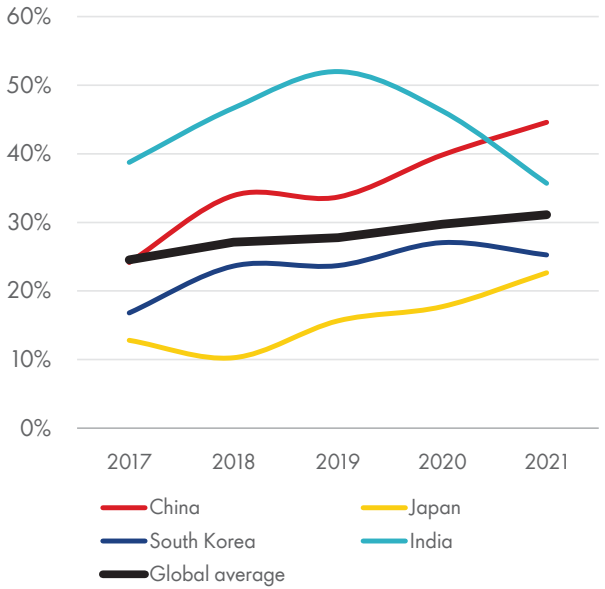
2021 new term contracts by importer

MTPA

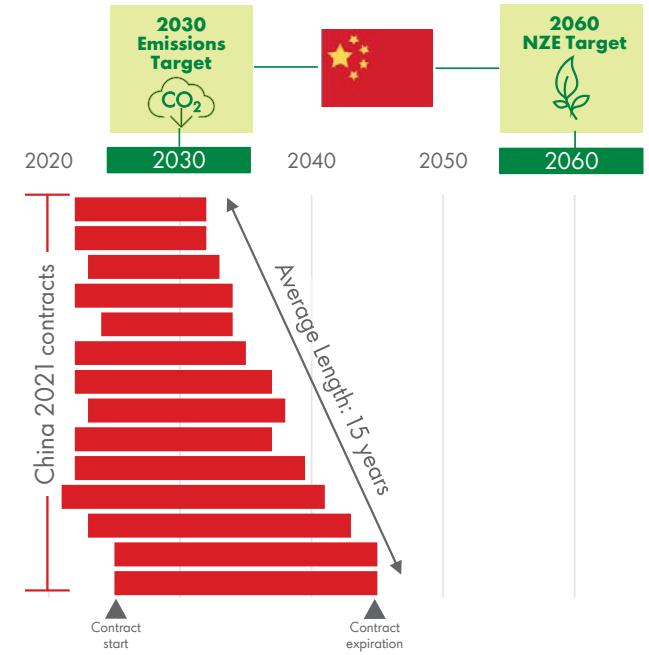


Spot purchases as % of imports

Spot as % of total



2021 China LNG contract lengths



Source: Shell interpretation of Wood Mackenzie and IHS Markit 2021 data

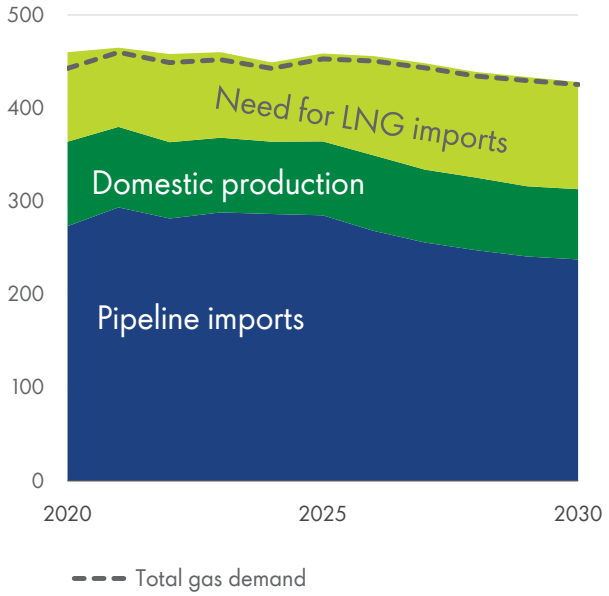
Excludes "portfolio" contracts that have no defined import market & excludes Heads of Agreement

Excludes Heads of Agreement

European* gas fundamentals point to continued exposure to price volatility

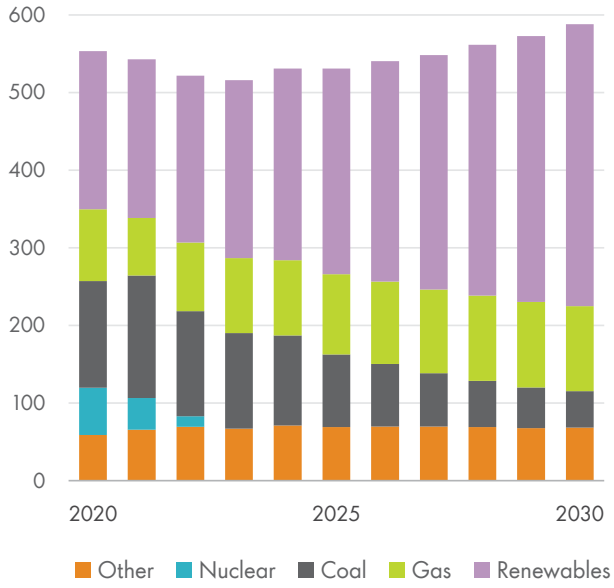
Europe gas balance

BCM



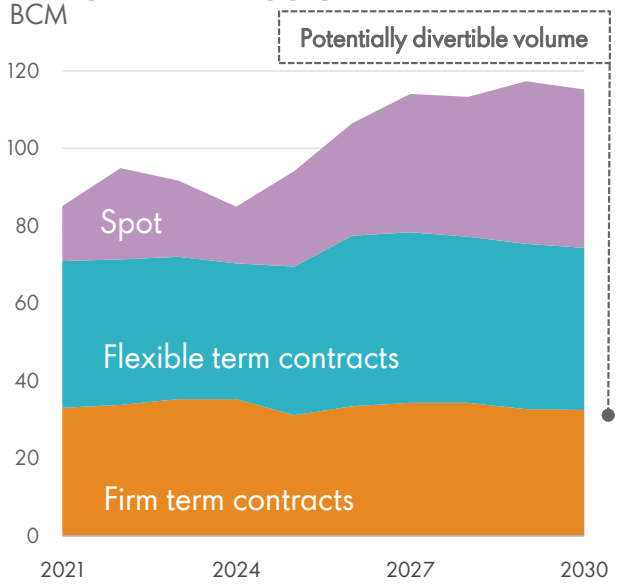
Germany power generation

TWh



Europe LNG supply contracts

BCM

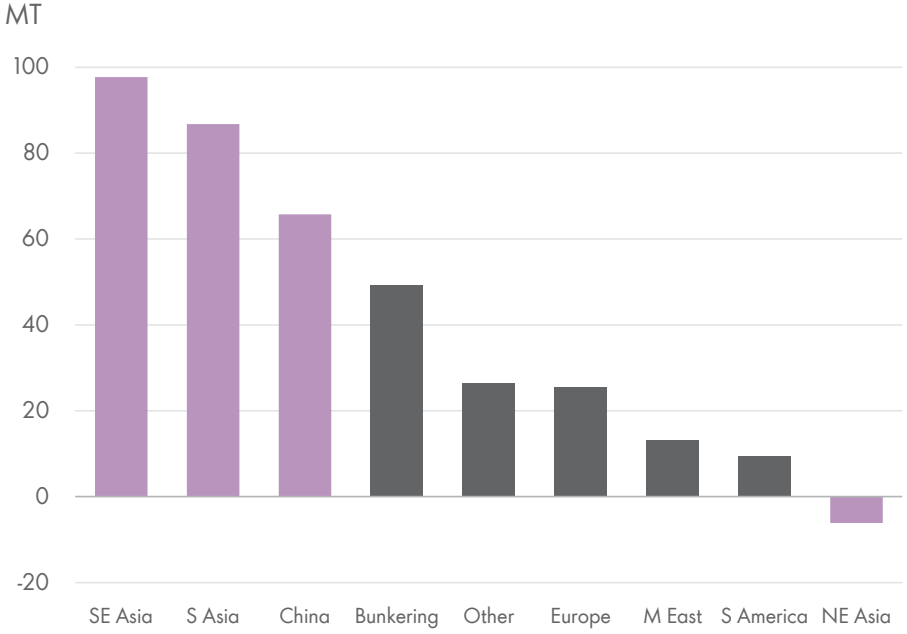


Source: Shell interpretation of IHS Markit and Wood Mackenzie 2021 data

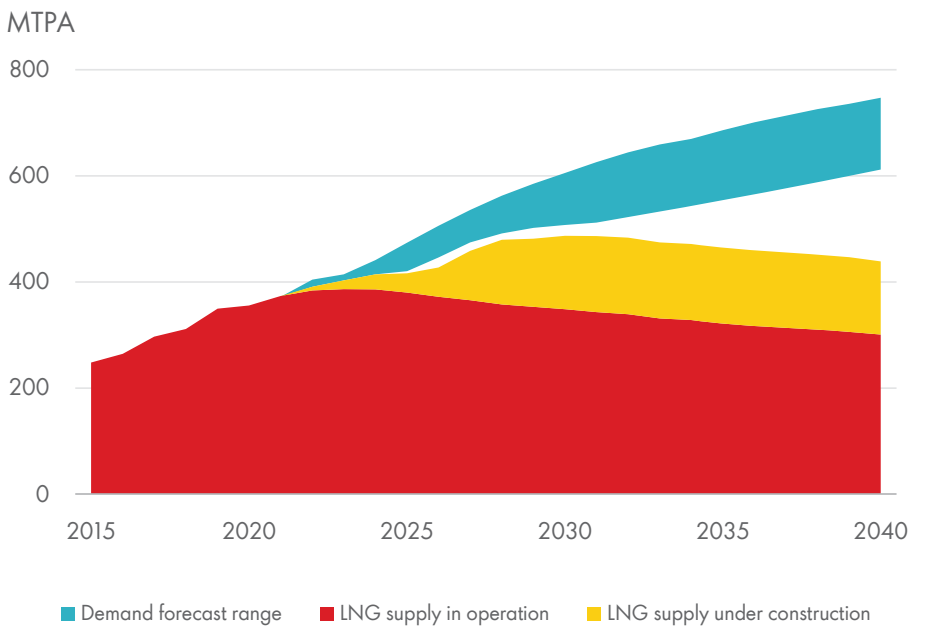
* EU 27+UK

Expected rising demand for LNG in Asia requires investment in new supply

Incremental LNG demand 2020-2040



LNG supply-demand gap



Source: Shell interpretation of IHS Markit, Wood Mackenzie, FGE and Poten & Partners 2021 and 2022 data

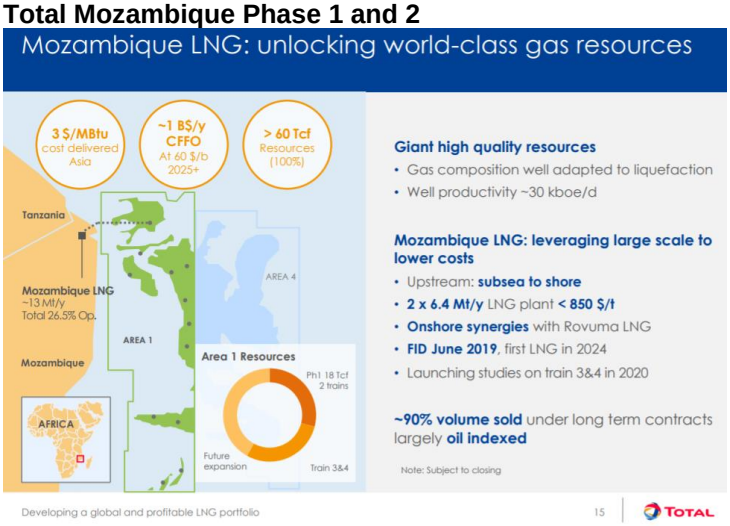
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

Posted Wednesday April 28, 2021. 9:00 MT

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

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

Total Mozambique Phase 1 and 2



Source: Total Investor Day September 24, 2019

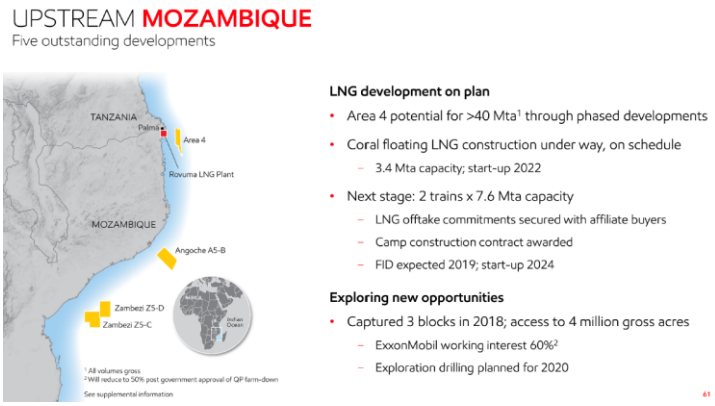
Total's Mozambique force majeure is no surprise, especially the need to the restoration of security and stability "in a sustained manner". Yesterday, Total announced [LINK] "*Considering the evolution of the security".* No one should be surprised by the force majeure or the sustained manner caveat. SAF Group posts a weekly Energy Tidbits research memo [LINK], wherein we have, in multiple weekly memos, that Total had shut down development in December for 3 months due to the violent and security risks. It restarted development on Wed March 24, violence/attacks immediately resumed for 3 consecutive days, and then Total suspended development on Sat March 27. Local violence/attacks shut development down in Dec, the situation gets settled enough for Total to restart in March, only to be shut down 3 days thereafter. No one should be surprised especially with Total's need to see security and stability "in a sustained manner".

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

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

continuing thru the 2020s. And we believe all LNG forecasts included this 5.0 bcf/d to be in service in the 2020s as Mozambique had been considered the best positioned LNG supply to access Asia after Australia and Papua New Guinea. (i) Eni Coral Sul (Rovuma Basin) FLNG of 0.45 bcf/d planned in service in 2022. [LINK] This is an offshore floating LNG vessel that is still expected to be in service in 2022. (ii) Total Phase 1 to add 1.7 bcf/d with an in service originally planned for 2024. We expect the in service data to be pushed back to at least 2026 assuming Total gives a development restart approval in Dec 2021. In theory, this would only be a 1 year loss of time. However, Total has let services go, the project will be idle for 9 months, it isn't clear if the need to get people out quickly let them do a complete put the project on hold, and how many people will be on site maintaining the status of the development during the force majeure. Also what new procedures and safety will be put in place for a restart. These all mean there will be added time needed to get the project back to where it was when force majeure was declared ie. why we think a 12 month time delay will be more like an 18 month project delay. (iii) Exxon's Rozuma Phase 1 LNG will add 2.0 bcf/d and, pre-Covid, was expected to be in service in 2025. We believe the delays related to security and safety at Total are also going to impact Exxon. We find it highly unlikely the Exxon board would take a different security and safety decision than Total. Pre-pandemic, Exxon's March 6, 2019 Investor Day noted their operated Mozambique Rovuma LNG Phase 1 was to be 2 trains each with 1.0 bcf/d capacity for total initial capacity of 2.0 bf/d with FID expected in 2019 and first LNG deliveries in 2024. The 2019 FID expectation was later pushed to be expected just before the March 2020 investor day. But the pandemic hit, and on March 21, 2020, we tweeted [LINK] on the Reuters story "*Exclusive: Coronavirus, gas slump put brakes on Exxon's giant Mozambique LNG plan"* [LINK] that noted Exxon was expected to delay the Rovuma FID. There was no timeline, but the expectation was that FID would now be in 2022 (3 years later than original timeline0 and that would push first LNG likely to 2027. (iv) Total Phase 2 was to add 1.3 bcf/d. There was no firm in service date but it was expected to follow closely behind Phase 1 to maintain services. That would have put it originally in the 2026/2027 period. But if Phase 1 is pushed back 2 years, so will Phase 2 so more likely 2028/2029.. (v) Total Phase 1 + 2 and Exxon Rozuma Phase 1 total 5.0 bcf/d and would have been (and still are) in all LNG supply forecasts for the 2020s. (vi) We aren't certain if the LNG supply forecasts include Exxon Rozuma Phase 2 ,which would be an additional 2.0 bcf/d on top of the 5.0 bcf/d noted above. Exxon Rozuma has always been expected to be at least 2 Phases. This has been the plan since the Anadarko days given the 85 tcf size of the resource on Exxon's Area 4. There was no firm in service data for Phase 2, but it was expected they would also closely follow Phase 1 to maintain services. We expect that original timeline would have been 2026/2027 and that would not be pushed back to 2029/2030. (vii) It doesn't matter if its only 5 bcf/ of Mozambique that is delayed 2 to 3 years, it will cause a bigger LNG supply gap and sooner. The issue for LNG markets is this is taking projects that are in development effectively out of the queue for some period.

Exxon Mozambique LNG



Source: Exxon Investor Day March 6, 2019

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

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

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

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

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

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

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

Source: IEA

On Track More Efforts Needed Not on Track

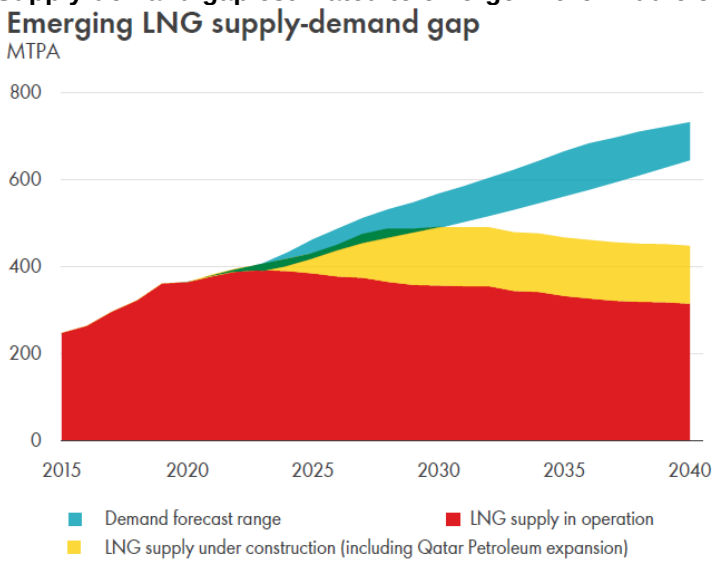
Source: IEA Tracking Clean Energy Progress, June 2020

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

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

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

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



Source: Shell LNG Outlook 2021, Feb 25, 2021

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

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

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

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

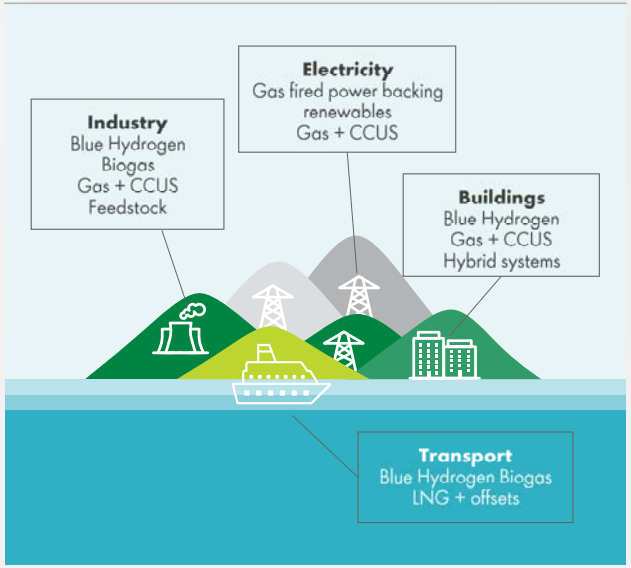
A LNG Canada Phase 2 would be a big plus to Cdn natural gas. A LNG Canada Phase 2 FID would be a big plus for Cdn natural gas. It would allow another ~1.8 bcf/d of Cdn natural gas to be priced against Asian LNG prices and not against Henry Hub. And it would provide demand offset versus Trudeau if he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

LNG OUTLOOK

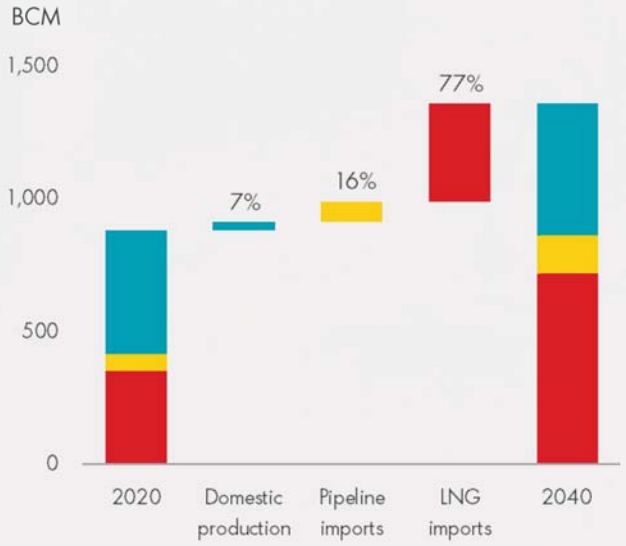
ENERGY SECURITY, EMISSIONS AND ECONOMIC GROWTH IN ASIA TO DRIVE FUTURE LNG DEMAND

- Gas has an important role in the journey to net-zero - as a partner to renewables for grid stability and an immediate option to lower emissions in hard-to-electrify energy demand sectors
- LNG needed for declining domestic gas production, coal to gas switching, substituting higher-emission energy sources, tackling air quality concerns – particularly in Asia

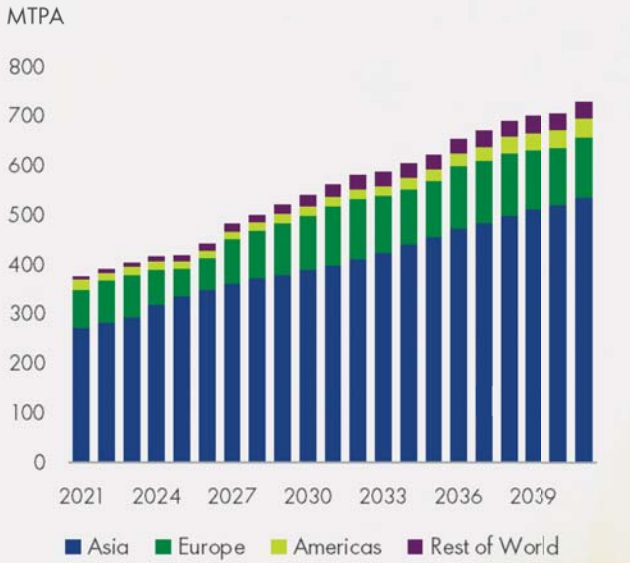
Use of gas in a decarbonised world



Asian gas demand by source



LNG imports by region



Source: Shell interpretation of Wood Mackenzie data

RUN THE BUSINESS

ACTIVELY ADDRESSING OPERATIONAL GREENHOUSE GAS EMISSIONS

Cutting operational emissions

- Pearl GTL, Qatar: significant emissions reductions already achieved, further reductions and other improvements planned through innovative catalysts
- QGC, Australia: reduced venting from dehydration units and improved efficiency on well workovers resulting in 2,500 tonnes lower methane emissions in 2021
- Real Time Production Optimisation saving fuel gas and improving efficiency across LNG sites

Managing GHG intensity

- Implementing carbon management framework for projects and operating assets
- The IG operated portfolio is well within the Group's 2025 target of ensuring methane emissions intensity is below 0.2%
- No routine flaring in IGs operated portfolio

Spearheading methane reduction initiatives

- Helping to deliver the Global Methane Pledge through oil and gas sector implementation working group
- Leading an industry working group to increase understanding of supply chain methane emissions data through detection and quantification field campaigns
- Joined industry project developing pioneering offshore North Sea drone-based methane emission quantification technology

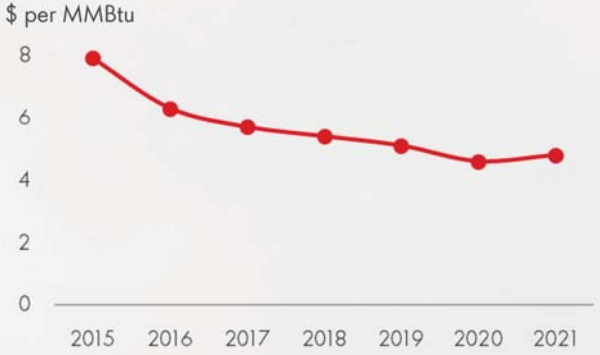
Picture credit: Flylogix

The improved efficiency on well workovers is relative to 2020.

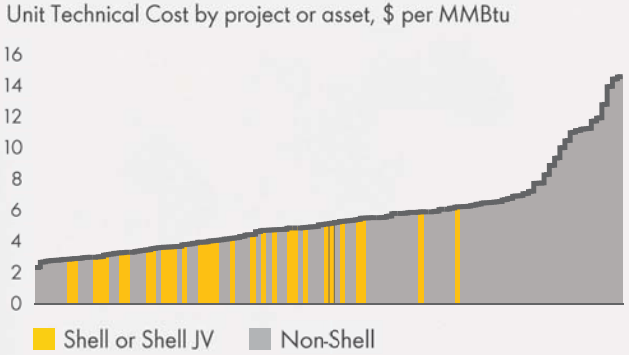
GROW THE BUSINESS

OPTIMISING CAPITAL TO CREATE VALUE

Unit technical cost reduced



Competitive project funnel



Robust project delivery

Structural decrease in cost

- UTC stable below target of $5/MMBtu set in 2015
- $4 billion per annum selective investment in competitive LNG assets, including backfill and expansion options
- Examples of competitive pre-FID projects: LNG Canada Expansion, Manatee

Commercially competitive

- Project funnel delivering LNG into Asia at total cost structure that is competitive in the industry
- We believe strong focus on scope 1 & 2 emissions reduction for new projects provides longer term competitive advantage and sustainability

Building new capacity

- LNG Canada will deliver 14 mtpa of supply into Asia. The LNG project is designed to have the lowest carbon intensity in the industry
- Nigeria LNG T7 will deliver 7.6 mtpa into Europe and Asia, with key supply from offshore assets
- Both projects to be onstream around the middle of the decade

Competitive funnel chart contains all projects and assets in the LNG industry. Non-Shell projects are a Shell interpretation of Wood Mackenzie data.

INTEGRATED GAS PORTFOLIO & MAJOR PROJECTS

KEY

- Liquefaction plants
- Liquefaction plants under construction
- Regasification terminals
- GTL
- On-stream gas projects

Project	Country	Shell share %	Peak production kboe/d	LNG capacity mtpa	Shell-operated
Under construction – Start-up 2022-2023					
Arrow - Surat Gas	Australia	50	backfill		
Colibri	Trinidad & Tobago	87	backfill		✓
Gorgon - Jansz	Australia	25	backfill		
QGC SW20+ Measure	Australia	62	backfill		✓
Oman Gas*	Oman	53	120		✓
Under construction – Start-up 2024+					
Gorgon - Jansz compression	Australia	25	backfill		
LNG Canada T1-2	Canada	40		14	
NLNG T7	Nigeria	26		7.6	
Pre-FID options					
Abadi	Indonesia	35	245	9.5	
East Med	Egypt	35	backfill		
LNG Canada Expansion	Canada	40		14	
Manatee	Trinidad & Tobago	100	backfill		✓
NWS - Browse	Australia	27	backfill		
Prelude - Crux	Australia	82	backfill		✓
Tanzania	Tanzania	25	[A]	15	✓

*FID of the project subject to the issuance of a Royal Decree by the government of the Sultanate of Oman confirming award of the Block 10 Concession Agreement.

Projects listed are a selection of our project portfolio. Peak production and LNG capacity are 100%. [A] to be confirmed.

INTEGRATED GAS

UPDATE SD21 TARGETS – PROGRESS MADE

Targets	Progress
~20% Opex reduction by 2022 vs 2019	Underlying 2021 IG Opex 15% lower than 2019
3 mtpa Develop new LNG markets by 2025	On track to deliver First LNG volumes supplied into Croatia
< $5/MMBtu Unit Technical Cost	Current project funnel average $4.8/ MMBtu
14% - 18% Average project IRR	Current project funnel average showing 14-18%

Targets	Progress
> 20% Market share in LNG bunkering sales by 2030	▪ 12 LNG fuelled crude and product tankers in operation, with a further 24 on order with expected delivery by end 2023 ▪ 5 bunker vessels in operation with a further 7 on order ▪ Completed over 700 global ship-to-ship bunkering at numerous ports in 10 countries ▪ First liquefied biomethane (BioLNG) bunkering trial in Rotterdam, together with CMA CGM
> 7 mtpa New LNG capacity onstream by the middle of the decade	Progress made on NLNG T7 and LNGC. 7.6 mtpa new capacity around middle of decade
GTL Uplift Aiming to grow value from GTL products	In Q3 2021 Pearl GTL achieved highest value uplift from GTL products on record

S**hell Integrated Business Deep Dive Feb 21, 2022 Wael Sawan.**

Items in "i*talics*" are SAF Group created transcript

Approx 9:18am MT. Analyst asks if the future equity percentage you have for the natural gas supply be less than the offtake percentage you have for the LNG? Wael, *".. typically, what I would say, as much as possible, having access across the entire value chain in as close of a percentage as you can, helps ensure that wherever value might rate at any point in time, you are capturing that value. So in general. Take our LNG Canada investment that you just referenced in the second question, we would look to be able to at least assure ourselves that we are not caught up by vagaries of one part of the market. let's say the gas supply, but we would want to have enough on the gas supply equity side to be able to make sure if gas prices go up there, we benefit from them while maybe disadvantaging the midstream or vice versa depending on where prices go. So we are not in the game of necessarily taking undue risk. we are in the game of creating integrated value chains that we can leverage as part of the broader portfolio*. "

Scotiabank asks on the media report of the infrastructure issue on LNG Canada? Wael " *on the issues around LNG Canada, a few things to say. Firstly, we're just, what is it 3 years, 3, 4 months since we have taken FID on that project. Just last oct we crossed the 50% completion on the site in Kitmat. Good progress and this was despite some real challenges with Covid. A lot of the modules coming from various yards in Asia being challenged. Credit to the team, I think some heroic efforts to be able to by and large continue to be on track. I think the challenge that you are referencing is more related to the pipeline – the Coastal GasLink pipeline. Multiple reasons for that which I won't get into in detail. This is a question better addressed to CGL themselves directly. But suffice it to say that we do have some concerns around the cost of the pipeline, we are having deep discussions with TCE, who oversee the pipeline and therefore tying to see how we can mitigate some of these cost increases. But so far, we see TCE getting back on the ball and making sure they are able to move at the pace that ensures that we have pipe before we have the plant. The last comment I will make on that pipeline. Some of you may have picked up the press the incredibly sad events of a couple days ago where we strongly, strongly condemn some of the violence that was shown. Thankfully, no one got hurt in Houston, British Columbia when a specific part of the pipeline around the Maurice River. 20 or so people attacked those who were earning a living at night and thankfully, they all came out well and safe. These events are unfortunate and I'm sure TCE and RCMP will be able to address the issue sufficiently*"

Sl 6. 8:36am MT. Sawan "*That brings me to the future. Our current integrated gas business is doing what we said we would do and is on the right trajectory. But we are not yet where we want to be. We have opportunities that we are pursuing to do even better, with our existing assets, but also to position our growth portfolio to one with even stronger returns with lower carbon emissions. Let me expand on that a bit more. For our capital spend, we need to be even more focused with a continued emphasis on value over volume. We have a capital budget of $4 to $5 billion a year in the short to medium term. We are making good progress on our two LNG capacity expansion projects under construction. In Canada, Canada LNG surpassed recently the 50% completion mark last October, after three years of construction. The project remains dedicated to have the first cargo by the middle of this decade*." He then speaks of Nigeria and that construction there is now firmly underway, and then says "*both these projects are competitively positioned for LNG growth markets in Asia. The same goes for most of our long term project funnel. We have several attractive expansion and backfill projects. A limited number of greenfield LNG projects and several promising low carbon new gaseous projects in early stages of development. For the pre-FID projects, we have an expected average internal rate of return of between 14% and 18%, and a unit technical cost below $5/mmbtu. With most of these projects clearly having lower costs than the average in the industry. These are good numbers, but you will understand that we strive to push the IRR to the higher end and to push the unit costs down even further. But the long term role of gas depends on efforts to abate emissions and develop cleaner pathways for gas. This is why we continually try to reduce the carbon intensity of our new projects. Take LNG Canada currently under construction. It will run on hydropower and is set to deliver the lowest carbon intensity in the entire industry."*

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

Posted 11am on July 14, 2021

The last 7 days has shown there is a sea change as Asian LNG buyers have made an abrupt change in their LNG contracting and are moving to lock in long term LNG supply. This is the complete opposite of what they were doing pre-Covid when they were trying to renegotiate Qatar LNG long term deals lower and moving away from long term deals to spot/short term sales. Why? We think they did the same math we did in our April 28 blog "*Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?*" and saw a much bigger and sooner LNG supply gap driven by the delay of 5 bcf/d of Mozambique LNG that was built into most, if not all LNG supply forecasts. Asian LNG buyers are committing real dollars to long term LNG deals, which we believe is the best validation for the LNG supply gap. Another validation, Shell, Total and others are aggressively competing to invest long term capital to partner in Qatar Petroleum's massive 4.3 bcf/d LNG expansion despite plans to reduce fossil fuels production in the 2020s. And even more importantly to LNG suppliers, the return to long term LNG contracts provides the financing capacity to commit to brownfield LNG FIDs. The abrupt change by Asian LNG buyers to long term contracts is a game changer for LNG markets and sets the stage for brownfield LNG FIDs likely as soon as before year end 2021. It has to be brownfield LNG FIDs if the gap is coming bigger and sooner. And we return to our April 28 blog point, if brownfield LNG is needed, what about Shell looking at 1.8 bcf/d brownfield LNG Canada Phase 2? LNG Canada Phase 1 at 1.8 bcf/d capacity is already a material positive for Cdn natural gas producers. A FID on LNG Canada Phase 2 would be huge, meaning 3.6 bcf/d of Cdn natural gas will be tied to Asian LNG markets and not competing in the US against Henry Hub. And with a much shorter distance to Asian LNG markets. This is why we focus on global LNG markets for our views on the future value of Canadian natural gas.

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

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

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

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

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

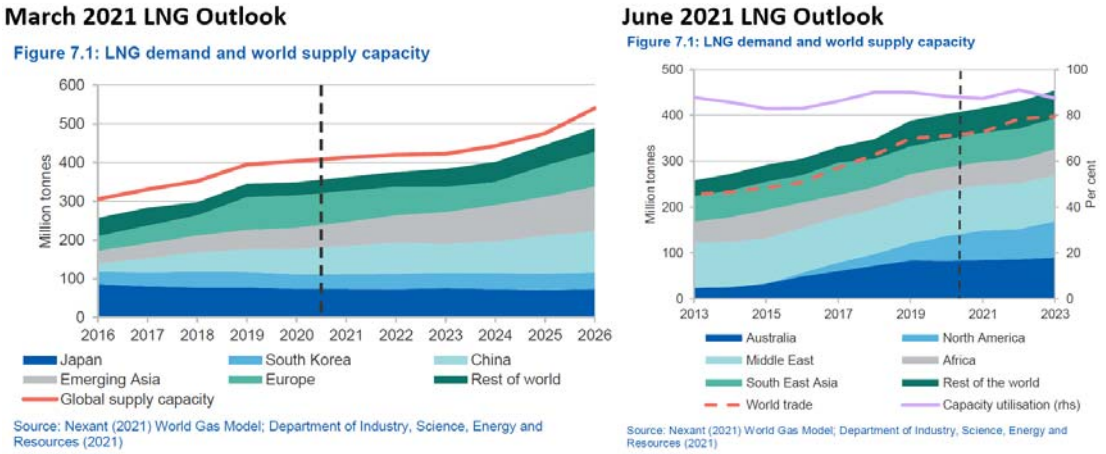
Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required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

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

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

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

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

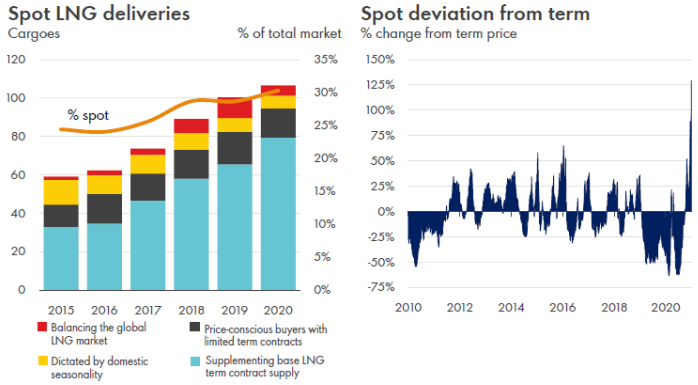


Source: Australia Resources and Energy Quarterly

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

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

Spot LNG deliveries and Spot deviation from term price



Source: Shell LNG Outlook 2021 on Feb 25, 2021

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

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

> Petronas/CNOOC is 10 yr supply deal for 0.3 bcf/d. On July 7, we tweeted [LINK] on the confirmation of a big positive to Cdn natural gas with the Petronas announcement [LINK] of a new 10 year LNG supply deal for 0.3 bcf/d with China's CNOOC. The deal also has special significance to Canada. (i) Petronas said "*This long-term supply agreement also includes supply from LNG Canada when the facility commences its operations by middle of the decade*". This is a reminder of the big positive to Cdn natural gas in the next 3 to 4 years – the start up of LNG Canada Phase 1 is ~1.8 bcf/d capacity. This is natural gas that will no longer be moving south to the US or east to eastern Canada, instead it will be going to Asia. This will provide a benefit for all Western Canada natural gas. (ii) First ever AECO linked LNG deal. It's a pretty significant event for a long term Asia LNG deal to now have an AECO link. Petronas wrote "*The deal is for 2.2 million tonnes per annum (MTPA) for a 10-year period, indexed to a combination of the Brent and Alberta Energy Company (AECO) indices. The term deal between PETRONAS and CNOOC is valued at approximately USD 7 billion over ten years.*" 2.2 MTPA is 0.3 bcf/d. (iii) Reminds of LNG Canada's competitive advantage for low greenhouse gas emissions. Petronas said "*Once ready for operations, the LNG Canada project paves the way for PETRONAS to supply low greenhouse gas (GHG) emission LNG to the key demand markets in Asia."*
>
> Qatar Petroleum/CPC (Taiwan) is 15 yr supply deal for 0.16 bcf/d. Pre Covid, Qatar was getting pressured to renegotiate lower its long term LNG contract prices. Now, it's signing a 15 year deal. On July 9, they entered in a new small long term LNG sales deal [LINK], a 15-yr LNG Sale and Purchase Agreement with CPC Corporation in Taiwan to supply it ~0.60 bcf/d of LNG. LNG deliveries are set to begin in January 2022. H.E. Minister for Energy Affairs & CEO of Qatar Petroleum Al-Kaabi said *"We are pleased to enter into this long term LNG SPA, which is another milestone in our relationship with CPC, which dates back to almost three decades. We look forward to commencing deliveries under this SPA and to continuing our supplies as a trusted and reliable global LNG provider."* The pricing was reported to be vs a basket of crudes.

