Energy Tidbits

Vitol Asia Head Mike Muller Warns "*I Don't Think We're Going to See Any Snap in China [Oil] Demand*"

Produced by: Dan Tsubouchi

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Dan Tsubouchi
Chief Market Strategist
dtsubouchi@safgroup.ca

Ryan Dunfield
CEO
rdunfield@safgroup.ca

Aaron Bunting
COO, CFO
abunting@safgroup.ca

Ryan Haughn
Managing Director
rhaughn@safgroup.ca

https://financialpost.com/commodities/energy/oil-gas/lng-canada-second-chance-global-lng-leader-takes-shape

LNG Canada, country's $40-billion 'second chance' at becoming a global LNG leader, takes shape

Already more than 70% complete, project promises to unlock full economic potential of Canada's rich gas reserves for first time

Author of the article: **Meghan Potkins**
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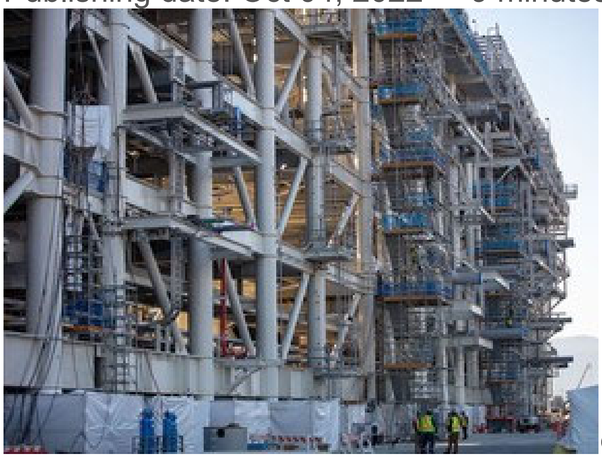


Construction of the LNG Canada site in Kitimat, B.C., in September 2022. PHOTO BY COURTESY LNG CANADA

On a drizzly stretch of B.C. coastline at the head of the Douglas Channel, Canada's first natural gas export terminal is taking shape.

The sprawling site on the traditional territory of the Haisla Nation teems with more than 5,000 construction and trades workers, working around the clock to bring the $40-billion Shell Plc.-led LNG Canada terminal to completion.

The latest piece of the puzzle: a colossal 3,000-ton Baker Hughes compressor that arrived in Kitimat by boat from Italy on Sep. 20, the first of four that will form the powerful jet engine of the terminal's liquefaction process. Its arrival puts the project — and the country — one important step closer to seeing the first cargo of liquified natural gas depart from its shores.

Already more than 70 per cent complete, LNG Canada could be operational by the middle of the decade and promises to unlock the full economic potential of Canada's rich gas reserves for the first time.

It's a change that will take some adjusting to in the oilpatch. Despite being the fifth-largest supplier of natural gas in the world, Canada's energy sector has long seen its production hemmed in by pipeline constraints and market conditions in the U.S.

An export terminal on the West Coast providing access to global markets would be a game-changer for Canadian producers who have been maxing out the volumes they can push into the U.S. Midwest and Eastern Canada, said Richard Frey, an analyst with S&P Global Commodity Insights. In 2021, Canada exported an average of 7.6 billion cubic feet per day (Bcf/d) of natural gas to the U.S. and imported 2.2 Bcf/d.

"There's really not a whole lot of room to do anything more beyond what they're sending right now," Frey said. "So this will be an additional outlet and a large outlet at that, too. If North American prices remain high … it could easily grow production by two (billion cubic feet of natural gas) per day."

Hundreds of kilometres inland, veteran oilpatch leaders in landlocked Alberta have watched as more than a dozen West Coast LNG ventures were shelved or cancelled over the years as regulatory delays or market conditions battered proposals and soured investors — all while nascent LNG export industries took off in Australia and the U.S.

Now, those same oilpatch veterans are urging Shell and its partners to quickly green-light a second phase of the project, effectively doubling the export capacity of the plant from 14 million tonnes of LNG per year in the first phase, to 28 million tonnes a year.


A view of the LNG Canada site. PHOTO BY MEGHAN POTKINS/FINANCIAL POST

"We had an opportunity that required us getting after these projects 10 to 15 years ago. We didn't for all kinds of reasons," said Tourmaline Oil Corp. chief executive and founder Mike Rose. "Fortunately, we have a second crack at it. So I'd like to see more than just LNG Canada phase one — we'd like to see both phases of LNG Canada and more projects on the West Coast."

Experts in the sector say Canada's advantages as a West Coast LNG exporter are considerable. They include the significant low-cost supply from western gas fields such as the giant Montney formation that straddles the border between Northern B.C. and Alberta, shorter shipping distances to Asian markets, access to renewable hydroelectricity and a colder climate than U.S. Gulf Coast competitors who must expend more energy to cool gas through the liquefaction process. In combination, these factors mean LNG Canada's facility in Kitimat will have one of the lowest carbon intensities of any LNG project in the world.

The $40-billion facility is furthest along of a small pack of proposed West Coast projects that have benefited from the fresh interest in Canadian LNG brought on by the global energy crunch following Russia's invasion of Ukraine.

In Kitimat, work can't progress fast enough for LNG Canada's investors, even as massive new pieces of equipment and machinery arrive almost weekly. A 56-meter-high circular tank — the second-largest LNG tank in the world — is also nearing completion and will eventually store the super-chilled natural gas until tankers arrive to carry it away.

But despite the current enthusiasm for Canada's LNG potential, there are disadvantages to being a late entrant in a crowded global LNG market.

The long-term nature of investments in LNG present a risk if global demand for natural gas declines faster than expected. One of Shell's own recently published climate models suggests that it is conceivable that global gas demand could peak in the 2030s as governments around the world switch to low-carbon energy sources — a timeline that has been vociferously contested on both sides of the climate debate.

“It doesn’t really make sense to build a facility if you don’t think you’re going to get a lot of good use out of it for at least a decade, if not two decades,” Frey said. “There’s a lot of questions right now about natural gas’s role in the future energy mix. So that’s what I would be the most concerned about: It looks great right now, but what does it look like in 2045?”

Among the factors helping to bolster local enthusiasm for Canada’s prospects as an LNG exporter is the energy sector’s growing relationship with Indigenous communities.

It looks great right now, but what does it look like in 2045?

RICHARD FREY

In a reversal from the industry’s old pattern in dealings with Indigenous peoples in Western Canada, the focus now is on consultations and carefully negotiated benefit agreements with communities affected by the energy sector’s activities.

In the case of LNG Canada, built on Haisla Nation territory, the project has brought revenue, employment opportunities and more than 20 joint-venture partnerships with related businesses. Haisla Chief Councillor Crystal Smith said she has urged members of her nation to take advantage of training and career opportunities to propel their careers, long after construction on the LNG Canada mega-project begins to taper off.

“That is the reason we wanted and supported this project,” Smith said. “I’m not saying that everything has been perfect,” Smith added, pointing to the area’s housing shortage and the difficulty in attracting and retaining teachers and an addictions counsellor.

“But for the most part, what we’re experiencing now is what we wanted for our people in our community and our region.”

Even better, Smith said, is the promise of the proposed $3-billion Cedar LNG project, which would neighbour LNG Canada in Kitimat and be majority-owned by Indigenous groups. The project is currently awaiting a decision under B.C.’s environmental assessment process.

“I often describe our journey as one that started with not having a share or a say in any opportunity that occurred in our territory, to being active, at-the-table decision makers helping LNG Canada become successful. Now, we are ‘the’ decision makers in Cedar LNG, and that in itself is a huge legacy,” Smith said.

It’s unclear how many LNG projects will ultimately be approved by Canadian regulators.

Project proponents and investors will be watching closely as the governments of Canada and B.C. prepare to roll out more detailed plans to cut emissions from the oil and gas industry. Some oilpatch leaders and Indigenous groups with ambitions to invest in energy projects have warned that the introduction of a sector-specific emissions cap could thwart further investments in LNG.

Still, LNG Canada CEO Jason Klein said he remains optimistic about the economics of Shell’s project and the sector’s potential to endure as the global energy transition unfolds.

Pointing to the company’s 40-year permit to operate in Kitimat, Klein said he believes there is starting to be an acknowledgement that not all LNG projects are created equal.

“The cleanest molecule is going to be the last molecule standing,” Klein said. “That’s one of the reasons why I feel so good about LNG Canada, because we are that clean molecule. And when people start getting really picky, whether driven by carbon price or otherwise, the cleanest LNG will be the last LNG — which right now, in the world, that’s right here.”

• *Email: mpotkins@postmedia.com | Twitter:*

Massive Shell-Led LNG Project Takes Shape on Canada's West Coast
2022-09-29 16:48:23.433 GMT

By Robert Tuttle
(Bloomberg) -- Near the tiny seaside fishing town of Kitimat on the coast of British Columbia, a colossal project is taking place that will profoundly alter the global liquefied natural gas market.
Billed as the largest private-sector construction project in Canada's history, the estimated C$40 billion ($29 billion) development includes a liquefaction plant, pipeline and gas drilling. Even after four years of construction, and with 9,000-ton LNG modules now rearing up amid the cloudy, forested landscape, completion isn't scheduled until the middle of the decade.
Yet amid a global energy crunch, and with Europe on the brink of the worst energy crisis in half a century, the operation of the LNG Canada project can't come soon enough.

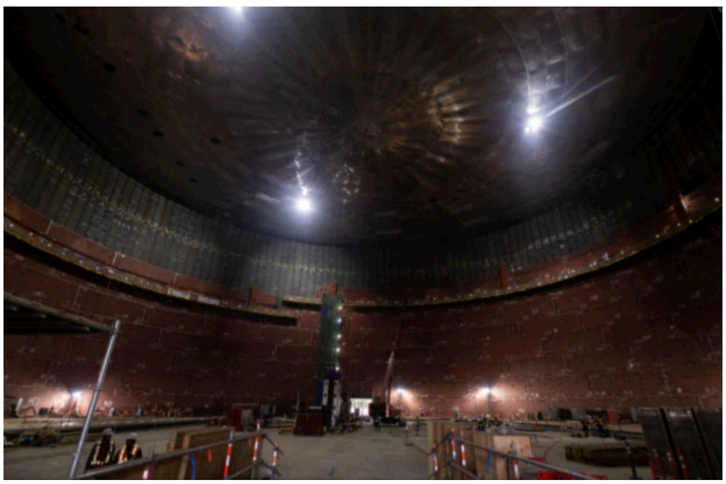

The LNG Canada facility under construction on Sept. 28.

Its first phase is expected to produce 14 million tons of chilled, liquefied natural gas per year for export by ship, almost equal the amount of gas used by Poland. An as-yet-unconfirmed second phase would double the plant's capacity. The business case for that "looks very compelling," said Jason Klein, chief executive officer of LNG Canada Development Inc., the global consortium led by Shell Plc that's behind the project. "We have substantially de-risked Phase Two by building Phase One."
Most of the gas will be sent to Asia but the added supply is expected to help Europe by displacing gas from other regions.
The project has major advantages over production from the US Gulf Coast because it's so much closer to Asia and doesn't need to ship through the congested Panama Canal.
The partial use of hydropower to run the plant will help make it the lowest carbon-emitting LNG facility in the world, Klein said, a key attribute as Canada struggles to reconcile its climate ambitions with a world suddenly craving its fossil fuels.
Trudeau Environment Czar Counting On Carbon Capture and EV Push
Last month, Prime Minister Justin Trudeau told German

Chancellor Olaf Scholz that he'll consider easing regulations to allow new natural gas export facilities to be built on Canada's east coast to ship LNG to Europe -- but stressed that the business case for first moving that gas from the west of the country, where it's produced, may be difficult. During the same visit, the two leaders signed an agreement for green Canadian hydrogen, with a similar 2025 timeline for export, that will be produced and shipped from the east coast.

Work on the 1,000-acre LNG Canada site in British Columbia is a global endeavor. In addition to Shell, the consortium includes Mitsubishi Corp., PetroChina Co. Ltd., Korea Gas Corp. and Petroliam Nasional Bhd.

Massive steel machinery, shipped from China, Indonesia and Europe, is being offloaded from ships and slowly rolled into position. A 50-meter (164 foot) high steel-and-concrete tank -- the second-largest in the world -- will store the super-chilled LNG until tankers ship it away.


The interior of the storage tank.

The project has weathered a number of hurdles in a country where dozens of LNG projects have been proposed and many canceled. The start of construction, in 2018, followed years of regulatory delays. In July, TC Energy Corp. raised the price tag of the pipeline that will supply the plant by 70% to C$11.2 billion ($8.2 billion) after Covid-19-related delays and indigenous protests slowed construction.

Although the pipeline won't achieve the returns it initially expected, TC Energy said discussions with LNG Canada for a second phase are "well advanced" and will allow the project to generate a "competitive" return.

LNG Canada and TC Energy quarreled over the rising costs but the dispute has been resolved. Klein declined to say how much LNG Canada's own share of the costs has gone up.

To contact the reporter on this story:
Robert Tuttle in Calgary at rtuttle@bloomberg.net
To contact the editors responsible for this story:
Catherine Traywick at ctraywick@bloomberg.net
Danielle Bochove, Simon Casey

https://venturegloballng.com/press/venture-global-and-enbw-announce-expansion-of-lng-partnership/

Venture Global and EnBW Announce Expansion of LNG Partnership

Arlington, Virginia/Stuttgart, Germany– Today, Venture Global LNG and EnBW announced the expansion of their existing LNG partnership to 2 million tonnes per annum (MTPA). Under the 20-year Sales and Purchase Agreements (SPAs) signed in June 2022, EnBW has increased the quantity of its long-term LNG offtake from Venture Global by an additional 0.5 MTPA from Plaquemines and CP2 LNG.

"Venture Global is delighted to be a growing strategic partner to Germany and EnBW, a foundation customer at both Plaquemines and CP2," **said Venture Global CEO Mike Sabel**. "The German government has taken swift action to address the energy crisis and we are honored to support their efforts by providing security of US LNG supply. Our company has pioneered the next generation of LNG plants, with a safe and low-cost model, enabling us to bring much needed supply to the global market years faster than ever done before. Our Gulf Coast facilities incorporate critical, world class European equipment, including liquefaction modules, gearboxes, steam turbines and more, supporting countless jobs across the continent."

"To become less dependent on Russian natural gas and to strengthen diversification and security of supply, EnBW is supporting the German government by increasing further access to LNG supplies. For this reason, we have stepped up our procurement volumes from Venture Global", **explained Georg Stamatelopoulos, Chief Operating Officer Generation & Trading at EnBW.** "With the help of LNG, we can secure Germany's gas supply to enable the energy transition, while not losing sight of our climate neutrality targets.

About Venture Global LNG

Venture Global is a long-term, low-cost provider of U.S. LNG sourced from resource rich North American natural gas basins. Venture Global's first facility, Calcasieu Pass, commenced producing LNG in January 2022. The company is also constructing or developing an additional 60 MTPA of production capacity in Louisiana to provide clean, affordable energy to the world. The company is developing Carbon Capture and Sequestration (CCS) projects at each of its LNG facilities

www.venturegloballng.com

About EnBW

With over 26,000 employees, EnBW is one of the largest energy companies in Germany and Europe. It supplies around 5.5 million customers with electricity, gas, water as well as services and products in the areas of infrastructure and energy. The expansion of renewable energies is a cornerstone of the growth strategy and a focus of investment. EnBW will invest around 4 billion euros in the further expansion of wind and solar energy by 2025.

By the end of 2025, more than half of the generation portfolio is to consist of renewable energies. This is already having a noticeable effect on reducing CO_2 emissions, which EnBW aims to halve by 2030. EnBW is aiming for climate neutrality by 2035.
www.enbw.com

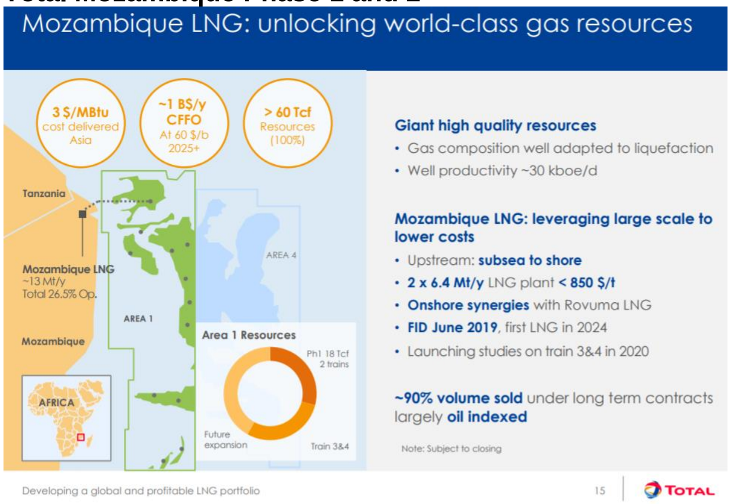
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

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

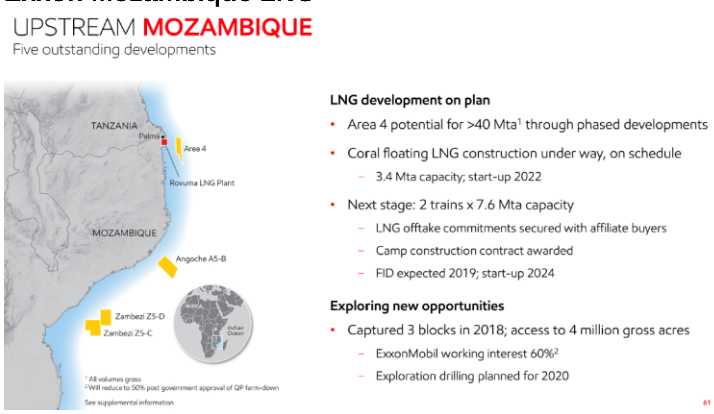
<u>Total's Mozambique force majeure is no surprise, especially the need to the restoration of security and stability "in a sustained manner"</u>. Yesterday, Total announced [LINK] "*Considering the evolution of the security".* No one should be surprised by the force majeure or the sustained manner caveat. 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".

<u>Does anyone really think Total will risk another quick 2-3 month restart or even in 2021?</u> 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.

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

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

Exxon Mozambique LNG



Source: Exxon Investor Day March 6, 2019

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

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

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

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

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

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

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

Source: IEA

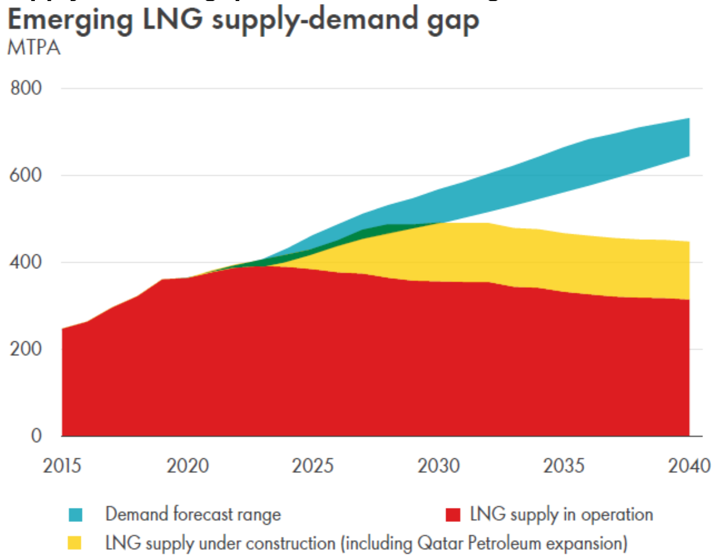
On Track   More Efforts Needed   Not on Track

Source: IEA Tracking Clean Energy Progress, June 2020

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

Shell's March 2021 long term outlook for LNG demand was basically unchanged vs 2020 and leads to a LNG supply gap in mid 2020s. Shell does not provide the detailed numbers in their Feb 25, 2021 LNG forecast. We would assume they would have reflected some delay, perhaps 1 year, at Mozambique but would be surprised if they put a 2-3 year delay in for the 5 bcf/d from Total Phase 1 +2 and Exxon Rozuma Phase 1. Compared to their LNG Outlook 2020, it looks like there was no change for their estimate of global natural gas demand growth to 2040, which looked relatively unchanged at approx. 5,000 bcm/yr or 484 bcf/d. Similarly, long term LNG demand looked unchanged to 2040 of ~700 mm tonnes (92 bcf/d) vs 360 mm tonnes (47 bcf/d) in 2020. In the 2021 outlook, Shell highlighted that the pandemic delayed project construction timelines and that the "*lasting impact expected on LNG supply not demand*". And that Shell sees a LNG "*supply-demand gap estimated to emerge in the middle of the current decade as demand rebounds*". Comparing to 2020, it looks like the supply-demand gap is sooner.

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



Source: Shell LNG Outlook 2021, Feb 25, 2021

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

And does this bigger, nearer supply gap force LNG players to look at what brownfield LNG projects they could advance? A greenfield LNG project would likely take at least until 2027 to be in operations. Its why we believe the Mozambique delays will effectively force major LNG players to look to see if there are brownfield LNG projects they should look to advance. Prior to the just passed winter, no one would think Shell or other major LNG players would be considering any new LNG FIDs in 2021. All the big companies are in capital reduction mode and debt reduction mode. But Brent oil is now solidly over $60 and LNG prices hit record levels in Jan and the world's economic and oil and gas demand outlook are increasing with vaccinations. And we are starting to see companies move to increasing capex with the higher cash flows. We would not expect any major LNG players to move to FID right away. But we see them watching to see if 2021 plays out to still support this increasing LNG supply gap. And unless new mutations prevent vaccinations from returning the world to normal, we suspect that major LNG players, like other oil and gas companies, will be looking to increase capex as they approve 2022 budgets. The outlook for the future has changed dramatically in the last 5 months. The question facing Shell and others, should they look to FID new LNG brownfield projects in the face of an increasing LNG supply gap that is going to hit faster and harder than expected a few months ago. We expect these decisions to be looked at before the end of 2021. LNG prices will be stronger, but we expect the limiting cap in Asia will be that thermal coal will be used to mitigate some LNG price pressure.

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

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

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

Posted 11am on July 14, 2021

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

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

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

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

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

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

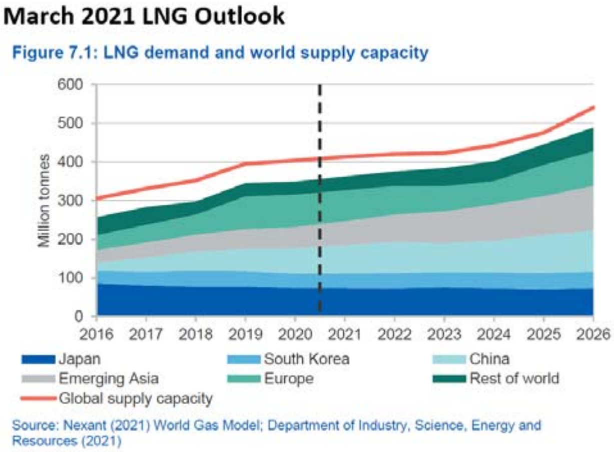
Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required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

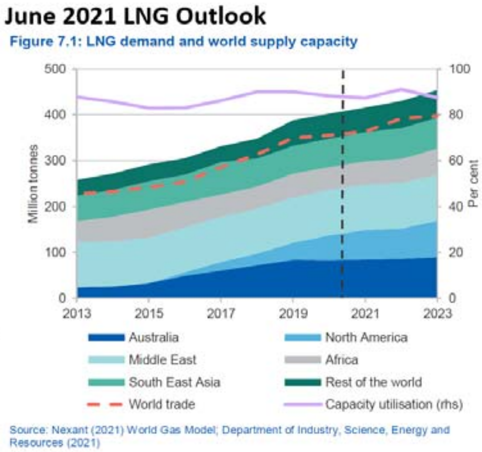
<u>Cheniere stopped the game playing the game on June 30</u>. Our July 4, 2021 Energy Tidbits memo noted that it looks like Cheniere has stopped playing stupid with respect to the strengthening LNG market in 2021. We can't believe they thought they were fooling anyone, especially their competitors. Bu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

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

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

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



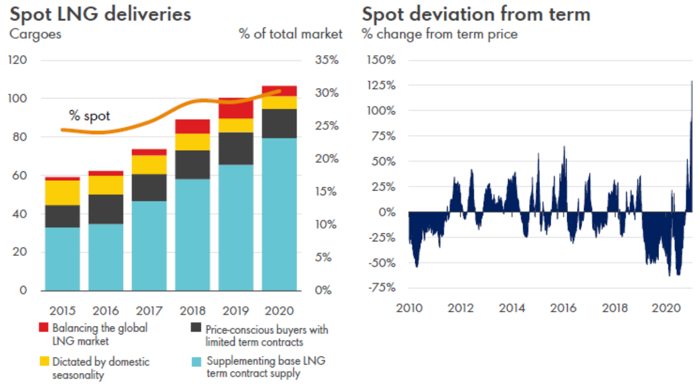


Source: Australia Resources and Energy Quarterly

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

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

Spot LNG deliveries and Spot deviation from term price



Source: Shell LNG Outlook 2021 on Feb 25, 2021

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

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

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

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

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

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

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

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

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

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

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

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

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

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

https://www.argusmedia.com/en/news/2377820-malaysias-petronas-informs-lng-buyers-of-force-majeure?backToResults=true

Malaysia's Petronas informs LNG buyers of force majeure

Published date: 06 October 2022

Malaysia's state-owned Petronas has informed some of its Japanese term LNG offtakers and trading houses of a force majeure following a landslide last month that may have resulted in a leak on the Sabah-Sarawak Gas Pipeline.

The landslide in September near Sarawak occurred near the pipeline that supplies gas to Petronas' 30mn t/yr Bintulu LNG complex.

Some term offtakers, including Japanese buyers Tokyo Gas and Toho Gas and possibly some trading houses, have received the force majeure notice. But no other details were provided by Petronas, offtakers said. Petronas did not respond to Argus' requests for comment.

Not all offtakers have been issued with the force majeure declaration. But buyers that received the notice will likely see their deliveries between October and December affected, a source with knowledge of the matter said. But disruptions may extend to deliveries in the first quarter of next year depending on the situation. Market participants project that up to 10 cargoes may be affected.

Petronas had initially requested some Japanese buyers to exercise the downward quantity tolerance clause in their contracts in the immediate aftermath of the landslide, participants said.

While it is unclear if affected offtakers will emerge to seek replacement cargoes from the spot market, most northeast Asian utilities have balanced inventories until December.

Spot LNG prices have been softening since more than a month ago. The front half-month of the ANEA, the Argus assessment for spot LNG deliveries to northeast Asia, was last assessed at $34.40/mn Btu on 5 October, a 52.1pc drop from a new all-time high on 29 August.

This is the latest in a spate of production-related incidents at Bintulu since 2021. Petronas in April requested to defer at least one buyer's June-July term cargoes following unspecified upstream issues, despite production at Petronas' Pegaga gas field off Sarawak having restarted on 21 March.

But there are currently ample spot supplies. Omani state-owned Oman LNG was offering a cargo loading over 22-24 October from its 10.4mn t/yr Qalhat export facility through a tender closing on 6 October. It will arrive in most northeast Asian ports in the first or second half of November, if delivered to the region.

Some market participants said there are many floating November deliveries available as sellers have struggled to find outlet for them with weaker demand. December deliveries originally meant for Europe may also have been diverted to Asia as underground gas storage there continues to fill up.

By Naomi Ong

https://www.spiegel.de/international/germany/live-dashboard-real-time-statistics-on-germany-s-gas-supplies-a-8c021b20-d3d7-416b-a89e-5d91bdb0849f

Energy Crisis Tracker Real-Time Statistics on Europe's Gas Supplies

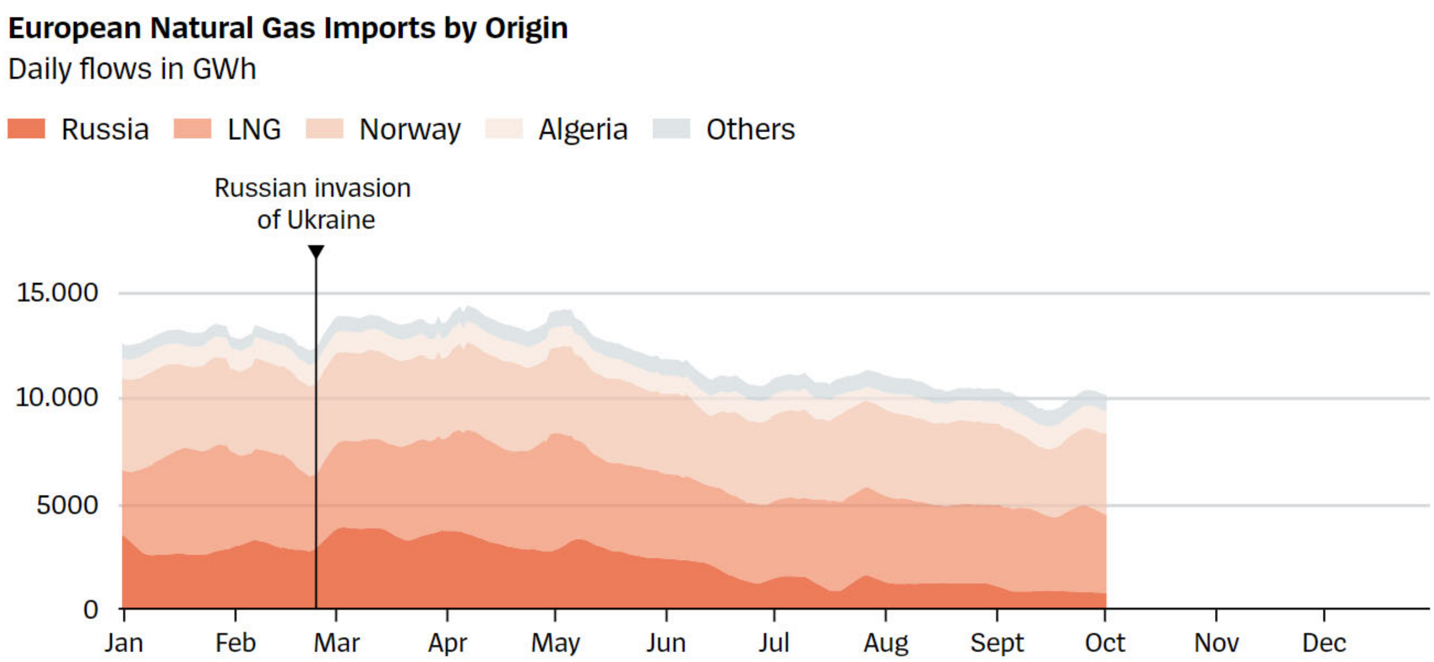
How much natural gas is flowing through pipelines to Europe? How full are gas storage facilities? And how much gas are Germans consuming? Keep your eye on the data with our live tracker.

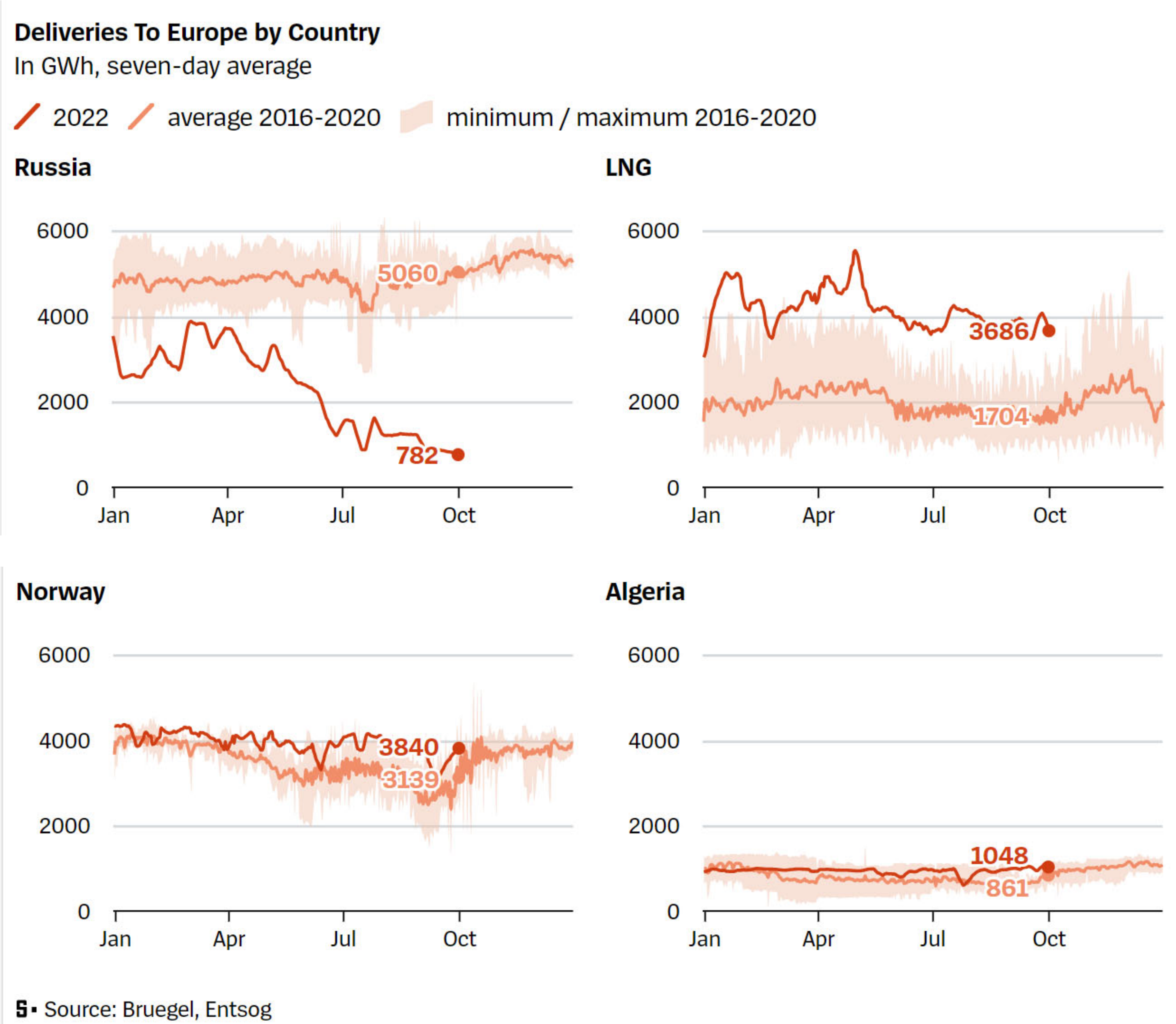
By **Holger Dambeck**, **Frank Kalinowski**, **Ferdinand Kuchlmayr**, **Aída Márquez**, **Dawood Ohdah**, **Marcel Pauly**, **Matthias Stahl** und **Patrick Stotz**

07.10.2022, 23.55 Uhr

How Dependent Is Europe on Russian Gas?

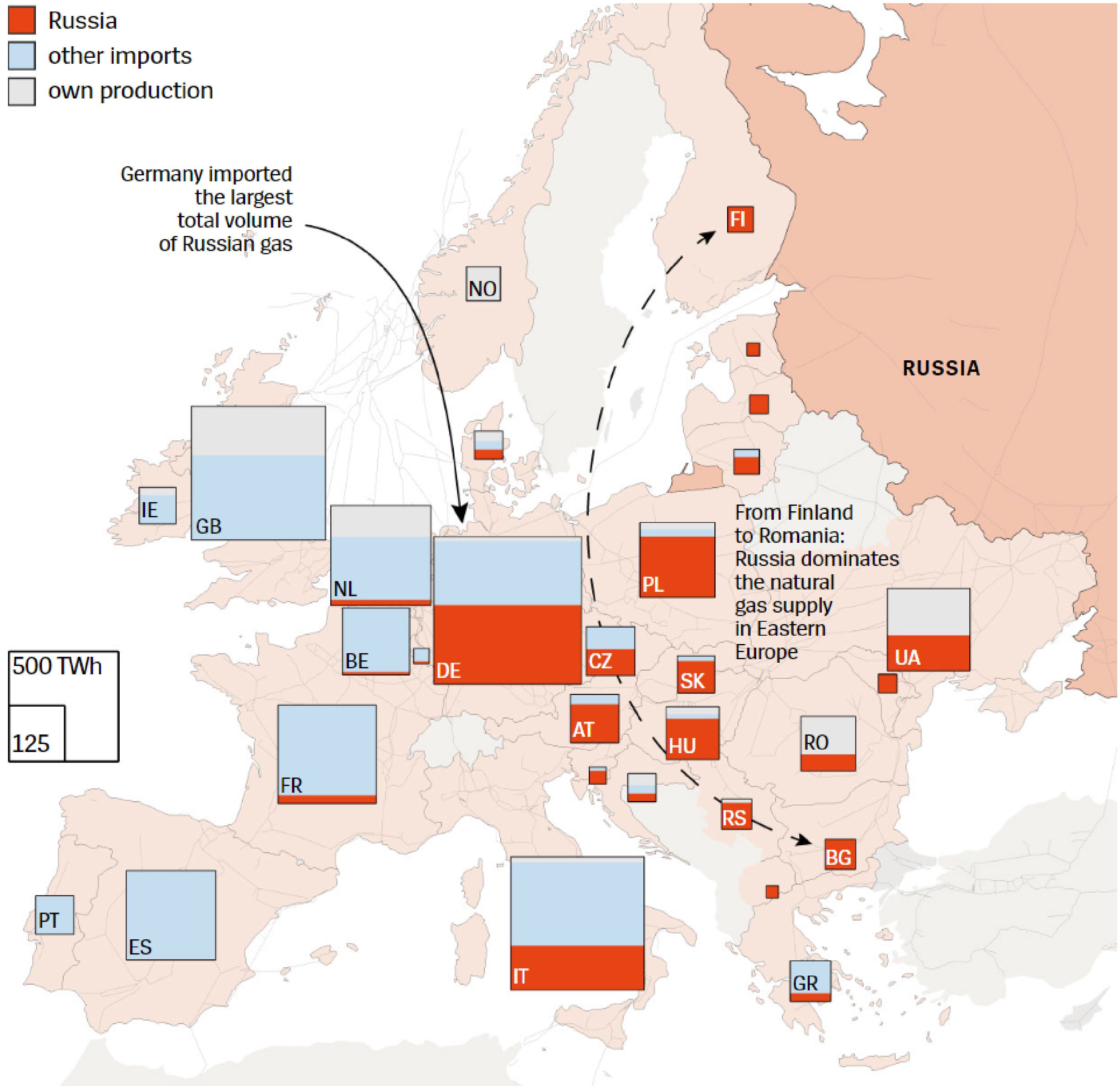
Only a few European countries produce a significant amount of natural gas themselves. Almost all rely on imports, mainly by pipeline from Russia, Norway and Algeria. In addition, there are imports of liquefied natural gas (LNG) from various countries around the world. Deliveries are usually made by special tankers bound for ports with LNG terminals. The share of imports from Russia has fallen in recent months, but LNG deliveries have increased overall.





Dependence on Russia has been particularly high in Eastern Europe and Germany in recent years. These countries are often located directly along Russian pipelines and usually don't have their own LNG terminals or pipelines to other major gas exporters like Norway or Algeria. In absolute quantities, Germany has recently consumed the largest total volume of Russian gas of any European country.

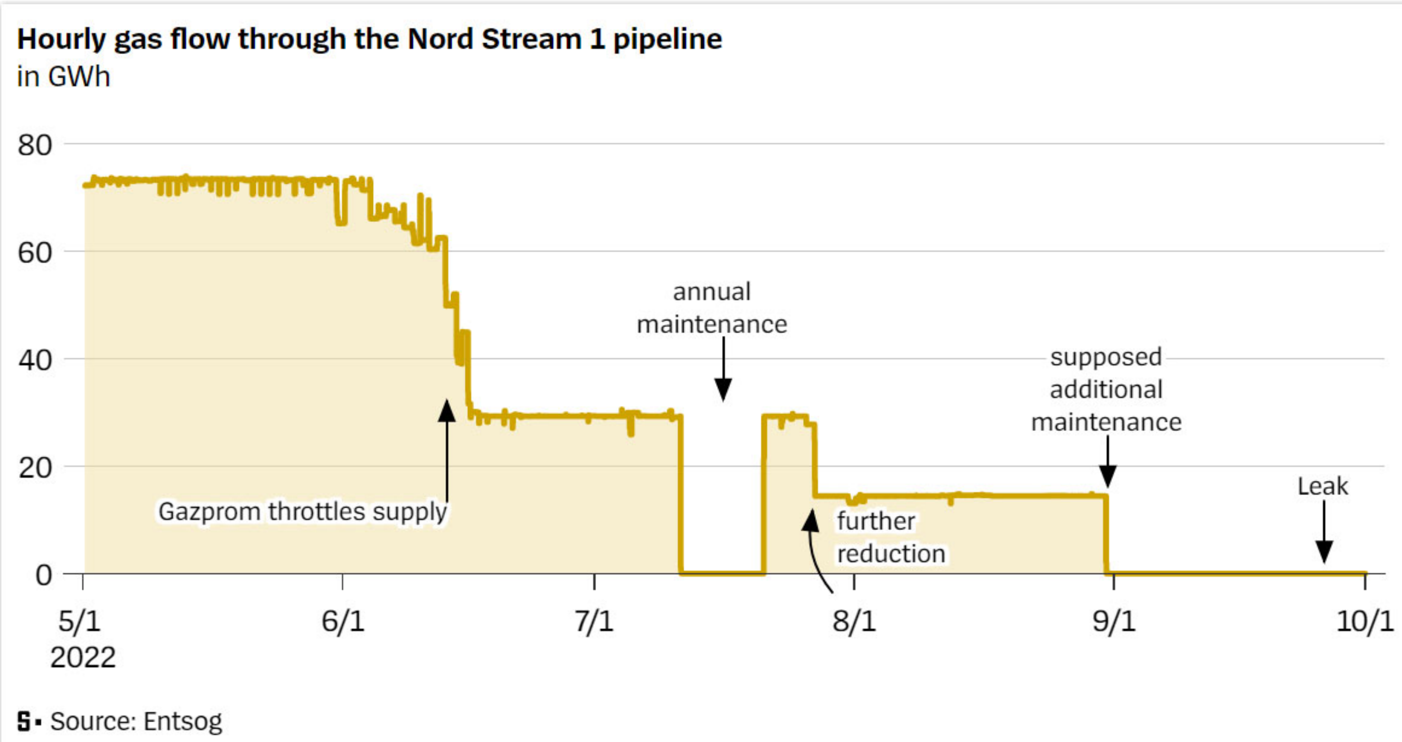
Origin and volume of natural gas consumed
By country, in TWh



S • Sources: Bruegel, Eurostat

How Does Gas Get to Europe?

