Energy Tidbits

Massive Increase in BC Wildfires Over Past 48 Hrs: At 9am MT, Up to 242 Active Wildfires Incl 154 Out of Control Wildfires

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://mexicopacific.com/mexico-pacific-and-chinas-zhejiang-energy-execute-long-term-lng-sales-and-purchase-agreements/

Mexico Pacific and China's Zhejiang Energy execute Long-Term LNG Sales and Purchase Agreements

05 July 2023

Zhejiang Energy International Limited (Zhejiang Energy) and Mexico Pacific Limited (Mexico Pacific) announced today they have signed a sales and purchase agreement for Zhejiang Energy to offtake 1.0 million tons per year (MTPA) of liquefied natural gas (LNG) from Mexico Pacific's anchor LNG export facility, Saguaro Energia, located in Puerto Libertad, Sonora, Mexico.

Under the sales and purchase agreement, Zhejiang Energy will purchase LNG on a free on-board basis over a term of 20 years.

"We are delighted to deepen our supply relationship with Asian end user customers via this long-term SPA with Zhejiang Energy," said Ivan Van der Walt, Chief Executive Officer of Mexico Pacific. "LNG is an important pillar to China's energy security needs and it's underlying green policy ambitions. Zhejiang Energy is the sole gas distributor in Zhejiang province, one of the largest provincial economies in China, and under this new agreement Mexico Pacific will further support the growing energy requirements of this region."

Mr. Xiqiang Chai, Deputy General Manager at Zhejiang Provincial Energy Group said: "Zhejiang Provincial Energy Group (ZEG) has consistent interest in seeking international upstream energy resources, such as natural gas. This new long-term agreement with Mexico Pacific is an important step in further diversifying our energy supply portfolio and strengthening ZEG's natural gas industry. We are excited to be partnering with Mexico Pacific as they work to deliver low-cost LNG to China."

About Mexico Pacific

Mexico Pacific's anchor project, the 14.1 mtpa Saguaro Energia LNG Facility, is the most advanced LNG development project on the West Coast of North America. The Saguaro Energia LNG Facility achieves significant cost and logistical advantages resulting in the lowest landed price of North American LNG into Asia by, leveraging low-cost natural gas sourced from the nearby Permian Basin, and a significantly shorter shipping route avoiding Panama Canal transit risk for Asian markets. More information can be found at http://www.mexicopacific.com.

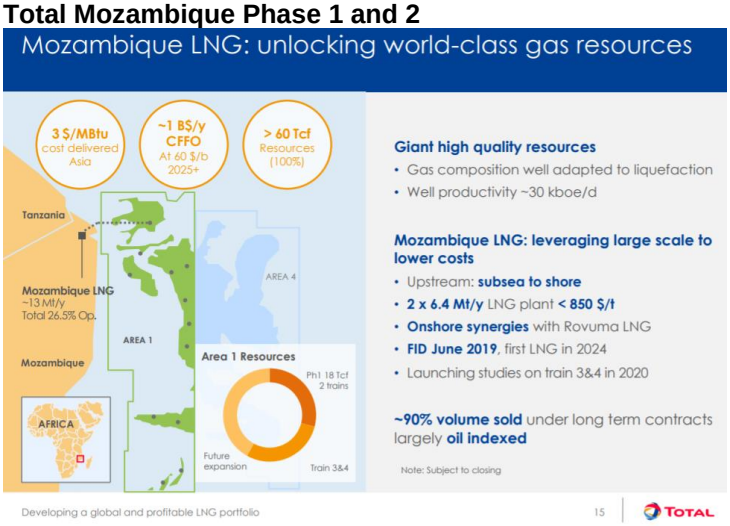
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

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

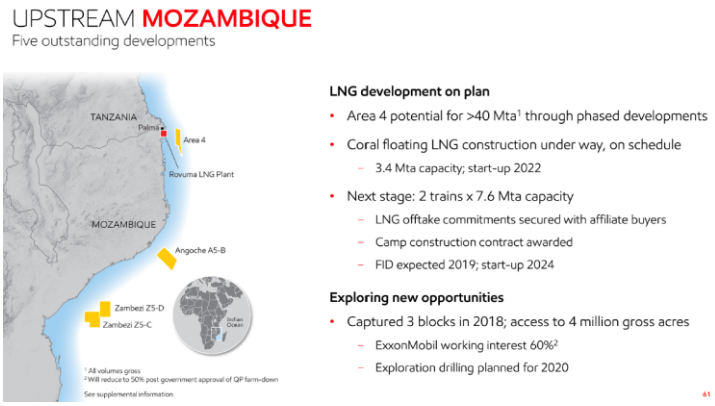
Total's Mozambique force majeure is no surprise, especially the need to the restoration of security and stability "in a sustained manner". Yesterday, Total announced [LINK] "*Considering the evolution of the security".* No one should be surprised by the force majeure or the sustained manner caveat. SAF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

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

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

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

Exxon Mozambique LNG



Source: Exxon Investor Day March 6, 2019

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

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

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

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

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

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

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

Source: IEA

On Track More Efforts Needed Not on Track

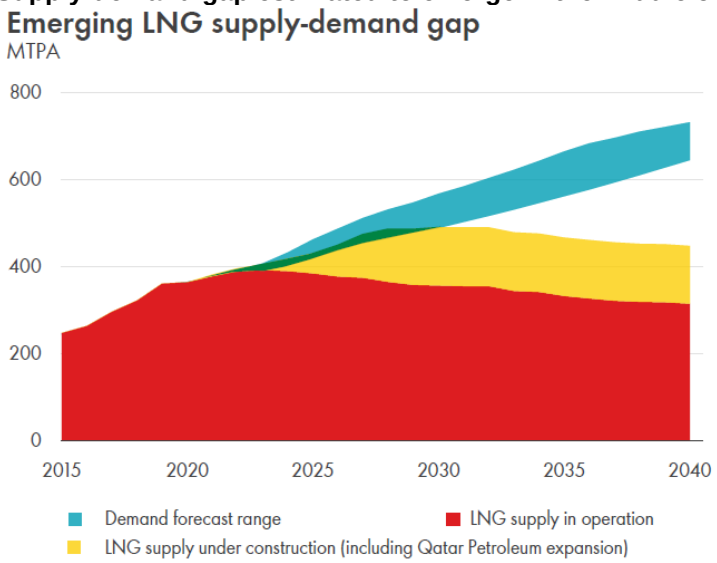
Source: IEA Tracking Clean Energy Progress, June 2020

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

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

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

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



Source: Shell LNG Outlook 2021, Feb 25, 2021

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

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

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

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

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

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

Posted 11am on July 14, 2021

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

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

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

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

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

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

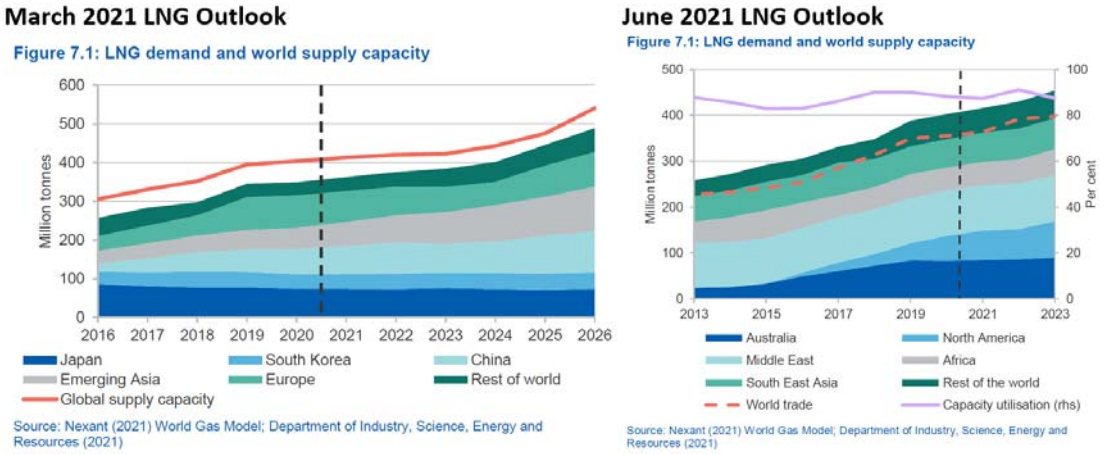
Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required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

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

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

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

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

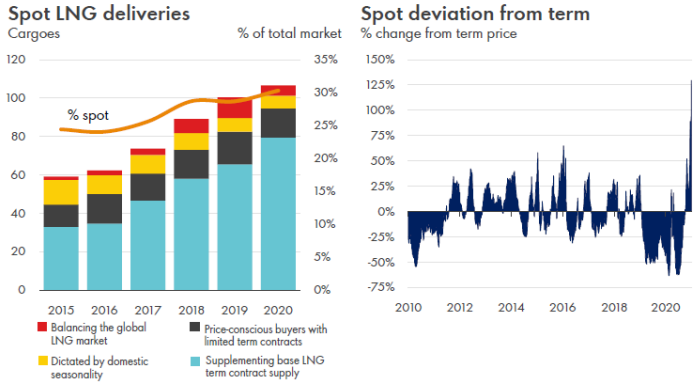


Source: Australia Resources and Energy Quarterly

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

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

Spot LNG deliveries and Spot deviation from term price



Source: Shell LNG Outlook 2021 on Feb 25, 2021

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

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

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

WEATHER CLIMATE WATER

WORLD METEOROLOGICAL ORGANIZATION

GLOBAL SEASONAL CLIMATE UPDATE

TARGET SEASON: July-August-September 2023

Prepared: 26 June 2023

Summary

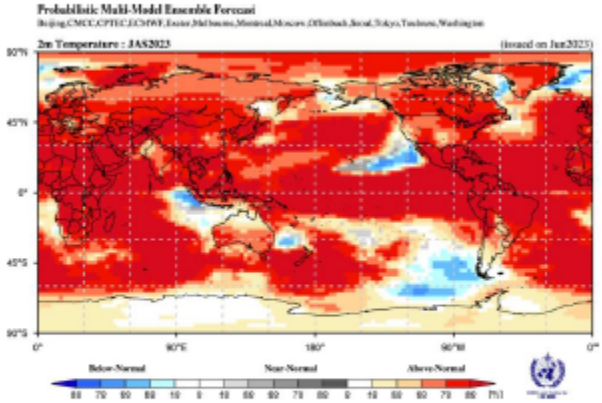
During March-May 2023, Pacific Niño sea-surface temperature (SST) index in the eastern Pacific (Niño 1+2) were above-normal while the other three indices in the central Pacific were near-normal. The observed SST conditions in the equatorial Pacific were characterized by an ENSO neutral state. The Indian Ocean Dipole (IOD) had a positive value. The North Tropical Atlantic (NTA) SST index and the South Tropical Atlantic (STA) SST index were also positive.

For the July-September 2023 (JAS 2023) season, the near-normal sea-surface temperature anomalies in the Niño 3.4 and Niño 3 regions in the central and eastern Pacific are predicted to transition to moderate El Niño conditions.

As warmer-than-average SSTs are generally predicted over oceanic regions for the JAS 2023 season, they contribute to widespread prediction of above-normal temperatures over land areas. Without exception, above-normal temperature anomalies are expected over all land areas in the Northern and Southern Hemisphere. The largest increase in probabilities for above-normal temperatures extend around the globe within the 50° S and 50° N band that includes the Maritime continent, Central America, the Caribbean, northern regions of South America, Africa, the Arabian Peninsula, east and southeast Asia, and northern regions of North America. Over these regions the model consistency is high. There are also enhanced probabilities for above-normal temperatures over other regions of Asia and North America, Europe, and southern regions of South America. Over these regions, however, the probabilities for above-normal temperature have a moderate increase. Strongly enhanced probabilities for above-normal temperatures are predicted in a band from north of Australia, extending to the south-eastern South Pacific, and in an arc extending over New Zealand to the vicinity of Tasmania. Many of the southwest Pacific islands lie within this band of above-normal temperatures. From the Maritime Continent east of 120° E, an area with the likelihood of above-normal temperature extends into the central Pacific, where it arcs northward, and at about 45° N stretches continuously from the west coast of North America to the east coast of Asia.

Predictions for rainfall in the JAS 2023 season are similar to some of the canonical rainfall impacts of El Niño. Probabilities for above-normal rainfall are enhanced over a narrow band along and just north of the equator from the Philippines extending across the equator to the west coast of South America. This anomalously wet area extends discontinuously westward and with weaker signal and is most evident in south-east Asia, the Indian subcontinent, and along the southern part of West Africa, extending most of the way across the Atlantic Ocean. Across most of the Pacific Ocean south of about 25° N, and immediately to the north of the equatorial wet band, rainfall is predicted to be below-normal. This area of dryness extends eastward across much of the northern part of South America north of about 10° S, southern parts of Central America and the southern Caribbean, and the west coast of Central America. There is another band of predicted below-normal rainfall in the Central South Pacific east of the Dateline and extending in a narrowband to a little beyond 120° W. Over the south-central and western parts of the Maritime continent, below-normal rainfall is also predicted. This area extends along the equator almost to the east coast of Africa, but also to the south and east, so that most of Australia and the northern part of New Zealand have increased probabilities of below-normal rain. The probability of below-normal rainfall is also increased over inland parts of East Africa. Over much of the rest of Africa north of the equator and over southern parts of Europe, the probabilities for above-normal rainfall are weakly to moderately increased. Outside of the tropics, there are no large-scale strong indications of anomalous rainfall over land.

Surface Air Temperature, JAS 2023



Precipitation, JAS 2023

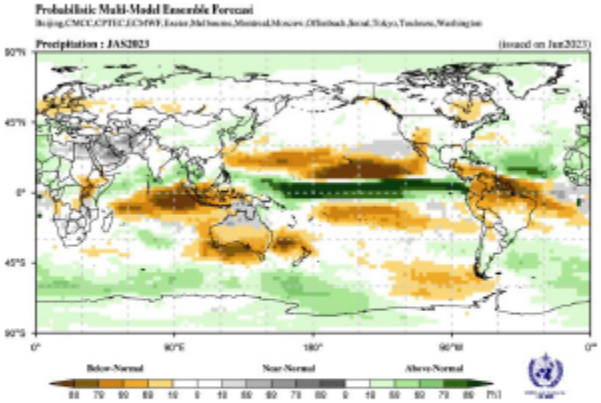


Figure 1. Probabilistic forecasts of surface air temperature and precipitation for the season July-September 2023. The tercile category with the highest forecast probability is indicated by shaded areas. The most likely category for below-normal, above-normal, and near-normal is depicted in blue, red, and grey shadings respectively for temperature, and orange, green and grey shadings respectively for precipitation. White areas indicate equal chances for all categories in both cases. The baseline period is 1993-2009.

https://www.moenergy.gov.sa/en/MediaCenter/News/Pages/Saudi_Arabia_extension_of_Voluntary_cut_of_one_million_barrels.aspx

https://tass.ru/ekonomika/18175317
3 July, 03:26,
Updated July 3, 03:37

Novak: Russia will voluntarily reduce oil exports by 500,<> barrels per day in August

At the same time, Saudi Arabia decided to extend until August the voluntary reduction in oil production by 1 million bpd, which was originally scheduled for July

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Tags:

https://www.energyintel.com/00000189-205a-d19f-a7fd-7d7b971c0000

Adnoc Closes In on 4.5 Million b/d Output Capacity

Published: Tue, Jul 4, 2023

Author Oliver Klaus, Dubai

Editor Tom Pepper

Abu Dhabi National Oil Co. (Adnoc) has reached oil production capacity of around 4.5 million barrels per day, a key benchmark on its path towards boosting capacity to 5 million b/d by 2027.

Energy Intelligence last year estimated that oil production capacity in Abu Dhabi had reached a level close to 4.3 million b/d, more than half of which is attributable to offshore fields, which include the giant Upper Zakum field, whose production capacity is now estimated at above 1 million b/d.

The new capacity figure recently published by Adnoc for the first time on its website is a reflection of the state giant's investment drive in recent years and adjusted timelines for implementation, one industry source said.

Opec Ranking

The increased capacity cements the United Arab Emirates' (UAE) position as the third largest Opec producer after Saudi Arabia and Iraq and will give it increased influence in future quota discussions within the Opec-plus alliance.

The Mideast Gulf producer pushed for a higher quota in the past and, at the last Opec-plus meeting in early June, managed to negotiate an upward revision of 200,000 b/d to around 3.2 million b/d to come into force in 2024. Under the present Opec-plus arrangement, the UAE committed to pumping just below 2.9 million b/d — well below its capacity.

Last year, Adnoc moved forward the company's official 5 million b/d oil production capacity target to 2027 from 2030. In November, the company's board approved a $23 billion hike in capital expenditure to $150 billion for the 2023-27 period to support its accelerated growth strategy.

Adnoc's capacity is complemented by an estimated 30,000-40,000 b/d produced in neighboring Dubai, taking its overall oil production capacity as an Opec member the of UAE to possibly above 4.5 million b/d.

Energy Transition

Adnoc's capacity expansion plans are advancing at a time when the UAE — host of this year's COP28 climate summit — is working towards implementation of its net zero by 2050 target. Adnoc itself announced 2050 net-zero targets for Scope 1 and Scope 2 emissions last year.

The state firm took a major step towards decarbonizing its operations in 2022, when it began to source up to 100% of its grid electricity from solar and nuclear power produced in the emirate.

Capacity Expansions

Where the additional capacity to reach 5 million b/d will come from is not entirely clear.

Adnoc has made progress on capacity expansions onshore and offshore in recent years and also has exploration under way in numerous blocks awarded in two upstream licensing rounds since 2018.

Of the present output capacity, more than half is estimated to be available offshore.

Several industry sources close to Abu Dhabi's upstream previously told Energy Intelligence that they were not aware of where exactly the additional output would come from.

However, it is expected that a further expansion of Upper Zakum, which has proven reserves of around 50 billion barrels, will feature prominently in Adnoc's 5 million b/d plans.

Adnoc and its concession partners in Upper Zakum, Exxon Mobil and Inpex, have mulled a major expansion that might go well beyond the field's existing production capacity, potentially doubling it to 2 million b/d by the early 2030s.

An initial stage could see the addition of 200,000 b/d of capacity to take the total to 1.2 million b/d by the mid-2020s, according to industry sources. However, any expansion plan will depend on the concession stakeholders coming to an agreement on key issues, notably fiscal terms, which are understood to be still under discussion.

In coming years, other output capacity additions will be achieved at offshore fields, including Satah al-Ras Boot (Sarb)/Umm Lulu and Lower Zakum, and at the onshore Bab, Bu Hasa and Asab fields, among others.

https://libyaobserver.ly/news/haftar-demands-new-mechanism-distributing-state-revenues-warns-escalate-if-his-calls-are-not

Haftar demands new mechanism for distributing state revenues, warns to escalate if his calls are not met

BY SAFAALHARATHY TUE, 04/07/2023 - 18:39

Rogue military commander Khalifa Haftar has demanded that the mechanism for distributing the country's wealth and oil revenues be reconsidered, threatening to take action if a plan in this regard is not ready by August.