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

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

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

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

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

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

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

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

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

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

https://thepeninsulaqatar.com/article/22/02/2022/full-speech-of-amir-at-opening-of-6th-summit-of-gas-exporting-countries-forum

Full speech of Amir at opening of 6th summit of Gas Exporting Countries Forum

Published: 22 Feb 2022 - 12:19 pm | Last Updated: 22 Feb 2022 - 12:25 pm

Doha: The Amir HH Sheikh Tamim bin Hamad Al Thani attended the opening of the 6th Summit of the Gas Exporting Countries Forum (GECF), which is held under the title "Natural Gas: Shaping the Energy Future", at Doha Sheraton Hotel on Tuesday morning.

The opening was attended by President of Algeria HE Abdelmadjid Tebboune, President of Iran HE Ebrahim Raisi, President of Mozambique HE Filipe Nyusi, President of Equatorial Guinea HE Teodoro Obiang Nguema Mbasogo, Head of the Government of National Unity of Libya HE Abdul Hamid Mohammed Al Dbeiba, Prime Minister of Trinidad and Tobago HE Dr. Keith Rowley, and a number of ministers and heads of delegations.

HH the Amir delivered a speech on this occasion.

Following is an unofficial translation of HH the Amir's speech at the Opening of the Sixth Summit of the Heads of State and Government Members of the Gas Exporting Countries Forum (GECF).

“At the opening of the Sixth Summit of Heads of State and Government of the Gas Exporting Countries Forum, it is my pleasure to welcome you to Qatar, praying to God that our deliberations be culminated in success.

“Our summit is being convened today amidst the challenges that have been posed by the Corona Virus pandemic for more than two years, leaving its imprint on various aspects of human life around the world.

“While we are all working to confront this unprecedented crisis, it has become clear that resilience and international cooperation are still important factors in transforming challenges into opportunities, and in the transition to a new normal situation that ensures the continuation of growth and prosperity that everyone seeks to achieve.

“This pandemic has constituted a supportive factor for renewing the global dialogue on the challenges facing humanity as a whole, namely the climate change and the transition to low carbon energy.

“This dialogue provided an opportunity to highlight the pivotal role of natural gas in the desired energy transformation, and in the search for a reliable source of energy that provides the right balance between achieving economic growth and dealing with environmental challenges, in addition to the valuable opportunities it offers towards economic recovery in the post-coronavirus pandemic era.

“Over the past two decades, the world has witnessed a major change in the energy chart, where the natural gas has occupied a large space, for several reasons, including that it is the least harmful energy source to the environment among other fossil energy sources. Natural gas has been able to occupy increasing spaces in the energy basket in many countries.

“The Gas Exporting Countries Forum has played a major role in enhancing the contribution of natural gas to supporting economies and facing environmental challenges, which also contributes to achieving sustainable development goals. In this regard, we appreciate the joint efforts of all member states which have worked to provide reliable natural gas supplies to global markets, and maintained the stability of the markets.

“The transition to low-carbon energy is not only relevant to producers, but is also closely related to end-users whose consumption behaviours determine the extent of the effectiveness and success of this transition. The transformation efforts must follow a balanced approach that takes into account human and economic development requirements in developing countries and poor societies, where nearly one billion people are deprived of electricity and fuel, the two basic sources required for a decent life for human beings.

“Investing in the ways and means of scientific and technological advances to capture and sequester carbon and reduce methane emissions is an essential component of a

successful clean energy transition, and in enhancing the qualitative value that natural gas provides to users around the world, and keeping the global energy economy on a sustainable path.

“The State of Qatar has confirmed on many occasions its commitment to support the transition to low carbon energy through working to remove more carbon from the gas production chain, as the largest ever carbon capture and sequestration facility in the Middle East and North Africa (MENA) region was commissioned several years ago with an annual capacity of up to 2.5 million tons of carbon dioxide equivalent annually. This capacity will reach about 9 million tons by 2030.

“To enhance our role in the natural gas industry, we are working to develop and increase our production capacity of liquefied natural gas from 77 million tons per year currently to 126 million tons per year by 2027, through the North Field production expansion projects, which include huge investments in eco-friendly technologies, namely an integrated system for capturing and injecting carbon dioxide, which, when fully operational, will become the largest of its kind in the LNG industry. Solar energy will be relied upon to generate part of the electricity required for this project.

“The achievements of the Forum during this short period since its inception cant be ignored. They contribute day after day to achieving its goals and enhancing its collective vision and mission. Our summit comes today to confirm the basics through which our Forum works to promote the role of natural gas and its contribution to supporting economic development, social progress and environmental protection.

“Our summit also emphasizes the importance of ensuring the security and stability of the supplies and the demand, and the existence of transparent and non-discriminatory legal frameworks that guarantee the interests of the member states of the Forum, in addition to adopting fair policies in the fields of energy and environment in gas consuming countries.

“The importance of highlighting the crucial position of natural gas must be emphasized here as a primary energy source that we greatly need to manage the irregular nature of renewable energy resources and to compensate for daily and seasonal demand fluctuations.

“The State of Qatar will continue to support the efforts to protect the interests of the gas exporters, and to preserve the interests of the consumers, and to affirm the full and

permanent sovereign rights of the member states to develop and exploit their natural resources. We will remain committed to enhancing the role of natural gas in the transition to low-carbon economies, and working alongside all our partners to achieve sustainable growth in the gas industry and meet the growing demand for this important source of energy. We will also seek to encourage investments and develop infrastructure and member states' capabilities to respond to natural disasters and accidents.

“We renew our call for strengthening dialogue and cooperation between the member states on the one hand, and between the exporters and importers on the other hand, to ensure the security of natural gas supplies and the stability of the global gas markets.

“In conclusion, I would like to congratulate His Excellency Eng. Mohamed Hamel, Secretary-General of the Gas Exporting Countries Forum, on assuming his new tasks and to commend the valuable efforts of the General-Secretariat over the past years under the leadership of His Excellency the former Secretary-General, Dr. Yury Sentyurin.

“I reiterate my welcome to you, and I wish the deliberations of this summit every success.”

https://thepeninsulaqatar.com/article/23/02/2022/lack-of-investment-behind-surge-in-gas-prices-minister-al-kaabi

Lack of investment behind surge in gas prices: Minister Al Kaabi

Published: 23 Feb 2022 - 07:45 am | Last Updated: 23 Feb 2022 - 08:08 am

Minister of State for Energy Affairs H E Eng. Saad bin Sherida Al Kaabi addressing the press conference held on the sidelines of the 6th Summit of the Gas Exporting Countries Forum (GECF). Pic: Mohamed Farag

Sachin Kumar | The Peninsula

Doha: The steep rise in the natural gas prices in the global markets are caused by the lack of investment and not due to Russian-Ukrainian crisis, said Minister of State for Energy Affairs H E Eng. Saad bin Sherida Al Kaabi. He said Qatar wants to meet European Union (EU) demands for additional LNG supplies, but most of its exports are already tied to long-term contracts.

"Everything that is going on today on pricing is fundamentally because of lack investments and that will take time to catch up. Supply demand has a tendency to correct itself over time so hopefully this will be corrected, it will take time," said Minister Al Kaabi addressing the press conference held on the sidelines of the 6th Summit of the Gas Exporting Countries Forum (GECF).

Minister of Petroleum and Mineral Resources of the Arab Republic of Egypt H E Tarek El Molla, and Secretary-General of the Gas Exporting Countries Forum (GECF) Mohamed Hamel also attended the press conference.,

Minister Al Kaabi said that no single country can replace gas supplies by Russia. He said that most of the Qatar's LNG is already tied up in the long term contracts.

"Russia provides I think 30-40 percent of the supply to Europe. There is no single country that can replace that kind of volume, there isn't the capacity to do that from LNG," he said. "Most of the LNG is tied to long-term contracts and destinations that are very clear. So, to replace that sum of volume that quickly is almost impossible," he said.

Minister Al Kaabi said that for Qatar the amount of divertable contracts that can be shipped to Europe is only 10-15 percent. "It's not that something is not contracted, the question is, is it divertible or not? And the majority is tied up to long term contracts. The divertible volume is probably 10-15 percent," he said.

The Minister said that Qatar has always proven that it is a reliable country when it comes to delivery of gas. There are many European countries that have contacted Qatar to supply gas, stressing that Qatar is well-known for respecting its contracts.

QatarEnergy is moving forward with full force to develop the North Field by building the latest LNG production lines, which will push our leading position forward with a production capacity of 126 million tons per year in 2027.

Replying to a question about Russian-Ukrainian crisis, the Minister said that that the forum did not discuss the developments in Ukraine, because it is not a political forum and has nothing to do with political issues.

Al Kaabi said that Qatar wants to meet EU demands for additional LNG supplies, but most of its exports are already tied to long-term contracts. He said: "Qatar is very clear about the sanctity of contracts. We are known for being tough and abiding by contracts in good times and bad."

The Minister of State noted the desire to help the European Union by providing additional quantities within the limits of the available quantities of existing gas, adding: "We will help, but most of our LNG is tied to long-term contracts. I spoke with the European Union Commissioner for Energy a few weeks ago about more supplies."

“There have been talks during the past weeks, and we are ready to supply gas as much as we can to any party. We want to respect our commitments as well, and we can help in this area and we are known to help our friends when they need us,” he noted.

Replying to a question about financing the expansion of the North Field from abroad and issuing bonds, Minister Al Kaabi said: “We previously mentioned that we will not go to the financial markets because our financial situation is excellent and there was no intention to go to the financial markets for financing, but we resorted to that when we saw a significant decline in interest rates, which was tempting. We got $12.5bn at very low prices for 30 and 20 years and that was tempting. It was better for us to take the loan at that time to develop the North Field and we took advantage of the low prices; and there is no intention to issue other bonds for the North Field development project because we took what we wanted. If there are additional projects, we will think about them at the time.”

Highlights for the month

- The consumption of petroleum products during April-January 2022 with a volume of 165.719 MMT reported a growth of 4.23% compared to the volume of 158.997 MMT during the same period of the previous year. Except SKO, petcoke & others, all other petroleum products reported a growth in consumption during April-January 2022 compared to the same period of the previous year. The consumption of petroleum products during January 2022 recorded a de-growth of 0.16% compared to the same period of the previous year.
- Indigenous crude oil and condensate production during January 2022 was lower by 2.4 % than that of January 2021 as compared to a de-growth of 1.8 % during December 2021. OIL registered a growth of 5.3 % and ONGC registered a de-growth of 3.1 % during January 2022 as compared to January 2021. PSC registered de-growth of 3.5 % during January 2022 as compared to January 2021. De-growth of 2.6 % was registered in the total crude oil and condensate production during April - January 2022 over the corresponding period of the previous year.
- Total Natural Gas Consumption (including internal consumption) for the month of January 2022 was 5175 MMSCM which was 0.1% higher than the corresponding month of the previous year. The cumulative consumption of 54589 MMSCM for the current year till January 2022 was higher by 7.9% compared with the corresponding period of the previous year.
- Crude oil processed during January 2022 was 21.7 MMT, which was 0.5 % lower than January 2021 as compared to a growth of 2.2 % during December 2021. Growth of 9.2 % was registered in the total crude oil processing during April- January 2022 over the corresponding period of the previous year.
- Production of petroleum products saw a growth of 3.7 % during January 2022 over January 2021 as compared to a growth of 5.9 % during December 2021. Growth of 8.9 % was registered in the total POL production during April- January 2022 over the corresponding period of the previous year.
- Ethanol blending with Petrol was 9.26% during January 2022 and cumulative ethanol blending during December 2021-January 2022 was 8.68%.

•	Gross production of natural gas for the month of January 2022 was 2861 MMSCM which was higher by 12.2% compared to the corresponding month of the previous year. The cumulative gross production of natural gas of 28535 MMSCM for the current financial year till January 2022 was higher by 20.5% compared with the corresponding period of the previous year.
•	LNG import for the month of January 2022 (P) was 2408 MMSCM which was 10.6 % lower than the corresponding month of the previous year. The cumulative import of 26785 MMSCM for the current year till January 2022 was lower by 3.2% compared with the corresponding period of the previous year.
•	Crude oil imports decreased by 1.7% and increased by 7.9% during January 2022 and April-January 2022 respectively as compared to the corresponding period of the previous year.
•	POL products imports increased by 12.4% and decreased by 6.4% during January 2022 and April-January 2022 respectively as compared to the corresponding period of the previous year. Decrease in POL products imports during April-January 2022 was due to decrease in imports of petcoke, high speed diesel (HSD), motor sprit (MS) and superior kerosene oil (SKO).
•	Exports of POL products increased by 14.4% and 9.8% during January 2022 and April-January 2022 respectively as compared to the corresponding period of the previous year. Increase in POL products exports during April-January 2022 (P) was due to increase in increase in exports of all products except LOBS/Lubes oil, Bitumen and petcoke/CBFS.
•	The price of Brent Crude averaged $87.22/bbl during January 2022 as against $74.10/bbl during December 2021 and $54.84/bbl during January 2021. The Indian basket crude price averaged $84.67/bbl during January 2022 as against $73.30/bbl during December 2021 and $54.79 /bbl during January 2021.

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

Details		Unit/ Base	2019-20	2020-21 (P)	January		April-January	
					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	25.6	24.9
2	Consumption of petroleum products*	MMT	214.1	194.3	17.6	17.6	159.0	165.7
3	Production of petroleum products	MMT	262.9	233.5	22.2	23.0	191.9	209.0
4	Gross natural gas production	MMSCM	31,184	28,672	2,551	2,861	23,680	28,535
5	Natural gas consumption	MMSCM	64,144	60,815	5,169	5,175	50,614	54,589
6	Imports & exports:							
	Crude oil imports	MMT	227.0	196.5	19.6	19.3	163.0	175.9
		$ Billion	101.4	62.2	7.7	11.6	47.2	94.3
	Petroleum products (POL) imports*	MMT	43.8	43.2	3.0	3.4	35.9	33.6
		$ Billion	17.7	14.8	1.5	2.1	11.1	19.9
	Gross petroleum imports (Crude + POL)	MMT	270.7	239.7	22.6	22.7	198.8	209.5
		$ Billion	119.1	77.0	9.1	13.6	58.3	114.1
	Petroleum products (POL) export	MMT	65.7	56.8	4.4	5.1	46.5	51.1
		$ Billion	35.8	21.4	2.1	3.8	15.8	33.4
	LNG imports*	MMSCM	33,887	33,031	2,692	2,408	27,679	26,785
		$ Billion	9.5	7.9	0.8	0.9	6.2	9.9
7	Petroleum imports as percentage of India's gross imports (in value terms)	%	25.1	19.5	21.7	26.2	19.1	23.0
8	Petroleum exports as percentage of India's gross exports (in value terms)	%	11.4	7.3	7.5	11.1	6.9	9.9
9	Import dependency of crude (on consumption basis)	%	85.0	84.4	85.7	85.3	83.6	85.1

#Includes condensate; *Private direct imports are prorated for the period Dec'21 to Jan'22 for POL & Jul'20 to Jan'22 for Natural Gas;

3. Indigenous crude oil production (Million Metric Tonnes)

Details	2019-20	2020-21	January			April-January		
			2020-21	2021-22 Target*	2021-22 (P)	2020-21	2021-22 Target*	2021-22 (P)
ONGC	19.2	19.1	1.6	1.7	1.6	16.0	17.0	15.5
Oil India Limited (OIL)	3.1	2.9	0.2	0.3	0.3	2.5	2.6	2.5
Private / Joint Ventures (JVs)	8.2	7.1	0.6	0.7	0.6	5.9	6.5	5.9
Total Crude Oil	**30.5**	**29.1**	**2.5**	**2.7**	**2.4**	**24.4**	**26.1**	**23.8**
ONGC condensate	1.4	1.1	0.09	0.0	0.1	0.9	0.0	0.8
PSC condensate	0.3	0.3	0.03	0.0	0.02	0.22	0.0	0.26
Total condensate	**1.6**	**1.4**	**0.12**	**0.0**	**0.1**	**1.2**	**0.0**	**1.0**
Total (Crude + Condensate) (MMT)	**32.2**	**30.5**	**2.6**	**2.7**	**2.5**	**25.6**	**26.1**	**24.9**
Total (Crude + Condensate) (Million Bbl/Day)	0.64	0.61	0.61	0.63	0.59	0.61	0.63	0.60

*Provisional targets inclusive of condensate.

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

Details	2019-20	2020-21	January		April-January	
			2020-21	2021-22 (P)	2020-21	2021-22 (P)
Total domestic production (MMTOE)	63.4	59.2	5.1	5.4	49.2	53.4
Overseas production (MMTOE)	24.5	21.9	1.9	1.8	18.4	18.4
Overseas production as percentage of domestic production	**38.7%**	**37.0%**	**36.2%**	**34.2%**	**37.3%**	**34.4%**

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

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

Details		2019-20	2020-21	January		April-January	
				2020-21	2021-22 (P)	2020-21	2021-22 (P)
1	High Sulphur crude	192.4	161.4	15.8	17.1	133.1	151.9
2	Low Sulphur crude	62.0	60.3	6.0	4.6	49.0	47.1
Total crude processed (MMT)		**254.4**	**221.8**	**21.8**	**21.7**	**182.2**	**198.9**
Total crude processed (Million Bbl/Day)		5.09	4.45	5.16	5.13	4.86	5.30
Percentage share of HS crude in total crude oil processing		**75.6%**	**72.8%**	**72.5%**	**78.7%**	**73.1%**	**76.3%**

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	196.5	62,248	4,59,779
April-Jaunary 2021-22(P)	175.9	94,267	7,01,078

7. Self-sufficiency in petroleum products (Million Metric Tonnes)							
Particulars		**2019-20**	**2020-21**	**January**		**April-January**	
				2020-21	**2021-22 (P)**	**2020-21**	**2021-22 (P)**
1	Indigenous crude oil processing	29.3	28.0	2.3	2.4	23.5	22.7
2	Products from indigenous crude (93.3% of crude oil processed)	27.3	26.1	2.2	2.3	21.9	21.2
3	Products from fractionators (Including LPG and Gas)	4.8	4.2	0.4	0.3	4.2	3.4
4	Total production from indigenous crude & condensate **(2 + 3)**	32.1	30.3	2.5	2.6	26.1	24.6
5	Total domestic consumption	214.1	194.3	17.6	17.6	159.0	165.7
% Self-sufficiency (4 / 5)		**15.0%**	**15.6%**	**14.3%**	**14.7%**	**16.4%**	**14.9%**

8. Refineries: Installed capacity and crude oil processing (MMTPA / MMT)										
Sl. no.	Refinery	Installed capacity (01.01.2022) MMTPA	Crude oil processing (MMT)							
			2019-20	2020-21	January			April-January		
					2020-21	2021-22 (Target)	2021-22 (P)	2020-21	2021-22 (Target)	2021-22 (P)
1	Barauni (1964)	6.0	6.5	5.5	0.6	0.6	0.6	4.4	4.5	4.5
2	Koyali (1965)	13.7	13.1	11.6	1.2	1.3	1.3	9.7	11.0	10.9
3	Haldia (1975)	8.0	6.5	6.8	0.7	0.7	0.3	5.4	6.4	5.9
4	Mathura (1982)	8.0	8.9	8.9	0.9	0.9	0.7	7.3	7.6	7.5
5	Panipat (1998)	15.0	15.0	13.2	1.3	1.4	1.2	10.9	12.6	12.4
6	Guwahati (1962)	1.0	0.9	0.8	0.09	0.1	0.1	0.68	0.6	0.6
7	Digboi (1901)	0.65	0.7	0.6	0.06	0.06	0.06	0.6	0.6	0.6
8	Bongaigaon(1979)	2.70	2.0	2.5	0.2	0.2	0.2	2.0	2.2	2.2
9	Paradip (2016)	15.0	15.8	12.5	1.2	1.5	1.3	10.0	10.8	10.6
	IOCL-TOTAL	**70.1**	**69.4**	**62.4**	**6.3**	**6.8**	**5.8**	**51.0**	**56.2**	**55.2**
10	Manali (1969)	10.5	10.2	8.2	0.9	1.0	0.9	6.5	7.1	7.0
11	CBR (1993)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CPCL-TOTAL	**10.5**	**10.2**	**8.2**	**0.9**	**1.0**	**0.9**	**6.5**	**7.1**	**7.0**
12	Mumbai (1955)	12.0	15.0	12.9	1.3	1.3	1.3	10.3	12.0	11.9
13	Kochi (1966)	15.5	16.5	13.3	1.6	1.4	1.5	10.5	12.4	12.5
14	Bina (2011)	7.8	7.9	6.2	0.7	0.6	0.7	5.0	6.0	6.1
	BPCL-TOTAL	**35.3**	**39.4**	**32.4**	**3.6**	**3.3**	**3.5**	**25.8**	**30.3**	**30.5**
15	Numaligarh (1999)	3.0	2.4	2.7	0.2	0.2	0.3	2.2	2.4	2.2

Sl. no.	Refinery	Installed capacity (1.01.2022) (MMTPA)	Crude oil processing (MMT)							
			2019-20	2020-21	January			Apr-January		
					2020-21	2021-22 (Target)	2021-22 (P)	2020-21	2021-22 (Target)	2021-22 (P)
16	Tatipaka (2001)	0.066	0.087	0.081	0.008	0.006	0.007	0.066	0.052	0.063
17	MRPL-Mangalore (1996)	15.0	14.0	11.5	1.4	1.4	1.4	8.8	11.9	12.0
	ONGC-TOTAL	**15.1**	**14.0**	**11.6**	**1.4**	**1.4**	**1.4**	**8.9**	**11.9**	**12.0**
18	Mumbai (1954)	7.5	8.1	7.4	0.6	0.7	0.9	6.0	5.9	4.1
19	Visakh (1957)	8.3	9.1	9.1	0.8	0.8	0.8	7.4	8.2	6.8
20	HMEL-Bathinda (2012)	11.3	12.2	10.1	0.8	0.9	1.1	9.0	9.2	10.9
	HPCL- TOTAL	**27.1**	**29.4**	**26.5**	**2.2**	**2.5**	**2.7**	**22.5**	**23.3**	**21.8**
21	RIL-Jamnagar (DTA) (1999)	33.0	33.0	34.1	2.9	2.9	3.0	28.6	28.6	28.9
22	RIL-Jamnagar (SEZ) (2008)	35.2	35.9	26.8	2.6	2.6	2.2	22.6	22.6	24.2
23	NEL-Vadinar (2006)	20.0	20.6	17.1	1.5	1.5	1.7	14.0	14.0	16.9
All India (MMT)		**249.2**	**254.4**	**221.8**	**21.8**	**22.4**	**21.7**	**182.2**	**196.5**	**198.9**
All India (Million Bbl/Day)		**5.02**	**5.09**	**4.45**	**5.16**	**5.29**	**5.13**	**4.36**	**4.71**	**4.77**

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 01.02.2022)

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	2,596	3,775	2,395	**18,820**
	Cap (MMTPA)		1.7			47.5	23.0	34.1	9.4	**115.7**

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

OIL & GAS MAP OF INDIA

LEGENDS

Refineries

Refineries (Capacity in MMTPA)

Producing Fields

Major Producing Fields

LNG Terminals

Dabhol, Dahej, Hazira, Kochi, Mundra, Ennore

★ (Upcoming Terminals) Dhamra, Jafrabad, Jaigarh, Chhara

LEGENDS

Pipelines Network

- Crude Oil Pipeline
- Ongoing Crude Oil Pipeline
- Product Pipeline
- Ongoing Product Pipeline
- LPG Pipeline
- Ongoing LPG Pipeline
- Gas Pipeline
- Ongoing Gas Pipeline

11. Production and consumption of petroleum products (Million Metric Tonnes)												
Products	2019-20		2020-21		January 2021		January 2022 (P)		Apr-Jan 2021		Apr-Jan 2022 (P)	
	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons
LPG	12.8	26.3	12.1	27.6	1.1	2.5	1.1	2.6	10.2	23.0	10.1	23.5
MS	38.6	30.0	35.8	28.0	3.4	2.6	3.7	2.5	29.2	22.8	33.1	25.4
NAPHTHA	20.6	14.3	19.4	14.1	1.8	1.2	1.7	1.3	16.0	11.6	16.5	12.0
ATF	15.2	8.0	7.1	3.7	0.8	0.4	1.0	0.5	5.4	2.8	8.3	4.0
SKO	3.2	2.4	2.4	1.8	0.2	0.1	0.2	0.1	2.0	1.5	1.6	1.3
HSD	111.1	82.6	100.4	72.7	9.8	6.8	9.5	6.4	82.5	58.9	87.9	62.5
LDO	0.6	0.6	0.7	0.9	0.08	0.09	0.07	0.09	0.6	0.7	0.7	0.9
LUBES	0.9	3.8	1.1	4.1	0.1	0.4	0.1	0.4	0.8	3.3	0.9	3.7
FO/LSHS	9.3	6.3	7.4	5.6	0.7	0.5	0.8	0.5	6.0	4.6	7.5	5.1
BITUMEN	4.9	6.7	4.9	7.5	0.5	0.8	0.5	0.8	3.7	5.7	3.6	5.9
PET COKE	14.6	21.7	12.0	15.6	1.1	1.0	1.4	1.4	9.9	13.5	12.1	11.4
OTHERS	31.0	11.4	30.2	12.8	2.5	1.1	2.9	1.1	25.5	10.6	26.8	10.2
ALL INDIA	**262.9**	**214.1**	**233.5**	**194.3**	**22.2**	**17.6**	**23.0**	**17.6**	**191.9**	**159.0**	**209.0**	**165.7**
Growth (%)	**0.2%**	**0.4%**	**-11.2%**	**-9.3%**	**-2.5%**	**-5.9%**	**3.7%**	**-0.2%**	**-12.1%**	**-11.7%**	**8.9%**	**4.2%**

Note: Prod - Production; Cons - Consumption

15. LPG consumption (Thousand Metric Tonne)

LPG category	2019-20	2020-21	January			April-January		
			2020-21	2021-22 (P)	Gr (%)	2020-21	2021-22 (P)	Gr (%)
1. PSU Sales :								
LPG-Packed Domestic	23,076.0	25,128.1	2,199.6	2,312.1	5.1	21,129.3	21,151.6	0.1
LPG-Packed Non-Domestic	2,614.4	1,886.0	227.9	194.4	-14.7	1,481.8	1,818.5	22.7
LPG-Bulk	263.5	361.9	40.9	46.2	13.1	284.1	316.9	11.5
Auto LPG	171.9	118.4	13.2	9.4	-28.9	94.0	100.6	7.0
Sub-Total (PSU Sales)	26,125.7	27,494.3	**2,481.5**	**2,562.2**	**3.3**	**22,989.2**	**23,387.6**	**1.7**
2. Direct Private Imports*	204.0	64.2	8.6	6.8	-21.1	50.9	68.5	34.6
Total (1+2)	26,329.8	27,558.4	**2,490.1**	**2,568.9**	**3.2**	**23,040.1**	**23,456.1**	**1.8**

*Dec -Jan 2022 DGCIS data are 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	1.02.22 (P)
LPG Active Domestic Customers	(Lakh)						1486	1663	1988	2243	2654	2787	2895	3045
	Growth							11.9%	19.6%	12.8%	18.3%	5.0%	3.9%	5.6%
LPG Coverage (Estimated)	(Percent)						56.2	61.9	72.8	80.9	94.3	97.5	99.8	-
	Growth							10.1%	17.6%	11.1%	16.5%	3.4%	2.3%	-
PMUY Beneficiaries	(Lakh)								200	356	719	802	800.4	899.5
	Growth									77.7%	101.9%	11.5%	-0.2%	12.2%
LPG Distributors	(No.)	9686	10541	11489	12610	13896	15930	17916	18786	20146	23737	24670	25083	25209
	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%	1.0%
Auto LPG Dispensing Stations	(No.)	536	604	652	667	678	681	676	675	672	661	657	651	634
	Growth	19.9%	12.7%	7.9%	2.3%	1.6%	0.4%	-0.7%	-0.1%	-0.4%	-1.6%	-0.6%	-0.9%	-3.5%
Bottling Plants	(No.)	182	183	184	185	187	187	188	189	190	192	196	200	202
	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%	1.5%

Source: PSU OMCs (IOCL,BPCL and HPCL)

1.Growth rates as on 01.02.2022 are w.r.t. figs as on 01.02.2021. Growth rates as on 1 April of any year are w.r.t. figs as on 1 April of previous year.

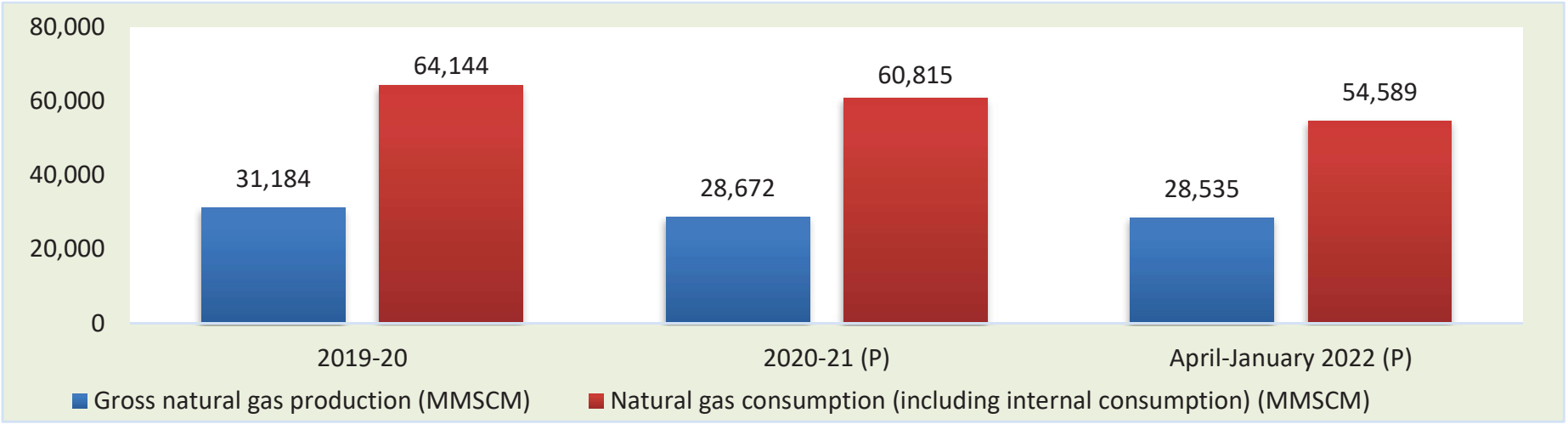
2. The LPG coverage is calculated by PSU OMCs based upon the active LPG domestic connections and the estimated number of households. The number of households has been projected by PSU OMCs based on 2011 census data. Factors like increasing nuclearization of families, migration of individuals/ families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

18. Natural gas at a glance

(MMSCM)

Details	2019-20	2020-21 (P)	January			April-January		
			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	2,551	3,425	2,861	23,680	31,562	28,535
- ONGC	23,746	21,872	1,866	2,000	1,749	18,410	19,489	17,291
- Oil India Limited (OIL)	2,668	2,480	212	250	233	2,082	2,473	2,423
- Private / Joint Ventures (JVs)	4,770	4,321	473	1,175	879	3,188	9,601	8,821
(b) Net production (excluding flare gas and loss)	30,257	27,784	2,477		2,767	22,935		27,803
(c) LNG import#	33,887	33,031	2,692		2,408	27,679		26,785
(d) Total consumption including internal consumption (b+c)	64,144	60,815	5,169		5,175	50,614		54,589
(e) Total consumption **(in BCM)**	64.1	60.8	5.2		5.2	50.6		54.6
(f) Import dependency based on consumption (%), {c/d*100}	52.8	54.3	52.1		46.5	54.7		49.1

#Jul 2020-Jan 2022 DGCIS 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-January 2022 (P)	575.53	MMSCM
Production of CBM gas	January 2022 (P)	57.79	MMSCM

20. Common Carrier Natural Gas pipeline network as on 30.09.2021

Nature of pipeline		GAIL	GSPL	PIL	IOCL	AGCL	RGPL	GGL	DFPCL	ONGC	GIGL	GITL	Others*	Total
Operational	Length	8,918	2,700	1,459	143	107	304	73	42	24				**13,770**
	Capacity	171.5	43.0	85.0	20.0	2.4	3.5	5.1	0.7	6.0				**337.3**
Partially commissioned#	Length	4,543			166						441	365		**5,515**
	Capacity				-						-	-		-
Total operational length		**13,461**	**2,700**	**1,459**	**309**	**107**	**304**	**73**	**42**	**24**	**441**	**365**	**0**	**19,285**
Under construction	Length	5,973	100		1,265						1,891	1,446	3,550	**14,225**
	Capacity	23.2	3.0		-						3.0	-	153.5	-
Total length		**19,434**	**2,800**	**1,459**	**1,574**	**107**	**304**	**73**	**42**	**24**	**2,332**	**1,811**	**3,550**	**33,510**

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 01.02.2022	% Capacity utilisation (Apr-Dec 2021)
Dahej	Petronet LNG Ltd (PLL)	17.5 MMTPA	90.0
Hazira	Shell Energy India Pvt. Ltd.	5.2 MMTPA	57.2
Dabhol	Konkan LNG Limited	*5 MMTPA	71.8
Kochi	Petronet LNG Ltd (PLL)	5 MMTPA	21.4
Ennore	Indian Oil LNG Pvt Ltd	5 MMTPA	14.0
Mundra	GSPC LNG Limited	5 MMTPA	19.9
Total Capacity		**42.7 MMTPA**	

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

https://www.gazprom.ru/press/news/2022/february/article548464/

Gazprom and CNPC Discussed Further Steps to Implement a Project for Gas Supplies to China via the Far East Route

February 25, 2022, 12:50

Today, a working meeting was held via videoconference as part of the Joint Coordinating Committee between PJSC Gazprom and CNPC chaired by Vitaly Markelov , Deputy Chairman of the Gazprom Management Committee, and Huang Yongzhang, Vice President of CNPC.

The meeting participants discussed a wide range of issues of interaction between companies. In particular, the parties agreed on the dates for scheduled preventive work on the Power of Siberia gas pipeline in the spring of 2022. It was noted that gas deliveries along the "eastern" route are carried out in excess of the obligations of the Russian side.

Special attention at the meeting was paid to further steps to implement the project of Russian gas supplies to China via the "Far East" route.

reference

The state oil and gas company CNPC is Gazprom's main partner in China.

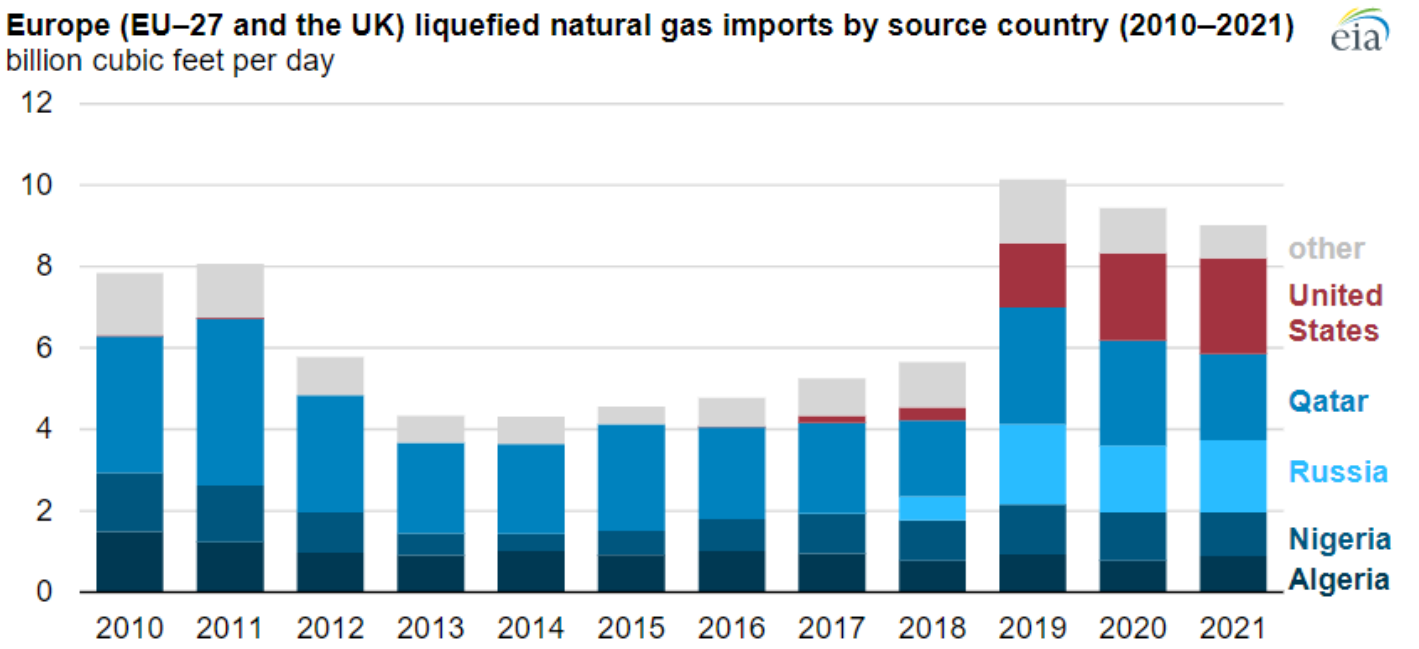
In 2014, Gazprom and CNPC signed a 30-year Gas Purchase and Sale Agreement via the Eastern Route (through the Power of Siberia gas pipeline) in the amount of 38 billion cubic meters. m of gas per year. The solemn ceremony dedicated to the start of the first ever pipeline deliveries of Russian gas to China took place on December 2, 2019.

In February 2022, a long-term contract for the sale and purchase of natural gas along the Far East route was signed. After the project reaches its full capacity, the volume of Russian pipeline gas supplies to China will increase by 10 billion cubic meters. m and in total will reach 48 billion cubic meters. m per year.

PJSC Gazprom Information Department

HTTPS://WWW.EIA.GOV/TODAYINENERGY/DETAIL.PHP?ID=51358
FEBRUARY 22, 2022

Three countries provided almost 70% of liquefied natural gas received in Europe in 2021



Source: Graph by the U.S. Energy Information Administration, based on data from the International Group of Liquefied Natural Gas Importers (GIIGNL) annual liquefied natural gas trade reports (2010–2020) and CEDIGAZ (2021)

In 2021, a large share of Europe's supply of liquefied natural gas (LNG) originated in the United States, Qatar, and Russia. Combined, these three countries accounted for almost 70% of Europe's total LNG imports, according to data by CEDIGAZ. The United States became Europe's largest source of LNG in 2021, accounting for 26% of all LNG imported by European Union member countries (EU-27) and the United Kingdom (UK), followed by Qatar with 24%, and Russia with 20%. In January 2022, the United States supplied more than half of all LNG imports into Europe for the month.

