Energy Tidbits

Macron Hurts IEA Analysis Credibility "*The IEA has become, so to speak, our armed wing of implementing the Paris agreement*"

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February 25, 2024

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https://www.whitehouse.gov/briefing-room/statements-releases/2024/01/26/statement-from-president-joe-biden-on-decision-to-pause-pending-approvals-of-liquefied-natural-gas-exports/
JANUARY 26, 2024

Statement from President Joe Biden on Decision to Pause Pending Approvals of Liquefied Natural Gas Exports

In every corner of the country and the world, people are suffering the devastating toll of climate change. Historic hurricanes and floods wiping out homes, businesses, and houses of worship. Wildfires destroying whole neighborhoods and forcing families to leave their communities behind. Record temperatures affecting the lives and livelihoods of millions of Americans, especially the most vulnerable.

From Day One, my Administration has set the United States on an unprecedented course to tackle the climate crisis at home and abroad – securing the largest climate investment in the history of the world, unlocking clean energy breakthroughs that will power a clean economy and create thousands of jobs, advancing environmental justice for all, and rallying world leaders to transition away from the fossil fuels that jeopardize our planet and our people.

But more action is needed.

My Administration is announcing today a **temporary** pause on pending decisions of Liquefied Natural Gas exports – with the exception of unanticipated and immediate national security emergencies. **During this period**, we will take a hard look at the impacts of LNG exports on energy costs, America's energy security, and **our** environment. This pause on new LNG approvals sees the climate crisis for what it is: the existential threat of our time.

While MAGA Republicans willfully deny the urgency of the climate crisis, condemning the American people to a dangerous future, my Administration will not be complacent. We will not cede to special interests.

We will heed the calls of young people and frontline communities who are using their voices to demand action from those with the power to act. And as America has always done, we will turn crisis into opportunity – creating clean energy jobs, improving quality of life, and building a more hopeful future for our children.

https://www.whitehouse.gov/briefing-room/statements-releases/2024/01/26/fact-sheet-biden-harris-administration-announces-temporary-pause-on-pending-approvals-of-liquefied-natural-gas-exports/
JANUARY 26, 2024

FACT SHEET: Biden-Harris Administration Announces Temporary Pause on Pending Approvals of Liquefied Natural Gas Exports

President Biden has been clear that climate change is the existential threat of our time – and we must act with the urgency it demands to protect the future for generations to come. That's why, since Day One, President Biden has led and delivered on the most ambitious climate agenda in history, which is lowering energy costs for hardworking Americans, creating millions of good-paying jobs, safeguarding the health of our communities, and ensuring America leads the clean energy future.

Today, the Biden-Harris Administration is announcing a **temporary** pause on pending decisions on exports of Liquefied Natural Gas (LNG) to non-FTA countries until the Department of Energy can update the underlying analyses for authorizations. The current economic and environmental analyses DOE uses to underpin **its LNG export authorizations** are roughly five years old and no longer adequately account for considerations like potential energy cost increases for American consumers and manufacturers beyond current authorizations **or the latest assessment of the impact of greenhouse gas emissions.** Today, we have an evolving understanding of the market need for LNG, the long-term supply of LNG, and the perilous impacts of methane on our planet. We also must adequately guard against risks to the health of **our** communities, especially frontline communities **in the** United States who disproportionately shoulder the burden of pollution from new export facilities. The pause, which is subject to exception for unanticipated and immediate national security emergencies, will provide the time to integrate these critical considerations.

The U.S. is already the number one exporter of LNG worldwide – with U.S. LNG exports expected to double by the end of this decade. At the same time, the U.S. remains unwavering in our commitment to supporting our allies around the world. Today's announcement **will not impact our** ability to continue supplying LNG to our allies **in the near-term**. Last year, roughly half of U.S. LNG exports went to Europe, and the U.S. has worked with the E.U. to successfully economize consumption and manage its storage to ensure that unprovoked acts of aggression cannot threaten its supply. Furthermore, in 2022, the E.U and U.S. pledged to work toward the goal of ensuring additional LNG volumes for the E.U. market – with the U.S. exceeding our annual delivery targets to the E.U. in each of the past two years. Through existing LNG production and export infrastructure, the U.S. has – and will continue – to deliver for our allies.

As Republicans in Congress continue to deny the very existence of climate change while attempting to strip their constituents of the economic, environmental and health benefits of the President's historic climate investments, the Biden-Harris Administration will continue to lead the way in ambitious climate action while ensuring the American economy remains the envy of the world.

Biden-Harris Administration's Top Climate Accomplishments:

1. Signed into law the largest climate investment in history, the Inflation Reduction Act, which has already created 210,000 new jobs across nearly every state and attracted more than $200 billion in private clean energy investments ($365 billion since President Biden took office), while putting the U.S. on a path to meet our climate goals and reach 80% clean energy by 2030 – in addition to securing the American Rescue Plan, Bipartisan Infrastructure Law, and CHIPS and Science Act

2. Established a whole-of-government strategy to tackle methane emissions – from plugging wells and leaks in the oil and gas sector, to reclaiming abandoned coal mines, to reducing food waste and agricultural emissions, and finalized a historic rule to reduce methane emissions from oil and gas operations by nearly 80%, delivering billions of dollars in health and economic benefits

3. Launched the American Climate Corps to mobilize a new, diverse generation of Americans – putting them to work conserving and restoring our lands and waters, bolstering community resilience,

deploying clean energy, implementing energy efficient technologies, and advancing environmental justice, all while creating pathways to high-quality, good-paying jobs

4. Advancing the most ambitious environmental justice agenda in history, including by signing a historic Executive Order that calls on the federal government to bring clean energy and healthy environments to all and mitigate harm to those who have suffered from toxic pollution and other environmental burdens like climate change; delivering on the Justice40 initiative, which is ensuring that the benefits of President Biden's historic investments in America – from clean energy projects to floodwater protections – reach communities that need them most; replacing lead pipes and taking action to protect communities from PFAS pollution; accelerating Superfund cleanups; tightening air quality enforcement near pollution facilities; and more