Addressing an audience of military and security figures on Monday, Haftar demanded that a high committee be formed to arrange a financial audit that distributes the revenues equitably.

In case of any delay in establishing the relevant committee, "the Libyan people will be on time to claim their legitimate right for wealth," he said.

He noted what he claimed were violations in the documentary credits committed by the Tripoli-based Central Bank of Libya (CBL).

"The documentary credits for 2022 were distributed to 1,646 companies; The eastern region's share was 7% percent, while the southern region received only 2% percent of these credits."

The 80-year-old warlord said the Administrative Control and the Audit Bureau report indicated manipulation with more than 200 billion dinars.

"There is an ever more pressing need for fair distribution of oil revenues amid the current adverse economic situation in the country, Haftar said, adding that Dbeibah's government spent 122 billion dinars out of the 135 billion of oil revenues.

He claimed to receive "hundreds of memorandums from different regions demanding the formation of a supreme committee for financial arrangements to distribute revenues fairly among the municipalities.

He expressed dissatisfaction with US Ambassador Richard Norland for his remarks on the distribution of oil revenues.

Addressing the foreign diplomatic missions, Haftar called on them to refrain from interfering in Libyan affairs and "not to cross the lines."

"You are the ones who created the crisis and sowed discord among the Libyans."

Haftar said that the presidential and parliamentary elections represent the solution to Libya's crisis, as he demanded the exit of all foreign forces and mercenaries from Libya in implementation of the Security Council resolutions and the agreements of the Joint Military Committee (5 + 5)

https://libyaobserver.ly/news/new-oil-crisis-looming-rival-pm-threatens-shut-down-oil-sites-east

New oil crisis looming as rival PM threatens to shut down oil sites in the east

BY SAFAALHARATHY SUN, 25/06/2023 - 11:46

Osama Hammad, who is heading the rival government in the east, warned on Saturday to take action and halt oil and gas operations in the main oil sites east of the country.

Hammad accused the National Oil Corporation (NOC) of siding with the UN- recognized Government of National Unity based in Tripoli and giving it access to "seize" $16 billion in oil revenues.

He warned to halt export operations and declare force majeure in response.

Hammad's government said it would "resort to the judiciary to appoint a judicial guard" over the seized funds to stop the ongoing tampering.

"The situation will remain unchanged until completing the relevant legal and financial procedures, which the committee formed by the House of Representatives should reorganize and implement under the supervision of the NOC's chief," a statement by the east-based government said.

Hammad said his administration would withhold development expenses without prejudice to the salary item or the service sector.

His government called on the UN Support Mission in Libya to undertake its tasks without bias and "clarify all that has been wasted from the people's money."

It may be worth noting that the Benghazi Court of Appeal had earlier rejected the NOC's appeal against the parallel government's decision to seize oil revenues and upheld its procedures for confiscating the NOC's accounts, issued on January 25, 2023.

TAGS: OIL SHUT DOWN EAST-BASED GOVERNMENT OSAMA HAMMAD

Embargoed until 0945 CST (0145 UTC) 3 July 2023

Caixin China General Manufacturing PMI™

Softer rise in manufacturing production in June

Latest PMI data revealed a softer improvement in operating conditions across China's manufacturing sector during June. Production growth slowed notably from May's 11-month high, while new order growth remained mild overall. At the same time, firms registered a further improvement in supplier performance and input costs declined solidly. Cost savings were generally passed on to clients, as firms looked to boost their competitiveness.

Optimism around the 12-month outlook for production waned to an eight-month low in June, as some firms expressed concerns over relatively sluggish market conditions. Notably, manufacturers cut their staffing levels for the fourth straight month due to weaker than expected sales and efforts to readjust capacity.

The headline seasonally adjusted *Purchasing Managers' Index™ (PMI™)* – a composite indicator designed to provide a single-figure snapshot of operating conditions in the manufacturing economy – remained above the neutral 50.0 level at 50.5 in June, signalling a back-to-back improvement in the health of the sector. That said, the reading was down from 50.9 in May and indicative of only a marginal improvement that was below the series trend.

After rising at the quickest rate in 11 months in May, Chinese manufacturing output expanded only slightly in June. Where production increased, companies often linked this to firmer demand conditions and greater intakes of new work.

Total new business expanded modestly in June, with the pace of growth slowing slightly from May. Data suggested that the upturn was largely driven by improved domestic sales, as new export business was broadly unchanged. There were a number of reports that relatively weak global economic conditions had dampened foreign demand.

Nevertheless, the back-to-back rise in total new order volumes led companies to expand their purchasing activity again in June. This in turn contributed to a further increase in inventories of inputs, though the rate of accumulation was only marginal. However, stocks of finished items fell slightly again.

Manufacturers in China maintained a cautious approach to employment, which fell for the fourth month in a row. The modest reduction in headcounts was often attributed to muted sales growth and efforts to readjust capacities. Moreover, firms signalled little pressure on current production schedules, with backlogs of work rising only slightly in June.

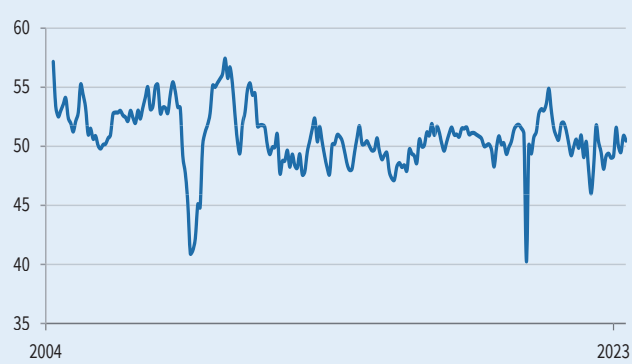
Companies registered quicker delivery times for inputs again at the end of the second quarter, albeit with the rate of improvement remaining marginal. Faster lead times were often linked to the increased availability of raw materials.

The improved supply situation and softer than expected demand placed further downward pressure on prices. Notably, input costs fell at a solid pace that was the quickest seen since January 2016. Panel members widely cited lower costs for raw materials, including steel, cement, food and oil. However, increased market competition and efforts to boost sales led firms to generally pass on cost savings to clients through reduced selling prices.

When assessing the 12-month outlook for output, companies were generally optimistic in June amid hopes of stronger economic conditions and improved sales. That said, the degree of positive sentiment edged down to an eight-month low, as some firms expressed concerns over relatively sluggish market conditions.

China General Manufacturing PMI

sa, >50 = improvement since previous month



Sources: Caixin, S&P Global PMI

Key findings:

Output expands marginally as demand growth remains mild

Input prices fall at quickest rate since January 2016

Business confidence slips to eight-month low

New Export Orders Index

sa, >50 = growth since previous month

Sources: Caixin, S&P Global PMI

Employment Index

sa, >50 = growth since previous month

Sources: Caixin, S&P Global PMI

Commenting on the China General Manufacturing PMI™ data, Dr. Wang Zhe, Senior Economist at Caixin Insight Group said:

"The Caixin China General Manufacturing PMI in June fell to 50.5, shedding 0.4 points from May as manufacturing conditions picked up for the second straight month, though at a marginally slower pace.

"Both manufacturing supply and demand improved only slightly in June. Manufacturing output growth slowed from May, although the relevant subindex stayed above 50 for the fifth month in a row. Meanwhile, demand growth remained restrained, with the subindex for total new orders landing in expansionary territory for the fourth time in the past five months. Growth stemmed largely from the domestic market, while overseas demand remained more or less stable amid the global economy's ongoing sluggishness. The gauge for new export orders came in just slightly above the neutral level of 50.

"The manufacturing job market continued to deteriorate. The employment subindex came in well below 50 in June, although it bounced back from a more than three-year low in May. As demand growth missed expectations, and manufacturing enterprises continued to adjust capacity, the job market contracted for the fourth straight month, especially for producers of investment goods. The falling number of workers in the sector didn't have much of an effect on the gauge for backlogs of work, which stood slightly above 50 in June.

"Prices continued to plunge, with the readings for input and output prices both coming in significantly below 50 for the third straight month. In particular, input prices fell at the fastest pace since January 2016, indicating that deflationary pressures continued to mount. In June, the costs of bulk commodities, including steel, cement, food and oil, dipped by varying degrees. Manufacturers' bargaining power remained weak in terms of the prices they could charge customers due to limited demand.

"Supplier delivery times improved further in June. The related subindex stayed in expansionary territory as suppliers maintained sufficient stocks and their delivery times got even shorter. Meanwhile, manufacturers' quantity of purchases grew marginally, slightly pushing up their stocks of raw materials.

"Manufacturers became less optimistic, with the reading for expectations for future output dipping to a low not seen since October, though it held above 50. Some of the surveyed manufacturers expressed concerns about the slower-than-expected economic recovery.

"In a nutshell, manufacturing activity growth suffered a marginal slowdown. Both supply and demand picked up slightly, the job market got worse, logistics improved, businesses stepped up purchasing, raw material inventories grew marginally, prices continued to slump, and manufacturers' optimism wavered.

"A slew of recent economic data suggests that China's recovery has yet to find a stable footing, as prominent issues including a lack of internal growth drivers, weak demand and dimming prospects remain. Problems reflected in June's Caixin China manufacturing PMI, ranging from an increasingly dire job market to rising deflationary pressure and waning optimism, also point to the same conclusion. In the future, stronger policy support is needed on the macro level, along with higher implementation efficiency from a micro perspective, to ensure that policies benefit market players directly and therefore bolster employment and market expectations."

Air Passenger Market Analysis

May 2023

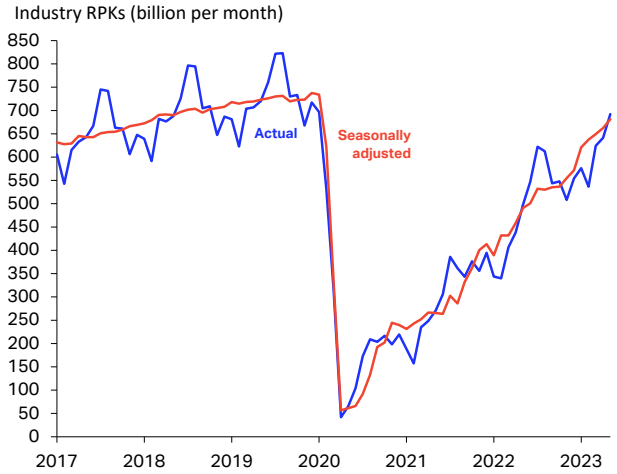
Another month of solid traffic growth as load factors recover

- Global air passenger demand recorded solid growth in May, with industry-wide revenue passenger-kilometers (RPKs) increasing by 39.1% year-on-year (YoY) and reaching 96.1% of pre-pandemic levels.
- For the second month in a row, domestic RPKs outperformed their pre-Covid levels, rising 5.3% above 2019 RPKs.
- International RPKs continued to expand in May, growing by 40.9% YoY and restoring 90.8% of their 2019 levels. All regions experienced a positive evolution in international traffic demand, while Asia Pacific continued to stand out with 156.7% annual growth.
- Carriers in the Middle East and North America fully recovered their international passenger traffic, with RPKs 17.2% and 1.8% above 2019 levels, respectively.

Demand and capacity continued to expand in May…

The annual growth in industry-wide revenue passenger-kilometers (RPKs) was 39.1% in May. While this expansion was 6.7 percentage points (ppts) slower than the previous month, growth in global traffic continues to signal a resilient recovery momentum. Seasonally adjusted RPKs rose by 2.8% month-on-month, maintaining the increasing traffic trend established in previous months (**Chart 1**).

Chart 1 – Global air passengers, revenue-passenger kilometers (RPKs), billions per month



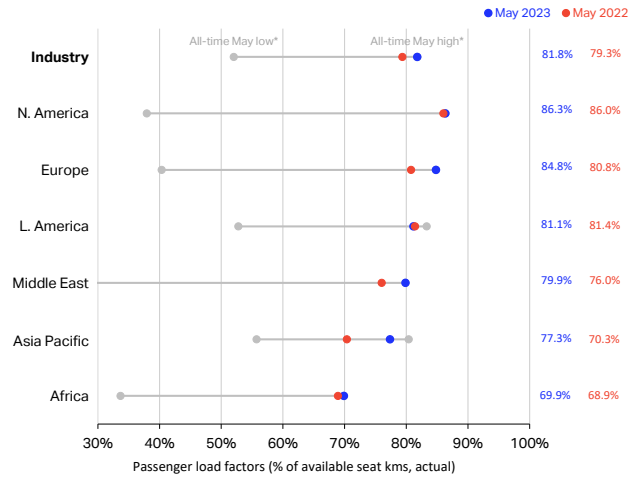
Sources: IATA Sustainability and Economics, IATA Monthly Statistics

Global available seat-kilometers (ASKs) and passenger load factors (PLF) also increased by 35% and 2.4ppts, respectively, compared to a year ago. At 81.8%, May marked the first month that the global passenger load factor was fully restored to 2019 levels. Moreover, the available seat capacity recovered to 96.1% of pre-crisis levels, a 3.6 ppts climb compared to April and the highest recovery level achieved so far.

… while load factors were up in most regions

The improvement in passenger load factors was widespread across regions, indicating strong demand for air travel amid a broad-based recovery. The highest load factor was recorded by North American carriers at 86.3% in May. European and Latin American airlines followed, with 84.8% and 81.1% load factors, respectively (**Chart 2**).

Chart 2 – Passenger load factors, by airline region of registration



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

*Data from 1990 onwards

Air passenger market overview - May 2023

	World share [1]	May 2023 (% year-on-year) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]	May 2023 (% ch vs the same month in 2019) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
TOTAL MARKET	***100.0%***	**39.1%**	**35.0%**	**2.4%**	**81.8%**	**-3.9%**	**-3.9%**	**0.0%**	**81.8%**
International	*58.0%*	40.9%	34.7%	3.6%	82.3%	-9.2%	-11.2%	1.8%	82.3%
Domestic	*42.0%*	36.4%	35.3%	0.6%	81.0%	5.3%	9.4%	-3.1%	81.0%

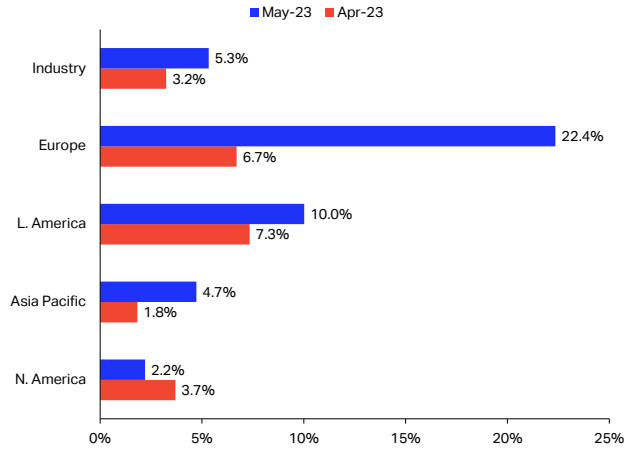
[1]% of industry RPKs in 2022 [2]Change in load factor [3]Load factor level

Carriers registered in the Middle East and Asia Pacific regions both witnessed an increase in their passenger load factors, which stood at 79.9% and 77.3%, respectively. However, load factors for Asia Pacific carriers remained 3ppts below pre-pandemic levels while Middle East outperformed their 2019 load factors by 6.8ppts. Load factors for airlines in Africa improved from the previous month, but at 69.9% they continued to be the lowest across all regions.

Domestic demand remained above 2019 levels…

Domestic RPKs rose by 36.4% YoY and stayed above their 2019 figures by 5.3%. European airlines stood out this month with a 22.4% increase in domestic traffic compared to 2019 levels, which was the highest growth recorded across all regions. Carriers in Asia Pacific and Latin America maintained their positive momentum and surpassed their pre-pandemic levels by 4.7% and 10%, respectively. In contrast, the expansion of domestic RPKs slowed down by 1.5ppts for North American carriers, while staying 2.2% above 2019 levels **(Chart 3).**

Chart 3 – Domestic RPK growth by airline region of registration, YoY% change versus 2019



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

The growth in the domestic traffic for Asia Pacific airlines was in large part driven by the 312% annual increase in China's domestic passenger demand. Accounting for 6.4% of industry-wide domestic traffic, China's domestic RPKs were 7.8% above May 2019 levels this month **(Chart 4)**.

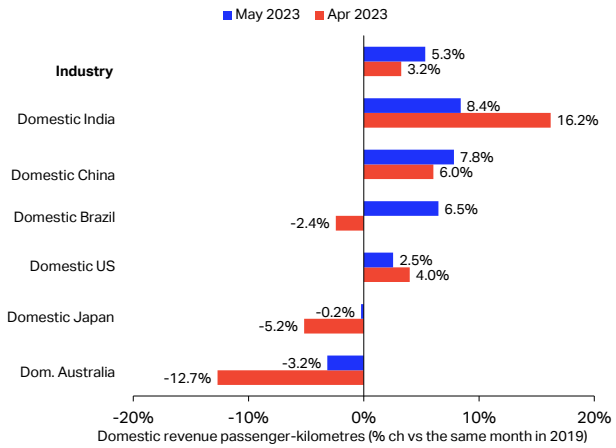
Carriers in India saw an easing in their domestic traffic growth, which slowed down from 18.3% YoY last month to 13.6% in May. Despite this slow down, domestic demand remained 8.4% above 2019 levels this month.

In the meantime, domestic RPKs for Australia grew by 2.1% YoY and recovered to 96.8% of 2019 levels while Japan experienced a 39% annual growth in RPKs to fully restore its pre-pandemic traffic.

The US domestic market experienced a 7.1% annual rise in passenger traffic this month. Growing faster than the 5.5% YoY increase recorded in April, domestic demand was 2.5% higher than 2019 levels.

Brazil achieved an important milestone in May, outperforming its domestic traffic levels from 2019 by 6.5% and joining the group of domestic market that have fully restored their pre-pandemic passenger traffic. Brazil's domestic passengers were 2.4% below pre-pandemic levels in April.

Chart 4 – Domestic RPK growth by market, YoY% change versus 2019



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

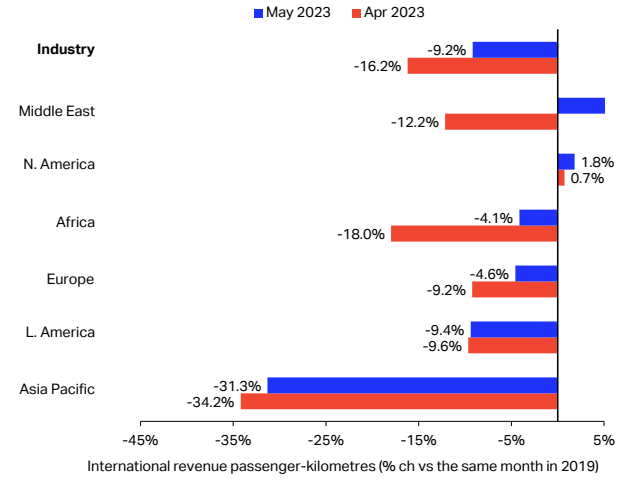
… supported by robust capacity growth

Industry-wide domestic ASKs continued their strong expansion in May, exceeding their 2019 figures by 9.4%. Moreover, important domestic markets such as China and the US, which account for more than 25% of the world's domestic market share, added 24.4% and 3.2% more capacity, respectively, than in 2019. Australia and Japan, also two big markets for domestic travel, followed the global expansion trend with 3.4% and 7.1% annual growth in domestic capacity, respectively. However, only Australia outperformed its pre-pandemic capacity by 0.1%.