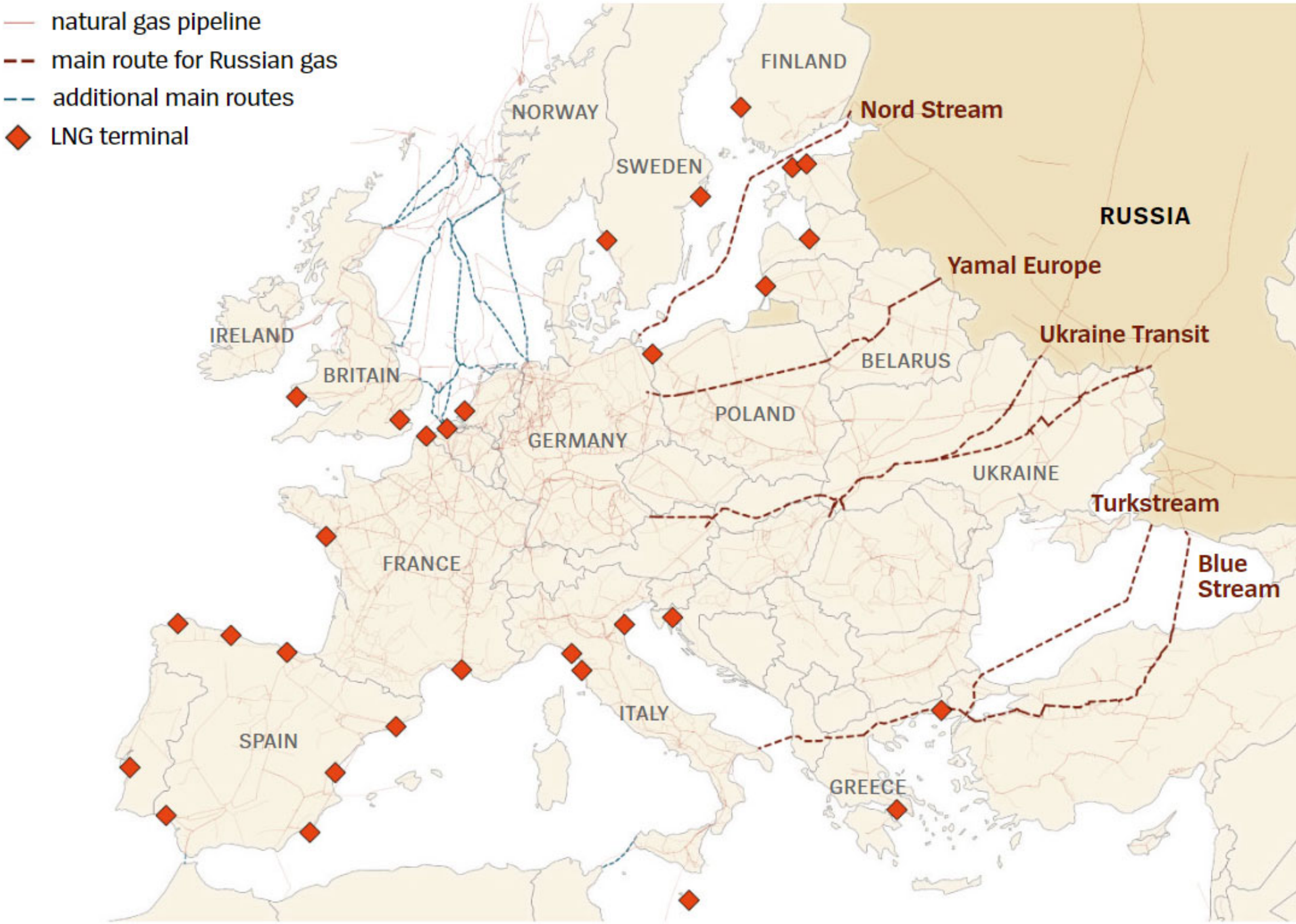
Until recently, four main routes led from Russia to the European Union. Recently, the focus was primarily on the Nord Stream 1 pipeline, which runs from Russia beneath the Baltic Sea to Lubmin, Germany, near the city of Greifswald. Pipeline operator Gazprom initially throttled deliveries in mid-June 2022 to 40 percent of normal capacity, purportedly due to technical problems. Then, following annual maintenance in July, Gazprom further reduced flows to 20 percent of capacity. At the end of August, Russia once again interrupted delivery, again for alleged maintenance work, and has not recommenced deliveries through the pipeline since then. In late September, a large leak in the pipeline was discovered. It is unclear if deliveries through the pipeline will ever resume.

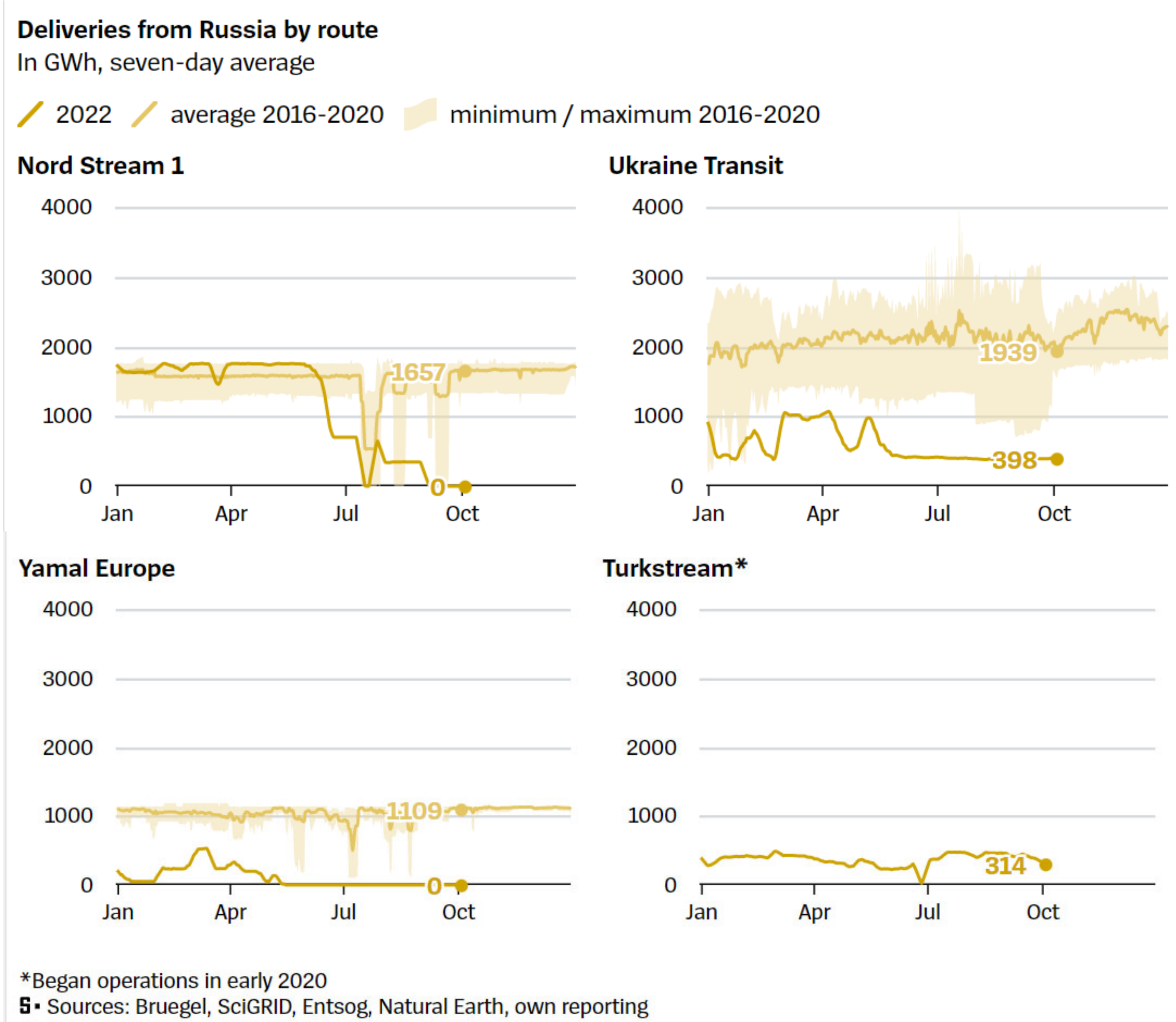


In addition to Nord Stream 1, Russian gas supplies were also delivered through the Yamal-Europe pipeline running through Belarus and Poland, and the Progress and Soyuz pipelines through Ukraine, as well as the Turkstream via Turkey in the south. No gas has been flowing through the Yamal pipeline since mid-May, after Russia halted deliveries. Liquefied natural gas (LNG) is imported through various port terminals, most of which are located in Western Europe.

Important gas pipelines

The main pipelines that supply gas to Europe



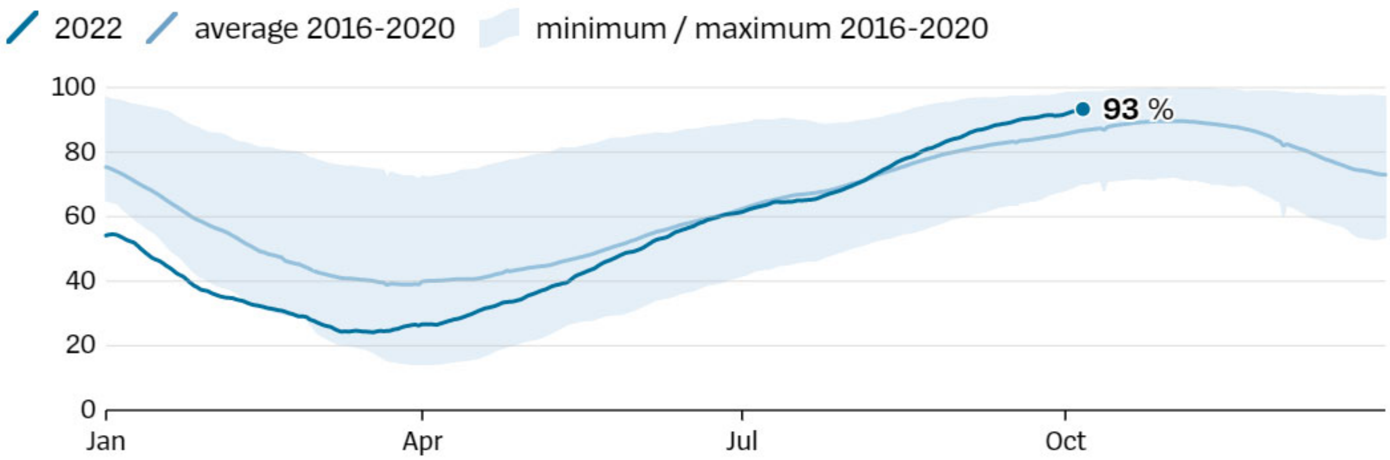


How Full Are Germany's Gas Storage Facilities?

Gas storage facilities serve as important reserves for the winter, but also as interim storage for large LNG deliveries. If all of Germany's storage facilities were filled to capacity, their gas volume of slightly less than 250,000 gigawatt-hours could not even cover a quarter of Germany's annual demand, which was around 1 million gigawatt hours in 2021. To get through the winter unscathed, Germany thus needs not only for its storage facilities to be as full as possible, but also continuous supplies from pipelines or LNG terminals.

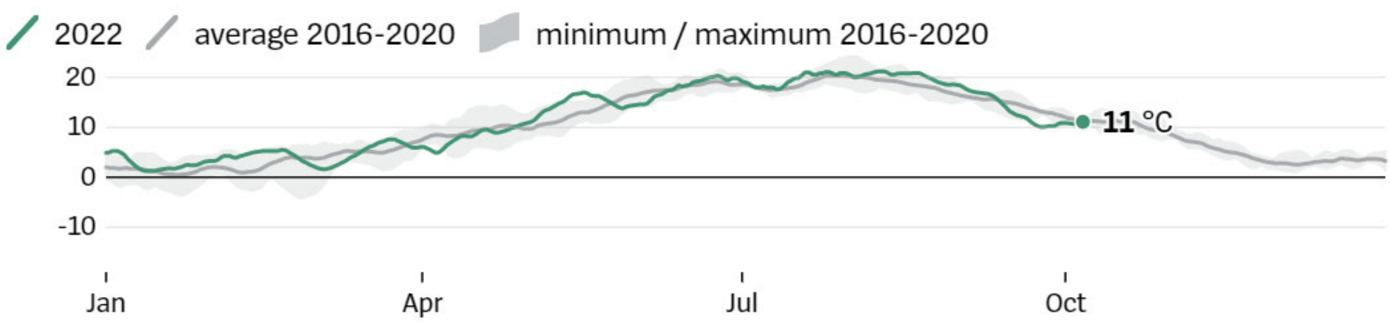
Level of German gas storage facilities
as a percentage

Current year | Last five years



Der Gasinfrastrukturverband GIE registriert annähernd 90% der maximalen Gasspeicherkapazität in Deutschland.
The gas infrastructure association GIE registers close to 90% of the maximum gas storage capacity in Germany.
Source: GIE

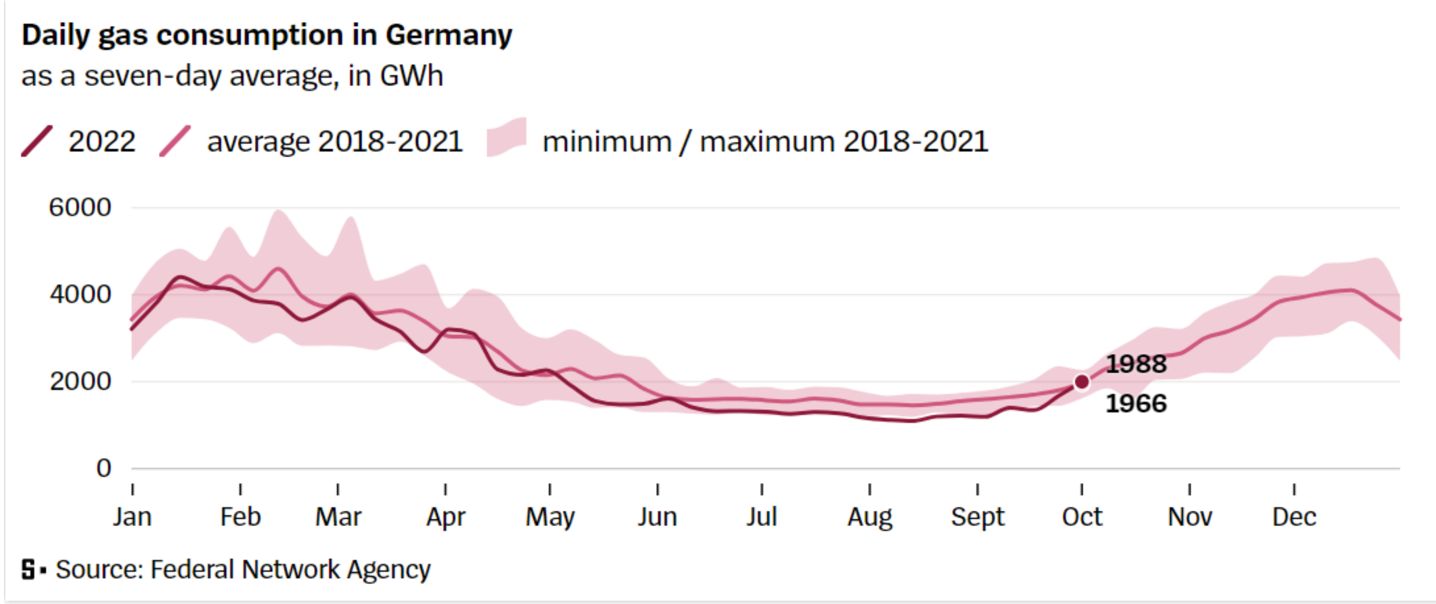
Average national outdoor temperature
in °C



Gezeigt wird der gleitende 14-Tage-Schnitt der Median-Tagesdurchschnittstemperatur aller DWD-Wetterstationen, die tägliche Beobachtungsdaten zur Verfügung stellen.
Quellen: GIE, DWD, BMWi

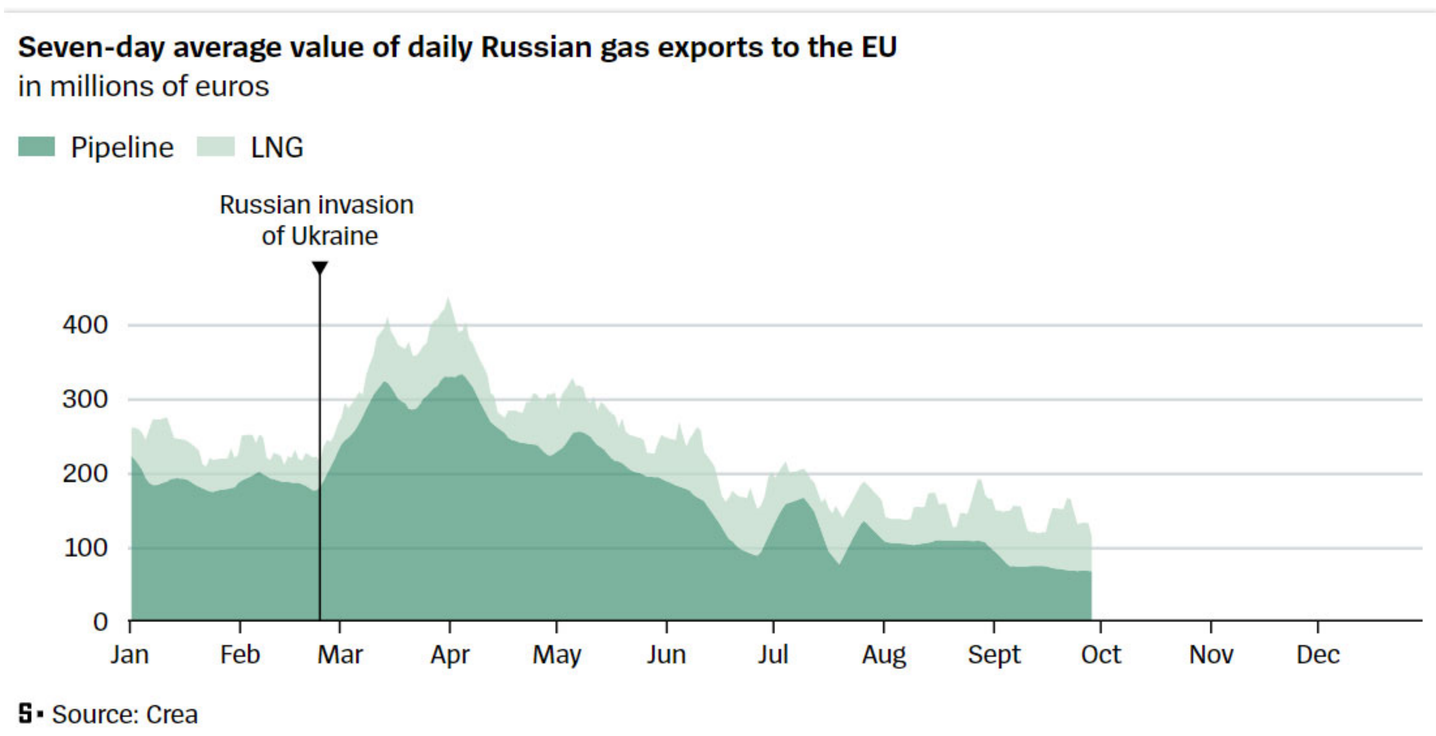
How Much Gas Does Germany Consume?

The amount of gas burned by households and industry depends on two primary factors: the weather and the price of gas. The electricity market can also influence gas demand. During periods of low sunlight and low winds, gas-fired plants must be fired up to meet the electricity demand. The weather at the beginning of 2022 was significantly milder than the previous year, thus requiring less heat. In addition, people cut back on their use of gas, largely in industry – a direct response to the sharp increase in gas prices. That’s why consumption was often lower in 2022 than the average of previous years.



How Much Money Does Russia Generate with Its Gas Exports?

Overall, Russia has supplied less gas to Europe in recent months than in previous years. Still, revenues from gas exports have increased. This is due to the sharp increase in global market prices. The main cause of the turbulence on the gas market is the conflict over Ukraine, which Russia has been waging as a war of aggression since February 2022.



How Have Gas Prices Developed for New Customers?

Recent turbulence hasn’t just been reserved for global gas prices. Private households in Germany have also been affected. This has become particularly noticeable for new customers, for whom the average price per kilowatt hour has increased significantly since fall 2021. Further price jumps followed Russia’s attack on Ukraine and due to reduced gas deliveries starting in June 2022.

https://www.sakerhetspolisen.se/ovriga-sidor/nyheter/nyheter/2022-10-06-starkt-misstanke-om-grovt-sabotage-i-ostersjon.html

Strengthened suspicion of serious sabotage in the Baltic Sea

Published 6 October 2022

The crime scene investigation carried out by the Swedish Security Police at the Nord Stream 1 and 2 gas pipelines has now been completed. The investigation has strengthened suspicions of aggravated sabotage.

Since this weekend, the Security Police has conducted the crime scene investigation with the support of the Coast Guard, the Armed Forces and the Police Authority. It has been a very well-functioning collaboration.

After completing the crime scene investigation, the Swedish Security Police can conclude that there have been detonations at Nord Stream 1 and 2 in the Swedish economic zone, which have caused extensive damage to the gas pipelines.

During the crime scene investigation, there have been some seizures. Within the framework of the preliminary investigation, the Security Police continuously takes various investigative measures. As part of the work, the fittings will now be reviewed and analyzed. The continued preliminary investigation must show whether anyone can be served with suspicion and later prosecuted.

The Security Police is conducting the preliminary investigation into the incident at Nord Stream under the direction of prosecutors at the National Security Cases Unit. Following the completion of the crime scene investigation, the prosecutor has lifted the roadblocks at the scene.

The Prosecutor's Office's press release

The Security Police considers what has happened in the Baltic Sea to be very serious. The Security Police is following developments closely and taking the necessary measures based on the authority's mission to protect Sweden and Sweden's security.

Published

October 6, 2022

https://www.faz.net/aktuell/wirtschaft/bundespolizei-ermittelt-nach-sabotageakt-auf-bahnverkehr-18372440.html?printPagedArticle=true#pageIndex_2

Frankfurter Allgemeine
ZEITUNG FAZ.NET

ACT OF SABOTAGE ON RAIL TRAFFIC:

Transport Minister Wissing: "Targeted and wanton action"

- UPDATED ON 08.10.202217:40 -

The rail chaos in the north with serious consequences for passengers across Germany has been caused by sabotage. The Federal Police are now investigating two crime scenes – and the demand for better protection of critical infrastructure in Germany is getting louder.

NAccording to Federal Transport Minister Volker Wissing (FDP), the major standstill of northern German rail traffic was caused by a deliberate attack. "We know that at two different locations in Germany, the cables have been deliberately cut," said the FDP politician on Saturday afternoon. "It is clear that this is a targeted and wanton approach."

However, the background of the crime is not yet known. The Federal Police investigate. Due to the rapid crisis management of Deutsche Bahn, it was possible, in coordination with his ministry, to resume train traffic in the morning. Deutsche Bahn had also previously spoken of sabotage.

Interior Minister Nancy Faeser (SPD) and Defense Minister Christine Lambrecht (SPD) promised a quick clarification, but were cautious about the background. "Should there be an anti-constitutional background, the Federal Prosecutor General will investigate," wrote Justice Minister Marco Buschmann (FDP) on Twitter.

Crime scenes in Berlin and North Rhine-Westphalia

The Federal Police, which is responsible for the safety of rail traffic, gave the first details on Saturday afternoon and spoke of external influence. "We have a crime scene in Berlin-Hohenschönhausen," said a spokesman for the Federal Police Directorate Berlin of the German press Agency. "Another is located in North Rhine-Westphalia." From security circles, it was said that so-called fiber optic cables had been deliberately damaged at the Karower Kreuz in Berlin and in Herne in NRW. The backup system had also failed. The investigations would be conducted with high pressure in all directions. "Currently, a targeted external influence from the outside on cables of the Deutsche Bahn can be assumed," said the spokesman. For further details, he could not give any information for investigative tactical reasons.

According to media reports, the attacks took place at the Karower Kreuz in Berlin and in Herne in North Rhine-Westphalia. The backup systems of the railway had also failed, it was said in security circles.

Green Party leader Omid Nouripour called for increased investment in the protection of critical infrastructure. "Anyone who systematically attacks critical infrastructure of our country gets a determined response from our democracy. We will not be intimidated," he tweeted. The previous funds for the protection of the infrastructure were not sufficient.

In recent months, there had been repeated attacks on the railway, for example by left-wing extremists. In addition, there were malfunctions due to cable thefts. Since the Russian attack on Ukraine and the leaks in the gas pipelines through the Baltic Sea, however, the fear of targeted attacks on the critical infrastructure in Germany, including by foreign actors, has grown. In the morning, the railway had said in response to the question of an external influence that it was a technical malfunction. However, this was apparently caused by the cable damage, which paralyzed the radio traffic. The simultaneous sabotage of two cables indicates at least a certain expertise, it was said in security circles.

Consequences for rail traffic not only in the north

On Saturday morning, nothing went on most of the rails in the north. Affected were the long-distance and partly also the regional traffic of Deutsche Bahn in large parts of northern Germany. In the course of the morning, the railway reported that the fault had been resolved.

In the morning, it had been said that the severe problems in northern Germany were due to a disruption of the digital train radio GSM-R (Global System for Mobile Communications - Rail). A railway spokeswoman had said: "It serves the communication between the control centers, which control the train traffic, and the trains and is therefore an indispensable component for the smooth train traffic."

In the meantime, the railway has announced that the disruption of the train radio has been resolved. "Long-distance traffic in the affected areas is currently starting up again," the company wrote on its website. Due to the aftermath, however, delays and cancellations could continue to occur. A high capacity utilization of the first operating trains is to be expected, according to the company.

So the problems on Saturday have also confused travel plans in Baden-Württemberg. Several connections to and from Baden-Württemberg were cancelled or in some cases significantly delayed. Among other things, trips to Mannheim, Karlsruhe and Stuttgart were affected. However, the railway did not provide any information on the extent of the effects in the southwest.

Countless passengers were stranded on Saturday morning at the major train stations such as Hanover, Hamburg and Berlin. Long queues formed at information desks, while the large display boards in the station halls were either pure emptiness or informed about "indefinitely delayed" trains or complete cancellations.

Travelers have to wait a long time

At the Hanover railway junction, where important north-south and east-west rail connections meet, the waiting train passengers largely kept calm, according to information from the dpa. Many of them would have stood shaking their heads in front of the large scoreboard, which informed about the train cancellations. But there was no aggressive mood.

Later, the railway wanted to start distributing coffee and tea to those waiting. Outside, groups had formed at the taxi rank and tried to make their way in small carpools by taxi to the next big city.

In Hamburg, at 10.49 a.m., the first long-distance train of the ICE 509 to Munich left the main station via Berlin and Erfurt, as a dpa reporter reported there. He had left with a delay of half an hour and heavily overcrowded.

International connections were also affected. For example, IC trains between Berlin and Amsterdam did not run at all. IC trains from Copenhagen ended at the Danish-German border in Padborg. There was also a standstill in some regional trains – such as RE and RB connections in Lower Saxony, Bremen and Schleswig-Holstein, as the railway announced.

The company recommended that travellers travelling between Berlin and North Rhine-Westphalia, as well as between Berlin and Baden-Württemberg or Switzerland, use connections via Erfurt and Frankfurt/Main.

In general, the railway recommended its passengers to inform themselves shortly before planned trips about www.bahn.de/reiseauskunft, via the app "DB Navigator" or by phone at 030/2970. The railway website said: "As soon as we have new information, we will keep you informed at this point."

https://www.noz.de/deutschland-welt/politik/artikel/robert-habeck-kritisierte-mondpreise-fuer-gas-aus-usa-43308901

Economy Minister calls for solidarityRobert Habeck criticizes "moon prices" for gas from the USA

By **Tobias Schmidt** | 05.10.2022, 01:00 a.m**. 14 Readers' Comments**

Federal Economics Minister Robert Habeck has accused the US and other friendly gas suppliers of "excessive" prices with which they profited from the consequences of the Ukraine war.

"Some countries, including friendly ones, sometimes achieve moon prices. Of course, this brings with it problems that we have to talk about," Habeck said in an interview with our editors. He is counting on "the EU Commission to talk about this with the friendly states".

"Such solidarity would be good"

Habeck has his sights set on the USA in particular: "The USA turned to us when oil prices shot up, and then the national oil reserves in Europe were tapped as well. I think such solidarity would also be good for dampening gas prices," the Green politician appealed to Washington.

Habeck also put pressure on Brussels: The EU "should bundle its market power and orchestrate a clever and synchronized purchasing behavior of the EU states, so that individual EU countries do not outbid each other and drive up world market prices," he demanded. The European market power is "enormous", it only has to be used.

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https://www.transmountain.com/news/2022/update-october-2022-capacity-announcement-for-the-trans-mountain-pipeline-system?utm_source=Trans+Mountain+Updates&utm_campaign=b8ad5cc5af-EMAIL_CAMPAIGN_12_2_2021_15_6_COPY_01&utm_medium=email&utm_term=0_f287e4f791-b8ad5cc5af-30713878

Update: October 2022 Capacity Announcement for the Trans Mountain Pipeline System

Sep. 29, 2022

Total system nominations for the Trans Mountain Pipeline system are apportioned by 11 per cent for October 2022.

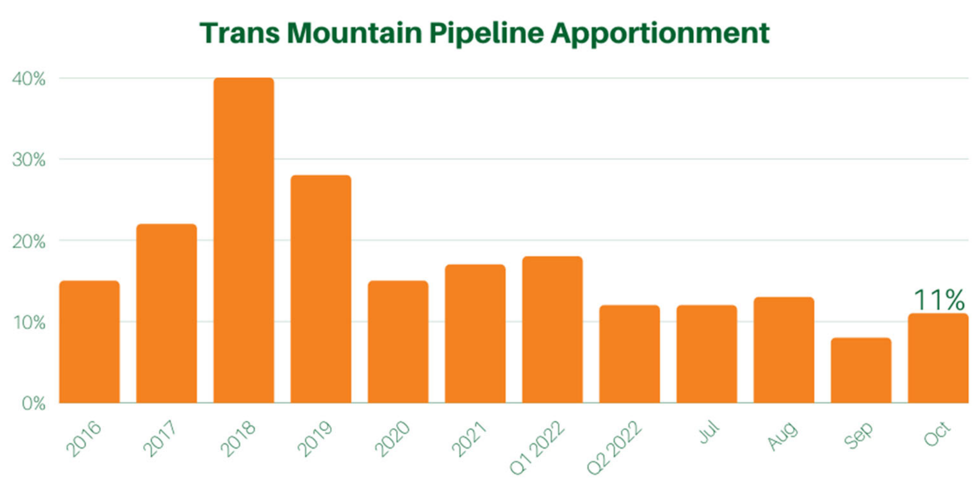
What is pipeline 'apportionment' and why is it important?

The energy sector around the world works on a monthly cycle. The Trans Mountain Pipeline is part of that cycle. Apportionment describes the amount of demand shippers place on the pipeline in excess of its available capacity. Here's a step-by-step guide to the apportionment determination that's carried out every month for the existing Trans Mountain Pipeline system.

- Each month our shippers submit requests for how much petroleum (crude oil and refined products) they want to ship through the pipeline to service their customers. These requests are called 'nominations'.
- Based on shippers' nominations, we then determine the 'capacity' available on the pipeline for the month. Determining pipeline capacity is complex. Capacity is affected by, among other things, the types of products that have been nominated, any pipeline system maintenance activities that will reduce flows that month and carry-over volumes that haven't completed their transit of the pipeline by month's end.
- Based on available pipeline capacity and the volume of shipper nominations we received, we calculate apportionment using a method accepted by the Canada Energy Regulator and forming part of our tariff. A tariff includes the terms and conditions under which the service of a pipeline is offered or provided, including the tolls, the rules and regulations, and the practices relating to specific services.
- If shipper nominations are less than pipeline capacity, the apportionment percentage to that destination is "zero" and all the product volumes nominated by shippers are accepted to be transported that month.
- If shipper nominations exceed pipeline capacity, the apportionment is a percentage greater than zero.

Trans Mountain Pipeline apportionment by the numbers

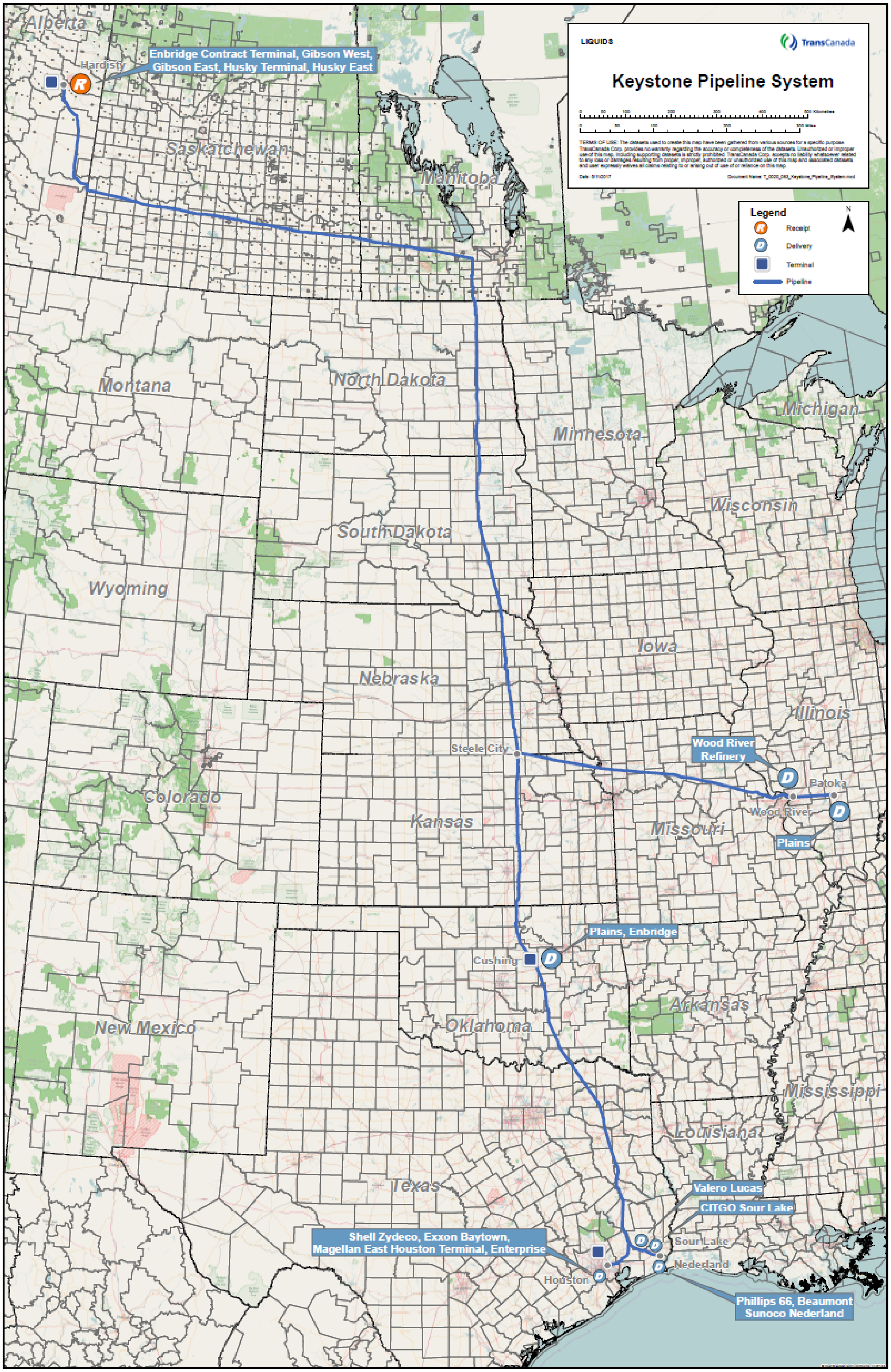
Apportionment of the Trans Mountain Pipeline system has been a regular monthly occurrence for the past decade. The chart below shows the apportionment for 2016, 2017, 2018, 2019, 2020, 2021 and apportionment to date for 2022.



When a pipeline experiences significant and prolonged apportionment like in the case of the existing Trans Mountain Pipeline, it's one signal that more capacity is needed. Apportionment can bring with it a discounting of prices as producers compete to sell what they can through the pipeline before having to use another pipeline or other modes of transport to another, less profitable market. It can also mean the buyers at the end of the pipeline are forced to source their shortfall of supply from alternate, less desirable sources.

Business case for expansion is strong

There is a strong and clear business case supporting the Trans Mountain Expansion Project. Our shippers have made long-term contract commitments ranging from 15 to 20 years that will underpin the cost of construction and the operating costs. The additional capacity offered by the expansion will be used to supply more crude oil and refined products markets in British Columbia and Washington State and to offshore markets in the Asia Pacific. Pipeline design and operations, including emergency response and preparedness for tanker movements are world-class, providing a safe and reliable supply of petroleum products to the markets served by the Trans Mountain Pipeline.



LIQUIDS
TransCanada
Keystone Pipeline System
Legend
Receipt
Delivery
Terminal
Pipeline
Alberta
Hardisty
Enbridge Contract Terminal, Gibson West, Gibson East, Husky Terminal, Husky East
Saskatchewan
Manitoba
Montana
North Dakota
Minnesota
Michigan
Wisconsin
South Dakota
Wyoming
Iowa
Nebraska
Illinois
Steele City
Wood River Refinery
Patoka
Wood River
Plains
Colorado
Kansas
Missouri
Plains, Enbridge
Cushing
Arkansas
New Mexico
Oklahoma
Mississippi
Louisiana
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Valero Lucas
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https://www.wsj.com/articles/u-s-plans-to-ease-venezuela-sanctions-enabling-chevron-to-pump-oil-11665005719?st=rra6qt665jdp2yt&reflink=share_mobilewebshare

- WSJ NEWS EXCLUSIVE

U.S. to Ease Venezuela Sanctions, Enabling Chevron to Pump Oil

The proposed deal would require Caracas to open talks with political opponents, with the aim of free elections in 2024

Engaging Venezuela could serve as a longer-term strategy for the U.S. and European countries trying to secure new energy sources.PHOTO: HENRY CHIRINOS/SHUTTERSTOCK

By Patricia Garip, *Vivian Salama* Follow and *Kejal Vyas* Follow

Updated Oct. 5, 2022 7:18 pm ET

The Biden administration is preparing to scale down sanctions on Venezuela's authoritarian regime to allow Chevron Corp. CVX 0.57%▲ to resume pumping oil there, paving the way for a potential reopening of U.S. and European markets to oil exports from Venezuela, according to people familiar with the proposal.
In exchange for the significant sanctions relief, the government of Venezuelan President Nicolás Maduro would resume long-suspended talks with the country's opposition to discuss conditions needed to hold free and fair presidential elections in 2024, the people said. The U.S., Venezuela's government and some Venezuelan opposition figures have also worked out a deal that would free up hundreds of millions of dollars in Venezuelan state funds frozen in American banks to pay for imports of food, medicine and equipment for the country's battered electricity grid and municipal water systems.

U.S. officials cautioned that the deal could fall through, because it is contingent on Mr. Maduro's top aides resuming talks with the opposition in good faith.

If the deal goes through and Chevron, along with U.S. oil-service companies, are allowed to work in Venezuela again, it would put only a limited amount of new oil on the world market in the short term.

Venezuela was once a major oil producer, pumping more than 3.2 million barrels a day during the 1990s, but the state-run industry has collapsed over the past decade because of underinvestment, corruption and mismanagement. Sanctions leveled by the Trump administration further dented production and forced Western companies out of the country.

Any shift in U.S. policy that brings back Western oil companies would send a psychological signal to the market that more supply is on the way, the people said. Word of a possible U.S. rapprochement with Venezuela is emerging just as OPEC+ countries led by Saudi Arabia and Russia agreed to slash production in response to sagging oil prices, angering the Biden administration.

But engaging Venezuela, which sits atop some of the world's largest oil reserves, could serve as a longer-term strategy for the U.S. and European countries trying to secure new energy sources as Russia's war in Ukraine drags on and upends commodities markets, said Francisco Monaldi, a Latin America energy expert at Rice University.

"If [oil] prices come down, this all could change," Mr. Monaldi said. "But for now, this is their obsession."

President Nicolás Maduro maintains an authoritarian grip over Venezuela.PHOTO: GETTY IMAGES/GETTY IMAGES

The U.S.-Venezuela agreement, the terms of which are expected to be shored up later this month, is the latest sign that Washington is willing to wind down a pressure campaign against the Maduro government that it inherited from the Trump administration.

There are potential pitfalls. The proposal is stoking fury among some of the regime's most strident foes, who say the strategy would allow Mr. Maduro to maintain his authoritarian grip on the country with few concessions. On the other hand, it could be unpopular among some in the Maduro administration.

"Inside the regime, you have hard-liners who are very critical of Maduro's neoliberal turn," said Geoff Ramsey, director of the Venezuela program at the Washington Office on Latin America. "And within the opposition, you have players who are very interested in doing everything possible to continue the interim government," he said.