5. Protected 26 million acres of lands and waters – on track to conserve more lands and waters than any President in history – including five new national monuments that include protections for lands in Colorado, Nevada, Texas, and most recently, the Baaj Nwaavjo I'tah Kukveni – Ancestral Footprints of the Grand Canyon National Monument in Arizona; initiating new national marine sanctuaries as part of the President's goal of conserving 30% of lands and waters by 2030, delivering billions of dollars to accelerate land, water, and wildlife conservation efforts in all 50 states, territories, the District of Columbia, and Tribal nations; and more

6. Canceled remaining oil and gas leases issued by the previous administration in the Arctic National Wildlife Refuge, proposed protections for more than 13 million acres in the National Petroleum Reserve in Alaska, and withdrew approximately 2.8 million acres of the Beaufort Sea, ensuring the entire United States Arctic Ocean is off limits to new oil and gas leasing

7. Signed an Executive Order that sets an ambitious target to make half of all new vehicles sold in 2030 zero-emissions, while proposing strongest-ever limits on tail pipe emissions and issuing fuel economy standards, giving Americans more choices about the cars they drive, and saving Americans hundreds of dollars at the pump

8. Proposed carbon pollution standards for coal and gas-fired power plant emissions that would avoid hundreds of millions of tons of carbon dioxide emissions and protect people's health

9. Accelerated permitting of clean energy projects, including 47 projects on public lands that total 11.2 megawatts of wind, solar and geothermal energy on public lands – enough to power more than 3.5 million homes, and broke ground on 10 major transmission projects, which are slated to connect 19.5 gigawatts of new generation to the grid

10. Rallied world leaders to raise global climate ambition, including by securing commitments from more than 155 countries to reduce methane emissions by at least 30 percent by 2030, joining leaders at COP28 to commit, for the first time, to transition away from fossil fuels, end new unabated coal capacity globally, and agree to triple renewable energy globally by 2030

11. Invoked the Defense Production Act using emergency authority on the basis of climate change to increase domestic production of key clean energy technologies, such as solar, transformers and electric grid components, and heat pumps

Equinor signs a 15-year LNG agreement with Deepak Fertilisers

19 FEBRUARY 2024 05:00 (GMT-7)

Arctic Voyager leaving Hammerfest LNG.
(Photo: Rino Engdal / Equinor)

Equinor and the Indian fertiliser and petrochemical

agreement for supplies of liquefied natural gas (LNG) with deliveries starting in 2026.

Equinor's growing global LNG portfolio is based on LNG from the Equinor operated LNG Plant in Hammerfest, Norway and LNG supply sourced mainly from the US.

This portfolio will be the base of supply to Deepak, which will use the gas mainly as feedstock for production of ammonia in its newly commissioned plant for manufacturing fertilisers and petrochemicals. The agreement covers an annual supply of around 0.65 million tons (ca 9 TWh) of LNG for 15 years starting from 2026.

Ammonia is a key building block for the society, being crucial for agriculture and food security. The ammonia which Deepak will produce from the natural gas will be for domestic use.

"Deepak's new ammonia plant has created new gas demand in the growing Indian market. I am very happy that we have landed this agreement with Deepak Fertilisers. The agreement is another proof of how we use our position in the Atlantic basin to strengthen our relationship with key players in the growing Indian market. We look forward to developing our relationship with Deepak and to exploring avenues for further collaboration on petrochemicals feedstocks such as propane and ethane and on low carbon ammonia in the future", says Equinor's Senior vice president for Gas & Power, Helge Haugane.

"We are very happy to enter into this long-term agreement with Equinor for supply of LNG. The agreement will provide reliable supplies of feedstock which will further strengthen Deepak Fertilisers' value-chain from gas to ammonia, the key ingredient in fertilisers. The agreement will help us absorb global volatility as well as enhance overall margins. We also look forward to exploring with Equinor further collaboration on feedstock and carbon footprint reduction initiatives," said Sailesh C. Mehta, Chairman & Managing Director, DFPCL.

About Deepak

Deepak Fertilisers and Petrochemicals Corporation Ltd. (DFPCL) is among India's leading manufacturers of industrial chemicals and fertilisers. DFPCL is one of the leading manufacturers of Technical Ammonium Nitrate in the world, used in agriculture as fertilisers.

The company is the only producer of prilled TAN solids in India and also manufactures medical grade Ammonium Nitrate

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

Posted 11am on July 14, 2021

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

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

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

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

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

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

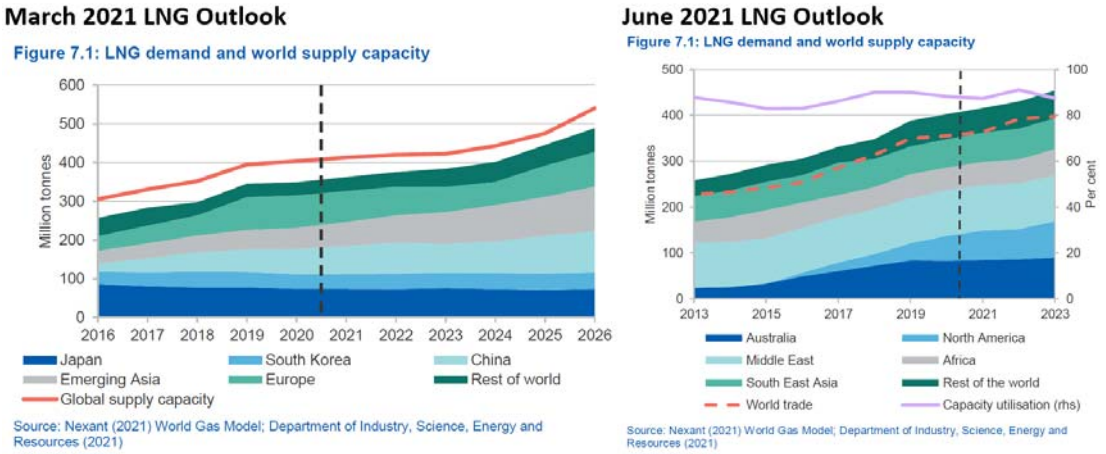
Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required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