International traffic maintained its swift recovery …

International RPKs continued to climb globally, growing 34.7% YoY, and now sitting only 9.2% under 2019 levels. Carriers from all regions achieved additional recovery in May 2023 compared to April **(Chart 5),** with Middle Eastern carriers experiencing a surge in traffic to be 17.2% above 2019 levels and now leading other regions in terms of recovery. North American carriers continued to over perform their pre-covid levels of traffic this month. Overall, international passenger load factors for most regions were higher in May compared to the same month in the previous year and in 2019.

Chart 5 – International RPK growth by airline region of registration, YoY% change versus 2019



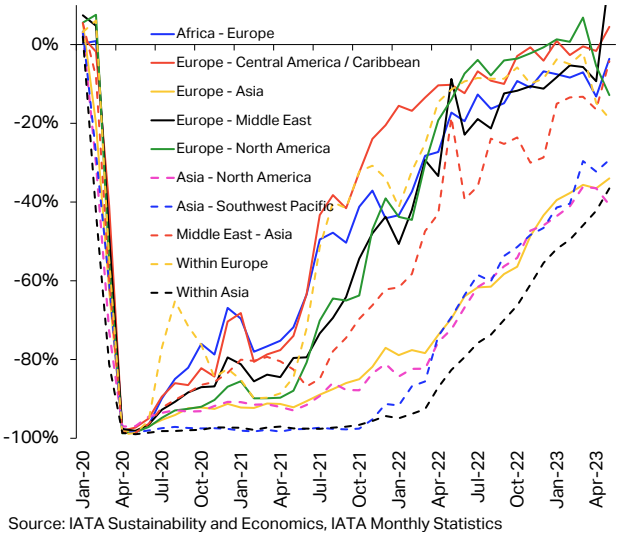
Sources: IATA Sustainability and Economics, IATA Monthly Statistics

… helped by the rise in Middle East passenger traffic

Route areas between Middle East and other regions have seen a surge in traffic in May. Passenger traffic from Europe to Middle East, increased 27ppts in recovery levels from April, now reaching 17.6% of May 2019 traffic numbers. Other thin markets have seen similar trends, such as Middle East – Asia and Africa – Middle East (**Chart 6**). Data on ticket sales also suggested that the Middle East region has seen a significant increase in connecting and direct traffic in May.

Reflecting these developments, carriers based in the region surpassed pre-Covid levels in international traffic for the first time in May. International RPKs were 17.2% above the same month in 2019.

Chart 6 – International RPKs, YoY% change versus 2019 – Top 10 route areas in 2019, ranked by performed traffic level



Source: IATA Sustainability and Economics, IATA Monthly Statistics

Recovery momentum remained strong in Asia Pacific…

Asia Pacific carriers continued to lead in growth among the regions, posting a 156.7% YoY increase in international RPKs. Available seat capacity also more than doubled, increasing 136.1% over the year, while the international passenger load factor witnessed by those airlines was 6.4ppts and 1.3ppts higher than last year and 2019, respectively. Compared to the same month in 2019, international RPKs remained 31.3% lower in May **(Chart 5).**

International passenger flows from and to Asia Pacific continued to ramp up, still propelled by the resilient recovery momentum the region has seen over the past year (**Chart 6**).

… while all regions saw further recovery

Compared to last month, all regions have made more progress towards full recovery **(Chart 5).** Carriers in North and Latin America saw a modest improvement in recovery levels, while growing international RPKs 31.0% and 26.3% YoY. Seat capacity also grew in line with demand, up 23.2% and 27.3% YoY, respectively. Growth in capacity accommodated the high demand for international air travel both regions are experiencing.

Passenger flows from and to the Americas remained strong this month again. Between North and Central America, RPKs stood 44.6% above their pre-pandemic levels largely explained by the fact that the seasonal pattern in traffic did not materialise in this market, resulting in larger traffic for May. Over the Atlantic, May results differed with RPKs from Europe to Central America surpassing 2019 levels by 4.5% while traffic from Europe to North America saw a contraction compared to pre-pandemic levels, now 12.9% under May 2019 international RPKs.

International RPKs operated by European carriers maintained a positive trend in May, reaching 95.4% of 2019 levels, mirroring the resilience in international markets from and within Europe.

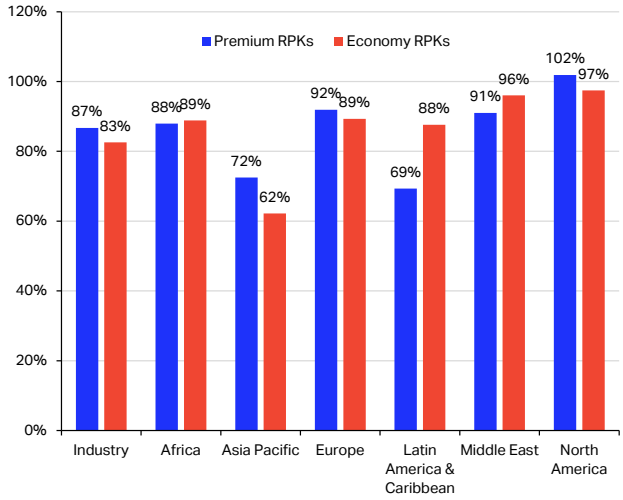
Premium cabin class traffic continued to recover ahead of Economy

At the industry level, premium international RPKs continued to recover ahead of economy RPKs. The balance of economy and premium cabin class traffic remained broadly unchanged this year over the considered period compared to the previous year, with premium class accounting for 8% of total international RPKs **(Chart 7).**

While the same observation can be made for carriers registered in the three main regions, - Europe, North America and Asia Pacific – carriers from Africa, Middle East and Latin America have experienced the opposite

trend. At the industry level, recovery between cabin classes remained aligned.

Chart 7 – International RPKs Jan – May 2023 by cabin class, % share of the same period in 2019



Source: IATA Sustainability and Economics, IATA Monthly Statistics

Air passenger market in detail - May 2023

	World share [1]	May 2023 (% year-on-year) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]	May 2023 (% ch vs the same month in 2019) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
TOTAL MARKET	***100.0%***	**39.1%**	**35.0%**	**2.4%**	**81.8%**	**-3.9%**	**-3.9%**	**0.0%**	**81.8%**
Africa	*2.1%*	38.6%	36.7%	0.9%	69.9%	-0.9%	-3.9%	2.1%	69.9%
Asia Pacific	*22.1%*	130.4%	109.5%	7.0%	77.3%	-15.0%	-11.7%	-3.0%	77.3%
Europe	*30.8%*	19.1%	13.5%	4.0%	84.8%	-1.9%	-3.1%	1.1%	84.8%
Latin America	*6.4%*	16.2%	16.5%	-0.2%	81.1%	-0.4%	2.2%	-2.1%	81.1%
Middle East	*9.8%*	30.1%	23.8%	3.9%	79.9%	16.2%	6.3%	6.8%	79.9%
North America	*28.8%*	14.0%	13.6%	0.3%	86.3%	2.1%	1.8%	0.2%	86.3%
International	***58.0%***	**40.9%**	**34.7%**	**3.6%**	**82.3%**	**-9.2%**	**-11.2%**	**1.8%**	**82.3%**
Africa	*1.8%*	45.2%	44.2%	0.5%	68.8%	-4.1%	-6.5%	1.7%	68.8%
Asia Pacific	*8.9%*	156.7%	136.1%	6.4%	80.0%	-31.3%	-32.5%	1.3%	80.0%
Europe	*26.5%*	19.8%	14.2%	3.9%	84.4%	-4.6%	-4.8%	0.2%	84.4%
Latin America	*2.8%*	26.3%	27.3%	-0.7%	83.8%	-9.4%	-9.1%	-0.2%	83.8%
Middle East	*9.4%*	30.8%	25.0%	3.6%	80.2%	17.2%	6.7%	7.2%	80.2%
North America	*8.7%*	31.0%	23.2%	5.1%	85.1%	1.8%	0.3%	1.3%	85.1%
Domestic	***42.0%***	**36.4%**	**35.3%**	**0.6%**	**81.0%**	**5.3%**	**9.4%**	**-3.1%**	**81.0%**
Dom. Australia[4]	*1.0%*	2.1%	3.4%	-0.9%	73.6%	-3.2%	0.1%	-2.5%	73.6%
Domestic Brazil[4]	*1.5%*	8.6%	6.2%	1.7%	76.5%	6.5%	13.6%	-5.2%	76.5%
Dom. China P.R.[4]	*6.4%*	312.0%	233.1%	13.9%	72.8%	7.8%	24.4%	-11.2%	72.8%
Domestic India[4]	*2.0%*	13.6%	2.7%	8.7%	91.6%	8.4%	6.6%	1.5%	91.6%
Domestic Japan[4]	*1.2%*	39.0%	7.1%	16.9%	73.8%	-0.2%	-1.2%	0.7%	73.8%
Domestic US[4]	*19.2%*	7.1%	9.6%	-2.0%	86.9%	2.5%	3.2%	-0.6%	86.9%

[1]% of industry RPKs in 2022 [2]Change in load factor [3]Load factor level

4 Note: the six domestic passenger markets for which broken-down data are available account for approximately 31.3% of global total RPKs and 74.6% of total domestic RPKs

Note: The total industry and regional growth rates are based on a constant sample of airlines combining reported data and estimates for missing observations. Airline traffic is allocated according to the region in which the carrier is registered; it should not be considered as regional traffic.

IATA Sustainability & Economics
economics@iata.org
06 July 2023

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Air Cargo Market Analysis

May 2023

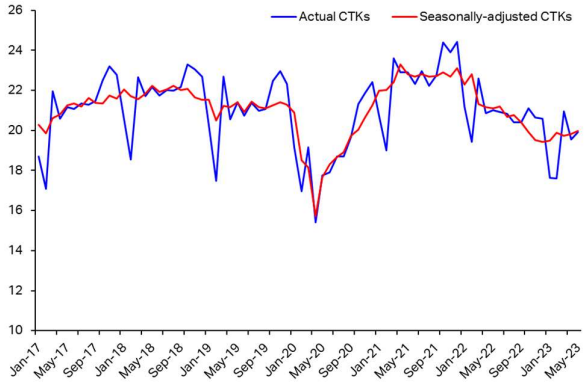
Air cargo demand remains weak, amid soft drivers

- Industry-wide air cargo demand in May was 5.2% below last year's level. The annual decline in cargo tonne-kilometers, however, has narrowed from 16.8% in January to 9.0% year-to-date in May.
- Available cargo-tonne kilometers continued to climb this month after returning to pre-pandemic levels for the first time in April. ACTKs grew by 14.5% year-on-year and were 5.9% above May 2019 levels.
- Key indicators of air cargo demand, including cross-border trade, new export orders PMI, and production PMI, were weaker in May, pointing to the constraints on supply chains and the slowing global economy.
- Carriers in Latin America expanded their international cargo demand in May, amid falling volumes in other regions.

Decline in CTKs slowed down further in May

Cargo tonne-kilometers (CTKs) across the industry experienced a 5.2% decline in May year-on-year (YoY), reflecting sustained improvement from the double-digit contractions witnessed earlier in 2023 **(Chart 1)**. Consequently, the annual contraction in CTKs has narrowed from 16.8% in January to 9.0% year-to-date (YTD) in May. In comparison to May 2019 levels, industry CTKs fell by 7.0%, contracting more than the 5.0% decline observed last month. On a positive note, seasonally adjusted (SA) CTKs slightly improved by 1 percentage point (ppt) compared to the April level, albeit still with an annual decline of 5.3% in May.

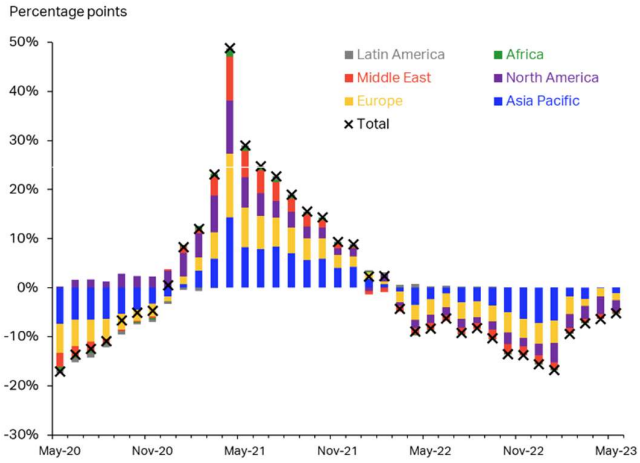
Chart 1 – Global Industry CTKs (billions per month)



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

The annual contraction in industry-wide CTKs was still principally driven by the softening demand experienced by carriers in North America and Europe (**Chart 2**), owing to the relatively high inflation rates in the US and the Euro Area despite the recent declines. Additionally, the war in Ukraine and the disruption of supply chains following the pandemic have significantly impacted cargo demand in Europe. Airlines in the Asia Pacific region also expanded their contribution to the 5.2% annual decline in global CTKs.

Chart 2 – Regional contributions to industry-wide annual CTK growth



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

Cross-border trade fell while favoring container cargo

Global cross-border trade contracted by 0.8% in April, amid supply chain constraints and a challenging macroeconomic environment. However, the demand for global maritime cargo continued to improve, shrinking its annual decline from -3.1% in March to -0.2% in April. In comparison, air cargo demand contracted by 6.3% in April. As such, the relative performance of air cargo suggests that container cargo continued to suffer less from the slow down in global trade (**Chart 3**).

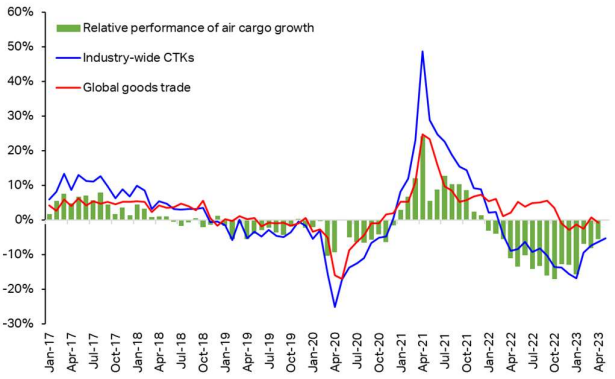
Air cargo market overview - May 2023

	World share [1]	May 2023 (% year-on-year) CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]	May 2023 (% ch vs the same month in 2019) CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]
TOTAL MARKET	***100.0%***	**-5.2%**	**14.5%**	**-8.6%**	**41.5%**	**-7.0%**	**5.9%**	**-5.7%**	**41.5%**
International	*86.9%*	-6.0%	11.2%	-8.8%	47.8%	-7.1%	1.6%	-4.5%	47.8%

[1]% of industry CTKs in 2022 [2]Change in load factor [3]Load factor level

The weaker performance in global air cargo demand compared to maritime shipping in part also reflects the trends in the relative pricing between the two modes. Air cargo yields in April remained 46% higher than yields in 2019, whereas container yields were only 17% higher than their 2019 levels.

Chart 3 – Growth in global goods trade and CTKs (YoY)

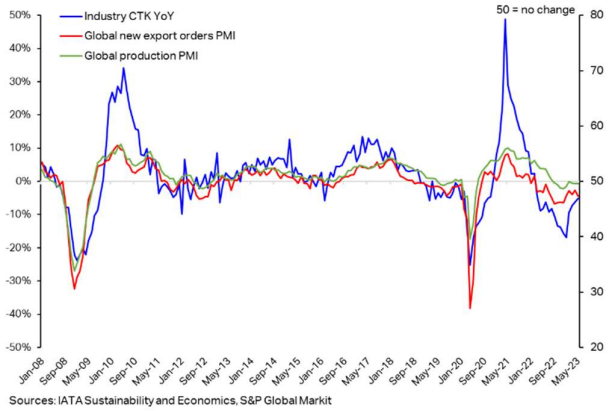


Sources: IATA Sustainability and Economics, IATA Monthly Statistics, Netherlands CPB

New export orders and production PMIs point to slow down in Manufacturing

Owing to the robust correlation observed in historical data between the manufacturing Purchasing Managers Index (PMI) and the growth rate of global air cargo demand, we have been closely monitoring the manufacturing PMIs at a global level and for major economies (**Chart 4**).

Chart 4 – CTK growth YoY, and global new export orders and production PMIs (50 = no change)



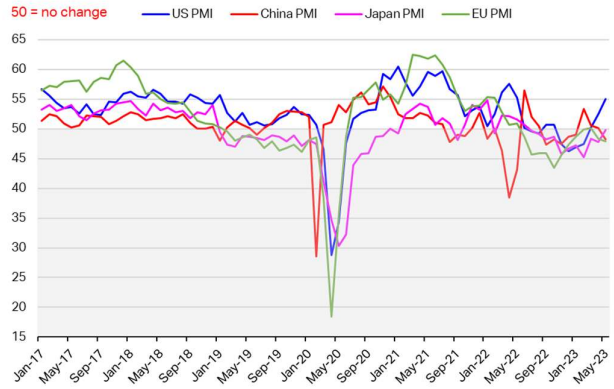
Sources: IATA Sustainability and Economics, S&P Global Markit

In May, new export orders recorded a 1.4% contraction YoY, down to 47.3, and the production PMI also declined by 5.2% to 49.6, suggesting that manufacturing demand was cooling globally.

In line with the contraction of the global production PMI in May, production PMIs of major economies, except for the US, also stayed below the critical threshold represented by the 50-mark, implying a deterioration of manufacturing output in these economies (**Chart 5**).

The US recorded an improvement of its production PMI in May, rising from 52.4 in April to 55.0 this month. In comparison, China's production PMI inched above the 50-line in April, but declined to 48.2 in May, indicating mixed performance of its manufacturing output (**Chart 5**). Other major economies, including Japan and the European Union (EU), all registered a deterioration of production PMIs in May. It is worth noting, however, that Japan's production PMIs improved this month compared to April, suggesting a deceleration in the country's manufacturing contraction.

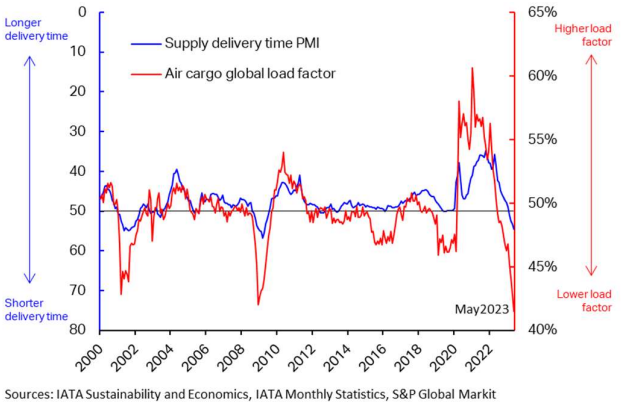
Chart 5 – Global manufacturing production, component of the manufacturing PMI (50 = no change)



Sources: IATA Sustainability and Economics, S&P Global Markit

The global supplier delivery time PMI index continued to improve, reaching 54.5 in May. This index has rebounded from its lowest point of 35, which was recorded in October 2021 (**Chart 6**). The threshold of 50 for this indicator represents stability in supplier delivery times, and a higher PMI indicates a greater proportion of shorter delivery times compared to the previous month. A sustained increase in the PMI suggests a faster rate of shortening delivery times but also reflects weaker demand for global goods trade.