Some Venezuelan opposition leaders said that fresh cash could embolden Mr. Maduro, whose government in recent years has circumvented U.S. sanctions by selling its heavy crude oil to China and other Asian buyers at steep discounts.

Chevron spokesman Ray Fohr didn't comment on the proposed deal, but said that in Venezuela, "we have dedicated investments and a large workforce who are dependent on our presence." He said the company is in compliance with the current sanctions framework.

Ali Moshiri, a former Chevron executive who oversaw the expansion of the company's operations in Latin America and worked closely with Venezuelan officials, said the Biden administration's shift appears to reflect political pressure that has come with rising energy prices and tight global supplies.

"It makes a lot of sense that the Biden administration relaxes some of the sanctions toward Venezuela, to allow multiple resources to help us lower energy prices," said Mr. Moshiri, who estimates the country could reach 1.5 million barrels a day of output in two years if Chevron and other companies can work freely.

Talks between officials from the U.S. and Venezuela have been quietly under way since at least March, but gained momentum when Venezuela on Saturday released six U.S. citizens and one U.S. permanent resident who had been jailed in that country. In exchange, the U.S. released two men—nephews of Venezuelan first lady Cilia Flores—who had been convicted of drug trafficking.

A U.S. official said that the swap created some "new opportunities" between the two sides that didn't exist a week ago.

Wall Street firms and U.S. investors for months had also been pressing the Biden administration to lift sanctions to recover billions of dollars in debt and strike business deals with Caracas. The toughest sanctions came in 2019, when the U.S. and dozens of its allies declared that opposition leader Juan Guaidó was Venezuela's legitimate president. His movement, though, failed to oust Mr. Maduro, and most countries now openly deal with the Maduro government.

A spokesman for Mr. Guaidó didn't respond to questions seeking comment. The opposition leader has said he had nothing to do with the recent prisoner swap and opposes the easing of pressure on Mr. Maduro.

The U.S. Treasury Department's Office of Foreign Assets Control, which administers sanctions against Venezuela, is preparing to issue one or more licenses for Chevron to run its four existing joint-venture oil projects with the state oil company, Petróleos de Venezuela SA, or PdVSA. Chevron's agreement with Venezuela gives it full operational control and runs about 1,000 pages, people familiar with the document say.


Opposition leader Juan Guaido, who opposes easing pressure on Mr. Maduro.PHOTO: GABY ORAA/REUTERS

With Chevron in charge of all aspects of the projects, and the U.S. providing clearance to export oil, Venezuela could regain the relevance in the oil market that it enjoyed during the early 2000s, when it was one of the main exporters of crude to the U.S. The country is now exporting about 450,000 barrels a day and could double that figure in a matter of months, say people who are familiar with Venezuela's oil industry and are bullish about its prospects.

The Treasury Department, State Department and National Security Council didn't immediately reply to a request for comment. Venezuela's state oil company and its Information Ministry didn't respond to detailed emails seeking comment.

Among the potentially important projects in Venezuela is the Perla offshore gas field operated by Repsol SA of Spain and ENI SpA of Italy. Shell is also monitoring the progress of a possible U.S.-Venezuela rapprochement to implement a preliminary offshore gas deal off eastern Venezuela that would supply a liquefaction plant in neighboring Trinidad and Tobago, according to people familiar with the company.

The gas projects are especially relevant at the same time Europe is trying to replace severed gas supply from Russia ahead of winter.

"There could be a domino effect there in terms of getting things going," said Mr. Monaldi, who is Venezuelan. But he added that the oil fields are so deteriorated from underinvestment that Venezuela would be hard-pressed to add significantly to output over the next two years, even with the help of foreign companies.

"I don't think it would be relevant to broader energy markets in the near and medium term," he said.

Collin Eaton and Andrew Scurria contributed to this article.

Write to Vivian Salama at vivian.salama@wsj.com and Kejal Vyas at kejal.vyas@wsj.com

SAF Group created transcript of comments by CNBC's Brian Sullivan to Joe Kernen on Squawk Box on Oct 6, 2022.

Items in "italics" are SAF Group created transcript.

At 4:04am MT. Sullivan "*Pivot Joe to your other story. Wall Street Journal, late last night, with an exclusive saying that the US is looking to ease sanctions on Venezuela so that Chevron, not so that, but in part Chevron will then be able to keep drilling and producing oil in Venezuela. I was in touch with Chevron last night, it was 2 in the morning here, 5 whatever pm there, they would not confirm the entire story to me, but I got the sense, I'm not confirming it, but I will say it was directionally correct. How about this, Chevron did not deny the story to me. Obviously, they don't want to get into the politics of it but Joe that would be an easing of sanctions in Venezuela so that we could buy more, produce more oil there to import to the United States. Kind of maybe trading OPEC and Russian oil for Venezuelan oil*."

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

SAF Group created transcript of comments from White House Amos Hochstein with CNBC's Becky Quick on Squawk Box on Oct 6, 2022

Items in "italics" are SAF Group created transcript

At 6:08 am MT, Quick asks Hochstein about the WSJ report on US is reducing sanctions on Venezuela. Hochstein "*I just saw the article as I was coming in this morning. There's a lot left to be desired by that article. I think that we're still looking at what the Maduro regimes needs to be able to do in order for us to take steps on our end. We are, we have already taken some steps that we think make sense to strengthen the US position economically, as well as our objectives for transformation and change in Venezuela in the relationship between the regime and the opposition. We're going to continue to work on that. There is really to announce yet. I think that's very premature to the discussions we are having*". Quick "*so what's wrong in the article, it says you are preparing to loosen sanctions, is that it or not the case*?" Hochstein *"I think, we're, its just very, we're not there yet. And I think we will continue to, I'm sure I will have something to update you if something changes. But frankly, there is nothing for me to report to you at this point*."

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

https://www.wsj.com/articles/chevron-waiting-it-out-in-venezuela-tells-u-s-now-is-the-time-to-pump-oil-11647959248?mod=newsviewer_click&adobe_mc=MCMID%3D43904269652561322512265019543051439235%7CMCORGID%3DCB68E4BA55144CAA0A4C98A5%2540AdobeOrg%7CTS%3D1647963540

Chevron, Waiting It Out in Venezuela, Tells U.S. Now Is the Time to Pump Oil

An oil refinery in Venezuela, where the U.S. has banned American oil companies from operating since 2019. YURI CORTEZ/AFP/GETTY IMAGES

By Christopher M. Matthews and José de Córdoba
March 22, 2022 10:27 am ET

HOUSTON—For months, Biden administration officials snubbed top executives and lobbyists for Chevron Corp. who had pressed officials in Washington to ease sanctions so the company could boost production in Venezuela, where the U.S. has banned such activities since 2019.

Then Vladimir Putin invaded Ukraine.

Now the Biden administration is listening closely to Chevron, say people familiar with the conversations, which says it can help double Venezuela's 800,000 barrels-a-day production within months. That could replace the loss of roughly 700,000 barrels a day the U.S. was importing from Russia before it attacked Ukraine. And it could help lower gasoline prices—a major concern for the Biden administration in a tough election year.

"Chevron came in November, they pitched it around, but got laughed out of town," said Juan Cruz, a former National Security Council official in charge of the Western Hemisphere who has closely followed the Biden administration's policy toward Venezuela. "But what was really funny in November is a plan today."

Since the Russians invaded on Feb. 24 and Mr. Biden canceled Russian oil imports, Chevron Chief Executive Officer Mike Wirth has offered the company's help to Secretary of Energy Jennifer Granholm in shoring up U.S. energy supplies by ramping up production in Venezuela, according to people briefed on the talks. Chevron is the only major U.S. producer to retain assets in Venezuela following nationalizations by the Socialist government and, much later, U.S. sanctions.

Granting the San Ramon, California-based company and other U.S. producers permits to operate could boost Venezuelan production while keeping other sanctions in effect. Broadly easing sanctions on Venezuela faces stiff opposition in the U.S. over concerns it would prop up the country's autocratic regime. U.S. officials are divided over the issue, say people familiar with the situation.

Asked recently by CNN about the outreach to Venezuela and Saudi Arabia for more oil, Ms. Granholm, said, “I think Americans should see the administration calling right now for an increase in supply as something that helps them,” naming the benefit of reducing costs at the pump.

Shortly after Mr. Wirth talked to the energy secretary, three senior U.S. officials—Juan Gonzalez, the senior National Security Council official in charge of Latin America; James Story, the U.S. ambassador to Venezuela; and Roger D. Carstens, a special envoy—flew to Caracas on March 5 and met with President Nicolás Maduro and other top Venezuelan officials.
Another person who spoke with senior Venezuelan officials after the invasion was Ali Moshiri, a charismatic Iranian-American who had headed Chevron’s Latin America division and was considered a “dear friend” by the late Hugo Chávez, the founder of the political movement now led by Mr. Maduro, with whom Mr. Moshiri also has close a close relationship. Mr. Moshiri retired from Chevron in 2017 but now consults for the company in Venezuela, where he has deep ties with senior officials, say people familiar with the matter.

Many oil industry executives say that Mr. Moshiri was essential to Chevron’s controversial decision to stay in the country even as other Western oil companies exited after the Venezuelan government in 2007 nationalized billions of dollars of assets owned by ConocoPhillips, Exxon Mobil Corp. and others. He has also lobbied Biden officials to loosen sanctions on Venezuela, where Chevron has operated for nearly a century.
“You cannot ignore Venezuela,” Mr. Moshiri said in an interview last week. “Venezuela will always be part of our energy security.”

The White House declined to comment about Chevron’s possible role or its own talks in Venezuela. The Energy Department declined to comment.

People briefed on the talks say Mr. Moshiri has argued to U.S. officials that the U.S. can’t cede influence of Venezuelan energy to rivals like China and Russia, which have increased their activities in the country in recent years. He has also spoken with Venezuelan officials for months to try to win the release of Americans imprisoned in Venezuela, these people said.

A Chevron spokesman said Mr. Moshiri isn’t representing the company in negotiations with the U.S. or with Venezuelan officials. Mr. Moshiri declined to provide details about his contract with Chevron. After leaving Chevron, he founded a firm, Amos Global Energy, which seeks investment opportunities in Venezuela, people familiar with the matter said.

A few days after the March 5 meeting in Caracas with U.S. officials, the Maduro government freed two American captives, one of them an executive of Citgo, the U.S. refining subsidiary of state-run oil company Petróleos de Venezuela SA, or PdVSA. The government also agreed to restart negotiations in Mexico with representatives of Venezuela's opposition, who want officials to agree to free and fair presidential elections in 2024.

News of the meeting in Caracas, though, has caused a political backlash in Washington and in Florida, where exiled Venezuelans live and have forged links to the state's powerful and conservative Cuban American community.

"The democratic aspirations of the Venezuelan people, much like the resolve and courage of the people of Ukraine, are worth much more than a few thousand barrels of oil," New Jersey Sen. Robert Menendez, the Democratic chairman of the Senate Foreign Affairs Committee, wrote in a statement. Those sentiments were echoed by both Democratic and Republican lawmakers in Florida.

Venezuelan opposition leader Juan Guaidó, whom the U.S. recognizes as Venezuela's legitimate president, was told of the U.S.-Venezuela meeting after it had taken place. Mr. Guaidó wrote a letter to Mr. Biden, according to a person with knowledge of the matter, saying that lifting sanctions on Venezuela would do little to ease the world's crude supply shortages while rewarding Mr. Maduro, a Putin ally whose rule is blamed for leading six million Venezuelans to flee the country.

"Today, more than ever we should be firm and morally consistent," said Mr. Guaidó in a video press conference from Caracas last week. He said any lifting of sanctions on Venezuela or permission for Chevron to pump oil there should only come in exchange for democratic concessions by the regime.

Answering reporters' questions last week White House press secretary Jen Psaki said, "There is no dialogue between us and the regime." She said the administration would consider lifting sanctions on the basis of progress in talks between Mr. Maduro and the opposition.

Chevron officials still say the company could win a license permitting it, along with European oil companies such as Eni Spa and Repsol SA, to operate in Venezuela.

A refinery of state-owned Petróleos de Venezuela in El Palito. Venezuelan oil production has plummeted since the 1990s due to mismanagement.

PHOTO: MANAURE QUINTERO/BLOOMBERG NEWS

Venezuela claims to have the world's largest proven oil reserves. But years of mismanagement, corruption and nationalization of oil ventures led production to fall from 3.2 million barrels a day in the 1990s to a 10th of that in 2020. Since then, production has more than doubled as Venezuela turned to opaque foreign companies to boost production, say industry executives. Chevron's lobbyists assert that the recent production increases show that the U.S. sanctions aren't working as intended.

But though Chevron has told U.S. officials it could jack up production quickly, some oil analysts who closely track Venezuela doubt the company could deliver. Even in good times, Venezuela had never increased production anywhere near the level of recent optimistic projections, according to Francisco Monaldi, director of the Latin America Energy Program at Rice University's Baker Institute.
Chevron's perseverance in Venezuela has come as the company has tried to get Venezuela to pay money owed under production-sharing agreements. The company wrote down all of its assets there in 2020, taking a charge of $2.6 billion. Nonetheless, it stayed, receiving periodic licenses from the U.S. government to retain but not operate assets.

—*Timothy Puko in Washington contributed to this article.*

Write to Christopher M. Matthews at christopher.matthews@wsj.com and José de Córdoba at jose.decordoba@wsj.com

OPEC : 33rd OPEC and non-OPEC Ministerial Meeting

33rd OPEC and non-OPEC Ministerial Meeting

No 30/2022
Vienna, Austria
05 Oct 2022

The 45th Meeting of the Joint Ministerial Monitoring Committee (JMMC) and the 33rd OPEC and Non-OPEC Ministerial Meeting took place in person at the OPEC Secretariat in Vienna, Austria, on Wednesday, 5 October 2022.

In light of the uncertainty that surrounds the global economic and oil market outlooks, and the need to enhance the long-term guidance for the oil market, and in line with the successful approach of being proactive, and preemptive, which has been consistently adopted by OPEC and Non-OPEC Participating Countries in the Declaration of Cooperation, the Participating Countries decided to:

1. Reaffirm the decision of the 10th OPEC and non-OPEC Ministerial Meeting on 12 April 2020 and further endorsed in subsequent meetings including the 19th OPEC and non-OPEC Ministerial Meeting on 18 July 2021.
2. Extend the duration of Declaration of Cooperation until the 31st of December 2023
3. Adjust downward the overall production by 2 mb/d, from the August 2022 required production levels, starting November 2022 for OPEC and Non-OPEC Participating Countries as per the attached table.
4. Reconfirm the baseline adjustment approved at the 19th OPEC and non-OPEC Ministerial Meeting.
5. Adjust the frequency of the monthly meetings to become every two months for the Joint Ministerial Monitoring Committee (JMMC).
6. Hold the OPEC and non-OPEC Ministerial Meeting (ONOMM) every 6 months in accordance with the ordinary OPEC scheduled conference.
7. Grant the JMMC the authority to hold additional meetings, or to request an OPEC and non-OPEC Ministerial Meeting at any time to address market developments if necessary.
8. Extend the compensation period to the 31st of March 2023. Compensation plans should be submitted in accordance with the statement of the 15th OPEC and Non-OPEC Ministerial Meeting.
9. Reiterate the critical importance of adhering to full conformity.
10. Hold the 34th OPEC and Non-OPEC Ministerial Meeting on 4 December 2022.

November 2022-December 2023

	August 2022 Required Production	Voluntary Adjustment	Voluntary Production
Algeria	1,055	-48	1,007
Angola	1,525	-70	1,455
Congo	325	-15	310
Equatorial Guinea	127	-6	121
Gabon	186	-9	177
Iraq	4,651	-220	4,431
Kuwait	2,811	-135	2,676
Nigeria	1,826	-84	1,742
Saudi Arabia	11,004	-526	10,478
UAE	3,179	-160	3,019
Azerbaijan	717	-33	684
Bahrain	205	-9	196
Brunei	102	-5	97
Kazakhstan	1,706	-78	1,628
Malaysia	594	-27	567
Mexico	1753	0	1,753
Oman	881	-40	841
Russia	11,004	-526	10,478
Sudan	75	-3	72
South Sudan	130	-6	124
OPEC 10	26,689	-1,273	25,416
Non-OPEC	17,167	-727	16,440
OPEC+	43,856	-2,000	41,856

https://www.energyintel.com/00000183-b2f4-d8ee-a5cb-baf447c90000

Q&A: Opec Secretary-General Explains Supply Cut

Published: Fri, Oct 7, 2022
Author Amena Bakr, London
Editor Noah Brenner

In an exclusive interview with Energy Intelligence on Friday, Opec's Secretary-General Haitham al-Ghais explained the reasons behind the decision to cut 2 million barrels per day starting in November till the end of December 2023. The producer group insists that uncertainty over demand and the health of the global economy were the reasons behind the cut, not politics. However, the decision has been met with criticism from the US. Below is a transcript of the discussion that has been lightly edited for clarity and length.

Q: Why did Opec-Plus decide to cut 2 million b/d starting in November?

A: This is absolutely a very valid question and I think we owe it to everyone to explain the rationale behind this decision. I think you saw the press conference, where the ministers tried to explain the issues surrounding the environment we live in today, the great uncertainty we are going through, the high volatility we've been speaking about for months.

We see several macroeconomic headwinds, [for the] global economy — potentially now the likelihood of recession. This is not something that just all passes. And this is something that is shared and it's almost a consensus between major global economic banks, financial institutions, the World Bank, the IMF, the World Economic Forum. They have all published and written about macroeconomic headwinds related to high inflation and so forth. The word recession is being thrown around much more today than ever before. I think it was very well explained at the press conference and I'd like to reiterate that we at Opec and with our partners from Opec-plus, we learned from previous lessons. We take experiences, and we build on them. I think it was prudent to pre-empt and to be proactive and take the lead and give some clear guidance to the market about Opec-plus being there to preserve the stability of the market.

It's very clear if there is — and we obviously don't want this to happen — but if there is a recession and some people are already saying we are in a recession, but if the effects of that recession are felt significantly, the first thing that will be affected as always is global oil demand. And hence the decision to be proactive and adjust production by 2 million b/d.

Q: Can you explain why the cut was set at 2 million b/d? Why not a different level?

A: Well first of all, we said 2 million b/d. That's the agreement. That's what it stipulates. But as you know, some countries are already having issues with meeting their current production targets, so the net effective cut is let's say closer to 1 million b/d. We do a lot of analysis within the secretariat within the Joint Technical Committee leading up to the Joint Ministerial Monitoring Committee [JMMC] … and this is what drove this decision. I want to be very clear. It is data crunching, analysis, forecasts and scenarios that we analyze very carefully. And this then leads to a number where we see that there is a serious potential for an overhang, a surplus in the market and Q4 of this year … and leading into early next year.

Q: Will the Opec Secretariat review demand?

A: We've been quite bullish at Opec with our demand figures in the past, maybe more bullish than anybody else out there in the industry. I personally have been saying that we are still bullish on demand on several occasions.

But I think with the growing tone of potential recession, slowing down of the global economy, issues surrounding Covid policy in China and issues surrounding — inflation tightening monetary and fiscal policies globally. These are all very clear indicators of what is potentially out in terms of the economy. I don't want to jump the gun as they say in simple terms, but our monthly report next month is going to be issued next week and I think we will be showing a reduction in our demand growth forecast for 2022 and 2023. This is in line with the views ... [of] a potential global slowdown in the economy.

Q: You mentioned the possibility of an overhang. Is the overhang in the range of 1 million b/d, given that the actual cut is around 1 million b/d?

A: We have several scenarios. It depends which scenario you look at. We have a base-case scenario, high-case and low-case scenario. But this is the internal mechanics of how we do analysis. With that in mind, our modelers have developed a scenario where we see an overhang of up to 2 million b/d.

Q: Were there any political factors that drove Opec to make this decision?

A: I want to be absolutely crystal clear. There is no political agenda behind this decision. We are Opec and the Opec-plus group is a group that discusses technical parameters, economic parameters, supply, demand, production figures, state of the global economy, all the things that are purely fundamentally related to the market. We intend to always try to keep doing what we've done for all these years, which is try to preserve a balanced and stable and good health of the oil market condition. This is our objective. There is no politics behind it.

Q: Will these cuts indeed stay in place until December 2023?

A: We are agile and we're flexible. The decision was taken by a unanimous decision by 23 countries. It wasn't just one country or two countries. The 23 countries believe that there's so much lack of clarity on what the outlook looks like. That's the reason why we have decided to frame this agreement in a way whereby the JMMC could call for an emergency meeting, if necessary, to come up with a recommendation so that the 23 countries can accordingly adjust.

So I can't pre-empt because to end of 2023 is still far off. But like we've done in the past, we agree and then we adjust accordingly, whether upward or downward. We have so much unclarity and lack of visibility on what the state of the global economy is going to be like, in the next couple of weeks or months. Our objective is to make sure that the global market remains in a healthy state, which will encourage investment. We are firm believers that the industry requires significant investments going up to the future.

Q: How much spare capacity does this cut free up that could potentially be used in the future?

A: Reducing production today, avails more spare capacity in case of any global emergency crisis situation. That's what we've always done in Opec. And now with Opec-plus, since 2016, we have tried to make sure that there's adequate capacity, but that requires two things. Again, investment, investment, investment, these are the key words or key word. I keep saying it. What we are doing here is to try and prevent an unstable market. We are trying to make sure that the market is stable in order to encourage investors, as we believe investments are essential. So back to your question about spare capacity. Yes, we've been saying for a while there is a limited amount of spare capacity. I think this decision definitely will put us in a much better situation. I don't have the right to speculate on individual member countries or their spare capacity. But definitely a production adjustment of this magnitude will help to alleviate the tight spare capacity so that it may be available in case God forbid there's any global oil emergency situation.

Q: Do you see cohesion within the group? What is the mood inside Opec-plus?

A: You were at the press conference, and you saw. I don’t know if you recall but we haven't seen eight or nine ministers sitting at the press conference table — it's a sign. Back to the cohesion point, I think if we had a bigger table, we would have had a bigger show, honestly, and the presence of all the ministers. But the mood is good. There is unity, there's solidarity. There is a belief that we have to be proactive. And that's why, as you know, and I want to make it very clear, this is a 23-country decision. It's not a decision of one country or one producer.

https://www.theatlantic.com/magazine/archive/2022/04/mohammed-bin-salman-saudi-arabia-palace-interview/622822/

GLOBAL

ABSOLUTE POWER

Asked about the murder of Jamal Khashoggi, Mohammed bin Salman said, "If that's the way we did things, Khashoggi would not even be among the top 1,000 people on the list."

By Graeme Wood

Photographs by Lynsey Addario

A woman walks past a poster showing Crown Prince Mohammed bin Salman (*left*) with his father (*right*) and grandfather (*top*), at the old market in Taif, Saudi Arabia. (Lynsey Addario for The Atlantic)

MARCH 3, 2022, 6 AM ET

SHARE

MOHAMMED BIN SALMAN, the crown prince of Saudi Arabia, is 36 years old and has led his country for almost five years. His father, the 86-year-old King Salman, has rarely been seen in public since 2019, and even MBS—as he is universally known—has faced the world only a few times since the pandemic began. Once, he was ubiquitous, on a never-ending publicity tour to promote his plan to modernize his father's kingdom. But soon after the murder of the *Washington Post* columnist Jamal Khashoggi in 2018, MBS curtailed his travel. His last interview with non-Saudi press was more than two years ago. The CIA concluded that he had ordered Khashoggi's murder, and Saudi Arabia's own prosecutors found that it had been conducted by some of the crown prince's closest aides. They are thought to have dismembered Khashoggi and disintegrated his corpse.

MBS had already developed a reputation for ruthlessness. In 2017, he rounded up hundreds of members of his own family and other wealthy Saudis and imprisoned them in Riyadh's Ritz-Carlton hotel on informal charges of corruption. The Khashoggi murder fixed a view of the crown prince as brutish, thin-skinned, and psychopathic. Among those who share a dark appraisal of MBS is President Joe Biden, who has so far refused to speak with him. Many in Washington and other Western capitals hope his rise to the throne might still be averted.

But within the kingdom, MBS's succession is understood as inevitable. "Ask any Saudi, anyone at all, whether MBS will be king," a senior Saudi diplomat told me. "If there are people in Washington who think he will not be, then I cannot help them. I am not a psychiatrist."

His father's eventual death will leave him as the absolute monarch of the birthplace of Islam and the owner of the world's largest accessible oil reserves. He will also be the leader of one of America's closest allies and the source of many of its headaches.

I've been traveling to Saudi Arabia over the past three years, trying to understand if the crown prince is a killer, a reformer, or both—and if both, whether he can be one without the other.

Even MBS's critics concede that he has roused the country from an economic and social slumber. In 2016, he unveiled a plan, known as Vision 2030, to convert Saudi Arabia from—allow me to be blunt—one of the world's weirdest countries into a place that could plausibly be called normal. It is now open to visitors and investment, and lets its citizens partake in ordinary acts of recreation and even certain vices. The crown prince has legalized cinemas and concerts, and invited notably raw hip-hop artists to perform. He has allowed women to drive and to dress as freely as they can in dens of sin like Dubai and Bahrain. He has curtailed the role of reactionary clergy and all but abolished the religious police. He has explored relations with Israel.

He has also created a climate of fear unprecedented in Saudi history. Saudi Arabia has never been a free country. But even the most oppressive of MBS's predecessors, his uncle King Faisal, never presided over an atmosphere like that of the present day, when it is widely believed that you place yourself in danger if you criticize the ruler or pay even a mild compliment to his enemies. MBS's critics—not regicidal zealots or al-Qaeda sympathizers, just ordinary people with independent thoughts about his reforms—have gone into exile. Some fear that if he keeps getting his way, the modernized Saudi Arabia will oppress in ways the old Saudi Arabia never imagined. Khalid al-Jabri, the exiled son of one of MBS's most prominent critics, warned me that worse was yet to come: "When he's King Mohammed, Crown Prince MBS is going to be remembered as an angel."

For about two years, MBS hid from public view, as if hoping the Khashoggi murder would be forgotten. It hasn't been. But the crown prince still wants to convince the world that he is saving his country, not holding it hostage—which is why he met twice in recent months with me and the editor in chief of this magazine, Jeffrey Goldberg.

In our meetings, the crown prince was charming, warm, informal, and intelligent. But even at its most affable, absolute monarchy cannot escape weirdness. For our first meeting, MBS summoned us to a remote palace by the Red Sea, his family's COVID bunker. The protocols were multilayered: a succession of PCR tests by nurses from the Royal Clinics; a Gulfstream jet in the middle of the night from Riyadh; a convoy from a deserted airstrip; a surrender of electronic devices; a stopover at a mysterious guesthouse visible in satellite photos but unmarked on Google Maps. He invited us to his palace at about 1:30 a.m., and we spoke for nearly two hours.

For the second meeting, in his palace in Riyadh, we were told to be ready by 10 a.m. It also began after midnight. The halls were astir. The crown prince had just returned after nearly two years of remote work, and aides and ministers padded red carpets seeking meetings, their first in months, with the boss. Neglected packages and documents had piled up on the desks and tables in his office, which was large but hardly opulent. The most obvious concession to high taste was an old-fashioned telescope on a tripod, its altitude set shallow enough that it appeared to be pointed not at the heavens but at Riyadh, the sprawling and unsightly desert metropolis from which the Saud family has ruled for most of the past three centuries.

At the outset of both conversations, MBS said he was saddened that the pandemic precluded giving us hugs. He apologized that we all had to wear masks. (Each meeting was attended by multiple, mainly silent princes wearing identical white robes and masks, leaving us unsure, to this day, who exactly was present.) The crown prince left his tunic unbuttoned at the collar, in a casual style now favored by young Saudi men, and he gave relaxed, nonpsychopathic answers to questions about his personal habits. He tries to limit his Twitter use. He eats breakfast every day with his kids. For fun, he watches TV, avoiding shows, like *House of Cards*, that remind him of work. Instead, he said without apparent irony, he prefers to watch series that help him escape the reality of his job, such as *Game of Thrones*.

Before the meetings, I asked one of MBS's advisers if there were any questions I could ask his boss that he himself could not. "None," he answered, without pausing—"and that is what makes him different from every crown prince who has come before him." I was told he derives energy from being challenged.

MBS said it was "obvious" he had not ordered the killing of Khashoggi. "It hurt me a lot," he said. "It hurt me and it hurt Saudi Arabia, from a feelings perspective."

During our Riyadh encounter, Jeff asked MBS if he was capable of handling criticism. "Thank you very much for this question," the prince said. "If I couldn't, I would not be sitting with you today listening to that question."

"I'd be in the Ritz-Carlton," Jeff suggested.

"Well," he said, "at least it's a five-star hotel."

Difficult questions caused the crown prince to move about jumpily, his voice vibrating at a higher frequency. Every minute or two he performed a complex motor tic: a quick backward tilt of the head, followed by a gulp, like a pelican downing a fish. He complained that he had endured injustice, and he evinced a level of victimhood and grandiosity unusual even by the standards of Middle Eastern rulers.

When we asked if he had ordered the killing of Khashoggi, he said it was "obvious" that he had not. "It hurt me a lot," he said. "It hurt me and it hurt Saudi Arabia, from a feelings perspective."

"From a feelings perspective?"

"I understand the anger, especially among journalists. I respect their feelings. But we also have feelings here, pain here."

The crown prince has told two people close to him that "the Khashoggi incident was the worst thing ever to happen to me, because it could have ruined all of my plans" to reform the country.

In our Riyadh interview, the crown prince said that his *own* rights had been violated in the Khashoggi affair. "I feel that human-rights law wasn't applied to me," he said. "Article XI of the Universal Declaration of Human Rights states that any person is innocent until proven guilty." Saudi Arabia had punished those responsible for the murder, he said—yet comparable atrocities, such as bombings of wedding parties in Afghanistan and the torture of prisoners in Guantánamo Bay, have gone unpunished.

The CIA concluded that Mohammed bin Salman ordered the murder of the *Washington Post* columnist Jamal Khashoggi. Saudi Arabia's own prosecutors found that it had been conducted by some of the crown prince's closest aides. (Moises Saman / Magnum)

The crown prince defended himself in part by asserting that Khashoggi was not important enough to kill. "I never read a Khashoggi article in my life," he said. To our astonishment, he added that if he *were* to send a kill squad, he'd choose a more valuable target, and more competent assassins. "If that's the way we did things"—murdering authors of critical op-eds—"Khashoggi would not even be among the top 1,000 people on the list. If you're going to go for another operation like that, for another person, it's got to be professional and it's got to be one of the top 1,000." Apparently, he had a hypothetical hit list, ready to go. Nevertheless, he maintained that the Khashoggi killing was a "huge mistake."

"Hopefully," he said, no more hit squads would be found. "I'm trying to do my best."

If his best is not good enough for Joe Biden, MBS said, then the consequences of running a moralistic foreign policy would be the president's to discover. "We have a long, historical relationship with America," he said. "Our aim is to keep it and strengthen it." Biden and Vice President Kamala Harris have called for "accountability" for Khashoggi's murder, as well as the humanitarian disaster in Yemen, due to war between Saudi Arabia and Iranian-backed Houthi rebels. The Americans also refuse to treat him as Biden's counterpart—Biden's peer is the king, they insist—even though the crown prince rules the country with his father's blessing. This stings. MBS has lines open to the Chinese. "Where is the potential in the world today?" he said. "It's in Saudi Arabia. And if you want to miss it, I believe other people in the East are going to be super happy."

We asked whether Biden misunderstands something about him. "Simply, I do not care," he replied. Alienating the Saudi monarchy, he suggested, would harm Biden's position. "It's up to him to think about the interests of America." He gave a shrug. "Go for it."

Also risible to the crown prince was the notion that his citizens fear speaking out against him. We need dissent, he said, "if it's objective writing, without any ideological agenda." In practice, I noted, dissent seemed to be nonexistent. In September 2017, MBS ordered a boycott of Qatar, citing the country's support for the Iranian government, the Muslim Brotherhood, al-Qaeda, and other Islamist organizations in the region. His tiny neighbor suddenly transformed from official friend into official villain, and those expressing a kind word toward it disappeared into prison.

These sentiments, apparently, did not count as objective or nonideological. Qatar, MBS said, was comparable to Nazi Germany. "What do you think [would have happened] if someone was praising and trying to push for Hitler in World War II?" he asked. "How would America take that?" Of course Saudis would react strongly to Nazi sympathizers in their midst. Three years later, however, the countries reconciled, and the Saudi government tweeted out a photo of MBS and Hitler—that is, Qatari Emir Tamim Al Thani—wearing board shorts and smiling at MBS's Red Sea palace. "Sheikh Tamim's an amazing person," MBS said. The fight between them had been no big deal, "a fight between brothers." The relationship is now "better than ever in history." The dissenters remain in prison, however, and I do not mean the Ritz-Carlton.

As for the actual Ritz-Carlton prisoners: They had it coming, the crown prince said. Overnight he'd rounded up hundreds of the most prominent Saudis, delivered them to Riyadh's most lavish hotel, and refused to let them go until they confessed and paid up. I said that sounded like he was eliminating rivals. MBS looked incredulous. "How can you eliminate people who don't have any power to begin with?" If they had power, he would not have been able to force them into the Ritz.

Does Joe Biden misunderstand something about him? “Simply, I do not care,” MBS replied. “It’s up to him to think about the interests of America.” He gave a shrug. “Go for it.”

The Ritz operation, MBS said, was a blitzkrieg against corruption, and wildly successful and popular because it started at the top and did not stop there. “Some people thought Saudi Arabia was, you know, just trying to get the big whales,” MBS said. They assumed that after the government extracted settlements from the likes of Alwaleed bin Talal, the kingdom’s richest man, corruption at lower levels would resume. MBS noted, proudly, that even the minnows had been hooked. By 2019, everyone “understood that even if you steal $100, you’re going to pay for it.” In just a few months, he claims to have recovered $100 billion directly, and says that he will recover much more indirectly, as dividends of deterrence.

MBS acknowledged that to outsiders the Ritz operation may have looked thuggish. But to him it was an elegant, and by the way nonviolent, solution to the problem of vampires feasting on the kingdom’s annual budget. (An adviser to MBS told me that one alternative his aides had suggested was executing a few prominent corrupt officials.) During the months that the Ritz served as a prison, the kingdom’s financial regulator was essentially made king pro tempore, to devote the full power of the government to bleeding the vampires dry. But the Ritz guests had not, MBS said, been placed under arrest. That would imply that they had entered the court system and faced charges. Instead, he said, they had been invited to “negotiate”—and to his pleasure, 95 percent did so. “That was a strong signal,” he said. I’m sure it was.

THE SAUDI THRONE does not, like the British throne once did, just pass to the next male heir. The king chooses his successor, and ever since the founding king of the modern Saudi state, Abdulaziz, chose his son Saud as crown prince in 1933, each king has chosen another son of Abdulaziz. (He had 36 sons—with multiple wives and concubines—who survived to adulthood.) All were old enough to remember the camels-and-tents days, before extreme wealth, and they ruled conservatively, as if to lock in their gains. Even the shrewdest and most ambitious kings accomplished little. Abdullah, who took power in 2005, began as a reformer, but much of the momentum of the first half of his reign was lost as he doddered in the second, and the royal treasury was looted. (One notorious alleged thief in the Ritz, a major figure in the Royal Court, was said to have stolen tens of billions of dollars during His Majesty’s decline.)

Salman, the current king and at 86 one of the youngest of Abdulaziz’s brood, saw the perils of unchecked gerontocracy and anointed a successor from the next generation. His choice of Mohammed was not obvious. King Salman’s sons include Faisal, 51, who has a doctorate in international relations from Oxford; and Sultan, 65, a former Royal Saudi Air Force pilot who in 1985 spent a week on the space shuttle Discovery as a payload specialist. Either of these competent and educated men, citizens of the world, might have been a natural successor. But Salman had an inkling that the next king would need a certain grit and fluency with power that cannot be acquired in a seminar or a flight simulator. The new generation, born into luxury, tended to be soft, and the next king would need to be a modern version of a desert warlord like his grandfather.

Outside the immediate family, Salman considered his nephew Mohammad bin Nayef, who is known as MBN, appointing him crown prince in 2015, when he was 55. As a spymaster and security official in the 2000s, MBN had led the country’s domestic war against al-Qaeda, and in the process had become well connected with counterparts in Washington and London. In 2009, MBN was injured when an al-Qaeda bomber packed his underpants with explosives and approached him at an event.

Foreign governments considered MBN a safe pick: old enough but not too old, a proven fighter, respected overseas. But for Salman he was merely a throne-warmer for his son. (MBS had held no high office prior to his father’s coronation and needed a couple of years as defense minister to burnish his CV.) In 2017, Salman fired MBN. When you fire a prince, you fire all those who staked their fortunes on his rise; among the opponents of MBS are foreign governments who had planned for the reign of King MBN, and Saudis whose wealth and influence flowed from him. MBN’s chief adviser, Saad al-Jabri, fled to Canada. He alleges that MBS sent a team there to kill him. MBS's government alleges that al-Jabri stole a massive fortune and is bankrolling efforts to defame the crown prince. (Both parties deny the claims.) "MBN survived al-Qaeda," al-Jabri's son Khalid told me. "But he couldn't survive his own cousin."

Others have suggested Salman's younger brother Ahmed, a well-liked former deputy interior minister, as a throne-worthy alternative to MBS. Ahmed reportedly opposed MBS's appointment as crown prince. In 2020, he was arrested on suspicion of treason.

HAVING CONSOLIDATED POWER, MBS focused on Vision 2030. He is exasperated by the rest of the world's failure to acknowledge how well it has gone. "Saudi Arabia is a G20 country," he said. "You can see our position five years ago: It was almost 20. Today, we are almost 17." He noted strong non-oil GDP growth, and reeled off statistics about foreign direct investment, Saudi overseas investment, and the share of world trade that passes through Saudi waters. The economic success, the concerts, the social reform—these are all done deals, he said. "If we were having this interview in 2016, you would say I'm making assumptions," he said. "But we did it. You can see it now with your eyes."

He was not lying. Between my first visit to Saudi Arabia, in 2019, and this conversation two years later, I had gone to the movies in Riyadh and sat next to a Saudi woman I had never met. She wore jeans and canvas sneakers, and she bounced her bare ankle while we watched *Zombieland: Double Tap*. When I first visited, I ate at restaurants that had cinder-block walls dividing single men on one side from women and families on the other. These were sledgehammered down—a little Berlin 1989 in every restaurant—and now men and women can eat together without eliciting so much as a sideways glance from fellow diners.

Many of the crown prince's most persistent critics approve of these changes, and wish only that they had come sooner. (Khashoggi was such a critic. When I met him in London for brunch, shortly before his death, I asked him to list MBS's failings. He said "90 percent" of the reforms were prudent and overdue.) The most famous Saudi women's-rights activist, Loujain al-Hathloul, campaigned for women's right to drive, and against the Saudi "guardianship law," which prevented women from traveling or going out in public without a male relative. Al-Hathloul was thrown in prison on terrorism charges in 2018—*after* MBS and his father had announced the imminent end of both policies. In prison, her family says, she was electrocuted, beaten, and—this was just a few months before Khashoggi's murder—threatened with being chopped up and thrown in a sewer, never to be found. (The Saudi government has previously denied allegations of torturing prisoners.)

Left: Saudi Crown Prince Mohammed bin Salman is greeted by Qatar's Emir Sheikh Tamim Al Thani in Doha, Qatar, in 2021. *Center:* The Saudi activist Loujain al-Hathloul in 2021. *Right:* MBS and his father, King Salman, in 2017. (Saudi Press Agency / Reuters; Ahmed Yosri / Reuters; Saudi Press Agency / AP)

Al-Hathloul and other activists had demanded rights, and the ruler had granted them. Their error was in thinking those rights were theirs to take, rather than coming from the monarch, who deserved credit for having bestowed them. Al-Hathloul was released in February 2021, but her family says she is forbidden from traveling abroad or speaking publicly.

Another dissident, Salman al-Awda, is a preacher with a massive following. His original crime, too, was to utter publicly a thought that would later be shared by the crown prince himself. When MBS began squabbling with his counterpart in Qatar, al-Awda tweeted, “May God harmonize between their hearts, for the good of their people.” He was imprisoned, and actual harmony between the two leaders has not freed him. His son Abdullah, now in the United States, claims that his father, who is 65, is being held in solitary confinement and has been tortured.

The crown prince, one of his admirers told me, “put the Wahhabis in a cage, then he reached in with gardening shears and he cut their balls off.”

Saudi authorities say al-Awda is a terrorist and a member of the Muslim Brotherhood, which is supported by Qatar and intent on overthrowing the monarchy and replacing it with a theocracy. (The Muslim Brotherhood plays a bogeyman role in the Saudi imagination similar to the role of Communists in America during the Red Scare. Also like Communists, the Muslim Brotherhood really has worked covertly to undermine state rule, just not to the extent imagined.) Al-Awda’s defenders say he is being punished for daring to speak with a moral voice independent of the monarchy’s. He faces death by beheading.

Would MBS consider pardoning those who’d spoken out in favor of women driving and normalization with Qatar—both now the policy of the country? “That’s not my power. That’s His Majesty’s power,” MBS said. But, he added, “no king has ever used” the pardon power, and his father does not intend to be the first.

The issue, he said, is not a lack of mercy. It is a problem of balance. Yes, there are liberals and kumbaya types who have run afoul of state security—and perhaps some could be candidates for a royal pardon. But some of the others in his jails are bad hombres indeed, and pardons cannot be meted out selectively. “You have, let’s say, extreme left and extreme right,” he said. “If you give forgiveness in one area, you have to give it to some very bad people. And that will take everything backward in Saudi Arabia.”