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

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

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

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

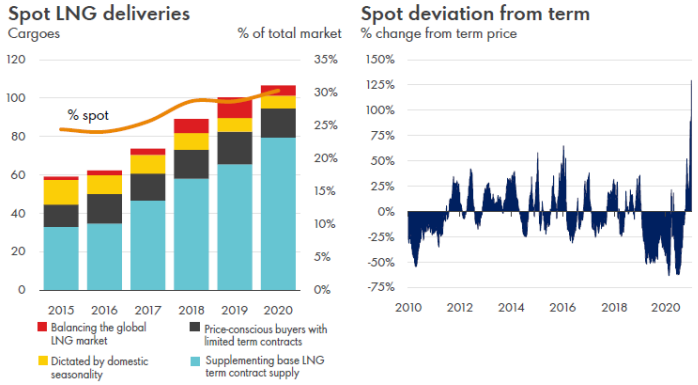


Source: Australia Resources and Energy Quarterly

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

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

Spot LNG deliveries and Spot deviation from term price



Source: Shell LNG Outlook 2021 on Feb 25, 2021

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

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

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

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

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

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

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

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

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

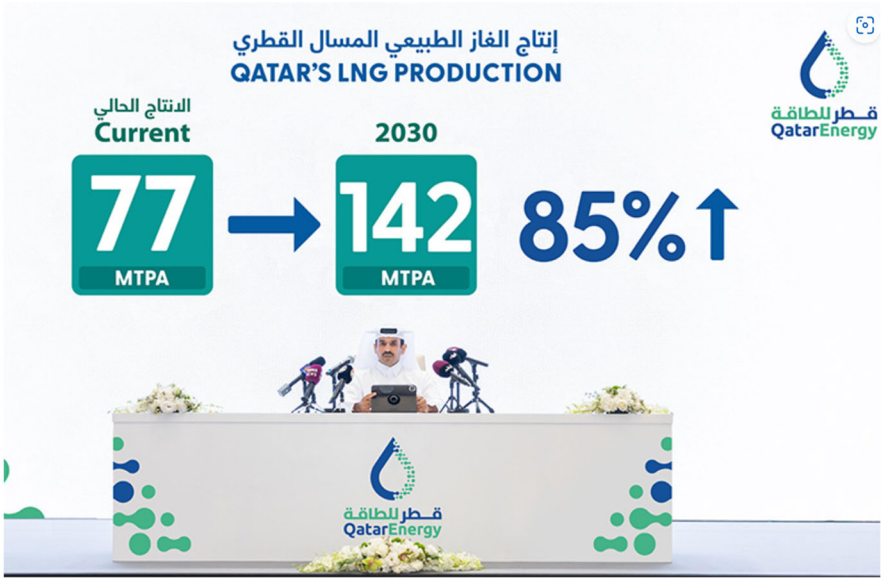
Seems like many missed India's first specific LNG forecast to 2030. Our June 20, 2021 Energy Tidbits memo highlighted the first India forecast that we have seen to estimate the required growth in natural gas consumption and LNG imports if India is to meet its target for natural gas to be 15% of its energy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

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

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

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

https://www.qatarenergy.qa/en/MediaCenter/Pages/newsdetails.aspx?ItemId=3799



H.E. MINISTER SAAD SHERIDA AL-KAABI ANNOUNCES RAISING QATAR'S LNG PRODUCTION CAPACITY TO 142 MTPA BEFORE THE END OF 2030 -

DOHA, Qatar • 25 February 2024 – QatarEnergy has announced that it is proceeding with a new LNG expansion project, the "North Field West" project, to further raise the State of Qatar's LNG production capacity to 142 million tons per annum (MTPA) before the end of this decade, representing an increase of almost 85% from current production levels.

H.E. Mr. Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs, the President and CEO of QatarEnergy, made the announcement during a press conference held today at QatarEnergy's Headquarters in Doha.

Speaking at the press conference, H.E. Minister Al-Kaabi announced that extensive appraisal drilling and testing have confirmed that productive layers of Qatar's giant North Field extend towards the west, which allows for developing a new LNG production project in Ras Laffan.

H.E. the Minister said that: "QatarEnergy has focused its efforts and attention on determining how far west the North Field's productive layers extend in order to evaluate the production potential from those areas. We have continued geological and engineering studies and have drilled a number of appraisal wells in that area. I am pleased today to announce that, praise be to God, these great efforts have confirmed, through technical tests of the appraisal wells, the extension of the North Field's productive layers further towards the west, which means the ability to produce significant additional quantities of gas from this new sector."

H.E. Minister Al-Kaabi also announced the presence of huge additional gas quantities in the North Field estimated at 240 trillion cubic feet, which raises the State of Qatar's gas reserves from 1,760 to more than 2,000 trillion cubic feet, and the condensates reserves from 70 to more than 80 billion barrels, in addition to large quantities of liquefied petroleum gas, ethane, and helium.

H.E. the Minister of State for Energy Affairs, the President and CEO of QatarEnergy, said: "These are very important results of great dimensions that will take Qatar's gas industry to new horizons, as they will enable us to begin developing a new LNG project from the North Field's western sector with a production capacity of about 16 MTPA. As such, the State of Qatar's total LNG production will reach about 142 MTPA when this new expansion is completed before the end of this decade. This represents an increase of almost 85% compared to

current production levels. With the completion of this project, the State of Qatar's total hydrocarbon production will exceed 7.25 million barrels of oil equivalent per day."

H.E. Minister Al-Kaabi added that QatarEnergy will immediately commence the basic engineering works necessary to ensure that the planned progress is achieved according to the approved schedule for this new project, which will be called the North Field West project.