Chart 6 – Air cargo load factors and supplier delivery times PMIs (50 = no change)



Sources: IATA Sustainability and Economics, IATA Monthly Statistics, S&P Global Markit

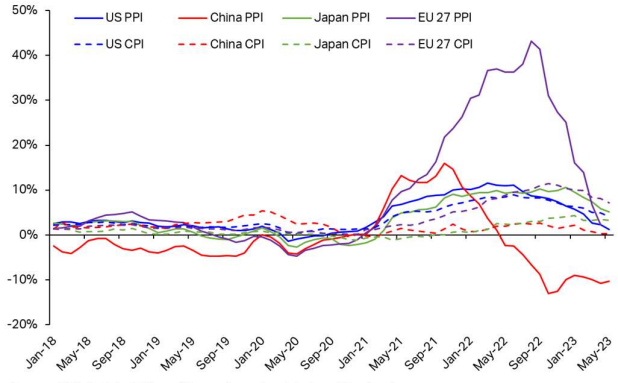
The recent significant shift towards shorter delivery times has also sustained the decrease in air cargo load factors, reaching 41.5% in May. The combination of increased belly-hold capacity from passenger aircraft and reduced demand for air cargo has contributed to the decline in load factors. However, the slowing demand for goods movement has also brought some relief to supply chains and transportation networks.

Inflation continued to ease in major economies

The tightened monetary policies by central banks and the recent declines in both food and non-food commodity prices have driven the inflation rate to decelerate in major economies. As of May, headline Consumer Price Index (CPI) recorded rates of 4.1% in the US, 0.3% in China, 3.2% in Japan, and 7.1% in the EU 27 countries (**Chart 7**). While the May headline CPIs in the US and the EU 27 decreased by 0.9 ppts and 1.0 ppts, respectively, compared to the previous month, price levels remain relatively high.

The Producer Price Index (PPI), which measures changes in producer prices, stood at 1.2% in the US, 5.1% in Japan, and -10.3% in China (May PPI data for EU 27 countries has not been released yet; it was 2.3% in April and 6.7% in March). PPI in Europe has significantly declined from its peak in September 2022. The main factor driving the cooling in these price indexes is the recent fall in global oil prices.

Chart 7 – Headline CPI and PPI inflation (YoY) in major economies



Sources: IATA Sustainability and Economics, using data from Marobond

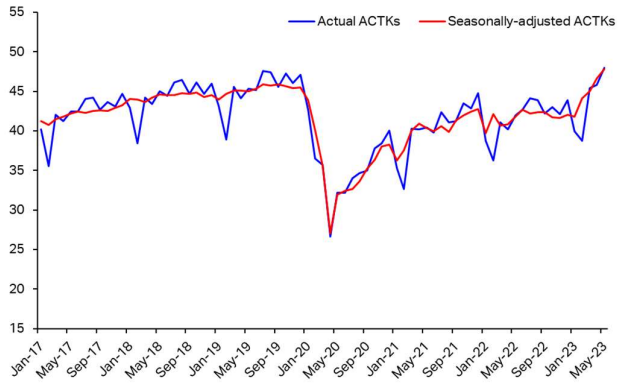
Excluding volatile oil and food prices, China's core inflation remained below 1% since mid-2022. During the same period, PPI stayed in the negative territory, suggesting a moderation in the price of inputs for producers. Both readings suggest a weakened demand environment, reflecting the lingering impacts of the pandemic's restrictions on China's manufacturing sector.

Air cargo capacity continued to expand in May

Industry-wide capacity measured by available cargo tonne-kilometers (ACTKs) have increased consistently over past five months. In May, ACTKs grew 14.5% YoY, after surpassing their pre-covid level for the first time in three years last month (**Chart 8**). Global ACTKs in May were 5.9% higher than the same month in 2019, raising YTD capacity to comparable levels with 2019.

The strong increase in ACTKs is driven by the restoration of belly-hold cargo capacity from passenger aircraft. International passenger belly capacity grew by 40.5% YoY in May, compared to a 1.6% capacity growth by dedicated freighters. Consequently, international ACTKs provided by belly-hold capacity exceeded dedicated freighters by 4.6%. In comparison, in May 2022, international cargo capacity provided by passenger aircraft was 41.1% lower than the capacity on dedicated freighters. Overall, international cargo capacity across passenger and dedicated freighters increased by 11.2% YoY in May.

Chart 8 – Global ACTKs (billions per month)



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

Asia Pacific airlines drove the recent growth in passenger belly capacity, following China's reopening to international air travel in January. In May, international ACTK provided by Asia Pacific airlines increased by 23.7% YoY, following a 19.7% growth in the previous month. Airlines in Latin America and the Middle East also expanded their international capacity significantly, by 19.0% and 15.7% YoY, respectively.

The belly-hold capacity brought by passenger aircraft put further downward pressure on industry-wide cargo load factors, amid softening air cargo demand. Industry cargo load factors dropped to 41.5% in May, 8.6 ppts lower than the previous year.

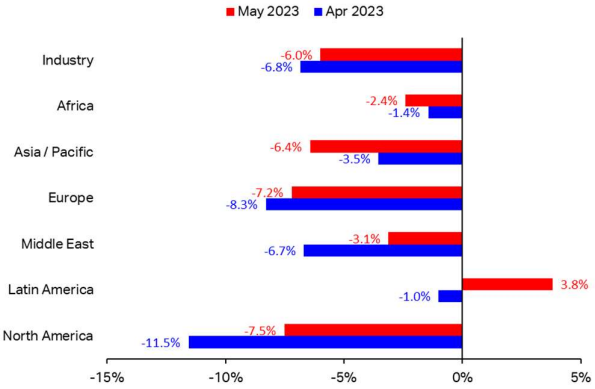
Latin America airlines grew their international CTKs, amid falling demand in other regions

Globally, international CTKs witnessed an annual decline of 6.0% in May, slightly lower than the industry-wide demand contraction of 5.2%. Among the different regions, Latin America airlines achieved the only YoY growth in international CTK (3.8% in May), while Middle East carriers witnessed an imporvement in the annual

decline of their CTKs, from 6.7% in April to 3.1% in May (**Chart 9**). Airlines in North America and Europe stablized their YoY declines in May compared to the previous month. However, they still recorded the biggest annual decrease among the regions. North American airlines saw a 7.5% annual drop in their international CTKs, while European airlines experienced a comparable decline at 7.2%.

The performance of international cargo demand for Asia Pacific and Africa airlines worsened in May. Specifically, international CTKs by Asia Pacific carriers softened by 6.4% YoY in May, compared to the 3.5% annual decline in April. International CTKs for African airlines also declined further, from -1.4% YoY in April to -2.4% in May (**Chart 9**).

Chart 9 – Growth in international CTKs by airline region of registration (YoY)



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

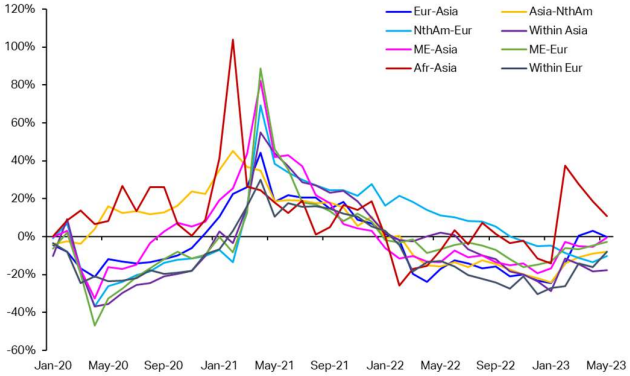
Air cargo performance varied across trade lanes

The changes in international air cargo demand among different regions can be explained by the performance of key trade lanes (**Chart 10**). The North America-Europe trade lane continued its double-digit contractions in May, falling by 10.3% in its seasonally-adjusted international CTKs, while the international demand on North America-Asia trade lane also declined by 8.1%. As a result, North American airlines saw a 7.5% YoY contraction in international CTKs in May.

The performance of the North America-Europe trade lane also affected European airlines, which faced a 7.8% YoY drop in seasonally-adjusted air cargo demand within Europe. Similarly, on top of the 8.1% decline in the North America-Asia trade lane, Asia Pacific airlines also faced a 17.7% contraction in seasonally-adjusted international cargo demand within Asia, leading to the 3.3% YoY decline for the Asia Pacific region's airlines.

Although CTK's on the Africa-Asia trade lane increased in May, their growth slowed significantly from 18.5% in April to 11.0% YoY in May, possibly due to the impact of the conflict in Sudan since April. Combined with the weakened air cargo demand with other regions, international CTKs for African airlines contracted by 2.4% this month.

Chart 10 – Seasonally adjusted growth of international CTKs by route area (YoY)



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

Air cargo market in detail - May 2023

	World share[1]	May 2023 (% year-on-year) CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]	May 2023 (% ch vs the same month in 2019) CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]
TOTAL MARKET	***100.0%***	**-5.2%**	**14.5%**	**-8.6%**	**41.5%**	**-7.0%**	**5.9%**	**-5.7%**	**41.5%**
Africa	*2.0%*	-2.4%	9.2%	-5.3%	44.8%	2.8%	-8.2%	4.8%	44.8%
Asia Pacific	*32.4%*	-3.3%	38.3%	-18.2%	42.2%	-11.7%	11.0%	-10.9%	42.2%
Europe	*21.8%*	-6.7%	5.6%	-6.4%	48.9%	-16.7%	-12.3%	-2.6%	48.9%
Latin America	*2.7%*	3.6%	14.7%	-3.6%	33.3%	-1.0%	12.7%	-4.6%	33.3%
Middle East	*13.0%*	-3.1%	15.6%	-7.9%	41.0%	-2.6%	13.6%	-6.8%	41.0%
North America	*28.1%*	-8.1%	1.2%	-3.8%	37.3%	5.3%	10.9%	-2.0%	37.3%
International	***86.9%***	**-6.0%**	**11.2%**	**-8.8%**	**47.8%**	**-7.1%**	**1.6%**	**-4.5%**	**47.8%**
Africa	*2.0%*	-2.4%	9.0%	-5.3%	45.8%	3.9%	-7.6%	5.1%	45.8%
Asia Pacific	*29.7%*	-6.4%	19.7%	-14.8%	53.1%	-10.2%	0.4%	-6.3%	53.1%
Europe	*21.5%*	-7.2%	5.3%	-6.8%	50.9%	-17.3%	-13.4%	-2.4%	50.9%
Latin America	*2.3%*	3.8%	19.0%	-5.5%	37.8%	2.7%	23.8%	-7.8%	37.8%
Middle East	*13.0%*	-3.1%	15.7%	-8.0%	41.3%	-2.4%	15.4%	-7.5%	41.3%
North America	*18.4%*	-7.5%	3.4%	-5.3%	44.8%	7.4%	10.2%	-1.2%	44.8%

[1]% of industry CTKs in 2022 [2]Change in load factor [3]Load factor level

Note: the total industry and regional grow th rates are based on a constant sample of airlines combining reported data and estimates for missing observations. Airline traffic is allocated according to the region in w hich the carrier is registered; it should not be considered as regional traffic. Historical statistics are subject to revision.

IATA Sustainability & Economics
economics@iata.org
05 July 2023

Get the data

Access data related to this briefing through IATA's Monthly Statistics publication:
www.iata.org/monthly-traffic-statistics

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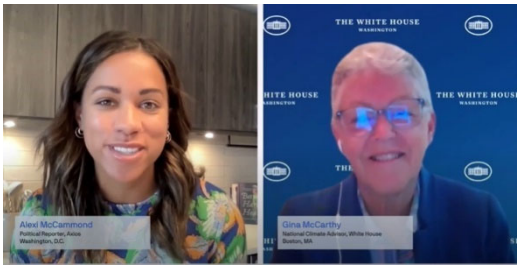


SAF Group created transcript of comments by Gina McCarthy (White House national climate advisor) with Alexi McCammond (Axios political reporter) on June 9, 2023
https://www.axios.com/2022/05/31/axios-event-gina-mccarthy-nih-misinformation-online

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

At 1:50 min mark, McCarthy "*… which we think we can make progress on in the next couple years using our own resources, as well as the resources of the private sector who seem to be all-in. which is one of the big changes in climate world these days is we have answers, we have solutions, the question is how quickly can we accelerate them*"

At 5:50 min mark, McCarthy "*… so the challenge is now that we are moving from denial to actually just trying to disengage the public from understanding the values of solar energy, the values of wind energy, the benefits of clean energy. We have to get tighter, we have to get better at communicating and frankly the tech companies have to stop allowing specific individuals over and over again to spread disinformation. That's what the fossil fuels companies pay for. That's what folks who make money out of fossil fuels and don't make money and don't care about saving consumer's costs. That's what they do. We have to be smarter than that and we need the tech companies to really jump in. You know we've had a lot of NGOS working on this issue and it's been terrific. The climate action campaign has been working on pushing back on this disinformation. And friends of the earth has done a great job and continuing to do a great job at basically looking at where this money is coming from, how it's trying to fool folks and what we see now is that climate denial is not working because people can see the problems out there. They are experiencing first hand. They can't deny it anymore. So what they're really targeting is our inability to accelerate the answers to climate, the technologies we need moving forward. That is equally dangerous to denial because we have to move fast."*

At 8:45 min mark, McCarthy "*Look, President Biden doesn't focus on, and neither do I, on bashing the fossil fuel companies. But frankly they have to get their act together. And we have to get our act together as a country to recognize that clean energy is the solution. Fossil fuels have actually created significant health challenges in our country, not just climate change. We're talking about pollution that's impacting people's lives. We're talking about billions of human beings every year across the world dying because it's related to climate and fossil fuels. We are talking about really risks that no longer need to be tolerated to our communities, which is why President Biden is really shifting his narrative on climate, not about climate, but about climate solutions.*"

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

https://www.moenergy.gov.sa/en/MediaCenter/News/Pages/Joint-Statement-on-Saudi-Arabia-&-France-energy-cooperation.aspx

Joint statement between the Kingdom of Saudi Arabia and the Republic of France for cooperation in the field of energy

08/07/2023 Global events

HRH Prince Abdulaziz Bin Salman met with HE Agnes Pannier-Runacher, Minister for Energy Transition of the French Republic, and issued the following joint communiqué:

The Government of the Kingdom of Saudi Arabia and the Government of the French Republic acknowledge that energy is one of the main pillars of their mutual long-term partnership, and the two countries affirmed their commitments by signing a Memorandum of Understanding to cooperate in the Field of Energy on 2 February 2023.

Both countries acknowledge the importance of advancing the implementation of the United Nations Framework on Climate Change (UNFCCC) and the Paris Agreement in accordance with the principles, objectives and goals defined therein, including pursuing efforts to limit the temperature increase to 1.5°C.

Addressing climate change and promoting secure, reliable, affordable and sustainable supplies of energy are shared strategic priorities of Saudi Arabia and France. Moreover, the two countries recognize that clean hydrogen is an essential fuel to reach the shared objective of promoting a sustainable economic development while mitigating the impact of climate change.

Additionally, both countries agreed to enhance cooperation in the field of electricity, and exchange experiences in the field of electricity generation from renewable energy resources, grid interconnection projects, as well as encouraging the participation of private sectors in power sector projects including generation, transmission, distribution, storage and network automation technologies.

Both countries have agreed to engage in joint efforts to enhance energy efficiency, and to enhance their cooperation in the field of nuclear energy in a peaceful and safe framework, the management of radioactive waste and the nuclear applications, and the development of human capabilities.

Both countries agreed to cooperate on advancing climate technologies and solutions including carbon capture utilization and storage for hard-to-abate sectors such as cement, aviation, marine, and petrochemicals, among others.

The Kingdom aims to become the leading exporter of hydrogen and electricity produced from low emission resources globally, capitalizing on its ability to produce hydrogen and electricity produced from low emission resources at competitive cost.

The Kingdom has the necessary resources of renewable energy, natural gas and carbon sinks, to export hydrogen in addition to its strategic location with proximity to major global demand centres.

The French strategy for the development of decarbonized hydrogen aims at having a significant contribution to the decarbonization of industry and transport. The strategy includes a public investment program, France 2030, aimed at accelerating investment and innovative solutions in sectors of French excellence to decarbonize industry and to develop renewable energy with the goal to increase the renewable power installed capacity up to 100GW by 2050, with more than 40 GW coming from offshore wind farms.

France and Saudi Arabia have placed hydrogen and electricity produced from low emission and renewable resources at the core of their respective energy transition. Both countries decided to join forces in the search for innovative solutions to produce hydrogen in the most effective and competitive way, and to develop its use in industry, mobility, power generation, buildings and other relevant applications.

To this end, France and Saudi Arabia agreed on a hydrogen cooperation and electricity produced from renewable resources roadmap focusing on three pillars:

· Technology development: Cooperation will advance hydrogen and electricity produced from renewable technology deployment from production, transportation and conversion at demand centres;

· Business co-operation: the private sector has a critical role to play, Saudi – France cooperation welcomes joint efforts between Saudi and French companies to partner in the entire energy supply chain to unlock business and hydrogen trade;

· Policies and regulation: the roadmap will further promote the development of the hydrogen industry through a mutual recognition of certification framework including emission life cycle assessment from all possible sources necessary for consistency in international trade.

Both countries will work to enhance their cooperation in developing and sustaining supply chains for the energy sectors and to enable cooperation between companies to maximize the utilization of local resources in both countries, which contributes to achieving flexibility and effectiveness of energy supplies.

The parties support the creation of a “French-Saudi Task-Force" aiming to deliver desired outcomes from cooperation in hydrogen and other domains.

SAF Group created transcript of comments by COP28 President-Designate UAE's Dr. Sultan Al Jaber speech at Energy Asia on June 27, 2023. https://twitter.com/COP28_UAE/status/1673763203946541056

Items in "italics" are SAF Group created transcript.

Al Jaber "…. *This is a critical gathering to discuss sustainable energy pathways for this very important region ….. COP28 will mark the first global stock taking. An official assessment of the world's performance against the Paris agreement. But we don't need to wait until December. We already know we are way off track. By 2030, the world must reduce its emissions by 43% to keep the goal of 1.5 within reach. And over the same seven years, energy demand will only increase, particularly in Asia, as the global population grows by half a billion.*

As a result, we need to rapidly expand zero carbon energies while we systematically decarbonize our current energy system. Are we to do this while ensuring energy always remains accessible, secure and affordable. That is why I am calling on every region of the world to contribute to a global goal of tripling renewable energy capacity by 2030. Asia is already a global leader in renewable energy, accounting for nearly half of all installed capacity globally. And is adding more new capacity than any other region in the world. I am confident that Asia will continue to lead and achieve even higher ambition in the renewable energy space.