Exports of LNG from the United States to EU-27 and the UK increased from 3.4 billion cubic feet per day (Bcf/d) in November 2021 to 6.5 Bcf/d in January 2022—the most LNG shipped to Europe from the United States on a monthly basis to date, according to the U.S. Department of Energy's *LNG Monthly* reports and our own estimates, which are based on LNG shipping data. Rising U.S. LNG exports are the result of both natural gas supply challenges in Europe and the sizable price differences between natural gas produced in the United States and current prices at European trading hubs.

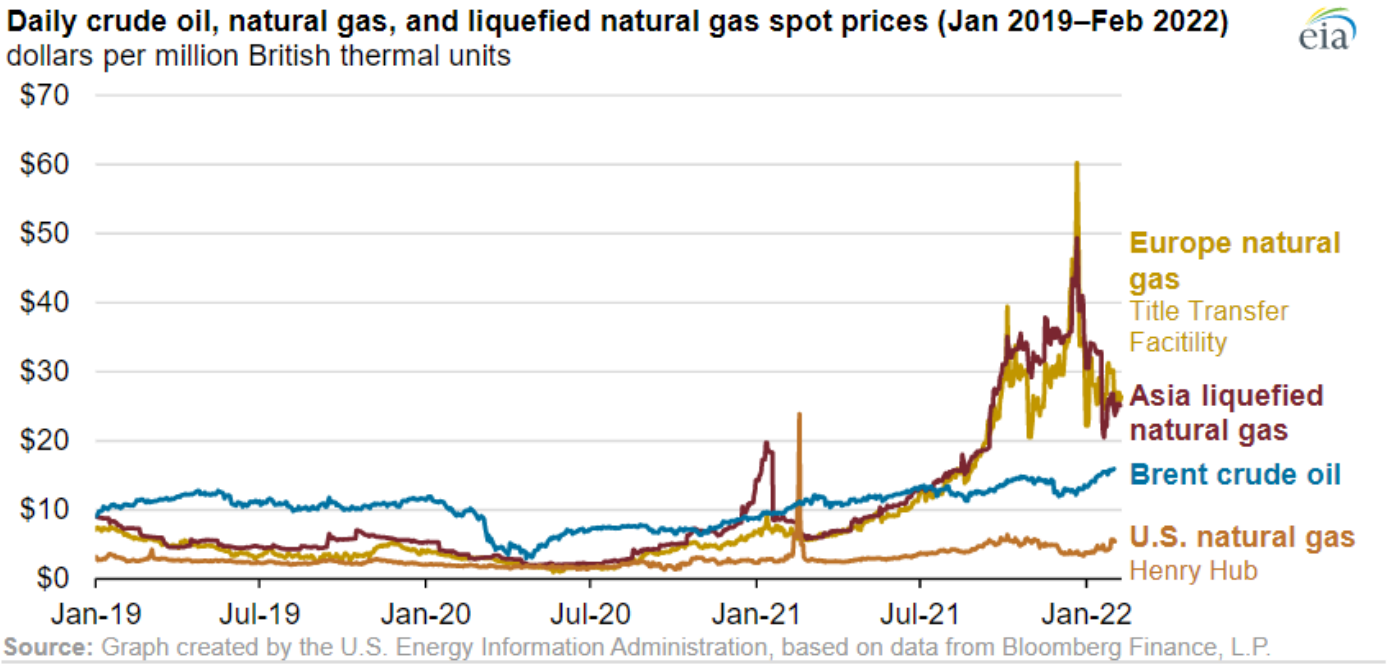
Natural gas supply constraints in Europe and the low storage inventories of the past year contributed to recent increases in U.S. LNG exports to Europe. Europe's natural gas production has been in continuous decline because of production limits on the Groningen field in the Netherlands and declines in the mature fields in the North Sea. To meet demand, Europe's natural gas imports, particularly from Russia, have increased in recent years.

Pipeline flows of natural gas from Russia decreased during 2021. Pipeline receipts from Russia at the three main entry points (Kondratki in Poland, Greifswald in Germany, and Velke Kapusany in Slovakia, which combined account for 14.3 Bcf/d of import pipeline capacity from Russia) averaged 10.7 Bcf/d in 2021, compared with 11.8 Bcf/d in 2020 and 14.1 Bcf/d in 2019, according to data by Refinitiv Eikon. More natural gas delivered by pipeline from Norway, which increased from 10.4 Bcf/d in 2019 and in 2020 to 11.1 Bcf/d in 2021, was not enough to offset reduced pipeline receipts from Russia.

Supply challenges in the European market have led to rising regional prices for natural gas. The natural gas spot price at the Title Transfer Facility (TTF) in the Netherlands—the most liquid virtual natural gas hub in Europe—has been trading at all-time high levels. The TTF price averaged $28.52 per million British thermal units (MMBtu) from September 2021 through the first week of February

2022. The TTF price peaked at $60.20/MMBtu on December 21, 2021. Prior to this sharp price increase, the TTF price had averaged $9.28/MMBtu from January through August 2021, $3.28/MMBtu during 2020, $4.45/MMBtu during 2019, and $6.45/MMBtu from 2014 through 2018.

Historically, spot natural gas in Europe has traded at prices lower than LNG spot prices in Asia. In recent months, however, natural gas prices in Europe have closely tracked LNG prices in Asia. On some days, the natural gas price in Europe has exceeded the LNG price in Asia, attracting higher volume of flexible LNG supplies to Europe. LNG imports to Europe increased in December 2021 and January 2022, averaging 10.8 Bcf/d and 14.9 Bcf/d, respectively, partly in response to the price at TTF rising above LNG spot prices in Asia.



Source: Graph created by the U.S. Energy Information Administration, based on data from Bloomberg Finance, L.P.

Principal contributors: Victoria Zaretskaya, Chris Peterson, Warren Wilczewski

Tags: international, natural gas, pipelines, exports/imports, United States, Europe, Qatar, Russia, LNG (liquefied natural gas)

https://www.wsj.com/articles/frackers-push-into-once-dead-shale-patches-as-oil-nears-100-a-barrel-11645439400?mod=Searchresults_pos1&page=1

Frackers Push Into Once-Dead Shale Patches as Oil Nears $100 a Barrel

Oil producers drill in less-desirable areas like Anadarko Basin of Oklahoma and DJ Basin of Colorado, where activity virtually stopped during pandemic

Private companies are leading the industry's return to oil fields in places like Oklahoma.

PHOTO: ANGUS MORDANT/BLOOMBERG NEWS

By Collin Eaton Follow

Updated Feb. 21, 2022 4:29 pm ET

Spurred by the highest oil prices in years, shale companies are moving drilling rigs back into oil fields that were all but abandoned a few years ago.

Private oil producers are leading an industry return to places like the Anadarko Basin of Oklahoma and the DJ Basin in Colorado, where drilling had almost completely stopped in mid-2020 when those areas became unprofitable because of lower oil prices.

Oil production in these marginal regions isn't expected to move the needle in the global market, which is facing tight supplies, but it could help some oil producers who have lost money in past years. Output in the contiguous U.S. by year-end is expected to increase almost solely from the Permian Basin of West Texas and New Mexico, offset by declines elsewhere, according to energy consultant Wood Mackenzie.

More oil is being pumped from regions that yield tiny wells by industry standards. A drilling rig in Calumet, Okla., last June.

PHOTO: SUE OGROCKI/ASSOCIATED PRESS

Some of the largest shale companies told investors this past week they plan to remain disciplined on capital spending and limit production growth. But with oil climbing above $90 a barrel, near the highest levels in more than seven years, some peripheral drilling, particularly by smaller companies, is now becoming more feasible even in places like Kansas and Utah, where wells produce far less oil than prolific fields in Texas and New Mexico. The regional revivals show the economic ripple effects when prices surge and mark a turnaround for companies hard-hit by the pandemic.

Brent, the global oil benchmark, rose to $95.39 a barrel Monday, up almost 2%.

Charter Oak Production Co. is planning to bring one drilling rig back to the Anadarko Basin this month and contract a larger rig to work there until late 2022, in hopes of doubling or tripling its output from about 1,000 barrels a day. Though oil-field costs have climbed sharply amid new activity and inflation, Charter founder Joe Brevetti said the clock is ticking for his drilling plans because, at some point, high commodity prices will dent demand and lead to lower prices.

“We have a limited window of opportunity,” Mr. Brevetti said. “Our costs are obviously up right now, but I’d rather have the higher costs and sell the product at $90.”

Mr. Brevetti’s company waited out the oil-demand destruction wrought by the pandemic, slashing drilling activity and storing as many as 60,000 barrels of oil in empty tanks that typically hold other materials used in fracking, instead of selling the oil at low prices. Those moves were key to helping the company survive the downturn, he said.

Putting drilling rigs back to work in the Anadarko Basin wouldn't have made sense when oil prices were around $45 a barrel or lower in 2020, with some companies needing at least $60-per-barrel oil, or even $80 a barrel, to increase investments, executives said.

The average number of active drilling rigs in the Anadarko Basin has surged from the pandemic low of seven to 46, according to energy data analytics firm Enverus. The latest number is several more than the region had before oil prices collapsed because of economic shutdowns in the spring of 2020, and almost double the average of mid-2021.

In the DJ Basin in Colorado, the average number of active rigs has risen to 15, up from four in 2020, Enverus data show. In the Powder River Basin in Wyoming and the Uinta Basin in Utah, which both saw rigs fall to zero in mid-2020, the rig count has increased to almost a dozen. All three areas need higher oil prices to make wells profitable.

This past week, oil producer Crescent Energy Co. CRGY -2.12% said it would buy assets in the Uinta Basin for $815 million in cash and plans to operate two rigs there this year. Utah is pumping the most oil since late 2014, though it makes up less than 1% of the nation's output.
Companies have started pumping more oil from regions that yield tiny wells by industry standards. Private oil producer Palomino Petroleum Inc. is now running as many as six drilling rigs this year in western Kansas, the largest fleet it has had there in about seven years. The wells it drills there typically start producing about 50 to 100 barrels a day. That oil is moved by truck to a refinery in central Kansas.

Klee Watchous, Palomino's president, said oil prices climbing back to $90 a barrel has marked a sharp turnaround in the fortunes of both the company and the small towns near its operations. Mr. Watchous said his company is also planning to drill wells in Illinois this year, a state where rigs have rarely ventured recently.

"After many years of fighting this low oil-price situation, it feels great," Mr. Watchous said. "The cycles of boom and bust have been part of the oil-and-gas industry for decades, and no one knows how long it will last."

Still, the renewed investment in many of the regions is nowhere near the levels they saw during shale's peak years. Most of the largest, publicly traded companies are still focusing instead on top-tier fields like the Permian.

Activity in the Anadarko basin is well below its 2018 levels. Investor interest in the region faded around 2019 following disappointing oil-well performance. Oil companies and their service providers

cut hundreds of jobs in the region as activity waned. Some industry observers are hopeful that the region could see the number of drilling rigs there climb above 100 again and bring back jobs, but said that would take years of high oil prices.

Even though the region is on the upswing, some larger private companies are taking a conservative approach. Citizen Energy, a private producer based in Tulsa, Okla., is reinvesting around 50% of the money it generates from operations back into capital expenditures on developing its assets, said finance chief Tim Helms. In shale's heyday, companies almost always spent more money on drilling and fracking than they made selling the oil and gas.

Mr. Helms said Citizen is now running four rigs in the Anadarko Basin, up from two that targeted natural gas in 2020. While the company may consider adding rigs if prices stay high for a long time, it is still focused on generating cash flow while increasing output around 10% this year, he said.

"The financial model would tell you to put eight rigs at work," Mr. Helms said. "We, like the rest of the industry, have learned our lessons about growing at all costs."

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Trans Mountain Says Shippers Are Mostly Shielded From Cost Rise

2022-02-24 23:04:43.233 GMT

By Robert Tuttle

(Bloomberg) -- Trans Mountain Corp. will mostly shield its shippers from the 70% increase in costs to build a new oil pipeline to the Pacific, helping to keep the key project a viable oil conduit for reaching Asian markets viable.

Just 20% to 25% of the cost increases will be passed on through higher tolls to the companies that will be shipping oil on the line, the company said in an email Wednesday. Tolls will be filed with the Canada Energy Regulator shortly before the pipeline begins service.

"Trans Mountain will continue to be a competitive alternative for the export of oil to Asia taking into account both the toll shippers will pay and transit time," the company said.

The operator of the government-owned pipeline announced last Friday that the cost of the line's expansion project increased to C$21.4 billion ($16.7 billion) and the completion date was pushed back by almost a year until the third quarter of 2023.

Companies including Suncor Energy Inc., Cenovus Energy Inc., Exxon Mobil Corp.'s Imperial Oil Ltd. and PetroChina Co. have reserved about 80% of the space on the Trans Mountain expansion by signing commitments to ship on the line for 15 to 20 years, contracts that have underpinned the project for almost a decade. On Friday, Suncor and Cenovus issued statements saying that they continue to support the project after costs increased.

The Trans Mountain Expansion will add almost 600,000 barrels a day of new export capacity to the sole pipeline running from Alberta's oil sands to Canada's Pacific Coast, opening up easy access to growing markets in Asia for the country's heavy crude, most of which now goes to the U.S. But the project has faced fierce opposition in British Columbia, cost increases and repeated delays since first proposed almost a decade ago. In 2018, the government stepped in to salvage the expansion project by purchasing Trans Mountain after the previous owner, Kinder Mogan Inc., threatened to pull the plug on it.

The Canadian government said on Friday that it will spend no additional public money on the project, and that Trans Mountain will instead secure the funding necessary to complete the project with third-party financing, either in the public debt markets or with financial institutions. BMO Capital Markets and TD Securities have been hired to provide advice on financial aspects of the project.

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Exxon Beaumont Union Accepts Deal After Nearly Ten-Month Lockout
2022-02-22 00:48:03.341 GMT

By Barbara Powell
(Bloomberg) -- Union members, who've been locked out of Exxon Mobil Corp.'s Beaumont refinery on the Texas Gulf Coast since May, accepted the company's latest contract offer Monday, people familiar with the vote said.
Approval by the union means Exxon and workers will now negotiate a return-to-work agreement for union-represented employees, ending the nearly 10-month lockout. Temporary workers have been running the refinery since May 1. The approval comes four months after members of the local United Steelworkers union resoundinglyturned down a previous deal to end the labor dispute.
The new local contract makes Martin Luther King Jr. a paid holiday and amends some language including the makeup of a workmen's committee.
Approving a new worker agreement removes uncertainty about having an adequately trained labor force at a time when Exxon is working to expand the 369,000-barrel-a-day site by 250,000 barrels. The expansion will add a new crude unit that could process light, low-sulfur crude from the Permian Basin by 2023, making Beaumont the largest refinery in the U.S.
A six-year labor pact between the USW local and Exxon expired last February without a new collective bargaining agreement in place. The two sides continued to negotiate and the old contract at first remained in effect using 24-hour extensions. Exxon, which made it clear it wanted to control costs and have a flexible work agreement to maintain competitiveness, locked out the 650 union-represented members of USW Local 13-243 at the refinery and adjoining lubricant oil plant in May.

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https://www.usw.org/news/media-center/releases/2022/usw-reaches-tentative-agreement-with-marathon-to-set-four-year-pattern-for-oil-sector-bargaining
FEB 25, 2022

USW Reaches Tentative Agreement with Marathon to Set Four-Year Pattern for Oil Sector Bargaining

Contact: Tony Montana – (412) 562-2592 or tmontana@usw.org
The United Steelworkers (USW) today said that the union has reached tentative agreement on a new, four-year contract with Marathon that outlines a pattern for improving wages, benefits and working conditions throughout the industry during the course of its term.

The agreement will impact over 30,000 oil refinery, petrochemical plant, pipeline and terminal employees in more than 200 USW represented bargaining units.

“The industry came to the table with demands that would have undermined generations of collective bargaining progress,” said USW International President Thomas M. Conway. “Thanks to the solidarity of the membership and the hard work of our committee, we have achieved a fair agreement.”

The USW will review the details of the proposed pattern agreement with members before discussing them publicly.

“Our Policy Committee was determined to bring back a fair agreement that reflects our essential role in the industry, especially considering its recent, historic boom in profits,” said USW National Oil Bargaining Program Chairman Mike Smith. “The proposed agreement provides both economic and non-economic improvements for USW Oilworkers that we are proud to recommend to members for ratification.”

With the industry pattern settled, local unions will bargain individual contracts at each worksite that incorporate its terms.

The USW represents 850,000 men and women employed in manufacturing, metals, mining, pulp and paper, rubber, chemicals, glass, auto supply and the energy-producing industries, along with a growing number of workers in tech, public sector and service occupations.

https://www.reuters.com/article/gas-summit-nigeria-oil-idUSL1N2UX0XG

ENERGY

FEBRUARY 22, 20225:02 AMUPDATED 4 HOURS AGO

UPDATE 1-Nigeria aims to increase oil production by year end -petroleum minister

By Reuters Staff
1 MIN READ

(Adds detail)

DOHA, Feb 22 (Reuters) - Nigeria is working hard to bring oil production levels higher by the end of 2022, the petroleum minister, Timipre Sylva, said on the sidelines of a gas exporters conference in Qatar's capital Doha.

"We are working hard and we're expecting that by the end of this year we'll be able to bring back our production," Sylva said.

"We are not happy at all because we are the losers. I mean prices are strong and that we're not able to take advantage of these prices," he added.

Nigeria has been struggling to meet its production quota under an OPEC+ supply deal as it faces maintenance issues and an exodus of international oil companies which has crimped investments in its oil sector.

"We have some issues with investment and can't bring [oil production] back to where it was before," Sylva said. (Reporting by Maha El Dahan in Doha, writing by Ahmad Ghaddar in London, Editing by Louise Heavens, Kirsten Donovan)

Excerpt White House Feb 25 briefing
https://www.whitehouse.gov/briefing-room/press-briefings/2022/02/25/press-briefing-by-press-secretary-jen-psaki-february-25-2022/

Press Briefing by Press Secretary Jen Psaki, February 25, 2022

Q We were — also reported today that China has actually increased its reserves as opposed to releasing reserves, which could help, perhaps, with the energy price increases that we're seeing. Have you had — you know, what do you — what do you think of that move?
And then also, has there been any further communication? Does President Biden intend to talk to President Xi? Or can you say a word about what — what you're doing in terms of trying to convince the Chinese to be supportive?
MS. PSAKI: Well, I would note that, also today, the I- — the IEA had an informal meeting where they discussed options they could take over the coming days and weeks to help address any volatility in the global markets and, you know, the heightening of price volatility.
And certainly, that meeting today was a chance to consult and continue coordination with partners on global energy supply and security.
There's also continuing conversations that we have had from here with partners over the past day. Secretary Granholm spoke with French, German, EU, and UK counterparts yesterday and will continue those conversations.
As it relates to China, you know, I would say that the President's view, of course, is that now is the time for leaders of the world to not just speak out clearly against President Putin's flagrant aggression and to stand with the people of Ukraine, but this is not a moment for evo- — equivocation or hiding or waiting to see what happens next.
It is already clear what's happening. And as a part of that, it's also important to be a part of the effort to mitigate and minimize the impact on global markets and gloi- — global oil markets.
And so, I don't have any additional conversations to read out for you. But I would say, certainly, we all want to be a part of the solution here and stand up in the face of aggression to help address the problems.

Q Are you saying that China is, in fact, equivocating?
MS. PSAKI: All I'm saying is that every country should think about what side of history they want to be on here, and they have the ability to do that.

Q Thank you, Jen. The State Department just said, about the U.S. and Russia, that there are still some areas in which the fulfillment of our national security priorities and imperatives require us to engage and coexist. How is it that we are still engaging and coexisting with the Russians?
MS. PSAKI: Well, Peter, I would say diplomacy around the world requires us to engage with countries, even where we have strong disagreements, strong opposition, strong condemnation.
We've been very outspoken and taken actions against China's human rights abuses, but we have worked with them in other capacities.

We are working — Russia is a part of the P5+1, as we're working and making progress on an Iran nuclear deal. There's no question that achievement of that would make the world safer.

So it is our responsibility. And — and diplomacy means engaging even with countries where you have strong disagreement and strong opposition.

Q And just so that we can understand, then, the approach: That means that you guys will sit here and sanction Vladimir Putin and then send diplomats to go sit on the same side of the table with the Russians to hash out the Iran deal. Is that what's happening?
MS. PSAKI: That's right, Peter, but I don't know why you sound so skeptical. What our job here in the United States and from any government is to take steps that are in the interest of the American people and the United States of America. And part of that is — would certainly be reducing Iran's capacity and ability to have a nuclear weapon. I think there's no question about that. Russia is a part of the P5+1.

Q And why are you guys waiting to apply maximum pressure on Russia with — you know, sanctions on everything? It doesn't seem — you know, are you guys waiting for Kyiv to fall? Or (inaudible)?
MS. PSAKI: Sanctions on everything? How do you mean?

Q In — like sanctions on all Russian — you know, all Russian transactions and on oil and gas. Sort of — like do you think that Americans are not willing to take a hit at the gas pump?
MS. PSAKI: Well — well, I would say there's a couple of principles through which the President has approached sanctions. One is maximizing the impact on Russian leadership and on the Russ- — Russian financial system so that there will be a particular squeeze.

We've obviously taken steps already that have gone far and above what have ever been done — what has ever been done in the past. If you look at just 10 — the 10 financial institutions that we sanctioned, they hold a — you know, a huge percentage of — they are about 80 percent of the Russian banking sector. That is a significant step that was announced yesterday.
The export controls step that was announced yesterday means that they will be — they won't have the ability to get access to the technology that — and semiconductors and AI — that President Putin desperately wants to continue to innovate his economy moving forward.
There's also — of course, Europeans are also looking at — European countries are also looking at some of their reliance on Russia, whether it's for energy or other purposes, and they're making their own decisions about diversifying.
And as I noted a little bit earlier, the Ruble remains about 10 percent weaker year to date and the worst-performing emerging market currency in the world.
So, what should be clear here is that there are already huge impacts. There is already an enormous squeeze on the Russian financial system and economy.
What we are also — what the President is also focused on as a principle is not — is taking steps and making sure we are minimizing the impact on the American people, on the global economic system. And we, of course, weigh that, as we have a responsibility to do. And we want to, first and foremost — I should have said this first — take these steps, united with our partners and Allies in Europe.

Q Just following up on the question and your discussion of sanctioning oil and gas and — and understanding that the President in any decisions he makes around sanctions or any other actions to take against Russia is thinking about the American people, is there a point at which he would consider doing that? That — that — is that —
MS. PSAKI: Like the energy sector?'

Q Yeah. Ener- — is the energy sector at some level on the table as Putin gets even more aggressive?
And also, you know, there are also some other countries that are — have worked for carveouts — for instance, Italy and luxury goods. What is the U.S. view of those kinds of exceptions being made for things that are maybe a lot less essential, as much as we might like them, than oil and gas? (Laughs.)
MS. PSAKI: (Laughs.) Speaking for yourself. So I would say, on the energy sector, no option is off the table.
But again, to go back to the princi- — some of the principles here, our sanctions are designed to harm Russia's economy, not our economy, and that's a key balance that we're clearly trying to strike. And I think when Daleep — as Daleep has been in here a few times over the last week, he has conveyed we do risk assessments — right? — and impact assessments, and that's a part of it.
The other factor here on the energy sector is that starting out with energy or — could actually benefit President Putin and pad his pockets because, given high oil and gas prices, cutting off Russian oil and gas could drive prices up to Putin's benefit.
So, that's obviously a factor as well, but it's not off the table. But we look at a range of issues.

Q Yeah, so the President said he's doing everything he can to bring down energy prices —
MS. PSAKI: Yeah.
Q — gas prices here in the U.S. Is on the table then — or is he considering reversing some of the policies and regulations that he put into place that constricts the long-term supply of it to let Europe be more reliant on the U.S. for oil and natural gas?
MS. PSAKI: You mean like LNG exports or something like that?
Q LNG — LNG exports, but also oil prices — allowing — you know, opening up drilling again, reversing the ban on leases on federal lands.
MS. PSAKI: Well, I think what's important to note here — and I talked about this a little bit yesterday — is that there are a range of available oil leasing sites that oil companies are not utilizing, so you should ask them about that.
You know the President's view on reducing our dependence on foreign oil. And actually, his view is that this makes that case even stronger and diversifying the range of means of energy production everywhere around the world.
As it relates to LNG exports, I don't have anything new on that.
Our focus right now is on working with — or engaging with a range of countries — I mentioned Japan yesterday — and having conversations with others who may have the availability of supply — natural gas supply that was coming from the United States to provide to Europe in this time where they need it. And we're seeing some encouraging developments on that front.
Q And one more thing on OPEC.
MS. PSAKI: Yeah.
Q OPEC is making moves now to get ready to include Iranian oil in — if the U.S. is successful with the Iran nuclear deal. Would the President then welcome Iranian oil coming into the U.S. to lower gas prices?
MS. PSAKI: Well, again, we're not quite at the point of a final deal on the nuclear deal. So, we will talk about that if we get to that point.

Iraq Halts Oil Fields That Can Pump Almost 500,000 Barrels a Day
2022-02-27 06:32:02.372 GMT

By Khalid Al-Ansary and Verity Ratcliffe
(Bloomberg) -- Iraq stopped oil production from two southern fields with a combined capacity of almost half a million barrels a day.
The shutdowns curtail the ability of OPEC's second-largest member to pump crude just as Russia's invasion of Ukraine and tight supplies globally send prices soaring.
The operators of Nasiriya and West Qurna-2 have said nearby fields will be able to produce more to compensate for the temporary losses.
Work at Nasiriya, capable of supplying as much as 80,000 barrels a day, was halted on Saturday because of protests that prevented staff from reaching the site, according to a statement from Thiqar Oil Co.
That followed the closure of the huge West Qurna-2 field on Feb. 21 for maintenance. The field, which can pump 400,000 barrels a day, is scheduled to resume normal operations on March 14, though the companies that run it are trying to restart output sooner.
State-owned Basra Oil Co. said the work will enable production from West Qurna-2 to be increased to 450,000 barrels a day. Russia's Lukoil PJSC has a stake in the field.

OPEC Struggles

The outages come as many OPEC members, including Iraq, struggle to reach their production quotas, causing global energy markets to tighten as demand recovers from the coronavirus pandemic.
Iraq pumped 4.16 million barrels a day in January, less than its target of almost 4.3 million, Bloomberg reported earlier this month. That was because of bad weather at ports and the country should meet its quota for February, Oil Minister Ihsan Abdul Jabbar said in an interview on Feb. 21.
Iraq has repeatedly said it is able to pump as much as 5 million barrels-a-day.
Read more: Ukraine Attack Could Change Everything for OPEC
The Organization of Petroleum Exporting Countries and its partners -- a 23-nation group including Russia -- meet on March 2 to decide on output for April. Major OPEC members such as Saudi Arabia have come under pressure in recent months to raise production faster and rein in oil prices, which temporarily surpassed $100 a barrel on Thursday after Russia attacked Ukraine.
Brent crude fell 1.2% to $97.93 a barrel on Friday, but is

still up 26% this year.

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China oil markets monthly snapshot

	Indicator	Value	Change		Last update	Comment
Demand	**Traffic**		**M-o-M**	**Y-o-Y**		• Covid-19 outbreaks have disrupted the usual travel rush during the Lunar New Year holiday. Daily trips as of February 17 averaged 25.5 million. This represents a 17% increase compared to 2021, but still falls short of the earlier forecast of 30 million trips per day made by the Ministry of Transport. • Jet fuel demand for January and February surged by 17% year-on-year, according to the flight schedule tracked by BloombergNEF. • Diesel demand faces downward pressures as lower consumer spending hits road diesel consumption. For more details, see the ***demand*** section from page 3.
	Road freight volume	616 bln tons-km	-1%	+4%	Dec 2021	
	Air passenger traffic	41 bln ppl-km	+29%	-35%	Dec 2021	
	Port cargo throughput	1.3 bln tons	-0%	+3%	Dec 2021	
	High frequency index		**W-o-W**	**M-o-M**		
	Road congestion index	98%	+16 ppt	-1 ppt	Feb 16, 2022	
	Subway traffic index	93%	+14 ppt	+2 ppt	Feb 16, 2022	
	Flight schedules		Increase	Increase	Feb 15-21, 2022	
Refining	**Refinery utilization**		**M-o-M**	**Y-o-Y**		• Run rates from independent refiners have plunged to 55% in February, the lowest level since April 2020. Weak domestic demand, the lack of export quota, and the Winter Olympics all contributed to the low level of throughput. • BloombergNEF expects lackluster demand to weigh on refinery run rates in the coming weeks. Meanwhile, as a diesel shortage comes to an end, and jet fuel demand remains under pressure, refiners will need to cut middle distillate yields again after having significantly raised output during the last quarter. For more details, see the ***refining*** section from page 7.
	Country-wide throughput	13.89 m b/d	-5%	-2%	Dec 2021	
	Independent refineries	56%	-9 ppt	-16 ppt	Feb 18, 2022	
	Refinery output					
	Gasoline	13.54m tons	+0%	+16%	Dec 2021	
	Diesel	16.86m tons	+2%	+30%	Dec 2021	
	Jet kerosene	1.9m tons	-16%	-49%	Dec 2021	
Trade	**Crude imports**		**M-o-M**	**Y-o-Y**		• China has lowered both the crude import and fuel export quotas in early 2022 in a move to secure domestic fuel supply amid capacity consolidation. • The first batch of crude quotas for 2022 saw an 11% drop year-on-year, while fuel export quotas declined by more than 50% compared to the same batch in 2021. The decline in fuels outflow from China has pushed refiners in the rest of Asia Pacific to raise their run rates. For more details, see the ***trade*** section from page 10.
	National total	10.91m b/d	+7%	+20%	Dec 2021	
	Selected routes (BBG)	4.51m b/d	-19%	-19%	Dec 2021	
	Fuel exports					
	Quota usage	98%			Jan-Dec 2021	
	Gasoline	940k tons	+16%	-35%	Dec 2021	
	Diesel	330k tons	-45%	-78%	Dec 2021	

BloombergNEF

Oil demand

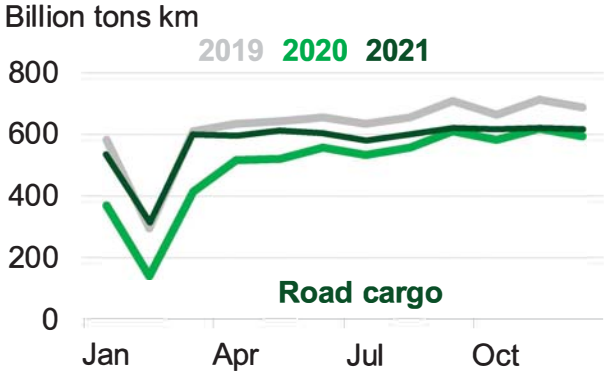
Holiday travel demand misses official forecast

- Lunar New Year holiday travel averaged 25.5 million trips per day, 14% below the Ministry of Transport forecast.
- Airlines have added post-Lunar holiday flights, propping up jet fuel demand.
- Diesel demand remains under pressure as weak spending weighs on road cargo transport.

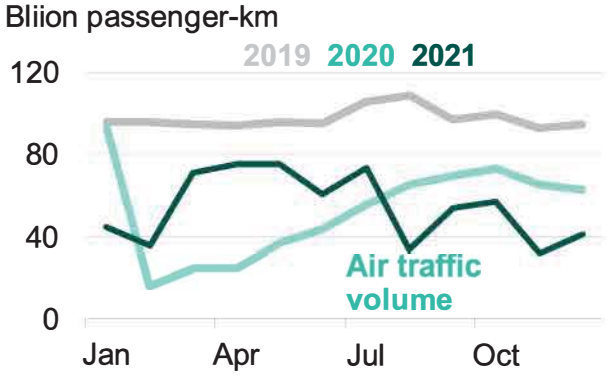
Monthly demand indicators

Road freight lags pre-pandemic levels, as economic growth slows

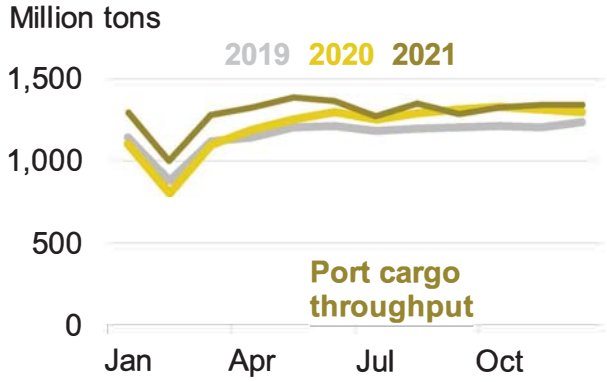
Road freight volume



Air traffic volume

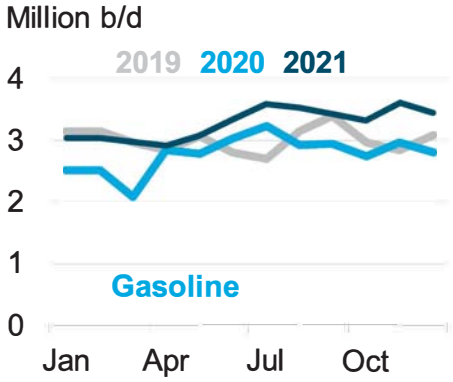


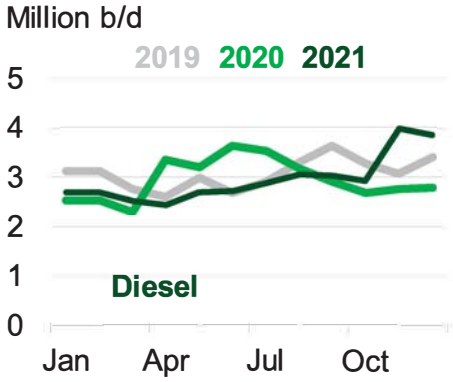
Port cargo volume

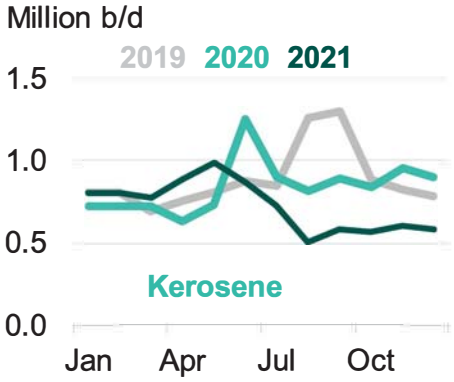


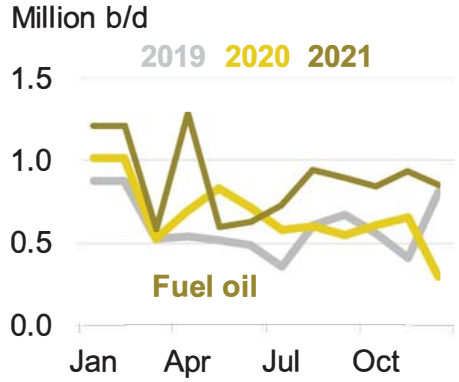
Source: National Bureau of Statistics of China

Apparent demand for transport fuels









Source: Bloomberg Terminal, BloombergNEF. Note: Apparent demand is calculated by deducting net exports from production (apparent demand = production + import – export). China's statistical bureau reports a combined value for January and February in each year. The charts represent this as an even split between the two months for illustrative purposes.

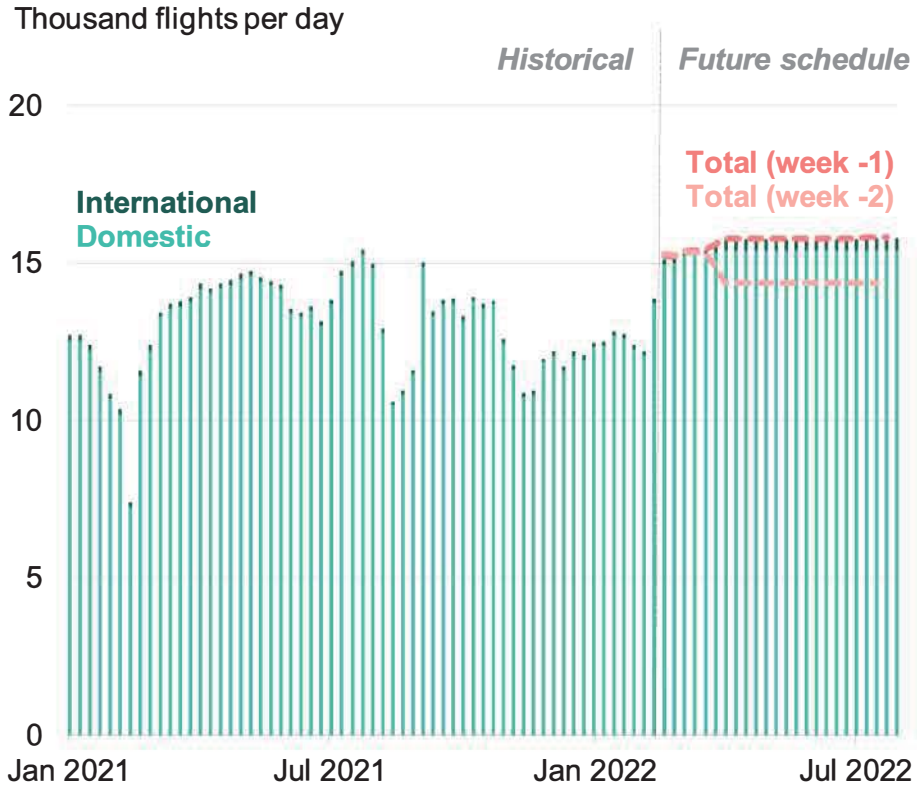
Flight schedules and jet fuel demand

Airlines added post-holiday flights, supporting jet fuel consumption

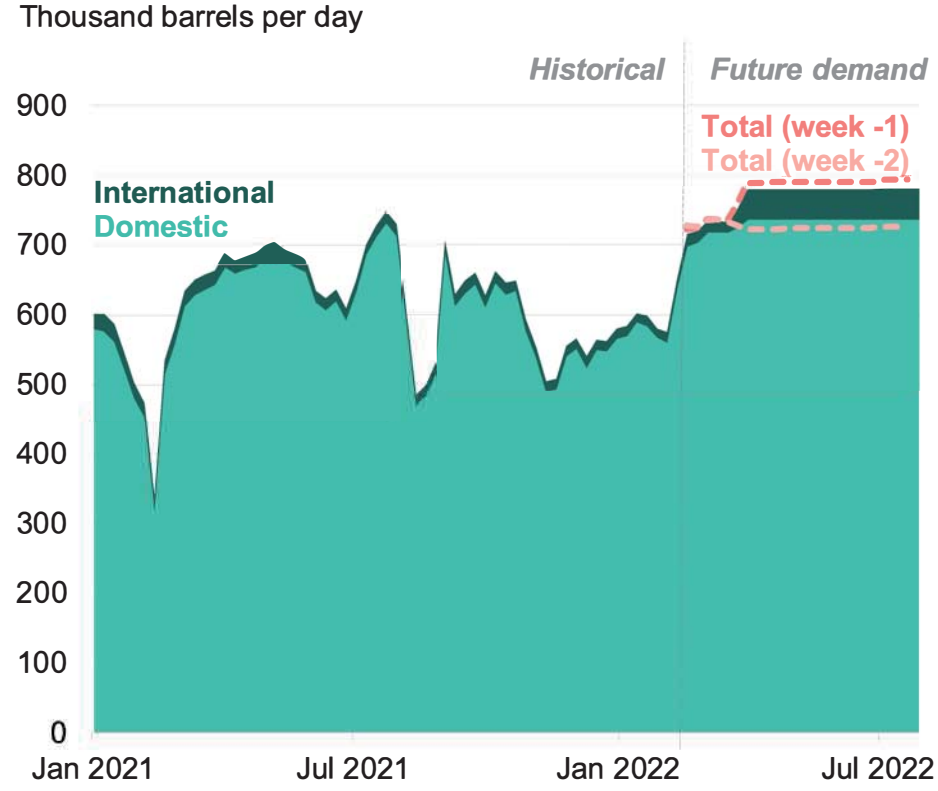
Our weekly **global aviation report** is available on the BNEF Web or the Bloomberg Terminal

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

Chinese airport flight departure schedules



Implied jet fuel demand



Source: BloombergNEF, Bloomberg Terminal FLY <GO>. Note: Last update February 9. Excludes cargo flights. The future flight schedule is subject to change. Terminal users can check DATA FLY <GO> for more details.