H.E. Minister Al-Kaabi said: "I would like to extend my sincere thanks and appreciation to my colleagues the managers and employees at QatarEnergy and in the energy sector in Qatar, women and men, Qataris and expatriates, who work as one family tirelessly and with dedication to advance the energy sector for the benefit of Qatar, QatarEnergy, and our partners. And I would like to say: I am proud of you all."

H.E. Minister Al-Kaabi concluded his remarks by expressing sincere thanks and gratitude to His Highness Sheikh Tamim bin Hamad Al Thani, the Amir of the State of Qatar for his wise leadership and guidance, and the unlimited support of the energy sector of the State of Qatar.

QatarEnergy continues work to implement various elements of the North Field production expansion projects, including the North Field East project and the North Field South project.

[Note the below was pulled from Qatar Energy website Feb 25, 2024 and hasn't yet been updated for today's announcement to increase to 142 MTPA by end of 2030]

https://www.qatarenergy.qa/en/WhoWeAre/Pages/WhatIsLNG.aspx

LNG: a cleaner source of energy

As the world's leader in the production of Liquified Natural Gas (LNG), we are adapting our direction and strategic objectives to meet the challenges of the new business environment with greater dynamism, resilience, and efficiency.

Energy is crucial to every single human being on earth. Its impact on humankind over the past century is unmeasurable. It has powered homes and industrial plants, and accelerated production and innovation. It has helped billions of people move across the globe in search for livelihood and better opportunities. The prosperity and security of humankind around the world hinge on a reliable supply of energy.

We are currently implementing our North Field East Project (NFE) to raise our LNG production capacity from 77 million tons per year currently to 110 million tons per year. NFE represents the first phase of Qatar's planned LNG expansion. The second phase of Qatar's LNG expansion project, the North Field South Project (NFS), will further increase Qatar's LNG production capacity from 110 million tons per year to 126 million tons per year.

Natural gas is an important part of the solution in the energy transition, especially as we strive to eliminate energy-poverty. Energy demand growth over the next few decades will be substantial, and LNG supplies will be essential to meeting this demand.

opened their arbitrage, that's been closed for quite a while. So that's, of course, a positive indicator for the crude differential.

And then your question on Valhall and the impairment case. Valhall is not impaired in this quarter. And I don't think there are any changes to the 2C reserves or resources on Valhall in this quarter either.

A - David Tonne {BIO 20925193 <GO>}

I can qualify that. So there's impairment of technical goodwill on Valhall this quarter, together with Edvard Grieg and Ivar Aasen, which is, of course, is a bit specific. But it's not impairment of resources. So this is, of course, driven, as you know, and most of you on the line know, by previous acquisitions and the way that we have to account for the differences in accounting and tax. So, that's to be expected over time, specifically in quarters, when the forward curve for oil and gas prices drops. And as you are producing out, call it volumes in the asset.

Q - Yoann Charenton {BIO 17372477 <GO>}

Thank you. Have a nice day, then.

A - Karl Johnny Hersvik {BIO 18337255 <GO>}

Thank you. Let's move on, Kjetil.

A - Kjetil Bakken {BIO 20629786 <GO>}

Yes, absolutely. It's from John Olaisen from ABG. Please, John, go ahead.

Q - John Olaisen {BIO 4949660 <GO>}

Yeah, thank you for taking my question. And good morning, everybody. I can see from fax [ph] pages from the Norwegian offshore directorate that the water production is increasing significantly at the Johan Sverdrup field. So I just wonder if the watering production is higher than expected? And also I had hoped for plateau to be taken -- coming off the plateau would be taking place a little bit later than 2024. But if you could elaborate a little bit about that, do you have sufficient water handling capacity on the top sides, et cetera? And is there anything you could do to handle the water -- increase the water handling capacity and thereby extend plateau? And also maybe if you could elaborate a little bit of what kind of depletion rates we should expect from Johan Sverdrup once it goes off the plateau. And what can be done to fight that apart from, of course, a Phase 3? Thank you.

A - Karl Johnny Hersvik {BIO 18337255 <GO>}

Good. Excellent question. Yes, you are right. We are seeing water in some wells in Johan Sverdrup. The behavior is really related to well by well coning and not -- it's not an overall well. It's not an overall field water-cut development. It's a well issue. We are, in the course of 2024, putting another eight wells on stream on Johan Sverdrup, which will limit the issue as it's directly correlated and linked to well rates.

And of course, the total field rails are capped to the water handling and oil handling capacity. Oil handling, of course, standing at 755,000 barrels of oil equivalents.

So I think the main issue here is to get more wells on stream and therefore more or less production per well. And then, of course, the water handling capacity is at the moment significant and quite in line with what we expected and sufficient for treating the water. And then, of course, the last issue will be mass balance in the reservoir, and we're just doing a turnaround to change out the water injection pump, which are now basically done I think, to make sure that there is sufficient capacity. So those are the three main initiatives that is ongoing in 2024 to extend the plateau. And then, of course, the next line of things will be new wells. And this is as with all oil and gas fields, as you reach the end of the plateau, the way to extend the plateau is to increase capacity, particularly water treatment capacity and gas treatment capacity, and add IOR wells. I mean, this is bread and butter for the oil and gas industry. This is what we do in all fields.

Q - John Olaisen {BIO 4949660 <GO>}

And then on depletion rates once it goes off plateau, please?

A - Karl Johnny Hersvik {BIO 18337255 <GO>}

Yeah. That's -- I don't think I'll guide on that John, at this point in time. And the reason is that, yeah, of course, from a technical perspective, you will see the largest depletion rates, relatively speaking, in the first few months after you go off battle. But they will depend on water volume, on the increase in water volume, well stock, et cetera, et cetera. So that's a pretty difficult assessment to make at this point in time.

Q - John Olaisen {BIO 4949660 <GO>}

But the potential plateau in the second half of 2024, is that what you had expected and what you already have in your charts showing the expected production profile for (inaudible) in the years to come, or is it a little bit earlier?