At the same time, we know that renewable energy alone will not be sufficient, particularly for heavy emitting industries and in certain geographies. That is why we need to explore all available options including large scale nuclear power and SMRs, battery technology and, of course, hydrogen, which we should aim to double by 2030.

The faster we build the energy system of the future, the faster we can transition from the current one. And as long as the world still uses hydrocarbons, we must ensure they are the least carbon intensive. That is why I have called on oil and gas companies to fully align around Net Zero by 2050 and to reduce methane emissions to near zero by 2030.

Colleagues, we should not overlook the power of efficiency. New technologies have the potential to dramatically increase energy efficiency, which we should aim to double by 2030. If we take these steps, I am confident we can turn the climate challenge into a unique opportunity for building sustainable economic growth. Let's use Energy Asia to shape a cleaner and better roadmap for a responsible energy future.

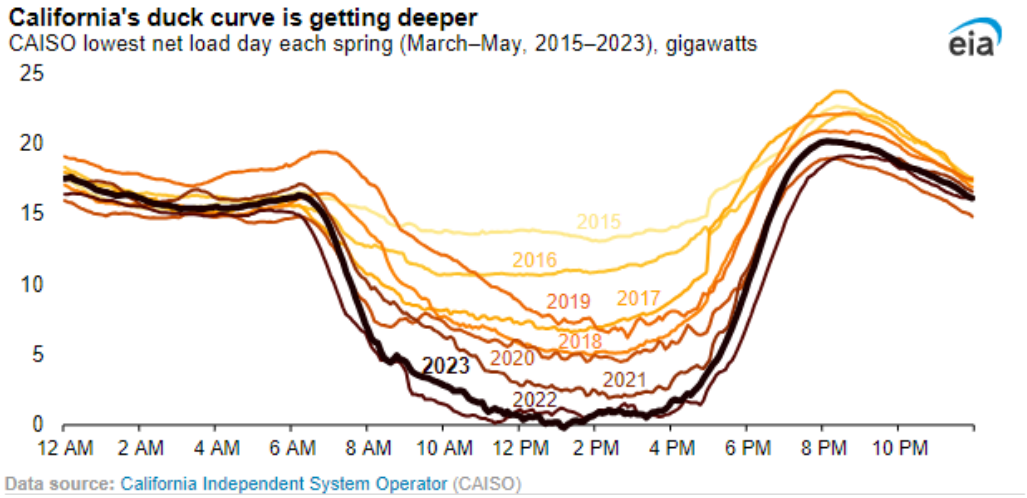
I invite you all to engage with the COP28 team and share your suggestions, your views, your plans and your commitments. We need to act in solidarity and with unprecedented unity. Let's demonstrate that COP28 will be a COP of action, a COP of impact and a COP for all.

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

https://www.eia.gov/todayinenergy/detail.php?id=56880

JUNE 21, 2023

As solar capacity grows, duck curves are getting deeper in California



Data source: California Independent System Operator (CAISO)

As more solar capacity has come online in California, grid operators at the California Independent System Operator (CAISO) have observed a drop in net load (or the demand remaining after subtracting variable renewable generation) in the middle of the day when solar generation tends to be highest. When graphed for a typical day, the pattern created by the midday dip in the net load curve, followed by a steep rise in the evenings when solar generation drops off, looks like the outline of a duck, so this pattern is often called a *duck curve*. As solar capacity in California continues to grow, the midday dip in net load is getting lower, presenting challenges for grid operators.

Grid operators constantly balance electricity generation with electricity demand in a region. Demand is lowest overnight, when most consumers are sleeping and when many businesses are closed. Demand begins to ramp up in the morning as people wake up and businesses start opening. Demand stays elevated throughout the day, rises slightly in the evening as people come home from work and residential electricity consumption increases, and then drops off again in the late evening.

Unlike conventional power plants (for example, nuclear, coal-fired, and natural gas-fired plants), solar and wind resources can't be fully dispatched at will to help meet demand, and utilities may have to curtail them to protect grid operations. Solar power is only generated during daylight hours, peaking at midday when the sun is strongest and dropping off at sunset. As more solar capacity comes online, conventional power plants are used less often during the middle of the day, and the duck curve deepens.

The duck curve presents two challenges related to increasing solar energy adoption. The first challenge is grid stress. The extreme swing in demand for electricity from conventional power plants from midday to late evenings, when energy demand is still high but solar generation has dropped off, means that conventional power plants (such as natural gas-fired plants) must quickly ramp up electricity production to meet consumer demand. That rapid ramp up makes it more difficult for grid operators to match grid supply (the power they are generating) with grid demand in real time. In addition, if more solar power is produced than the grid can use, operators might have to curtail solar power to prevent overgeneration.

The other challenge is economic. The dynamics of the duck curve can challenge the traditional economics of dispatchable power plants because the factors contributing to the curve reduce the amount of time a conventional power plant operates, which results in reduced energy revenues. If the reduced revenues make the plants uneconomical to maintain, the plants may retire without a dispatchable replacement. Less dispatchable electricity makes it harder for grid managers to balance electricity supply and demand in a system with wide swings in net demand.

The duck curve, however, has created opportunities for energy storage. The large-scale deployment of energy storage systems, such as batteries, allow some solar energy generated during the day to be stored and saved for later, after the sun sets. Storing some midday solar generation flattens the duck's curve, and dispatching the stored solar generation in the evening shortens the duck's neck. Battery storage is

swiftly being constructed in California; it's grown from 0.2 gigawatts (GW) in 2018 to 4.9 GW as of April 2023. Operators plan to build another 4.5 GW of battery storage capacity in the state by the end of the year, according to our *Preliminary Monthly Electric Generator Inventory*.

The duck curve is not unique to California. It's increasingly occurring in other parts of the country and around the world in places where the share of solar generation is increasing compared with generation from conventional sources. In addition, a duck curve is becoming visible at the national level in the United States.

https://www.bbc.com/news/business-66108553

Oil giant Shell warns cutting production 'dangerous'

- Published 1 hour ago

Image caption, Shell chief executive Wael Sawan

By Simon Jack

Business editor

Cutting oil and gas production would be "dangerous and irresponsible", the boss of energy giant Shell has told the BBC.

Wael Sawan insisted that the world still "desperately needs oil and gas" as moves to renewable energy were not happening fast enough to replace it.

He warned increased demand from China and a cold winter in Europe could push energy prices and bills higher again.

Mr Sawan angered climate scientists who said Shell's plan to continue current oil production until 2030 was wrong.

Professor Emily Shuckburgh, a climate scientist at the University of Cambridge, said firms such as Shell should focus on accelerating the green transition "rather than trying to suggest the most vulnerable in society are in any way best served by prolonging our use of oil and gas".

Mr Sawan told the BBC: "I respectfully disagree." He added: "What would be dangerous and irresponsible is cutting oil and gas production so that the cost of living, as we saw last year, starts to shoot up again."

The world is in a race to ditch fossil fuels in favour of greener alternatives as globally leaders have pledged to keep the world from warming by more than 1.5C this century.

Last year the European Commission outlined how the EU would speed up its shift to green energy to **end its dependency on Russian oil and gas.**

Many countries do not have the infrastructure to move to more sustainable forms of energy.

Mr Sawan said an international bidding war for gas last year saw poorer countries like Pakistan and Bangladesh unable to afford Liquid Natural Gas (LNG) shipments that were instead diverted to Northern Europe.

"They took away LNG from those countries and children had to work and study by candlelight," he said. "If we're going to have a transition it needs to be a just transition that doesn't just work for one part of the world."

The Committee of Climate Change found household gas appliances were linked to respiratory problems and cardiovascular disease.

Claire Fyson, co-head of climate policy at Climate Analytics, a global science and policy institute, told the BBC: "The idea that it's a choice between our addiction to fossil fuels or working by candlelight is a gross misrepresentation of reality, when we know renewables are cleaner, cheaper and better for public health."

The UK has pledged to spend £11.6bn on international climate finance but a memo seen by the BBC said economic shocks like the Covid pandemic had **"turned a stretching target into a huge challenge".**

The head of the International Energy Agency, Fatih Birol, has said that "if governments are serious about the climate crisis, there can be no new investments in oil, gas and coal from now".

While head of the UN Antonio Gutteres said investment in new oil and gas production was "economic and moral madness".

'Lack of stability'

Shell has a long history and a headquarters in the UK. But Mr Sawan said a lack of clarity and stability on energy policy and taxation risked making the UK a less attractive place to invest compared with more

welcoming countries. The UK has increased tax on UK-derived profits from 40 to 75% until 2028 unless oil and gas prices fall below thresholds for a sustained period - which most energy experts doubt will happen.
The UK currently imports more than half of its oil and gas - and that proportion is expected to rise without renewed investment in the North Sea. Shell recently decided to sell its stake in a major new undeveloped oil field at Cambo.
"Ultimately the government needs to make a call as to their views on imported versus domestic production," said Mr Sawan.
"When you do not have the stability you require in these long-term investments, that raises questions when we compare that to other countries where there is very clear support for those investments."

'Energy we desperately need'
Mr Sawan was also keen to stress the warm welcome extended to the company by the New York Stock Exchange at a recent investors' meeting where they laid out their plans to cut costs and maximise profits.
"The welcome we had there was exemplary. The Shell flag was waving next to the New York Stock Exchange flag," he said.
He said that the officials there had underlined his feeling that the US was more supportive of oil and gas companies.
"They said we continue to value a company that provides us the energy we desperately need. That resonated with me as a person who comes from Lebanon where we are starved of energy."

Future move to US
Mr Sawan did not rule out moving Shell's headquarters and stock market listing to the US. American oil companies command higher prices for their shares - Exxon Mobil for example is worth 40% more than Shell per dollar of profit.
"There are many who question whether that valuation gap can only be bridged if we move to the US. A move of headquarters is not a priority for the next three years."
But after that? "I would never rule out anything that could potentially create the right circumstances for the company and its shareholders. Ultimately, I am in the service of shareholder value," he said.
Although Shell says it has no plans to move its headquarters or stock market listing from London to New York for the next three years, Mr Sawan's comments will add to fears that London's stock market is losing its lustre as a venue for multinational companies to raise money after technology darling ARM Holdings recently announced plans to move its primary listing to the US.
A move of the UK's most valuable UK company to the US would seriously dent the UK's financial prestige and cost jobs in the financial services sector.

https://www.globaltimes.cn/page/202307/1293637.shtml

China to impose export controls on key materials for chipmaking as West's 'chip war' escalates

By Global Times Published: Jul 03, 2023 09:36 PM

China will impose export controls on gallium and germanium, both used in the making of semiconductors and other electronic components, starting next month to safeguard national security and interests, two ministries announced on Monday.

"In order to safeguard national security and interests, with the approval of the State Council, it is decided to implement export controls on items related to gallium and germanium," the Ministry of Commerce (MOFCOM) and the General Administration of Customs (GAC) said in a notice.

According to the notice, starting on August 1, items meeting certain characteristics shall not be exported without approval. The ministries listed eight items related to gallium, and six items related to germanium.

Under the export control, exporters must file an application with local commerce authorities for exports of the relevant items and must be approved by the Ministry of Commerce before exporting such items. Exporters would face fines and criminal charges, if they export such items without permission.

Both gallium and germanium are key in the making of semiconductors and other electronics. For example, germanium is used in fiber optics and semiconductors, while gallium is used in making chipsets for electronic devices such as computer motherboards or portable phones, according to media reports.

China is the world's top producer of raw gallium, which is used in making chipsets to generate high frequency raid waves in 5G base stations, accounting for 95 percent of the global output, according to industry information provider Fierce Electronics.

China is also a major supplier of germanium, which is mainly used in fiber and infrared optics, PET plastics, electronics and solar panels. The EU has listed the metal as a critical raw material, as it imports about 17 percent of its supplies from China, according to media reports.

While the notice issued by the MOFCOM and GAC on Monday did not go into detail of what prompted the move, apart from saying it aims to protect national security and interests, the move comes as the US and some of its allies are relentlessly stepping up crackdowns on China's technological development in various fields, including semiconductors.

For example, in the latest move, under mounting pressure from Washington, the Netherlands' government last week announced a ministerial order restricting exports of

certain advanced semiconductor equipment. As a result, Dutch chipmaking equipment giant ASML said that due to these export control regulations, ASML will need to apply for export licenses with the Dutch government for all shipments of its most advanced immersion DUV lithography systems.

China has repeatedly voiced dissatisfaction over the Dutch move and called on the Dutch government to respect market principles and contractual spirits in order to avoid damage to bilateral cooperation. Chinese officials have also slammed the US' abuse of export control measures to maintain its hegemony, while creating disruption to global supply chains.

As the US and its allies continue to escalate their chip war and technological crackdown, it is normal and indeed crucial for China to take proactive measures to safeguard its technological development and national security and interests, Chinese industry analysts said.

Warren Buffett and Greg Abel on Transmission

SAF Group created transcript of comments by Warren Buffett, Charlie Munger, Greg Abel, and Ajit Jain in the Q&A of the 2023 Berkshire Hathaway annual meeting from CNBC 5hr 16 min video.
https://www.cnbc.com/video/2023/05/06/watch-warren-buffett-and-charlie-munger-preside-over-full-2023-berkshire-hathaway-annual-meeting.html?&qsearchterm=berkshire

Items in "italics" are SAF Group created transcript

At 1 hr 10:20 min mark. on the energy transition and the challenge to get electricity transmission for renewable energy sources to markets. Buffett "… *but it is not easy when you cross state lines. Different jurisdictions, we should, this country should be ahead of where it is in terms of transmission. WE have been the biggest factor in helping that, but why don't' you tell them about that.*

Abel "*there is no question there is energy transformation going on around the globe and as Warren touched on, in the US and in some ways in the US, I would hope it would be we'd at least have a clear plan across the nation as to where approach that. But the reality is that it is state by state with some exceptions. So as a result, when you think of Berkshire Hathaway Energy, we own three US utilities there, and they will participate in multipole states. But they're developing plans state by state and try to integrate them across the various states. The opportunities are significant because there is a transformation going on. We've outlined our goal on where we are going relative to carbon at BHE, where they'll, by 2030, reduce our carbon footprint by 50% relative to 2005 so that's the Paris Accord and the standard they want to hold utilities industry and the utility company to. But to achieve it is a true journey. O've often talked to Warren, we bought Pacific Corp back in the mid 2000's, we immediately recognized to build a lot of renewable energy like we've been doing in the Midwest in Iowa but that was basically in a single state. Now Pacific Corp, we're in six states. we started that in the mid 2000's, here we are and we laid out a great transmission plan, here's how we're going to build it, here's how we're going to effectuate it, all the benefits to our customers over that period of time. Here we are in 2023 and we have a little more than 1/3 of that, at the time it was $6 billion transmission project. Today, we have a little more than 1/3 of it built and we've spent probably closer to $7 billion. It's the right outcome. It's still a great outcome for our customers, but that transmission is part of the transformation. You absolutely have to build it to move all that renewable energy and that's sort of the complexity Warren was highlighting. It is a, you can't just wake up one day and solve this problem. You start with transmission and you build the resources. At this same company and if we look at what we are doing across BHE Energy in that energy transformation, we have $70 billion of known projects that are really required to properly serve our customers and achieve that type of energy transformation across those utilities and that's in the coming ten years. So we have a team that is absolutely up to the challenge. They are delivering on their commitment. And it's a very good business opportunity for each of our companies and our shareholders. As we deploy that capital, we are obviously in a return on equity of it. But it will be a long journey. It will happen over an extended period of time and the further you get out there, the more dependent upon the evolution of a variety of technologies that are progressing but not there yet.*

Buffett "*.. I want to just take an extra minute as this is very important. I don't really know if our form of government is ideal at all in terms of solving the problem you have described. We have solved it one time. In World War II, we took a country that was semi limping along, and we found ourself in a world war. What we did in a world war is we bought a bunch of people to Washington at a dollar and year. And whether it was Sidney Weinburg of Goldman Sachs to actually name them, and we gave them enormous power to reorient the resources of the US to face the problem that they faced, which was to create a war machine. What they did was they found Henry Kaiser and told him to build ships. They went to the Ford Motor Company and said you build tanks and some airplanes. They reordered the industrial enterprise of the US in a way that was unbelievable because they had the power of the federal government and they had the ingenuity of American business and they had the facilities of American business. And it led to a very successful outcome. But can we do that in a peace time where you've got 50 states and you have to get them to cooperate and you don't have anyone. You can issue orders, but you can't designate where the capital goes at the other end. We try to do it with tax incentives*

and all that sort of thing. We haven't created the unity of purpose in the machinery that worked in World War II where essentially everybody felt that one job was to win the war and we figured out how to use our industrial capacity to, in effect, defeat the Axis powers. How do you recreate that? The present democratic system, I am not sure I know the answer, but I sure know the problem. If you've got an emergency, need to re-engineer the energy system of the US, I don't think you can do it without something resembling the machinery, the urgency, whatever. The capital is there, the people are there, the objective is obvious. We just don't seem to be able to do it in peace time where we're used to follow a given set of procedure and. China has got one country and we've got 50 states. And we got a whole different set of government. We should be up to the test but so far, it hasn't worked,"

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

EU Needs to Invest an Extra €700 Billion a Year for Green Shift
2023-07-04 11:18:12.618 GMT

By John Ainger and Alberto Nardelli
(Bloomberg) -- The European Union must invest an additional €700 billion ($763 billion) a year if it's to green the economy and shut out cheap Russian fossil fuels, according to a draft report from the bloc's executive arm.
Most of that figure will have to be privately sourced, the European Commission said in the draft seen by Bloomberg News. The vast sum — significantly higher than that proposed by Commission President Ursula von der Leyen less than two years ago — underlines the escalating costs of reaching net zero goals.
"The green transition requires unprecedented investments," the commission said in its so-called Strategic Foresight report, which is still subject to change before publication Wednesday. "The full costs and consequences of the climate and biodiversity crisis are unknown."
The EU, targeting a 55% cut in emissions this decade, needs to boost spending on clean technologies amid growing competition from the US and China. The bloc must also ensure energy security as it weans itself off Russian gas, while tackling rising borrowing costs and huge debts built up by companies during the pandemic.
The EU has already earmarked €578 billion, almost a third of its multiannual budget, for climate-related action from 2021 to 2027. In November 2021 — before Russia's invasion of Ukraine triggered an energy crisis and runaway inflation — von der Leyen said an additional €470 billion a year would be needed. That figure is dwarfed by the commission's latest recommendation.
Given the limited resources of the EU's budget, the bulk of the new investment will have to come from the private sector, while member states must also tap their own funds, according to the report. It highlighted the risk of a subsidy race among nations, which would put a strain on the bloc's single market.
"The EU level of venture capital investment, although catching up with the US, still falls short," it said. "This results in a lower innovation rate and the potential of capital markets for financing the transitions remaining underdeveloped."
The commission produces the Strategic Foresight report every year to inform its multiannual programs.