Left: Saudi women attend a live music performance in Riyadh in January. The crown prince has legalized cinemas and concerts and permitted women to dress as freely as they can in places like Dubai and Bahrain. *Bottom:* A tenth-grade girls’ basketball team in Jeddah. Until recently, a man would have been forbidden to coach a girls’ team. (Lynsey Addario for *The Atlantic*)

On one side are liberals, tugging on the sympathies of Westerners; on the other, Islamists who are also opposed to the monarchy. Letting this latter group out would not just mean the end of rock concerts and coed dining. They would not stop until they brought down the House of Saud, seized the country’s estimated 268 billion barrels of oil and the holy cities of Mecca and Medina, and established a terrorist state. In private conversations with others, MBS has likened Saudi Arabia before the Saud family’s conquest in the 18th century to the anarchic wasteland of the *Mad Max* films. His family unified the peninsula and slowly developed a system of law and order. Without them, it would be *Mad Max* all over again—or Afghanistan.

Still, the crown prince's argument—that if he extended forgiveness to good people who deserved it, he would have to extend it equally to bad people who did not—struck me as bizarre. Why would one require the other? Then I realized that MBS was not saying that the failure of his plan to remake the kingdom *might* lead to catastrophe. He was saying that he'd guarantee it would. Many secular Arab leaders before him have made the same dark implication: Support everything I do, or I will let slip the dogs of jihad. This was not an argument. It was a threat.

ALI SHIHABI, A Saudi financier and pro-MBS commentator, told me that the changes in Saudi Arabia could be compared to those in revolutionary France. An old order had been overturned, a priestly class crushed; a new order was struggling to be born.

The priestly class in particular interested me. The brand of conservative Islam practiced in Saudi Arabia—called Wahhabism, after the sect's 18th-century founder, Muhammad ibn Abd al-Wahhab—once wielded great power and enjoys at least some popular support. I asked Shihabi if MBS really had diminished the Wahhabis' role. "Diminished their role?" Shihabi asked me. "He put the Wahhabis in a cage, then he reached in with gardening shears"—here he made the universal *snip snip* gesture with his fingers—"and he cut their balls off."

My flight into Riyadh was packed with foreigners attending Stan Lee's Super Con. Ahead of me in the passport line I saw Lou Ferrigno, the Incredible Hulk.

In France, revolution worked out just as badly for the House of Bourbon as it did for the clergy. (Diderot famously wrote that the entrails of the priests would be woven into ropes to strangle kings.) The House of Saud wanted the anticlerical revolution while conveniently omitting the antiroyalist one. I wanted to see how that alliance between monarch and sansculottes was working.

Vision 2030 made modernization easier to observe now than it would have been just a few years ago. Until October 2019, tourist visas to Saudi Arabia did not exist. Then the Saudis realized that to attract crowds to the concerts they had legalized, they'd need to let in visitors. Overnight, a visa to Saudi Arabia went from one of the hardest in the world to get to one of the easiest. In minutes I had one valid for a whole year. My flight into Riyadh was packed with foreigners attending Stan Lee's Super Con. Ahead of me in the passport line I saw Lou Ferrigno, the Incredible Hulk, on his way to an autograph signing.

The new system arrived so fast that the first visitors were like an invasive species, an unnatural fit in the rigid social order of the kingdom. For years, almost every non-Saudi in the country had needed a document called an *iqama*. It was a sort of license to exist: Your *iqama* identified your Saudi patron, the local national whom you were visiting or working for, and who controlled your fate. Every Saudi patron had his own patron, too—sometimes a tribal leader, sometimes a regional one. Even those bigwigs paid obeisance to someone and, eventually, by the transitive property of Saudi deference, to the king himself. Saudi Arabia, MBS explained, "is not one monarchy. You have beneath it more than 1,000 monarchies—town monarchies, tribal monarchies, semitribal monarchies." The *iqama* guaranteed that every sentient creature fit into this scheme of Saudi society.

MBS batted away my suggestion that this system is antiquated and might be replaced with a constitutional monarchy—one where citizens have freestanding rights not granted by a monarch or a demi-monarch. "No," he said. "Saudi Arabia is based on pure monarchy," and he, as crown prince, would preserve the system. To remove himself from it would amount to a betrayal of all the monarchies and Saudis beneath him. "I can't stage a coup d'état against 14 million citizens."

But he has already forced that system to adapt. Nearly every day someone asked for my *iqama*, and I had to explain that I had none. They reacted as if I'd told them that I had no name. Renting a car, buying a train ticket, checking into a hotel—all of these interactions left some poor clerk baffled. But in the new Saudi Arabia I was free to wander, to listen, to overhear.

Left: Men talk over coffee in Riyadh. *Right:* Young women at a Formula E racing event. (Lynsey Addario for *The Atlantic*)

In Riyadh I found, effortlessly, young people thrilled by the reforms. Like the other major Saudi cities, Dammam and Jeddah, Riyadh has specialty coffee shops in abundance—little outposts of air-conditioning and caffeine, in an environment otherwise characterized by heat and boredom. Many of the Saudis I met professed a deep love for America. "I spent seven years at Cal State Northridge," one told me, before rattling off a list of cities he had visited. He was one of several hundred thousand Saudi students who'd attended U.S. universities on government scholarships in the 2000s. "I studied finance," he said. "But I never graduated. I had a wonderful time." He listed his American friends, who had names like Mike and Emilio. "I drank and did too much meth, and my grades weren't good."

"Is it possible to do just the right amount of meth?" I asked.

"When I came back, I stopped." He looked out the window of the coffee shop at the parched cityscape. "This country is the best rehab center on the planet."

Now he was studying again, at a Saudi university, and planning to open his own business. He had already attended concerts, and he said his fondest wish was to listen to music in the open air and smoke a joint—just one, he promised. He asked if I thought that would happen. I said I did not think that was explicitly part of Vision 2030, but he'd probably get his wish. Later, with him in mind, I asked the crown prince whether alcohol would soon be sold in the kingdom. It was the only policy question that he refused to answer.

In another café, in the northern city of Ha'il, a man pointed to a mural, freshly painted, of the Lebanese singer Fairouz, her hair flowing beautifully over her shoulders. Next to her were her lyrics (in Arabic): "Bring me the flute and sing, for song is the secret to eternity."

"One year ago," he said, "that would not be possible." By "that," he meant pretty much everything: a woman's hair; a celebration of song; a celebration of a song about singing; and, on top of all this, the music playing in the café as we spoke. Before the rise of MBS, every component of this scene would have violated long-standing canons of Saudi morality enforcement. The religious police, known in Arabic as the *hay'a* or *mutawwi'in*, would have busted the joint. They used to show up in ankle-length white *thobes*, their beards curly and unkempt. They yelled at people for dressing immodestly, or thwacked at them with sticks to goad them to the mosque for one of the five daily prayers. For the flagrancy of the Fairouz sins, the café's managers would have been detained, questioned, and punished. "Screw those guys," the man said, in a succinct expression of the most common sentiment I heard about the religious police.

Encounters with the *hay'a* have provided many an appalling story for foreign visitors. When Maureen Dowd of *The New York Times* went to Riyadh in 2002, the *hay'a* spotted her in a shopping mall and objected to being able to see the outline of her body. Her host, the future foreign minister Adel al-Jubeir, pleaded with them, but they were unimpressed by his status as a prominent diplomat, and she fled to her hotel room. "I fretted that I was in one of those movies where an American makes one mistake in a repressive country and ends up rotting in a dungeon," Dowd wrote.

"Saudi Arabia is based on pure monarchy," MBS said. To remove himself from that system would amount to a betrayal of all the Saudis beneath him. "I can't stage a coup d'état against 14 million citizens."

I told one of MBS's advisers that the religious police had been an international PR problem. "May I be impolite?" he asked me. "I don't give a fuck about the *foreigners*. They terrorized *us*." He likened the religious police to J. Edgar Hoover's FBI, operating with unchecked authority. (The religious police's official Arabic name dates back hundreds of years, but still sounds Orwellian in English: the Committee for the Prevention of Vice and Promotion of Virtue.) Anyone who wished to drag down a professional or political rival could scrutinize him for sins, then call the religious police to set up a sting. Or the *hay'a* could flex its authority on its own, either for political reasons—toppling a prince they disliked—or for recreation.

"The religious police were the losers in school," Ali Shihabi told me. "Then they got these jobs and were empowered to go and stop the cute girls, break into the parties no one wanted them at, and shut them down. It attracted a very nasty group of people." The Saudi diplomat told me that he did not miss them, and that Saudi Arabia had needed someone with the crown prince's mettle to get rid of them. "When someone hits you because he does not like what you are wearing," he said, "that is not just a form of harassment. It is abuse."



Left: Golf at the Boulevard in Riyadh. *Right:* A couple, newly engaged, dine at a restaurant in Jeddah in January. In the recent past, many restaurants had cinder-block walls dividing single men on one side from women and families on the other. (Lynsey Addario for *The Atlantic*)

MBS ordered the religious police to stand down, and one of the enduring mysteries of contemporary Saudi Arabia is what these thwackers do, now that they are invisible on the streets. Fuad al-Amri, who runs the *hay'a* in Mecca province, confessed to me that since the reforms, one of his main activities has been vetting his own employees, to ensure that they aren't fanatics loyal to the Muslim Brotherhood.

MBS'S GRANDFATHER KING Abdulaziz founded the modern Saudi state with the support of the clergy. But he also cracked down on them, hard, when they outlived their usefulness. MBS has recounted a famous anecdote about his grandfather. In 1921, Abdulaziz attended the funeral of the most senior religious scholar in the kingdom. The king told the assembled clerics that they were dear to his heart—in the Arabic idiom, "on my *iqal*," the black cord that holds a Najd headdress in place. But then he warned them: "I can always shake my *iqal*," he said, "and you will fall."

For the past 50 years, Abdulaziz's successors have taken a softer line with the Wahhabis. The Saudi clerical class's power grew, and their imprimatur mattered. In 1964, they sealed the fate of the inept King Saud when his brothers Faisal and Mohammed sought and received religious approval for ousting him. To oppose the religious conservatives was risky. Peter Theroux, a former National Security Council director who worked on the Saudi portfolio during the 2000s, recalls being aghast at the vicious sermons still being preached by government-paid imams years after September 11. Theroux told me he confronted a senior Saudi official about the sermons. "You know," the official apologized, "the big beards are kind of our constituency." The rulers of Saudi Arabia put almost no limits on the speech or behavior of conservative clerics, and in return those clerics exempted the rulers from criticism. "That was the drug deal that the Saudi state was based upon for many years," Theroux told me. "Until Mohammed bin Salman."

Who could resist cheering on MBS as he renegotiated this relationship? One of MBS's most persistent critics in Washington, Senator Chris Murphy, a Democrat from Connecticut, told me the concerts and Comic-Cons in Riyadh have not yet translated into defunding Wahhabi intolerance overseas. "When I'm traveling the world, I still hear story after story of Gulf money and Saudi money fueling very conservative, intolerant Wahhabist mosques," he said. A hallmark of traditional Wahhabism is hatred for non-Wahhabi Muslims, whom the Wahhabis view as even worse than unbelievers for perverting the faith. With little modification, Wahhabi teachings can lead to Osama bin Laden–style jihadism. Murphy said he thinks that isn't over. "The money that flows from Saudi Arabia into conservative Islam isn't as transparent as it was 10 years ago—much of it has been driven underground—but it still exists."

Yet after spending hours in MBS's company, and in the company of his allies and enemies, I was convinced that neutering the clergy was not just symbolic. He was fighting them avidly, and personally. "The kings have historically stayed away from religion," Bernard Haykel, a scholar of Islamic law at Princeton and an acquaintance of MBS's, told me. Outsourcing theology and religious law to the big beards was both an expedient and a necessity, because no ruler had any training in religious law, or indeed a beard of any significant size.

By contrast, MBS has a law degree from King Saud University and flaunts his knowledge and dominance over the clerics. "He's probably the only leader in the Arab world who knows anything about Islamic epistemology and jurisprudence," Haykel told me.

“In Islamic law, the head of the Islamic establishment is *wali al-amr*, the ruler,” MBS explained. He was right: As the ruler, he is in charge of implementing Islam. Typically, Saudi rulers have sought opinions from clerics, occasionally leaning on them to justify a policy the king has selected in advance. MBS does not subcontract his religion out at all.

He explained that Islamic law is based on two textual sources: the Quran and the Sunna, or the example of the Prophet Muhammad, gathered in many tens of thousands of fragments from the Prophet’s life and sayings. Certain rules—not many—come from the unambiguous legislative content of the Quran, he said, and he cannot do anything about them even if he wants to. But those sayings of the Prophet (called Hadith), he explained, do not all have equal value as sources of law, and he said he is bound by only a very small number whose reliability, 1,400 years later, is unimpeachable. Every other source of Islamic law, he said, is open to interpretation—and he is therefore entitled to interpret them as he sees fit.

The effect of this maneuver is to chuck about 95 percent of Islamic law into the sandpit of Saudi history and leave MBS free to do whatever he wants. “He’s short-circuiting the tradition,” Haykel said. “But he’s doing it in an Islamic way. He’s saying that there are very few things that are fixed beyond dispute in Islam. That leaves him to determine what is in the interest of the Muslim community. If that means opening movie theaters, allowing tourists, or women on the beaches on the Red Sea, then so be it.”

MBS rebuked me when I called this attitude “moderate Islam,” though his own government champions the concept on its websites. “That term would make terrorists and extremists happy.” It suggests that “we in Saudi Arabia and other Muslim countries are changing Islam into something new, which is not true,” he said. “We are going back to the core, back to pure Islam” as practiced by Muhammad and his four successors. “These teachings of the Prophet and the four caliphs—they were amazing. They were perfect.”

Even the Islamic law that he is bound to implement will be implemented sparingly. MBS told me a story, reported in Hadith, about a woman who commits fornication, confesses her crime to the Prophet, and begs to be executed. The Prophet repeatedly tells her to go away—implying, the crown prince said, that the Prophet preferred to give sinners every chance at lenience. (MBS did not relate the end of the tale: The woman returns with indisputable evidence of her sin—a bastard son—and the Prophet acquiesces. She is buried to her chest and stoned to death.)

Instead of hunting for sin and punishing it as a matter of course, MBS has curtailed the investigative function of the religious police, and encourages sinners to keep their transgressions between themselves and God. “We should not try to seek out people and prove charges against them,” he said. “You have to do it the way that the Prophet taught us how to do it.” The law will be enforced only against those so flagrant that they are practically demanding to take their lumps.

He also stressed that none of these laws applies to non-Muslims in the kingdom. “If you are a foreign person who’s living or traveling in Saudi Arabia, you have all the right to do whatever you want, based on your beliefs,” he said. “That’s what happened in the Prophet’s time.”

It is hard to exaggerate how drastically this sidelining of Islamic law will change Saudi Arabia. Before MBS, influential clerics issued fatwas exhibiting what might charitably be called a pre-industrial view of the world. They declared that the sun orbited the Earth. They forbade women from riding bikes (“the devil’s horses”) and from watching TV without veiling, just in case the presenters could see them through the screen. Salih al-Fawzan, the most senior cleric in the kingdom today, once issued a chillingly anti-American fatwa forbidding all-you-can-eat buffets, because paying for a meal without knowing what you’ll be eating is akin to gambling.

Some of the clerics may have given in because they were convinced by the crown prince's legal interpretations. Others appear to have succumbed to good old-fashioned intimidation. Formerly conservative clerics will look you in the eye and without hesitation or scruple speak in Stepfordlike coordination with the government's program. The minister of Islamic affairs and guidance, normally an unsmiling type, now cheerily defended the opening of cinemas and mass layoffs of Wahhabi imams. I liked him immediately. His name, Abdullatif Al Asheikh, indicates that he is descended from a long line of stern moralists going back to Muhammad ibn Abd al-Wahhab himself. I told him I had seen the *Zombieland* sequel in his country, and if Woody Harrelson reprised his role in *Zombieland 3*, I would return to Riyadh so we could go to a theater and watch it together. "Why not?" he replied.

Mohammad al-Arefe, a preacher known for his good looks and conservative views, mysteriously began promoting Vision 2030 after a meeting with MBS in 2016. Previously, he had preached that Mada'in Saleh, a spectacular pre-Islamic archaeological site in northwest Saudi Arabia, was forbidden to Muslim tourists. God had struck down the civilization that once lived there, and the place was forever to remain a reminder of his wrath. The conventional view held that Muslims should follow the Prophet's warning to stay away from Mada'in Saleh, but if they absolutely must pass through, they should cast their gaze downward and maintain a fearful demeanor toward the Almighty. Then, in 2019, al-Arefe appeared in what seemed, to me, like some sort of hostage video, filmed by the Saudi tourism authority, lecturing about the site's history and inviting all to enjoy it. If he was displaying a fearful demeanor, it was not toward the Almighty.

IN THE SMALLER CITIES it isn't clear how quickly modernization is catching on. I visited Buraydah, the capital of Qassim, the most conservative part of the country. In two days, every woman I saw wore a black, flowing abaya. I attended the opening of a new shopping mall and showed up early to watch the crowds arrive. The sexes separated themselves without discussion: women in the front, all in black, near the stage where children recited poems and sang; men, in white *thobes*, in the back of the audience and on the sides. The process was unconscious and organic, but to an outsider remarkable, as if salt and pepper were shaken out onto a plate, and the grains slowly and perfectly segregated themselves. Cultural practices decades or centuries old do not yield suddenly.

Taif, a city an hour outside Mecca, was once the summer residence of the king and his family. The Prophet is thought to have visited there, and many Muslims supplement their pilgrimages to Mecca with side trips to other sites from the Prophet's life. The Wahhabis have, historically, treated these visits as un-Islamic and reprehensible. Whenever pilgrimage sites have fallen into Wahhabi hands, they have methodically and remorselessly destroyed them by leveling monuments, grave markers, and other structures sacred to Muslims in other traditions.

One morning I took a long walk to a mosque where the Prophet is said to have prayed. On arrival I found a building in disrepair, fenced off by rusty wire, with parts of it reduced to rubble. A sign at this site, posted by the Ministry of Islamic Affairs, noted in Arabic, Urdu, Indonesian, and English that the historical evidence for the Prophet's visit was uncertain. It suggested, further, that "to feel an adoring reverence or regard toward these places is a kind of heresy and fabrication in religion," an innovation not sanctioned by God that "leads to polytheism."

Later, I met Mohammad al-Issa, formerly the minister of justice under King Abdullah and now, as secretary-general of the Muslim World League, an all-purpose interfaith emissary for his country. In the past, Saudi clerics inveighed against infidels of all types. Now al-Issa spends his time meeting Buddhists, Christians, and Jews, and trying to stay ahead of the occasional surfacing of comments he made in less conciliatory times. I asked him about the site, and whether Saudi Arabia's new tolerance—which he emphasizes so energetically overseas, with non-Muslims—would apply domestically. He assured me that it already did. "If in the past there were some mistakes, now there is correction," al-Issa said. "Everyone has the right to visit the historic places, and there is a lot of care given to them."

"But the signs are still up," I said.

"Maybe they are there to remind people to be respectful," he suggested. "You see signs like that at sites all over the world: 'Don't touch or take the stones.'"

But these signs are not meant to preserve the ruins. They are there to remind you that you are wicked for visiting at all.


A mosque in Taif where the Prophet Muhammad is said to have prayed. A sign posted by the Ministry of Islamic Affairs notes that the historical evidence for the Prophet's visit is uncertain, and warns that "to feel an adoring reverence or regard toward these places is a kind of heresy." (Lynsey Addario for *The Atlantic*)

The day after my trip to the mosque, I stopped by a Starbucks in Taif. It was early afternoon. When I pulled the door handle, it clunked—the shop was closed for prayer, just as it would have been if the religious police had been enforcing prayer times.

As I waited outside alone, a small police truck pulled up behind me. The police officer salaamed me, and I responded in Arabic. Only after a short interrogation ("What are you doing here? Why are you here?") did he discover that I was American—not, as I think he suspected, Filipino—and apologize awkwardly and leave. It took me a minute to realize what had happened: The religious police have stood down, and the ordinary police have stood up in their place. The conservatism in society has not gone away. In some places, it has just undergone a costume change.

THESE LINGERING MANIFESTATIONS of intolerance illustrate what MBS's critics say is his ultimate error: Even a crown prince can't change a culture by fiat.

Belated realization of this error might be behind the grandest and most improbable of his projects. If existing cities resist your orders, just build a new one programmed to do your bidding from the start. In October 2017, MBS decreed a city in a mostly uninhabited area on the Gulf of Aqaba, adjacent to Egypt's Sinai Peninsula, the southwestern edge of Jordan, and the Israeli resort town Eilat. The city is called Neom, from a violent collision between the Greek word *neos* ("new") and the Arabic *mustaqbal* ("future").

At present, little exists but an encampment for the employees of the Neom project, a small area of tract housing. Regular buses take them to shop in the nearest city, Tabuk, which is itself a city only by the standards of the vacant, rock-strewn desert nearby. (If you recall the early scenes of *Lawrence of Arabia*, when a lonely camel-borne Peter O'Toole sings "The Man Who Broke the Bank at Monte Carlo" to the echoes of a sandstone canyon, then you know the spot.) The ambitions for this settlement are vast. Neom's administrators say they expect it to attract billions of dollars in investment and millions of residents, both Saudi and foreign, within 10 to 20 years. Dubai grew at a similar pace in the 1990s and 2000s. MBS said Neom is "not a copy of anything elsewhere," not a xerox of Dubai. But it has more in common with the great globalized mainstream than with anything in the history of a country that, until recently, was remarkably successful at walling off its traditional culture from the blandishments of modernity.

For a few hours, the Neom team showed me around and made grandiose promises about the future. Neom would lure its investors, I gathered, by creating the ideal regulatory environment, stitched together from best practices elsewhere. The city would profit from central planning. When New York or Delhi want to grow, they choke on their own traffic and decrepit infrastructure. Neom has no inherited infrastructure at all. The centerpiece of the project will be "The Line"—a 106-mile-long, very skinny urban strip connected by a single bullet train that will travel from end to end in 20 minutes. (No train capable of this speed currently exists.) The Line is intended to be walkable—the train will run underground—and a short hike perpendicular to its main axis will take you into pristine desert. Water will be desalinated; energy, renewable.

So far, Neom is less a city than an urbanist cargo cult. The practicalities can come later, or not at all. (The projected cost is in the hundreds of billions of dollars, a huge sum even for Saudi Arabia.) But many good ideas look crazy at first. What struck me was that Neom's vision is really an anti-vision. It is the opposite of the old Saudi Arabia. In the old Saudi Arabia, and even to an extent today, corruption and bureaucracy layered on each other to make an entrepreneur's nightmare. Riyadh has almost no public transportation. No matter where you are, you cannot walk anywhere, except perhaps to your local mosque. No one in Neom mentioned religion at all. Even Neom's location is suggestive. It is far from where Saudis actually live. Instead it is huddled in a mostly empty corner, as if seeking sustenance and inspiration from Jordan and Israel.

Seen this way, Neom is MBS's declaration of intellectual and cultural bankruptcy on behalf of his country. Few nations have as many carried costs as Saudi Arabia, and Neom zeroes them out and starts afresh with a plan unburdened by the past. To any parts of the kingdom that cling to their old ways, it promises that the future is everything they are not. And the future will wait only so long.

DURING THE 1990S AND 2000S, Saudi Arabia was a net exporter of vision, but it was a jihadist vision. The standard narrative, now accepted by the Saudi state itself, is that the kingdom was seduced by conservative Islam, and eventually the jihadists it sent overseas (most famously Osama bin Laden) redirected their efforts toward the Saudi monarchy and its allies. Fifteen of the 19 hijackers on 9/11 were Saudi citizens.

"A series of things happened that made the Saudis realize they couldn't keep playing the game they had been playing," Philip Zelikow, a State Department official under George W. Bush and the executive director of the 9/11 Commission, told me. The years of violence that followed 9/11 shocked the Saudis into realizing that they had a reckoning coming, though only after jihadists began attacking in the kingdom itself did the government move to crush them. What the Saudis did not have was a plan to redirect the jihadists' energy. "They needed to have some story of what kind of country they were going to be when they grew up," Zelikow said. Jihadism would not be that story. But there was no immediate alternative, either for society or for the individuals attracted to jihadism. Saudi Arabia was left to do what most other countries, including the United States, have done, which is to imprison terrorists until they grow too old to fight.

Left: The aftermath of an al-Qaeda bombing in Riyadh in 2003. Only after jihadists began attacking in the kingdom did the government move to crush them. *Right:* Saudi Special Security Forces at the Counterterrorism Training School in Riyadh in 2013. (Lynsey Addario)

Last year, Saudi officials informed me that the crown prince had a new plan to deprogram jihadists. One morning they sent a convoy of state-security SUVs to my hotel, and with lights flashing, we left behind the glassy skyscrapers of the capital and continued along one of the straight, hypnotic roads radiating from Riyadh to nowhere. An hour later, we turned off at an area called al-Ha'ir and went through a security checkpoint.

Ha'ir is a state-security prison, run by the Saudi secret police, which means that its prisoners are not car thieves and check forgers but offenders against the state. They include jihadists from al-Qaeda and the Islamic State—I met at least a dozen of each—as well as softer Islamists, like Salman al-Awda, the cleric.

We drove past the checkpoint and through the gates, into a windswept compound coated in a film of light-brown dust, like tiramisu. We were met by the director of state-security prisons, Muhammad bin Salman al-Sarrah, and what appeared to be a television crew of at least half a dozen men, each bearing a microphone or a camera. I worried about what would happen next. Newsworthy events inside the walls of terrorist prisons tend not to be good. Lurking in the background were several bearded men in identical gray business suits.

During the 1990s and 2000s, Saudi Arabia was a net exporter of vision, but it was a jihadist vision. Fifteen of the 19 hijackers on 9/11 were Saudi citizens.

Al-Sarrah, it turned out, was a real jihadism nerd, and over tea we reminisced about various luminaries in the history of Saudi terror. After this small talk, he invited me to join him in an auditorium that could have been a lecture hall on a small college campus. Shutters clicked as the cameramen followed.

In the auditorium, the men in suits took the stage. Their leader, a man named Abdullah al-Qahtani, explained that he and most of the others in the room were prisoners, and that they had a PowerPoint presentation they wished to show me about the enterprise they were running in the prison. The camera crew was made up of prisoners too, and they were documenting my visit for imprisoned members of jihadist sects.

What followed was the most surreal slide deck I have ever seen: a corporate org chart and plans for a set of businesses run from within the prison by jihadists and other enemies of the state. Al-Qahtani spoke in Arabic, translated by an excitable counterpart nearby.

The org chart showed CEO al-Qahtani at the top, with direct reports from seven offices beneath him, among them financial, business development, and "programs' affairs." Under the last of these was another sub-office, "social responsibility."

Al-Qahtani explained that 89 percent of the prison population had taken part in the program so far. In a way, it was like any other prison-industry program; in the United States, prisoners staff call centers, raise tilapia, or just push brooms in the prison corridor for a dollar an hour. But the Ha'ir group, doing business as a company called, simply, Power, was aggressively corporate and entrepreneurial.

Al-Qahtani and the interpreter took me to a small garden, where prisoners cultivated peppers under plastic sheeting and raised bees and harvested their honey to sell at the prison shop, in little jars with the Power logo. They operated a laundromat and presented me with a price list. The prison will clean your clothes for free, they said, but staff and inmates alike could bring clothes here for special services, such as tailoring, for a fee. I could see shirts, freshly laundered and pressed, with prisoner numbers inked into the collars. Each number started with the year of entry on the Islamic calendar. I saw one that started in 1431, about 12 years ago.

Almost all the men wore thick beards, and many had a *zabiba* (literally "raisin"), the discolored, wrinkly spot one gets from pressing the head to the ground in prayer. Some of their products were artisanal and religious-themed. They led me into a tiny room, a factory for the production of perfumes for sale outside the prison, and to another room where they made prayer beads from olive pits.

"Here, smell this," a former member of al-Qaeda commanded me, sticking under my nose a paper strip blotted with a chemical I could not identify. I think the scent was lavender. Another prisoner, at the Power-run prison canteen, offered me free frozen yogurt. As I walked around the prison, the yogurt began to melt, and my interpreter held it so I could take notes.

Strangest of all, I found, was Power's corporate nerve center—a warren of drab, cubicle-filled offices. The employees wore uniforms: suits for the C-suite executives and blue Power-branded polo shirts for the mid-levels puttering on their computers. They had a conference room with a whiteboard (at the top, "In the name of God, the most gracious, most merciful" was written in Arabic, and partially erased; the rest was the remains of a sales brainstorming session), a reception desk, and portraits of the king and the crown prince overseeing it all.

Nothing is stranger than normalcy where one least expects it. These jihadists—people who recently would have sacrificed their life to take mine—had apparently been converted into office drones. Fifteen years ago, Saudi Arabia tried to deprogram them by sending them to debate clerics loyal to the government, who told the prisoners that they had misinterpreted Islam and needed to repent. But if this scene was to be believed, it turned out that terrorists didn't need a learned debate about the will of God. They needed their spirits broken by corporate drudgery. They needed Dunder Mifflin.

My hyperactive interpreter, who had been gesticulating and yapping throughout the tour, was no ordinary jihadist. He was an American-born Saudi member of al-Qaeda named Yaser Esam Hamdi. Hamdi, now 41, emerged from a pile of rubble in northern Afghanistan in December 2001. His dear friend, pulled from the same rubble, was John Walker Lindh, the so-called American Taliban. Hamdi spent months in Guantánamo Bay before being transferred to the U.S.; he was released after his father, a prominent Saudi petrochemical executive, helped take Hamdi's case to the Supreme Court, and won (*Hamdi v. Rumsfeld*). Hamdi was sent back to Saudi Arabia on the condition that he renounce his U.S. citizenship (he was born in Louisiana and left as a small child), but the Saudis decided he needed more time in prison and locked him up for eight years in a facility in Dammam, and for another seven in Ha'ir. He is due for release this year.

Hamdi guided me like a kid showing his parents around his sleepaway camp. He explained that Power is part of a larger entity at the prison, known as the "Management of Time" (*Idarat al-Waqt*)—a comprehensive but amorphous program meant to beguile the inmates out of bad ideas and replace them with good ones. It involves corporate training, but also gathering the inmates together for song and music, for poetry readings, for the publishing of newspapers (I snagged a copy of the *Management of Time News*), and for the production of TV shows. I watched a room full of men sing a song they had written, “O My Country!,” and show videos in which they extolled the government and the crown prince. Al-Qaeda and ISIS forbid most music and revile the monarchy. Like so many other Saudis, these men seemed to have swapped their religious fanaticism for nationalist fanaticism. One wondered what they really believed.

Al-Sarrah followed close behind us, and I shot him a look when I heard the name of the program. One of the most famous jihadist texts, a playbook for ISIS, is “The Management of Savagery” (*Idarat al-Tawahhush*). It is a deranged manual for destroying the world and replacing it with a new one. That was what this program was doing in reverse: replacing the jihadists’ savage appetite for an imagined future with an appetite for the real, the now, and the ordinary.

A bookish man who had been with Osama bin Laden at Tora Bora looked me steadily in the eye, like he was trying to convince me and not himself. “Vision 2030 is real,” he said.

I told Hamdi that I had corresponded with his friend Lindh, who served 17 years in federal prison in the United States before his release in 2019. Our correspondence had led me to believe that he was just as radical as ever, and that his stay in prison—spent in solitary study of Islamic texts—had confirmed his violent streak and converted him from an al-Qaeda supporter to an ISIS supporter.

Graeme Wood: I wrote to John Walker Lindh. He wrote back.

“Really?” Hamdi asked, before venturing a guess as to why. “The United States doesn’t know how to deal with Muslims. When I was in Afghanistan, I had extreme thinking.” Going to a Saudi prison helped. “The difference is that in jail [here] we have a program. You want to explode the thinking we have in our brain. For 17 years he was alone.” The Saudis filled Hamdi’s time. They managed it. “We didn’t have time to read the Islamic books … We didn’t have time to do anything but work to improve ourselves.” He was a specialist in Power’s media department, and could now produce videos of passable quality.

“I didn’t know what a montage was,” he said. “I didn’t know what a design was.” We were driving to another part of the prison with al-Sarrah in the front seat and Hamdi and me in the back. “Now I am professional!” he said. “I am a complete montage expert!” He pointed at al-Sarrah, who smiled but did not speak or even look back. “All thanks to this man! The government opened this for us! Now I am in a car! Talking to you! Normally! Peacefully! No kind of problems!” Upon release, he said, he might work for his father’s company, or even (this was his dream) go into film and television production. I wondered what it might be like to have a co-worker like Hamdi, with, shall we say, an unconventional work history, and a penchant for extremism and Osama bin Laden that he swore up and down had been thoroughly replaced with a love for film and video production and the crown prince of Saudi Arabia. I was pretty sure Hamdi would be a better colleague than John Walker Lindh.


Top left: A camel market about an hour outside Riyadh, in January. *Top right:* A sign on the highway from Jeddah to Taif marking the turnoff for Mecca. *Bottom:* Women in Asir province. Outside Saudi Arabia's major cities, it isn't clear how quickly modernization is catching on. (Lynsey Addario for *The Atlantic*)

At the prison I asked many inmates how they could trade jihadism for these worldly things, which surely amounted to frippery compared with the chance to die in the path of God. They laughed, nervously, as if to ask what I was trying to do—get them to leave the prison and kill again? They were mostly still young, and they yearned for freedom. That they no longer wanted something thrilling and extraordinary was exactly the point. It is possible to have too much vision, or the wrong kind—some of them had gone to Syria, barely survived, and had had enough vision, thank you very much. "We don't want anything but a normal life," one told me. "I would be happy just to go outside, to walk on the Boulevard in Riyadh, to go to McDonald's."

"I went to Syria because I was offered to take part in a dream, the dream of a caliphate," said another. Ali al-Faqasi al-Ghamdi, a bookish man who had been with bin Laden at Tora Bora, told me he now recognized such dreams as counterfeit. What, he asked, is the point of a big, exciting dream when it is a false one? A small ambition that can actually be fulfilled is preferable to a big one that cannot. He looked me steadily in the eye, like he was trying to convince me and not himself. "Vision 2030 is real."

AMERICA MUST NOW decide whether that vision is worth encouraging. Twenty years ago, if you had told me that in 2022 the future king of Saudi Arabia would be pursuing a relationship with Israel; treating women as full members of society; punishing corruption, even in his own family; stanching the flow of jihadists; diversifying and liberalizing his economy and society; and encouraging the world to see his country and his country to see the world—Wahhabism be damned—I would have told you that your time machine was malfunctioning and you had visited 2052 at the earliest. Now that MBS is in power, all of these things are happening. But the effect is not as pleasing as I had hoped.

In 1804, another modernizing autocrat, Napoleon Bonaparte, arrested Louis Antoine, the duke of Enghien, on suspicion of sedition. The duke was young and foolish, and no great threat to Napoleon. But the future emperor executed him. Around Europe, monarchs were shocked: If this was how Napoleon treated a harmless naif like the duke, what could they expect from him as his power grew, and his domestic opposition dissolved in fear? The execution of Enghien alerted the most perceptive among them that Napoleon could not be managed or appeased. It took a decade of carnage to figure out how to stop him.

Enghien's schemes wouldn't have stopped Napoleon, and Khashoggi's columns wouldn't have stopped MBS. But his murder was a warning about the personality of the man who will be running Saudi Arabia for the next half century, and it is reasonable to worry about that man even when most of what he does is good and long overdue.

For now, MBS's main request to the outside world, and especially the United States, is the usual request of misbehaving autocrats—namely, to stay out of his internal affairs. "We don't have the right to lecture you in America," he said. "The same goes the other way." Saudi affairs are for Saudis. "You don't have the right to interfere in our interior issues."

But he acknowledges that the fates of the two countries remain linked. In Washington, many see MBS's rise as abetted, perhaps even made inevitable, by American support. "There was a moment in time where the international community could have made it clear that the Khashoggi murder was the straw that broke the camel's back, and that we weren't willing to deal with MBS," Senator Murphy told me. The Trump administration's support, when MBS was at his most vulnerable, saved him. "If MBS ultimately becomes king," Murphy said, "he owes no one bigger than Jared Kushner," Trump's personal envoy to the crown prince. ("You Americans think there is something strange about a ruler who sends his unqualified son-in-law to conduct international relations," one Saudi analyst told me. "For us this is completely normal.")

Some still hope that MBS will not accede to the throne. "Only one of the last five crown princes has eventually become king," Khalid al-Jabri noted to me, optimistically. But everything I see suggests that his ascent is certain, and that the search for alternatives is forlorn. Two of those four also-ran crown princes were sidelined or replaced by MBS himself. The other two died of old age.

The United States needs its partners in isolating Iran, and MBS is a stalwart there. And even domestically, he remains in some ways the right man for the job. He is at least, as Philip Zelikow reminded me, not a ruler in denial. "We wanted Saudi leadership who would face their problems, and embark on an ambitious and incredibly challenging generational struggle to remake Saudi society for the modern world," he told me. Now we have such a leader, and he is presenting a binary choice: support me, or prepare for the jihadist deluge.

"We don't have the right to lecture you in America," MBS said. "The same goes the other way."

MBS is correct when he suggests that the Biden administration's posture toward him is basically recriminatory. *Stop bombing civilians in Yemen. Stop jailing and dismembering dissidents.* The U.S. might, on the margins, be able to persuade MBS to use a softer touch—but only by first persuading him that he will be rewarded for his good behavior. And no persuasion will be possible at all without acknowledging that the game of thrones has concluded and he has won.

Many of the exiles I spoke with said their best hope now is that the crown prince will mellow, and that elder Saudi wise men will keep him from destroying the country with rash decisions, like the fight with Qatar, or the murder of Khashoggi. MBS does have a sense that being capricious and impulsive can be costly. "If we run the country randomly," he told me, "then the whole economy is going to collapse." Others had tried that strategy: "That's the Qaddafi way."

King Salman has instituted measures ostensibly intended to force his son to govern more inclusively after Salman’s death. He changed the law of succession to prevent the next king from naming his own children, or indeed anyone from his own branch of the family, as his crown prince. I asked MBS if he understood that to be the rule, and he said yes. I asked if he had anyone in mind for the job. “This is one of the forbidden subjects,” he said. “You will be the last to know.”

WHEN HE IS KING, however, the rules will belong to him, and to ask him to abide by them against his wishes will be about as easy as negotiating from your suite at the Ritz-Carlton.

A crown prince with a subtler mind and a gentler soul might have implemented MBS’s reforms without resorting to his brutal methods. But it is pointless to consider policy in a state of childlike fantasy, as if it were possible to conjure some new Saudi monarch by closing your eyes and wishing him into existence. Open your eyes, and MBS will still be there. If he is not, then the man ruling in his place will not be an Arab Dalai Lama. He will be, at best, a member of the unsustainable Saudi old guard, and at worst one of the big beards of jihadism, now richer than Croesus and ready to fight. As MBS told me, to justify the Ritz operation, “It’s sometimes a decision between bad and worse.”

Since reality has handed us MBS, the question for America is how to influence him. This question is practical rather than moral: If your moralism drives him into a partnership with China, what good will it have been? A fundamental principle of Chinese foreign relations is butting out of other countries’ internal affairs and expecting the same from them. Certainly Beijing will not reprimand him for his treatment of dissidents.

In effect, both the Saudis and the Americans are now in the Ritz-Carlton, forced to bargain with a jailer who promises us prosperity if we submit to his demands, and *Mad Max* if we do not. The predicament is familiar, because it is the same barrel over which every secular Arab autocrat has positioned America since the 1950s. Egypt, Iraq, and Syria all traded semitribal societies for modern ones, and they all became squalid dictatorships that justified themselves as bulwarks against chaos.

Twenty years ago, Syria watchers praised Bashar al-Assad for his modernizing tendencies—his openness to Western influence as well as his Western tastes. He liked Phil Collins; how evil could he be? By now most everyone outside Damascus, Tehran, and Moscow recognizes him as Saddam Hussein’s only rival in the dubious competition for most evil Arab leader.

MBS has completed about three-quarters of the transition from tribal king with theocratic characteristics to plain old secular-nationalist autocrat. The rest of that transition need not be as ruthless as the beginning, but MBS shows no sign of letting up. The United States can, and should, make the case that Saudi Arabia’s security and development will demand different tools going forward. It might even suggest what those tools should be. But it probably cannot make MBS use them.

A more pragmatic approach is to make sure that the reforms he has instituted stick, and that the changes in Saudi culture become irreversible. The opening of the country and the forcible sidelining of a crooked royal class—these are hard changes to undo, and they bind even the absolute monarch who decreed them. Granting women driver's licenses was ultimately a smooth process. Taking them back would disrupt millions of lives and sow protest across the kingdom. American influence can acknowledge and encourage such changes.

Sometimes this is how absolute power relaxes its grip: slowly, without anyone noticing. In England, the transition from absolute monarchy to a fully constitutional one took 200 years, not all of them superintended by the most stable kings. MBS is still young and hoarding power, and everyone who has predicted that he would ease up on dissent has so far been proved optimistic. But 50 years is a long reign. The madness of King Mohammed could give way to something else: a slow and graceful renunciation of power—or, as with Assad, an ever more violent exercise of it.

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Graeme Wood is a staff writer at *The Atlantic* and the author of *The Way of the Strangers: Encounters With the Islamic State*.

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Secret or reality: can Aramco produce 15 million barrels a day?

WAEL MAHDI

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I guess by now we all know that Saudi Arabia will not raise its production capacity beyond 13 million barrels a day by 2027 after the Kingdom's Crown Prince Mohammed bin Salman made it clear in his address during the regional summit this month that was attended by US President Joe Biden.

“The Kingdom will contribute to this field to increase its production capacity to 13 million barrels per day, and after that the Kingdom will not have any additional ability to increase production,” the Crown Prince said.

To many who are still under the influence of what Matt Simmons wrote 17 years ago in his book "Twilight in the Desert", the Saudi statement was a testament to the argument laid in the book that Saudi Arabia can't rescue the world anymore as its oil fields are aging and reaching a peak.