A - Karl Johnny Hersvik {BIO 18337255 <GO>}

So I would say that this -- as you know, we increased the plateau level quite significantly above nameplate capacity in 2023. And it's been producing extremely well at this level, with nearly 100% uptime, low cost, highly energy efficient. One year ago, I would say we expected it to continue that well into 2025. And the operator has now basically said that they assume that this level can be sustained. It's probably a good word until late 2024 or early 2025.

And it's the uncertainty and that timing that is basically incorporated into the guidance of 2024. And of course, that means that maybe starting another -- but that means that when we assessed this earlier, we had an assumption that it'll carry well into 2025. That, of course, means that the guidance for 2024 is a bit lower than we assumed a year ago, but it also means that in the next couple of years, we'll be impacted by this, call it, a little bit more conservative phasing of production. But it's important to note that there are no reserve changes. This is essentially a phasing of production related to the production strategy at the field.

02/19/2024 06:55:00 [BN] Bloomberg News

Russian Oil Refining Falls Further in Wake of Drone Attacks

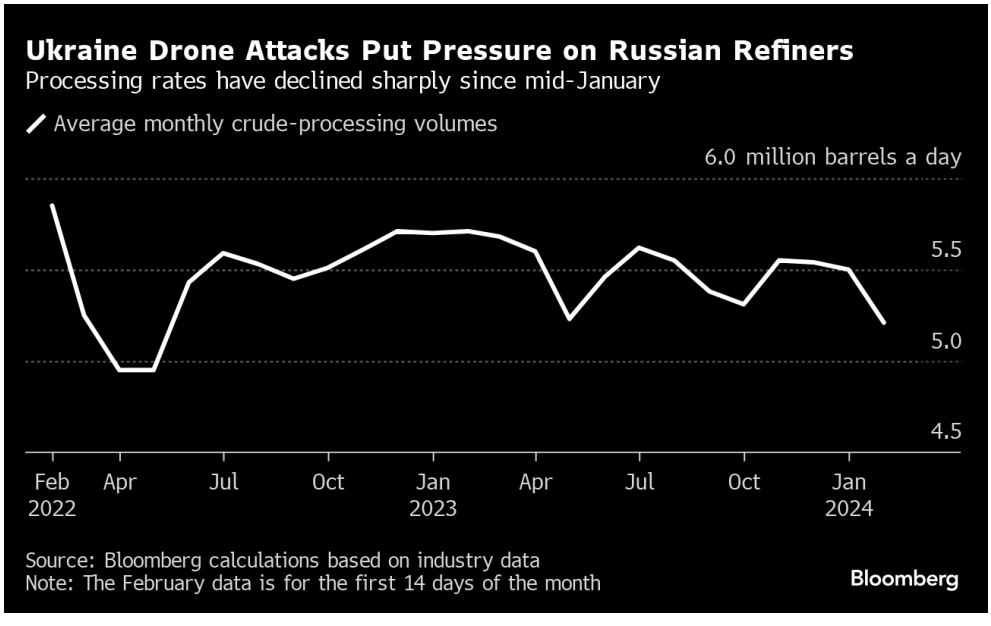
- Refiners processed 5.16 million barrels a day in latest week
- Runs were down some 380,000 barrels a day from December level

By Bloomberg News

(Bloomberg) -- Russia's oil processing suffered further in the latest week as the country's refineries struggle with damage caused by Ukraine's drone attacks.

Facilities processed 5.16 million barrels of crude a day in the second week of February, a person with knowledge of industry data said. That's down 94,000 barrels a day from the previous week, according to Bloomberg calculations based on historic figures.

As Moscow's invasion of Ukraine is about to enter its third year, Kyiv is trying to hurt Russia's oil processing and its ability to send fuel to the front lines. Since the start of this year, Ukrainian attacks have damaged six refineries that accounted for around 18% of Russia's total crude-processing.



The drop in processing rates reached almost 380,000 barrels a day compared with most of December, the last month before Ukraine started hitting Russian refineries. So far in February, Russia's daily runs have slipped to an average of about 5.21 million barrels, the lowest since early October, Bloomberg calculations show.

Read More: UK, Allies Look to Arm Ukraine With AI-Enabled Swarm Drones

Lower runs at Rosneft PJSC's Ryazan refinery, Lukoil PJSC's Volgograd facility as well as the independent Ilsky and Afipsky plants – all allegedly attacked by Ukrainian drones in recent weeks – curbed processing rates in the latest week, the person said. Runs also fell at Lukoil's Perm refinery in the Urals region, located away from the main area of attacks, the person said.

Rosneft's Tuapse refinery, damaged in a Jan. 25 fire, remained offline, while Novatek's Ust-Luga condensate-processing facility partially resumed operations after a halt that lasted roughly a month, the person said.

Rosneft, Lukoil, Novatek, and the Afipsky and Ilsky refineries didn't immediately respond to requests for comment on the progress of repairs.

Russia's seaborne crude exports declined by about 290,000 barrels a day in the week to Feb. 11, Bloomberg ship-tracking data show. Still, smaller refinery runs "could drive a spike in crude exports" if repairs are prolonged, the International Energy Agency said last week.

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02/20/2024 06:07:14 [BN] Bloomberg News

Russia's Seaborne Crude Flows at Risk as India Shuns Key Grade

Difficulties selling Sokol crude into India are far from over

By Julian Lee

(Bloomberg) -- *Follow Bloomberg India on WhatsApp for exclusive content and analysis on what billionaires, businesses and markets are doing. Sign up here .*