Oil refining

Independent refineries run rates hit a low

- Run rates from independent refiners slumped to 55% in early February, the lowest level since April 2020.
- Total throughput in 2021 increased by 4.3% year-on-year, led by state refiners.
- Diesel yields may soon decline as a shortage comes to an end.

Refinery runs and outages

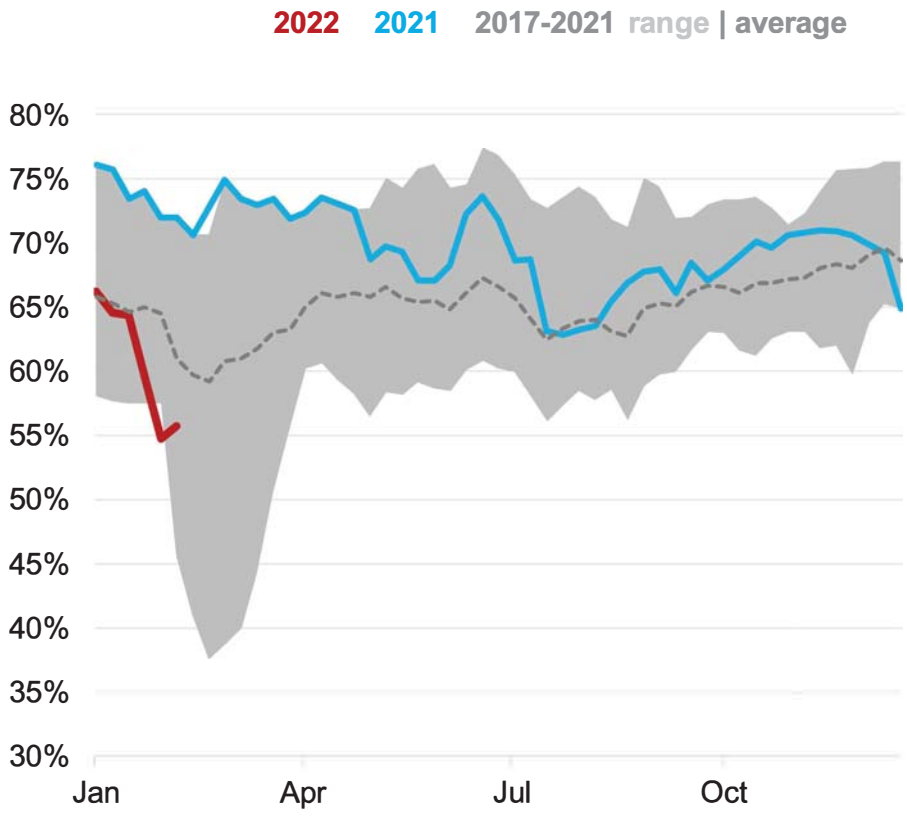
Run rates dropped by 15 percentage points year-on-year at Shandong independents

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

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

Shandong independent refinery operating rates

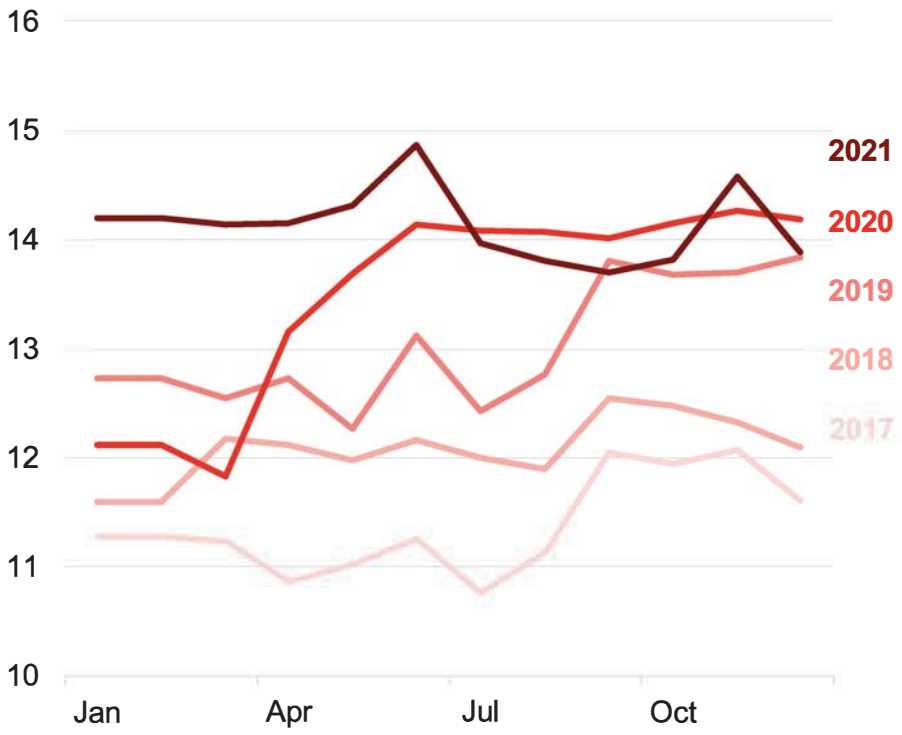
Aggregated utilization rate



Source: BloombergNEF, Shanghai Longzhong Information.

Total crude oil throughput

Million barrels per day

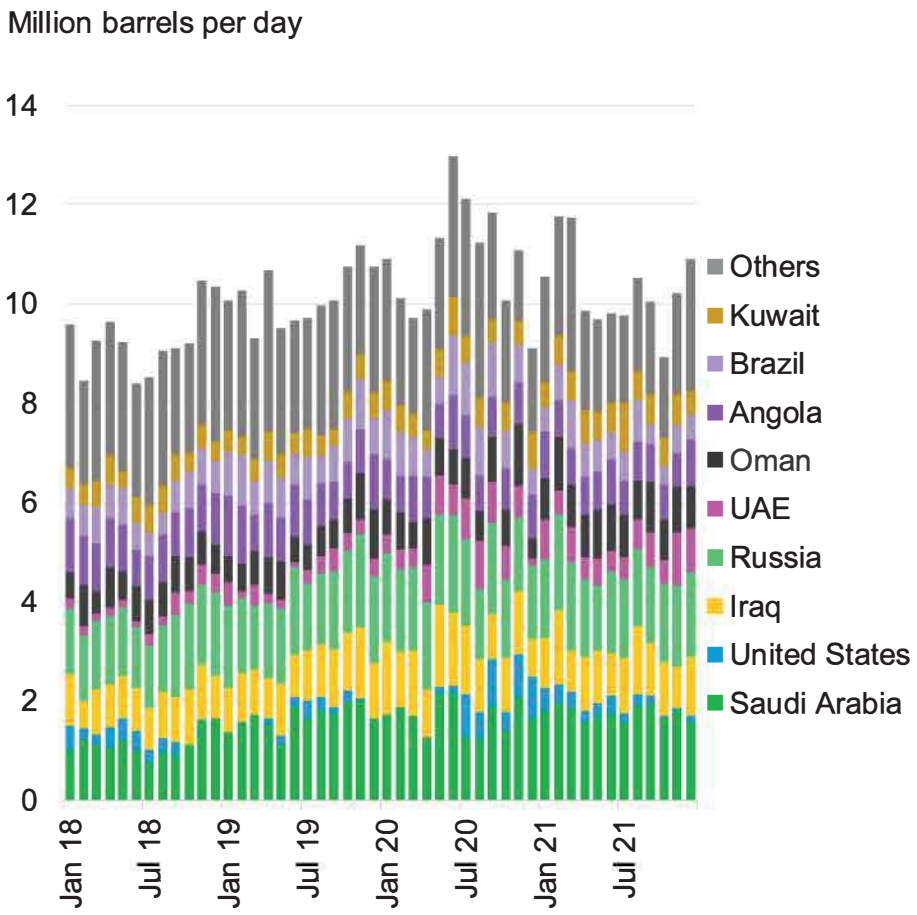


Source: National Bureau of Statistics, BloombergNEF. Note: China's statistical bureau reports a combined value for January and February. The charts represent this as an even split between the two months for illustrative purposes.

Crude imports – China total

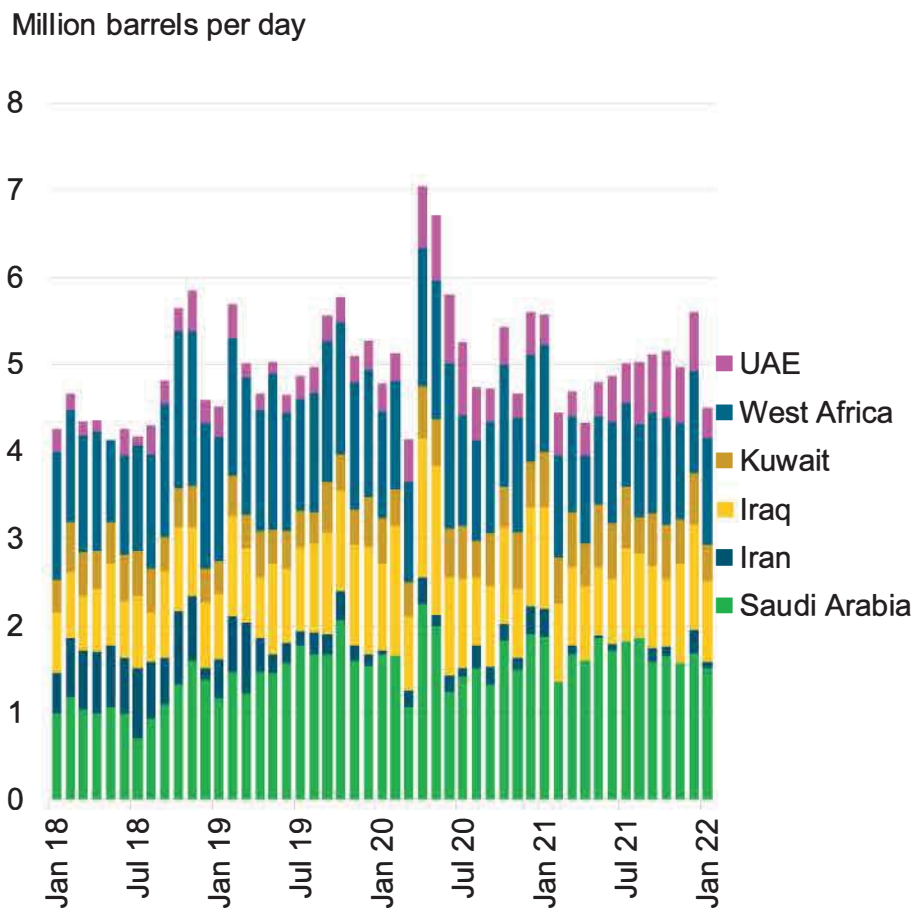
January crude imports trended lower on weak refinery runs

China customs crude imports



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

Bloomberg tanker tracker crude imports to China



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

SAF Group created transcript of Bloomberg's Anna Edwards interview with Vitol CEO Russell Hardy on Feb 20.
https://www.bloomberg.com/news/videos/2022-02-20/vitol-ceo-russell-hardy-on-100-oil-video

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

Edwards "*how would you view the prospects of getting to $100 from here*?" Hardy "*we actually touched a hundred on dated Brent on Monday, I think it was. so it's not a new phenomenon. When you look at the supply and demand factors that have affected the market for the last couple of years since the pandemic, demand has recovered now to about the level we were pre-pandemic. and it's going to exceed the level we were pre-pandemic in the back half of 2022 and into 2023. So supply needs to catch up. and I think what the market is worried about is how much supply there is going to be available in the second half of the year and going into 23. So, in our view, Yes, we will see perhaps a prolonged period of $100 plus at some point in the next 6 to 9 months. It's very difficult to be precise about the exact timing. But demand is going to surge this second half of the year provided there is no additional worries about the pandemic. and provided travel resumes to something like normal*."

Edwards asks about his expectation on Iran oil coming back to market. Hardy "*yeah. I think all the parties have been talking this week in fact. And it sounds like there is an agreement beginning to form. I think most people have got that factored into the second half of the year. Most people will expect an additional volume from Iran. Clearly, they are producing oil and consuming oil themselves today, so the extra supply that they could send out to the world would probably be about a million barrels*".

Edwards asks about geopolitical risks in oil prices and "*what would you assume will come out if we see these tensions ebb away?*' Hardy "*I don't think the geopolitics specifically account for a huge, talking about the Russia-Ukraine conflict, I don't think that accounts for a huge amount of the price premium at the moment*"

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

Oil price outlook – Snapshot: February 21, 2022

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

Category	Indicator	Signal	Comment
Fundamentals	**Refinery margins**	⇔	• Refinery margins were slightly lower over the past week as oil product cracks weakened.
	Crude stocks	⇔	• In the week ending February 11, land crude-oil storage levels in BloombergNEF's tracked regions (U.S., ARA, Japan) rose by 0.1% to 517.3 million barrels (m bbl). The stockpile **deficit** against its five-year average (2015-19) **widened from 70.2m bbl to 74.2m bbl**. • Including global floating crude stockpiles from the same week, total crude oil inventories decreased by 0.2% to 623.9m bbl, with the stockpile **deficit narrowing from 37.6m bbl to 35.8m bbl.**
	Product stocks	↑	• In the week ending February 11, gasoline and light distillate stockpiles in BNEF's tracked regions (U.S., ARA, Singapore, Japan and Fujairah) were down 1.0% week-on-week to 287.2m bbl, with the stockpile **deficit** against its three-year average (2017-19) **widening from 9.3m bbl to 11.5m bbl**. Gasoil and middle distillate stockpiles in BNEF's tracked regions dropped by 1.5% to 149.4m bbl, with the stockpile **deficit** against its three-year average **narrowing from 44.3m bbl to 43.0m bbl**. • Total oil product stockpiles in tracked regions decreased by 1.8% to 902.9m bbl, with the stockpile **deficit** against its three-year seasonal average **widening from 65.0m bbl to 72.4m bbl**. All in all, crude and product stockpiles dropped by 1.2% to 1,526.8m bbl, with the stockpile **deficit widening from 102.6m bbl to 108.3m bbl.**
	Demand indicators	↑	• In the week to February 15, global jet fuel demand from commercial passenger flights rose for the second consecutive week, by 168,100 barrels per day (or 4.1%) week-on-week to 4.29 million barrels per day. Jet fuel consumption by international passenger departures was up by 58,900 barrels per day (or 2.9%) week-on-week, while consumption by domestic passenger departures rose by 109,300 barrels per day (or 5.2%). • Global mobility indices rose for the fourth straight week. Apple's global driving activity index increased by 2.8% in the week to February 19, driven by growth in Asia Pacific ex-China (+2.1%), Europe (+4.6%) and the Americas (+2.3%). Google's global mobility index was also up 2.3% in the week to February 17, reflecting growth in Asia Pacific ex-China (+1.1%), Europe (+3.3%) and the Americas (+2.8%). Road congestion in China increased by 15.9 percentage points to 98.2% of January 2021 levels in the week to February 16, according to BNEF's calculation based on Baidu's data. • Daily average Covid-19 cases dropped 22% to 1.9 million in the week to February 19, the third straight week of decrease. Europe was down 29% to 813,000 daily cases and the Americas were down 28% to 337,000 daily cases, but Asia Pacific was up 4.5% to 373,000 daily cases. All numbers shown are the daily averages for the week ending February 19. • Weather forecasts showed that temperatures in European cities are becoming warmer. Temperatures in Asian cities turned colder but remained mild by historical trends.
Financial	**Macro indicators**	↓	• The dollar index averaged at 96.0 over the past week and was 0.4% higher than the week before.
	Hedge fund positioning	⇔	• In the week to February 15, Managed Money net positioning in the oil complex decreased by 1.3m bbl (or 0..2%) week-on-week to 728.9m bbl and remained in the 46th percentile of the past five years.
	Options chains and volatility	⇔	• Brent and WTI 1-month volatility skews were lower over the past week after jumping to multi-year highs the week before.
Outlook	**Weekly call**	↑	• BNEF is bullish on oil prices for the week ahead, with Brent May-22 trading at $91.50/bbl and WTI Apr-22 trading at $90.17/bbl at the time of writing. Positive developments around the Iran nuclear deal and the de-escalation of the Ukraine tensions have weighed on flat prices. Crude and oil product inventories saw their deficit against the seasonal average swell to post-pandemic record-highs due to product inventory drawdowns. Mobility indicators are showing a strong and steady pick-up in activity, while jet fuel demand is bouncing back following weeks of seasonal and virus headwinds. As refineries head into the maintenance season, product inventories could continue to fall in the coming weeks.

Past outlooks

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

Date of report	Refinery margins	Crude stocks	Product stocks	Demand indicators	Commitment of traders	Options chain and volatility	BNEF week ahead call	Brent/WTI price at time of writing ($/bbl)	Web Link
February 21	⇔	⇔	↑	↑	⇔	⇔	↑	Brent-**May**: 91.50 WTI-**Apr**: 90.17	
February 14	↑	⇔	↑	↑	↓	⇔	↑	Brent-Apr: 93.75 WTI-Mar: 92.46	🖵
February 7	↑	↑	⇔	↑	⇔	⇔	⇔	Brent-Apr: 92.83 WTI-Mar: 91.43	🖵
January 31	↑	⇔	⇔	↑	↓	⇔	↑	Brent-Apr: 89.17 WTI-Mar: 87.55	🖵
January 24	⇔	↑	⇔	⇔	↑	↓	↑	Brent-Mar: 87.19 WTI-Mar: 85.25	🖵
January 17	↑	↑	⇔	⇔	↑	↑	⇔	Brent-Mar: 85.78 WTI-Mar: 83.22	🖵
January 10	↑	↓	⇔	↓	↑	↑	⇔	Brent-Mar: 81.71 WTI-Feb: 78.82	🖵
January 3	⇔	⇔	↑	↓	⇔	⇔	↑	Brent-Mar: 78.84 WTI-Feb: 76.14	🖵
December 13	↑	↑	⇔	↑	↓	⇔	↑	Brent-Feb: 75.25 WTI-Jan: 71.62	🖵
December 6	↑	⇔	⇔	⇔	↓	↑	⇔	Brent-Feb: 71.63 WTI-Jan: 68.05	🖵
November 29	↓	⇔	↑	⇔	↓	↓	⇔	Brent-Feb: 74.47 WTI-Jan: 71.14	🖵
November 22	↓	↑	⇔	⇔	↓	↓	↓	Brent-Jan: 79.00 WTI-Jan: 76.06	🖵
November 15	↓	⇔	↓	⇔	⇔	↓	↓	Brent-Jan: 81.27 WTI-Jan: 78.97	🖵
November 8	↓	↑	⇔	↓	↓	⇔	↓	Brent-Jan: 83.86 WTI-Dec: 82.47	🖵

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

BloombergNEF

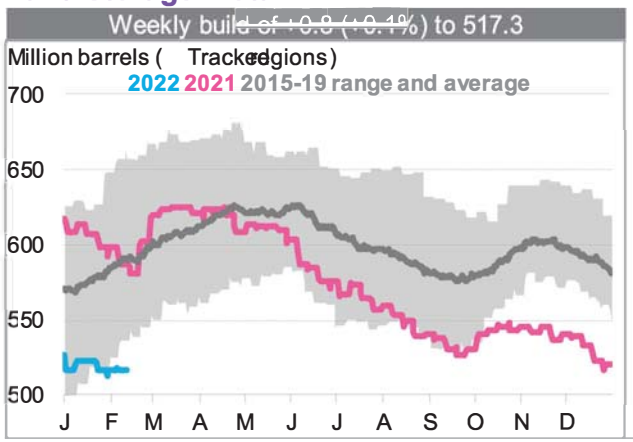
Crude stocks: Land

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

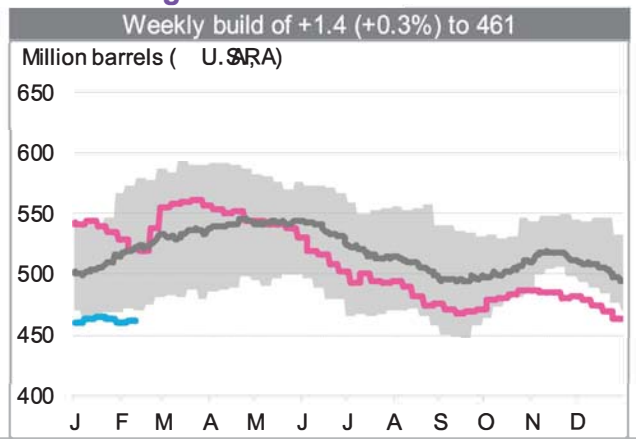
Neutral: Deficit widened from 70.2m bbl to 74.2m bbl against seasonal average

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

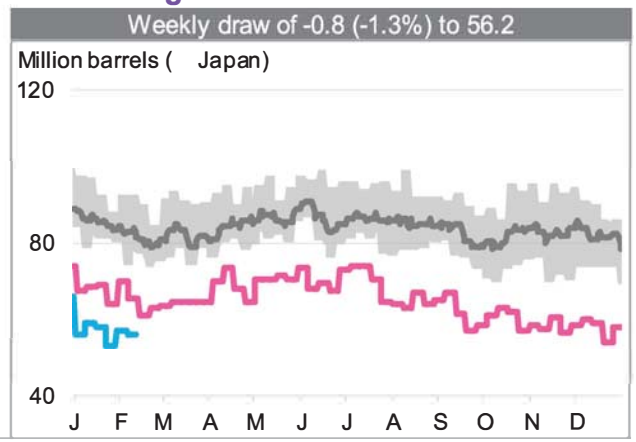
Land storage: Total



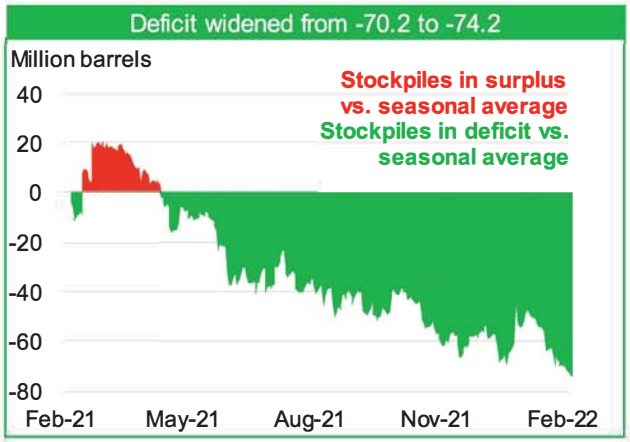
Land storage: West of Suez

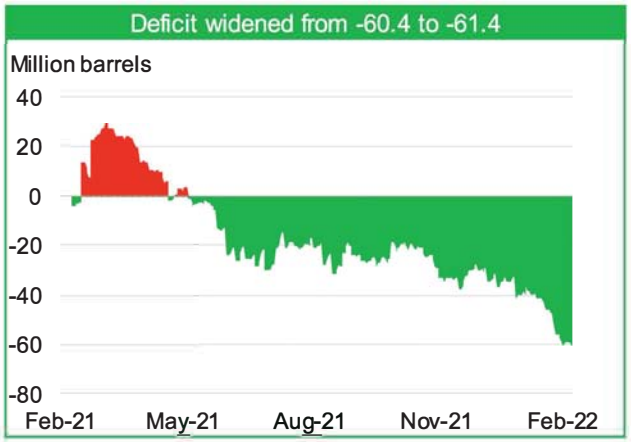


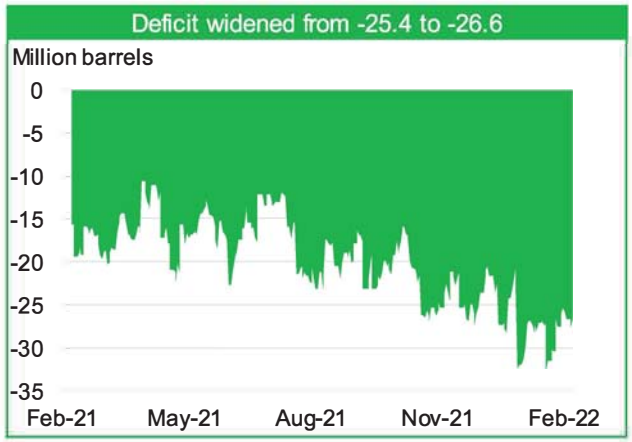
Land storage: East of Suez



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







*Source: BloombergNEF, U.S. EIA, Genscape, PAJ, SCIG. Note: As of the **week ending Feb. 11.***

Crude stocks: Floating

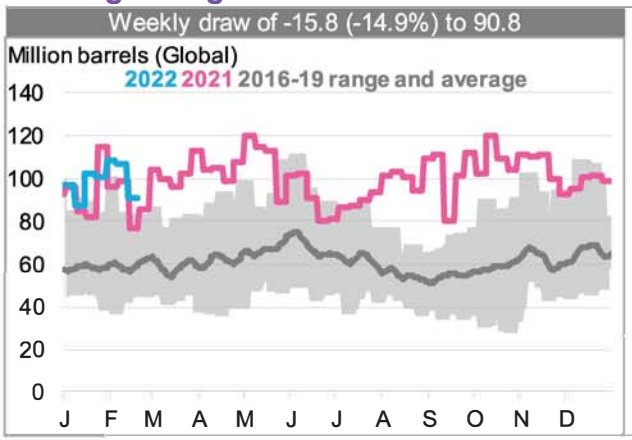
Bullish: Surplus narrowed over the recent week

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

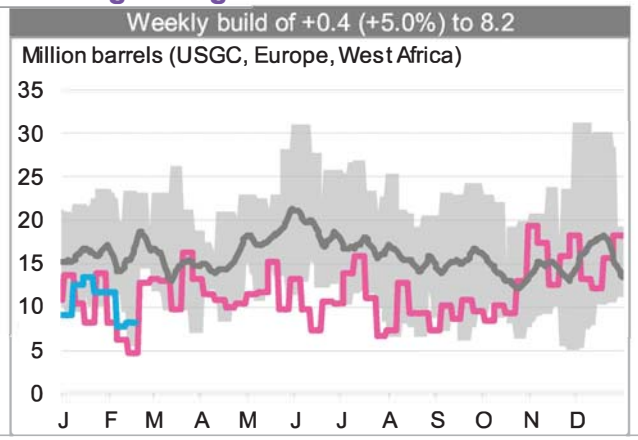
***Vortexa's revision to global floating crude inventories**

Million barrels	Previous report	Current report	*Vortexa's revision
Inventories in week of Feb. 11	104.8	106.6	+1.8
Inventories in week of Feb. 4	109.0	108.8	-0.2

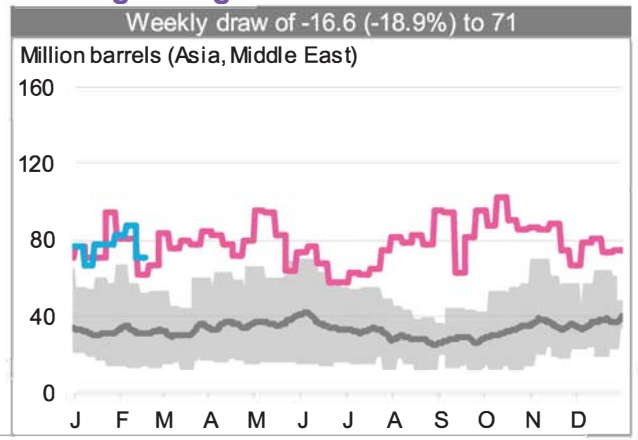
Floating storage: Total



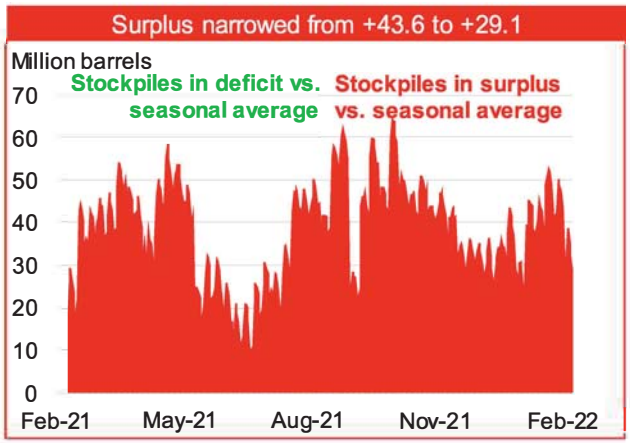
Floating storage: West of Suez

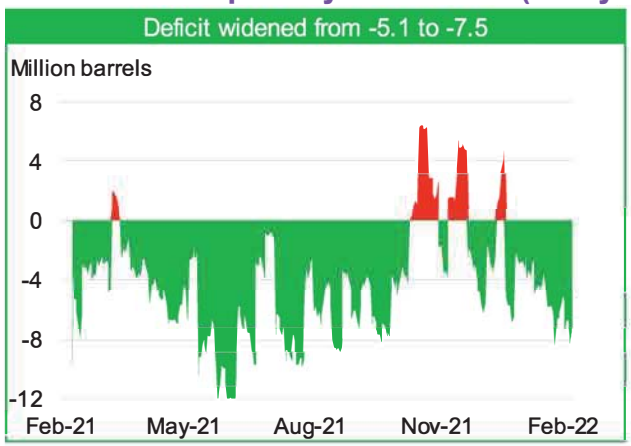


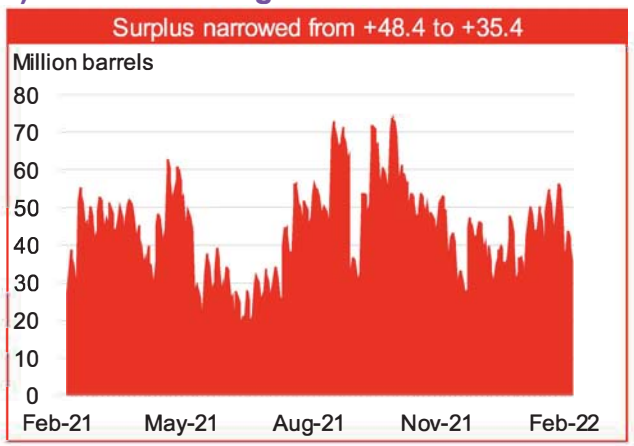
Floating storage: East of Suez



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







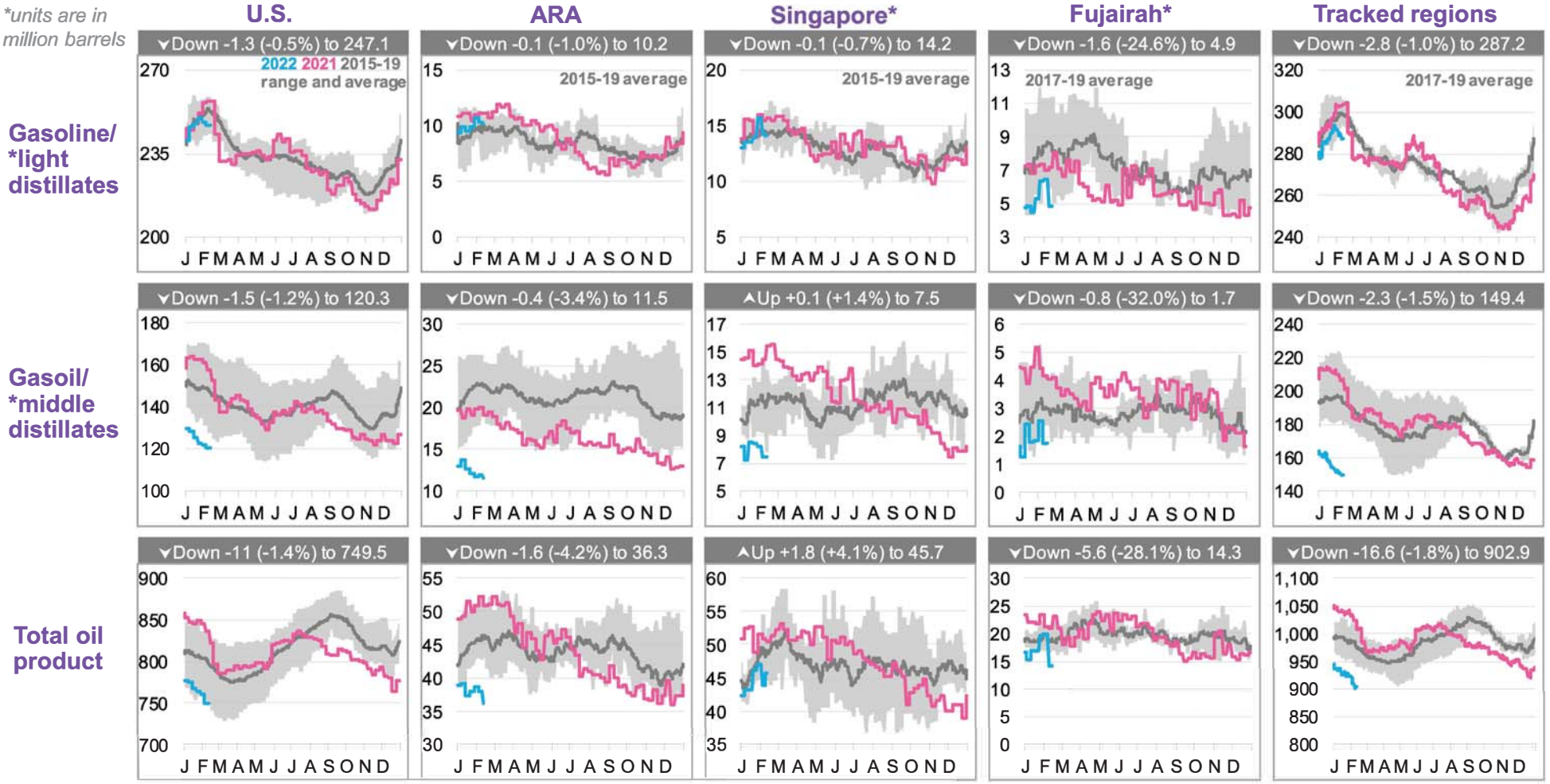
Source: BloombergNEF, Vortexa. Note: As of the ***week ending February 18. *Raw data from Vortexa is revised frequently, so the data in this report might change week-to-week.***

Product stocks: Current vs. seasonal average

Bullish: Oil product stockpiles in tracked regions fell by 1.8% week-on-week

- Chart legend are as follows: **2021**, **2020** and the **2015-19 range and average**. For Fujairah and tracked regions, the **2017-19 (three-year) seasonal range** is shown. Tracked regions include U.S., ARA, Singapore, Japan and Fujairah

**units are in million barrels*



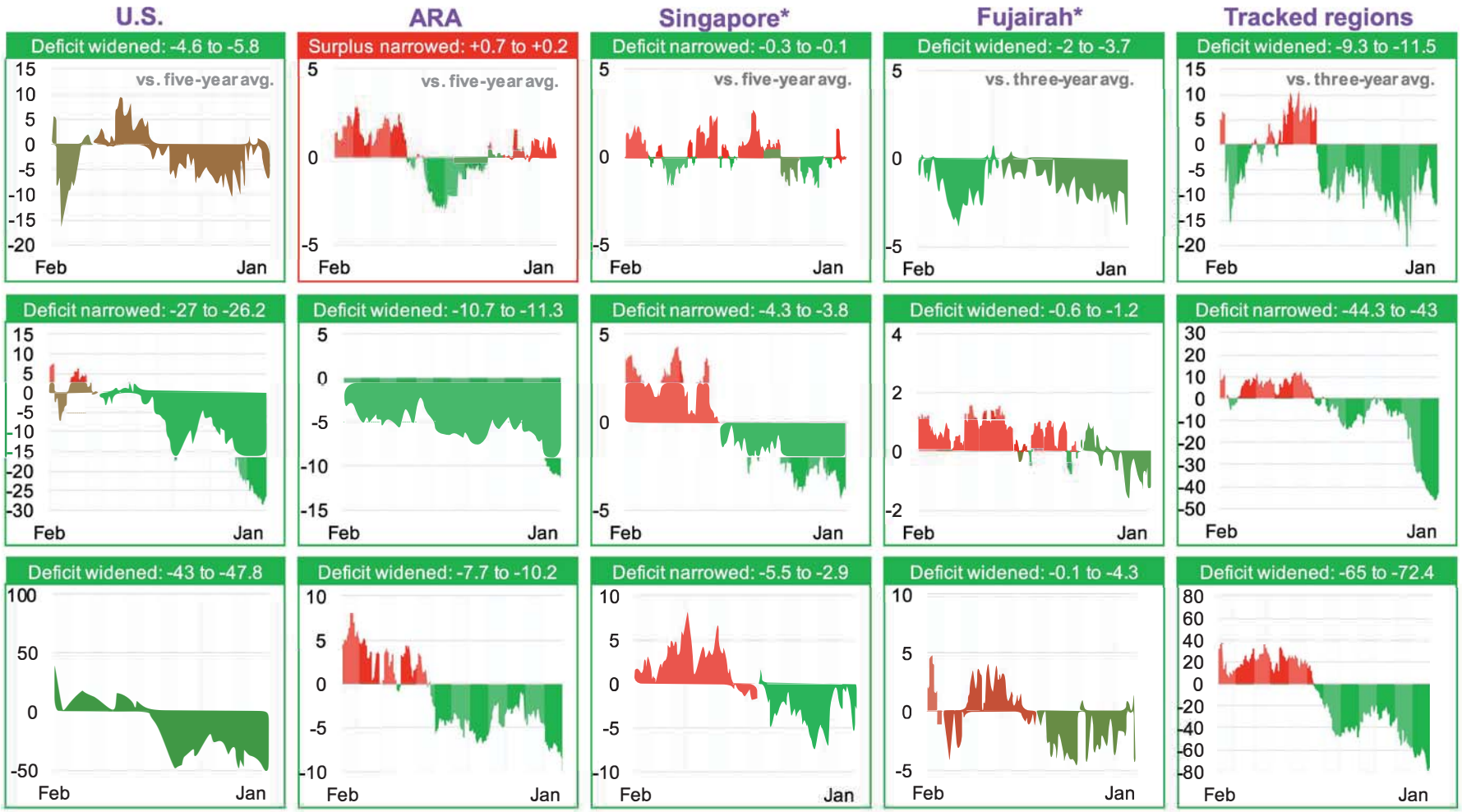
*Source: BloombergNEF, U.S. EIA, PJK, IE Singapore, FEDCom/Platts, PAJ. Note: As of the **week ending Feb. 11.***

Product stocks: Current vs. seasonal average

Bullish: Oil product stockpile deficit against the seasonal average narrowed from 65m bbl to 72.4m bbl

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

**units are in million barrels*



*Source: BloombergNEF, U.S. EIA, PJK, IE Singapore, FEDCom/Platts, PAJ. Note: As of the **week ending Feb. 11.***

BloombergNEF

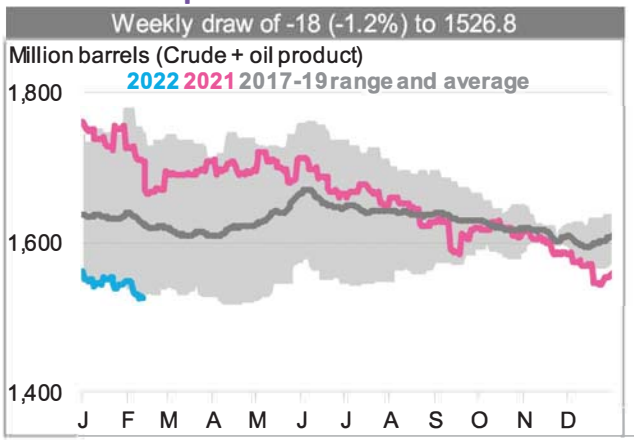
Aggregated oil stockpiles

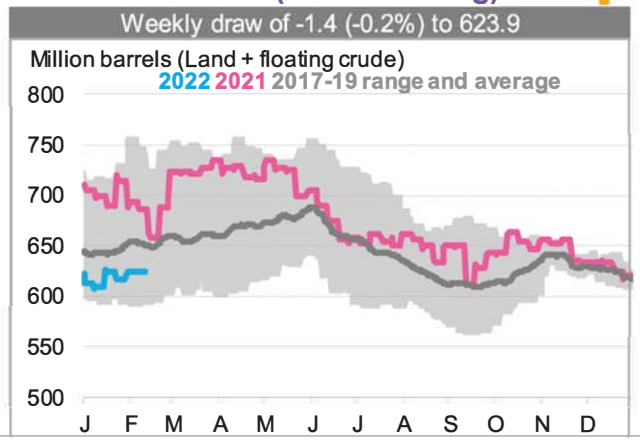
Note: We will continue to compare current inventory levels with the three-year (2017-19) seasonal average for the time being. Crude inventory data for Shandong teapots were excluded since January 10.