Those who remember the days of peak oil theory will definitely remember the many statements put out by officials from the ministry of petroleum and Aramco. Communication and PR practices back then weren't as elaborate and sophisticated as today because at that time Aramco wasn't listed yet on the Saudi stock exchange and the petroleum ministry was running the show.

The result was many statements that sounded contradictory or unrealistic when everyone was trying to defend their position against Matt Simmons' theories.

Those statements maybe were needed at that time to maintain confidence in Aramco but it surely didn't serve it well two decades later.

Aramco's officials thought that the market has very short memories that won't last this long, but they tend to forget that there are observers who have an agenda against the company because Aramco treated them with negligence or denial — the most common practice for Aramco officials when someone from outside the company has any say about it.

Those who remember that period would certainly recall Aramco's statements about being able to pump 12 or even 15 million barrels a day for decades.

So in retaliation, some observers now are trying to show how Aramco was contradictory about its production capacity in the light of the Crown Prince's recent statement.

In fact, the issue is more complicated than this.

Yes there were some contradictions because Aramco's officials were always speaking in fear in public.

They always feared that something they said would upset someone in the ministry in Riyadh so the focus was on keeping Riyadh happy but not explaining it right to the media what the company is capable of producing.

Thank God things have improved significantly today as the listing of Aramco on the Saudi stock market has served us all well.

Everything is public after being documented, audited, and scrutinized. We have better sourcing and understanding of the numbers of the company now than ever.

This, however, didn't solve all the problems because officials in the past left many ends untied. Former minister of petroleum Ali Al-Naimi, for example, explained many technical terms with reporters who didn't have any knowledge about petroleum engineering practices or who simply weren't interested in more than a simple statement they needed to send back to their editors.

Other officials from Aramco were even very aggressive in their response to the media on the output capacity issue. The result we all know: more confusion and less trust in the statements.

The issue of Aramco's ability to produce massive amounts of oil was at the center of any media discussion with Al-Naimi for years. Yet, there were periods when the issue was more pressing, especially during supply crises and skyrocketing oil prices.

In 2008, when oil prices were already on their way to $147, the world was looking for solutions and an energy meeting in Jeddah was held where tens of energy and oil ministers from around the world met to discuss the root cause of the crisis and where to go next.

As consuming countries like the US were accusing OPEC of being responsible for the crisis due to its inability to increase capacity, the producers were claiming that speculation and paper market trading practices are behind the price hikes.

As a response and to assure the market and consumers that there was never a supply crisis, Saudi Arabia told the ministers in Jeddah that it's already on its way to complete its program to increase maximum sustainable capacity to 12.5 million barrels a day by end of 2009, and it pledged to raise it further to 15 million if the world needed it.

For Saudi output capacity to hit 15 million barrels, the further daily capacity includes 900,000 barrels from the Zuluf field, 700,000 barrels from Safaniyah, 300,000 barrels from Berri, 300,000 barrels from Khurais and 250,000 barrels from Shaybah, as explained by minister Naimi at the time.

When Saudi officials were asked in later years about the 15 million barrels a day figure, they responded by saying that this was a scenario and never was a solid program.

I think the world now can say goodbye to the 15-million-barrels-a-day scenario. Many of these increments have already been developed to maintain Aramco's 12 million MSC. Khurais 300,000 and 250,000 are history now. As for Berri's increment, it is coming online over the next two years.

Now we will rely on Zuluf and Safaniyah to hit the 13 million barrels a day target and to compensate for the declines in older fields such as Abqaiq and Ghawar.

But is it really "that's it" for Saudi Arabia?

The confusion about Saudi production capacity always starts when answering this question. It's confusing for people inside Aramco, let alone people outside of it.

The simple answer is NO, but let's clear few misunderstandings about the issue first.

First of all, Saudi Aramco as a company has 12 million barrels a day as a maximum sustainable production capacity. This means Saudi oil reservoirs can only go up to this level without being damaged.

It can produce 12 million barrels and keep this level for a long period but this won't happen without massive investment in managing and maintaining the wells and without an aggressive drilling program.

The more an oil company produces from a well, the faster output declines. So oil companies keep drilling new wells all the time to first replace the oil produced, and second to keep the production rate steady from the field.

However, Saudi Aramco doesn't produce at this maximum production capacity as per policy. The Kingdom took on its shoulders the responsibility of keeping between 1 and 2 million barrels a day of oil as spare capacity. By industry definition, this is the amount of oil it can produce within 30 days and sustain for 90 days.

So in order for Aramco to increase production from 10 million barrels a day — its current comfortable level that forms the high end of the comfort zone for the company — to 11 or 12 million barrels a day and dive into its spare capacity, it needs more drilling and one month at the minimum. It's not a switch it can hit and output will go up by a million or two barrels.

Second of all, there is a big difference between maximum sustainable capacity or MSC and potential production. Whereas MSC is the amount of oil the reservoirs will allow Aramco to produce for a long period, potential production is what the company's surface facilities can process at any given day.

The shocking number for many of those who don't know the reality of Saudi oil production, is that the surface facilities of Aramco can allow it to produce up to 15 million barrels a day.

Yes, you heard it right, 15 million barrels as of today.

Then, how come Aramco only said it can pump 12 million barrels a day?!!

Aramco's daily production is constrained by many factors. First, it can't produce whatever it likes. It gets its output targets from the minister of energy based on the agreement the Kingdom has under OPEC and OPEC+.

Second, the government policy mandates Aramco to always keep 1 to 2 million barrels a day at any given time as a spare capacity that is to be used during any energy crisis. This spare capacity is a buffer for the global oil market and the unique proposition for Aramco and the Kingdom as there is no other producer in the world who has this much oil idled.

This idle capacity isn't free. It comes at a cost. There is an economic cost of not selling that oil, and there is a financial cost in the form of capex and opex to keep these wells and the surface facilities ready to pump this crude at any time.

The next question is, did Aramco ever produce 12 or 15 million barrels a day in its history? Are these numbers real or just on paper?

Let's look into history.

A decade ago, Al-Naimi told a limited number of journalists in one of the briefings that Aramco did process 14 million barrels a day in one single day and it loaded that much crude on ships on that day. Now, supplying 14 million barrels a day is totally different from producing that quantity from below the ground on that single day. What Al-Naimi was trying to sell to reporters was that Aramco can put that much crude out because its surface facilities can handle that much.

He also went on to say that the company actually hit near 12 million historically but that was in a "flush production" and he said "you guys don't need to worry about this." Flush production is the amount of high oil flow rate that comes out from new wells. As Society of Petroleum Engineers explains on its website, it "delivers a small, high rate flow every time the well is shut-in (recharges) and is brought back on line".

Al-Naimi didn't give much details about the timing for all this or any further information.
Moving on to recent times, in April 2020, Aramco finally showed the world it has 12 million barrels a day and it did pump at that level but not for too long. It was just a matter of days.
Aramco did produce at 11 million barrels a day, though, for weeks.

This year it will need to revisit this number when its OPEC+ agreement comes to an end in September.

I don't doubt the ability of Aramco to produce at 11 or 12 million barrels a day because I didn't get my information from the officials who smile at the media but from those who were against seeing the company producing at that level.

Aramco can do it but it will require more work for petroleum engineers who don't want to walk the extra mile and it will need massive investments and above all more reservoir management.

The internal pushback isn't new and as former Aramco's executive Sadad Al-Husseini pointed out in his account of the launch of Aramco's MSC program, engineers were against seeing Aramco producing more than 9 million in the late 1970s. Things haven't changed today.

Othman Al-Khowaiter, another Aramco veteran, is among those who made it publicly that he doesn't want to see Aramco pumping at more than 10 million barrels a day and sometimes stressed on the need to keep output at lower levels.

The decision, at the end, rests with the government. There are international commitments for Saudi Arabia and there are state financial needs that have to be covered. There is also a monetization strategy for oil resources that the government is implementing to ensure that the oil wealth is turned into cash income.

In the end, no matter what Aramco said or tried to prove when it comes to MSC, its words will fall on deaf ears as the jury is out and there has been an agenda against Aramco for years.

I can't blame the media entirely because the responsibility also falls on the shoulders of Aramco's and other officials who unfortunately confused the public or were unable to tell the truth in the best possible way.

They had no trust in the media and the media had no trust in them.

Setting the issue of trust aside, we need to know if Aramco can produce more oil. The world needs to know this.

I can't speak for the company but I can share all what I've learned about this issue throughout the years.

I can comfortably register my testimony on this knowing that my words will be remembered years from now.

Aramco can hit 13 million barrels a day and Saudi Arabia as a whole can hit 13 million barrels a day or even more.

First, there are tens of fields that are still not developed. There are more than 100 discovered fields but the majority if not all of production is coming from less than 25 of them.

Yes all these undeveloped fields are giant but when combined can add something between 500,000 and 1 million barrels a day extra. However, the economics for bringing them online is still not there, not until the big fields are on decline.

Second, observers tend to forget that Saudi Arabia shares massive resources in the partitioned zone with Kuwait. Khafji network of offshore fields can produce up to 300,000 barrels a day, while onshore fields in Wafra are able to add 200,000 barrels a day.

Saudi Arabia was trying for years through Chevron to implement a steam flooding program that can unlock at least 5 billion barrels extra of heavy oil from Wafra. The steam injection project was undergoing until the two countries halted production from the entire zone between 2014 and 2015. With operations resuming normally in the zone, the prospect for seeing more oil from Wafra and Khafji is high.

Third, Aramco can supply the world with more oil not only by pumping more but freeing more oil for exports. Let's be reminded that Saudi Arabia is embarking on a program to replace liquids in all power plants with natural gas. In addition, the energy mix in Saudi Arabia by 2030 should be split between gas and renewables, which can free an additional 1 million barrels a day of oil at least.

Fourth, Saudi Arabia is turning to unconventional gas in its massive Jafurah field to power its future and that will free more oil.

Fifth, technology, technology, technology. No one can predict the impact of technological breakthroughs on oil production. The life of Aramco's reservoirs was extended thanks to horizontal drilling practices that the company followed in the 1990s. It's now investing big on research and development in an effort to find better ways to extend the lives of its fields. From small robots that can go into the reservoirs to better water and carbon injection methods, Aramco is not standing still.
It even has one of the largest supercomputers in the world at its EXPEC ARC center to simulate reservoirs.

So in conclusion, the world can still expect to see more oil from Saudi Arabia above the nameplate capacity.

The question that the world needs to answer is whether there is enough demand in the future for Saudi Arabia to make big investments in its oil production?

What the world must know is that producing an extra barrel of oil comes at huge cost. Why would the government allocate billions of dollars a year to invest in new capacity at a time when it needs every dollar to move its economy away from oil?

If the world wants Saudi Arabia to carry the responsibility of opening its oil taps endlessly, it must secure demand for oil.

What we are seeing, nevertheless, is the opposite. Therefore, I think the Crown Prince's statement seems to be fair and the world should live with 13 million barrels a day instead of complaining about it.

• *Wael Mahdi is a senior business editor at Arab News and co- author of “OPEC in a Shale Oil World: Where to Next?”* **twitter: @waelmahdi** https://ifpnews.com/yemen-oil-companies-saudi-arabia-uae/

Yemen warns oil companies to leave Saudi Arabia, UAE

By**IFP Media Wire**

October 3, 2022

Yemen's Armed Forces have put oil companies operating in Saudi Arabia and the United Arab Emirates on notice. Yemen is warning that the firms could be targeted as long as Riyadh and its allies fail to live up to their commitments under a UN-brokered ceasefire.

Tweeting on Sunday, the Yemen’s Armed Forces’ spokesman Brigadier General Yahya Saree said Yemeni troops were providing the oil companies with a window of opportunity to leave the Saudi and Emirati soils “fast.”

The Saudi kingdom and its allies, most notably the United Arab Emirates, have been waging a war against Yemen since March 2015, trying, in vain, to restore Yemen’s power to its former Riyadh-friendly officials. The military campaign, which has been enjoying unstinting arms, logistical, and political support from the United States, has killed hundreds of thousands of people, and turned the entire Yemen into the scene of the world’s worst humanitarian crisis.

A temporary United Nations-mediated ceasefire took effect between the warring sides in April and has been renewed twice ever since. The truce, however, expired on Sunday amid the invading coalition’s constant violations of the agreement and its refusal to properly lift a siege that it has been enforcing against Yemen simultaneously with the war.

“The warning,” Saree added, “stands as long as the countries that make up the invading American-Saudi coalition refuse to adhere to a ceasefire that allows the Yemeni people to exploit their oil wealth….”

Also on Sunday, Hans Grundberg, the United Nations’ special envoy for Yemen, confirmed failure of efforts aimed at extending the truce.

“The UN special envoy regrets that an agreement has not been reached today, as an extended and expanded truce would provide additional critical benefits to the population,” a statement said.

“I urge [the warring parties] to fulfill their obligation to the Yemeni people to pursue every avenue for peace,” the Swedish diplomat was quoted as saying.

SAF Group created transcript of comments by Mike Muller (Head, Vitol Asia) with Sean Evers (Founder, Managing Partner Gulf Intelligence) and Christof Ruhl (Senior Research Scholar, Center on Global Energy Policy Columbia University) on Gulf Intelligence Daily Energy Markets video podcast on October 9, 2022 https://twitter.com/gulf_intel/status/1578996289521737728

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

Evers asks Muller his views coming out of China's national congress this week given China is moving into its typical strong oil demand period going into Chinese New Year. Muller is based in Singapore. At 30:15 min mark, Muller "…. *there has been a lot of debate on this even though China has been largely on leave due to their Golden Week last week. But in the week before that during APEC, there were a few Chinese delegations that braved the quarantine restrictions and came over. And, they were all of the view that the easing of Covid restrictive measures will be gradual. There is a widespread concern and even a fear in the population of this thing running out of control and what it can do. And therefore, I don't think we are going to see the Chinese tourists in the sky and Chinese business people on airplanes and coming to conferences overseas anything like in Q4. The other concern of course in China is the economic data is not great. Parts of this mandatory exports of petroleum products seems to be part of wanting to improve trade statistics. But, what really bothers me is that the continued industrial output data, productivity data in China, is disappointing. Those German chemical plants that are not running all those German gas intensive heavy industries, you would assume that the global economy would need factories elsewhere to make up for any shortfalls that are not being made in the EU where the [xxx xxxx]. it's clearly not happening in China where it should be happening. So that tells you that Chinese demand is really down, petrochemicals in particular. So, I think China is going to take quite some time to deleverage its property problem, the evergrand issue and all that. And I don't think we're going to see any snap in Chinese demand. There may be some headlines coming out of next Sunday which give the market reasons to buy the market, but I don't' see any huge fundamental changes, certainly not affecting oil demand.*"

Prepared by SAF Group

Excerpts from ANI reporting on Hardeep Singh Puri comments post Jennifer Granholm meeting in Washington

https://aninews.in/news/world/us/india-is-clear-about-its-policy-regarding-oil-purchases-will-buy-oil-from-wherever-it-has-to-hardeep-singh-puri20221008143703/

India is clear about its policy regarding oil purchases, will buy oil from wherever it has to: Hardeep Singh Puri

ANI | Updated: Oct 08, 2022 14:37 IST

Washington [US], October 8 (ANI): India has reiterated its choice of importing oil from countries like Russia after OPEC Plus, a consortium of oil-producing nations led by Russia and Saudi Arabia announced a slash in oil production by two million barrels per day.

While taking to reporters in Washington DC during his ongoing US visit, Union Minister of Petroleum and Natural Gas Hardeep Singh Puri on Saturday touched on several topics including how India will balance OPEC Plus oil production cut, diversification of energy - equity infusion, bio-fuel blending and green hydrogen.

With rising global energy requirements, the OPEC production cut is likely to impact countries like India, the third largest oil importer. Speaking on the topic of balancing the imports from OPEC Plus countries as well as from the US, which is also a oil exporting country, Puri said "If you are clear about your policy, which means you believe in energy security, energy affordability you will buy from wherever you have to. Our energy purchases from sources hitherto unheard of, we are in discussion with them."

Answering how India will negotiate the tightrope of expectations, he told ANI, "It's not a tight rope, I don't look at - We will also acquire assets outside wherever - I mean in recent months- we did USD 1.6 billion equity infusion which BPCL has done in Brazil. We are looking at assets in Africa."

Puri explained that oil exporting countries need buyers as they have to sell their products in the market.

"Sometimes when you are looking at it in a journalistic manner, you would say that producers are holding all the cards. I disagree with that; I think the person or country with a large market also has a huge role to play. I am giving you a hypothetical example - If we decide to limit consumption, no matter what you produce, you will have to find a place to sell it too and I can tell you that in the last year or so, I have had my oil companies tell me that we can raise it from here, but there are traditional suppliers, this is a discussion which will go on," Puri said in response to a question by ANI.

"Much of the trade incidentally takes place in a manner which is not properly understood outside. It's not that - you have some fuels which have high density, some are lighter fuels - I don't want to get into that discussion - it may originate somewhere - we own assets outside, the product of those assets does not come to India, it goes in, it's sold in the swap market etc," he added.

This week's OPEC Plus announcement on oil production cut will likely have a cascading impact on geopolitical shifts amid the Russia-Ukraine crisis.

"Oil and energy have been traded for years. Governments in particular situations will react to geopolitical events. At the end of the day all governments are committed to issues of energy provisions; that is security and affordability," said Puri.

Meanwhile, an intense pressure campaign by the US to dissuade its Arab allies seemingly fell on deaf ears. Russia is already pumping below its OPEC+ ceiling, and the bulk of the cuts will be made by Gulf producers.

Speaking about the conflict and Indian diversification, Union minister Puri said, "I don't see any conflict. There are countries in OPEC that sell to us. They've never turned around and told us that they don't want to sell to us. If you don't sell to India and China, there are not many big markets left, even Europe collectively. Many of these are matured markets in energy. They don't utilize crude oil - some of them have gone into nuclear energy, and others are going into biofuels. I also want to share with you some of the advances which India has made - biofuel blending, when I was Ambassador to Brazil, we tried very hard, the central government tried to introduce 5 per cent ethanol blending in 15 of our States and Union Territories, we couldn't get it done."

Puri further stated that the India had taken a giant leap in bio-fuel blending after Prime Minister Narendra Modi assumed power in 2014.

"In 2014, when Prime Minister Narendra Modi assumed office, our bio-fuel blending was 1.4 per cent, today we have already reached 10.5 per cent of blending. We have a target of 20 per cent blending by 2030. We have just brought it forward to 2024-2025," said Puri.

He also gave examples of green Hydrogen and how India is providing opportunities for oil exploring companies.

"Green Hydrogen - We have Indian companies selling green ammonia to Germany - the world is moving at different fronts - exploration and production in India will shoot up. I have always said that we have neglected to the point, I even use words like 'criminal neglect.' We have 3.5 million square kilometres of sedimentary basin, and one million square kilometres of that sedimentary basin was called a 'no go area', just now a few months ago, 99.5 per cent of that 'no go area' has been cleaned up which means for an investor are happy to come and explore. There are not hundreds of players in the energy sector, five to six big companies, they are all interested, they are either forming joint ventures, just to come (to India)," said Puri. (ANI)

https://aninews.in/news/world/us/india-under-no-global-pressure-to-shun-russian-oil-hardeep-singh-puri20221008093740/

Union Minister of Petroleum and Natural Gas, Hardeep Singh Puri.

India under no global pressure to shun Russian oil: Hardeep Singh Puri

ANI | Updated: Oct 08, 2022 09:37 IST

Washington [US], October 8 (ANI): Union Minister of Petroleum and Natural Gas, Hardeep Singh Puri on Saturday said that India is under no pressure to shun Russian oil.

In a bilateral meeting with US energy secretary Jennifer Granholm, Puri said that the Indian government has a moral duty to provide energy to its citizens and it will continue to buy oil from wherever it has to.

Have I been told by anyone to stop buying Russian oil? The answer is a categorical No," Puri told reporters in Washington.

"India will buy oil from wherever it has to for the simple reason that this kind of a discussion cannot be taken to the consuming population of India," he added.

Since the start of the Ukraine conflict. India has sought to carve a middle path between Moscow and its Western critics and so far largely resisted Western pressure to cut its economic ties with the Kremlin.

The US is holding "deep talks" with India over the latter's reliance on Russian arms and oil, according to media reports citing a state department official. The official claimed that Indian representatives are starting to look at other markets to meet their demands as they try to become less dependent on Moscow for oil purchases.

Notably, the European Union (EU) on Thursday (local time) adopted its latest package of sanctions against Russia over the illegal annexation of Ukraine's Donetsk, Luhansk, Zaporizhzhia and Kherson regions.

The EU adopted restrictive measures against an additional 30 individuals and seven entities, read the EU's statement.

EU sanctions (8th package since the Ukraine war began) aim to force Russia to reduce prices & lose oil revenue. But at imports to the tune of 1.7 million barrels per day, the EU is still the biggest market for Russian crude.

Moreover, the EU is trying to determine the pricing of Russian oil through its insurance firms as Russia is the world's largest oil exporter. The European insurers rule commercial oil tankers by providing them with massive insurance.

The EU sanctions ll forbid these insurers from providing services to Russian companies selling oil above the price cap.

Moreover, EU's sanctions package on Russia will impact countries like India. EU is capping what other countries can pay for Russian oil. It bans the sale of oil above that price. This applies only to oil transported by sea. While, the EU members importing Russian oil by pipeline won't be hurt by these sanctions.

Puri highlighted India is one of the largest oil importer and the demand is expected to rise driven by an increase in India's per capita consumption of energy which currently stands at one-third of the global average. Puri further stressed that the fuel demand is expected to keep rising as the country's economy grows.

It is pertinent to note that External Affairs Minister S Jaishankar also on several platforms had explained India's decision to continue buying Russian oil. Recently, Jaishankar said PM Modi's advice on the issue was to do what is best for the nation. "Due to the Russia-Ukraine conflict, petrol prices doubled. We had pressure from where to buy the oil but Prime Minister Narendra Modi and the government were of the view that we have to do what is the best for our nation," Jaishankar said. (ANI)

https://aninews.in/news/world/us/oil-price-rise-in-india-is-way-below-global-price-hikes-hardeep-singh-puri20221008091154/

Oil price rise in India is way below global price hikes: Hardeep Singh Puri

ANI | Updated: Oct 08, 2022 09:11 IST

Washington [US], October 8 (ANI): Union Petroleum and Natural Gas minister Hardeep Singh Puri said that compared to fuel price hikes globally, India only raised prices by 2 per cent, which is way below that of other countries.

"In terms of petrol and diesel, if the increases in North America are 43-46 per cent, in India we allow prices to go up by only 2 per cent or so. In terms of gas, global benchmarks went up by 260-280 per cent and our own ability to contain gas price increases was something around 70 per cent," Puri told reporters in Washington DC.

Puri on Thursday held bilateral meeting with US energy secretary Jennifer Granholm and other top officials of the Biden Administration.

The minister also highlighted India's commitment to accelerating a just and sustainable energy transition at the ministerial dialogue on India-US strategic clean energy.

During his visit, the union minister also held meetings with senior officials of the World Bank, the Presidential envoy for energy and infrastructure Amos Hochstein and senior representatives of the White House. Puri is scheduled to meet energy business leaders in Houston on Saturday.

The Union Minister said that India was "very confident" of navigating the Organisation of Petroleum Exporting Countries Plus (OPEC+) decision to cut oil production from November by a steeper-than-expected two million barrels per day (bpd). "

How will this impact India? We are very confident of being able to navigate through the situation," Puri told reporters in Washington.

"How will this navigate India? We're very confident of being able to navigate through the situation," said Puri.

Puri highlighted India is one of the largest oil importers and the demand is expected to rise driven by an increase in the country's per capita consumption of energy which currently stands at one-third of the global average. Puri further stressed that the fuel demand is expected to keep rising as the country's economy grows.

"In India, 5mn (oil) bpd is being consumed daily; it's set to rise. Our per capita consumption compared to global averages is 1/3rd. But I see in the coming years, 25 per cent of the global increase in demand will come from India. Energy is a critical driver of economic growth," the union minister said.

The Union Minister also said that India will buy crude oil from whichever country it wanted and that New Delhi faces no pressure from Washington to cut its energy buys from Russia.

"India will buy oil from wherever it has to for the simple reason that this kind of a discussion cannot be taken to the consuming population of India," Puri told reporters in Washington. (ANI

Oil price outlook – Snapshot: October 4, 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 largely flat over the past week. China's central regulators had allocated 15 million metric tons of fuel-export quotas to independent refiners, bringing the year-to-date quotas issued to 37.25 million tons, just under the 37.61 million tons issued in 2021. As of the month of August, total fuel exports only amounted to around half those from the same time last year, according to China Customs data. While some (but not all) of the export quotas can be rolled over to next year, the prospect of a surge in China fuel exports alongside a likely output cut by OPEC+ could pressure refinery margins.
	Crude stocks	↔	• In the week ending September 23, land crude-oil storage levels in BloombergNEF's tracked regions (the US, ARA and Japan) were largely flat at 548.6 million barrels (m bbl). The stockpile **deficit** against the five-year average (2015-19) **narrowed from 29.5m bbl to 28.5m bbl**. • Including global floating crude stockpiles from the same week, total crude oil inventories increased by 2.3% to 657.9m bbl, with the stockpile **surplus widening from 25.5m bbl to 44.3m bbl.** However, in the recent week to September 30, the floating crude surplus shrunk by 18.9m bbl.
	Product stocks	↑	• In the week ending September 23, gasoline and light distillate stockpiles in BNEF's tracked regions (the US, ARA, Singapore, Japan and Fujairah) fell by 0.8% week-on-week to 255.5m bbl, with the stockpile **deficit** against the three-year average (2017-19) **widening from 5.5m bbl to 7.2m bbl**. Gasoil and middle distillate stockpiles in BNEF's tracked regions were down 1.3% to 148.1m bbl, with the stockpile **deficit** against the three-year average **widening from 30.1m bbl to 30.8m bbl**. • Oil product stockpiles in tracked regions dropped by 1.1% to 971.4m bbl, with the stockpile **deficit** against the three-year seasonal average **widening from 38.0m bbl to 48.9m bbl**. Altogether, crude and product stockpiles increased by 0.2% to 1,629.3m bbl, with the stockpile **deficit narrowing from 12.5m bbl to 4.6m bbl.**
	Demand indicators	↔	• In the week to October 4, global jet fuel demand from commercial passenger flights rose by 0.5% to 5.44 million barrels per day. Jet fuel consumption by international passenger flight departures was up by 11,800 barrels per day (or +0.4%) week-on-week, while consumption by domestic passenger flight departures increased by 15,900 barrels per day (or +0.7%). In the week to September 27, flight departures in the Eurocontrol area rose to 88.7% of the equivalent week in 2019, up from 86.9% last week. The four-week moving average climbed to 87.5%, from 87.3%. Meanwhile, in the same week, US passenger throughput fell to 90.6% of the equivalent week in 2019, down from 96.8% last week. The four-week moving average decreased to 93.8%, from 95.5%. • The oil-demand-weighted global mobility index (excluding China) grew over the past week, according to BNEF's calculation based on Google mobility data. It increased by 0.5% in the week to September 29, led by growth in Asia Pacific ex-China (+0.5%), Europe (+0.4%) and the Americas (+0.3%). Meanwhile, in the week to September 28, TomTom's peak congestion data showed decreases in North America (-2.6%) and Europe (-0.8%), while Asia Pacific ex-China showed growth (+8.5%). Road congestion in China's 15 key cities was up by 4.9 percentage points to 116.4% of January 2021 levels in the week to September 28, according to BNEF's calculation based on Baidu data. • In the week to September 27, global daily average Covid-19 cases fell by 3% to 454,000 new cases. The Americas number decreased by 1% to 73,000 daily cases, while the Asia Pacific number declined by 22% to 155,000 daily cases (although the number in **China more recently rose by 4% to 864 cases** in the week to October 3). Europe saw cases rise by 28% to 164,000 daily cases.
Financial	**Macro indicators**	↓	• The dollar index averaged 113.0 over the past week and was 1.8% higher than the week before. The Global Manufacturing PMI slipped to 49.8 in September, from 50.3 in August. The China Manufacturing PMI dropped to 48.1, from 49.5 in the prior month.
	Hedge fund positioning	↓	• In the week to September 27, Managed Money net positioning in the oil complex was down by 33.8m bbl (or -7.6%) week-on-week to 410.1m bbl, and fell to the seventh percentile (versus the 10th percentile in the prior week) of the past five years.
	Options chains and volatility	↔	• Brent and WTI 1M volatility skews were higher over the past week.
Outlook	**Weekly call**	↔	• BNEF is neutral on oil prices for the week ahead, with Brent Dec-22 trading at $90.71/bbl and WTI Nov-22 trading at $85.26/bbl at the time of writing. • The oil-demand-weighted global mobility index (excluding China) strengthened over the past week, although the increase versus a year ago shrank by 0.9 percentage points to 12.4%. Global jet fuel demand rose week-on-week. The four-week moving average for air traffic in Europe moved slightly higher to 87.5% of 2019 levels but was still below the year-to-date high of 88.1% reached seven weeks prior. Meanwhile, four-week average passenger throughput slipped to 93.8% of 2019 levels, down from the post-pandemic high of 95.5% seen last week (note: there were retrospective revision in passenger throughput). • Weekly oil product inventories saw a bullish move over the past week as the stockpile deficit against its seasonal average widened. Although the increase in crude inventory surplus was more significant, more recent data suggests that the floating crude stockpile surplus shrunk by 18.9m bbl (or 37%) in the week to September 30. • Given the current news flows, the market is likely expecting OPEC+ to cut production quotas by 1.0-1.5m b/d for the month of November. The group underproduced by 3.5m b/d against their quota levels in August.

BloombergNEF

Past outlooks

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

Date of report	Refinery margins	Crude stocks	Product stocks	Demand indicators	Commitment of traders	Options chain and volatility	BNEF week ahead call	Brent/WTI price at time of writing ($/bbl)	Web Link
October 4	↔	↔	↑	↔	↓	↓	↔	Brent-Dec: 90.71 WTI-Nov: 85.26	
September 27	↔	↓	↓	↓	↓	↓	↔	Brent-Dec: 94.06 WTI-Nov: 87.83	
September 6	↓	↑	↔	↓	↔	↑	↓	Brent-Nov: 101.00 WTI-Oct: 95.40	
August 30	↔	↔	↓	↑	↑	↑	↑	Brent-Oct: 93.65 WTI-Sep: 87.83	
August 16	↔	↓	↔	↓	↓	↔	↓	Brent-Oct: 97.60 WTI-Sep: 91.50	
August 9	↔	↓	↔	↔	↓	↓	↔	Brent-Oct: 99.38 WTI-Sep: 93.42	
August 2	↔	↑	↔	↔	↔	↔	↓	Brent-Oct: 101.94 WTI-Sep: 98.46	
July 26	↔	↓	↔	↓	↑	↔	↔	Brent-Sep: 105.88 WTI-Sep: 99.03	
July 19	↔	↓	↓	↓	↔	↔	↓	Brent-Sep: 105.18 WTI-Aug: 102.34	
July 11	↓	↓	↑	↓	↓	↓	↓	Brent-Sep: 111.71 WTI-Aug: 107.91	
July 5	↓	↑	↓	↑	↓	↓	↔	Brent-Aug: 115.81 WTI-Aug: 110.34	
June 21	↑	↓	↑	↑	↓	↓	↔	Brent-Aug: 120.06 WTI-Jul: 118.58	
June 13	↔	↑	↔	↔	↑	↔	↔	Brent-Aug: 119.88 WTI-Jul: 118.94	
June 6	↔	↑	↑	↔	↑	↔	↔	Brent-Aug: 116.46 WTI-Jul: 115.81	

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

24) ✓Oil Price Indicators Weekly BNE 11/30

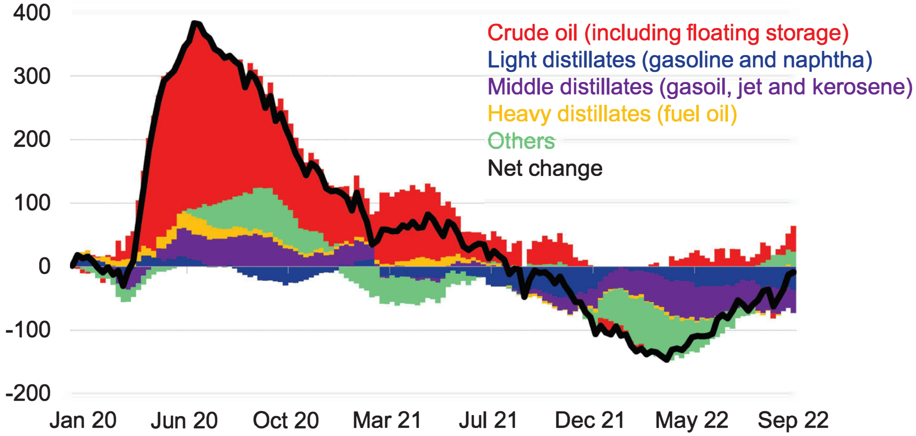
BloombergNEF

Weekly oil inventories

Stockpile levels rise back to January 2020 levels

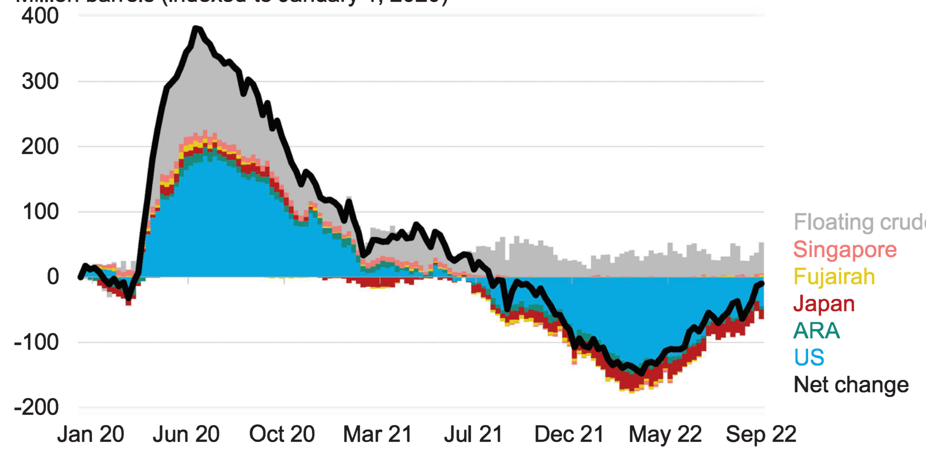
Weekly oil inventories by type

Million barrels (indexed to January 1, 2020)



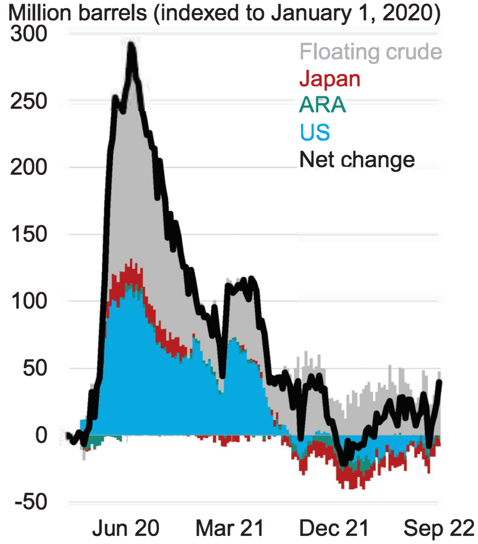
Weekly oil inventories by region

Million barrels (indexed to January 1, 2020)



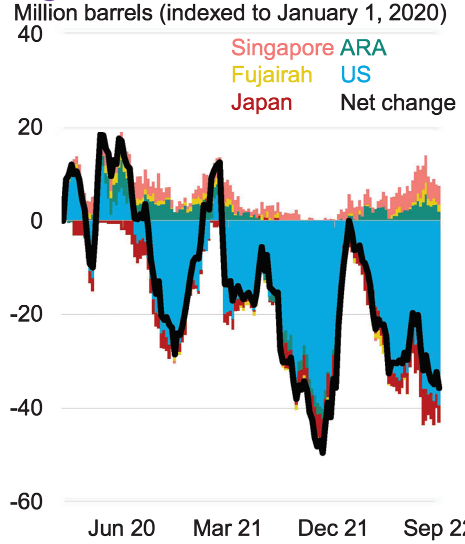
Crude inventories

Million barrels (indexed to January 1, 2020)



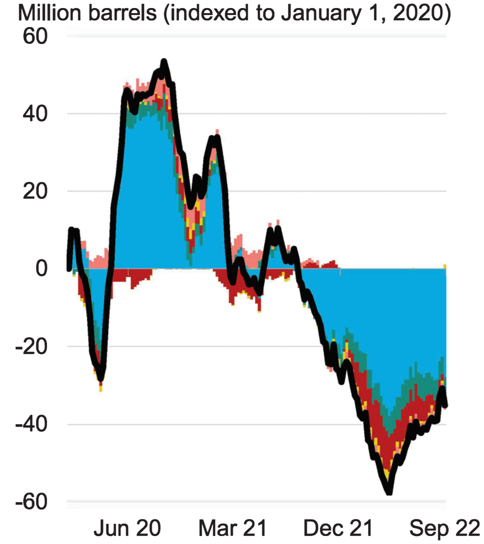
Light distillate inventories

Million barrels (indexed to January 1, 2020)



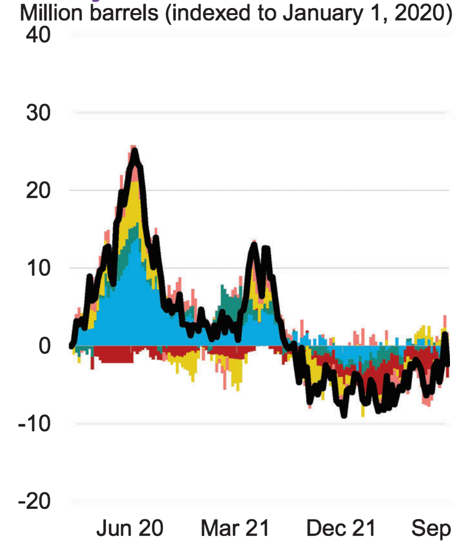
Middle distillate inventories

Million barrels (indexed to January 1, 2020)



Heavy distillate inventories

Million barrels (indexed to January 1, 2020)



*Source: BloombergNEF, US EIA, PJK, IE Singapore, FEDCom/Platts, PAJ ,Vortexa, Genscape. Note: As of the week ending **September 23, 2022**.*

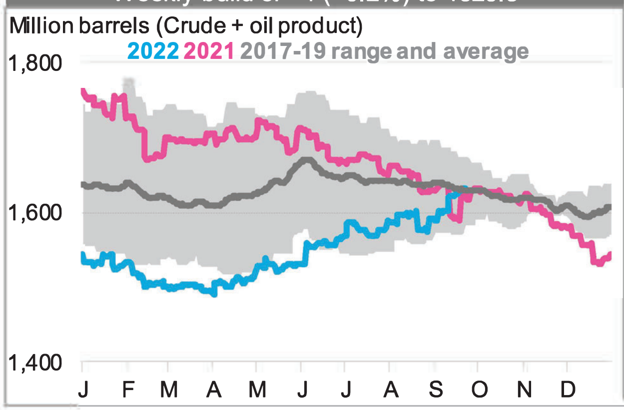
Aggregated oil stockpiles

Bearish: Stockpile deficit narrowed from 12.5m bbl to 4.6m bbl

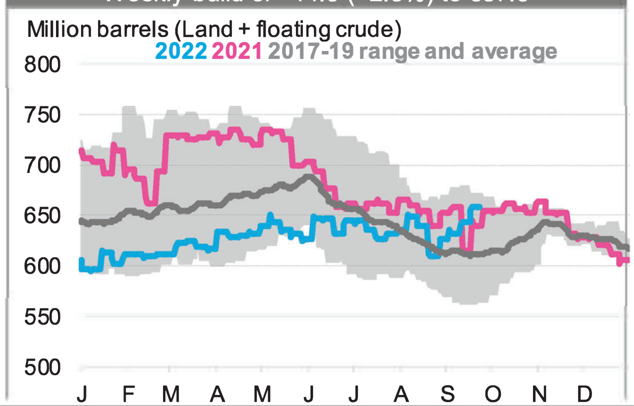
- Charts below use the **2017-19** (three-year) seasonal stockpiles. All calculations are recalibrated to measure against their respective three-year seasonal averages, so the values below may differ from the previous slides.
- Land crude inventories include the US, ARA, Japan and Shandong Teapots. Floating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

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

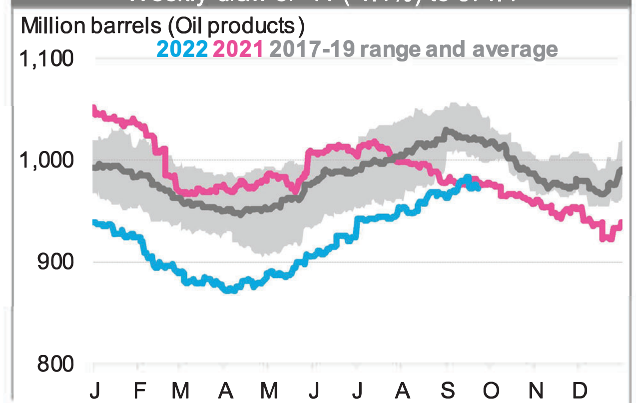
Weekly build of +4 (+0.2%) to 1629.3



Weekly build of +14.9 (+2.3%) to 657.9



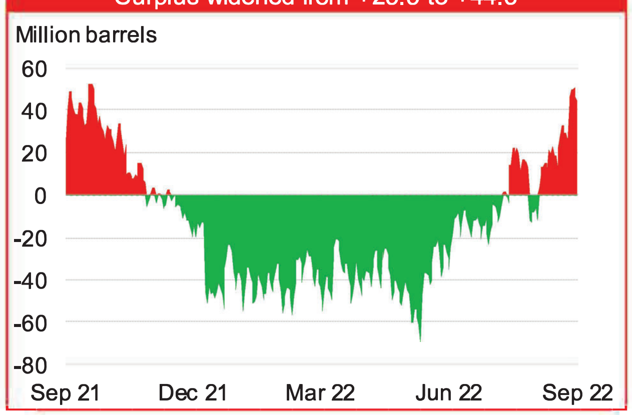
Weekly draw of -11 (-1.1%) to 971.4



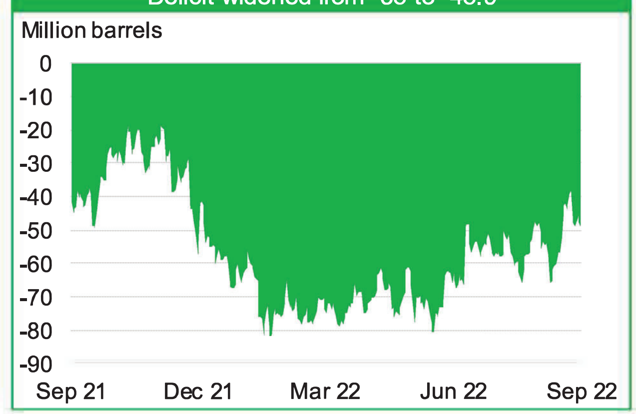
Charts below subtract current stockpiles by the 2017-19 (three-year) seasonal average