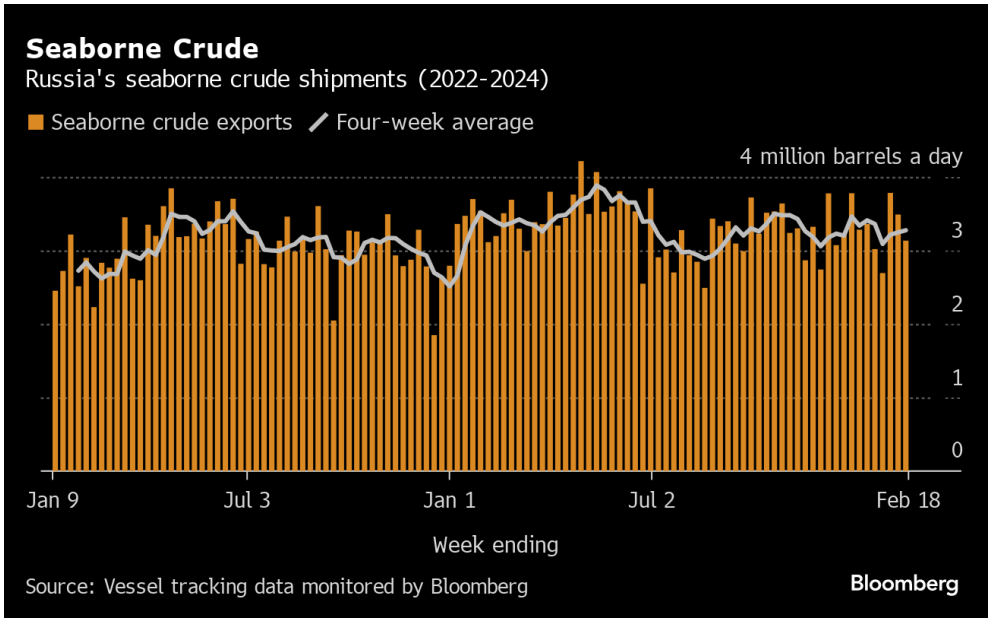
Russia's seaborne crude shipments fell for a second week, with difficulties selling a key Pacific grade to India set to further snarl flows in the coming week.

Moscow has been struggling to get its Sokol crude into India, the main market for the grade produced by the Sakhalin 1 project, with the Asian nation's refiners wary of falling foul of US sanctions and complaining that the grade is too expensive relative to alternatives.

Although two shipments were delivered recently to India after a break of more than two months, Russia's difficulties seem far from over as at least 13 more, totaling about 9 million barrels, are still sitting on vessels that appear to be going nowhere.

Adding to Moscow's concerns, all seven of the specialized shuttle tankers that haul the crude from the export terminal now have cargoes on board, leaving none available to take on fresh shipments. The lack of available ships will hamper exports of Sokol for at least the next week, and possibly longer.

Even before the problems loading the Sokol cargoes, Russia's crude shipments fell by about 360,000 barrels a day in the week to Feb. 18 to 3.13 million barrels a day. The decline put exports 150,000 barrels a day below the level Moscow has pledged to its OPEC+ partners for the first quarter, on a weekly basis. Despite that retreat, the less volatile four-week average rose for a third week, up by about 30,000 barrels a day, putting it almost exactly in line with the target.



Russia said it would cut oil exports by 500,000 barrels a day below the May–June average during the first quarter, after several other members of the OPEC+ group agreed to make further output curbs. The Russian cut will be shared between crude shipments, which will be reduced by 300,000 barrels a day, and refined products.

The gross value of Russia's crude exports slipped for a second week, dropping to $1.55 billion in the seven days to Feb. 18 from $1.67 billion the previous week. Meanwhile four-week average income continued to rise, up by $41 million to $1.59 billion a week.

Flows by Destination

Despite the drop in weekly shipments, Russia's seaborne crude flows in the four weeks to Feb. 18 edged higher to 3.27 million barrels a day. That was up from 3.25 million barrels a day in the period to Feb. 11. Shipments were about 310,000 barrels a day below the average seen in May and June, or virtually in line with Russia's first quarter target.

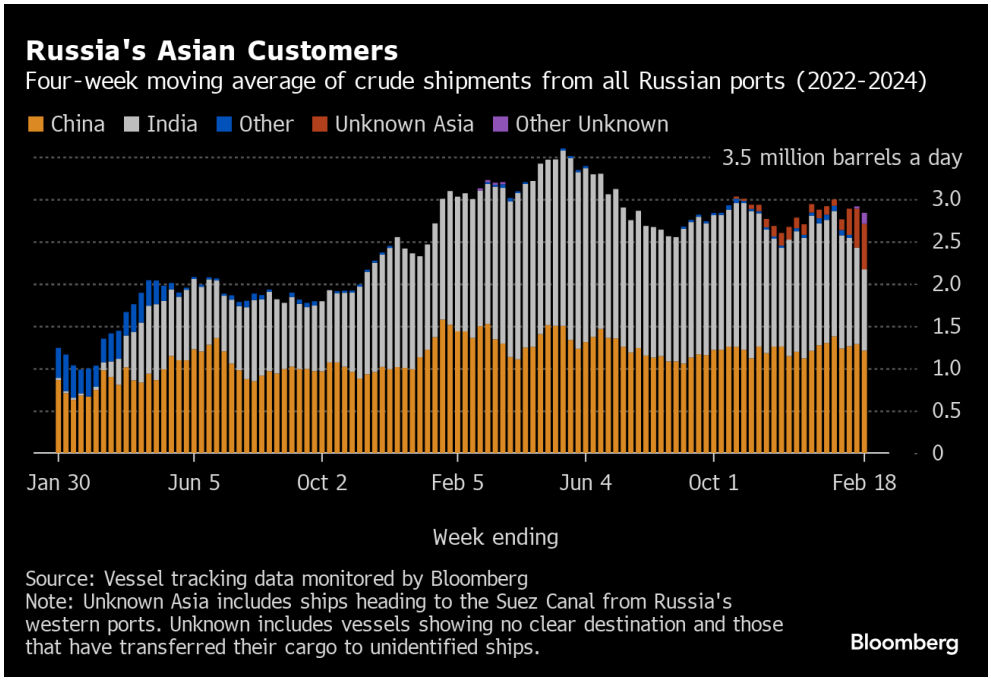
The four-week average continues to be affected by the storm that closed the Pacific port of Kozmino for five days in the week to Jan. 28 and disruptions to shipments from Ust-Luga caused by a drone strike on a neighboring condensate refinery, followed by several days of maintenance at the Baltic crude export terminal. As a result, the figure is likely to rise again next week.