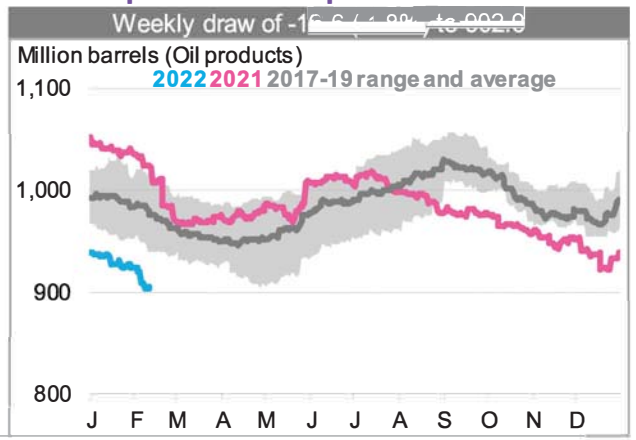
Bullish: Stockpiles deficit widened from 102.6m bbl to 108.3m bbl

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

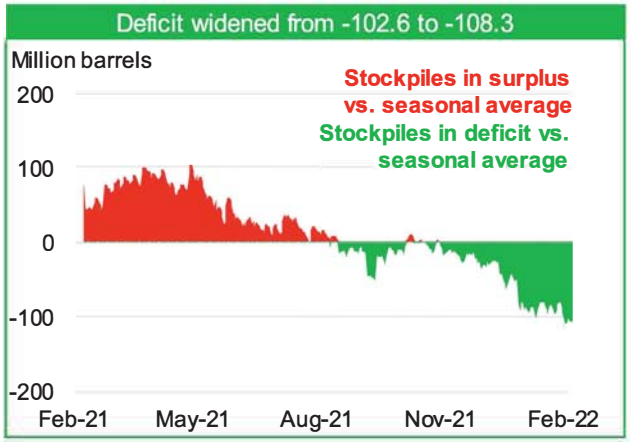
Total oil and product stocks = **Total crude stocks (land + floating)** + **Total oil product stockpiles**

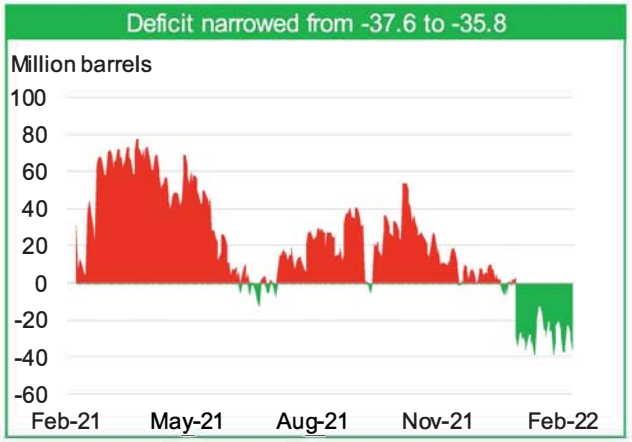


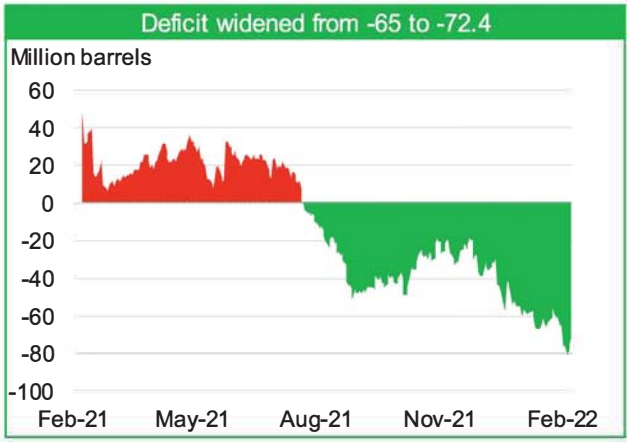




Charts below subtract current stockpiles by the 2017-19 (three-year) seasonal average







*Source: BloombergNEF, U.S. EIA, PJK, IE Singapore, FEDCom/Platts, PAJ ,Vortexa, Genscape, SCIG. As of the **week ending Feb. 11.***

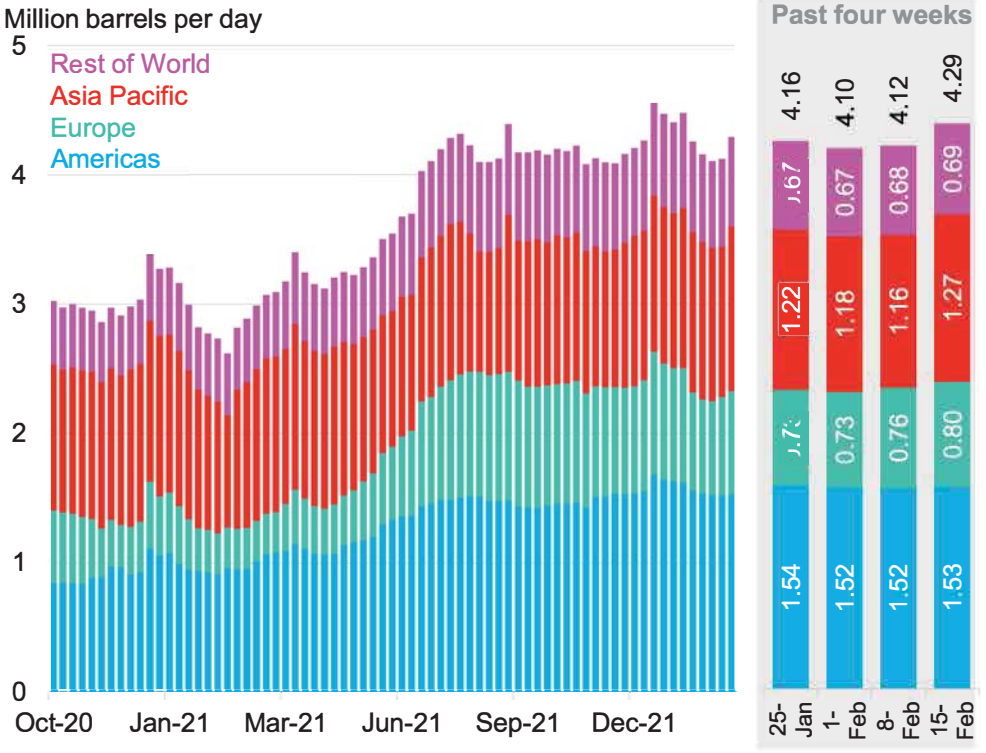
Demand indicators: Air traffic

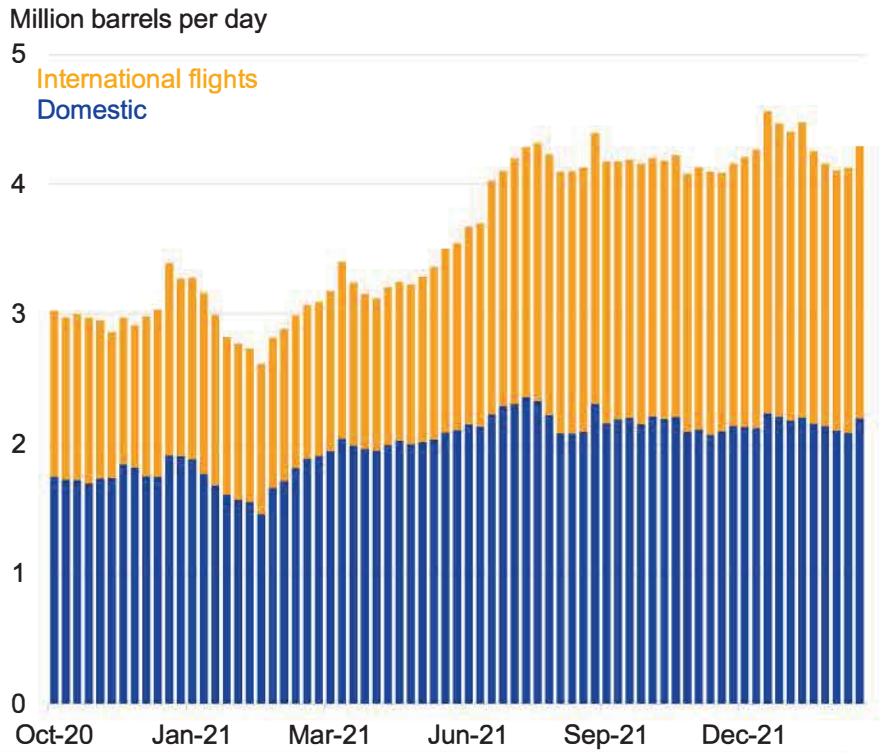
Our weekly global aviation report is available on the BNEF Web or the Bloomberg Terminal

Bullish: Global passenger jet fuel demand rose by 4.1% week-on-week

- Note that the data presented below are extracted from Bloomberg Terminal's {DATA FLY <GO>}.

Jet fuel demand for commercial passenger flights, by region (left) and by type (right)





K bbl per day	Latest	Week Δ	Four-week Δ	Year-on-year Δ
World	**4,290**	168.1 (+4.1%)	35.4 (+0.8%)	1671.3 (+63.8%)
Americas	**1,532**	10.3 (+0.7%)	-30.7 (-2.0%)	572.2 (+59.6%)
Asia Pacific	**1,271**	111.8 (+9.6%)	33.9 (+2.7%)	399.5 (+45.8%)
Europe	**798**	34.7 (+4.5%)	40.1 (+5.3%)	483.3 (+153.6%)
Rest of World	**689**	11.4 (+1.7%)	-7.9 (-1.1%)	216.3 (+45.7%)

K bbl per day	Latest	Week Δ	Four-week Δ	Year-on-year Δ
International	**2,092**	58.9 (+2.9%)	-6.1 (-0.3%)	935.3 (+80.9%)
Domestic	**2,198**	109.3 (+5.2%)	41.5 (+1.9%)	736.0 (+50.3%)

*Source: Bloomberg Terminal {DATA FLY <GO>}. Note: Latest data as of the **week to February 15**. Jet fuel demand is measured from the origin region.*

BloombergNEF

Demand indicators: Road traffic

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

Bullish: Global mobility indices increased for the fourth straight week

China-15 (Baidu) congestion index

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

	Latest	Week Δ	Four-week Δ
China-15	**98.22**	15.9 (+19.3%)	-1.2 (-1.2%)

Source: BloombergNEF, Baidu. Note: The China-15 congestion level is calculated by taking the weighted average of the congestion levels in the 15 cities (with the most vehicle registrations) and their vehicle registration numbers. ***Data updated to February 16****. For more information on methodology, view our Road Traffic Indicators Weekly (Terminal | Web)*

Google mobility index

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

	Latest	Week Δ	Four-week Δ
Asia Pacific	**94.7**	1.0 (+1.1%)	4.0 (+4.4%)
World	**93.5**	2.1 (+2.3%)	7.6 (+8.8%)
Americas	**88.8**	2.4 (+2.8%)	9.7 (+12.3%)
Europe	**87.7**	2.8 (+3.3%)	6.5 (+8.0%)

Source: Google Community Mobility Report, BloombergNEF. Note: ***Data excludes China and Russia.*** *Calculation includes retail & recreation, workplaces, transport hubs.* ***Data updated to February 17.*** *The world index rating is weighted by the 2019 road fuels demand of each country.*

Apple mobility (driving) index

Indexed to Jan 13, 2020 (seven-day MA)

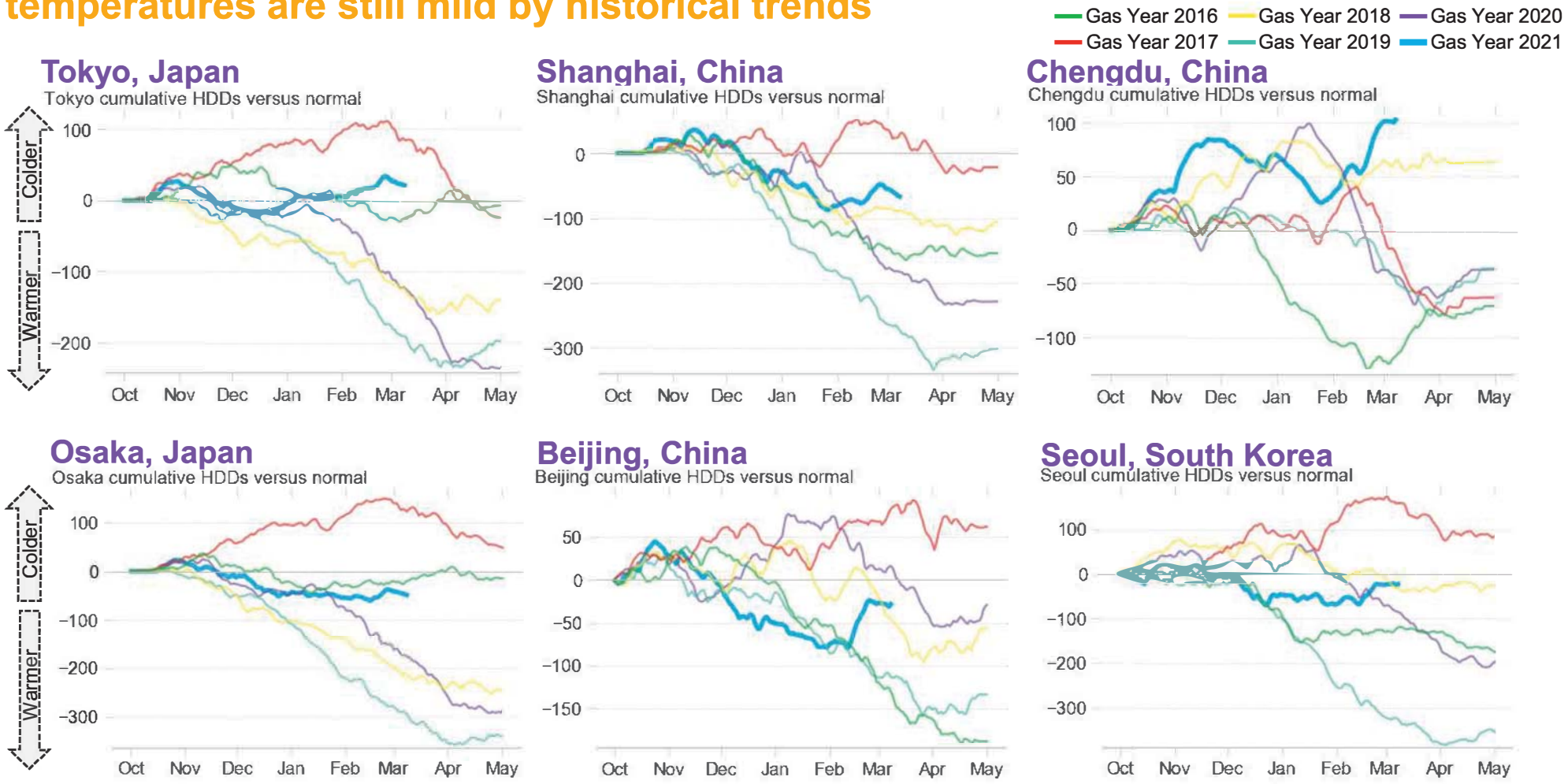
	Latest	Week Δ	Four-week Δ
Americas	**155.9**	3.4 (+2.3%)	19.5 (+14.3%)
World	**150.6**	4.1 (+2.8%)	20.4 (+15.7%)
Asia Pacific	**148.2**	3.0 (+2.1%)	23.1 (+18.5%)
Europe	**139.4**	6.2 (+4.6%)	20.1 (+16.8%)

Source: Apple Mobility Report, BloombergNEF. Note: ***Asia Pacific excludes China. Data updated to February 19.*** *The world index rating is weighted by the 2019 road fuels demand of each country.*

Demand indicators: Weather

Neutral: Winter gets colder in East Asian cities, but temperatures are still mild by historical trends

To see Global Weather Forecasts and Historical Database, go to: WFOR <GO>

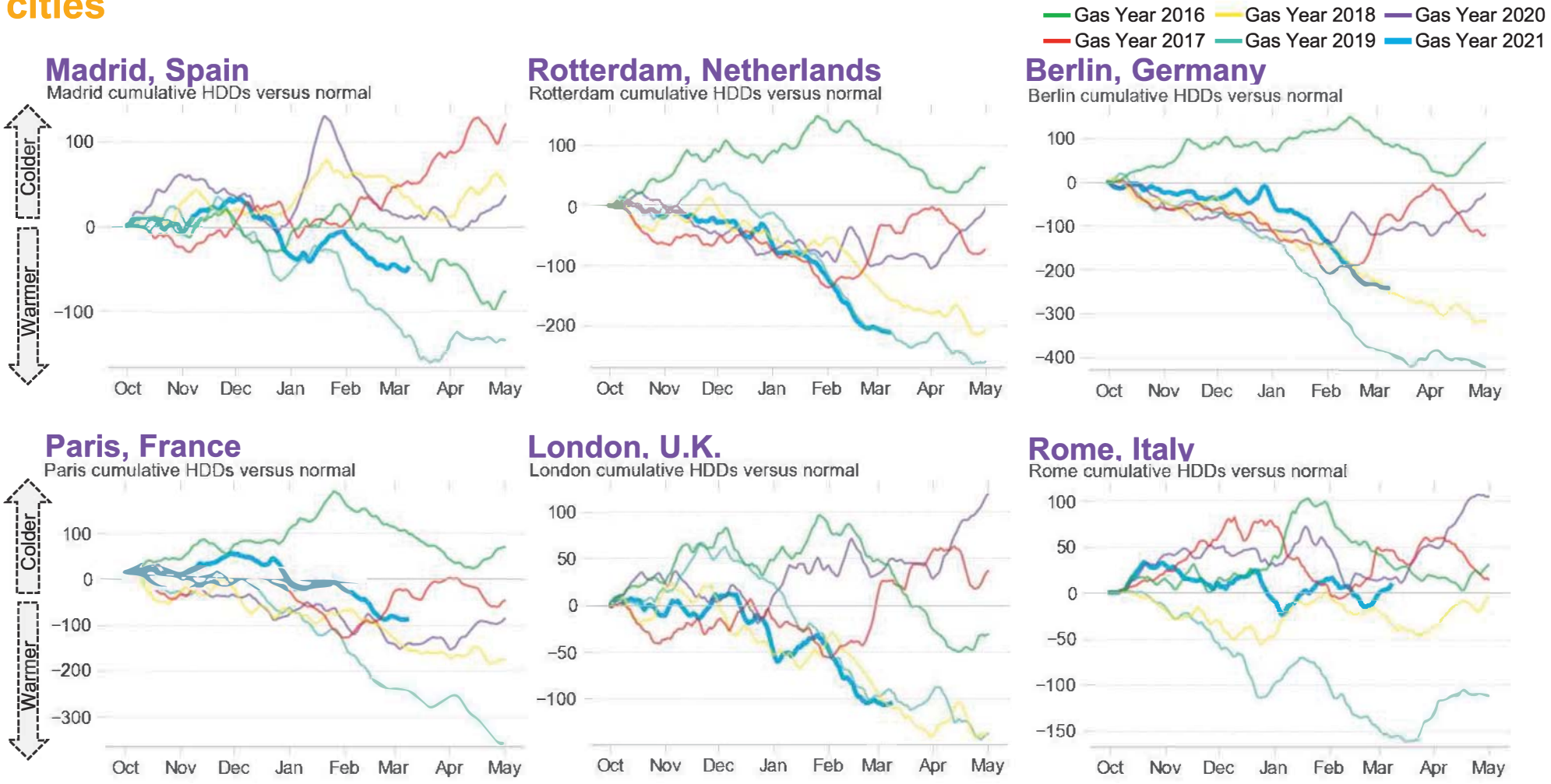


Source: BloombergNEF. Note: 'Normal' is the 10-year average temperature for that period. 'Gas year' is based on the European convention of a 12-month period starting from October 1. Cooling-degree days, or CDDs, measure the number of degrees that a day's average temperature is above 18°C/65°F. Adding these up across the season becomes an indicator of total quantity of warm weather experienced in a particular period compared to others. HDDs measure average temperatures below 18°C/65°F.

Demand indicators: Weather

Bearish: Winter continues to get warmer in European cities

To see Global Weather Forecasts and Historical Database, go to: WFOR <GO>



Source: BloombergNEF. Note: 'Normal' is the 10-year average temperature for that period. 'Gas year' is based on the European convention of a 12-month period starting from October 1. Cooling-degree days, or CDDs, measure the number of degrees that a day's average temperature is above 18°C/65°F. Adding these up across the season becomes an indicator of total quantity of warm weather experienced in a particular period compared to others. HDDs measure average temperatures below 18°C/65°F.

Feb 23, 2022 08:06:22

OIL DEMAND MONITOR: Costly Gasoline Yet to Slow Road Traffic (1)

- Indian gasoline demand was near 2020 levels in early February
- U.S. airport turnstile data shows improvement in numbers: TSA

By Stephen Voss

(Bloomberg) -- Gasoline consumption has risen to within a few percentage points of pre-pandemic levels in the U.S. and India, recent high-frequency data show. High prices may yet challenge coronavirus travel curbs as a bigger near-term threat to demand.

While mobility restrictions are fast disappearing and offices filling up once again at variable speeds around the world, motorists are also feeling the pinch from the energy crunch. U.S. average pump prices for regular gasoline have topped $3.50 a gallon for several days now, a level not seen since the summer of 2014.

Any decisive signs of demand destruction would show up pretty fast in weekly snapshots of miles traveled and the use of vehicles by the respective transport ministries of the U.S. and U.K. That hasn't happened to any significant degree yet. Passenger car usage continues to trail pre-Covid levels at about the same extent that it has done for many months, in both countries. Heavy goods vehicles and vans are being driven more than before the virus emerged, a trend attributed in part to internet shopping and the increased use of home-delivery services.

For now, recent data shows petroleum fuel demand continues to swell month-on-month even in more price-sensitive emerging markets such as India, where the country's oil ministry expects growth of 5.5% in the fiscal year starting April 1. That's even with crude oil prices near $100 a barrel, elevated in part by the threat of conflict looming on the Ukraine-Russia border.

Gasoline demand in the first half of February was only 2.1% less than in the same period of 2020 --which was before the pandemic had much impact on the subcontinent -- according to a Bloomberg survey of India's three biggest retailers. Nationwide diesel demand was 15% lower and jet fuel down 43%,

according to the same survey. The latest weekly estimate from the Energy Information Administration shows U.S. gasoline demand in the week ended Feb. 11 was just 0.9% lower than the equivalent week of 2019 and 3.9% below the same week of 2020.

Newer weekly data will be published by the EIA on Thursday.

"Part of that failure to push on and fully close the pre-pandemic gap looks like a price effect," said Paul Horsnell, head of commodities research at Standard Chartered Bank in London. "High prices are reducing growth, they are not yet so high as to reduce demand in absolute terms."

It's difficult to completely separate price effects from the noise of coronavirus recovery effects, and Standard Chartered still expects global oil demand to grow this year, by about 2.9 million barrels day. "However, prices are a drag on that number, and if, say, crude stayed above $90 I think we would cut that growth forecast further than we already have," Horsnell said.

Turning to urban traffic, Taipei and London had congestion levels Monday morning that were above the 2019 average for that time of the week, according to hourly data collected by navigation technology company TomTom NV. The other 11 world cities regularly tracked in this monitor were all below, though New York and Los Angeles were impacted by a public holiday.

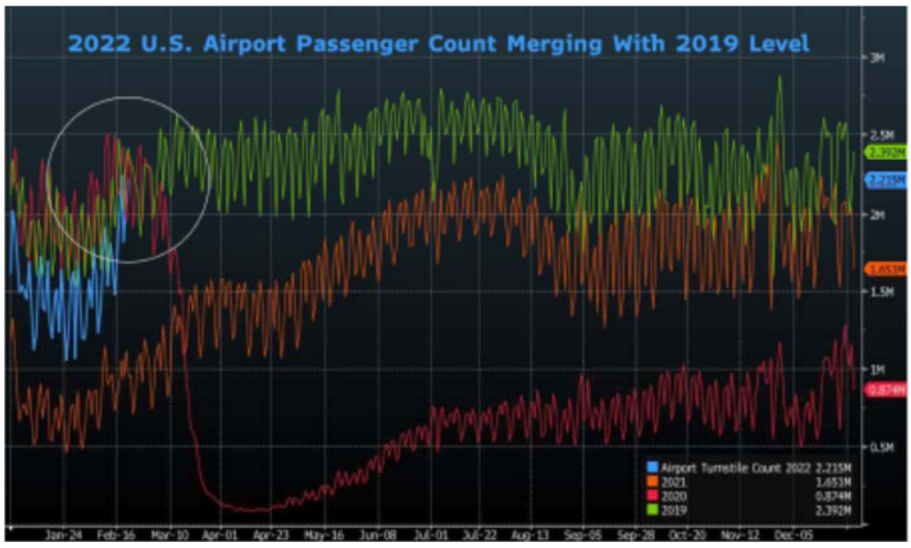
European Flight Numbers Rise

Flight tracking, passenger numbers and seat capacity estimates all show that air traffic is now noticeably busier than it was a month ago, and in some parts of the world the deficit versus pre-Covid times has narrowed substantially.

Twice as many planes traveled in the European network area on Monday than a year ago, according to Eurocontrol data. While the latest figure of 19,147 is an improvement from a low of 13,772 in late January, it still trails 2019 levels by 30% on a seven-day average basis, meaning Europe is not recovering as fast as the U.S.

The number of people passing through U.S. airport checkpoints has been rising and on Monday it was a little higher -- by 1.7% -- than the equivalent date in 2019, according to Transportation Security

Administration data. While both of those Mondays might be a little erratic since they coincide with the President's Day public holiday, recent readings of the turnstile count show that the number has generally caught up with the pre-pandemic era.



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

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

Demand Measure	Location	% y/y	% vs 2020	% vs 2019	% m/m	Freq	Latest Date	Latest Value	Source
Gasoline	U.S.	+1.9	-3.9	-0.9	+4.2	w	Feb. 11	8.57m b/d	EIA
Distillates	U.S.	-3	+16	+15	-5.2	w	Feb. 11	4.32m b/d	EIA
Jet fuel	U.S.	+28	+8.9	-0.8	-0.5	w	Feb. 11	1.51m b/d	EIA
Total oil products	U.S.	+10	+16	+19	+3.8	w	Feb. 11	22.7m b/d	EIA
All vehicles miles traveled	U.S.			+0.5		w	Feb. 13	14.2b miles	DoT
Passenger car VMT	U.S.			-2.5		w	Feb. 13	n/a	DoT
Truck VMT	U.S.			+11.3		w	Feb. 13	n/a	DoT
All motor vehicle use index	U.K.	+38		-6	+3.3	w	Feb. 14	94	DfT
Car use	U.K.	+48		-10	+4.7	w	Feb. 14	90	DfT
Heavy goods vehicle use	U.K.	+4		+4	-1	w	Feb. 14	104	DfT
Gasoline (petrol) avg sales per filling station	U.K.	+57		-10	+9	w	Feb. 13	6,530 liters/d	BEIS
Diesel avg sales per station	U.K.	+22		-11	+7.3	w	Feb. 13	9,297 liters/d	BEIS
Total road fuels sales per station	U.K.	+34		-11	+8	w	Feb. 13	15,827 liters/d	BEIS
Gasoline	India	+0.1	-2.1		+7.3	2/m	Feb. 1-15	1.04m tons	Bberg
Diesel	India	-7	-15		+6.7	2/m	Feb. 1-15	2.65m tons	Bberg
LPG	India	+8.6	+15		+2.4	2/m	Feb. 1-15	1.32m tons	Bberg
Jet fuel	India	-11	-43		-9	2/m	Feb. 1-15	192k tons	Bberg
Total Products	India	-0.2	-6	-4.9	-3.7	m	January	17.6m tons	PPAC
Toll roads volume	France	+16		-2.9		m	January	n/a	Atlantia
Toll roads volume	Italy	+43		-12		m	January	n/a	Atlantia
Toll roads volume	Spain	+53		-10		m	January	n/a	Atlantia
Toll roads volume	Brazil	+1.1		-3.4		m	January	n/a	Atlantia
Toll roads volume	Chile	+40		+12		m	January	n/a	Atlantia
Toll roads									

Toll roads volume	Mexico	+15		+12		m	January	n/a	Atlantia
Gasoline	Spain	+36			-17	m	January	398k m3	Exolum
Diesel (and heating oil)	Spain	+5.6			-11	m	January	2197k m3	Exolum
Jet fuel	Spain	+149			-12	m	January	330k m3	Exolum
Road fuel sales	France	+7.1	-9.5		-15	m	January	3.63m m3	UFIP
Jet fuel	France	+53	-35		-14	m	January	437k m3	UFIP
Gasoline	France	+18	-3.8			m	January	n/a	UFIP
Road diesel	France	+3.9	-11			m	January	n/a	UFIP
All petroleum products	France	+6.1	-12		-12	m	January	4.23m tons	UFIP
Total fuel sales	Italy	+18		+1.6	+5.6	m	December	4.49m tons	Ministry
Gasoline	Italy	+33		+5.4	+10	m	December	644k tons	Ministry
Diesel /gasoil	Italy	+20		+6.6	+7.4	m	December	2.4m tons	Ministry
Jet fuel	Italy	+101		-39	-2.3	m	December	217k tons	Ministry
All vehicles traffic	Italy	+30			-12	m	January	n/a	Anas
Heavy vehicle traffic	Italy	unch			-11	m	January	n/a	Anas

Notes: Click here for a PDF with more information on sources, methods. The frequency column shows w for data updated weekly, 2/m for twice a month and m for monthly. The column showing "vs 2020" is used for some data, such as comparing Indian fuel demand for Feb. 2022 vs Feb. 2020.
In Dfr U.K. daily data, which is updated once a week, the column showing versus 2019 is actually showing the change versus the first week of February 2020, to represent the pre-Covid era.
In BEIS U.K. daily data, which is updated once a week, the column showing versus 2019 is actually showing the change versus the average of Jan. 27-March 22, 2020, to represent the pre-Covid era.
Atlantia is publishing toll road data on a monthly basis, rather than the weekly format seen in 2021.

City congestion:

Measure	Location	% chg vs avg 2019	% chg m/m	Feb. 21	Feb. 14	Feb. 7	Jan. 31	Jan. 24	Jan. 17	Jan. 10	Jan. 3	Dec. 27
		(Feb. 21)		Congestion minutes added to 1 hr trip at 8am* local time								
Congestion	Tokyo	-5	+11	35	25	31	28	32	35	5	1	31
Congestion	Taipei	+25	+37	44	47	23	2	32	33	32	32	43
Congestion	Jakarta	-69	-61	12	11	19	14	31	37	32	26	20
Congestion	Mumbai	-61	+107	19	17	8	13	9	7	7	10	11
Congestion	New York	-85	-81	5	28	33	36	26	4	19	11	5
Congestion	Los Angeles	-83	-77	6	29	32	26	26	8	13	10	6
Congestion	London	+25	+16	47	21	45	43	41	41	37	1	1
Congestion	Rome	-27	+40	35	34	35	25	25	22	28	7	10
Congestion	Madrid	-32	+54	24	25	18	14	16	12	12	2	3
Congestion	Paris	-34	-13	29	46	43	35	34	35	36	19	10
Congestion	Berlin	-14	+17	29	26	25	16	25	29	29	20	9
Congestion	Mexico City	-34	+80	32	29	zero	22	18	15	20	13	11
Congestion	Sao Paulo	-27	+100	29	28	33	28	14	16	19	10	11

Source: TomTom. Click here for a PDF with more information on sources, methods.
* Mumbai and Sao Paulo use 9am statistics rather than 8am.
NOTE: m/m comparisons are Feb. 21 vs Jan. 24. TomTom has been unable to provide Chinese data since April 2021. Taipei and Jakarta were added to the table in December 2021.
NOTE: Public holidays curbed traffic in New York and Los Angeles on Feb. 21, in Mexico City on Feb. 7 and in Taipei on Jan. 31.

Air Travel:

Measure	Location	y/y	vs 2 yrs ago	vs 2019	m/m	w/w	Freq.	Latest Date	Latest Value	Source
		changes shown as %								
Airline passenger throughput	U.S.	+130	+6.7	+1.7	+59	+28	d	Feb. 21	2.22m	TSA
Commercial flights	Worldwide	+48	-9.2	-14	+9.3	-0.1	d	Feb. 21	92,459	FlightRadar24
Air traffic (flights)	Europe	+102		-30	+19	unch	d	Feb. 21	19,147	Eurocontrol
Seat capacity	Worldwide	+53	-14	-23	+7.3	+1.4	w	Feb. 21-27	81.2m	OAG
Seat capacity	North America			-12		+2.6	w	Feb. 21-27	n/a	OAG
Seat capacity	North East Asia			-21		-0.4	w	Feb. 21-27	n/a	OAG
Seat capacity	South East Asia			-49		-3.3	w	Feb. 21-27	n/a	OAG
Seat capacity	South Asia			-14		+3.4	w	Feb. 21-27	n/a	OAG
Seat capacity	Western Europe			-33		+2.9	w	Feb. 21-27	n/a	OAG

NOTE: Comparisons versus 2019 or versus the early weeks of 2020 are a better measure of a return to normal for most nations, rather than y/y comparisons.
FlightRadar24 data shown above, and comparisons thereof, all use 7-day moving averages, except for w/w which uses single day data.

Refineries:

Measure	Location/area	y/y	chg vs 2019	m/m chg	Latest as of Date	Latest Value	Source
		Changes are in ppt unless noted					
Crude intake	U.S.	+0.6%	-5.5%	-3.6%	Feb. 11	14.9m b/d	EIA
Apparent Oil Demand	China	+2.5%		-3.8%	December 2021	13.65m b/d	NBS
Utilization	U.S.	+2.2	-0.6	-2.8	Feb. 11	85.3 %	EIA
Utilization	U.S. Gulf	-3	-5	-4.2	Feb. 11	83.5 %	EIA
Utilization	U.S. East	+11	+8.8	-10	Feb. 11	78.5 %	EIA
Utilization	U.S. Midwest	+7	+8.2	-1.6	Feb. 11	92.4 %	EIA

NOTE: All of the refinery data is weekly, except NBS apparent demand, which is usually monthly. Changes are shown in percentages for the rows on crude intake and Chinese apparent oil demand, while refinery utilization changes are shown in percentage points. SCI99 data on Chinese refinery run rates was discontinued in late 2021.

Monthly oil market highlights

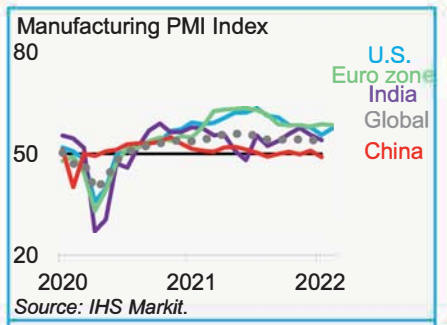
Macro update: Traders expect multiple rate hikes from the U.S. Federal Reserve this year

- Flash manufacturing PMI for the U.S. climbed to 57.5 in February, from 55.5 in January. With the U.S. inflation rate at a 40-year high of 7.5% versus a year earlier, the Federal Reserve has turned hawkish in recent months and traders are pricing in six quarter-point interest-rate hikes by the end of this year.
- In the euro zone, manufacturing PMI fell to 58.4 in February, from 58.7 in January. Consumer prices rose by a record 5.1% in January, with traders now pricing in a quarter-point interest rate hike by the European Central Bank.
- In China, the Caixin manufacturing PMI fell to 49.1 in January from 50.9. With growth in China decelerating, the People's Bank of China trimmed the interest rate on its one-year medium-term lending facility by 10 basis points to 2.85% in January, the first cut since April 2020. It also lowered the seven-day reverse repurchase agreement rate by 10 basis points. Further interest rate cuts could follow in the months ahead.
- As of February 23, cumulative global Covid-19 cases reported had risen by 22% month-on-month to 429 million, a slowdown from the previous month's growth rate. Vaccination rates (full doses) grew by 3 percentage points month-on-month to 56%.