Deficit narrowed from -12.5 to -4.6

Surplus widened from +25.5 to +44.3



Deficit widened from -38 to -48.9



*Source: BloombergNEF, US EIA, PJK, IE Singapore, FEDCom/Platts, PAJ ,Vortexa, Genscape. Note: As of the **week ending September 23, 2022.***

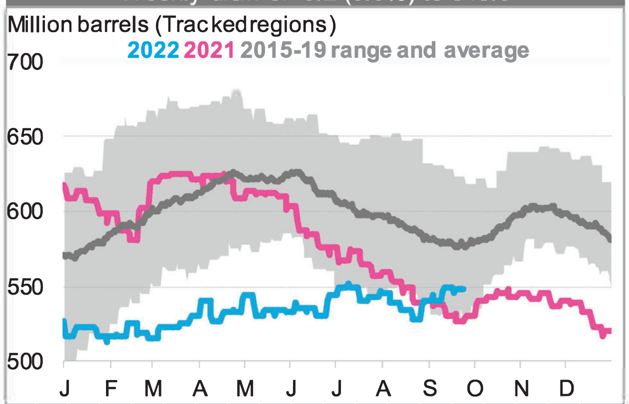
Crude stocks: Land

Neutral: Deficit narrowed from 29.5m bbl to 28.5m bbl against the seasonal average

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

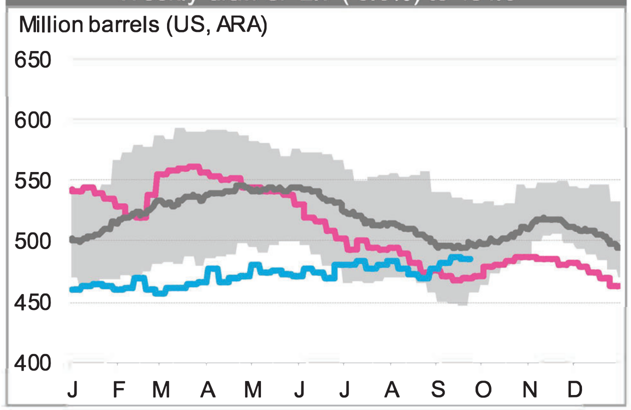
Land storage: Total

Weekly draw of -0.2 (0.0%) to 548.6



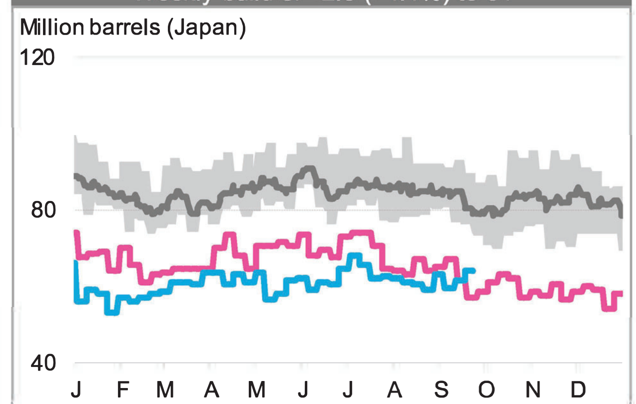
Land storage: West of Suez

Weekly draw of -2.7 (-0.6%) to 484.6



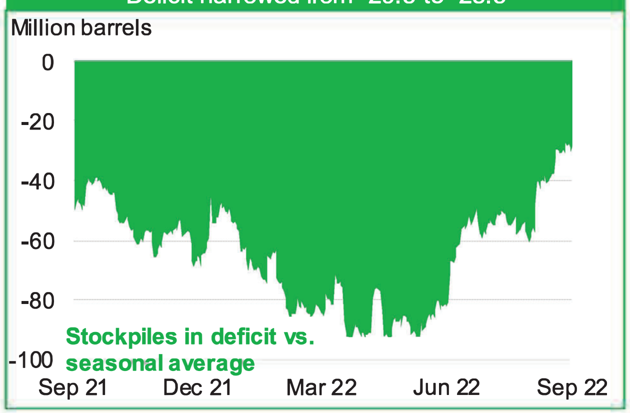
Land storage: East of Suez

Weekly build of +2.5 (+4.1%) to 64

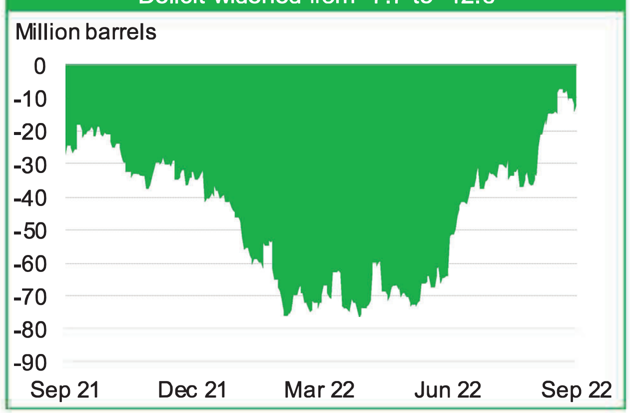


Charts below subtract current stockpiles by the 2015-19 (five-year) seasonal average

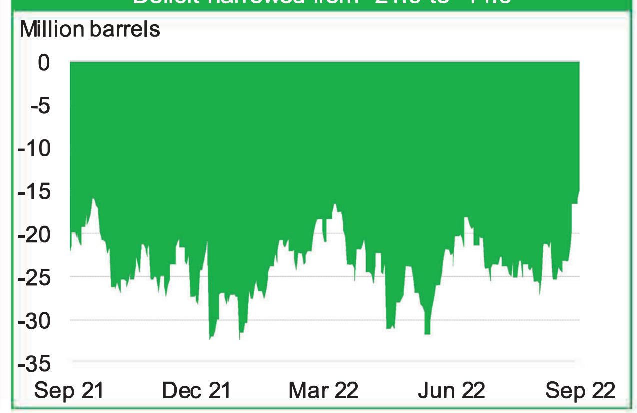
Deficit narrowed from -29.5 to -28.5



Deficit widened from -7.7 to -12.6



Deficit narrowed from -21.9 to -14.9



Source: BloombergNEF, US EIA, Genscape, PAJ. Note: As of the ***week ending September 23, 2022.***

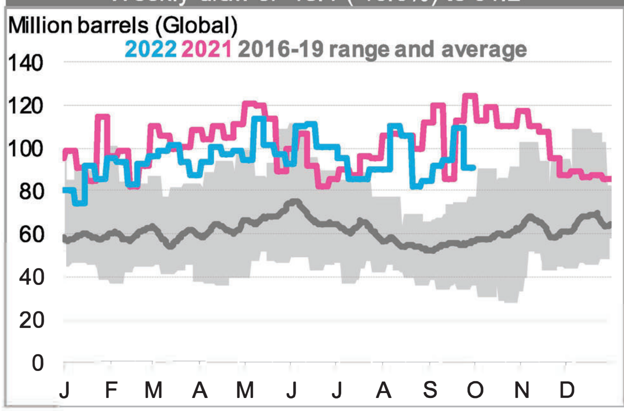
Crude stocks: Floating

Bullish: Surplus narrowed significantly in the most recent week

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

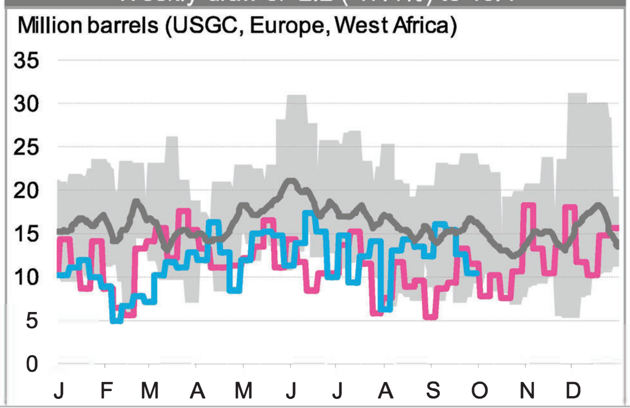
Floating storage: Total

Weekly draw of -18.1 (-16.6%) to 91.2



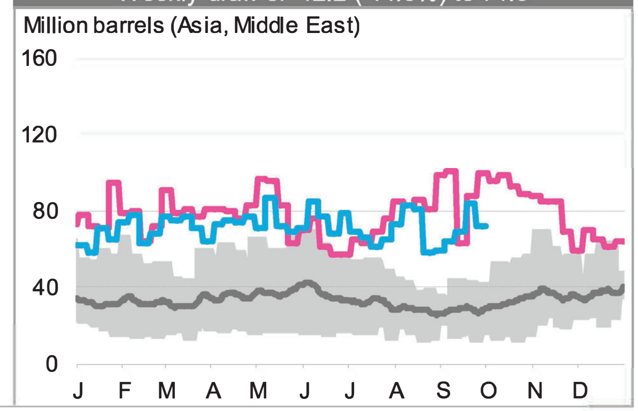
Floating storage: West of Suez

Weekly draw of -2.2 (-17.4%) to 10.4



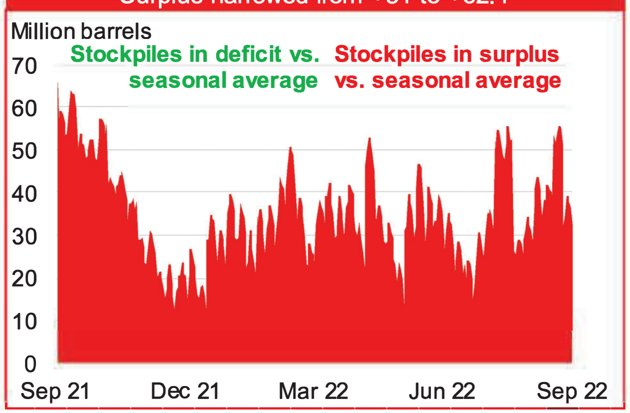
Floating storage: East of Suez

Weekly draw of -12.2 (-14.5%) to 71.9

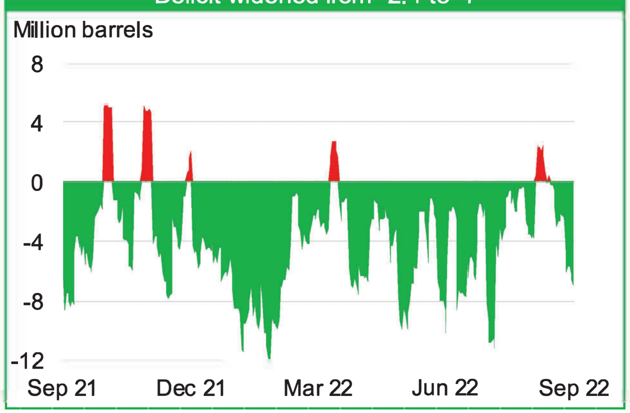


Charts below subtract current stockpiles by the 2016-19 (four-year) seasonal average

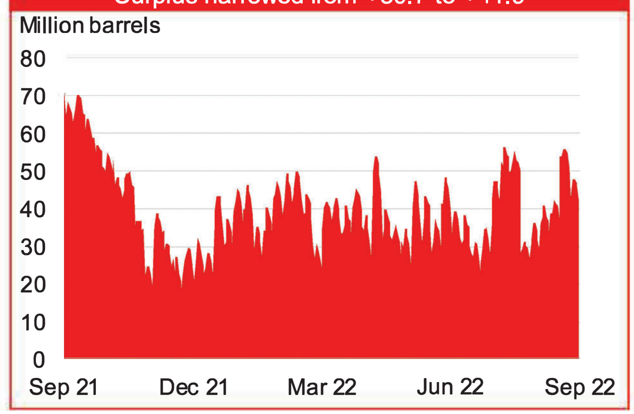
Surplus narrowed from +51 to +32.1



Deficit widened from -2.4 to -7



Surplus narrowed from +50.7 to +41.9

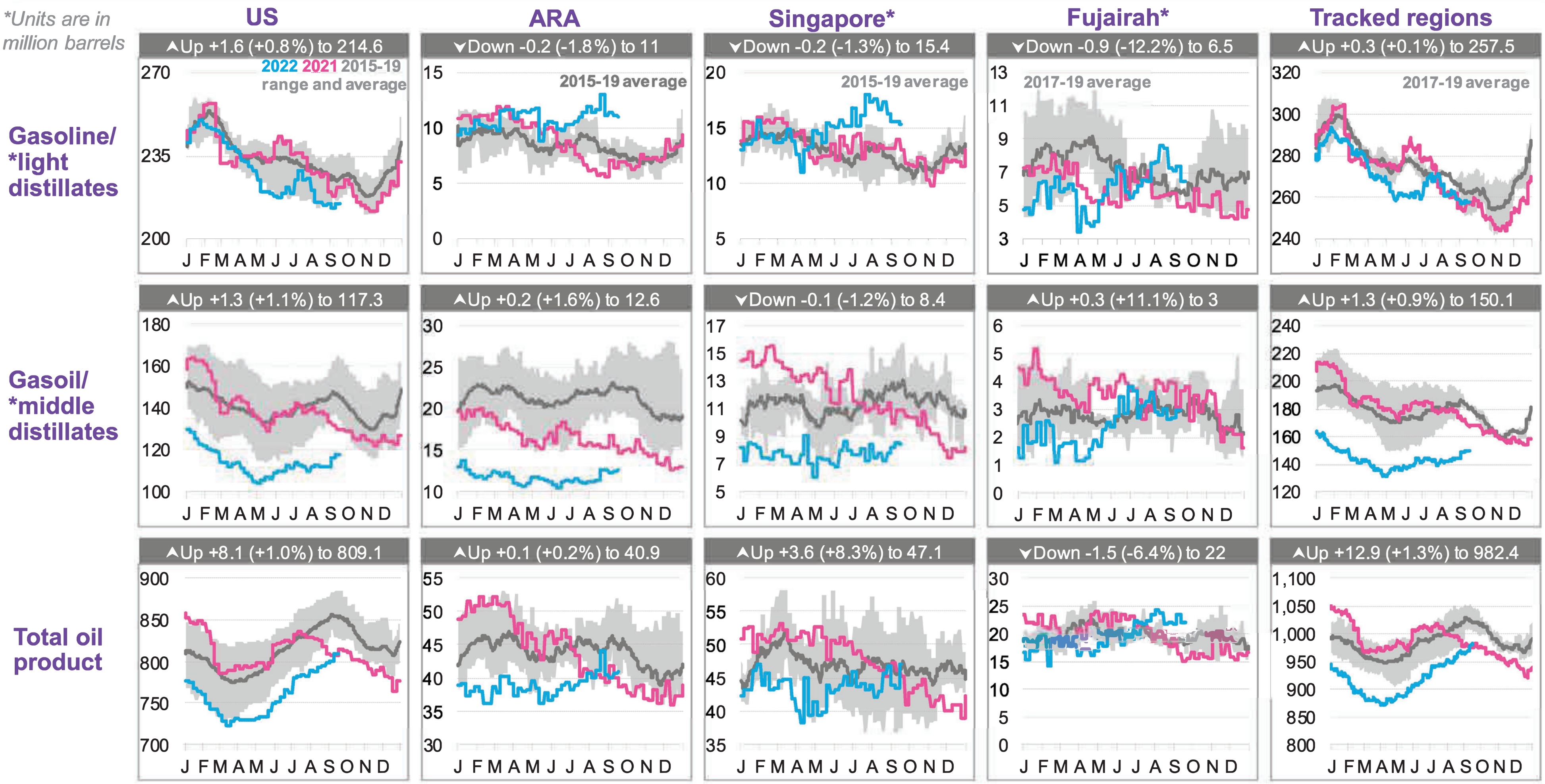


*Source: BloombergNEF, Vortexa. Note: As of the **week ending September 30, 2022**. ***Raw data from Vortexa are revised frequently, so the data in this report might change week-to-week.***

Product stocks: Current versus seasonal average

Neutral: Oil product stockpiles in tracked regions grew by 1.3% over the past week, hovering at 2021 levels

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

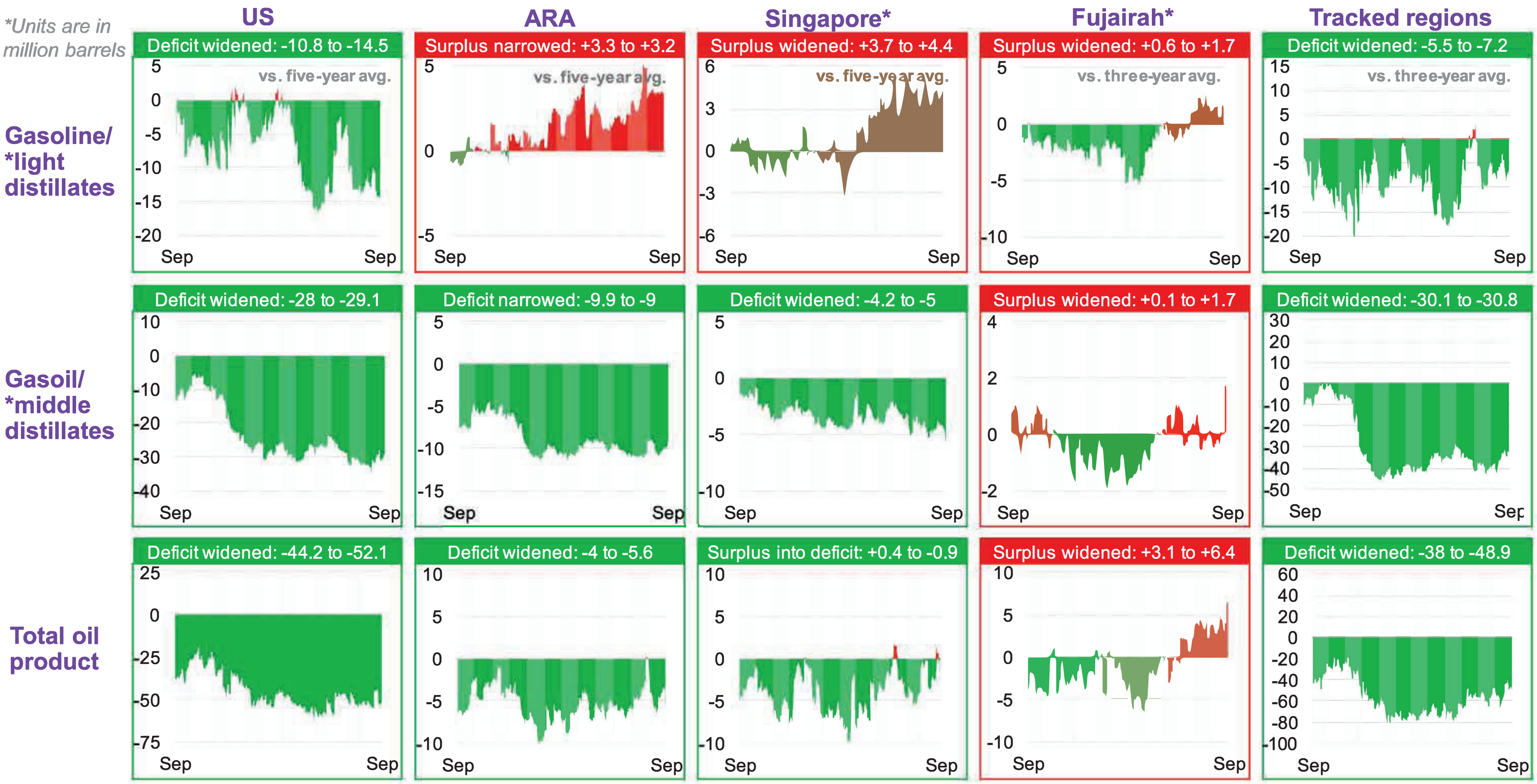


Source: BloombergNEF, US EIA, PJK, IE Singapore, FEDCom/Platts, PAJ. Note: As of the ***week ending September 23, 2022.***

Product stocks: Current versus seasonal average

Bullish: Oil product stockpile deficit against the seasonal average widened from 38.0m bbl to 48.9m bbl

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



Source: BloombergNEF, US EIA, PJK, IE Singapore, FEDCom/Platts, PAJ. Note: As of the **week ending September 23, 2022.**

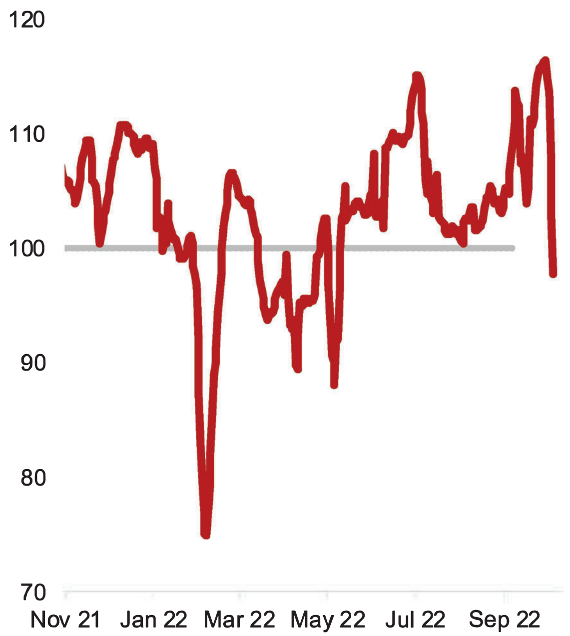
TomTom | Google | Baidu

Comparing the three mobility indicators

Stark fall in China, steady growth elsewhere

China-15 (Baidu) congestion index

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

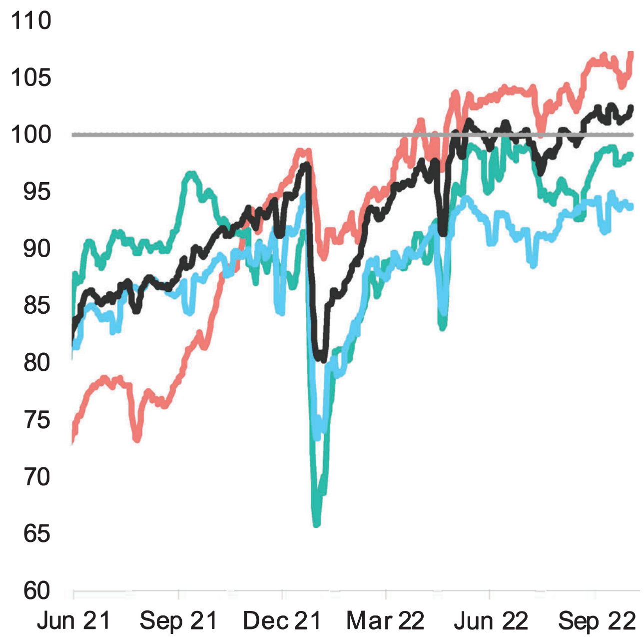


	Latest	Week Δ	Four-week Δ
China-15	**97.82**	-18.58 (-15.96%)	-11.60 (-10.60%)

Source: BloombergNEF, calculated from Baidu data. Note: Data updated to ***October 5, 2022****.*

Google mobility index

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

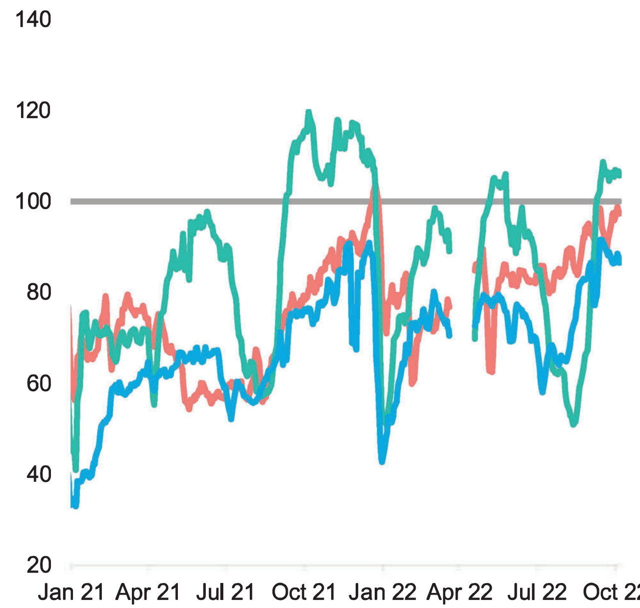


	Latest	Week Δ	Four-week Δ
Asia Pacific	**107.2**	2.8 (+2.7%)	1.0 (+0.9%)
World	**102.4**	1.1 (+1.1%)	0.3 (+0.3%)
Europe	**98.2**	0.6 (+0.6%)	0.2 (+0.2%)
Americas	**93.8**	-0.04 (-0.0%)	-0.3 (-0.4%)

Source: Google Community Mobility Report, BloombergNEF. Note: ***Data exclude China and Russia.*** *Calculation includes retail and recreation, workplaces, transport hubs.* ***Data updated to October 2, 2022.*** *The world index rating is weighted by the 2019 road fuels demand of each country.*

TomTom congestion index

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



	Latest	Week Δ	Four-week Δ
Europe	**105.7**	0.0 (+0.0%)	11.8 (+12.6%)
Asia Pacific	**97.3**	-0.2 (-0.3%)	1.0 (+1.0%)
North America	**86.5**	0.1 (+0.2%)	8.6 (+11.1%)

Source: TomTom road congestion data, BloombergNEF. Note: ***Asia Pacific excludes China. Data updated to October 5, 2022.***

BloombergNEF

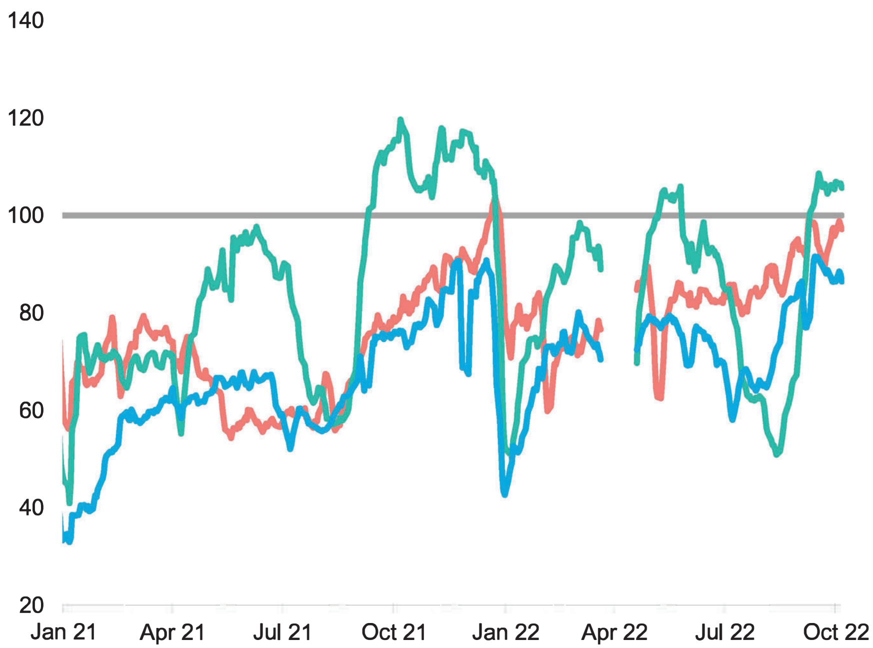
Apple Mobility reports were discontinued on April 14, 2022. We have resumed updating TomTom congestion data, which was previously updated to March 16.

TomTom congestion index

Flat week as levels remain relatively unchanged from previous week

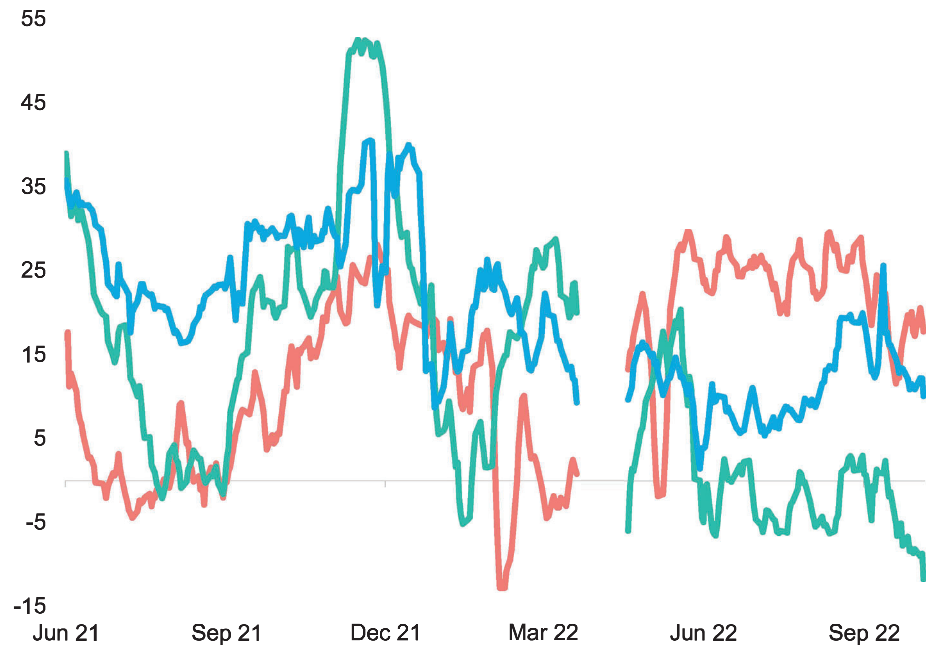
Regional road-congestion index

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



Index point change versus the previous year

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



	Latest	Week Δ	Four-week Δ	Index point Δ vs year before	Index point Δ vs year before (last week)
Europe	**105.7**	0.0 (+0.0%)	11.8 (+12.6%)	-9.25	-7.22
Asia Pacific	**97.3**	-0.2 (-0.3%)	1.0 (+1.0%)	18.46	18.13
North America	**86.5**	0.1 (+0.2%)	8.6 (+11.1%)	11.25	12.23

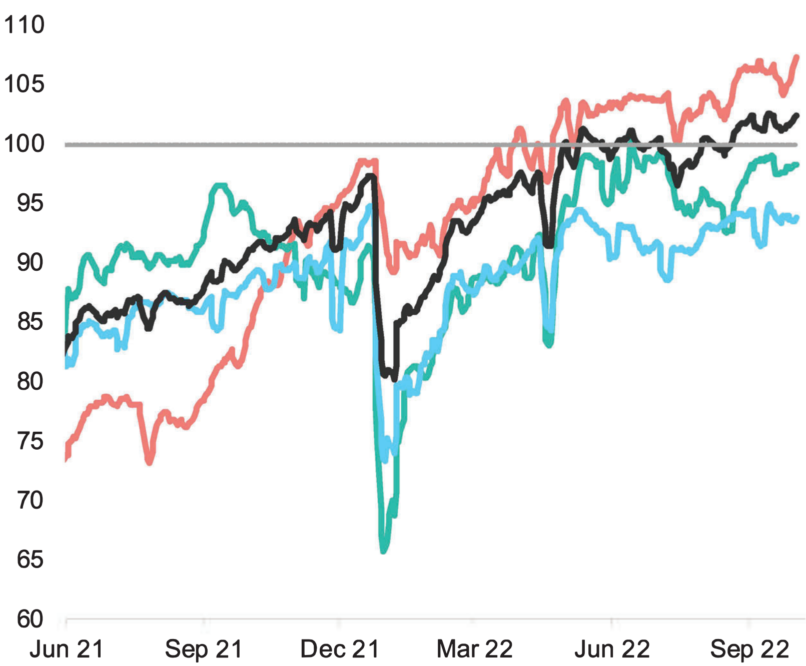
*Source: TomTom, BloombergNEF. Note: **Asia Pacific excludes China. Data updated to October 5, 2022,** with weekly addition from September 28, 2022. Index point change versus the previous year is obtained by averaging the latest weekly values.*

Google mobility index

Mobility growth picks up speed

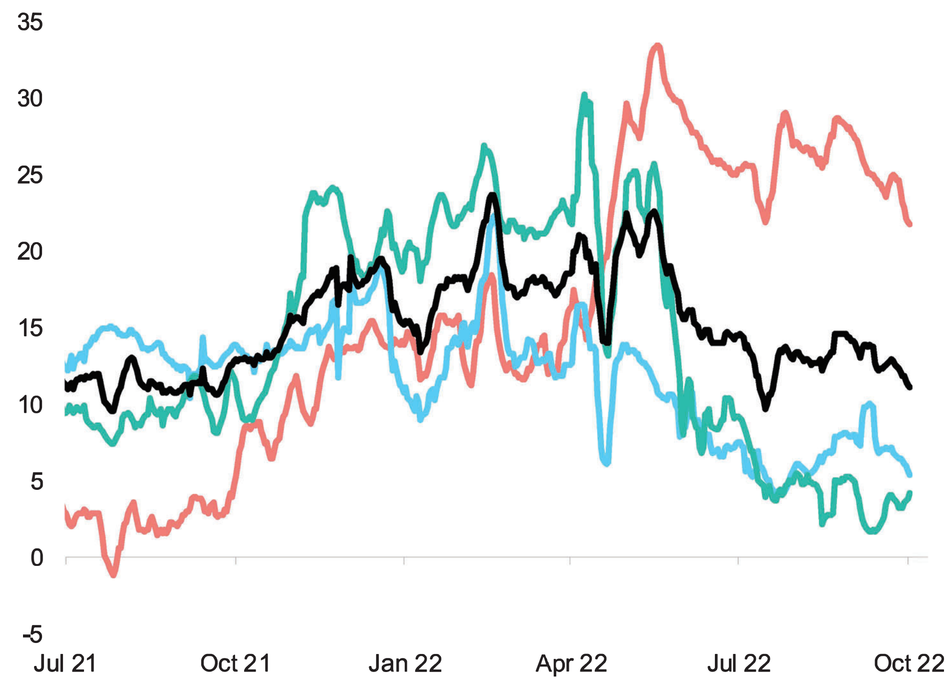
Global and regional road mobility index

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



Index point change versus the previous year

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



	Latest	Week Δ	Four-week Δ	Index point Δ vs year before	Index point Δ vs year before (last week)
Asia Pacific	**107.2**	2.8 (+2.7%)	1.0 (+0.9%)	23.4	24.5
World	**102.4**	1.1 (+1.1%)	0.3 (+0.3%)	6.3	7.1
Europe	**98.2**	0.6 (+0.6%)	0.2 (+0.2%)	3.5	3.7
Americas	**93.8**	-0.04 (-0.0%)	-0.3 (-0.4%)	11.9	12.7

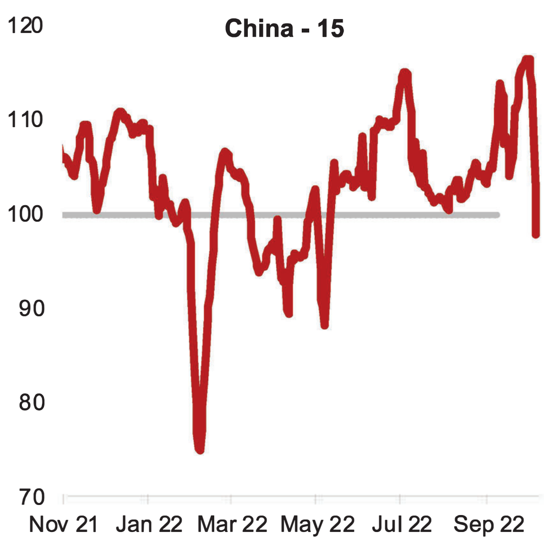
Source: Google Community Mobility Report, BloombergNEF. Note: ***Data excludes China and Russia.*** *Calculation includes retail and recreation, workplaces and transport hubs.* ***Data updated to October 2, 2022,*** *with weekly addition from September 17, 2022. The world/regional index is weighted by the 2019 road fuels demand of each country. Index point change versus the previous year is obtained by averaging the latest weekly values.*

China (Baidu) congestion index

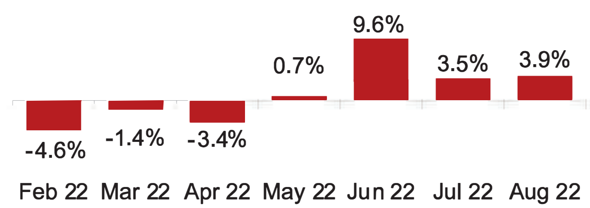
National holidays under lockdown lead to massive drop

China congestion index (calculated from Baidu data)

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



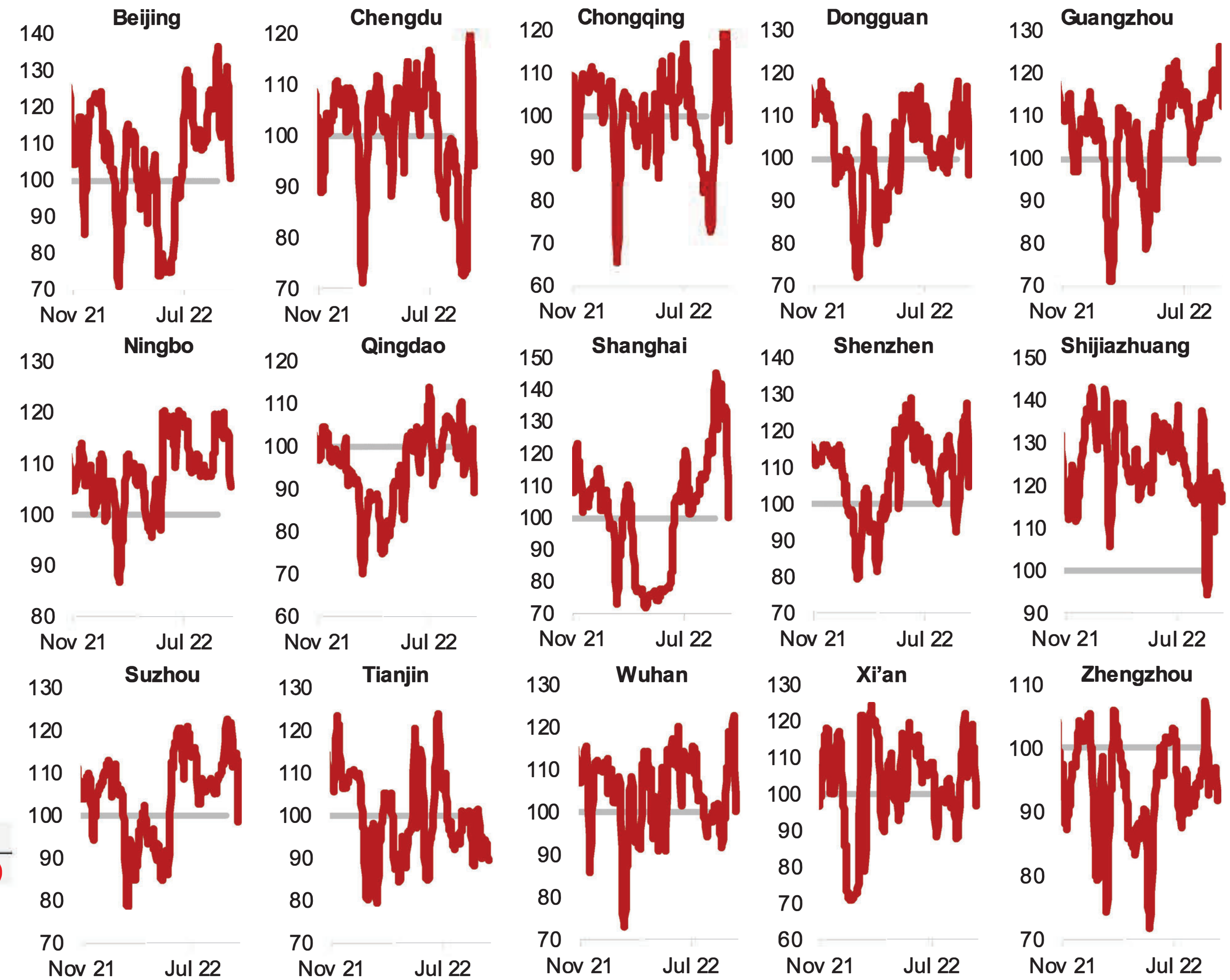
Monthly % change from January 2021 level



	Latest	Week Δ	Four-week Δ
China - 15	97.82	-18.58 (-15.96%)	-11.60 (-10.60%)

Road traffic in China in the week ending October 5 was down 18.58 percentage points to 97.82% of January 2021 levels.

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



Source: BloombergNEF, calculated from Baidu’s data. Note: ***Data updated to October 5, 2022****. City-level charts display the 15 cities with the highest number of vehicle registrations (excluding two- and three-wheelers). The China-15 congestion level is calculated by taking the weighted average of the congestion levels in the 15 cities and their vehicle registration numbers.*

Excerpt https://daniellesmith.ca/#sovereignty-act

What is the Alberta Sovereignty Act?