--With assistance from Ewa Krukowska.
To contact the reporters on this story:
John Ainger in Brussels at jainger@bloomberg.net;
Alberto Nardelli in London at anardelli@bloomberg.net
To contact the editors responsible for this story:
Rachel Morison at rmorison@bloomberg.net
Amanda Jordan

To view this story in Bloomberg click here:
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https://www.imo.org/en/MediaCentre/PressBriefings/Pages/Revised-GHG-reduction-strategy-for-global-shipping-adopted-.aspx

07 July 2023

Revised GHG reduction strategy for global shipping adopted

International Maritime Organization (IMO) adopts revised strategy to reduce greenhouse gas emissions from international shipping.

Member States of the International Maritime Organization (IMO), meeting at the Marine Environment Protection Committee (MEPC 80), have adopted the 2023 IMO Strategy on Reduction of GHG Emissions from Ships, with enhanced targets to tackle harmful emissions.

The revised IMO GHG Strategy includes an enhanced common ambition to reach net-zero GHG emissions from international shipping close to 2050, a commitment to ensure an uptake of alternative zero and near-zero GHG fuels by 2030, as well as indicative check-points for 2030 and 2040.

IMO Secretary-General Kitack Lim said:

"The adoption of the 2023 IMO Greenhouse Gas Strategy is a monumental development for IMO and opens a new chapter towards maritime decarbonization. At the same time, it is not the end goal, it is in many ways a starting point for the work that needs to intensify even more over the years and decades ahead of us. However, with the Revised Strategy that you have now agreed on, we have a clear direction, a common vision, and ambitious targets to guide us to deliver what the world expects from us."

"Above all, it is particularly meaningful, to have unanimous support from all Member States. In this regard, I believe that we have to pay more attention to support developing countries, in particular SIDS and LDCs, so that no one is left behind," he said.

IMO is the United Nations specialized agency with responsibility for developing global standards for shipping and supporting countries to implement those rules.

Elements of the Strategy are outlined below:

2023 IMO Strategy on Reduction of GHG Emissions from Ships

The 2023 IMO Strategy on Reduction of GHG Emissions from Ships (the 2023 IMO GHG Strategy) represents the continuation of work by IMO as the appropriate international body to address greenhouse gas (GHG) emissions from international shipping.

Vision

IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as possible, while promoting, in the context of this Strategy, a just and equitable transition.

Levels of ambition

Levels of ambition directing the 2023 IMO GHG Strategy are as follows:

.1 **carbon intensity of the ship to decline through further improvement of the energy efficiency for new ships**

to review with the aim of strengthening the energy efficiency design requirements for ships;

.2 **carbon intensity of international shipping to decline**

to reduce CO2 emissions per transport work, as an average across international shipping, by at least 40% by 2030, compared to 2008;

.3 **uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to increase**

uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to represent at least 5%, striving for 10%, of the energy used by international shipping by 2030; and

.4 **GHG emissions from international shipping to reach net zero**

to peak GHG emissions from international shipping as soon as possible and to reach net-zero GHG emissions by or around, i.e. close to 2050, taking into account different national circumstances, whilst pursuing efforts towards phasing them out as called for in the Vision consistent with the long-term temperature goal set out in Article 2 of the Paris Agreement.

Indicative checkpoints

Indicative checkpoints to reach net-zero GHG emissions from international shipping:

.1 to reduce the total annual GHG emissions from international shipping by at least 20%, striving for 30%, by 2030, compared to 2008; and

.2 to reduce the total annual GHG emissions from international shipping by at least 70%, striving for 80%, by 2040, compared to 2008.

Basket of candidate mid-term GHG reduction measures

The 2023 GHG Strategy states that a basket of candidate measure(s), delivering on the reduction targets, should be developed and finalized comprised of both:

1. a technical element, namely a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity; and

2. an economic element, on the basis of a maritime GHG emissions pricing mechanism.

The candidate economic elements will be assessed observing specific criteria to be considered in the comprehensive impact assessment, with a view to facilitating the finalization of the basket of measures.

The mid-term GHG reduction measures should effectively promote the energy transition of shipping and provide the world fleet a needed incentive while contributing to a level playing field and a just and equitable transition.

Impacts on States

The strategy says that the impacts on States of a measure/combination of measures should be assessed and taken into account as appropriate before adoption of the measure in accordance with the Revised procedure for assessing impacts on States of candidate measures. Particular attention should be paid to the needs of developing countries, especially SIDS and LDCs.

Barriers and supportive actions; capacity-building and technical cooperation; R&D

In the Strategy, the Committee recognizes that developing countries, in particular LDCs and SIDS, have special needs with regard to capacity-building and technical cooperation. An appendix provides an overview of relevant IMO initiatives supporting the reduction of GHG emissions from ships (read more on these initiatives).

Next steps

The 2023 Strategy sets out a timeline towards adoption of the basket of measures and adoption of the updated 2028 IMO GHG Strategy on reduction of GHG emissions from ships:

- MEPC 81 (Spring 2024) - Interim report on Comprehensive impact assessment of the basket of candidate mid-term measures/Finalization of basket of measures
- MEPC 82 (Autumn 2024) - Finalized report on Comprehensive impact assessment of the basket of candidate mid-term measures
- MEPC 83 (Spring 2025) - Review of the short-term measure to be completed by 1 January 2026
- MEPC 84 (Spring 2026) - Approval of measures / Review of the short-term measure (EEXI and CII) to be completed by 1 January 2026
- Extraordinary one or two-day MEPC (six months after MEPC 83 in Autumn 2025) - Adoption of measures

Target dates:

- MEPC 85 (Autumn 2026)
- 16 months after adoption of measures (2027) - Entry into force of measures
- MEPC 86 (Summer 2027) - Initiate the review of the 2023 IMO GHG Strategy

- MEPC 87 (Spring 2028)
- MEPC 88 (Autumn 2028) - Finalization of the review of the 2023 IMO GHG Strategy with a view to adoption of the 2028 IMO Strategy on reduction of GHG emissions from ships.

Life cycle GHG assessment guidelines adopted

The MEPC adopted Guidelines on life cycle GHG intensity of marine fuels (LCA guidelines) for consideration and adoption. The LCA guidelines allow for a Well-to-Wake calculation, including Well-to-Tank and Tank-to-Wake emission factors, of total GHG emissions related to the production and use of marine fuels.

Interim guidance on the use of biofuels

The MEPC approved an MEPC circular on Interim guidance on the use of biofuels under regulations 26, 27 and 28 of MARPOL Annex VI (DCS and CII).

Marine Environment Protection Committee (MEPC 80)

The Marine Environment Protection Committee (MEPC) addresses environmental issues under IMO's remit. This includes the control and prevention of ship-source pollution covered by the MARPOL treaty, including oil, chemicals carried in bulk, sewage, garbage and emissions from ships, including air pollutants and greenhouse gas emissions. Other matters covered include ballast water management, anti-fouling systems, ship recycling, pollution preparedness and response, and identification of special areas and particularly sensitive sea areas.

MEPC 80 met 3-7 July 2023 at IMO Headquarters in London. It was attended by some 1,800 delegates (in person and remotely).

Other agenda items

The outcome of the MEPC 80 on other agenda items will follow.

ANNEX 1

DRAFT RESOLUTION

Adopted on [7 July 2023]

2023 IMO STRATEGY ON REDUCTION OF GHG EMISSIONS FROM SHIPS

THE MARINE ENVIRONMENT PROTECTION COMMITTEE

RECALLING Article 38(e) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (the Committee) to consider and take appropriate action with respect to any other matters falling within the scope of the Organization which would contribute to the prevention and control of marine pollution from ships,

ACKNOWLEDGING that work to address greenhouse gas (GHG) emissions from ships has been undertaken by the Organization continuously since the adoption of Conference Resolution 8 on *CO_2 emissions from ships* in September 1997, in particular, through the adoption of global mandatory technical and operational energy efficiency measures for ships under MARPOL Annex VI,

ACKNOWLEDGING ALSO the decisions of the Assembly at its thirtieth and thirty-second sessions in December 2017 and December 2021, that approved for the Organization a strategic direction to "Respond to climate change",

RECALLING that the Committee at its seventy-second session (MEPC 72) in April 2018 adopted, by resolution MEPC.304(72), the *Initial IMO Strategy on Reduction of GHG Emissions from Ships* (Initial IMO GHG Strategy),

NOTING that the Initial IMO GHG Strategy foresees that a revised IMO GHG Strategy should be adopted in 2023,

RECALLING the United Nations 2030 Agenda for Sustainable Development,

RECALLING ALSO the Paris Agreement adopted at the UN Climate Change Conference (COP 21), which identifies the long-term goal to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change, as was also reaffirmed in the Glasgow Climate Pact at COP 26 and in the Sharm el-Sheikh Implementation Plan at COP 27,

RECALLING FURTHER IMO Assembly resolution A.998(25) on the need to develop capacity-building for the development and implementation of new and amendments to existing instruments,

RECALLING FURTHER that the Maritime Safety Committee at its 107th session decided to initiate work on the "Development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels",

HAVING CONSIDERED, at its eightieth session, the draft 2023 IMO Strategy on Reduction of GHG emissions from ships,

1 ADOPTS the *2023 IMO Strategy on Reduction of GHG emissions from Ships* (2023 IMO GHG Strategy) as set out in the annex to the present resolution;

2 ACKNOWLEDGES the challenges that developing countries, in particular least developed countries (LDCs) and small island developing States (SIDS), may face in the implementation of the 2023 IMO GHG Strategy;

3 FURTHER ACKNOWLEDGES the importance of addressing the human element, including the impact on seafarers and other maritime professionals, in the safe implementation of the 2023 IMO GHG Strategy;

4 INVITES the Secretary-General to make adequate provisions in the Integrated Technical Cooperation Programme (ITCP), the IMO GHG TC-Trust Fund and any other means of support related to follow-up actions to the 2023 IMO GHG Strategy that may be further decided by the Committee and undertaken by developing countries, in particular LDCs and SIDS;

5 AGREES to keep the 2023 IMO GHG Strategy under review with a view to adoption of a revised IMO GHG Strategy in 2028;

6 ALSO AGREES that the 2023 IMO GHG Strategy revokes the 2018 Initial IMO GHG Strategy of 2018, as from this date.

.2 identifying actions to be implemented by the international shipping sector, as appropriate, while addressing impacts on States and recognizing the critical role of international shipping in supporting the continued development of global trade and maritime transport services; and

.3 identifying actions and measures, as appropriate, to help achieve the above objectives, including incentives for research and development and monitoring of GHG emissions from international shipping.

2 VISION

IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as possible, while promoting, in the context of this Strategy, a just and equitable transition.

3 LEVELS OF AMBITION, INDICATIVE CHECKPOINTS, AND GUIDING PRINCIPLES Levels of ambition

3.1 Subject to amendment depending on reviews to be conducted by the Organization in accordance with section 7, the 2023 IMO GHG Strategy identifies levels of ambition for the international shipping sector noting that technological innovation and the global introduction and availability of zero or near-zero GHG emission technologies, fuels and/or energy sources for international shipping will be integral to achieving the overall level of ambition.

3.2 The levels of ambition and indicative checkpoints should take into account the wellto-wake GHG emissions of marine fuels as addressed in the *Guidelines on lifecycle GHG intensity of marine fuels* (LCA guidelines) developed by the Organization[1] with the overall objective of reducing GHG emissions within the boundaries of the energy system of international shipping and preventing a shift of emissions to other sectors.

3.3 Levels of ambition directing the 2023 IMO GHG Strategy are as follows:

.1 ***carbon intensity of the ship to decline through further improvement of the energy efficiency for new ships***

to review with the aim of strengthening the energy efficiency design requirements for ships;

[1] Resolution MEPC.XXX(80).

.2 ***carbon intensity of international shipping to decline***

to reduce CO_2 emissions per transport work, as an average across international shipping, by at least 40% by 2030, compared to 2008;

.3 ***uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to increase***

uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to represent at least 5%, striving for 10%, of the energy used by international shipping by 2030; and

.4 ***GHG emissions from international shipping to reach net zero***

to peak GHG emissions from international shipping as soon as possible and to reach net-zero GHG emissions by or around, i.e. close to 2050, taking into account different national circumstances, whilst pursuing efforts towards phasing them out as called for in the Vision consistent with the long-term temperature goal set out in Article 2 of the Paris Agreement.

Indicative checkpoints

3.4 Indicative checkpoints to reach net-zero GHG emissions from international shipping:

.1 to reduce the total annual GHG emissions from international shipping by at least 20%, striving for 30%, by 2030, compared to 2008; and

.2 to reduce the total annual GHG emissions from international shipping by at least 70%, striving for 80%, by 2040, compared to 2008.

Guiding principles

3.5 The principles guiding the 2023 IMO GHG Strategy include:

.1 the need to be cognizant of the principles enshrined in instruments already developed, such as:

.1 the principle of non-discrimination and the principle of no more favourable treatment, enshrined in MARPOL and other IMO conventions; and

.2 the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances, enshrined in UNFCCC, its Kyoto Protocol and the Paris Agreement;

.2 the requirement for all ships to give full and complete effect, regardless of flag, to implementing mandatory measures to ensure the effective implementation of this Strategy;

.3 the need to consider the impacts of measures on States, including developing countries, in particular, on LDCs and SIDS, and their specific emerging needs, as recognized in the Revised Strategic Plan for the Organization (resolution A.1149(32)); and

.4 the need for evidence-based decision-making balanced with the precautionary approach as set out in resolution MEPC.67(37).

4 CANDIDATE SHORT-, MID- AND LONG-TERM GHG REDUCTION MEASURES WITH POSSIBLE TIMELINES AND THEIR IMPACTS ON STATES Timelines

4.1 Candidate measures set out in this 2023 IMO GHG Strategy should be consistent with the following timelines:

.1 short-term GHG reduction measures are the measures finalized and agreed by the Committee between 2018 and 2023, as included in appendix 1;

.2 the basket of mid-term GHG reduction measures should be finalized and agreed by the Committee by 2025. Dates of entry into force and when the measure(s) can effectively start to reduce GHG emissions could be defined for the basket or for each measure individually;

.3 other candidate mid-term GHG reduction measures could be finalized and agreed by the Committee between 2023 and 2030. Dates of entry into force and when the measure can effectively start to reduce GHG emissions would be defined for each measure individually; and

.4 possible long-term measures could be measures finalized and agreed by the Committee beyond 2030, to be developed as part of the 2028 review of the IMO GHG Strategy.

4.2 The list of candidate measures is non-exhaustive and is without prejudice to measures the Organization may further consider and adopt.

Short-term GHG reduction measures

4.3 In accordance with regulations 25.3 and 28.11 of MARPOL Annex VI, a review of the mandatory goal-based technical and operational measures to reduce carbon intensity of international shipping (the "short-term GHG reduction measures") shall be completed by 1 January 2026.

4.4 The Committee may decide to initiate a review of the other short-term measure(s) as included in appendix 1.

Basket of candidate mid-term GHG reduction measures

4.5 In accordance with the timelines set out in this Strategy and the Work Plan, a basket of candidate measure(s), delivering on the reduction targets, should be developed and finalized comprised of both:

.1 a technical element, namely a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity; and

.2 an economic element, on the basis of a maritime GHG emissions pricing mechanism.

The candidate economic elements will be assessed observing specific criteria to be considered in the comprehensive impact assessment, with a view to facilitating the finalization of the basket of measures.

The mid-term GHG reduction measures should effectively promote the energy transition of shipping and provide the world fleet a needed incentive while contributing to a level playing field and a just and equitable transition.

4.6 In accordance with Phase III of the Work Plan, the measure(s) in the basket should be developed and adopted, along with the assessments of impacts on States.

4.7 The development of the basket of candidate mid-term GHG reduction measures should take into account the well-to-wake GHG emissions of marine fuels as addressed in the LCA guidelines developed by the Organization with the overall objective of reducing GHG emissions within the boundaries of the energy system of international shipping and preventing a shift of emissions to other sectors.

Synergies with existing measures

4.8 In addition, the potential synergies with other existing measures such as the Carbon Intensity Indicator (CII) will be considered, in particular regarding incentives for energy efficiency and for the adoption of better operational practices in the shipping value chain or other technologies to reduce emissions from ships.

Other candidate mid-term GHG reduction measures

4.9 In addition to the basket of candidate mid-term GHG reduction measures, the Organization should continue to develop other mid-term GHG reduction measures to reduce GHG emissions from ships. All the following candidate mid-term measures represent possible mid-term further action of the Organization on matters related to the reduction of GHG emissions from ships:

Informed policymaking:

.1 the Secretariat to undertake annual IMO GHG emission and carbon intensity estimates using the available data from the IMO DCS and other relevant sources; and other studies to inform policy decisions;

.2 development of a feedback mechanism to enable lessons learned on implementation of measures to be collated and shared through a possible information exchange on best practice;

Supporting global availability and uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources:

.3 further development of the LCA guidelines;

.4 undertake a regulatory assessment of safety aspects associated with reducing GHG emissions in accordance with this Strategy and to develop a road map to support the safe delivery of the Strategy;

.5 consider and analyse measures to address emissions of methane and nitrous oxide and further enhance measures to address emissions of volatile organic compounds;

.6 incentives for first movers to develop and take up new technologies; and

.7 consider and analyse measures to encourage port developments and activities globally to facilitate reduction of GHG emissions from shipping, including provision of ship and shoreside/onshore power supply from renewable sources, infrastructure to support supply of zero or near-zero GHG emission fuels and/or energy sources, and to further optimize the logistic chain and its planning, including ports.

Impacts on States

4.10 The impacts on States of a measure/combination of measures should be assessed and taken into account as appropriate before adoption of the measure(s) in accordance with the *Revised procedure for assessing impacts on States of candidate measures.*[2] Particular attention should be paid to the needs of developing countries, in particular LDCs and SIDS.

4.11 The Committee should consider the comprehensive impact assessment in order to inform further consideration of the proposed measure(s), and take action as appropriate.

4.12 When assessing impacts on States, the impact of (a) measure(s) should be considered, as appropriate, inter alia, in the following terms:

.1 geographic remoteness of and connectivity to main markets;

.2 cargo value and type;

.3 transport dependency;

.4 transport costs;

.5 food security;

.6 disaster response;

.7 cost-effectiveness; and

[2] MEPC.1/Circ.885/Rev.1.

.8 socio-economic progress and development.

4.13 Once the comprehensive impact assessment is completed, and disproportionately negative impacts assessed and addressed, as appropriate, the measure(s) may be considered for adoption.

4.14 Once a measure is adopted and enacted, the Committee should keep its implementation and impacts under review, upon request by Member States, so that any necessary adjustments may be made.

5 BARRIERS AND SUPPORTIVE ACTIONS; CAPACITY-BUILDING AND TECHNICAL COOPERATION; R&D

5.1 The Committee recognizes that developing countries, in particular LDCs and SIDS, have special needs with regard to capacity-building and technical cooperation.

5.2 The Committee recognizes the challenges that some delegations of developing countries, in particular LDCs and SIDS, may face in participating in the work of the Organization, in particular on GHG related matters. In this regard, the Organization should periodically assess the provision of financial resources through the Voluntary Multi-Donor Trust Fund as established by the Organization for the purpose of assisting developing countries, in particular LDCs and SIDS, in attending the meetings of MEPC and the Intersessional Working Group on Reduction of GHG emissions (ISWG-GHG).