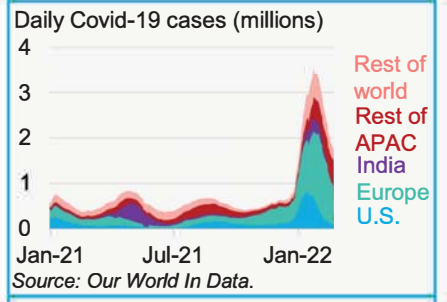
Market update: Brent prices reached an intraday high of over $105 per barrel as Russia commenced attack on Ukraine

- Brent April crude futures have so far averaged around $93.51 a barrel (bbl) in February, versus an average of $84.73/bbl in January. High-frequency (weekly) crude and oil product inventories (see the report linked below) have dropped again compared to the three-year (2017-2019) seasonal average, leading to the largest deficit since the start of the pandemic.
- Oil prices have remained elevated over the past few weeks due to concerns over the escalation of Russia-Ukraine tensions. Traders were concerned that financial sanctions on Russia may cut oil and gas flow, exacerbating the shortage of oil in the already tight market. When Russia attacked Ukraine on February 24, Brent prompt-month futures reached an intraday high of over $105/bbl. They settled lower, however, after western powers announced sanctions that will focus on the finance and technology sectors and refrained from interrupting Russian oil and gas trade.
- In the four weeks to February 15, hedge funds' net positioning across the oil complex fell by 33 million barrels (m bbl), or 4.3%, to 729m bbl. The total number of long positions dropped by 38m bbl, while short positions decreased by 6m bbl. Hedge funds were more cautious of going long as Brent surpasses $90/bbl.
- OPEC+ deal compliance surged to 126% in January, based on BloombergNEF's estimates, up 6 percentage points from December, as the 19 participating countries underproduced by 885,000 barrels per day (b/d). Participating OPEC+ members saw their crude oil output grow by only 259,000 b/d month-on-month to 37.86 million barrels per day (m b/d), while the production quota eased by 400,000 b/d to 38.74m b/d. Four participants saw their crude output drop month-on-month.
- Over the past month, jet fuel demand from domestic passenger flights fell by 1.8% to around 2.1m b/d, while demand from international flights also dropped by 5.1% to 2.0m b/d. Combined, jet fuel demand from passenger flights fell by 3.5% to 4.2m b/d.
- Global road traffic activity in February has picked up significantly from January levels due to seasonal factors and, to some extent, the easing of the omicron outbreak. Google's mobility index in February so far (data up to February 20) has increased by 6.2 percentage points to 91.3% of January-February 2020 levels.
- The IEA made significant bullish adjustments to its 2021 and 2022 outlooks.
  - The IEA made a considerable upward revision to its call for OPEC crude by 0.96m b/d and 0.73m b/d for 2021 and 2022, respectively, as the agency recalibrates Saudi Arabia and China's oil demand higher for both years.

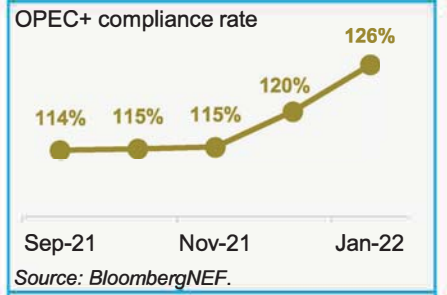
This monthly report complements the analysis from the Oil Price Indicators Weekly Report (web | terminal), published every Monday.



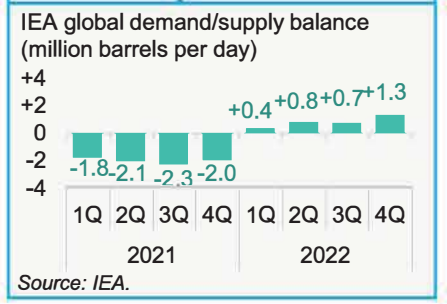
Source: IHS Markit.



Source: Our World In Data.



Source: BloombergNEF.



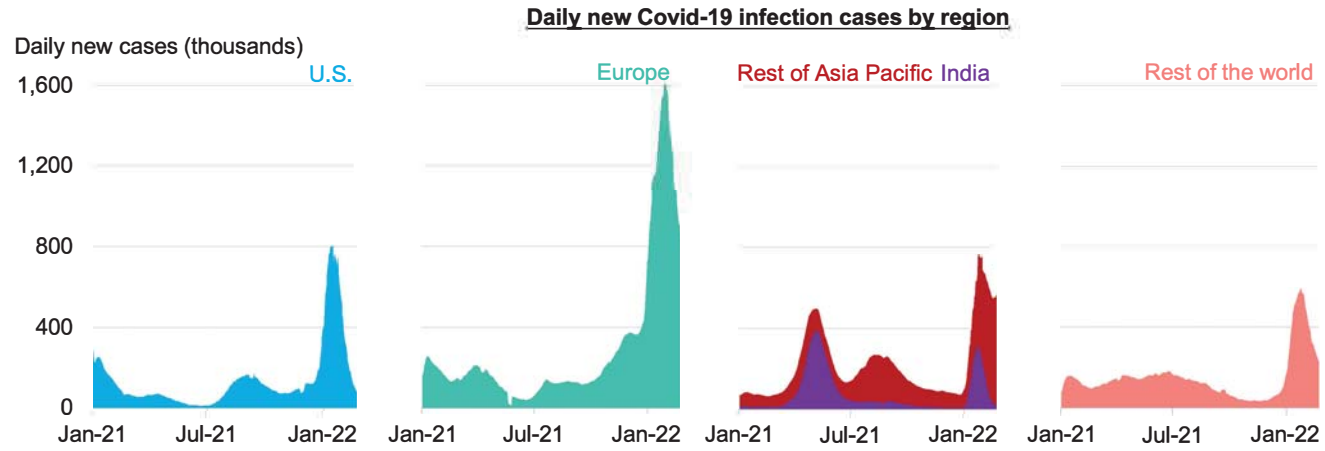
Source: IEA.

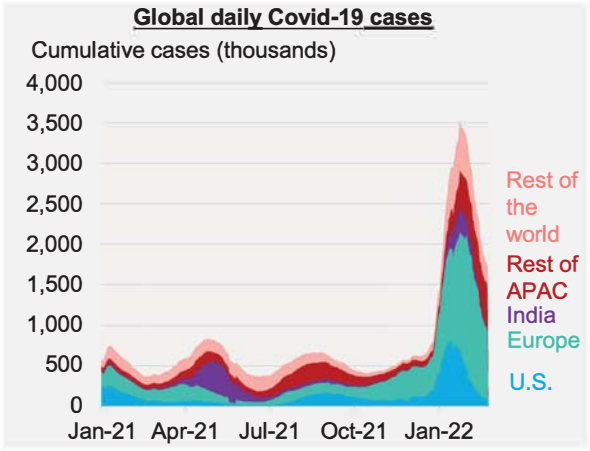
BloombergNEF

Covid-19 update

The omicron wave seems to have peaked

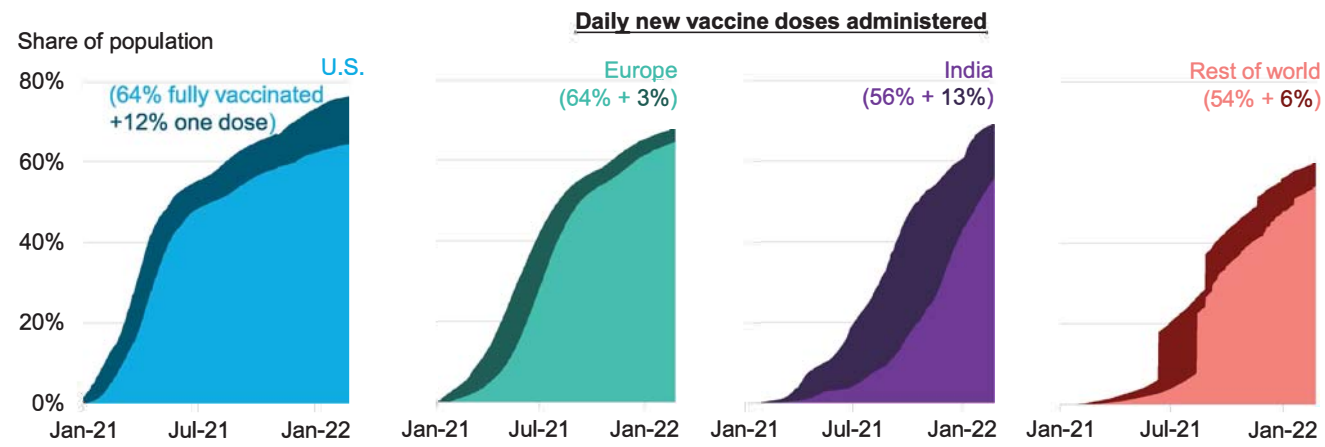
New Covid-19 cases have fallen to 2.2 million per day in February month-to-date, down from 2.9 million in January

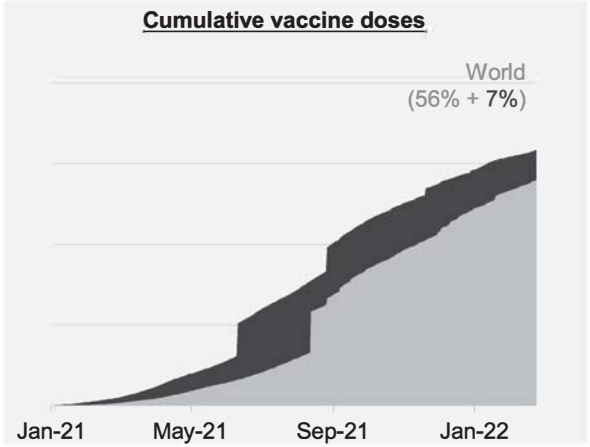




Source: Bloomberg, Johns Hopkins. Note: Latest data to February 23, seven-day moving average data shown.

Vaccination rates rise steadily in rest of the world





Source: Bloomberg, Johns Hopkins, Our World in Data. Note: Latest data to February 23.

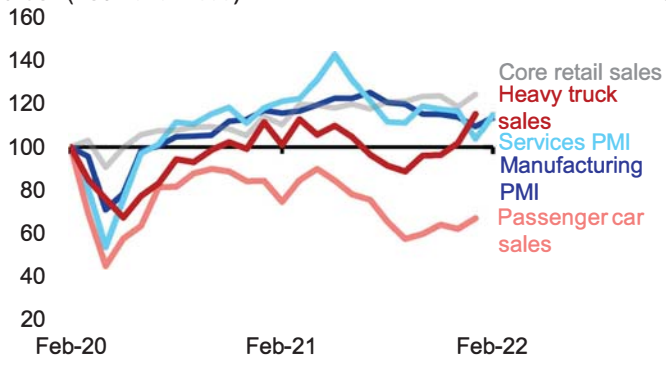
BloombergNEF

Economic and mobility indicators

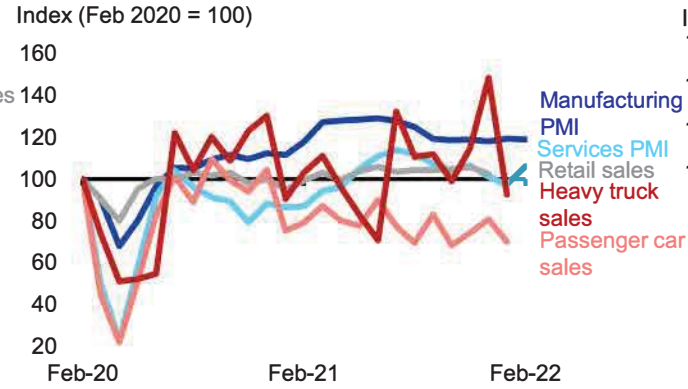
Economic growth resilient in the west; mobility activity picks up globally

Economic recovery indices: PMI numbers are resilient in the U.S. and euro zone

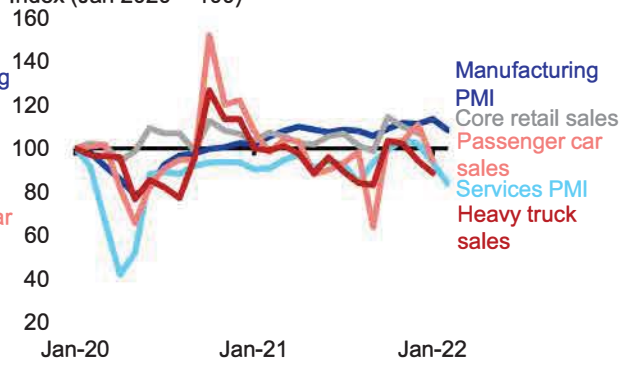
U.S.



Euro zone



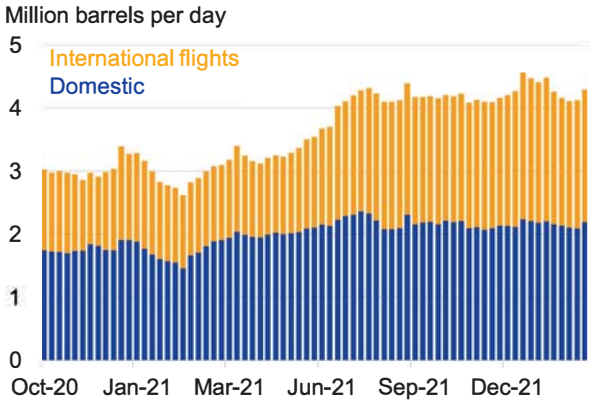
Japan



Source: U.S. Census Bureau, Eurostat, Markit, Ministry of Trade and Industry Japan, BloombergNEF. Note: Retail and automobile sales are seasonally adjusted.

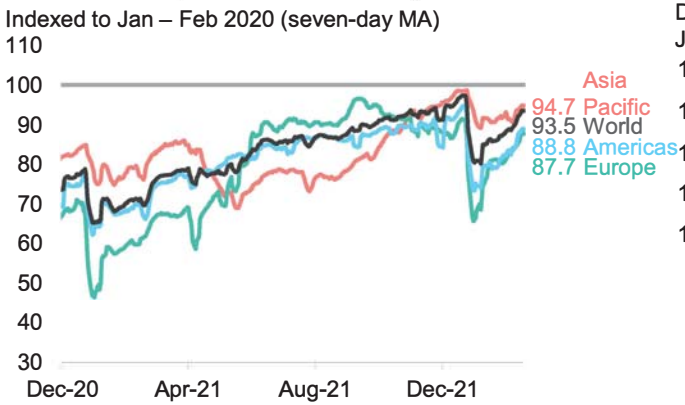
Mobility indicators: Jet fuel demand from commercial passenger flights was lower in February but showed signs of recovery in recent weeks. Mobility activity picks up across the globe.

Passenger flight departures



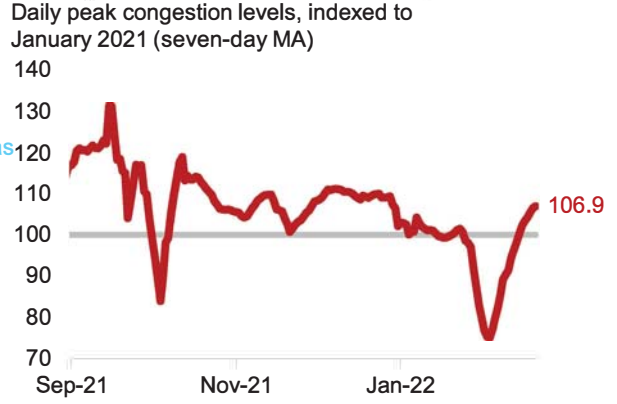
*Source: Bloomberg Terminal {DATA FLY <GO>}. Note: Latest data as of the **week to Feb. 15.***

Google mobility index



*Source: Google, BloombergNEF. Note: **Data excludes China and Russia. Data updated to Feb. 17.***

China (Baidu) congestion index



*Source: BloombergNEF, Baidu. Note: Data updated to **Feb. 23**. More info: Road Traffic Indicators (web | terminal)*

BloombergNEF

Global balance and OPEC+ supply

Supply and demand balance

Key agencies aligned in market outlook for 2022

OPEC

Million barrels per day	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
World demand	93.83	95.43	97.44	99.77	96.64	99.13	99.75	101.32	102.92	100.79
Non-OPEC liquids supply	62.49	63.26	63.60	64.96	63.58	65.99	66.13	66.63	67.66	66.61
OPEC crude	25.15	25.52	26.89	27.68	26.32	28.49	29.30	30.00	30.30	29.53
OPEC NGLs/others	5.10	5.12	5.17	5.18	5.14	5.23	5.26	5.29	5.31	5.27
World supply	92.75	93.90	95.66	97.82	95.05	99.71	100.68	101.92	103.27	101.41
Balance	**-1.08**	**-1.53**	**-1.79**	**-1.95**	**-1.59**	**+0.58**	**+0.93**	**+0.60**	**+0.36**	**+0.62**

Source: OPEC, red represents IEA estimates for forward OPEC supply. Note: OPEC+ projected supply reflects the OPEC+ deal and countries' sustainable capacity.

IEA

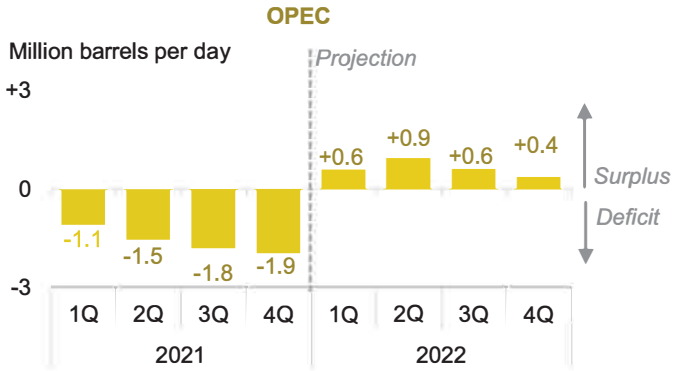
Million barrels per day	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
World demand	94.15	96.22	98.71	100.24	97.35	98.93	100.10	101.66	101.58	100.58
Non-OPEC+ liquids	44.84	46.10	47.00	47.30	46.32	47.29	48.00	48.60	48.60	48.13
OPEC+ crude	39.94	40.47	41.90	43.25	41.40	44.15	45.00	45.80	46.20	45.29
OPEC+ NGLs/others	7.56	7.60	7.52	7.71	7.60	7.84	7.90	8.00	8.10	7.96
World supply	92.34	94.17	96.42	98.26	95.32	99.28	100.90	102.40	102.90	101.38
Balance	**-1.81**	**-2.05**	**-2.29**	**-1.98**	**-2.03**	**+0.35**	**+0.80**	**+0.74**	**+1.32**	**+0.81**

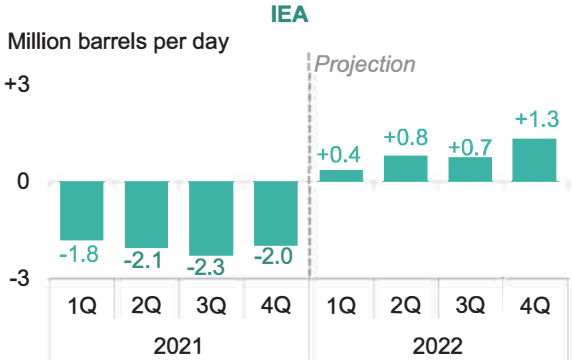
Source: IEA. Note: IEA's projected supply for OPEC+ reflects the OPEC+ deal and individual country's sustainable capacity. Subject to rounding error in two decimal places.

EIA

Million barrels per day	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
World demand	94.09	96.19	98.20	99.70	97.07	99.70	100.04	101.10	101.56	100.61
Non-OPEC liquids supply	62.23	63.78	64.31	65.26	63.91	65.84	67.13	67.84	68.06	67.23
OPEC crude	25.08	25.49	26.84	27.66	26.28	28.17	28.51	28.89	28.99	28.64
OPEC NGLs/others	5.16	5.26	5.31	5.41	5.29	5.58	5.46	5.50	5.54	5.52
World supply	92.47	94.53	96.46	98.33	95.47	99.59	101.09	102.24	102.60	101.39
Balance	**-1.62**	**-1.66**	**-1.74**	**-1.37**	**-1.60**	**-0.11**	**+1.05**	**+1.13**	**+1.04**	**+0.78**

Source: EIA. Note: EIA's expectations for OPEC supply.





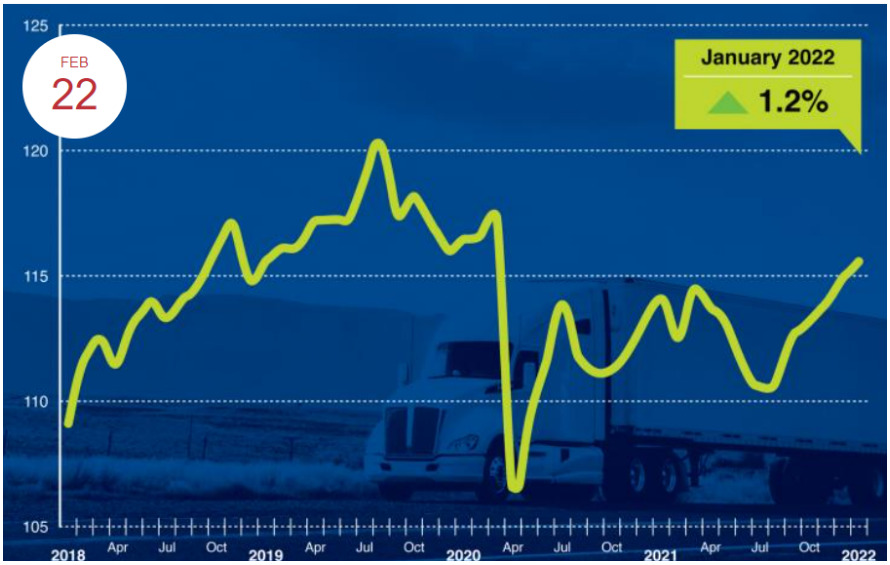
BloombergNEF

https://www.trucking.org/news-insights/ata-truck-tonnage-index-increased-06-january

ATA Truck Tonnage Index Increased 0.6% in January

FEB 22

Media Contact: Sean McNally



Index 1.2% Above January 2021

Arlington, Virginia — American Trucking Associations' advanced seasonally adjusted (SA) For-Hire Truck Tonnage Index rose 0.6% in January after increasing 0.9% in December. In January, the index equaled 115.5 (2015=100) compared with 114.9 in December.

ATA recently revised the seasonally adjusted index back five years as part of its annual revision.

"January's gain was the sixth straight totaling 4.4%," said ATA Chief Economist Bob Costello. "The index, which is dominated by contract freight with only small amounts of spot market truck freight, is off 3.9% from the all-time high in August 2019 and only 1.5% below March 2020 when the pandemic hit. In January, truck tonnage was helped by rising retail sales and factory output. While housing starts fell last month, which is another important driver of truck tonnage, it remained at high levels."

Compared with January 2021, the SA index increased 1.2%, which was the fifth straight year-over-year gain. In December, the index was up 1.5% from a year earlier. In 2021, compared with the average in 2020, tonnage was up 0.3%. In 2020, tonnage was off 4% compared with 2019.

The not seasonally adjusted index, which represents the change in tonnage actually hauled by the fleets before any seasonal adjustment, equaled 109.2 in January, 4.3% below the December level (114.1). In calculating the index, 100 represents 2015. ATA's For-Hire Truck Tonnage Index is dominated by contract freight as opposed to spot market freight.

Trucking serves as a barometer of the U.S. economy, representing 72.5% of tonnage carried by all modes of domestic freight transportation, including manufactured and retail goods. Trucks hauled 10.23 billion tons of freight in 2020. Motor carriers collected $732.3 billion, or 80.4% of total revenue earned by all transport modes.

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

https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/26/joint-statement-on-further-restrictive-economic-measures/

Joint Statement on Further Restrictive Economic Measures

FEBRUARY 26, 2022•STATEMENTS AND RELEASES

We, the leaders of the European Commission, France, Germany, Italy, the United Kingdom, Canada, and the United States condemn Putin's war of choice and attacks on the sovereign nation and people of Ukraine. We stand with the Ukrainian government and the Ukrainian people in their heroic efforts to resist Russia's invasion. Russia's war represents an assault on fundamental international rules and norms that have prevailed since the Second World War, which we are committed to defending. We will hold Russia to account and collectively ensure that this war is a strategic failure for Putin.

This past week, alongside our diplomatic efforts and collective work to defend our own borders and to assist the Ukrainian government and people in their fight, we, as well as our other allies and partners around the world, imposed severe measures on key Russian institutions and banks, and on the architects of this war, including Russian President Vladimir Putin.

As Russian forces unleash their assault on Kyiv and other Ukrainian cities, we are resolved to continue imposing costs on Russia that will further isolate Russia from the international financial system and our economies. We will implement these measures within the coming days.

Specifically, we commit to undertake the following measures:

First, we commit to ensuring that selected Russian banks are removed from the SWIFT messaging system. This will ensure that these banks are disconnected from the international financial system and harm their ability to operate globally.

Second, we commit to imposing restrictive measures that will prevent the Russian Central Bank from deploying its international reserves in ways that undermine the impact of our sanctions.

Third, we commit to acting against the people and entities who facilitate the war in Ukraine and the harmful activities of the Russian government. Specifically, we commit to taking measures to limit the sale of citizenship—so called golden passports—that let wealthy Russians connected to the Russian government become citizens of our countries and gain access to our financial systems.

Fourth, we commit to launching this coming week a transatlantic task force that will ensure the effective implementation of our financial sanctions by identifying and freezing the assets of sanctioned individuals and companies that exist within our jurisdictions. As a part of this effort we are committed to employing sanctions and other financial and enforcement measures on additional Russian officials and elites close to the Russian government, as well as their families, and their enablers to identify and freeze the assets they hold in our jurisdictions. We will also engage other governments and work to detect and disrupt the movement of ill-gotten gains, and to deny these individuals the ability to hide their assets in jurisdictions across the world.

Finally, we will step up or coordination against disinformation and other forms of hybrid warfare.

We stand with the Ukrainian people in this dark hour. Even beyond the measures we are announcing today, we are prepared to take further measures to hold Russia to account for its attack on Ukraine.

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https://www.bloomberg.com/news/articles/2022-01-26/why-swift-s-global-payments-are-sanctions-pain-point-quicktake

All About Swift, One Possible Path to Sanction Russia

Should Russia Be Cut Off From SWIFT?

By Nicholas Comfort and Natalia Drozdiak
January 26, 2022, 11:39 AM MST*Updated onFebruary 25, 2022, 7:19 AM MST*
From
@nickcomfort + Get alerts forNicholas Comfort @nat_droz + Get alerts forNatalia Drozdiak

As the U.S., the U.K. and the European Union impose new sanctions on Russia in response to its actions in Ukraine and consider increasing them, one idea under discussion involves cutting off access to a messaging system called SWIFT. It's so central to the international financial system that any such talk rattles bankers and diplomats alike.

1. What is SWIFT?

Think of SWIFT, an acronym for Society for Worldwide Interbank Financial Telecommunication, as the Gmail of global banking. It delivers secure messages among more than 11,000 financial institutions and companies, in over 200 countries and territories. The message traffic -- 42 million a day on average last year -- includes orders and confirmations for payments, trades and currency exchanges. The member-owned cooperative, based just outside Brussels, was founded in 1973 to end reliance on the telex system.

2. Why is losing SWIFT access such a big deal?

A country cut off from SWIFT can suffer significant economic pain. That's what happened to Iran in 2012, when its banks lost access as part of European Union sanctions targeting the country's nuclear program and its sources of finance. (Many of the banks were reconnected in 2016 after the EU took them off its sanctions list.) When Western nations threatened Russia's access to SWIFT in 2014, Alexei Kudrin, a onetime finance minister close to President Vladimir Putin, estimated that it could reduce Russia's gross domestic product by 5% in a year. Cutting Russia off from SWIFT could have ramifications for other nations as well, since Russia is a key energy supplier to Europe and countries rely on the SWIFT system to pay for fuel.

3. Why the reluctance to cut Russia off from SWIFT?

U.S. President Joe Biden cited the lack of unity among European nations as a reason. Another is a fear among Western officials that banning countries from SWIFT would encourage other countries to develop alternative systems. Another concern is over collateral damage. Europe uses SWIFT to send payments for Russian natural gas it needs to heat its homes and power factories, meaning a ban could threaten supplies in the midst of the winter heating period, adding to an already heightened cost of living crisis in the region. Plus, any "legitimate company doing legitimate business with Russia" could find itself unable to collect payment if SWIFT is restricted, said Daniel Tannebaum, head of sanctions at Oliver Wyman in New York.

4. Is there an alternative to SWIFT?

Bottom of Form

Not really, or at least not yet. Since 2014, the Bank of Russia has run its own financial messaging system for Russian and foreign banks. But that one has only about 400 users. The People's Bank of China in 2021 announced a joint venture with SWIFT that was seen in some quarters as an insurance policy against being cut off from the global financial system. Digital currencies and the underlying technology have also been touted as a threat to SWIFT for several years, but they're nowhere close to replacing it.

5. How secure is the SWIFT system?

There have been multiple attempts to rob financial institutions through fraudulent messaging on SWIFT, some of them successful. The best known is when Bangladesh's central bank lost $81 million to hackers who breached it in 2016 and tricked the Federal Reserve Bank of New York into sending funds. SWIFT emphasized that its own network hadn't been breached, but it beefed up security in the wider industry with mandatory and advisory controls at member firms.

6. Who regulates SWIFT?

Since it doesn't hold deposits, SWIFT isn't regulated the way a bank is. It's overseen by the National Bank of Belgium and representatives from the U.S. Federal Reserve System, the Bank of England, the European Central Bank, the Bank of Japan and other major central banks. Generally speaking, SWIFT would cut off access only if the European Union passed sanctions against a particular entity or country. SWIFT suspended certain Iranian lenders in 2018 after the U.S. imposed a new round of sanctions, although it says that was "an isolated event" that was "taken in the interest of the stability and integrity of the wider global financial system."

The Reference Shelf

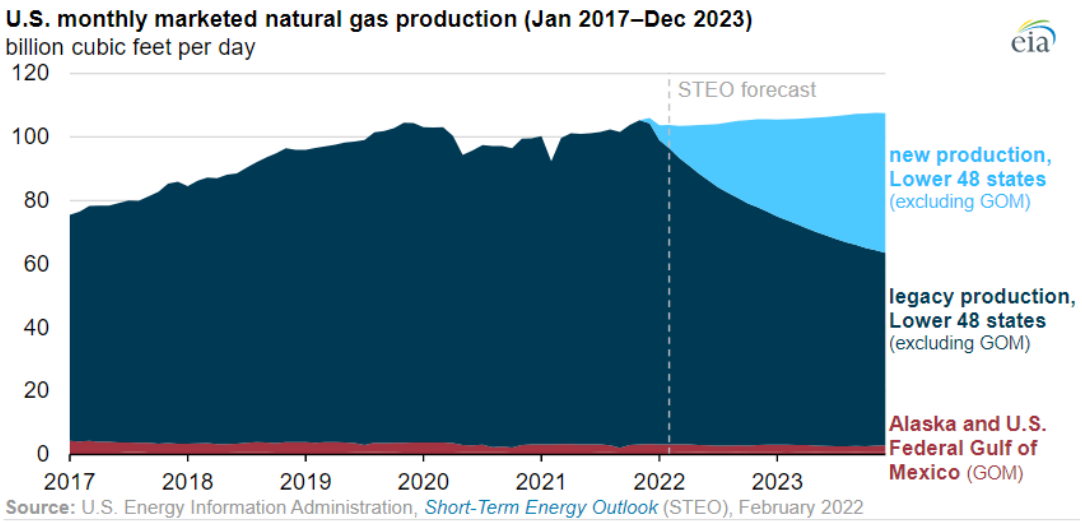
- A report from Bloomberg Intelligence on some risks of disconnecting Russia from SWIFT.
- QuickTake explainers on the waves of sanctions against Russia over Ukraine and why the U.S. dollar is still king.
- A Bloomberg Opinion column from 2016 on hacking at SWIFT.
- SWIFT's web page on sanctions.
- A Bank of Russia summary of its own financial messaging system.

— With assistance by Alan Katz

https://www.eia.gov/todayinenergy/detail.php?id=51319

FEBRUARY 17, 2022

U.S. marketed natural gas production forecast to rise in 2022 and 2023



We forecast that U.S. natural gas marketed production will increase to an average of 104.4 billion cubic feet per day (Bcf/d) in 2022 and then further increase to a record-high 106.6 Bcf/d in 2023, according to our latest *Short-Term Energy Outlook* (STEO). Around 97% of production over the next two years will come from the Lower 48 states (L48), excluding the Federal Offshore Gulf of Mexico (GOM). The other 3% will come from Alaska and the GOM.

We estimate that the wholesale spot price of natural gas at the U.S. benchmark Henry Hub will average $3.92 per million British thermal units (MMBtu) in 2022, an eight-year high, and will average $3.60/MMBtu throughout 2023. We expect these elevated prices will drive continued increases in U.S. drilling activity and natural gas production.

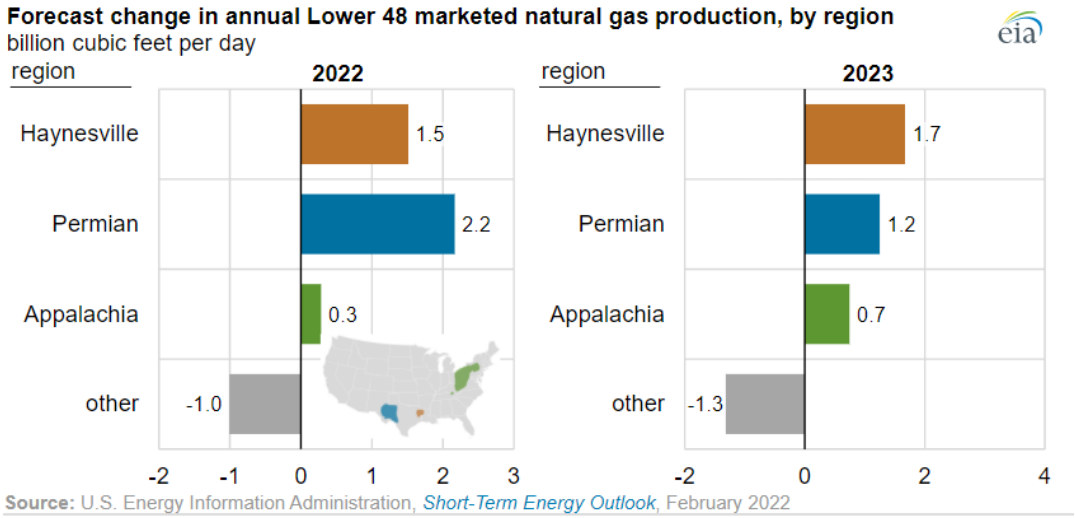
We forecast that legacy production—production from wells drilled before December 2021—in the L48 will average 83.2 Bcf/d in 2022 and fall 21% to 65.9 Bcf/d in 2023. However, production from new wells will contribute 18.1 Bcf/d in 2022 and increase to 37.8 Bcf/d in 2023, offsetting declining production from legacy wells and bringing total L48 marketed gas production to 103.7 Bcf/d in 2023.

U.S. natural gas production growth will primarily come from the Appalachia region in the Northeast, the Permian region in western Texas and southeastern New Mexico, and the Haynesville region in Texas and Louisiana.

Haynesville production will grow by 1.6 Bcf/d annually, on average, in the next two years, according to our STEO forecast. As natural gas prices remain elevated, drilling in the Haynesville region remains economical, even with relatively deeper and more expensive well development. In addition, Haynesville's greater well productivity and its proximity to liquefied natural gas export terminals and major industrial natural gas consumers along the U.S. Gulf Coast draws operators to the region.

We forecast that the Permian region will contribute 2.2 Bcf/d to production growth in 2022 and 1.2 Bcf/d in 2023. Our forecast for the West Texas Intermediate crude oil price remains above $60 per barrel, prompting operators to increase oil-directed drilling activity in the region, which would also increase associated gas production.

In recent years, the Appalachia region has provided the largest share of U.S domestic natural gas output, accounting for one-third of L48 production annually since 2016. Although production growth has slowed in recent years because of less drilling activity and emerging pipeline capacity constraints, Appalachia well-level productivity has been increasing, offsetting some of the drilling decline. We estimate that production from the Appalachia region will grow by 0.3 Bcf/d in 2022 and 0.7 Bcf/d in 2023.

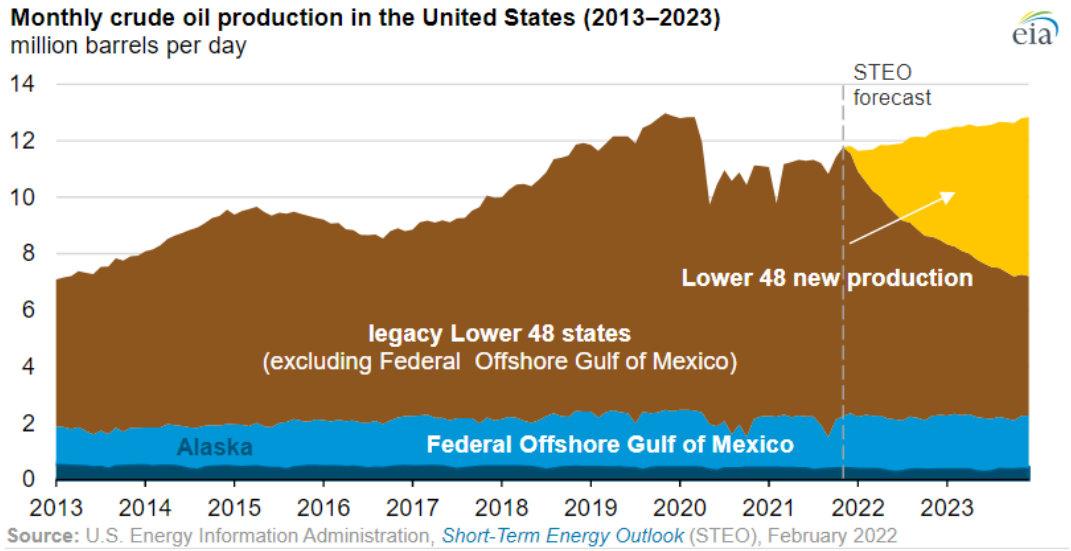


Principal contributor: Naser Ameen

Tags: production/supply, forecasts/projections, natural gas, STEO (Short-Term Energy Outlook)

https://www.eia.gov/todayinenergy/detail.php?id=51318
FEBRUARY 16, 2022

U.S. crude oil production forecast to rise in 2022 and 2023 to record-high levels



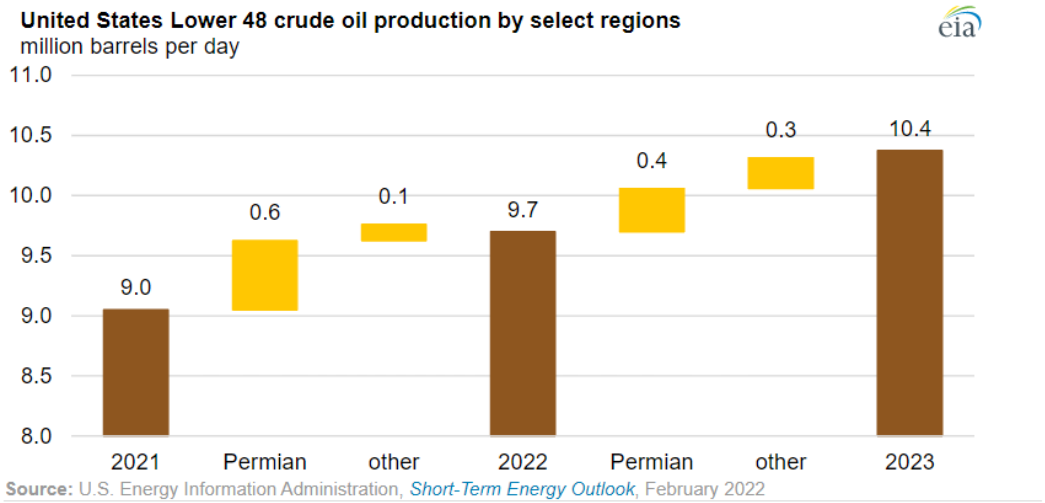
In our February 2022 *Short-Term Energy Outlook* (STEO), we forecast that crude oil prices will remain high enough to drive U.S. crude oil production to record-high levels in 2023, reaching a forecast 12.6 million barrels per day (b/d). We expect new production in the Permian Basin to drive overall U.S. crude oil production growth.