A proposed law that would affirm the authority of the Provincial Legislature to refuse provincial enforcement of specific Federal laws or policies that violate the jurisdictional rights of Alberta under Sections 92 – 95 of the Constitution or that breaches the Charter Rights of Albertans.

How would the Legislation work?

Prior to being introduced in the Legislature for debate and vote this Fall, I will work with Cabinet and Caucus to draft the Alberta Sovereignty Act in accordance with sound constitutional language and principles.

However, as a starting point for discussion, this proposed legislation is intended to function as follows:

When the Federal Government institutes a law or policy that appears to violate Alberta's jurisdictional rights under the Canadian Constitution or Albertans' Charter rights, the Government of Alberta may introduce a Special Motion for a free vote of all MLAs in the Legislature. Each such Special Motion would need to include the following detailed information:

1. Identification of the Federal law or policy that is deemed to be in violation of the Constitution or Charter, and the constitutional explanation for making that claim

2. Explanation of the harms that the specified violation of the Constitution or Charter imposes on the citizens of Alberta

3. Detailed description of the specific actions the Province and its agencies will take to refuse or otherwise oppose the enforcement of that specified Federal law or policy within Alberta

4. A Declaration that by authority of the Alberta Sovereignty Act, and notwithstanding the specific Federal law or policy in question, it shall not be enforced by the Provincial Government within Alberta in the manner outlined by the Special Motion

5. Imposition of a date to review and debate, in the Legislature, whether or not to amend, end or continue the actions outlined in the Special Motion. This review date shall be no later than the earlier of 24 months or within 90 days of a Court staying or deeming all or a portion of a Special Motion unconstitutional.

https://www.rwe.com/en/press/rwe-ag/2022-10-04-agreement-on-coal-phase-out-2030-and-strengthening-security-of-supply-in-the-energy-crisis

Agreement on coal phase-out 2030 and strengthening security of supply in the energy crisis

- Earlier coal phase-out contributes significantly to achieving German climate protection goals
- Neurath D and E power plant units to remain temporarily on the grid to strengthen security of supply and displace gas from electricity generation
- Necessary staff reductions to be implemented in a socially responsible way

Essen, 4 October 2022

“Security of supply is the order of the day. At the same time, climate protection remains one of the key challenges of our time. RWE supports both: in the current crisis, we are contributing to security of supply in Germany by temporarily increasing the use of our lignite-fired power plants and are thus also helping to displace gas from electricity generation. At the same time, we are investing billions of euros to accelerate the energy transition and are ready to phase out lignite by 2030. The further acceleration of the coal phase-out must not be at the expense of employees. That is why we want the phase-out to happen in a socially responsible way, as before. It was important to RWE that the German government also assured us that it would adapt the legal regulations so that no one is left out in the cold.“

Markus Krebber, CEO of RWE AG

RWE is ready to end lignite-based electricity generation in 2030. This decision is part of an agreement between the company and the Federal Ministry of Economics and Climate Protection and the Ministry of Economic Affairs, Industry, Climate Action and Energy of the State of North Rhine-Westphalia, which was presented today at a joint press conference in Berlin. The decision does not provide for any additional compensation for the company. At the same time, RWE confirmed its plans to invest massively in the energy transition.

Significant CO_2 savings create basis for bringing company onto 1.5-degree path

The agreement to bring forward the lignite phase-out by eight years corresponds to a halving of the previously planned time span. This will leave around 280 million tonnes of coal in the ground corresponding to around 280 million tonnes of CO_2 that will not be emitted. RWE is thus making a significant contribution to ensuring that Germany can achieve its climate protection targets. The company's long-term CO_2 balance will thus once again improve considerably. Even before this decision, the company's strategy was in line with the Paris Climate Agreement. The 2030 coal phase-out is the basis for RWE to now be able to adjust its CO_2 reduction plan to the 1.5 degree path.

Regulations on adjustment allowance for affected employees

For many employees at RWE, the early exit has a major impact. While more staff will be needed in the short term to operate additional power plants during the energy crisis, staff reductions will accelerate significantly towards the end of the decade. The company welcomes the fact that the German government intends to ensure that legal regulations allow for the use of the adjustment allowance. As in the past, RWE intends to implement the staff reduction process resulting from the accelerated decommissioning in a socially responsible way. The aim is also to give younger employees who cannot retire early an overview of the opportunities within the company or with other employers. Extensive qualification and retraining measures are to support the adjustment path.

High investment in renewable energies and secured capacity

In order for the coal phase-out to be possible, the energy transition must be so far advanced by 2030 that Germany's security of supply is not at risk. This requires a massive expansion of wind and solar power plants, storage facilities and additional secured capacity in the form of state-of-the-art gas-fired power plants that can be operated with hydrogen in the future. The German government intends to create a framework for the construction of these plants in order to facilitate the necessary investments.

RWE will play a major role in driving forward the expansion of these modern technologies. As one of the world's leading companies in renewable energies, the company will invest more than €50 billion gross globally in the expansion of its green core business by 2030, €15 billion of which is earmarked for Germany.

In North Rhine-Westphalia, the company is working to further increase its expansion target of 1 gigawatts (GW) of renewables. The Rhenish lignite area, with its former open-cast mining areas, is a focal point. RWE intends to participate in the necessary expansion of modern H2-ready gas-fired power plants with around 3 GW of power plant capacity. To this end, the company is earmarking former coal-fired power plant sites in NRW to strengthen the structural change of the region and secure industrial jobs.

Coal phase-out in 2030 helps achieve climate protection targets

By bringing forward the coal phase-out by eight years, North Rhine-Westphalia and RWE are once again taking a bold step forward and making an important contribution to achieving Germany's climate protection targets. In order to ensure security of supply during a short period of time after 2030, the German federal government can decide by 2026 at the latest whether the last lignite-fired power plants will be placed on security standby until the end of 2033. These include a 600-megawatt unit and the three modern lignite-fired power plants with optimised plant engineering, which have a total capacity of around 3,600 megawatts (MW). Should they be needed, no more changes are required to the opencast mine planning process. In addition, the recultivation that will start in 2030 will also continue unchanged.

Power stations temporarily remain online to help Germany in the energy crisis

In accordance with the German Coal Phaseout Act, the Neurath D and E power plant units are scheduled to be taken off the grid at the end of this year. Together, the two plants have a total capacity of 1,200 MW. In order to ensure that the available conventional power plant capacity in Germany is not further reduced, the decommissioning of the two units will be deferred until 31 March 2024 and, against the background of the current gas supply situation, remain on the market. Until the end of 2023, the German federal government will have the opportunity to extend the lifetimes or to transfer the units to a power plant reserve. Both options would be limited until 31 March 2025.

Implications of the coal phase-out for the Rhenish lignite mining area

By bringing forward the coal phase-out to 2030, the amount of coal produced at the Garzweiler open cast mine will be roughly halved, and the third resettlement planned at Garzweiler with the villages of Keyenberg, Kuckum, Oberwestrich, Unterwestrich and Berverath, including the three Holzweiler farms (Eggeratherhof, Roitzerhof, Weyerhof) will no longer go ahead. However, the coal under the former settlement of Lützerath, in the immediate run-up to the opencast mine, is needed to operate the lignite fleet at high capacity during the energy crisis and also to extract sufficient material for high-quality recultivation. The necessary permits and court decisions for this have been obtained and all of the original residents have already left the site.

https://orsted.com/en/media/newsroom/news/2022/10/20221001568911

Danish authorities order Ørsted’s oil- and coal-fired power stations into operation

01.10.2022 03:20

In order to ensure the security of the electricity supply in Denmark, the Danish authorities have decided to order Ørsted to continue and resume operations of three of its power station units which use oil and coal as fuel.

This applies to unit 3 at Esbjerg Power Station and unit 4 at Studstrup Power Station, which both use coal as their primary source of fuel, and unit 21 at Kyndby Peak Load Plant, which uses oil as fuel. The two latter units have already been decommissioned and preserved, whereas Esbjerg Power Station was scheduled to be decommissioned on 31 March 2023.

Mads Nipper, Group President and CEO of Ørsted, says:

"In order to ensure the security of the electricity supply, the Danish authorities have today ordered us to continue as well as resume operations at some of our oil- and coal-fired power stations. We will, of course, comply with the Danish authorities’ order, and we'll now begin preparing and maintaining the units as well as securing the staffing necessary to operate them. We still believe that we, as a society, must phase out the use of gas, oil, and coal as soon as possible, but we're in the middle of a European energy crisis, and we will, of course, contribute to ensuring the electricity supply to the best of our ability."

Ørsted will be facing a number of technical and staffing issues that will have to be solved. Maintenance will have to be carried out at all three units to prepare them for operation during the required period. In addition, it takes highly specialised workers to operate a power station, and they must be trained in operating the specific power station. Ørsted expects that it will take time to get everything in place, especially for unit 4 at Studstrup Power Station and unit 21 at Kyndby Peak Load Plant, but will make every effort to get the units ready for operation as soon as possible.

The Danish authorities have ordered Ørsted to keep the three units in operation until 30 June 2024, and Ørsted therefore maintains its goal of becoming carbon-neutral by 2025.

Facts about the power station units:

Esbjerg Power Station, unit 3: Coal-fired, can generate 370 MW of electricity
Studstrup Power Station, unit 4: Coal-fired, can generate 360 MW of electricity
Kyndby Peak Load Plant, unit 21: Oil-fired, can generate 260 MW of electricity

For further information, please contact:

Resource Eligibility Interim Report

October 7, 2022

Connecting Today.
Powering Tomorrow.

Table of Contents

This interim report has been prepared for the Ontario Minister of Energy to inform policy decisions about the eligibility of carbon-emitting generation in upcoming procurements to meet future energy and capacity needs. This analysis complements an ongoing assessment of potential pathways to decarbonize the grid to be released later this year.

The IESO recommends that a diverse set of resources, which would include a significant investment in battery storage, balanced by natural gas capacity and other forms of non-emitting generation, be included in these procurements to ensure reliability and affordability.

The IESO is confident that a maximum target of 1,500 megawatts (MW) of new natural gas capacity will address short-term energy needs and contribute to the province's longer-term energy transition. Without a limited amount of new natural gas in the near term, the IESO would be reliant on emergency actions such as conservation appeals and rotating blackouts to stabilize the grid. Recommendations on the future role of natural gas will be included in the Pathways to Decarbonization report to be released later this year.

Executive Summary

Ontario currently has one of the cleanest electricity systems in North America. Greenhouse gas emissions from the electricity sector comprise roughly three per cent of all emissions in the economy. This low-carbon supply mix is highly attractive for business development and creates opportunities for significant emissions reductions in other sectors to support the energy transition.

The Independent Electricity System Operator (IESO) has identified capacity needs in the 2025-2027 period, as well as energy and capacity needs later in the decade and beyond. As the province's system planner, the IESO is implementing plans to secure supply, much of it non-emitting, to meet these needs, including: executing new contracts for existing natural gas and wind facilities; increasing targets and enabling imports in the annual capacity auction; and, rescheduling generator outages and refurbishments.

In 2023, at the direction of the Minister of Energy, the IESO will launch new Save on Energy conservation programs to further reduce demand. In addition, the IESO expects to exercise an import capacity agreement with Quebec in 2026 or 2027. The Minister has also asked Ontario Power Generation to seek regulatory approval for an extension of the Pickering Nuclear Generating Station's operating licence until fall 2026.

Earlier this year, the IESO launched three competitive procurements, which are expected to result in one of the largest storage procurements in North America. The IESO, however, has identified significant reliability risks associated with supply chain disruptions, tight market conditions which could be particularly impactful for battery storage projects, and new technology integration.

To mitigate these risks, the IESO recommends pursuing a diverse portfolio of supply options. The procurement will target 4,000 MW of new capacity from a variety of resources including approximately 2,500 MW of storage, contributions from other non-emitting resources such as hybrids and biofuel resources, and up to 1,500 MW of natural gas. Without a limited amount of new natural gas in the near term, the IESO would be reliant on emergency actions such as conservation appeals and rotating blackouts to stabilize the grid. Failure to mitigate these risks, if combined with extreme weather, could create conditions similar to those seen in California where shortfalls resulted in rotating blackouts.

Over time, the IESO expects that natural gas generation will be replaced by a portfolio approach that includes new non-emitting generation, storage, as well as demand-side and transmission solutions. As this transition occurs, natural gas can continue to provide stability to the system as new forms of flexible supply are built, tested and connected to the grid.

By using natural gas in a limited way, Ontario's communities, businesses and consumers will be able to continue with their electrification plans, while at the same time, decarbonization of the electricity system can continue in a carefully coordinated manner without risking reliability or economic growth.

Purpose

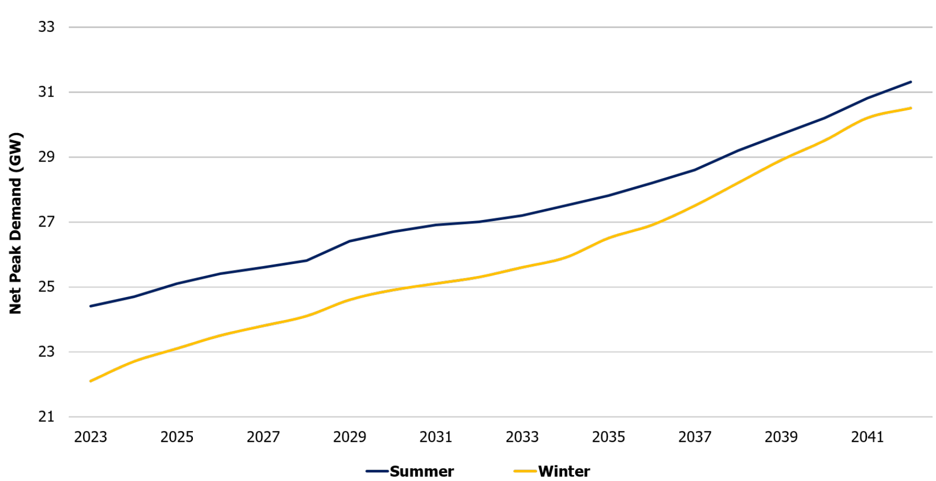
This interim report has been prepared for the Ontario Ministry of Energy to inform future policy decisions about the eligibility of carbon-emitting generation in procurements to secure new supply to meet future energy and capacity needs. The IESO recommends to the Minister of Energy that a diverse set of resources, including natural gas, should be included in the Long-Term 1 procurements to ensure that Ontario's electricity system is reliable in 2025 and beyond and can enable economic growth and electrification. This analysis is a complement to an ongoing assessment of potential pathways to decarbonization for Ontario's electricity sector to be released later this year.

Ontario's Energy Future

Ontario currently has one of the cleanest electricity systems in North America. Greenhouse gas emissions from the electricity sector comprise roughly three per cent of all emissions in the economy. This relatively low-carbon supply mix is highly attractive for business development and creates opportunities for significant emissions reductions in other sectors through electrification.

However, after years of declining demand for electricity, the trend is reversing, with economic growth and electrification shaping a very different long-term outlook for Ontario's electricity system. Based on existing policies and trends captured in its 2021 Annual Planning Outlook (APO), the IESO forecasts that overall annual energy demand will grow at an average rate of 1.7 per cent a year over the 20-year Annual Planning Outlook Period (2023-2042). Summer peak demand is forecasted to rise at an average annual rate of 1.3 per cent.

Ontario Forecast Seasonal Peak Demand (2023-2041)



The IESO's planning forecasts include the estimated impact of electric vehicle charging, rail transit electrification, and industrial electrification. Electrification is poised to continue increasing due to proposed new EV battery cell factories and processing facilities, and hydrogen electrolysis plants on the system.

A transformation is also taking place on the supply side. Contracts for many existing generators are expiring, and refurbishments and retirements at nuclear facilities are contributing to reliability needs in 2025-2027 and into the next decade.

The IESO has plans for meeting these needs, which are set out in the 2022 Annual Acquisition Report (AAR). In particular, capacity shortfalls have increased over the 2025-2027 period in comparison to previous forecasts – a reflection of accelerating electrification and economic growth. Increasing demand due to industrial expansions, revised federal EV targets, and municipal policy decisions are expected to continue this upward trend. This electrification and economic growth, however, can not happen if consumers and businesses don't have confidence that they can count on the grid to provide a reliable and affordable electricity service.

The IESO has made good progress in acting on these plans, including:

- Higher capacity auction targets, which can now include imports;
- Contracts with five existing suppliers (natural gas and wind) under the medium-term RFP to continue operations with end dates ranging from 2029 to 2031;
- Negotiating five-year contract extensions for a number of existing biomass facilities; and
- Contract extensions for existing natural gas facilities with Lennox and Brighton Beach to support reliability in specific areas of the province.

In addition, in response to a directive from the Minister of Energy, the IESO will launch a suite of new Save on Energy energy-efficiency programs in 2023 to reduce demand by an additional 285 MW. A capacity agreement is also in place with Hydro-Quebec that could provide 500 MW of import capacity in 2026 or 2027.

Pickering Extension

The Ontario Minister of Energy has asked Ontario Power Generation (OPG) to seek regulatory approval for an extension of the Pickering Nuclear Generating Station's operating license until fall 2026. A decision on this request is not expected until 2024. If approved, this extension will make an important contribution to the overall reliability picture in 2026, as well as reduce overall emissions.

Ontario's Long-Term Procurements

The 2022 AAR identified the need for 2,500 MW of capacity starting in 2025 and continuing beyond. To address this need, the IESO has developed three procurements (Same Technology Upgrades, Expedited LT 1 and LT 1) with a target of approximately 4,000 MW of capacity.

The IESO has identified significant reliability risks as a result of potential project delays, given current global supply chain and project development issues. This higher procurement target mitigates against this risk of not having enough resources to meet planning standards and ensure that the system is ready for future growth. This target will also help the IESO manage operability risks stemming from integrating new technologies onto the system.

The importance of taking a more proactive approach is confirmed by recent experiences from other system operators. In California, for example, rotating blackouts in 2020 highlighted the need to carefully plan for the energy transition.

The procurement amounts and timelines are expected as follows:

Procurement Mechanism	**Capacity Target (MW)**	**Eligibility**	**Final Procurement Materials Posted**	**Proposals Due**	**Contract Award**
Same Technology Upgrades	300	Facility improvements managed through contract amendments	Nov 1, 2022	Dec 20, 2022	Q1 2023
Expedited Long-Term 1	1,500	On-site expansions and new greenfield resources	Nov 1, 2022	Dec 20, 2022	Feb 2023
Long-Term 1	2,200	On-site expansions and new greenfield resources	Jan 31, 2023	Q2 2023	No later than Oct 2023
Total	**4,000**	-	-	-	-

The Same Technology Upgrades stream is a solicitation for upgrades and efficiency improvements to existing contracted facilities that will provide for the timeliest and most cost-effective capacity increases to the electricity system. The Expedited and LT1 RFPs will target resource expansions in addition to new build generation, while providing incentives for the early delivery of new resources.

This structure of the procurement design is rooted in the 2021 APO, which found that assuming continued availability of existing resources in the near term, adequacy needs are primarily for dispatchable capacity that must be able to run for a minimum of four continuous hours. They do not include energy, as enough energy production capability exists for most periods of time. Energy needs become more prominent in the latter years of the planning horizon.

In order to manage costs to ratepayers, the IESO is using open, competitive mechanisms to acquire the new capacity. In June 2022, the IESO issued a request for qualifications for both the Expedited LT1 and LT1 RFPs, which qualified 55 applicants to participate in the procurements. This level of interest from the developer community provides the IESO with confidence in the success of this approach; interest has been expressed by developers of storage (both battery and other forms), hybrids, biofuels and natural gas providers.

In particular, storage project proponents – especially in the form of lithium batteries – have submitted a significant number of proposals for deliverability assessments. A successful and robust storage fleet would contribute to the reliable decarbonization of the electricity system.

Storage can be a new form of non-emitting capacity to meet peak needs, as well as firm up variable generation, a service currently provided by natural gas. Battery storage is also of interest to the IESO as it is a flexible, modular resource that can be placed where it has the most value.

As a result, these procurements are expected to secure up to 2,500 MW of battery storage capacity, which could make it one of the largest fleets in North America. These procurements will also give the IESO an opportunity to learn how to integrate and operate storage at scale and support future growth.

Capacity vs. Energy

Capacity is a measure of the maximum amount of electricity the province's system can supply at any given time. To plan a reliable electricity system, the IESO must ensure that adequate capacity is available to supply the peak demand, taking into account sufficient margins in reserve. While capacity represents the maximum amount of electricity that the system can supply at any given time, the actual amount of energy produced varies. The IESO's current long-term procurements are seeking dispatchable capacity – forms of supply that can ramp up and down in response to system needs.

Energy Efficiency: A Cost-Effective Resource

Programs that help consumers reduce or control their energy use continue to be important contributors to the reliability of the electricity grid. Over the past 15 years, Save on Energy programs have helped Ontario homeowners and business reduce provincial demand by 12 per cent. Conservation and demand management (CDM) measures are quicker and easier to implement and can be counted on to achieve significant savings.

The Ontario government announced four new Save on Energy (SOE) programs to be implemented by the IESO for 2023 that will reduce demand by 285 MW for a minimum of eight years. These programs build on the current suite of SOE offerings.

Two of the programs – a program for greenhouses as well as one for local initiatives – are designed to help relieve constraints in local areas of need, including southwest Ontario. A residential demand response program will provide incentives to participating homeowners with smart thermostats by reducing air conditional load during the hottest summer days. New Retrofit incentives for custom projects will not only lower electricity demand, they will offer the added benefit of helping business reduce overall GHG emissions across their operations.

Resource Eligibility

The IESO recommends that the three procurements be open to a diverse portfolio of supply options. As outlined in the table below, the procurements should target approximately 2,500 MW for storage (battery and other), contributions from non-emitting resources such as hybrids and biofuels, and up to 1,500 MW of natural gas. In setting the target of 2,500 MW of storage, which could make Ontario one of the largest battery storage jurisdictions in North America, the IESO considered of operability challenges, as well as the risks associated with the integration of new technology.

Procurement Mechanism	**Procurement Target (MW)**	**Storage (MW)**	**Natural Gas (MW)**	**Other****
Same Technology Upgrades	300	No limit	Up to 300	No limit
Expedited Long-Term 1	1,500	~900	Up to 600	No limit
Long-Term 1*	2,200	~1,600	Up to 600	No limit
Total by 2027	**4,000**	**~2,500**	**Up to 1,500**	**-**

* Exact targets to be confirmed
** Non-emitting resources including hybrids and biofuels

The Same Technology Upgrades and Expedited LT 1 are expected to be launched fall 2022, with LT1 to follow in 2023. As part of its regular annual planning process, the IESO will review the scope for the LT 1 procurement after the completion of the 2022 APO and the Pathways to Decarbonization report later this year to ensure that it addresses evolving needs.

Storage offers tremendous promise for Ontario's electricity system. A small amount of storage is already in service – withdrawing energy from the grid during periods of low demand and injecting it when it is needed most. A successful and robust storage community will be critical to the decarbonization of the electricity system and reliability as it has the potential to offer much of the flexibility that is currently provided by natural gas.

Yet it cannot be counted on alone to meet Ontario's needs. Based on the IESO's experience, supplemented by feedback from stakeholders and other research, the IESO has identified significant reliability risks associated with potential project delays, supply chain disruptions and tight market conditions, that must be carefully managed and mitigated against. Each of these factors is discussed in more detail below.

Development Risk

All projects face development risk. As the IESO experienced in the transition from coal generation to replacement supply, only 30 per cent of projects were in operation on schedule, with 60 per cent falling behind by an average of 10 months, and the remainder failing to reach completion. Knowing this, the IESO is looking to secure diverse technologies from a range of suppliers to hedge against delay risks. The IESO will also work with suppliers where appropriate to support timely project delivery and include additional incentives for commissioning early.

Supply Chain Risk

The IESO commissioned an independent report to review supply chain disruptions across the global economy that have arisen since the onset of COVID-19 and the challenges associated with sourcing batteries, photovoltaic cells and other critical components. Shortages of ships, containers and labour, increases in the cost of steel and oil, as well as geopolitical events such as the Russian invasion of Ukraine, have all exacerbated these delays.

Although new battery manufacturing facilities can be constructed in two or three years, it will take close to a decade to bring raw material suppliers on-line. Various alternative battery technologies are being developed, yet all remain several years away from mass commercialization.

As the demand for batteries is forecast to exceed supply, battery costs are continuing to rise. In particular, price increases for lithium, cobalt and nickel are pronounced, which will have cost impacts for customers. The IESO is mitigating the risk of delays and cost increases caused by supply chain challenges by diversifying the procurement portfolio.

Integration Risk

With less than 100 MW of storage currently operating on the system, the IESO, like most other system operators, has only recently begun to build the necessary experience to integrate and operate grid-scale batteries. California's recent experience highlights the potential of grid scale storage and the challenges of integrating a new resource type into the supply mix. For its part, the IESO’s first-hand experience with integrating natural gas and wind into the electricity market underscores the need for time to ensure the systems worked reliably.

The IESO is off to a good start; it is working closely with storage providers and others to build a process and market rules for storage resources. However, it can reasonably be expected that time will be needed to fully test and integrate grid scale batteries into the system. This large deployment of storage will provide valuable and practical experience further unlocking its potential for Ontario.

Adequacy Risk

The capacity needs identified will require a mix of resources that can meet needs for a minimum of four hours, as well as longer durations. Relying on storage alone would not address all adequacy needs. Battery storage is an energy-limited resource, which can typically only be discharged once a day for up to four hours and, as such, would not be available to provide energy over long durations or for multiple times over a day. When the system falls below reliability standards and is not considered adequate, there is considerable operational risk – with a greater reliance on conservation appeals and rotating blackouts to stabilize the provincial grid.

Natural Gas as a Transitional Fuel

While natural gas comprised 28 per cent of installed generation capacity in Ontario, in 2021, it only produced 8.6 per cent of actual energy. It provides flexibility to the system by quickly ramping up and down to meet changes in demand and augmenting the availability of other forms of generation.

Natural gas generation can also support longer periods of need during extreme weather events and, as of yet, there is no like-for-like replacement. Operating a system without it requires a careful analysis of how a combination of other forms of supply can provide this level of flexibility.

Given the considerable development and supply chain risk, the uncertainties around building and operating new facilities, and the potential for faster than forecasted growth in demand, natural gas generation will help ensure reliability over this period. Based on the IESO's assessments through the qualification process, it is anticipated that the majority of this capacity will come from upgrades and expansions at existing natural gas facilities. In addition to being a cost-effective solution, it also offers a high level of certainty in terms of deliverability and operability.

While additional natural gas capacity will be needed to hedge against risks to reliability, it will also support economic development, as well as changing consumer preferences and electrification, beyond what is currently considered in the IESO demand forecasts.

Impact on Emissions

The IESO is recommending up to 1,500 MW of incremental natural gas generation be procured to be used during periods of peak demand. Based on expected usage of gas as a peaking resource, incremental carbon emissions would be in the range of 0.2 to 0.4 MT or a 2 to 4 per cent increase over 2021 APO projections. As such, it is not expected to significantly increase emissions from the system – with overall emissions still remaining far below pre-2005 levels.

Moreover, this expansion will contribute to the electrification of technologies across all sectors, particularly transportation, manufacturing and industry, and contribute to emissions reductions in the broader economy.

As the risks of climate change are gaining prominence at home and abroad, Ontario is also participating in the global conversation about how electricity systems can support electrification while also transitioning to net zero emissions. In response to a request from the Minister of Energy, the IESO is assessing how to fully decarbonize Ontario's grid to eliminate the remaining emissions from the system.

In its analysis of pathways to decarbonization, the IESO is considering how to replace the flexibility and fuel security currently provided by natural gas facilities and eliminate remaining sector emissions. As part of this process, we are considering known technologies, including demand response and pumped storage, as well as emerging technologies like hydrogen turbines and fuel cells.

As with the phase-out of coal generation, if the province were to eliminate emissions from the electricity system, it will need to be done in a carefully coordinated manner, to maintain reliability and affordability while facilitating carbon reductions across the broader economy. The results of this analysis will be available by the end of the year.

Conclusions & Next Steps

Without a limited amount of new natural gas in the near term, the IESO would be reliant on emergency actions such as conservation appeals and rotating blackouts to stabilize the grid.

As such, the IESO recommends that 4,000 MW of new supply capacity be procured to meet capacity needs in 2025-2027 across the three procurement processes: Same Technology Upgrades, Expedited LT1 and LT1. The IESO further recommends that this need be addressed by securing approximately 2,500 MW of storage capacity, contributions from non-emitting resources such as hybrids and biofuels, and up to 1,500 MW of natural gas.

The IESO is confident that a maximum target of 1,500 MW of new natural gas capacity will address short term energy needs and contribute to the province's longer term energy transition. Recommendations on the future role of natural gas will be included in the Pathways to Decarbonization report to be released later this year.

Following receipt of an Order in Council, the IESO will issue the final Expedited LT1 Contract and RFP, as well as the solicitation for the Same Technology Upgrades. Proposals will be due by December 20 of this year. The IESO expects to conclude both processes by spring 2023. The LT1 RFP Contract and RFP are expected to be posted in January 2023 and conclude by October that year.

Together, these recommendations will enable Ontario's electricity grid to remain reliable and affordable through a period of significant change. They will allow the IESO to manage development and supply chain risks, prepare for potentially faster than forecasted demand growth from economic development and electrification, and support the transition to a low-carbon grid.

https://www.energy.gov/ia/articles/us-india-strategic-clean-energy-partnership-ministerial-joint-statement

U.S.-India Strategic Clean Energy Partnership Ministerial Joint Statement

OCTOBER 7, 2022

1. Office of International Affairs

2. U.S.-India Strategic Clean Energy Partnership Ministerial Joint Statement

Amidst volatility in global energy markets, continuing recovery from the COVID-19 pandemic, and increasingly frequent climate-related challenges, the United States and India reiterated their commitment to accelerating a just and sustainable energy transition. As climate and clean energy leaders, the United States and India share a common vision to deploy clean energy at scale during this critical decade to reduce emissions and achieve climate change mitigation goals, taking into account different national circumstances. Through regular consultations on global energy markets, efforts to strengthen collective energy security, and deepening technical engagement to support economy-wide decarbonization, the two countries are proactively addressing the multiple crises that the world faces through the U.S.-India Strategic Clean Energy Partnership.

During the engagements, the two Ministers reviewed progress across the entire spectrum of the energy sector partnership. They noted with appreciation the tremendous increase in bilateral energy trade achieved over the last few years. They also welcomed the increased clean energy collaboration between stakeholders of both countries which is facilitating expanded clean energy investment, including in emerging technologies.

The Ministers also underscored the importance of ensuring reliable energy supplies to ensure balanced energy markets, including India's support for the U.S. initiative to release crude oil from the strategic petroleum reserves, and the importance of diversifying to clean energy sources.

The Ministers stressed that climate and clean energy collaboration should promote energy access, affordability, energy justice, while supporting sustainable economic growth and just energy transitions. The Ministers also recognized that ambitious national climate and clean energy goals require concerted action and implementation at all levels of government to ensure their viability and sustainability. Capacity building and exchanging best practices including with all stakeholders were also highlighted as critical components to achieving the countries' climate and clean energy ambitions.

India and the United States discussed progress on continued efforts to advance emerging fuels and technologies and electrification and decarbonization of end use sectors. The discussions covered hard-to-abate sectors, and the Ministers were informed about various initiatives, including joint research and development on smart grids and energy storage and new collaboration on carbon capture, utilization and storage (CCUS) technologies, and the potential to explore collaboration on other novel technologies under the U.S.-India Partnership to Advance Clean Energy-Research (PACE-R).

The Ministers noted the importance of facilitating increased energy investments to ensure sustainable, affordable, reliable, resilient and cleaner energy systems.

Enhanced bilateral efforts include:

- Strengthening the power grid to ensure reliable, affordable, and resilient clean energy supply including through smart grids and energy storage;
- Assessing grid-integrated buildings, electric vehicles, and other distributed energy resources to support load management;

- Advancing renewable energy development and deployment, including to support India's goal of achieving approximately 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030;
- Advancing energy efficiency and conservation in appliances, buildings and the industrial sector;
- Electrifying and decarbonizing the transportation sector including creating an enabling ecosystem through setting up an Electric Vehicle (EV) financing services facility in India;
- Reducing emissions across the oil and gas value chain including efforts at deploying methane detection and abatement technologies;
- Decarbonizing the industrial sector through efforts at electrification, carbon capture and storage, and deployment of other clean emerging energy technologies;
- Deepening cooperation between Indian and U.S. Department of Energy labs and agencies, like the EIA, and on energy data management, modeling, low carbon technologies.

The Ministers also reiterated the importance of private sector engagement to facilitate investment, inform policy, and accelerate technology deployment. To that end, the United States and India continue to convene public-private tasks forces on hydrogen and biofuels, and announced the launch of a new Energy Storage Task Force to support large-scale integration of renewable energy needed to support the clean energy transition. The Ministers welcomed collaboration between Indian and U.S. companies through a Memorandum of Understanding to deploy methane abatement technologies in India's city gas distribution sector under the Low Emissions Gas Task Force to help reduce emissions in the oil and gas sector.

Agencies from across the U.S. and Indian governments demonstrated a number of accomplishments across the five technical pillars of cooperation on: ***1) Power & Energy Efficiency*, *2) Renewable Energy*, *3) Responsible Oil & Gas*, *4) Sustainable Growth***, and ***5) Emerging Fuels and Technologies***.

The Ministers welcomed expanded efforts under the U.S.-India Strategic Clean Energy Partnership to support a just energy transition to meet today's unprecedented energy security and climate and energy challenges.

Washington DC,

7th October

https://www.bbc.com/news/science-environment-63089348

Drax: UK power station owner cuts down primary forests in Canada

- Published 1 day ago

Drax, Britain's biggest power station, generates electricity by burning millions of tonnes of imported wood pellets

By Joe Crowley and Tim Robinson

BBC Panorama

A company that has received billions of pounds in green energy subsidies from UK taxpayers is cutting down environmentally-important forests, a BBC Panorama investigation has found.

Drax runs Britain's biggest power station, which burns millions of tonnes of imported wood pellets - which is classed as renewable energy.

The BBC has discovered some of the wood comes from primary forests in Canada.

The company says it only uses sawdust and waste wood.

Panorama analysed satellite images, traced logging licences and used drone filming to prove its findings. Reporter Joe Crowley also followed a truck from a Drax mill to verify it was picking up whole logs from an area of precious forest.

Ecologist Michelle Connolly told Panorama the company was destroying forests that had taken thousands of years to develop.

"It's really a shame that British taxpayers are funding this destruction with their money. Logging natural forests and converting them into pellets to be burned for electricity, that is absolutely insane," she said.

The Drax power station in Yorkshire is a converted coal plant, which now produces 12% of the UK's renewable electricity.

It has already received £6bn in green energy subsidies. Burning wood is considered green, but it is controversial among environmentalists.

Panorama discovered Drax bought logging licences to cut down two areas of environmentally-important forest in British Columbia.

Image caption, The Panorama team used drones to survey the area

One of the Drax forests is a square mile, including large areas that have been identified as rare, old-growth forest.

The provincial government of British Columbia says old-growth forests are particularly important and that companies should put off logging them.
Drax's own responsible sourcing policy says it "will avoid damage or disturbance" to primary and old-growth forest.
However, the latest satellite pictures show Drax is now cutting down the forest.

IMAGE SOURCE,PLANET LABS PBC
Image caption, Satellite images show forests cut down in British Columbia

The company told Panorama many of the trees there had died, and that logging would reduce the risk of wildfires.
The entire area covered by the second Drax logging licence has already been cut down.

How green is burning wood?

Burning wood produces more greenhouse gases than burning coal.
The electricity is classed as renewable because new trees are planted to replace the old ones and these new trees should recapture the carbon emitted by burning wood pellets.
But recapturing the carbon takes decades and the off-setting can only work if the pellets are made with wood from sustainable sources.
Primary forests, which have never been logged before and store vast quantities of carbon, are not considered a sustainable source. It is highly unlikely that replanted trees will ever hold as much carbon as the old forest.

Drax told the BBC it had not cut down the forests itself and said it transferred the logging licences to other companies.
But Panorama checked and the authorities in British Columbia confirmed that Drax still holds the licences.
Drax said it did not use the logs from the two sites Panorama identified. It said they were sent to timber mills - to make wood products - and that Drax only used the leftover sawdust for its pellets.
The company says it does use some logs - in general - to make wood pellets. It claims it only uses ones that are small, twisted, or rotten.


Image caption, BBC Panorama visited the British Columbian forests

But documents on a Canadian forestry database show that only 11% of the logs delivered to the two Drax plants in the past year were classified as the lowest quality, which cannot be used for wood products.

Panorama wanted to see if logs from primary forests cut down by logging companies were being transferred to Drax's Meadowbank pellet plant. The programme filmed a truck on a 120-mile round trip: leaving the plant, collecting piles of whole logs from a forest that had been cut down by a logging company and then returning to the plant for their delivery.

Drax later admitted that it did use logs from the forest to make wood pellets. The company said they were species the timber industry did not want, and they would often be burned anyway to reduce wildfire risks.

The company also said the sites identified by Panorama were not primary forest because they were near roads.

But the UN definitions of primary forest do not mention proximity to roads and one of the sites is six miles from the nearest paved road.

Panorama's findings come at a critical moment for Drax.

The UK government is due to publish a new biomass strategy later this year, which will set out its policy for natural fuels like wood.

A Drax spokesperson said 80% of material in its Canadian pellets is sawmill residuals, which would be disposed of anyway.

They also said that Drax applies stringent sustainability standards to its own pellet production as well as suppliers, with verification from third-party certification schemes.

"We are constantly reviewing these policies to ensure we take account of the latest science," they added.

Panorama's ***The Green Energy Scandal Exposed*** *is on BBC One at 20:00 on Monday 3rd October and on iPlayer afterwards*

Dan Tsubouchi @Energy_Tidbits · 1h

Let's hope the German railway sabotage (cable cutting, not cyber) was a one-off. Has to be coordinated to some degree as Berlin is ~500 km from Herne. EU does not need infra attacks that hurt economy temporarily or longer term like Nord Stream explosions. #OOTT

Frankfurter Allgemeine

ACT OF SABOTAGE ON RAIL TRAFFIC

Transport Minister Wissing: "Targeted and wanton action"

1   9

Dan Tsubouchi @Energy_Tidbits · 41m

#Vitol warns China demand. "CN demand is really down, petrochemicals in particular" "don't think we're going to see any snap in CN demand" 10/16 congress, "don't see any fundamental changes, certainly not affecting oil demand. Thx @michaelwmuller @sean_evers @CrystolEnergy. #OOTT

Gulf Intelligence

Daily Energy Markets Video Podcast

SAF Group created transcript of comments by Mike Muller (Head, Vitol Asia) with Sean Evers (Founder, Managing Partner Gulf Intelligence) and Christof Ruhl (Senior Research Scholar, Center on Global Energy Policy Columbia University) on Gulf Intelligence Daily Energy Markets video podcast on October 9, 2022
https://twitter.com/gulf_intel/status/1578996289521737728

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

Evers asks Muller his views coming out of China's national congress this week given China is moving into its typical strong oil demand period going into Chinese New Year. Muller is based in Singapore. At 30:15 min mark, Muller *"…. there has been a lot of debate on this even though China has been largely on leave due to their Golden Week last week. But in the week before that during APEC, there were a few Chinese delegations that braved the quarantine restrictions and came over. And, they were all of the view that the easing of Covid restrictive measures will be gradual. There is a widespread concern and even a fear in the population of this thing running out of control and what it can do. And therefore, I don't think we are going to see the Chinese tourists in the sky and Chinese business people on airplanes and coming to conferences overseas anything like in Q4. The other concern of course in China is the economic data is not great. Parts of this mandatory exports of petroleum products seems to be part of wanting to improve trade statistics. But, what really bothers me is that the continued industrial output data, productivity data in China, is disappointing. Those German chemical plants that are not running all those German gas intensive heavy industries, you would assume that the global economy would need factories elsewhere to make up for any shortfalls that are not being made in the EU where the [xxx xxxx]. it's clearly not happening in China where it should be happening. So that tells you that Chinese demand is really down, petrochemicals in particular. So, I think China is going to take quite some time to deleverage its property problem, the evergrand issue and all that. And I don't think we're going to see any snap in Chinese demand. There may be some headlines coming out of next Sunday which give the market reasons to buy the market, but I don't' see any huge fundamental changes, certainly not affecting oil demand."*

Prepared by SAF Group

1   5   7

SAF GROUP

Dan Tsubouchi @Energy_Tidbits · 1h

ICYMI. Novak reminds RUS won't sell #Oil to countries agreeing to any US/EU price cap. Rather taking supply off the market is "very harmful for the energy market. This leads only to a deficit, to a price hike, consumers will pay for that". #OOTT

https://tass.com/economy/1518385

5 OCT, 12:25

Russia will not supply oil to countries setting price cap — Deputy PM

It was reported earlier the Group of Seven member-states are discussing the price cap for Russian oil but no specific agreement has been achieved so far

VIENNA, October 5. /TASS/. Russia does not intend to supply oil to consumers using the oil price cap, Deputy Prime Minister Alexander Novak told reporters on Wednesday.

"We are against such nonmarket instruments; such precedents are very harmful for the energy market. This leads only to a deficit, to a price hike; consumers will pay for that, if they want to introduce such a mechanism," the official said.

"It is not feasible for us to support deliveries if such a tool is introduced to consumers that will use the price cap. We will supply oil only to those supporting market-based pricing mechanisms," Novak noted.

It was reported earlier the Group of Seven member-states are discussing the price cap for Russian oil but no specific agreement has been achieved so far.