Russia appears to be opening up small new markets for its crude.

About 1.8 million barrels of Russian crude is headed to Venezuela on the VLCC Ligera. The vessel arrived off the Amuay refinery on Tuesday morning.

A fourth cargo is heading to Tema in Ghana, where a new refinery built by Chinese investors has begun processing crude. The plant will initially run 40,000 barrels a day, rising to 100,000 barrels with completion of a second phase, due by the end of 2025.

Two cargoes of Gazprom Neft PJSC's Arctic crude oil have been delivered to the Pulau Muara Besar refinery in Brunei over the past month.



All figures exclude cargoes identified as Kazakhstan's KEBCO grade. Those are shipments made by KazTransoil JSC that transit Russia for export through the Black Sea port of Novorossiysk and the Baltic's Ust–Luga and are not subject to European Union sanctions or a price cap.

The Kazakh barrels are blended with crude of Russian origin to create a uniform export grade. Since Russia's invasion of Ukraine, Kazakhstan has rebranded its cargoes to distinguish them from those shipped by Russian companies.

- **Asia**

Observed shipments to Russia's Asian customers, including those showing no final destination, slipped to 2.84 million barrels a day in the four weeks to Feb. 18, down from a revised 2.91 million in the previous four–week period.

About 1.21 million barrels a day of crude was loaded onto tankers heading to China. The Asian nation's seaborne imports are boosted by about 800,000 barrels a day of crude delivered from Russia by pipeline, either directly, or via Kazakhstan.

Flows on ships signaling destinations in India averaged about 960,000 barrels a day.

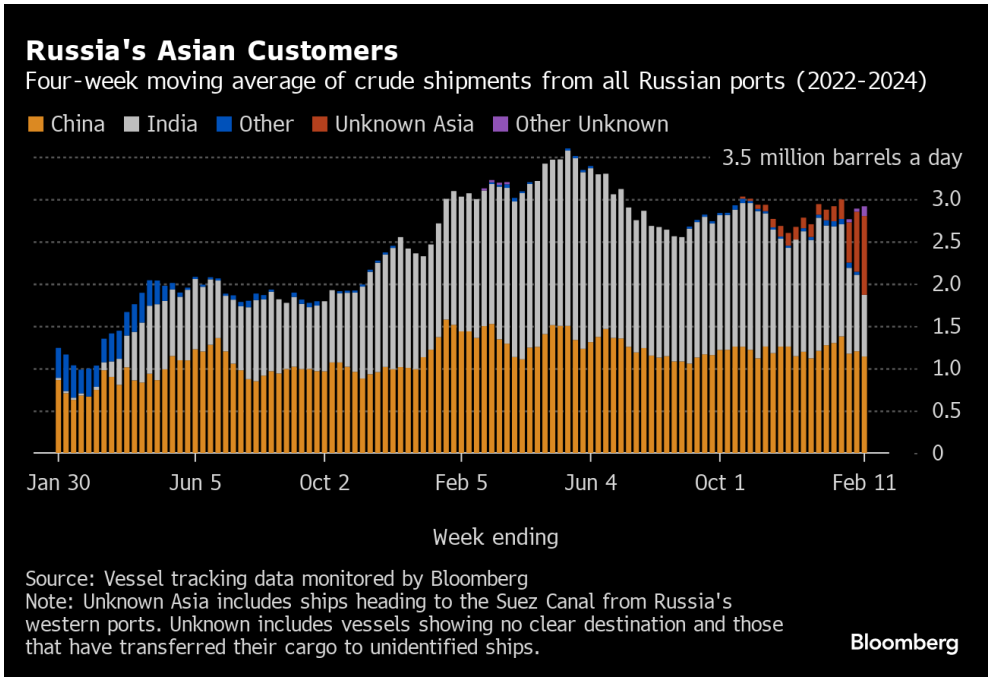
Both the Chinese and Indian figures will rise as the discharge ports become clear for vessels that are not currently showing final destinations.

The equivalent of about 540,000 barrels a day was on vessels signaling Port Said or Suez in Egypt, or are expected to be transferred from one ship to another off the South Korean port of Yeosu. Those voyages typically end at ports in

India or China and show up in the chart below as “Unknown Asia” until a final destination becomes apparent. This figure includes the Sokol crude still on shuttle tankers awaiting transfer to other vessels as well as the other stranded cargoes of the grade.

The “Other Unknown” volumes, running at about 130,000 barrels a day in the four weeks to Feb. 18, are those on tankers showing no clear destination. Most of those cargoes originate from Russia’s western ports and go on to transit the Suez Canal, but some could end up in Turkey. Others could be moved from one vessel to another, with most such transfers now taking place in the Mediterranean, off the coast of Greece.

Ship-to-ship transfers of crude in the Laconian Gulf off Greece have picked up after several months of inactivity. The VLCC Ligera, holding about 1.8 million barrels, has arrived in Venezuela after taking on cargoes from two smaller tankers. A second supertanker, Achelous, has passed through the Red Sea on its way to China.