5.3 When developing candidate mid- and long-term GHG reduction measures, due account should be taken to ensure a just and equitable transition that leaves no country behind, including supportive measures.

5.4 The Committee acknowledges that development and making globally available zero and near-zero GHG emission technologies, fuels and/or energy sources, and the development of the necessary associated port infrastructure, could be specific barriers to the implementation of possible measures.

5.5 The Committee recognizes the need for a broad approach to regulating safety of ships using zero or near-zero GHG emission technologies, fuels and/or energy sources, including addressing the human element, to ensure a safe implementation of this Strategy.

5.6 Recognizing the impact this Strategy will have on seafarers and other maritime professionals, the Organization is further requested to assess its instruments, guidance and training standards to help ensure a just transition of seafarers and other maritime workforce that leaves no one behind.

Continue and enhance partnerships, technical cooperation, capacity-building activities and technology cooperation

Dan Tsubouchi @Energy_Tidbits · 1h

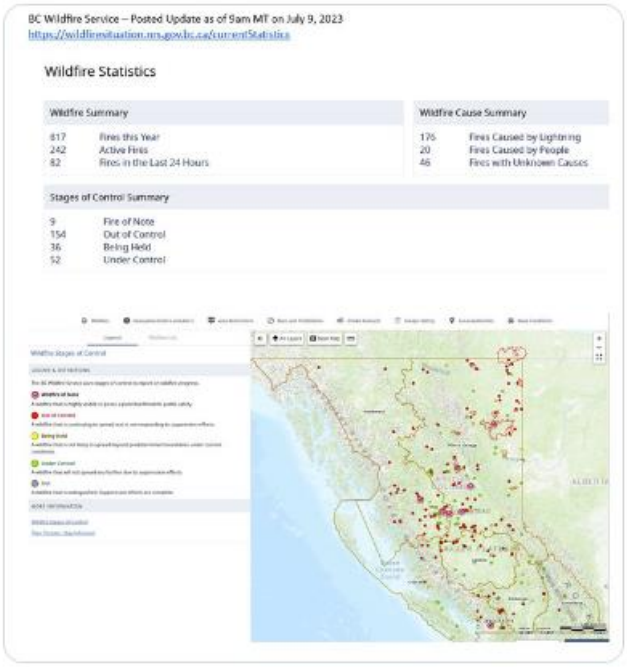
BC wildfires up over last 14 hours.

Total wildfires now 242 including 154 Out of Control wildfires. Basically every new wildfire is Out of Control

Note of 242 wildfires: 176 caused by lightning, 20 by people, 46 unknown case.

Everyone stay safe!!

#OOTT #NatGas



> **Dan Tsubouchi** @Energy_Tidbits · 15h
>
> 
>
> BC wildfires have almost doubled in the last 24 hrs.
>
> 94 new wildfires in last 24 hrs, up to 222 active wildfires.
>
> ...

2 3 1,645

Dan Tsubouchi @Energy_Tidbits · 5h

#Pemex says still 100,000 b/d offline as of last night ie. 600,000 b/d back on of the halted 700,000 bpd.

There are too many fires, accidents at @Pemex operations. Let's hope they use this tragedy of two workers people dying to put safety to #1 priority.

#OOTT

> @Pemex
>
> Desde el campo Quesqui en #Huimanguillo, Tabasco, el Director General de #PEMEX, Ing. @OctavioRomero_O, reporta al día de hoy sobre el incendio de ayer en Cantarell.
>
> Los compañeros lesionados se encuentran estables y continúa la búsqueda de la persona desaparecida.
>
> En cuanto a la producción, el incidente reflejó una pérdida de 700 mil barriles porque cerraron prácticamente todos los pozos de la zona, sin embargo, hasta hace unos momentos ya se habían recuperado 600 mil barriles.
>
> Translated from Spanish by Google
>
> From the Quesqui field in #Huimanguillo , Tabasco, the General Director of #PEMEX , Eng. @OctavioRomero_O , reports today on the fire yesterday in Cantarell.
>
> The injured colleagues are stable and the search for the missing person continues.
>
> Regarding production, the incident reflected a loss of 700,000 barrels because practically all the wells in the area were closed, however, until a few moments ago, 600,000 barrels had already been recovered.
>
> 
>

2 11 31 3,218

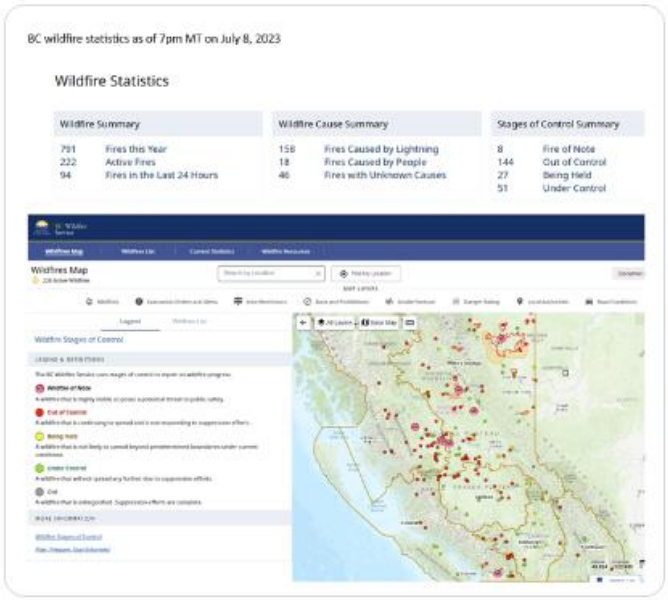
Dan Tsubouchi @Energy_Tidbits · 15h

BC wildfires have almost doubled in the last 24 hrs.

94 new wildfires in last 24 hrs, up to 222 active wildfires.

All the new wildfires basically go into the Out-of-Control wildfires, which is now at crazy high of 144.

Hope all our friends in BC can stay safe
#OOTT #NatGas



5 9 9 8,144

Dan Tsubouchi @Energy_Tidbits · 17h

Agree/disagree question for next @DallasFed energy survey of #Oil#NatGas Co's.

"*Look, President Biden doesn't focus on, and neither do I, on bashing the fossil fuel companies. But frankly they have to get their act together.*" @Gina_McCarthy to @Alexi on 06/09.

#OOTT

SAF Group created transcript of comments by Gina McCarthy (White House national climate advisor) with Alexi McCammond (Axios political reporter) on June 9, 2023
https://www.axios.com/2022/05/31/axios-event-gina-mccarthy-nih-misinformation-online

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

At 8:45 min mark, McCarthy "*Look, President Biden doesn't focus on, and neither do I, on bashing the fossil fuel companies. But frankly they have to get their act together. And we have to get our act together as a country to recognize that clean energy is the solution. Fossil fuels have actually created significant health challenges in our country, not just climate change. We're talking about pollution that's impacting people's lives. We're talking about billions of human beings every year across the world dying because it's related to climate and fossil fuels. We are talking about really risks that no longer need to be tolerated to our communities, which is why President Biden is really shifting his narrative on climate, not about climate, but about climate solutions.*"

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

> **Dan Tsubouchi** @Energy_Tidbits · 19h
>
> 
>
> An admission?
>
> "so what they are targeting is our [#BidenAdmin] inability to accelerate the answers to climate, the technologies we need moving forward" ...

2 2 2,675

Dan Tsubouchi @Energy_Tidbits · 18h

Is France moving to 👇 07/01 tweet UAE view for COP28?

"Addressing climate change **AND** promoting secure, reliable, affordable and sustainable supplies of energy are shared strategic priorities of Saudi Arabia and France"

#Oil#NatGas will be needed for longer.
#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Jul 1
>
> ICYMI
>
> No media coverage on #COP28 Pres Designate speech. West didn't want to hear:
>
> "discuss sustainable energy pathways"
> "systematically decarbonize our current energy system"
> "ensuring energy always remains accessible, secure & affordable"
> "renewable energy alone will not be... Show more
>
> 
>
> COP28 President-Designate Dr Sultan Al Jaber addresses Energy Asia
>
> SAF Group created transcript of comments by COP28 President-Designate UAE's Dr. Sultan Al Jaber speech at Energy Asia on June 27, 2023. https://twitter.com/COP28_UAE/status/1673763203946541056
>
> Items in "Italics" are SAF Group created transcript.
>
> *Al Jaber "... this is a critical gathering to discuss sustainable energy pathways for this very important region .... COP28 will mark the first global stock taking. An official assessment of the world's performance against the Paris agreement. But we don't need to wait until December. We already know we are way off track. By 2030, the world must reduce its emissions by 43% to keep the goal of 1.5 within reach. And over the same seven years, energy demand will only increase, particularly in Asia, as the global population grows by half a billion.*
>
> *As a result, we need to rapidly expand zero carbon energies while we systematically decarbonize our current energy system. Are we to do this while ensuring energy always remains accessible, secure and affordable. That is why I am calling on every region of the world to contribute to a global goal of tripling renewable energy capacity by 2030. Asia is already a global leader in renewable energy, accounting for nearly half of all installed capacity globally. And is adding more new capacity than any other region in the world. I am confident that Asia will continue to lead and achieve even higher ambition in the renewable energy space.*
>
> *At the same time, we know that renewable energy alone will not be sufficient, particularly for hard-emitting industries and in certain geographies. That is why we need to explore all available options including large scale nuclear power and SMRs, battery technology and, of course, hydrogen, which we should aim to double by 2030.*
>
> *The faster we build the energy system of the future, the faster we can transition from the current one. And as long as the world still uses hydrocarbons, we must ensure they are the most carbon efficient. That is why I have called on oil and gas companies to fully align around Net Zero by 2050 and to reduce methane emissions to near zero by 2030.*
>
> *Colleagues, we should not overlook the power of efficiency. New technologies have the potential to dramatically increase energy efficiency, which we should aim to double by 2030. If we take these steps, I am confident we can turn the climate challenge into a unique opportunity for building sustainable economic growth. Let's use Energy Asia to shape a cleaner and better roadmap for a responsible energy future.*
>
> *I invite you all to engage with the COP28 team and share your suggestions, your views, your plans and your commitments. We need to act in solidarity and with unprecedented unity. Let's demonstrate that COP28 will be a COP of action, a COP of impact and a COP for all.*
>
> Prepared by SAF Group https://safgroup.ca/news-insights/

4 2 3,904

Dan Tsubouchi @Energy_Tidbits · 19h

An admission?

"*so what they are targeting is our [#BidenAdmin] inability to accelerate the answers to climate, the technologies we need moving forward*" @Gina_McCarthy to @alexi.

#EnergyTransition is going to happen but will take way longer, cost way more & be rocky road.

#OilShow more

SAF Group created transcript of comments by Gina McCarthy (White House national climate advisor) with Alexi McCammond (Axios political reporter) on June 9, 2023
https://www.axios.com/2022/05/31/axios-event-gina-mccarthy-nih-misinformation-online

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

At 5:50 min mark, McCarthy "*... so the challenge is now that we are moving from denial to actually just trying to disengage the public from understanding the values of solar energy, the values of wind energy, the benefits of clean energy. We have to get tighter, we have to get better at communicating and frankly the tech companies have to stop allowing specific individuals over and over again to spread disinformation. That's what the fossil fuels companies pay for. That's what folks who make money out of fossil fuels and don't make money and don't care about saving consumer's costs. That's what they do. We have to be smarter than that and we need the tech companies to really jump in. You know we've had a lot of NGOS working on this issue and it's been terrific. The climate action campaign has been working on pushing back on this disinformation. And friends of the earth has done a great job and continuing to do a great job at basically looking at where this money is coming from, how it's trying to fool folks and what we see now is that climate denial is not working because people can see the problems out there. They are experiencing first hand. They can't deny it anymore. So what they're really targeting is our inability to accelerate the answers to climate, the technologies we need moving forward. That is equally dangerous to denial because we have to move fast.*"

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

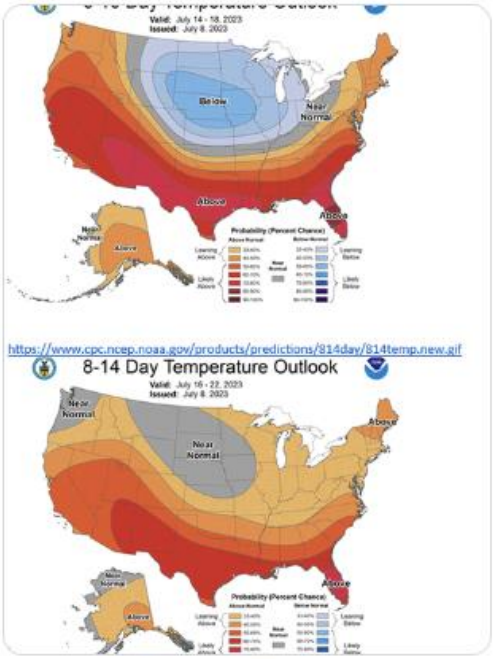
2 3 3,980

Dan Tsubouchi @Energy_Tidbits · 20h

Today's @NOAA 6-10 & 8-14 day temperature outlook covering July 14-22.

Starts well above normal for US except around Midwest/Great Lakes. Then moves to above normal temperatures for most of the populous US.

Should bring positive tone to HH #NatGas prices. #OOTT



https://www.cpc.ncep.noaa.gov/products/predictions/814day/814temp.new.gif

3 2 9 5,434

Dan Tsubouchi @Energy_Tidbits · Jul 7

Months, not weeks before Kurdistan/Iraq oil exports resumed via Turkey?

Iraq oil minister Ghani: waiting on Turkey's assessment of damage & repair (read $$$ needed) to pipeline that was damaged by earthquake & caused a leak.

Ghani says 475,000 bpd.

Thx @dan_murphy!
#OOTT

SAF Group created transcript of comments by Iraq Oil Minister Hayyan Abdul Ghani, via CNBC translator, with Dan Murphy (CNBC) on July 7, 2023. https://www.cnbc.com/video/2023/07/07/iraqi-oil-minister-says-turkey-pipeline-damage-being-assessed.html

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

Ghani "As you know, the negotiations are ongoing with Turkey and will start again. And through the port and the amount of petrol that's supposed to be exported this pipe could reach 475,000 barrels. Two weeks ago, especially two days before EID, we received a delegation from our brothers in Turkey. And we had negotiations and talks with them what is the way to return to export. And they explained there is a problem – a damage in the pipeline. And this happened because of the last earthquake. The damage caused a leak of oil and now they are assessing the amount of damage to repair and to start exporting again. We asked the Turkish side to send a technical delegation from Iraq to know the damage and how to fix it. And God willing, we are waiting for the results from that Turkish side."

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

2 7 18 4,426

Dan Tsubouchi @Energy_Tidbits · Jul 7

newlywed couples doing the changeover for the primo wedding picture spot in the field by the Bow River in #Canmore.

2 6 1,680

Dan Tsubouchi @Energy_Tidbits · Jul 7

Big #NetZero Reality check!

@IMOHQ adopts "REVISED" [read slower & way less certain] emissions reductions strategy.

Headlines will be "*reach net-zero GHG emissions by or around ie. close to 2050*".

NOTE the big caveat *"taking into account different national circumstances"*....Show more

07 July 2023

Revised GHG reduction strategy for global shipping adopted

2 carbon intensity of international shipping to decline

3 uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to

4 GHG emissions from international shipping to reach net zero

Indicative checkpoints

2 carbon intensity of international shipping to decline

3 uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to

4 GHG emissions from international shipping to reach net zero

Indicative checkpoints

2 4 2,152

Dan Tsubouchi @Energy_Tidbits · Jul 6

Global air travel continues to increase.

@IATA May data

Overall, domestic + international was +39.1% YoY to 96.1% of pre-Covid levels.

But domestic air travel above pre-Covid levels for 2nd consecutive month.

International air travel up again in May, but still 9.2% below... Show more

1 8 34 6,764

Dan Tsubouchi @Energy_Tidbits · Jul 6

For those are aren't near their laptops, @EIAgov just released its #Oil #Gasoline #Distillates inventory as of June 30. Table below compares EIA data vs @businessexpectations and vs @APIenergy yesterday. Prior to release, WTI was $70.80. #OOTT

Oil/Products Inventory June 30: EIA, Bloomberg Survey Expectations, API			
(million barrels)	EIA	Expectations	API
Oil	-1.51	-2.00	-4.40
Gasoline	-2.55	0.00	1.60
Distillates	-1.05	0.05	0.60
	-5.11	-1.95	-2.20
Note: Oil is commercial so builds in a draw of 1.4 mmb in SPR for the June 30 week			
Note: Included in the oil data, Cushing had a 0.40 mmb draw for June 30 week			
Source EIA, Bloomberg			
Prepared by SAF Group https://safgroup.ca/news-insights/			

1 5 1,421

Dan Tsubouchi @Energy_Tidbits · Jul 6

China Baidu city-level road congestion continues to only be up small YoY vs Covid restricted June 2022.

Headline "traffic levels recover after stark fall". But only +20.4% WoW vs 👇06/29 tweet -50.% crash due to 3-day national holiday June 22-24.

Top 15 cities in June 2023... Show more

> **Dan Tsubouchi** @Energy_Tidbits · Jun 29
>
> Headline China city-level road congestion "plummet" for Jun 28 week.
>
> BUT likely due to Dragon Boat 3-day Jun 22-24 national holiday.
>
> Recall 👇05/11 tweet, city traffic rebounded post 5-day May Day holiday.
>
> Still not a broad city traffic pickup as top 15 city congestion is... twitter.com/Energy_Tidbits... Show more
>
> 
>

2 3 2,783

Dan Tsubouchi @Energy_Tidbits · Jul 5

Here's why transmission & grid strengthening is a big roadblock.

03/15/23 tweet. E.ON CEO, every windmill needs a grid connection, every grid connection drives more backbone reinforcement.
twitter.com/Energy_Tidbits...

04/06/23 tweet. @BloombergNEF transmission & distribution grid... Show more

> **Dan Tsubouchi** @Energy_Tidbits · Jul 4
>
> 
>
> OOPS!
>
> @IEA @fbirol warns West lack of priority on grid modernization/expansion = may be risking a lot of losing money, & put the energy security at risk & ...

5 6 4,721

Dan Tsubouchi @Energy_Tidbits · Jul 5

Near-term economic weakness indicator - international air cargo demand continue to contract, but at lesser rate.

@IATA "*air cargo demand remains weak, amid soft drivers*", May 2023 CTKs across the industry -5.2% YoY, consequently annual contraction in CTKs narrowed from 16.8% in...Show more

2 7 2,503

Dan Tsubouchi @Energy_Tidbits · Jul 5

#Oil#NatGas#LNG will be needed for longer.

"*What would be dangerous and irresponsible is cutting oil and gas production so that the cost of living, as we saw last year, starts to shoot up again*" @Shell CEO Sawan.

Thx @BBCSimonJack
#OOTT

bbc.com
Oil giant Shell warns cutting production 'dangerous'
The world's need for fossil fuels is "desperate", Shell's chief executive told the BBC.