TAGS

Alexander Novak

6 9

SAF GROUP

Dan Tsubouchi @Energy_Tidbits · 18h

#Oil #NatGas is critical to #Shell's 04/15/21 Energy Transition Strategy "Our Upstream pillar delivers the cash and returns needed to fund our shareholder distributions and the transformation of our company". See 👇 SAF Group 04/18/21 Energy Tidbits memo excerpt. #OOTT

SHELL ENERGY
TRANSITION STRATEGY
2021
ROYAL DUTCH SHELL PLC

Excerpt SAF Group April 18, 2021 Energy Tidbits memo

Energy Transition – Many great insights from Shell's Energy Transition Strategy
We recommend reading Shell's Energy Transition Strategy [LINK] as it provides excellent insight on the energy transition challenge, opportunity and specific action areas. We may point out a few negatives, but this is an excellent report and kudos to Shell. For companies that haven't put together their energy transition plans, this document will provide most key areas to consider. We could write pages on this strategy of relevant items and challenges and will do so over the coming weeks as we link back to this report. Below are just a few of the challenges/concepts to consider. Again, this is just the tip of the iceberg. Our Supplemental Documents package includes most of the Energy Transition Strategy report.

Upstream funds the dividends and the energy transformation
This is not a surprise, rather a reminder that Upstream is crucial to both fund dividends and provide the capital to fund an energy transition. Shell doesn't say it specifically, but it is also a reminds of the relative cash flow generation of each sector and raises the challenge that Transition and Growth pillars have to get to much higher returns and cash flow generation if they are to fund dividends in the future. The dividends are funded from Upstream. Shell wrote "*Our business has three pillars: Growth, Transition and Upstream. Within each pillar, we expect the underlying businesses to evolve and transform as demand for our products changes, driven through our sector-based businesses. Our Upstream pillar delivers the cash and returns needed to fund our shareholder distributions and the transformation of our company, and provides vital supplies of oil and natural gas which the world needs today. Our Transition pillar comprises Integrated Gas, and our Chemicals and Products business, and it makes the products needed to enable the energy transition. It produces sustainable cash flow and gives us the asset infrastructure to support our investments in our Growth business. Our Growth pillar includes our service stations, fuels for business customers, power, hydrogen, biofuels, charging for electric vehicles, nature-based solutions, and carbon capture and storage. It focuses on working with our customers to accelerate the transition to net zero and is the foundation for the future businesses in Shell.*"

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

Casey Merriman @cm_energyintel · Oct 4

Shell's van Beurden: just remember that oil and gas returns have to cover all the investments that don't pan out. I'm not going to build wind farms where there isn't wind. Returns needs are different.

@EI_Forum

Show this thread

4 3

Dan Tsubouchi @Energy_Tidbits · 21h

#Vortexa crude #Oil floating storage at 10/07 est 80.06 mmb, -11.57 mmb WoW vs basically unchanged 09/30 est 91.63 mmb. Last several weeks mostly downward revisions. Positive indicator, floating storage more +/- 85 mmb vs last week +/-90 mmb. Thx @Vortexa @business. #OOTT

Vortexa Crude Oil Floating Storage Estimate Posted Oct 8 at noon MT

Source: Bloomberg, Vortexa

Posted Oct 8, noon MT

FZWWFST VTXA Index — 10/06/2019 - 10/07/2022

	Date	FZWWFST VT... Last Px
Fr	10/07/2022	80058
Fr	09/30/2022	91626
Fr	09/23/2022	108.283k
Fr	09/16/2022	88888
Fr	09/09/2022	86788
Fr	09/02/2022	81871
Fr	08/26/2022	84858
Fr	08/19/2022	101.811k
Fr	08/12/2022	106.383k
Fr	08/05/2022	85899
Fr	07/29/2022	87983

Oct 1, 1pm MT

FZWWFST VTXA Index — 09/29/2019 - 09/30/2022

	Date	FZWWFST VT... Last Px
Fr	09/30/2022	91246
Fr	09/23/2022	107.516k
Fr	09/16/2022	93751
Fr	09/09/2022	93139
Fr	09/02/2022	86098
Fr	08/26/2022	83843
Fr	08/19/2022	107.837k
Fr	08/12/2022	111.844k
Fr	08/05/2022	90967
Fr	07/29/2022	91221
Fr	07/22/2022	86950

Sept 24, 1pm MT

FZWWFST VTXA Index — 09/22/2019 - 09/23/2022

	Date	FZWWFST VT... Last Px
Fr	09/23/2022	105.366k
Fr	09/16/2022	95328
Fr	09/09/2022	96979
Fr	09/02/2022	86287
Fr	08/26/2022	82484
Fr	08/19/2022	104.557k
Fr	08/12/2022	109.8k
Fr	08/05/2022	89171
Fr	07/29/2022	89908
Fr	07/22/2022	85072
Fr	07/15/2022	85720

Source: Bloomberg, Vortexa

3 7

Dan Tsubouchi @Energy_Tidbits · Oct 8

1/3. Great @ANI reporting on clear India energy position from @HardeepSPuri post @SecGranholm meeting. "Have I been told by anyone to stop buying Russian oil? The answer is a categorical No". #OOTT #NatGas #LNG

1 6 5

Dan Tsubouchi @Energy_Tidbits · Oct 8

2/3. "India will buy oil from wherever it has to for the simple reason that this kind of a discussion cannot be taken to the consuming population of India" says @HardeepSPuri. #OOTT @ANI

1 3 3

Dan Tsubouchi @Energy_Tidbits · Oct 8

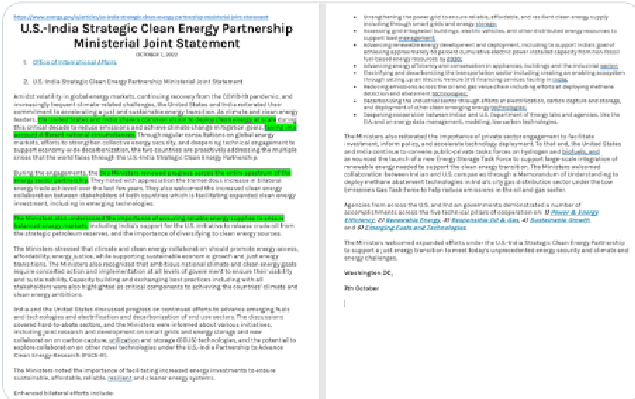
3/3. ""If you are clear about your policy, which means you believe in energy security, energy affordability you will buy from wherever you have to. Our energy purchases from sources hitherto unheard of, we are in discussion with them." @HardeepSPuri. Thx @ANI. #OOTT

1 5

SAF GROUP

Dan Tsubouchi @Energy_Tidbits · Oct 8

Key caveat in joint @SecGranholm @HardeepSPuri #CleanEnergy statement "taking into account different national circumstances." No one can deny India wants to reduce emissions, etc, but will do so in the way, pace and cost impact to India consumers that is best for them. #OOTT



2 2

SAF GROUP

Dan Tsubouchi @Energy_Tidbits · Oct 7

Excellent @derspiegel Real-Time Statistics on Europe's Gas Supplies ie. Europe's dependency on Russia. Includes great maps, graphs and data. #NatGas #OOTT

spiegel.de

Energy Crisis Tracker: Real-Time Statistics on Europe's Gas Supplies

How much natural gas is flowing through pipelines to Europe? How full are gas storage facilities? And how much gas are Germans consuming...

3 10

Dan Tsubouchi @Energy_Tidbits · Oct 7

#OPEC Secretary General.

"net effective cut is let's say closer to 1 mmb/d"

"our modelers have developed a scenario where we see an overhang of up to 2 mmb/d"

"i think we will be showing a reduction in our demand growth forecast for 2022 & 2023"

Thx @Amena__Bakr. #OOTT

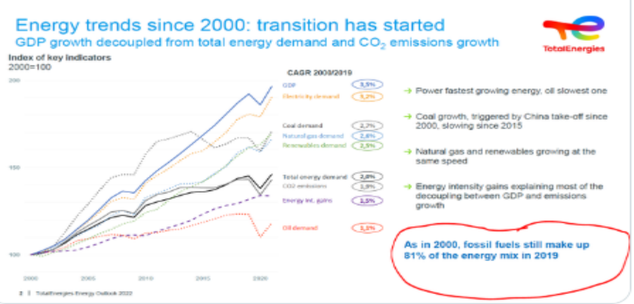
> **Amena Bakr** @Amena__Bakr · Oct 7
> In an exclusive interview to @energyintel, OPEC's Secretary General explains why the producer group cut 2 million b/d.
> energyintel.com/00000183-b2f4-... #OOTT #opec
> Show this thread

2 · 8 · 20

Dan Tsubouchi @Energy_Tidbits · Oct 7

Buckle Up! If western leaders use 👇 data to more aggressively regulate/penalize #FossilFuels, incl #NatGas, to try to faster reduce their % share of energy mix, then the west seems destined for a very rocky, very expensive and very long #EnergyTransition. #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Oct 3
> ICYMI. @TotalEnergies 09.27 webcast "share of fossil fuels in the overall energy mix has barely moved in 20 years. It's still above 80%". #EnergyTransition is happening but will be a bumpy road, take longer & cost way more than expected. #Oil #NatGas needed for longer. #OOTT



1 · 6

Dan Tsubouchi @Energy_Tidbits · Oct 7

ICYMI. @gcaw asked #MBS whether Biden misunderstands something about him. “Simply, I do not care,” he replied. Alienating the Saudi monarchy, he suggested, would harm Biden’s position. “It’s up to him to think about the interests of America.” He gave a shrug. “Go for it.” #OOTT

Excerpt from

https://www.theatlantic.com/magazine/archive/2022/04/mohammed-bin-salman-saudi-arabia-palace-interview/622822/

April 2022 Issue

The Atlantic

ABSOLUTE POWER

Asked about the murder of Jamal Khashoggi, Mohammed bin Salman said, "If that's the way we did things, Khashoggi would not even be among the top 1,000 people on the list."

By Graeme Wood
Photographs by Lynsey Addario

We asked whether Biden misunderstands something about him. “Simply, I do not care,” he replied. Alienating the Saudi monarchy, he suggested, would harm Biden’s position. “It’s up to him to think about the interests of America.” He gave a shrug. “Go for it.”

9 12

Dan Tsubouchi @Energy_Tidbits · Oct 7

1/2. Ontario needs more #NatGas generation and soon or risk having CAL power outages. @IESO_Tweets ONT needs up to 1,500 MW of new #NatGas generation. Then a big warning that without more #NatGas in near term, "the IESO would be reliant on emergency actions, such as .. #OOTT

1 3 6

Dan Tsubouchi @Energy_Tidbits · Oct 7

2/2. ".. conservation appeals and rotating blackouts to stabilize the grid. Failure to mitigate these risks, if combined with extreme weather, could create conditions similar to those seen in California where shortfalls resulted in rotating blackouts". #NatGas is needed. #OOTT

Executive Summary

Ontario currently has one of the cleanest electricity systems in North America. Greenhouse gas emissions from the electricity sector comprise roughly three per cent of all emissions in the economy. This low-carbon supply mix is highly attractive for business development and creates opportunities for significant emissions reductions in other sectors to support the energy transition.

The Independent Electricity System Operator (IESO) has identified capacity needs in the 2025-2027 period, as well as energy and capacity needs later in the decade and beyond. As the province's system planner, the IESO is implementing plans to secure supply, much of it non-emitting, to meet these needs, including: executing new contracts for existing natural gas and wind facilities; increasing targets and enabling imports in the annual capacity auction; and, rescheduling generator outages and refurbishments.

In 2023, at the direction of the Minister of Energy, the IESO will launch new Save on Energy conservation programs to further reduce demand. In addition, the IESO expects to exercise an import capacity agreement with Quebec in 2026 or 2027. The Minister has also asked Ontario Power Generation to seek regulatory approval for an extension of the Pickering Nuclear Generating Station's operating licence until fall 2026.

Earlier this year, the IESO launched three competitive procurements, which are expected to result in one of the largest storage procurements in North America. The IESO, however, has identified significant reliability risks associated with supply chain disruptions, tight market conditions which could be particularly impactful for battery storage projects, and new technology integration.

To mitigate these risks, the IESO recommends pursuing a diverse portfolio of supply options. The procurement will target 4,000 MW of new capacity from a variety of resources including approximately 2,500 MW of storage, contributions from other non-emitting resources such as hybrids and biofuel resources, and up to 1,500 MW of natural gas. Without a limited amount of new natural gas in the near term, the IESO would be reliant on emergency actions such as conservation appeals and rotating blackouts to stabilize the grid. Failure to mitigate these risks, if combined with extreme weather, could create conditions similar to those seen in California where shortfalls resulted in rotating blackouts.

Over time, the IESO expects that natural gas generation will be replaced by a portfolio approach that includes new non-emitting generation, storage, as well as demand-side and transmission solutions. As this transition occurs, natural gas can continue to provide stability to the system as new forms of flexible supply are built, tested and connected to the grid.

By using natural gas in a limited way, Ontario's communities, businesses and consumers will be able to continue with their electrification plans, while at the same time, decarbonization of the electricity system can continue in a carefully coordinated manner without risking reliability or economic growth.

Resource Eligibility Interim Report | October 7, 2022 | Public 3

1 3 5

Dan Tsubouchi @Energy_Tidbits · Oct 7

Hope drilling rigs are a good forward indicator for Ukraine.

Big jump in Ukraine drilling rigs in last 2 mths with the momentum shift in war.

Pre-invasion Jan: 39 rigs
Apr/May: 5 rigs
June: 9 rigs
July : 10 rigs
Aug: 23 rigs
Sept: 27 rigs.

Thx @bakerhughesco.

#OOTT #NatGas

2

Dan Tsubouchi @Energy_Tidbits · Oct 7

Attention to details. Think new Allberta Premier @ABDanielleSmith recognized that it's federal minister's POLICIES & and department regulations that can violate provincial jurisdiction and have a big negative impact ie. policies/regulations re #ClimateChange.
#OOTT

Excerpt https://daniellesmith.ca/#sovereignty-act

What is the Alberta Sovereignty Act?

A proposed law that would affirm the authority of the Provincial Legislature to refuse provincial enforcement of specific Federal laws or policies that violate the jurisdictional rights of Alberta under Sections 92 – 95 of the Constitution or that breaches the Charter Rights of Albertans.

How would the Legislation work?

Prior to being introduced in the Legislature for debate and vote this Fall, I will work with Cabinet and Caucus to draft the Alberta Sovereignty Act in accordance with sound constitutional language and principles.

However, as a starting point for discussion, this proposed legislation is intended to function as follows:

When the Federal Government institutes a law or policy that appears to violate Alberta's jurisdictional rights under the Canadian Constitution or Albertans' Charter rights, the Government of Alberta may introduce a Special Motion for a free vote of all MLAs in the Legislature. Each such Special Motion would need to include the following detailed information:

1. Identification of the Federal law or policy that is deemed to be in violation of the Constitution or Charter, and the constitutional explanation for making that claim

2. Explanation of the harms that the specified violation of the Constitution or Charter imposes on the citizens of Alberta

3. Detailed description of the specific actions the Province and its agencies will take to refuse or otherwise oppose the enforcement of that specified Federal law or policy within Alberta

4. A Declaration that by authority of the Alberta Sovereignty Act, and notwithstanding the specific Federal law or policy in question, it shall not be enforced by the Provincial Government within Alberta in the manner outlined by the Special Motion

5. Imposition of a date to review and debate, in the Legislature, whether or not to amend, end or continue the actions outlined in the Special Motion. This review date shall be no later than the earlier of 24 months or within 90 days of a Court staying or deeming all or a portion of a Special Motion unconstitutional.

2 1 3

Dan Tsubouchi @Energy_Tidbits · Oct 6

Great follow up question by @BeckyQuick on to @amoshochstein on #WSJ report US looking to loosen sanctions on VEN #Oil. "we're not there yet" says Hochstein when Becky pressed what was wrong with WSJ report. Not there yet but the desired end game looks clear. #OOTT

SAF Group created transcript of comments from White House Amos Hochstein with CNBC's Becky Quick on Squawk Box on Oct 6, 2022

Items in "italics" are SAF Group created transcript

At 6:08 am MT, Quick asks Hochstein about the WSJ report on US is reducing sanctions on Venezuela. Hochstein *"I just saw the article as I was coming in this morning. There's a lot left to be desired by that article. I think that we're still looking at what the Maduro regimes needs to be able to do in order for us to take steps on our end. We are, we have already taken some steps that we think make sense to strengthen the US position economically, as well as our objectives for transformation and change in Venezuela in the relationship between the regime and the opposition. We're going to continue to work on that. There is really to announce yet. I think that's very premature to the discussions we are having".* Quick *"so what's wrong in the article, it says you are preparing to loosen sanctions, is that it or not the case?"* Hochstein *"I think, we're, its just very, we're not there yet. And I think we will continue to, I'm sure I will have something to update you if something changes. But frankly, there is nothing for me to report to you at this point."*

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

> **Dan Tsubouchi** @Energy_Tidbits · Oct 6
>
> Will US reduce sanctions on VEN #oil? @SullyCNBC spoke to Chevron "they would not confirm the entire story [WSJ below] to me, but I got the sense, I'm not confirming it, but I will say it was directionally correct. How about this, Chevron did not deny the story to me...

2 1

Dan Tsubouchi @Energy_Tidbits · Oct 6

#QatarEnergy taking advantage of sky-high Europe #NatGas prices to send as much LNG as possible to EU. Sending ~2 bcf/d to EU in 2022 & 2023. Other #LNG tidbits in this @cm_energyintel thread on Qatar Energy. #OOTT

> **Casey Merriman** @cm_energyintel · Oct 5
>
> Qatar's Al-Kaabi: Ukraine crisis has pushed European governments into roles they've never had to take before re: procuring energy. Don't have experience/tools. They're having to learn how this is done.
>
> @EI_Forum
>
> Show this thread

1 2

Dan Tsubouchi @Energy_Tidbits · Oct 6

More support for why @TotalEnergies doesn't include #MozambiqueLNG until after 2027. @EI_Forum "we will think to restart" the Mozambique #LNG project only on the day Pouyanne himself can visit without a military escort, says Pouyanne. #EIForum". #NatGas

twitter.com/EI_Forum/statu...

> **Dan Tsubouchi** @Energy_Tidbits · Sep 28
>
> #TotalEnergies just posted #LNG slides for today's investor day. Not planning a quick restart to Mozambique LNG as NO volumes are included in LNG growth until AFTER 2027. #OOTT #NatGas twitter.com/Energy_Tidbits...

1 5

Dan Tsubouchi @Energy_Tidbits · Oct 6

Will anyone be able to prove who blew up #NordStream? No surprise, Swedish security services @SAPOsverige concludes there were detonations. Will analyze fittings to see "whether anyone can be served with suspicion and later prosecuted". #NatGas #OOTT

Säkerhetspolisen

https://www.sakerhetspolisen.se/ovriga-sidor/nyheter/nyheter/2022-10-06-starkt-misstanke-om-grovt-sabotage-i-ostersjon.html

Strengthened suspicion of serious sabotage in the Baltic Sea

Published 6 October 2022

The crime scene investigation carried out by the Swedish Security Police at the Nord Stream 1 and 2 gas pipelines has now been completed. The investigation has strengthened suspicions of aggravated sabotage.

Since this weekend, the Security Police has conducted the crime scene investigation with the support of the Coast Guard, the Armed Forces and the Police Authority. It has been a very well-functioning collaboration.

After completing the crime scene investigation, the Swedish Security Police can conclude that there have been detonations at Nord Stream 1 and 2 in the Swedish economic zone, which have caused extensive damage to the gas pipelines.

During the crime scene investigation, there have been some seizures. Within the framework of the preliminary investigation, the Security Police continuously takes various investigative measures. As part of the work, the fittings will now be reviewed and analyzed. The continued preliminary investigation must show whether anyone can be served with suspicion and later prosecuted.

The Security Police is conducting the preliminary investigation into the incident at Nord Stream under the direction of prosecutors at the National Security Cases Unit. Following the completion of the crime scene investigation, the prosecutor has lifted the roadblocks at the scene.

The Prosecutor's Office's press release

The Security Police considers what has happened in the Baltic Sea to be very serious. The Security Police is following developments closely and taking the necessary measures based on the authority's mission to protect Sweden and Sweden's security.

Published
October 6, 2022

3 6

Dan Tsubouchi @Energy_Tidbits · Oct 6

Will US reduce sanctions on VEN #oil? @SullyCNBC spoke to Chevron "they would not confirm the entire story [WSJ below] to me, but I got the sense, I'm not confirming it, but I will say it was directionally correct. How about this, Chevron did not deny the story to me". #OOTT

F Group created transcript of comments by CNBC's Brian Sullivan to Joe Kernen on Squawk Box on Oc 2022.

ms in "italics" are SAF Group created transcript.

4:04am MT. Sullivan *"Pivot Joe to your other story. Wall Street Journal, late last night, with an clusive saying that the US is looking to ease sanctions on Venezuela so that Chevron, not so that, but ir rt Chevron will then be able to keep drilling and producing oil in Venezuela. I was in touch with evron last night, it was 2 in the morning here, 5 whatever pm there, they would not confirm the entire ory to me, but I got the sense, I'm not confirming it, but I will say it was directionally correct. How out this, Chevron did not deny the story to me. Obviously, they don't want to get into the politics of it t Joe that would be an easing of sanctions in Venezuela so that we could buy more, produce more oil ere to import to the United States. Kind of maybe trading OPEC and Russian oil for Venezuelan oil."*

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

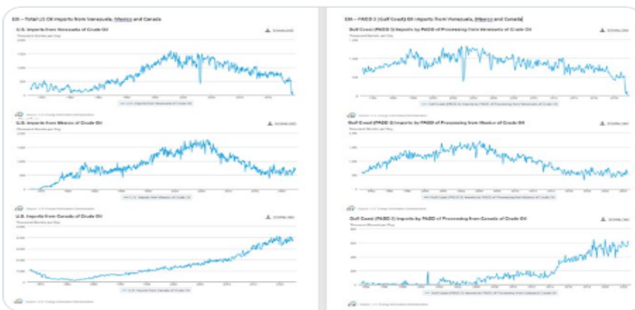
Dan Tsubouchi @Energy_Tidbits · Oct 5

Negative to Cdn #Oil differentials if Biden reduces sanctions & VEN increases oil exports to EU & US. Gulf Coast refineries started to take Cdn oil as VEN, MEX production & exports declined. #Chevron 369,000 Pascagoula MS refinery could take VEN oil. Thx ...

5 12

Dan Tsubouchi @Energy_Tidbits · Oct 5

Negative to Cdn #Oil differentials if Biden reduces sanctions & VEN increases oil exports to EU & US. Gulf Coast refineries started to take Cdn oil as VEN, MEX production & exports declined. #Chevron 369,000 Pascagoula MS refinery could take VEN oil. Thx @GaripChile. #OOTT



The Wall Street Journal @WSJ · Oct 5

The Biden administration is preparing to scale down sanctions on Venezuela's authoritarian regime to allow Chevron to resume pumping oil there, according to people familiar with the proposal on.wsj.com/3ElgfSY

1 2 10

Dan Tsubouchi @Energy_Tidbits · Oct 5

#OPEC+ cuts 2 mmb/d, but viewed more like ~1 mmb/d. 821,000 b/d from Saudi -526,000 b/d, UAE -160,000 b/d, and Kuwait -135,000 b/d. Then Iraq -220,000 b/d. More importantly, The Man, Saudi Energy Minister Abdulaziz showed he can quickly get unanimity ie. more can come #OOTT

33rd OPEC and non-OPEC Ministerial Meeting

The 45th Meeting of the Joint Ministerial Monitoring Committee (JMMC) and the 33rd OPEC and Non-OPEC Ministerial Meeting took place in person at the OPEC Secretariat in Vienna, Austria, on Wednesday, 5 October 2022.

In light of the uncertainty that surrounds the global economic and oil market outlooks, and the need to enhance the long-term guidance for the oil market, and in line with the successful approach of being proactive, and preemptive, which has been consistently adopted by OPEC and Non-OPEC Participating Countries in the Declaration of Cooperation, the Participating Countries decided to:

1. Reaffirm the decision of the 10th OPEC and non-OPEC Ministerial Meeting on 12 April 2020 and further endorsed in subsequent meetings including the 19th OPEC and non-OPEC Ministerial Meeting on 18 July 2021.
2. Extend the duration of Declaration of Cooperation until the 31st of December 2023.
3. Adjust downward the overall production by 2 mb/d, from the August 2022 required production levels, starting November 2022 for OPEC and Non-OPEC Participating Countries as per the attached table.
4. Reconfirm the baseline adjustment approved at the 19th OPEC and non-OPEC Ministerial Meeting.
5. Adjust the frequency of the monthly meetings to become every two months for the Joint Ministerial Monitoring Committee (JMMC).
6. Hold the OPEC and non-OPEC Ministerial Meeting (ONOMM) every 6 months in accordance with the ordinary OPEC scheduled conference.
7. Grant the JMMC the authority to hold additional meetings, or to request an OPEC and non-OPEC Ministerial Meeting at any time to address market developments if necessary.
8. Extend the compensation period to the 31st of March 2023. Compensation plans should be submitted in accordance with the statement of the 19th OPEC and Non-OPEC Ministerial Meeting.
9. Reiterate the critical importance of adhering to full conformity.
10. Hold the 34th OPEC and Non-OPEC Ministerial Meeting on 4 December 2022.

November 2022-December 2023

	August 2022 Required Production	Voluntary Adjustment	Voluntary Production
Algeria	1,055	-48	1,007
Angola	1,525	-70	1,455
Congo	325	-15	310
Equatorial Guinea	127	-6	121
Gabon	186	-9	177
Iraq	4,651	-220	4,431
Kuwait	2,811	-135	2,676
Nigeria	1,826	-84	1,742
Saudi Arabia	11,004	-526	10,478
UAE	3,179	-160	3,019
Azerbaijan	717	-33	684
Bahrain	205	-9	196
Brunei	102	-5	97
Kazakhstan	1,706	-78	1,628
Malaysia	594	-27	567
Mexico	1753	0	1,753
Oman	881	-40	841
Russia	11,004	-526	10,478
Sudan	75	-3	72
South Sudan	130	-6	124
OPEC 10	26,689	-1,273	25,416
Non-OPEC	17,167	-727	16,440
OPEC+	43,856	-2,000	41,856

4 21

Dan Tsubouchi @Energy_Tidbits · Oct 5

For those not near their laptop, @EIAgov just released #Oil #Gasoline #Distillates inventory as of Sept 30. Table below compares EIA data vs expectations and vs
@APIenergy yesterday. Prior to release, WTI was $86.34. #OOTT

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

Inventory Sept 30: EIA, Bloomberg Survey Expectations,

s)	EIA	Expectations	
	-1.36	1.80	
	-4.73	-1.10	
	-3.44	-1.50	
	-9.53	-0.80	

mmercial so builds in impact of 6.2 mmb draw from SPR for S
d in the oil data, Cushing had a build of 0.28 mmb for Sept 30
loomberg
AF Group https://safgroup.ca/news-insights/

5 17

Dan Tsubouchi @Energy_Tidbits · Oct 5

#OPEC+ press conference must be about to start soon, the background music just came on. here is the link opec.org/opec_web/en/mu... #OOTT

1 5

Dan Tsubouchi @Energy_Tidbits · Oct 5

looks like #OPEC+ JMMC meeting is about to start #OOTT

> **Amena Bakr** @Amena__Bakr · Oct 5
>
> Prince Abdulaziz arrives #OOTT #opec

4 9

Dan Tsubouchi @Energy_Tidbits · Oct 5

Reminder. @EIAgov actuals for US #Oil production of 11.800 mmb/d was only +166,000 b/d in July 2022 vs Dec 2021 of 11.634 mmb/d. It's +2.1 mmb/d since Covid bottom of 9.713 mmb/d in May 2020, but growth stalled so far in 2022. #OOTT

Excerpt News & Insights – SAF Group

SAF GROUP

Energy Tidbits

Oct 2, 2022

Produced by: Dan Tsubouchi

US Oil Production in July is Only +166,000 b/d vs Dec 2021

Oil – EIA Form 914 July oil production is only +166,000 b/d vs Dec 2021 exit

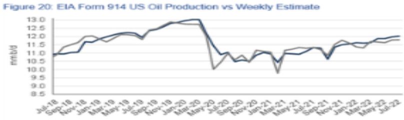
US oil production is viewed as a key global oil supply growth, but to date, the growth in 2022 has been less than expected. There are two key takeaways from the EIA's look back at July actual oil production – July is only +166,000 b/d vs the Dec 2021 exit and was -230,000 b/d below the weekly estimates. The EIA released its Form 914 data [LINK] on Friday, which is the EIA's "actuals" for July US oil and natural gas production. (i) Form 914 estimates total US oil production is up 0.022 mmb/d MoM to 11.800 mmb/d in July. The actuals for July were >200,000 b/d lower than the EIA's weekly estimates that worked out to just over 12.030 mmb/d. (ii) One of the growing questions has been how much US oil will grow in 2022. July actuals at 11.800 mmb/d is only +166,000 b/d more than the year end Dec 2021 average of 11.634 mmb/d.

Figure 19: EIA Form 914 US Oil Production

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	11,369	11,316	11,701	11,668	11,629	11,788	11,800					
2021	11,124	9,925	11,326	11,305	11,356	11,356	11,347	11,277	10,918	11,569	11,790	11,634
2020	12,852	12,842	12,797	11,914	9,713	10,442	11,006	10,577	10,921	10,457	11,196	11,168
2019	11,869	11,673	11,913	12,149	12,154	12,218	11,902	12,486	12,590	12,809	13,000	12,978
2018	10,001	10,281	10,467	10,500	10,435	10,641	10,897	11,392	11,443	11,509	11,886	11,945
2017	8,875	9,110	9,166	9,101	9,185	9,111	9,247	9,250	9,517	9,669	10,085	9,983
2016	9,202	9,066	9,101	8,874	8,835	8,676	8,662	8,690	8,544	8,804	8,903	8,816

Source: EIA

Figure 20: EIA Form 914 US Oil Production vs Weekly Estimate



Source: EIA

The 51-pg weekly SAF Oct 2, 2022 Energy Tidbits memo is posted on SAF Group website and is available for download on the news/insights section of SAF website https://safgroup.ca/news-insights/

6 12

Dan Tsubouchi @Energy_Tidbits · Oct 3 ···

Inconvenient Truth! Burning wood pellets fits into a clean energy plan, gets UK green subsidies to add higher emissions power. No wonder companies don't want to talk about it, especially if wood pellets come from clearing Cdn forest. Thx @joe_crowley @TimRobinsonTV. #OOTT

> **BBC Panorama** @BBCPanorama · Oct 3
>
> Drax is chopping down trees and taking logs from some of the world's most precious forests to burn at its Yorkshire power station, which provides 12% of the UK's renewable energy
>
> The Green Energy Scandal Exposed is on @BBCOne at 8pm and on @BBCiPlayer
>
> bbc.in/3M1bNKX

1 3 19

Dan Tsubouchi @Energy_Tidbits · Oct 4 ···

#Shell CEO: remember #Oil #NatGas returns have to cover all the investments that don't pan out. #EnergyTransition is endurance game, not like phones replacing cameras. some investors ask for more #Oil #NatGas investments. Great thx @cm_energyintel! #OOTT

> **Casey Merriman** @cm_energyintel · Oct 4
>
> Is Europe prepared for further risks to energy infrastructure? Shell's van Beurden: We cannot be complacent or expect a fast recovery like Aramco was able to pull off post-Abqaiq attacks in 2019. Prevention here will be absolutely essential.
>
> @EI_Forum
>
> Show this thread

1 4

Dan Tsubouchi @Energy_Tidbits · Oct 4

#Aramco CEO "the world should be worried" "this is where we are heading. If China opens up a little bit, you will find out that spare capacity will be eroded completed" reports @MathisWilliam. #OOTT

Aramco Says Global Oil Spare Buffers to Slump When China Reo

- Spare capacity will be 'eroded completely,' says CEO Nasser
- Company sees little extra competition from Russia in Asia

By William Mathis

(Bloomberg) -- The world's biggest oil company reiterated its warning that producers' spare capacity is running low and said there wouldn't be any left once China ends its Covid Zero strategy.

"The world should be worried," Saudi Aramco's Chief Executive Officer Amin Nasser said at a conference in London. "This is where we are heading. If China opens up a little bit you will find out that spare capacity will be eroded completely."

Aramco and Saudi Arabian officials have frequently criticized Western governments and firms for shunning investment in fossil fuels and trying to transition to renewable energy too quickly. They've cited this year's surge in oil and natural gas prices as evidence that more exploration projects are needed.

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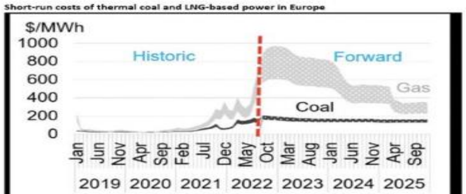
Dan Tsubouchi @Energy_Tidbits · Oct 4

Good thing #EU still has some switching #Coal generation to fill in for #NatGas. Emissions get hammered, but huge cost savings. Also reminds EU #NatGas crisis started in H2/21 ie. before RUS/UKR. Thx @BloombergNEF
@ali_poona Antoine Vagneur-Jones. #OOTT

Costs of Thermal Coal and LNG Gas Power in Europe: BNEF Chart
2022-10-04 04:32:00.603 GMT

By Antoine Vagneur-Jones
(BloombergNEF) –

Short-run costs of thermal coal and LNG-based power in Europe



Short-run costs take into consideration the cost of European carbon allowances. Thermal coal short-run costs are based on ARA 6,000kcal coal prices, gas short-run costs are based on Title Transfer Facility prices. Data accessed on August 25, 2022

The short-run marginal costs of thermal coal and LNG-based gas power have evolved dramatically in recent months. A leap in European natural gas prices has burnished the relative economics of burning coal, and increased demand for the fuel in the power sector.
See the full research report here

To contact BloombergNEF about this article click here.
To contact the author:
Antoine Vagneur-Jones at avagneurjone@bloomberg.net
To contact the editor responsible for this article:
Ben Vickers at bvickers@bloomberg.net

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Dan Tsubouchi @Energy_Tidbits · Oct 4

1/2. Huge reality check & massive $$$ required if DE wants to phase out #Coal under #EnergyTransition. @RWE_AG. "In order for the coal phase-out to be possible, the energy transition must be so far advanced by 2030 that Germany's security of supply is not at risk..." #OOTT

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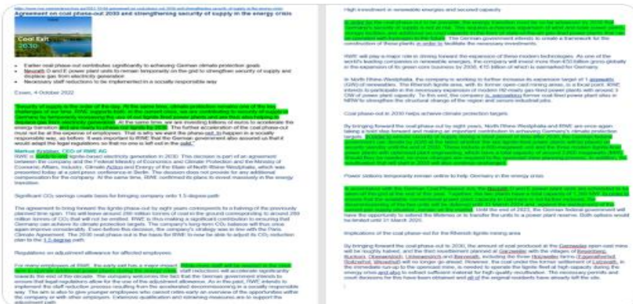
Dan Tsubouchi @Energy_Tidbits · Oct 4

2/2. "This requires a massive expansion of wind and solar power plants, storage facilities and additional secured capacity in the form of state-of-the-art gas-fired power plants that can be operated with hydrogen in the future." DE Ridding RU #NatGas is a huge challenge. #OOTT



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Dan Tsubouchi @Energy_Tidbits · Oct 4

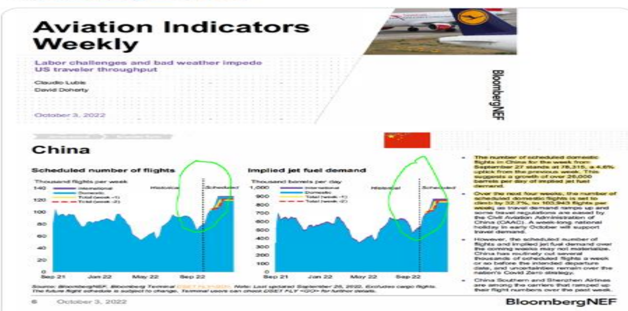
China reopening?

China air flights +4.6% WoW for 09/27 wk, followed +7% WoW for 09/20 wk.

Scheduled to reach 103,943 flights/wk, which would add ~300,000 b/d #JetFuel demand.

See 09/20 tweet twitter.com/Energy_Tidbits... China airlines knew something.

Thx @BloombergNEF. #OOTT



Dan Tsubouchi @Energy_Tidbits · Sep 28

China air flights +7% WoW to 74,870 flts in Sept 20 week. # of scheduled flts set to climb +40.5% to 105,190 flts over next 4 weeks. Incl 09/20 wk, would add ~300,000 b/d #JetFuel demand. See 👇 09/20 tweet, China airlines maybe knew something! Thx ...

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Dan Tsubouchi @Energy_Tidbits · Oct 5

China reopening. @SullyCNBC just noted Beijing Marathon returning Nov 6 after 2 yr hiatus. same 30,000 runner limit as ran in 2019. Some Covid changes - open only to Beijing residents, valid test within 24 hrs, etc. #OOTT

https://www.globaltimes.cn/page/202210/1276560.shtml

Beijing marathon returns after two-year hiatus, another key sports event in Beijing after the Winter Olympics

By Global Times Published: Oct 04, 2022 06:11 PM

Beijing marathon 2022 starts registration on Tuesday and 30,000 runners will compete on November 6, marking the 41-year-old event's long-awaited return after being canceled in 2020 and 2021 due to the COVID-19 epidemic. It will be another important sports event the capital city will hold after the Beijing 2022 Winter Olympic Games.

Marathoners reached by the Global Times on Tuesday hailed the news and many have registered with excitement. Registration will last through Friday and after that, 30,000 runners will be selected by drawing lots.

Runners will start from the Tiananmen Square and ran all the 40 kilometers to the main avenue of the Olympic Park.

Qu Yujia, a Beijing-based fitness coach, told the Global Times on Tuesday that she had registered and hoped to be lucky enough to be selected. Many of her friends also registered. "This year it will be easier [to be selected] as the event requires candidates to be Beijing residents," she said.

According to the event organizer, only people aged 20 and above who have a Beijing hukou (household registered in Beijing) or residential certificate can apply. In addition, they must have completed a marathon in six hours or a half-marathon in three hours after 2019 to be qualified for registration.

People from Hong Kong, Macao or Taiwan island, and foreigners are required relevant ID documents and corresponding residential certificates.

The organizer also invited some sports professionals for the run.

The requirement is stricter than that of 2019, the last time the Beijing marathon was held in a normal manner. In 2019, 160,000 people registered to draw lots for 30,000 quotas, according to media reports then.

Qu was also impressed by the epidemic prevention measures.

The event organizer asks registrants to provide records of COVID-19 vaccine inoculation and booster shots if the first two shots were completed by April 20 and stay in Beijing seven days before claiming event materials until completing the marathon. Valid 24-hour nucleic acid test is required to claim the materials and to compete.

Although many marathon lovers living in other cities won't be able to compete in this year's event due to anti-epidemic restrictions, a runner surnamed Zeng from Wuhan in Central China's Hubei was optimistic.

"Beijing marathon is like a weathercock. I felt those old things are returning and normal life is returning. Hope there won't be sudden contagion which forces the event to be cancelled," Zeng said.

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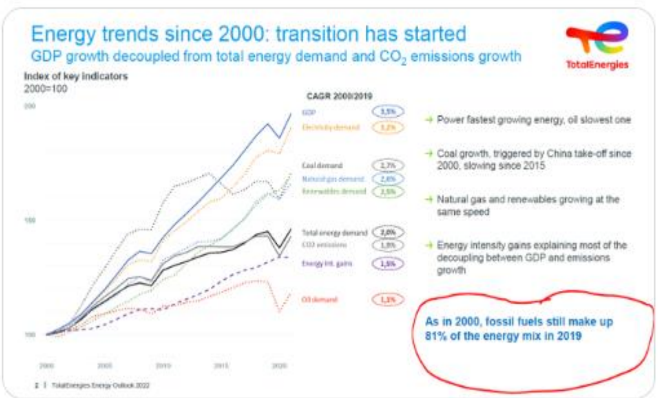
Dan Tsubouchi @Energy_Tidbits · Oct 3

ICYMI. @TotalEnergies 09.27 webcast "share of fossil fuels in the overall energy mix has barely moved in 20 years. It's still above 80%". #EnergyTransition is happening but will be a bumpy road, take longer & cost way more than expected. #Oil #NatGas needed for longer. #OOTT



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Dan Tsubouchi @Energy_Tidbits · Oct 2

great afternoon watching @MacHughesGolf win on the second playoff hole! fantastic for a great representative of 🇨🇦!!!

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Dan Tsubouchi @Energy_Tidbits · Oct 2

#Houthis back on #Oil watch. 6-mth truce ended Oct 2 and UN announces no deal to extend. #OOTT

2022

EMENT FROM THE UN SPECIAL ENVOY ON THE NEGOTIATIONS TO EXTEND AND EXPAND THE NATIONWIDE TRUCE IN YEMEN

uce that began on 2 April 2022 has offered a truly historic opportunity for Yemen. Building on the positive outcomes of the past six months, I submitted another proposal t on 1 October to extend the truce for another six months, with additional elements."

oposal includes the payment of civil servant salaries and pensions, the opening of specific roads in Taiz and other governorates, additional destinations for flights to and airport, unhindered entry of fuel ships into Hudaydah port, strengthening deescalation mechanisms through the Military Coordination Committee and a commitment to ur detainees. It also includes the initiation of negotiations for a ceasefire, the resumption of an inclusive political process and wider economic issues, including public services

Special Envoy regrets that an agreement has not been reached today as an extended and expanded truce would provide additional critical benefits to the population. "I am gr constructive engagement at the leadership level from both sides over the past weeks. And I appreciate the position of the Government of Yemen on engaging positively wi al. I will continue to work with both sides to try and find solutions."

otiations continue, the UN Special Envoy calls on the parties to maintain calm and refrain from provocations or any actions that could lead to an escalation of violence. "I urge ll their obligation to the Yemeni people to pursue every avenue for peace. Ultimately, Yemenis need an end to the conflict through an inclusive political process and a nego nent. I will continue my relentless efforts to engage with the parties to quickly reach an agreement on a way forward."

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