In the February STEO, we forecast that U.S. crude oil production will increase to 12.0 million b/d in 2022, up 760,000 b/d from 2021. We forecast that crude oil production in the United States will rise by 630,000 b/d in 2023 to average 12.6 million b/d. We expect more than 80% of that crude oil production growth to come from the Lower 48 states (L48), which does not include production from Alaska and the Federal Offshore Gulf of Mexico.

Production from new L48 wells, particularly in the Permian region, drive our forecast of U.S. crude oil production growth. Legacy production, or crude oil production from existing wells, typically declines relatively quickly in tight oil formations, and we expect that production from new wells will offset these legacy production declines.

Crude oil prices have generally increased since April 2020, resulting in increased crude oil production. The Brent spot price for crude oil (the international benchmark) reached $97 per barrel (b) on February 7, 2022, the highest nominal price (not adjusted for inflation) since September 17, 2014.

From January 8, 2021, to February 7, 2022, the L48 added 220 oil-directed rigs, 114 of which were in the Permian region. We forecast that production in the Permian region will average 5.3 million b/d in 2022 and 5.7 million b/d in 2023.



Our crude oil production forecast assumes the West Texas Intermediate crude oil price averages $79/b in 2022 and $64/b in 2023, which we expect will lead to continued increases in drilling activity and crude oil production in the United States. The price forecast is highly uncertain, however, and a number of factors could push prices higher or lower than our forecast.

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Principal contributors: Matthew French, Naser Ameen

Tags: forecasts/projections, STEO (Short-Term Energy Outlook), liquid fuels, crude oil, oil/petroleum

https://about.usps.com/newsroom/national-releases/2022/0223-usps-completes-environmental-review-of-next-gen-delivery-vehicles.htm

Feb. 23, 2022

USPS Completes Environmental Review of Next Generation Delivery Vehicle Program, Proceeds with Next Steps

- *Through the Next Generation Delivery Vehicle (NGDV) program, U.S. Postal Service commitment to the fiscally responsible roll-out of electric-powered vehicles for America's largest and oldest federal fleet remains ambitious and on schedule*
- *The NGDV program, which delivers its first 5,000 battery electric vehicles (BEV) beginning in 2023, provides significant environmental benefits through the introduction of safer and more environmentally friendly vehicles*
- *The flexibility in the NGDV program allows for an increase in the mix of BEVs should additional funding become available*
- *Postal Service carefully reviewed and incorporated feedback from the U.S. Environmental Protection Agency (EPA) regarding the NGDV program's potential environmental impacts, detailed in the USPS 340-page Final Environmental Impact Statement (FEIS)*
- *USPS concludes there is no legal or other basis to delay the NGDV program*

WASHINGTON, DC — The U.S. Postal Service announced today it has completed its obligations under the National Environmental Policy Act (NEPA) process, which, in this instance, evaluated the potential environmental impacts of the Postal Service's Next Generation Vehicle Delivery (NGDV) program, a fiscally and environmentally responsible plan to modernize the federal government's largest and oldest vehicle fleet. The Postal Service communicated its completion of the NEPA process in a record of decision (ROD) filed with the Federal Register today.

"As we have reiterated throughout this process, our commitment to an electric fleet remains ambitious given the pressing vehicle and safety needs of our aging fleet as well as our fragile financial condition. As our financial position improves with the ongoing implementation of our 10-year plan, Delivering for America, we will continue to pursue the acquisition of additional BEV as additional funding – from either internal or congressional sources - becomes available," said Postmaster General and USPS Chief Executive Officer Louis DeJoy. "But the process needs to keep moving forward. The men and women of the U.S. Postal Service have waited long enough for safer, cleaner vehicles to fulfill on our universal service obligation to deliver to 161 million addresses in all climates and topographies six days per-week."

The ROD details USPS's response to feedback recently received from the Environmental Protection Agency (EPA) about the Postal Service's assessment of the potential environmental impacts of the NGDV program, which calls for the introduction of an initial 5,000 battery electric vehicles (BEV) to USPS's fleet beginning in 2023. The Postal Service's assessment is detailed in a 340-page Final Environmental Impact Statement (FEIS), which was published under the NEPA process on Jan. 7, 2022.

"We thank the federal agencies, including the EPA, for their input," said Mark Guilfoil, Vice President for Supply Management at the U.S. Postal Service. "The NEPA process attracted more than 39,000 public comments from an array of stakeholders; involved coordination with various federal agencies, including EPA. As a result of those comments we included extensions in the process timeline as requested by EPA. After thorough review and study we determined that EPA's request for a supplemental EIS and public hearing would not add value to the Postal

Service's already year-long review. It is also important to note that a supplemental EIS and public hearing are not legally required."

As noted in the ROD filed today, the NGDV program provides for the introduction of internal-combustion and electric-powered, purpose-built vehicles that deliver significant reductions in vehicle emissions and improvements in fuel economy versus the existing delivery vehicle fleet. While the current NGDV plan calls for its fleet mix to be at least 10 percent BEV, the Postal Service in its ROD recognizes a 100 percent mix of BEVs would deliver even greater emission benefits, and notes the program is designed to increase the mix of BEVs as financial resources become available.

The search for replacement vehicles for the Postal Service's delivery fleet, which started in 2015, resulted in the purpose-built NGDVs that will deliver air conditioning and heating, improved ergonomics, and some of the most advanced vehicle and safety technology — including 360-degree cameras, advanced braking and traction control, air bags, a front-and rear-collision avoidance system that includes visual, audio warning, and automatic braking. The vehicles will also have increased cargo capacity to maximize efficiency and better accommodate higher mail and package volumes.

Over the past year, the Postal Service has made its teams available to policymakers in Congress, as they pursued efforts to secure funding to achieve a majority electric USPS delivery vehicle fleet over the next 10 years. Although congressional funding levels have varied, the Postal Service most recently discussed an ability to achieve 70 percent fleet electrification within a decade. The NGDV contract is an indefinite delivery, indefinite quantity (IDIQ) contract, meaning the Postal Service will have the ongoing ability to order more NGDVs over a fixed period of time, in this case 10 years. In addition, the NGDV contract enables the flexibility needed to significantly increase the level of electrification when funding is provided, even after an order is placed.

The full text of the ROD can be found here.

The Postal Service generally receives no tax dollars for operating expenses and relies on the sale of postage, products and services to fund its operations.

https://uspsngdveis.com/

US POSTAL SERVICE

Notice of Availability of Record of Decision for Next Generation Delivery Vehicles Acquisitions

AGENCY: U.S. Postal Service.

ACTION: Record of Decision.

To replace existing delivery vehicles nationwide that have reached the end of their service life, the U.S. Postal Service ("Postal Service") has determined that it will implement the Preferred Alternative, as described in the Next Generation Delivery Vehicle ("NGDV") Acquisitions Final Environmental Impact Statement ("FEIS"), which was published by the U.S. Environmental Protection Agency in the Federal Register on January 7, 2022 (87 FR 964). The Preferred Alternative is the purchase and deployment

over a ten-year period of 50,000 to 165,000 purpose-built, right-hand drive NGDV consisting of a mix of internal combustion engine ("ICE") and battery electric vehicle ("BEV") powertrains, with at least ten percent BEVs.

The Postal Service has decided on the Preferred Action because it fully meets the Postal Service's Purpose and Need by providing a purpose-built right-hand drive vehicle capable of meeting performance, safety, and ergonomic requirements for efficient carrier deliveries to businesses and curb-line residential mailboxes over the entire nationwide system. Moreover, the Postal Service has determined that the Preferred Alternative is the most achievable given the Postal Service's financial condition as the BEV NGDV has a significantly higher total cost of ownership than the ICE NGDV, which is why the Preferred Alternative being implemented does not commit to more than 10 percent BEV NGDV. Finally, the Postal Service notes that the Preferred Alternative as implemented contains the flexibility to significantly increase the percentage of BEV NGDV should additional funding become available from any source.

The Record of Decision was prepared in accordance with the requirements of the National Environmental Policy Act, the Postal Service's implementing procedures at 39 CFR Part 775, and the President's Council on Environmental Quality Regulations (40 CFR parts 1500-1508). The ROD incorporates the analyses and findings from the FEIS.

DATES: The ROD became effective when it was signed by the Postal Service's Vice President of Supply Management on February 23, 2022.

ADDRESSES: Interested parties may click this link to view the Record of Decision.

REFERENCES:

1. U.S. Postal Service, Notice of Intent to Prepare an Environmental Impact Statement for Purchase of Next Generation Delivery Vehicles, 86 FR 12715 (Mar. 4, 2021).
2. U.S. Postal Service, Notice of Availability of Draft Environmental Impact Statement for Purchase of Next Generation Delivery Vehicles, 86 FR 47662 (Aug. 26, 2021).
3. U.S. Environmental Protection Agency, Notice of Availability of EIS No. 20210129, Draft, USPS, DC, Next Generation Delivery Vehicle Acquisitions, 86 FR 49531 (Sept. 3, 2021).
4. U.S. Environmental Protection Agency, Notice of Availability of EIS No. 20220001, Final, USPS, DC, Next Generation Delivery Vehicle Acquisitions, 87 FR 964 (Jan. 7, 2022).
5. U.S. Postal Service, Notice of Availability of Final Environmental Impact Statement for Purchase of Next Generation Delivery Vehicles, 87 FR 994 (Jan. 7, 2022).

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

IFIC Monthly Investment Fund Statistics – January 2022

Mutual Fund and Exchange-Traded Fund Assets and Sales

February 22, 2022 (Toronto) – The Investment Funds Institute of Canada (IFIC) today announced investment fund net sales and net assets for January 2022.

Mutual fund assets totalled $2.021 trillion at the end of January 2022. Assets decreased by $55.3 billion or 2.7% compared to December 2021. Mutual funds recorded net sales of $7.2 billion in January 2022.

ETF assets totalled $342.5 billion at the end of January 2022. Assets decreased by $4.6 billion or 1.3% compared to December 2021. ETFs recorded net sales of $5.1 billion in January 2022.

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

Asset Class	Jan. 2022	Dec. 2021	Jan. 2021
Long-term Funds			
Balanced	3,080	1,549	4,980
Equity	2,921	422	4,218
Bond	349	(1,381)	3,096
Specialty	627	160	768
Total Long-term Funds	6,977	750	13,061
Total Money Market Funds	178	185	(1,485)
Total	7,155	935	11,576

Mutual Fund Net Assets ($ Billions)*

Asset Class	Jan. 2022	Dec. 2021	Jan. 2021
Long-term Funds			
Balanced	997.8	1,022.6	874.9
Equity	719.1	745.1	588.5
Bond	255.8	260.9	245.4
Specialty	22.1	21.9	34.8
Total Long-term Funds	1,994.9	2,050.4	1,743.6
Total Money Market Funds	26.6	26.4	32.4
Total	2,021.5	2,076.8	1,775.9

* Please see below for important information regarding this data.

ETF Net Sales/Net Redemptions ($ Millions)*

Asset Class	Jan. 2022	Dec. 2021	Jan. 2021
Long-term Funds			
Balanced	301	296	495
Equity	4,677	3,326	2,178
Bond	(150)	1,208	1,309
Specialty	137	520	58
Total Long-term Funds	4,964	5,350	4,040
Total Money Market Funds	178	276	(25)
Total	5,142	5,626	4,014

ETF Net Assets ($ Billions)*

Asset Class	Jan. 2022	Dec. 2021	Jan. 2021
Long-term Funds			
Balanced	12.1	12.1	7.7
Equity	223.9	225.2	159.5
Bond	87.2	89.6	80.1
Specialty	12.4	13.6	5.2
Total Long-term Funds	335.7	340.5	252.6
Total Money Market Funds	6.8	6.6	7.2
Total	342.5	347.1	259.8

* Please see below for important information regarding this data.

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

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

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

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

About IFIC

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

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Russian population drops by a million in 2021
2022-01-31 17:01:55.641 GMT

Theo Normanton in Moscow

(bne IntelliNews)

Russia's population dropped by over a million people in 2021, according to data released by state statistics agency RosStat. This represents the biggest drop in Russia's population since the time of the Soviet Union.

Natural decrease in Russia (the number of deaths minus the number of births) stood at 1,042,675 for the year 2021. This is the first time that this figure has exceeded 1mn since the formation of the Russian Federation in 1991.

This figure is almost twice that of 2020, and the statistics agency attributes the dramatic change mostly to an increase in deaths due to coronavirus (COVID-19). The death rate increased by an alarming 15.1% in 2021, reaching a total of 2.4mn deaths.

Russia is the third worst-hit country in the world by COVID-19 per head of the population, according to data from Johns Hopkins University. Its efforts to curb the spread of the virus have been hampered by slow vaccine uptake.

Another significant factor is a steadily declining birth rate, which stood at 1.4mn in 2021, down 2.3% from 2020, and the lowest it's been since 2002. President Vladimir Putin has made increasing Russia's birth rate a priority of his policy agenda, offering tax breaks, welfare benefits and free school meals, as well as his signature "materinskiy kapital" – one-off payments to families upon the birth of a new child.

Russia has had more success in attracting migrants, however. With more people coming to Russia than emigrating, migration was able to offset about a third of the natural population decrease.

The discrepancy between the amount of deaths attributed to the coronavirus by the official government coronavirus website and the much greater number listed on the state statistics agency has led to allegations that the Russian government may be massaging its coronavirus figures.

-0- Jan/31/2022 17:01 GMT

https://www.straitstimes.com/asia/east-asia/japans-childcare-crisis-deepens-as-births-hit-fresh-low-for-the-sixth-straight-year

Japan's childcare crisis deepens as births hit fresh low for the sixth straight year

Japan's Health Ministry said the number of births in 2021 went down by 3.4 per cent from a year before, marking the sixth straight year record lows. PHOTO: REUTERS

Walter Sim Japan Correspondent

PUBLISHED 6 HOURS AGO

TOKYO - The term "parent *gacha*" trended in Japan last year, a buzzword roughly translated to the fact that a child's future is randomly determined at the point of birth by its parents.

That the term was nominated as one of 2021's top buzzwords in an annual Japanese literary award - *gacha* refers to a toy capsule dispenser - points to the structural issues that Prime Minister Fumio Kishida will have to confront to stop a fertility crisis from crippling his nation.

The number of childbirths in Japan dropped to a fresh record low in 2021, the sixth year in a row it has done so.

The Health Ministry said, in preliminary data on Friday (Feb 25), that there were 842,897 births, down by 3.4 per cent, or 29,786 babies, from a year ago.

"It is likely that people refrained from getting pregnant due to their anxieties about healthcare and the future as Covid-19 first began to spread," an official analysis of the data said.

Births fell the most year on year in the months of January and February last year, with most of those born in the two months conceived in April and May 2020 just as Japan was in the throes of its first Covid-19 state of emergency.

Childbirths recovered later in the year to slightly below 2020 levels, but were still markedly lower than before the Covid-19 pandemic struck.

Notably, Friday's preliminary figure applies to childbirths among Japanese and foreigners living in Japan, as well as among Japanese overseas. The finalised data later this year will be even worse, applying only to Japanese citizens in Japan.

Japan's fertility rate last year stood at 1.33, which is far less than the government's official target of 1.8 by 2025. This not only appears out of reach, but is below the replacement rate of 2.1 that is required to maintain the population at a constant level.

Japan's leaders have long been flummoxed by what is feared to be an insurmountable challenge, with childbirths in free fall since it dipped below the one million psychological threshold for the first time in 2016.

The Band-Aid approach of offering among the world's most generous childcare policies - new parents can take childcare leave of up to a year and are paid up to 80 per cent of their wages through labour insurance and government benefits - have not gone far enough to tackle structural issues.

The term "parent *gacha*", which signalled worries about how a parent's socio-economic status gets transferred to their children, reflects a lack of hope as sociologists point to the financial pressures arising from depressed wages and high taxes.

Further, unemployment has hit those in the child-bearing age the hardest. While the overall jobless rate was 2.8 per cent last year, the figure was 3.8 per cent for those aged 25 to 34, and 4.6 per cent for those aged 15 to 24.

Mr Kishida is taking aim at the crisis with a push to raise wages, especially among the middle class, under the redistributive policies as proposed under the banner of his "new style of Japanese capitalism".

He will also launch a new Children and Family Agency in April next year to serve as a one-stop control centre for all children and family-related policies so as to reduce bureaucratic red tape and create a better environment for child-rearing.

Compounding the fertility crisis is how the number of marriages last year dropped to a post-war low of 514,242 couples, down by 4.3 per cent from 2020.

This may further worsen the fertility crisis, as very few babies in Japan are born out of wedlock.

Adding to concerns is the surge in child abuse incidents last year. The National Police Agency said this month that police investigated a record 2,170 child abuse cases last year, up 1.7 per cent from a year ago.

As many as 108,050 minors aged under 18 nationwide were also referred to child welfare centres over suspicion of abuse.

The Health Ministry, meanwhile, said on Friday that there were 1,452,289 deaths last year. This was the highest post-war figure, and was up 67,745 from a year ago.

As a result, the decrease in the natural population - where the number of deaths exceeds that of births - stood at 609,392, exceeding 600,000 for the first time.

https://www.koreatimes.co.kr/www/nation/2022/02/281_324402.html

Korea's fertility rate drops even further to 0.81 in 2021

Posted : 2022-02-23 14:03
Updated : 2022-02-23 18:23

South Korea's fertility rate hit a record low last year as the number of newborns continued to fall, data showed Wednesday, underlining the country's bleak demographic situation.

The country's fertility rate — the average number of children a woman could bear in her lifetime — came to 0.81 last year, down from 0.84 the previous year, according to Statistics Korea.

This was the lowest since 1970 when the statistics agency began compiling related data. Last year marked the fourth straight year the rate was below 1 percent.

South Korea was the only country whose fertility rate stayed below 1 percent among 38 member countries of the Organization for Economic Cooperation and Development (OECD).

As of 2019, the fertility rate among OECD nations averaged 1.61.

The agency earlier forecast the fertility rate will likely nosedive to a record low of 0.7 in 2024 before rebounding to one in 2031.

The country's crude birthrate — the number of births per 1,000 people per year — also reached an all-time low of 5.1 last year, down from 5.3 a year ago.

The data underscore the country's gloomy demographic picture amid its chronically low childbirths and rapid aging.

Many young South Koreans delay or give up on getting married or having children amid a prolonged economic slowdown and skyrocketing housing prices.

In 2021, the number of newborns in South Korea reached a record low of 260,500 in 2021, down 11,800 or 4.3 percent from the previous year, the data showed.

Last year, an all-time high of 317,800 people died, up 12,800 or 4.2 percent from a year earlier.

This resulted in a decline of 57,300 in the country's population last year, larger than the fall of 33,000 in 2020.

Since South Korea reported the first natural decline in the population in 2020, when the country saw the number of deaths outpace that of childbirths.

"This trend is expected to continue as the number of newborns will keep declining and deaths will likely rise amid rapid aging," Noh Hyung-joon, a Statistics Korea official, told a press briefing.

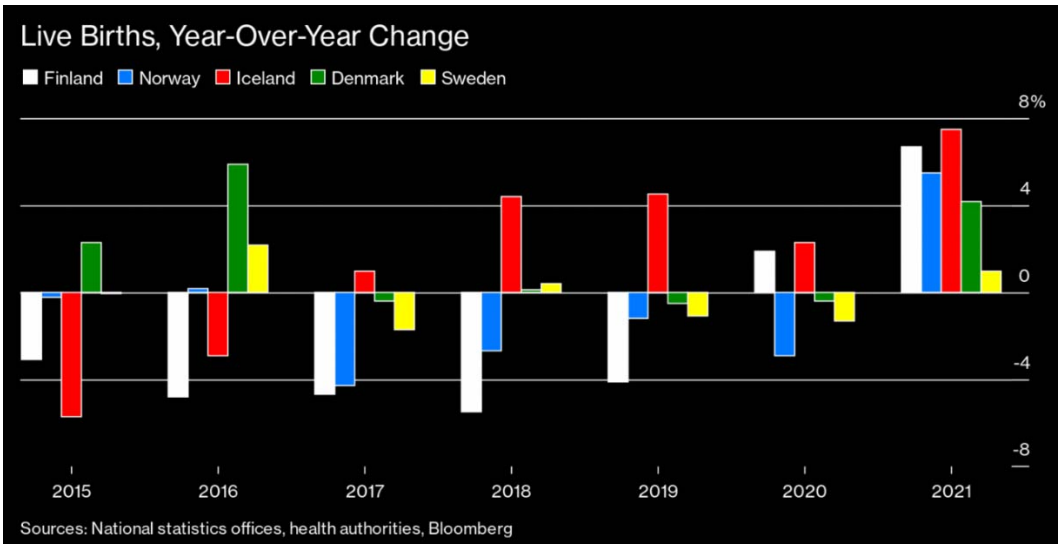
The falling the birthrate is feared to accelerate a major drop in the working-age population, a phenomenon known as a demographic cliff. A fall in the working population means a decline in labor supply, potentially undercutting economic growth.

South Korea's total population is estimated to have recorded its first decline last year due to low births, fast aging and a decline in incoming foreigners amid the COVID-19 pandemic. The total population is presumed to have peaked at 51.84 million in 2020.

The country's working-age population or people aged 15 to 64, came to 37.4 million in 2020, accounting for 72.1 percent of the total. This population is forecast to continue to fall and reach 17.4 million in 2070, down 53.5 percent from 2020 levels. (Yonhap)

Pandemic Baby Bump Puts Spotlight on Nordic Welfare Model
2022-02-23 05:01:14.352 GMT

By Ott Ummelas and Kati Pohjanpalo
(Bloomberg Businessweek) -- Finland's government has been working arduously to stem the country's rapid population decline. Since the 2019 elections, a cabinet run by a millennial woman has produced eight offspring, with two more on the way. Regular Finns have joined in the baby making: The number of live births jumped 6.7% last year, the most in nearly five decades. Other nations on Europe's northern rim have experienced their own pandemic baby bumps, making the region of 28 million people an outlier among advanced economies, several of which have seen fertility rates drop to historic lows.



Researchers looking for clues to why the Nordics bucked the trend have converged on a likely answer: Robust social safety nets, including policies designed to ease the burden of parenthood, insulated couples from the economic stresses experienced by peers in other industrialized countries. The lessons could prove useful for a host of nations trying to blunt the effects of rapidly aging populations, including an erosion in public finances and slower economic growth.

"The number of births has remained stable or even increased across almost the entire Nordic region," says Nora Sanchez Gassen, a researcher at the Stockholm-based Nordregio institute, which will publish a report on the phenomenon in March. "This has been interpreted as a sign of couples' trust in the welfare system and in the ability of the Nordic economies to master the current crisis."

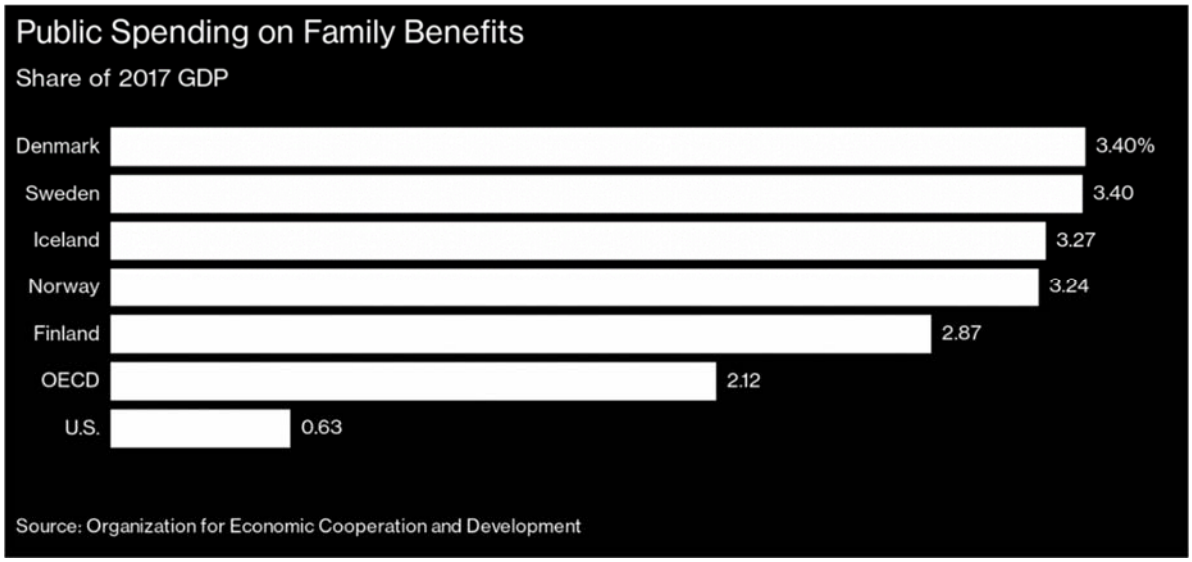
At the start of the pandemic, there was speculation that weeks or months of forced isolation would foster procreation. Yet in many countries the opposite occurred: Italy reported a 14% annual decline in births in January 2021, and South Korea's fertility hit an all-time low last year. Less drastic but still concerning, U.S. statisticians said in December that the population grew only 0.1% last year, the least on record.

In contrast, live births climbed in all of the Nordics in 2021, led by Iceland where they rose 7.5%. Norway's 5.5% gain was the first increase in 13 years. Sweden reported the smallest increase, at 1%. The country imposed only mild restrictions at the start of the pandemic, suggesting a negligible impact on parenthood decisions.

"The pandemic definitely had an impact on our decision to try for a second child," says Heini Korpela, 38, who oversees influencer marketing at Otavamedia Oy in Helsinki and gave birth to a baby girl in June. "We'd spent so much time at home that it didn't feel like a big deal to stay home with another baby."

For Tryggvi Sigurdsson, a 36-year-old engineer from Reykjavik who became a father for the third time last June, one upside of the Covid-19 crisis is that there was more familial support for new parents. "Everyone is spending a lot of time at home, including grandparents for instance, so people might be more available to babysit," he says.

The Nordic model of high taxes to finance extensive welfare benefits, including extended parental leave and subsidized child care, appears to be the crucial differentiator. Most relevant to the pandemic, unemployment benefits last from 11 months in Sweden to as long as 30 months in Iceland and can cover as much as 90% of a previous salary, with some limits.



Ane Margrete Tommeras, an adviser with Statistics Norway, says it's difficult to establish how big a part the Covid crisis played in nudging up birthrates, pointing out that they were already rising in some Nordic countries, such as Finland.

"Fertility might have increased anyway, making it difficult to say what role the pandemic combined with the welfare state have had on fertility in the Nordics at this point," she says.

Ronald Lee, a professor of demography and economics at the University of California at Berkeley, suggests that the successive cycles of infection that have characterized the Covid pandemic may have a different effect on fertility than the "one-and-done epidemics" seen in the past. While after historical shocks, nations passed through diminishing up- and down-cycles

of births before returning to longer-term trends, he's less confident about such an outcome this time, citing "uneven" global data, including from the Nordics.
In the view of other experts, the most likely scenario is that preexisting demographic trends will reassert themselves once the threat from the virus subsides. "The Nordic welfare state helps resilience," says Arnstein Aassve, a professor of demography at Bocconi University in Milan. Still, "as with previous pandemics, one's best bet is that fertility will return to the long-term trend." —With Ragnhildur Sigurdardottir, Niclas Rolander, and Stephen Treloar

Read next: How Child Care Became the Most Broken Business in America

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https://news.ontario.ca/en/release/1001640/ontarios-newest-red-tape-reduction-act-features-fewer-fees-better-services

Ontario's Newest Red Tape Reduction Act Features Fewer Fees, Better Services

Package increases affordability and simplicity for people and businesses

February 22, 2022
Economic Development, Job Creation and Trade
TORONTO — The Ontario government continues its work to make Ontario the first choice for families and businesses ready to invest with the introduction of this year's red tape reduction package, the *Fewer Fees, Better Services Act, 2022.*

Nina Tangri, Associate Minister of Small Business and Red Tape Reduction, introduced the latest Act in the Legislature today.

"Since day one, we've been relentless in finding ways to make it easier for people and businesses to interact with the government," said Minister Tangri. "With this legislation, we want to create a business-ready environment for investment, put money back in people's pockets, and make Ontario the number one choice in North America to raise a family and operate a business."

The transformative actions taken by this government to-date, have resulted in almost $400 million in net annual savings to businesses. If passed, this act will further support businesses and entrepreneurs, ease financial burdens on people and remove overly complex processes that only serve to frustrate and thwart investment.

Some of the proposed changes in the Act include:

- Cutting costs for millions of Ontario vehicle owners by refunding licence plate sticker renewal fees paid since March 1, 2020.
- Establishing a single window for business services, which will require service standard guarantees so businesses can track the information they need from the government.
- Helping to level the playing field for Ontario businesses by changing the government's approach to procurement. The change will strengthen the province's supply chain and help domestic businesses grow and create good paying jobs.
- Providing more flexibility related to provincial assets by creating a Centre of Realty Excellence. This holistic approach across all government-owned properties will ensure priority surplus properties align with key programs, including affordable housing and long-term care.
- Giving commuters a break by removing tolls from Highways 412 and 418. This responds particularly to requests from municipal leaders and Indigenous communities in Durham Region.

"Cutting red tape and modernizing our regulatory system remains a top priority for this government," said Vic Fedeli, Minister of Economic Development, Job Creation and Trade. "Making it easier to follow rules and holding government to clear service standards encourages our incredible entrepreneurs to invest in Ontario and create good jobs."

Ontarians expect clean air, clean water, safe products, and safe working conditions. Good rules and regulations are necessary to maintain these high standards. The changes Ontario has made to date are helping the government deliver clear and effective rules that promote public health and safeguard the environment without sacrificing innovation, growth and opportunity.

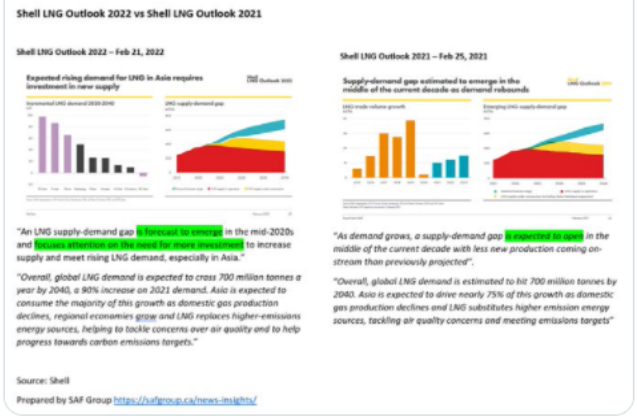
Quick Facts

- The *Supporting People and Businesses Act, 2021* is part of *Ontario Onwards: Ontario's COVID-19 Action Plan for a People-Focused Government* , which includes more than 30 projects that are changing the way people and businesses interact with the government.
- Since the beginning of the COVID-19 pandemic, Ontario took immediate action to help people and businesses by passing five high-impact burden reduction bills in the past year: The *COVID-19 Economic Recovery Act, 2020*, *Main Street Recovery Act, 2020*, *Better for People, Smarter for Business Act, 2020*, *Supporting Recovery and Competitiveness Act, 2021* and *Supporting People and Business Act, 2021.*
- To date, the government has taken more than 400 actions to reduce burdens — without compromising health, safety, or the environment.
- To allow the government to introduce the 2022 Budget at a time when it can better assess the effects of the reopening of the economy and introduce a plan for recovery, the government is proposing to amend the Fiscal Sustainability, Transparency and Accountability Act (FSTAA) to extend the deadline to release the 2022 Budget from March 31, 2022 to April 30, 2022.

Dan Tsubouchi @Energy_Tidbits · 4h

this would have been getting a lot of headlines if there wasn't an invasion. but if anything even more relevant given the #NordStream2 uncertainty and @Bundeskanzler moving to increase #LNG import terminals. #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Feb 21
>
> 1/2. Buckle up for strong #LNG & #NatGas prices for 2020s. Clear warning from @Shell, now "forecast" #LNGSupplyGap to "emerge" in mid-2020s & "focuses attention" on need for more investment to increase supply. Yr ago, were bullish but not as certain, expected vs forecast #OOTT
>
> Show this thread



1 3 2

Dan Tsubouchi @Energy_Tidbits · 4h

This brings back bad memories of the height of #ColdWar. The western term is put the forces on high alert. @MSNBC @AliVelshi headline just now this includes nuclear forces. Really hope there is some way to resolve this without much more deaths. #OOTT

tass.com

Putin orders "special service regime" in Russia's deterrence force

Russian President stressed that the Western countries were also taking unfriendly actions against Russia in the economic sphere

1 1

Dan Tsubouchi @Energy_Tidbits · 7h

Breaking #DE defense spending >2% of GDP, approved 2 #LNG terminals. On top of halted #NordStream2 certification, sending critical anti tank & anti aircraft Stinger missiles. @BundeskInzler looks like global leader of action, not just words. #OOTT #NatGasd

wsj.com

Germany to Raise Defense Spending Above 2% of GDP

The nation will boost defense spending, bringing it above 2% of gross domestic product, and create a strategic gas reserve, Chancellor Olaf ...

3 4

Dan Tsubouchi @Energy_Tidbits · 22h

increasing risk to attack escalation and markets that is unless you believe putin will now back away. big escalation by germany. will putin now move to shock and awe. will biden's fear of WW3 stop usa from following germany lead? too many wildcards #OOTT

politico.eu

Germany OKs weapons for Ukraine in major shift on military aid

Until Saturday, Germany had a longstanding practice of blocking lethal weapons from being sent to conflict zones.

2 1

Dan Tsubouchi @Energy_Tidbits · Feb 26

Timely recap as #SWIFT is topical with pressure on @OlafScholz to support taking RUS off #SWIFT. "a country cut off from SWIFT can suffer significant economic pain. That's what happened to Iran in 2012". Thx @nickcomfort @nat_droz @SStapczynski #OOTT

bloomberg.com/news/articles/...

> **Stephen Stapczynski** @SStapczynski · Feb 26
>
> So WTF is SWIFT and why does it matter?
>
> Here is a good explainer 👇
>
> Think of it as the Gmail of global banking. And there are basically no other alternatives
>
> bloomberg.com/news/articles/...
>
> Show this thread

2 4

Dan Tsubouchi @Energy_Tidbits · Feb 26

"Well, again, we're not quite at the point of a final deal on the nuclear deal" "There's no question that achievement of that would make the world safer" says @PressSec re #JCPOA. US isn't giving up here, but can it be done before #SOTU 🏛️ on Tues? #OOTT

whitehouse.gov

Press Briefing by Press Secretary Jen Psaki, February 25, 2022 | The ...

James S. Brady Press Briefing Room 3:37 P.M. EST MS. PSAKI: Hi, everyone. All right, I just have one item for all of you at the top, which...

1 1 1

Dan Tsubouchi @Energy_Tidbits · Feb 26

Tentative new 4-yr national labor agreement between @steelworkers & @MarathonPetroCo on behalf of #Oil refineries. Reports Oil co's moved on pay to close the gap. hopefully sets stage to avoid US refinery labor issues for awhile. #OOTT

usw.org/news/media-center/releases/2022/usw-reaches-tentative-agreement-with-marathon-to-set-four-year-pattern-for-oil-sector-bargaining

Reaches Tentative Agreement with Marathon to Set Four-Year Pattern fo
r Bargaining

ny Montana – (412) 562-2592 or tmontana@usw.org
Steelworkers (USW) today said that the union has reached tentative agreement on a new, four-year contract with Marathon that outlines a pattern
ages, benefits and working conditions throughout the industry during the course of its term.

ers will impact over 30,000 oil refinery, petrochemical plant, pipeline and terminal employees in more than 200 USW-represented bargaining units

y came to the table with demands that would have undermined generations of collective bargaining progress," said USW International President T
hanks to the solidarity of the membership and the hard work of our committee, we have achieved a fair agreement."

ill review the details of the proposed pattern agreement with members before discussing them publicly.

Committee was determined to bring back a fair agreement that reflects our essential role in the industry, especially considering its recent, historic
l USW National Oil Bargaining Program Chairman Mike Smith. "The proposed agreement provides both economic and non-economic improvemer
that we are proud to recommend to members for ratification."

ustry pattern settled, local unions will bargain individual contracts at each worksite that incorporate its terms.