5 10 29 6,778

Dan Tsubouchi @Energy_Tidbits · Jul 5

Saudi is likely to preferentially cut #Oil exports to US with its voluntary 1 mmbd cut in July.

US has weekly oil inventory and import data so its the place to cut if Saudi wants the market to quickly see there is less oil on market.

WCS less WTI diffs also benefist, down to... Show more

9 39 6,213

Dan Tsubouchi @Energy_Tidbits · Jul 5

ICYMI

Russia's Medvedev ""any war, even a world war, can stop very fast," "Either if a peace treaty is signed or if one does what the US did in 1945, when it used its nuclear weapons and bomber to Japanese cities - Hiroshima and Nagasaki."

Hoping for peace soon!
#OOTT

MILITARY OPERATION IN UKRAINE

Special op to end in days if NATO stops shipping weapons to Ukraine — Medvedev

Meanwhile, the official underscored that the Russian army is "modern and heroic," even though it "experiences certain problems, like any army"

Russian Security Council Deputy Chairman Dmitry Medvedev
© Sofya Sandurskaya/TASS

MOSCOW, July 5. /TASS/. The special military operation would end in several days if the US and its vassals stop sending weapons to Ukraine, Russian Security Council Deputy Chairman Dmitry Medvedev said Wednesday, answering a question from TASS.

"In NATO, primarily the US and its vassals, stop shipping weapons and munitions to Ukraine, the special military operation would end in several months; and if they stop shipping their weapons now, then the special op will end in mere days," Medvedev said.

"Actually, any war, even a world war, can stop very fast," he continued. "Either if a peace treaty is signed or if one does what the US did in 1945, when it used its nuclear weapons and bomber to Japanese cities - Hiroshima and Nagasaki. They have, indeed, ended the war campaign back then, at a cost of lives of almost 300,000 civilians."

Meanwhile, the official underscored that the Russian army is "modern and heroic," even though it "experiences certain problems, like any army."

TAGS

1 1 6 1,789

SAF

Dan Tsubouchi @Energy_Tidbits · Jul 5

it's why they get paid the big bucks!
more US sellside warn on risks to US equities on H2 knowing full well that H2 equites have been up strong on 19 of last 20 yrs that stocks had double digit gains in H1. thx @GuyJohnsonTV @KritiGuptaNews #OOTT

1 8 2,064

SAF

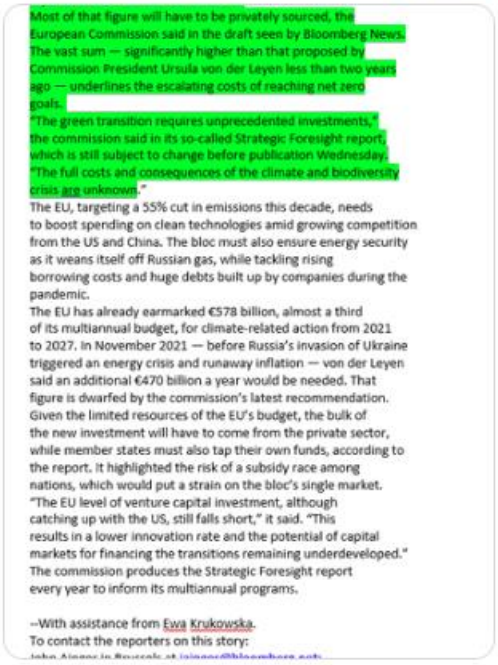
Dan Tsubouchi @Energy_Tidbits · Jul 4

Big OOPS!

EU must invest an additional €700b PER YEAR for green shift & shut out cheap Russian fossil fuels reports @johnainger @AlbertoNardelli.

Reinforces #EnergyTransition will take way longer, cost way more & be rocky road.

And #Oil #NatGas #Coal will be needed for... Show more



Most of that figure will have to be privately sourced, the European Commission said in the draft seen by Bloomberg News. The vast sum — significantly higher than that proposed by Commission President Ursula von der Leyen less than two years ago — underlines the escalating costs of reaching net zero goals.

"The green transition requires unprecedented investments," the commission said in its so-called Strategic Foresight report, which is still subject to change before publication Wednesday. "The full costs and consequences of the climate and biodiversity crisis are unknown."

The EU, targeting a 55% cut in emissions this decade, needs to boost spending on clean technologies amid growing competition from the US and China. The bloc must also ensure energy security as it weans itself off Russian gas, while tackling rising borrowing costs and huge debts built up by companies during the pandemic.

The EU has already earmarked €578 billion, almost a third of its multiannual budget, for climate-related action from 2021 to 2027. In November 2021 — before Russia's invasion of Ukraine triggered an energy crisis and runaway inflation — von der Leyen said an additional €470 billion a year would be needed. That figure is dwarfed by the commission's latest recommendation.

Given the limited resources of the EU's budget, the bulk of the new investment will have to come from the private sector, while member states must also tap their own funds, according to the report. It highlighted the risk of a subsidy race among nations, which would put a strain on the bloc's single market.

"The EU level of venture capital investment, although catching up with the US, still falls short," it said. "This results in a lower innovation rate and the potential of capital markets for financing the transitions remaining underdeveloped."

The commission produces the Strategic Foresight report every year to inform its multiannual programs.

--With assistance from Ewa Krukowska.

To contact the reporters on this story:

5 9 4,320

Dan Tsubouchi @Energy_Tidbits · Jul 4

No surprise @NOC_Libya reaffirms its #Oil production at 1.2 mmbd hasn't been impacted by Haftar threats.

Google Translate "Crude oil production reached 1.2 million barrels per day, and condensate production reached 54 thousand barrels per day during the past 24 hours."

#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Jul 4
>
> 
>
> Haftar is back!
>
> So increased risk to Libya's stable #Oil production of ~1.2 mmb/d for months.
>
> ...

1 3 2,901

Dan Tsubouchi @Energy_Tidbits · Jul 4

Haftar is back!

So increased risk to Libya's stable #Oil production of ~1.2 mmb/d for months.

Haftar says need new fair distribution of oil revenues with eastern Libya by Aug or "*the Libyan people will be on time to claim their legitimate right for wealth*".

Follows 👇 06/25...Show more

https://libyaobserver.ly/news/haftar-demands-new-mechanism-distributing-state-revenues-warns-escalate-if-his-calls-are-not

Haftar demands new mechanism for distributing state revenues, warns to escalate if his calls are not met

Rogue military commander Khalifa Haftar has demanded that the mechanism for distributing the country's wealth and oil revenues be reconsidered, threatening to take action if a plan in this regard is not ready by August.

Addressing an audience of military and security figures on Monday, Haftar demanded that a high committee be formed to arrange a financial audit that distributes the revenues equitably.

In case of any delay in establishing the relevant committee, "the Libyan people will be on time to claim their legitimate right for wealth," he said.

He noted what he claimed were violations in the documentary credits committed by the Tripoli-based Central Bank of Libya (CBL).

"The documentary credits for 2022 were distributed to 1,848 companies; The eastern region's share was 7% percent, while the southern region received only 2% percent of these credits."

The 80-year-old warlord said the Administrative Control and the Audit Bureau report indicated manipulation with more than 200 billion dinars.

"There is an ever more pressing need for fair distribution of oil revenues amid the current adverse economic situation in the country, Haftar said, adding that Dbeibah's government spent 122 billion dinars out of the 136 billion of oil revenues.

He claimed to receive "hundreds of memorandums from different regions demanding the formation of a supreme committee for financial arrangements to distribute revenues fairly among the municipalities.

He expressed dissatisfaction with US Ambassador Richard Norland for his remarks on the distribution of oil revenues.

Addressing the foreign diplomatic missions, Haftar called on them to refrain from interfering in Libyan affairs and "not to cross the lines."

"You are the ones who created the crisis and sowed discord among the Libyans."

Haftar said that the presidential and parliamentary elections represent the solution to Libya's crisis, as he demanded the exit of all foreign forces and mercenaries from Libya in implementation of the Security Council resolutions and the agreements of the Joint Military Committee (5 + 5)

> **Dan Tsubouchi** @Energy_Tidbits · Jun 25
>
> Risk to Libya's stable #Oil production that's been ~1.2 mmb/d for months?
>
> Looks like back to Eastern Libya not believing getting their fair share of oil revenues....

4 15 7,921

Dan Tsubouchi @Energy_Tidbits · Jul 4

OOPS!

@IEA @fbirol warns West lack of priority on grid modernization/expansion = may be risking a lot of losing money, & put the energy security at risk & slowing down decarbonization of power sector.

something only the NetZero side hasn't wanted to acknowledge.

he didn't... Show more

SAF Group created transcript of comments by Fatih Birol, Executive Director International Energy Agency, with Michael Liebreich. Posted on July 3, 2023
https://twitter.com/MLCleaningUp/status/1675821692730621954

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

Birol "*This, in my view, is one of the blind spots of the current, clean energy transition. And, the politicians, the policy makers gave a lot of emphasis building the, the windmills, solar panels, but they didn't pay the same attention to grids - modernization and development of grids. There was a major offshore summit in Europe a couple of weeks ago in Ostend, Belgium. Heads of states, President Macron, Chancellor Scholz, and others were there. And I told them in the in the speech, it is something like, you are, building, manufacturing best car in the world - the electric car, very efficient and everything, but you forgot to build the roads without getting grids.*

And this is the reason I have commissioned the IEA, my colleagues here - making a major study on grids to ring alarm bells for the policymakers coming this fall. You will see that we may be risking a lot of losing money, and put the energy security at risk and slowing down of decarbonization of the power sector - if we don't pay attention to it. It is a European problem. Chinese, United States, and everywhere."

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

2 4 11 7,894

Dan Tsubouchi @Energy_Tidbits · Jul 4

"without exception, above-normal temperature anomalies are expected over all land areas in the Northern and Southern Hemisphere" says @WMO in its 06/26 climate outlook update for Jul/Aug/Sep.

#NatGas #Coal markets hope they are right!

#OOTT

3 8 2,772

Dan Tsubouchi @Energy_Tidbits · Jul 4

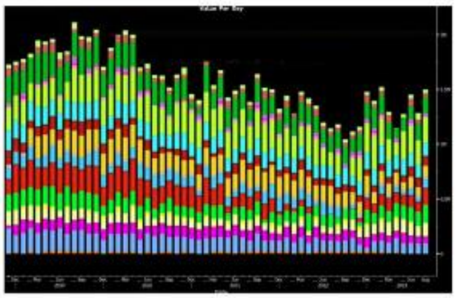
Another supply addition holding back some of the impact of Saudi voluntary #Oil cuts is Nigeria.

See 👇 ""Nigeria to Lift Aug. Crude Exports to Six-Month High of 1.5M B/D" reports @business Sherry Su.

#OOTT

Nigeria to Lift Aug. Crude Exports to Six-Month High of 1.5M B/D
2023-07-04 11:42:08.295 GMT

By Sherry Su
(Bloomberg) -- Nigeria to lift at least 46.4m bbl or 1.5m b/d of 15 major crude grades for August, according to loading programs seen by Bloomberg.
* The daily volume will be the highest since February
* Escravos exports will be four cargoes of 950k bbl each of for August; equivalent to 123k b/d, unchanged from July
* Egina loadings will be three cargoes of 950k bbl each, totaling 92k b/d vs 69k b/d for July
* Bonga exports will be four cargoes totaling 77k b/d vs 31k b/d for July
* Nigeria will also export one cargo of 950k bbl each of Pennington and Yoho



* No exports of Abo and Aman for August
* READ: June 27, Nigeria to Lift Exports of 10 Oil Grades to 1.34m B/d in August

To contact the reporter on this story:
Sherry Su in London at ssu20@bloomberg.net
To contact the editors responsible for this story:
Alaric Nightingale at anightingal1@bloomberg.net
Lars Paulsson

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

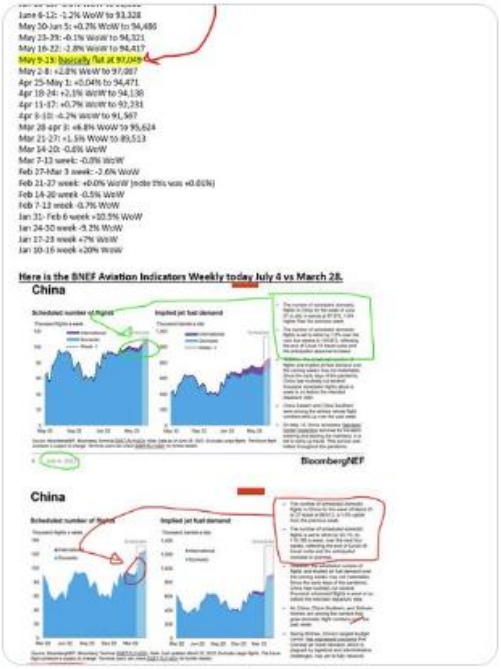
2 · 5 · 1,695

Dan Tsubouchi @Energy_Tidbits · Jul 4

Looks positive.

China scheduled domestic flights didn't give up increases from Dragon Boat national holiday Jun 22-24 travel. NOT like what happened after Apr 24-May 3 May Day holidays.

+1.9% WoW to 97,572 flights, above May Day holiday burst, and new 18-mth, likely post Covid... Show more



6 16 4,100

Dan Tsubouchi @Energy_Tidbits · Jul 4

Busted!

Here's why Russia's Novak likely nudged to switch to committing to cutting 500,000 b/d to EXPORTS.

See 👇 @JLeeEnergy: RUS seaborne oil flows rebounded to hit 7-week high ie. little evidence that supposed PRODUCTION cuts impacted flows.

#OOTT

2023-07-04 08:57:22.271 GMT

By Julian Lee

(Bloomberg) -- Russia's seaborne crude oil flows to international markets rose sharply last week to hit a seven-week high and indicate that the previous week's drop was maintenance-related.

Crude flows through Russian ports jumped by about 1.3 million barrels a day in the week to July 2, as flows through two key export terminals bounced back, following a well-established pattern that previously has been related to maintenance. Bigger shipments were seen from all regions, but the largest gains came from the Baltic and Pacific ports, which had been the hardest hit in the prior week's slump.

Russia plans to cut crude export flows in August by 500,000 barrels a day in an effort that it says is intended to help keep the global market balanced. Deputy Prime Minister Alexander Novak didn't give a baseline for the export reduction.

A subsequent statement from Novak's office indicated that output would be scaled back by a similar amount.

So far, there has been little evidence that an initial output cut that was due to come into effect in March -- retaliation for Western sanctions imposed after Russia's invasion of Ukraine -- has had any material impact on crude flows out of the country. In the latest four-week period, seaborne exports were still running about 25,000 barrels a day above their average level in February, the baseline month for

3 2 14 2,419

Dan Tsubouchi @Energy_Tidbits · Jul 3

China's welcome mat to @SecYellen.

> **Dan Tsubouchi** @Energy_Tidbits · Jul 3
>
> What's next or could be next?
>
> China is dominant supplier of Gallium & major supplier of Germanium, putting in export controls on both that are critical to semi conductors, fibre optics, etc.
>
> See 👇 03/30/23 tweet, @vonderleyen EU relies on China for 98% of rare earths 93% of... twitter.com/Energy_Tidbits... Show more

national security and interests, two ministries announced on Monday.

"In order to safeguard national security and interests, with the approval of the State Council, it is decided to implement export controls on items related to gallium and germanium," the Ministry of Commerce (MOFCOM) and the General Administration of Customs (GAC) said in a notice.

According to the notice, starting on August 1, items meeting certain characteristics shall not be exported without approval. The ministries listed eight items related to gallium, and six items related to germanium.

Under the export control, exporters must file an application with local commerce authorities for exports of the relevant items and must be approved by the Ministry of Commerce before exporting such items. Exporters would face fines and criminal charges if they export such items without permission.

Both gallium and germanium are key in the making of semiconductors and other electronics. For example, germanium is used in fiber optics and semiconductors, while gallium is used in making chipsets for electronic devices such as computer motherboards or portable phones, according to media reports.

China is the world's top producer of raw gallium, which is used in making chipsets to generate high frequency raid waves in 5G base stations, accounting for 95 percent of the global output, according to industry information provider Fierce Electronics.

China is also a major supplier of germanium, which is mainly used in fiber and infrared optics, PET plastics, electronics and solar panels. The EU has listed the metal as a critical raw material, as it imports about 17 percent of its supplies from China, according to media reports.

While the notice issued by the MOFCOM and GAC on Monday did not go into detail of what prompted the move, apart from saying it aims to protect national security and interests, the move comes as the US and some of its allies are relentlessly stepping up crackdowns on China's technological development in various fields, including semiconductors.

For example, in the latest move, under mounting pressure from Washington, the Netherlands' government last week announced a ministerial order restricting exports of

certain advanced semiconductor equipment. As a result, Dutch chipmaking equipment giant ASML said that due to these export control regulations, ASML will need to apply for export licenses with the Dutch government for all shipments of its most advanced immersion DUV lithography systems.

China has repeatedly voiced dissatisfaction over the Dutch move and called on the Dutch government to respect market principles and contractual spirits in order to avoid damage

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Dan Tsubouchi @Energy_Tidbits · Jul 3

What's next or could be next?

China is dominant supplier of Gallium & major supplier of Germanium, putting in export controls on both that are critical to semi conductors, fibre optics, etc.

See 👇 03/30/23 tweet, @vonderleyen EU relies on China for 98% of rare earths 93% of... Show more

national security and interests, two ministries announced on Monday.

"In order to safeguard national security and interests, with the approval of the State Council, it is decided to implement export controls on items related to gallium and germanium," the Ministry of Commerce (MOFCOM) and the General Administration of Customs (GAC) said in a notice.

According to the notice, starting on August 1, items meeting certain characteristics shall not be exported without approval. The ministries listed eight items related to gallium, and six items related to germanium.

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> **Dan Tsubouchi** @Energy_Tidbits · Mar 30
>
> 
>
> #EnergyTransition reality check.
>
> @vonderleyen: "we rely on one single supplier" China 98% of rare earth, 93% of magnesium. 97% of lithium.
> ...

4 4 4,720

Dan Tsubouchi @Energy_Tidbits · Jul 3

Two positives for #Oil this morning.

Unexpected: Novak: Russia to reduce oil EXPORTS by 500,000 b/d in Aug.

Expected: Saudi Ministry of Energy: KSA to extend 1 mmb/d voluntary cuts to incl Aug.

#OOTT

3 4 30 3,893

Dan Tsubouchi @Energy_Tidbits · Jul 2

China Caixin Manufacturing PMI June 50.5 vs Est 50.0, May 50.9, Apr 49.5, Mar 50.0, Feb 51.6, Jan 49.2. Expansion, but down from May and 👇 commentary seemed to have more negative tone than positive. Thx @SPGlobalPMI. #OOTT

2 1 1,886

Dan Tsubouchi @Energy_Tidbits · Jul 2

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Dan Tsubouchi @Energy_Tidbits · Jul 2

ICYMI.

Likely why it's all quiet on the US/Iran nuclear front this week after a few weeks of renewed momentum to reach some sort of "understanding".

How long a pause? If cleared, can he jump back in as if nothing happened & pick up where he left off?

#OOTT #JCPOA... Show more

1 1 2,770