*epresents 850,000 men and women employed in manufacturing, metals, mining, pulp and paper, rubber, chemicals, glass, auto supply and the en
ndustries, along with a growing number of workers in tech, public sector and service occupations.*

United Steelworkers @steelworkers · Feb 25

Big news: We've reached a tentative agreement with @MarathonPetroCo, setting a national pattern for oil bargaining! We say it all the time, but the proof is in action: solidarity works! More: usw.to/418 #USWWorks #USWUnity #1u

1

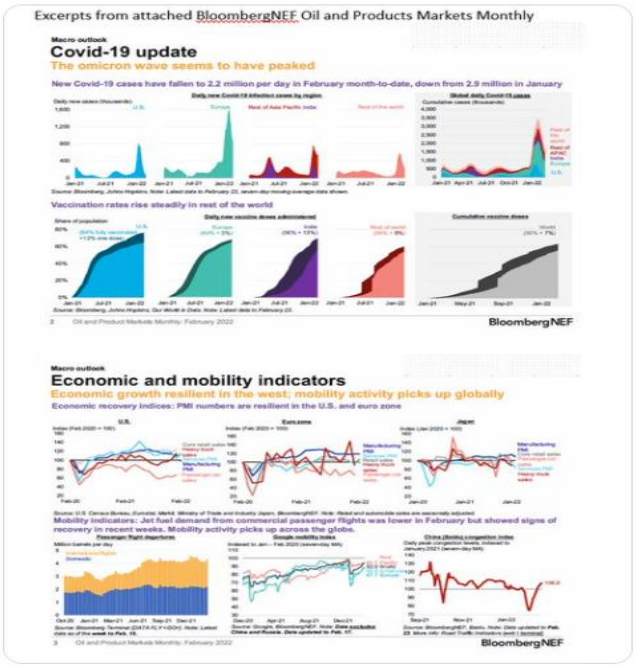
Dan Tsubouchi @Energy_Tidbits · Feb 25

how can you not love the Cdn Rockies. driving down the street to our home and have to wait to the deer to cross the road. hard to see but in the distance in the snow you can see the elk walking up the hill beside us

3

Dan Tsubouchi @Energy_Tidbits · Feb 25

Reminder key #Oil demand theme for 2022 - as Covid decreases, economic & mobility indicators increase. Thx
@BloombergNEF @WayneTanMing #OOTT



2 3

Dan Tsubouchi @Energy_Tidbits · Feb 25

the third night in a row that the local #Canmore elk have slept in the field besides the Bow River. they have 7am wake up as just getting up now. looks like it will be a great sunrise in the next 30 min

1 4

Dan Tsubouchi @Energy_Tidbits · Feb 25

good reminder. would also help #Biden. #SPR has turned from emergency supply to a rainy day fund to raise revenues and his #1 tool to reduce #Oil #Gasoline prices. he would be making huge $ per bbl while executing his playbook. #OOTT

> **John B. Connally** @JohnBConnallyJ1 · Feb 24
>
> On days like today I'm reminded that Trump wanted to fill the SPR when oil was at $30/bbl and Dems blocked it because it would have helped oil companies survive the worst part of the Covid pandemic. #EFT #OOTT

2 3

Dan Tsubouchi @Energy_Tidbits · Feb 25

#Gazprom reminds that it delivers #NatGas "in excess" of obligations on #PowerofSiberia pipeline to China. But there are limits to how much excess as Gazprom does not yet have the domestic pipeline connection to shift the EU supply to China. #OOTT #LNG

https://www.gazprom.ru/press/news/2022/february/article548464/

Gazprom and CNPC Discussed Further Steps to Implement a Project for Gas Supplies to China via the Far East Route

RELEASE
February 25, 2022, 12:50
China

Today, a working meeting was held via videoconference as part of the Joint Coordinating Committee between PJSC Gazprom and CNPC chaired by Vitaly Markelov , Deputy Chairman of the Gazprom Management Committee, and Huang Yongzhang, Vice President of CNPC.

The meeting participants discussed a wide range of issues of interaction between companies. In particular, the parties agreed on the dates for scheduled preventive work on the [redacted] gas pipeline in the spring of 2022. It was noted that gas deliveries along the "eastern" route are carried out in excess of the obligations of the Russian side.

Special attention at the meeting was paid to further steps to implement the project of Russian gas supplies to China via the "Far East" route.

reference

The state oil and gas company CNPC is Gazprom's main partner in China.

In 2014, Gazprom and CNPC signed a 30-year Gas Purchase and Sale Agreement via the Eastern Route (through the Power of Siberia gas pipeline) in the amount of 38 billion cubic meters. m of gas per year. The solemn ceremony dedicated to the start of the first ever pipeline deliveries of Russian gas to China took place on December 2, 2019.

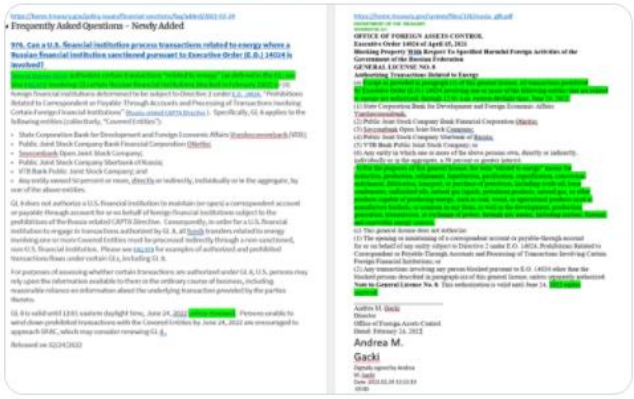
In February 2022. a long-term contract for the sale and purchase of natural gas along the Far East route was signed. After the project reaches its full capacity, the volume of Russian pipeline gas supplies to China will increase by 10 billion cubic meters. m and in total will reach 48 billion cubic meters. m per year.

PJSC Gazprom Information Department

> **Dan Tsubouchi** @Energy_Tidbits · Feb 24
>
> Reminder Russia doesn't have to cut off #NatGas supplies to cause huge EU #NatGas prices. Russia has said they have always met contract obligations for #NatGas, but meeting the minimum volume obligation still creates a shortfall. See below @WillHares graph. #OOTT twitter.com/WillHares/stat...

Dan Tsubouchi @Energy_Tidbits · Feb 25

Note "unless renewed" escape hatch for US to continue RUS imports of energy past June 24. GL 8 allows US transactions with newly sanctioned RUS financial institutions "related to energy" & "is valid until June 24, 2022 unless renewed". #OOTT #Distillates



Frequently Asked Questions - Newly Added

976. Can a U.S. financial institution process transactions related to energy where a Russian financial institution sanctioned pursuant to Executive Order (E.O.) 14024 is involved?

OFFICE OF FOREIGN ASSETS CONTROL
Executive Order 14024 of April 15, 2021
Blocking Property With Respect To Specified Harmful Foreign Activities of the Government of the Russian Federation
GENERAL LICENSE NO. 8
Authorizing Transactions Related to Energy

Andrea M. Gacki
Director
Office of Foreign Assets Control
Dated: February 24, 2022

> **Dan Tsubouchi** @Energy_Tidbits · Feb 24
>
> 
>
> Did you know US #Oil #PetroleumProducts imports from RUS was at new record in 2021? Dec actuals not in but just under 700,000 b/d thru Nov. Here are splits by PADD. Thx @EIAgov #OOTT

1 1

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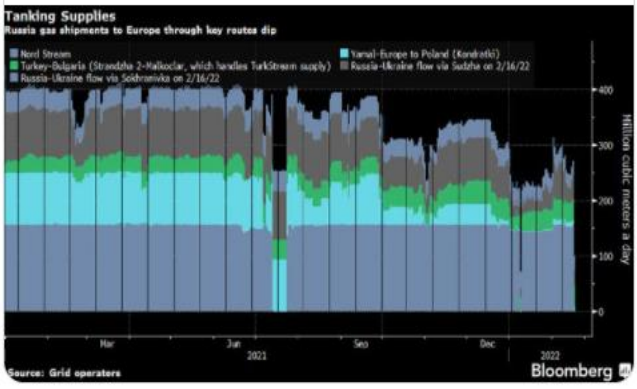
> **Will Hares** @WillHares · Feb 17
>
> Replying to @Energy_Tidbits
>
> here is our data on Russian piped supply to Europe - flows are down nearly 40% from normal levels last year. Mostly from Yamal (Poland) and Sokhranivka (Ukraine) pipelines | #oott #ongt
>
> 
>

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Dan Tsubouchi @Energy_Tidbits · Feb 24

#Biden #EU may not be directly hitting RUS #Oil #NatGas #LNG exports, but these are the types of logistics that have to be worked thru and could cause supply disruptions. Thx @MessageAnnKoh @alexlongley1 #OOTT

> **Ann Koh** @MessageAnnKoh · Feb 24
>
> Tanker owners are avoiding offering their ships to collect crude from Russia as they wait to see what sanctions the country might face after invading Ukraine. Two-thirds of Russian crude moves by ship, so that's a hefty chunk of business. @alexlongley1
> bloomberg.com/news/articles/...

1

Dan Tsubouchi @Energy_Tidbits · Feb 24

Sanctions designed to maximize long term impact on Russia, minimize impact on American and our allies says #Biden. ie. trying not to create energy crisis in EU or Japan. But have to worry on risk for interruptions on logistics (tankers, insurance, etc) of supply chain. #OOTT

1 3

Dan Tsubouchi @Energy_Tidbits · Feb 24

#G7 Leaders statement on Russian invasion. "we are also closely monitoring global oil and gas market conditions" "and stand ready to act as needed to address potential disruptions." Waiting to see what #Biden says in a few minutes. #OOTT

consilium.europa.eu

G7 Leaders' Statement on the invasion of Ukraine ...

On 24 February 2022, the G7 Leaders issued a statement on the invasion of Ukraine by armed ...

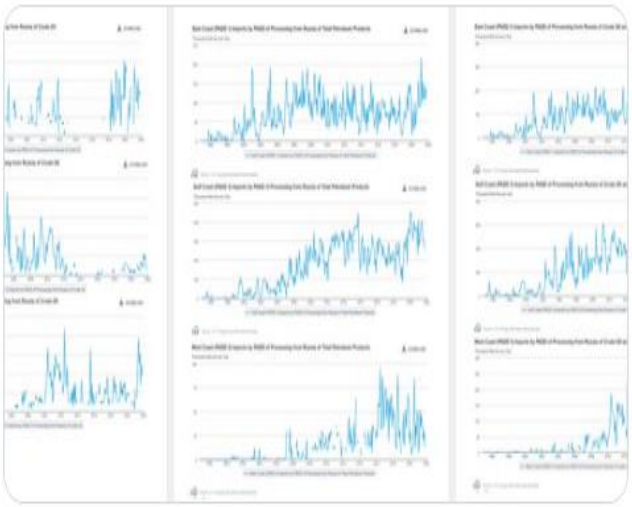
Dan Tsubouchi @Energy_Tidbits · Feb 24

#JCPOA. Iran must see opportunity to press hard & not give in. Ukraine invasion legitimately needs all #Biden @SecBlinken #EU leaders focus/time. Can Biden slow play JCPOA or will he give in on "details" because he doesn't want Iran to also blow up, #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Feb 23
>
> #JCPOA. "but there has been significant progress, and we are close to a possible deal, but at the same time, a number of very difficult issues remain unresolved" says @StateDeptSpox. Does anyone really think #Biden will walk away? any gives will be messaged as "details". #OOTT twitter.com/Energy_Tidbits...
>
> https://www.state.gov/briefings/department-press-briefing-february-23-2022/
>
> **Department Press Briefing – February 23, 2022**
> NED PRICE, DEPARTMENT SPOKESPERSON
>
> WASHINGTON, D.C.
>
> FEBRUARY 23, 2022
>
> Share
> **QUESTION:** And lastly, on Iran, should we expect some sort of a deal or returning to a deal over the next few days, as was suggested?
> **MR PRICE:** Well, you've heard this from my colleagues, but there has been significant progress, and we are close to a possible deal, but at the same time, a number of very difficult issues remain unresolved. What we know is that there is very little time remaining to reach a deal, to resolve these remaining issues given the pace of Iran's nuclear advances. You've heard us say this before, but it remains true that even as we are narrowing the set of issues we're discussing, nothing is agreed until everything is agreed. If Iran shows seriousness, if it demonstrates serious of purpose in Vienna, we believe that we can and should reach an understanding on a potential mutual return to compliance in short order, potentially within days. But anything much beyond that, if this were to drag on any longer than that, would put the possibility of return to the deal at grave and profound risk.
> Andrea.
> **QUESTION:** (Inaudible) issues, whether they involve equipment, centrifuges, compliance, verification? Broad categories, Ned.
> **MR PRICE:** I really can't, and that is primarily because we are at this decisive stage where it is incumbent on the Iranians and all parties to do everything we can to narrow those differences. We're going to be a little bit more circumspect at this especially sensitive period, but again, if the Iranians demonstrate seriousness of purpose, we believe that we can achieve an understanding in relatively short order.

Dan Tsubouchi @Energy_Tidbits · Feb 24

Did you know US #Oil #PetroleumProducts imports from RUS was at new record in 2021? Dec actuals not in but just under 700,000 b/d thru Nov. Here are splits by PADD. Thx @EIAgov #OOTT



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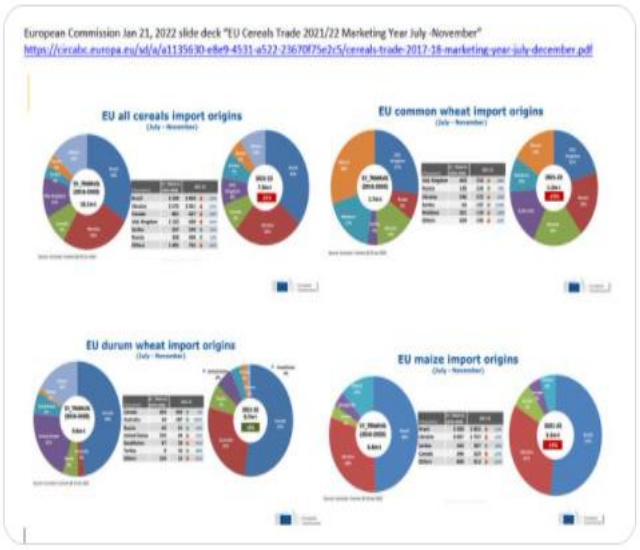
Dan Tsubouchi @Energy_Tidbits · Feb 24

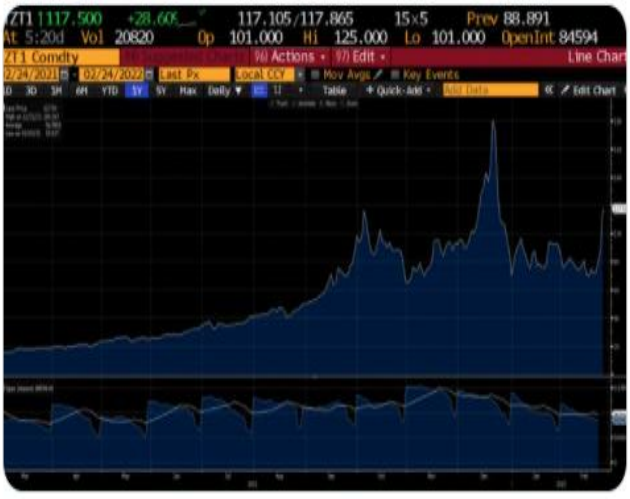
Just now @TheDomino on @SquawkCNBC noted #Wheat up strong with RUS invasion. Good EU 01/21/22 data. Ukraine is #2 source (Brazil #1) of EU #Cereals imports. One of my SAF Group partners (safgroup.ca) has been reminding the impact is broader than #Oil #NatGas #LNG



Dan Tsubouchi @Energy_Tidbits · Feb 24

WTI just touched $100, Brent is $105.25, TTF gas prices are ~$34.50/mcf. #OOTT #Oil #NatGas #LNG

Really hope the families in Ukraine can stay as safe as possible.



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Dan Tsubouchi @Energy_Tidbits · Feb 23

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https://www.state.gov/briefings/department-press-briefing-february-23-2022/

Department Press Briefing – February 23, 2022
NED PRICE, DEPARTMENT SPOKESPERSON

WASHINGTON, D.C.

FEBRUARY 23, 2022

Share
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> **Dan Tsubouchi** @Energy_Tidbits · Feb 23
>
> #JCPOA reminder. #Biden had this Jan 31 briefing for a reason - he is prepared to give to get a deal done but any give will be messaged as a "detail" as he made tough choices. there is normally a key message they want to get out in these background briefings. #OOTT twitter.com/Energy_Tidbits...

4 4

Dan Tsubouchi @Energy_Tidbits · Feb 23

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> **Dan Tsubouchi** @Energy_Tidbits · Feb 1
>
> Sounds like #Biden prepared to make last minute concessions to get #JCPOA. "We are prepared to go back into the deal. It doesn't mean that every detail of the negotiation has been resolved from our side, but we are prepared to make those tough choices" US State Dept. #OOTT

Senior State Department Official On the JCPOA Talks

3 1

Dan Tsubouchi @Energy_Tidbits · Feb 23

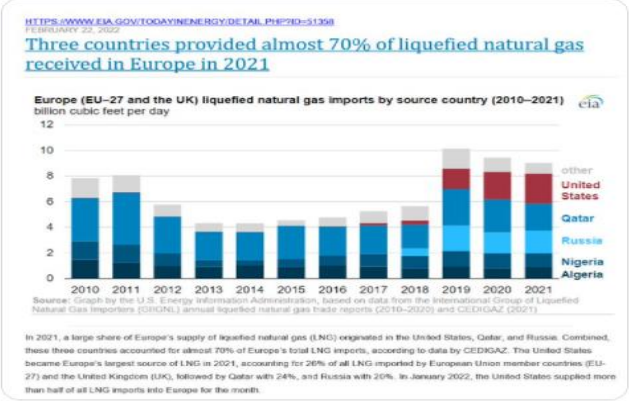
surprised @FerroTV @tomkeene didn't mention the reason for this timing - no major @premierleague london derbies in the near term. always enjoy the football vs "ice" hockey banter amidst the market news.

> **Sky News** @SkyNews · Feb 23
> COVID-19: Face masks scrapped on London Underground from tomorrow news.sky.com/story/covid-19...

Dan Tsubouchi @Energy_Tidbits · Feb 23

Russia also provides 20% of Europe's #LNG imports. Good reminder from @EIAgov. #NatGas #OOTT

eia.gov/todayinenergy/...



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Dan Tsubouchi @Energy_Tidbits · Feb 23

"So, none of the measures are designed to disrupt the flow of energy to global markets" say Sr Admin Official briefing on #Biden sanctions on RUS. #NatGas #OOTT

whitehouse.gov

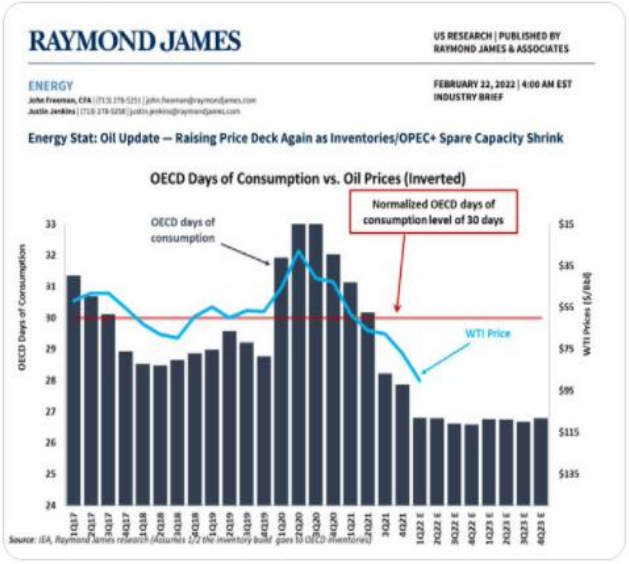
Background Press Call by a Senior Administration Official on Russia S...

Via Teleconference 3:34 P.M. EST MODERATOR: Thank you. And thanks, everyone, for joining today. So, as a

1 3 1

Dan Tsubouchi @Energy_Tidbits · Feb 22

Reminder that behind the RUS/UA adding risk premium to #Oil, there are great fundamentals incl low days of consumption for global oil inventories. Thx @RaymondJames John.Freeman@RaymondJames.com Justin.Jenkins@RaymondJames.com #OOTT



3 12

Dan Tsubouchi @Energy_Tidbits · Feb 22

"Welcome to a new world where Europeans will soon pay 2,000 euros for a thousand cubic meters of gas!" says @MedvedevRussia. Or $64/mcf. Makes current $25 or so look cheap. Expect a bigger rush this spring to refill #LNG #NatGas storage. #OOTT

#NatGas #LNG #OOTT

> **Дмитрий Медведев** @MedvedevRussia · Feb 22
>
> Должностное лицо (Россия)
>
> Канцлер ФРГ Олаф Шольц поручил остановить сертификацию газопровода «Северный поток – 2». Ну что ж. Добро пожаловать в новый мир, в котором уже скоро европейцы будут платить 2000 евро за тысячу кубов газа!

1 7

Dan Tsubouchi @Energy_Tidbits · Feb 22

No short term #Oil supply bump coming from Nigeria. @HETimipreSylva "we are not happy at all because we are the losers, i mean prices are strong and that we're not able to take advantage of these prices". #OOTT #OPEC

reuters.com

UPDATE 1-Nigeria aims to increase oil production by year end -petrole...

Nigeria is working hard to bring oil production levels higher by the end of 2022, the petroleum minister, Timipre Sylva, said on the sidelines of a...

2 3

Dan Tsubouchi @Energy_Tidbits · Feb 22

#JCPOA "result is still uncertain" says @enriquemora. does anyone believe #Biden will walk away with no deal. His #SOTU on March 1 is already tough enough? The State of the Union is _____ with inflation, Ukraine and, if no JCPOA. #OOTT

> **Enrique Mora** @enriquemora_ · Feb 22
>
> #JCPOA #ViennaTalks are at a crucial moment. We are nearing the end after ten months of negotiations. The result is still uncertain. Key issues need to be fixed. But all delegations are fully engaged. Intense work in Coburg.

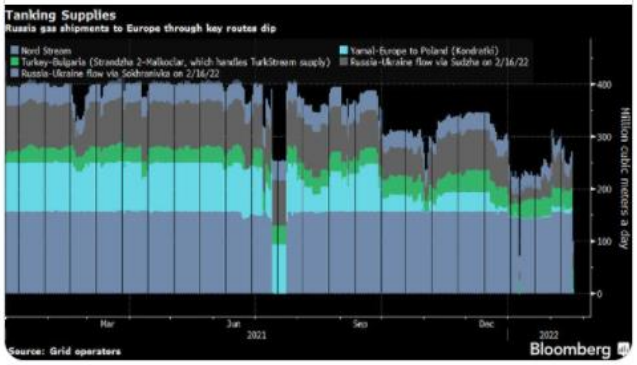
1 1 1

Dan Tsubouchi @Energy_Tidbits · Feb 22

Breaking: #Scholz halting #NordStream2 certification process.If RUS keeps meeting contract obligations as it has (ie. at minimum contract obligation), any further NS2 delay = bullish #NatGas #LNG winter 22/23 prices. Note @WillHares graph below. #OOTT

dw.com/en/ukraine-cri...

> **Will Hares** @WillHares · Feb 17
>
> Replying to @Energy_Tidbits
>
> here is our data on Russian piped supply to Europe - flows are down nearly 40% from normal levels last year. Mostly from Yamal (Poland) and Sokhranivka (Ukraine) pipelines | #oott #ongt



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Dan Tsubouchi @Energy_Tidbits · Feb 22

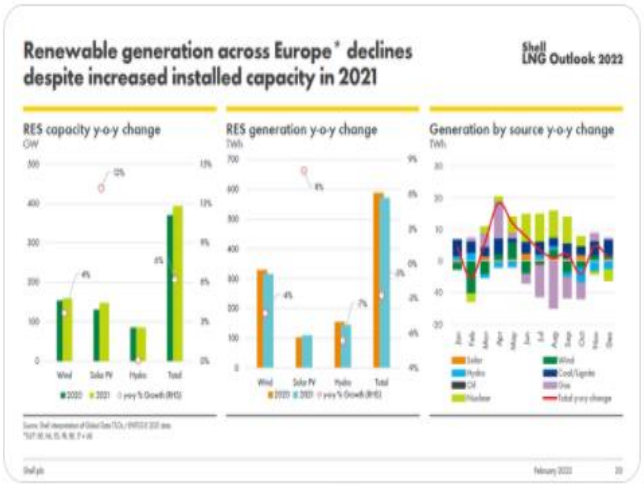
Here is our transcript for the @annaedwardsnews interview with @vitolnews CEO with his prolonged period of $100 plus oil that is still getting attention this morning. #OOTT #Oil

> **Dan Tsubouchi** @Energy_Tidbits · Feb 21
>
> "Yes, we will see perhaps a prolonged period of $100 plus at some point in the next 6 to 9 months", doesn't think RUS/UA conflict "accounts for a huge amount of the price premium at the moment" says @vitolnews
> CEO Hardy. great interview @annaedwardsnews! #OOTT #Oil
> twitter.com/BloombergTV/st...
>
> SAF Group created transcript of Bloomberg's Anna Edwards interview with Vitol CEO Russell Hardy on Feb 20.
> https://www.bloomberg.com/news/videos/2022-02-20/vitol-ceo-russell-hardy-on-100-oil-video
>
> Items in "*italics*" are SAF Group created transcript
>
> Edwards "*how would you view the prospects of getting to $100 from here?*" Hardy "*we actually touched a hundred on dated Brent on Monday, I think it was. so it's not a new phenomenon. When you look at the supply and demand factors that have affected the market for the last couple of years since the pandemic, demand has recovered now to about the level we were pre-pandemic. and it's going to exceed the level we were pre-pandemic in the back half of 2022 and into 2023. So supply needs to catch up. and I think what the market is worried about is how much supply there is going to be available in the second half of the year and going into 23. So, In our view, Yes, we will see perhaps a prolonged period of $100 plus at some point in the next 6 to 9 months. It's very difficult to be precise about the exact timing. But demand is going to surge this second half of the year provided there is no additional worries about the pandemic. and provided travel resumes to something like normal.*"
>
> Edwards asks about his expectation on Iran oil coming back to market. Hardy "*yeah. I think all the parties have been talking this week in fact. And it sounds like there is an agreement beginning to form. I think most people have got that factored into the second half of the year. Most people will expect an additional volume from Iran. Clearly, they are producing oil and consuming oil themselves today, so the extra supply that they could send out to the world would probably be about a million barrels*".
>
> Edwards asks about geopolitical risks in oil prices and "*what would you assume will come out if we see these tensions ebb away?*" Hardy "*I don't think the geopolitics specifically account for a huge, talking about the Russia-Ukraine conflict, I don't think that accounts for a huge amount of the price premium at the moment*"
>
> Prepared by SAF Group https://safgroup.ca/news-insights/

2 4

Dan Tsubouchi @Energy_Tidbits · Feb 21

#Shell reminds of intermittency of #RenewableEnergy. EU renewable capacity was +6% YoY in 2021, but, primarily due to low #WindEnergy, EU renewable generation was -3% YoY. #NatGas is the reliable fuel needed to support continued big Renewable growth.
#OOTT #EnergyTransition



9 10

Dan Tsubouchi @Energy_Tidbits · Feb 21

ICYMI, Brent #Oil continues to go higher post #Putin signing decree recognizing Donetsk & Lugansk. #OOTT

> **TASS** @tassagency_en · Feb 21
> Russia state-affiliated media
>
> 
>
> Russian President Vladimir Putin signed decrees at the ceremony in the Kremlin on recognizing the Donetsk and Lugansk People's Republics: go.tass.ru/jZVeM

1 4 2

Dan Tsubouchi @Energy_Tidbits · Feb 21

Was #Shell showcasing #LNGCanada or just highlighting its positives today? @Shell expects average IRR of 14-18% for its pre-FID projects, which includes #LNGCanada Phase 2. #LNGCanada "is set to deliver the lowest carbon intensity in the entire industry". #OOTT #NatGas #LNG

Shell Integrated Business Deep Dive Feb 21, 2022 Wael Sawan.

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

SI 6. Approx 8:36am MT. Sawan *"That brings me to the future. Our current integrated gas business is doing what we said we would do and is on the right trajectory. But we are not yet where we want to be. We have opportunities that we are pursuing to do even better, with our existing assets, but also to position our growth portfolio to one with even stronger returns with lower carbon emissions. Let me expand on that a bit more. For our capital spend, we need to be even more focused with a continued emphasis on value over volume. We have a capital budget of $4 to $5 billion a year in the short to medium term. We are making good progress on our two LNG capacity expansion projects under construction. In Canada, Canada LNG surpassed recently the 50% completion mark last October, after three years of construction. The project remains dedicated to have the first cargo by the middle of this decade."* He then speaks of Nigeria and that construction there is now firmly underway, and then says *"both these projects are competitively positioned for LNG growth markets in Asia. The same goes for most of our long term project funnel. We have several attractive expansion and backfill projects. A limited number of greenfield LNG projects and several promising low carbon new gaseous projects in early stages of development. For the pre-FID projects, we have an expected average internal rate of return of between 14% and 18%, and a unit technical cost below $5/mmbtu. With most of these projects clearly having lower costs than the average in the industry. These are good numbers, but you will understand that we strive to push the IRR to the higher end and to push the unit costs down even further. But the long term role of gas depends on efforts to abate emissions and develop cleaner pathways for gas. This is why we continually try to reduce the carbon / intensity of our new projects. Take LNG Canada currently under construction. It will run on hydropower and is set to deliver the lowest carbon intensity in the entire industry."*

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

> **Dan Tsubouchi** @Energy_Tidbits · Feb 21
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> Buckle up, could be huge for Cdn #NatGas M&A. @Shell just said like to align equity #NatGas supply and offtake obligations, used #LNGCanada, Shell has 40% interest so would be 1.44 bcf/d if it FIDs #LNGCanada phase 2. It's why #LNGCanada Phase ...

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Approx 9:18am MT. Analyst asks if the future equity percentage you have for the natural gas supply be less than the offtake percentage you have for the LNG? Wael, *"... typically, what I would say, as much as possible, having access across the entire value chain in as close of a percentage as you can, helps ensure that wherever value might rate at any point in time, you are capturing that value. So in general. Take our LNG Canada investment that you just referenced in the second question, we would look to be able to at least assure ourselves that we are not caught up by vagaries of one part of the market. let's say the gas supply, but we would want to have enough on the gas supply equity side to be able to make sure if gas prices go up there, we benefit from them while maybe disadvantaging the midstream or vice versa depending on where prices go. So we are not in the game of necessarily taking undue risk. we are in the game of creating integrated value chains that we can leverage as part of the broader portfolio. "*

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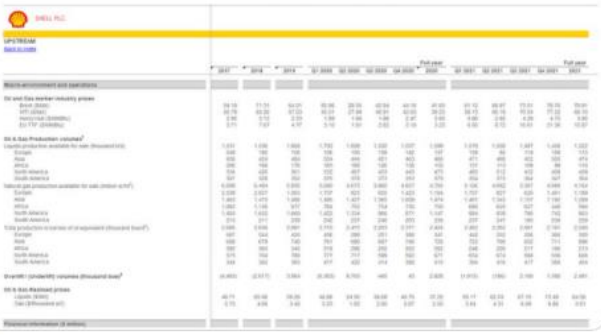

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Dan Tsubouchi @Energy_Tidbits · Feb 21

No surprise, #Puting doesn't want to meet #Biden unless he knows he gets something ie. not just give him #SOTU speaking point. @tassagency_en says no specific plans for meet "but it is possible provided that the leaders deem it appropriate". #OOTT tass.com/world/1407135

> **Dan Tsubouchi** @Energy_Tidbits · Feb 20
>
> Breaking: Brent #Oil down $2 in last 40 minutes. @WhiteHouse says #Biden #Putin agreed in principle to meet provided RUS does not proceed with military action. #OOTT
>
> Statement from Press Secretary Jen Psaki
>
> FEBRUARY 20, 2022
>
> As the President has repeatedly made clear, we are committed to pursuing diplomacy until the moment an invasion begins. Secretary Blinken and Foreign Minister Lavrov are scheduled to meet later this week in Europe, provided Russia does not proceed with military action. President Biden accepted in principle a meeting with President Putin following that engagement, again, if an invasion hasn't happened. We are always ready for diplomacy. We are also ready to impose swift and severe consequences should Russia instead choose war. And currently, Russia appears to be continuing preparations for a full-scale assault on Ukraine very soon.
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> 
>
> Source: Bloomberg

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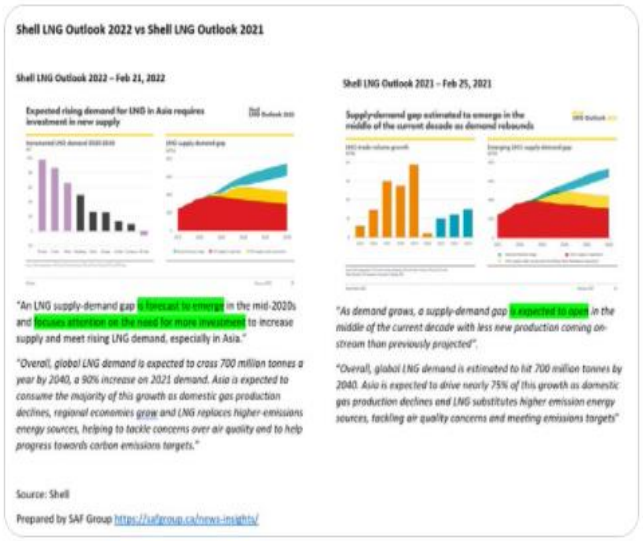
Dan Tsubouchi @Energy_Tidbits · Feb 21

1/2. Buckle up for strong #LNG & #NatGas prices for 2020s. Clear warning from @Shell, now "forecast" #LNGSupplyGap to "emerge" in mid-2020s & "focuses attention" on need for more investment to increase supply. Yr ago, were bullish but not as certain, expected vs forecast #OOTT



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Dan Tsubouchi @Energy_Tidbits · Feb 21

2/2. What about #LNGCanada? Looks like support #LNG trends of 2021: @TotalEnergies Mozambique LNG force majeure, Asian LNG buyers abruptly shift to long term supply, & brownfield LNG FIDs are happening. See SAF 2021 blogs 04/28, 07/14, 11/23. #OOTT #NatGas safgroup.ca/news-insights/

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2 5

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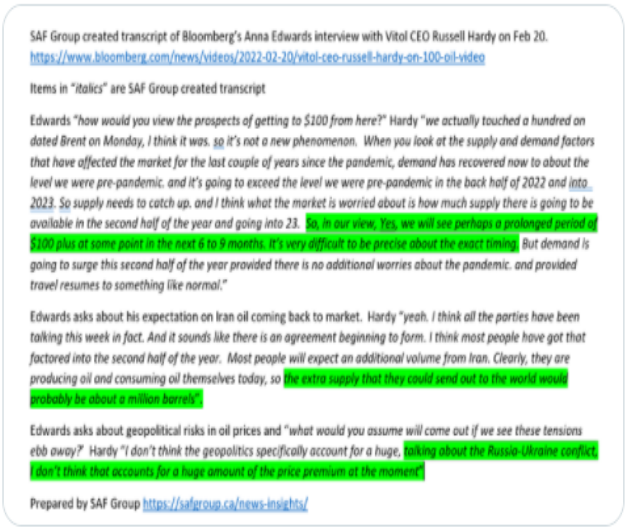
"Yes, we will see perhaps a prolonged period of $100 plus at some point in the next 6 to 9 months", doesn't think RUS/UA conflict "accounts for a huge amount of the price premium at the moment" says @vitolnews CEO Hardy. great interview @annaedwardsnews! #OOTT #Oil



SAF Group created transcript of Bloomberg's Anna Edwards interview with Vitol CEO Russell Hardy on Feb 20.
https://www.bloomberg.com/news/videos/2022-02-20/vitol-ceo-russell-hardy-on-100-oil-video

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Edwards "*how would you view the prospects of getting to $100 from here?*" Hardy "*we actually touched a hundred on dated Brent on Monday, I think it was. so it's not a new phenomenon. When you look at the supply and demand factors that have affected the market for the last couple of years since the pandemic, demand has recovered now to about the level we were pre-pandemic. and it's going to exceed the level we were pre-pandemic in the back half of 2022 and into 2023. So supply needs to catch up. and I think what the market is worried about is how much supply there is going to be available in the second half of the year and going into 23. So, in our view, Yes, we will see perhaps a prolonged period of $100 plus at some point in the next 6 to 9 months. It's very difficult to be precise about the exact timing. But demand is going to surge this second half of the year provided there is no additional worries about the pandemic. and provided travel resumes to something like normal.*"

Edwards asks about his expectation on Iran oil coming back to market. Hardy "*yeah. I think all the parties have been talking this week in fact. And it sounds like there is an agreement beginning to form. I think most people have got that factored into the second half of the year. Most people will expect an additional volume from Iran. Clearly, they are producing oil and consuming oil themselves today, so the extra supply that they could send out to the world would probably be about a million barrels*".

Edwards asks about geopolitical risks in oil prices and "*what would you assume will come out if we see these tensions ebb away?*" Hardy "*I don't think the geopolitics specifically account for a huge, talking about the Russia-Ukraine conflict, I don't think that accounts for a huge amount of the price premium at the moment*"

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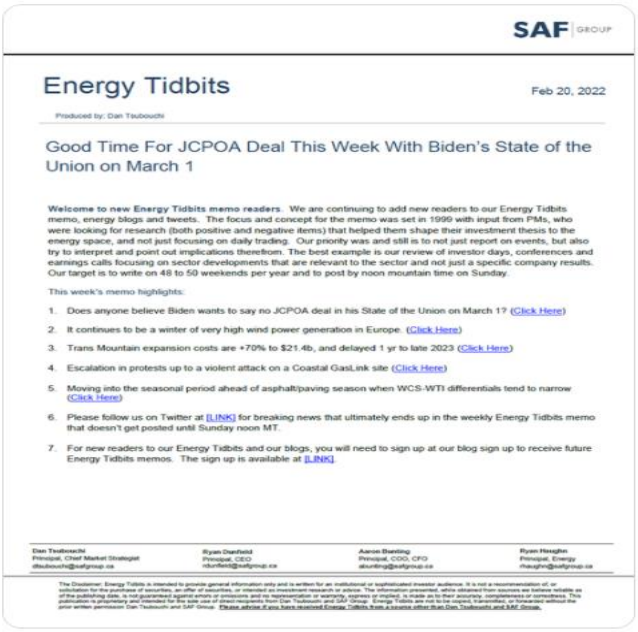
Dan Tsubouchi @Energy_Tidbits · Feb 20

Our weekly SAF Feb 20, 2022 Energy Tidbits memo is posted on our SAF Group website. This 50-pg energy research memo expands upon & covers more items than tweeted this week. See news/insights section of SAF website #Oil #OOTT #LNG #NatGas #EnergyTransition safgroup.ca/news-insights/



SAF GROUP

Energy Tidbits

Feb 20, 2022

Produced by: Dan Tsubouchi

Good Time For JCPOA Deal This Week With Biden's State of the Union on March 1

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

This week's memo highlights:

1. Does anyone believe Biden wants to say no JCPOA deal in his State of the Union on March 1? (Click Here)
2. It continues to be a winter of very high wind power generation in Europe. (Click Here)
3. Trans Mountain expansion costs are +70% to $21.4b, and delayed 1 yr to late 2023 (Click Here)
4. Escalation in protests up to a violent attack on a Coastal GasLink site (Click Here)
5. Moving into the seasonal period ahead of asphalt/paving season when WCS-WTI differentials tend to narrow (Click Here)
6. Please follow us on Twitter at [LINK] for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.
7. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK].

Dan Tsubouchi, Principal, Chief Market Strategist — Ryan Dunfield, Principal, CEO — Aaron Dunlop, Principal, COO, CFO — Ryan Heughin, Principal, Energy

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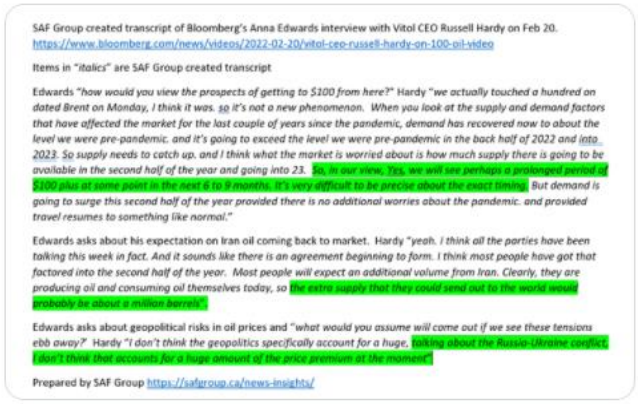

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Bloomberg TV @Bloomberg · Feb 21

Vitol CEO Russell Hardy says he sees oil prices at $100+ for "a prolonged period" trib.al/k14C6VU

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