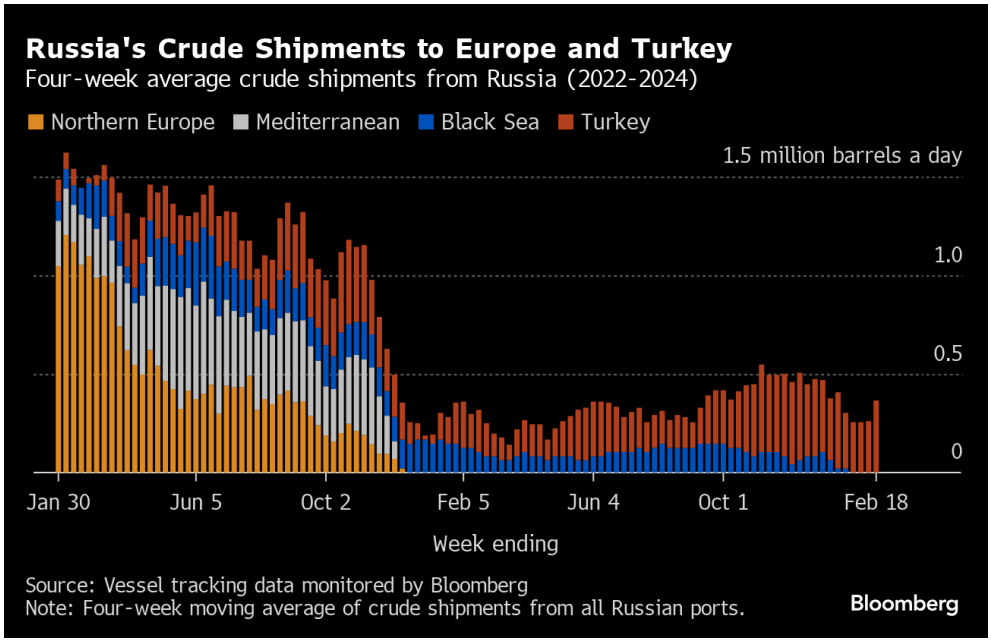


Europe and Turkey

Russia’s seaborne crude exports to European countries have ceased.

A market that consumed about 1.5 million barrels a day of short-haul crude, coming from export terminals in the Baltic, Black Sea and Arctic has been lost completely since Moscow’s troops invaded Ukraine in February 2022, replaced by long-haul destinations in Asia that are much more costly and time-consuming to serve.

With flows to Bulgaria halted at the end of last year, Turkey is now the only short-haul market for shipments from Russia’s western ports.



Exports to Turkey recovered to a five-week high of about 365,000 barrels a day in the four weeks to Feb. 18. That's up from a revised figure of about 260,000 barrels a day in the period to Feb. 11.

No Russian crude was shipped to European countries in the four weeks to Feb. 18. A cargo of Urals, sold by Kazakhstan from Novorossiysk, was delivered to Burgas in Bulgaria. The refinery there, owned by Lukoil PJSC, previously took its own Urals cargoes, but the shipments stopped at the end of last year.

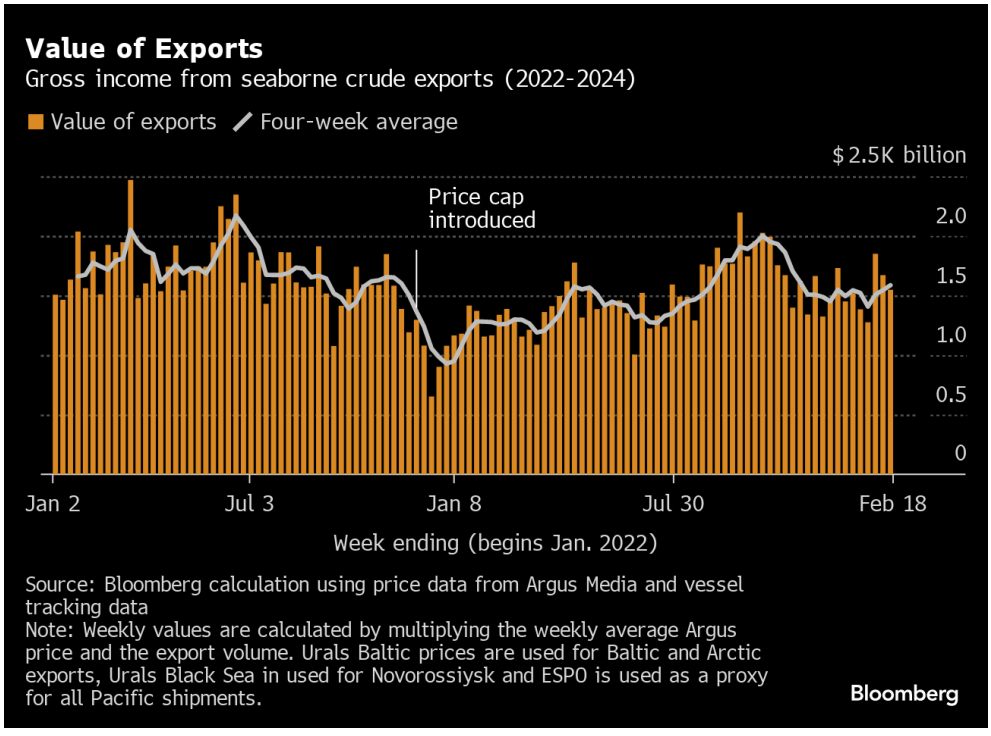
Vessel-tracking data are cross-checked against port agent reports as well as flows and ship movements reported by other information providers including Kpler and Vortexa Ltd.

Export Value

Following the abolition of export duty on Russian crude, we have begun to track the gross value of seaborne crude exports, using Argus Media price data and our own tanker tracking.

The gross value of Russia's crude exports slipped for a second week, dropping to $1.55 billion in the seven days to Feb. 18 from $1.67 billion the previous week. Meanwhile four-week average income continued to rise, up by $41 million to $1.59 billion a week. The four-week average is still well off its peak of $2.17 billion a week, reached in the period to June 19, 2022. The highest it reached last year was $2 billion a week in the period to Oct. 22.

During the first four weeks after the Group of Seven nations' price cap on Russian crude exports came into effect in early December 2022, the value of seaborne flows fell to a low of $930 million a week, but soon recovered.



The chart above shows a gross value of Russia's seaborne oil exports on a weekly and four-week average basis. The value is calculated by multiplying the average weekly crude price from Argus Media Group by the weekly export flow from each port. For shipments from the Baltic and Arctic ports we use the Urals FOB Primorsk dated, London close, midpoint price. For shipments from the Black Sea we use the Urals Med Aframax FOB Novorossiysk dated, London close, midpoint price. For Pacific shipments we use the ESPO blend FOB Kozmino prompt, Singapore close, midpoint price.

Export duty was abolished at the end of 2023 as part of Russia's long-running tax reform plans.

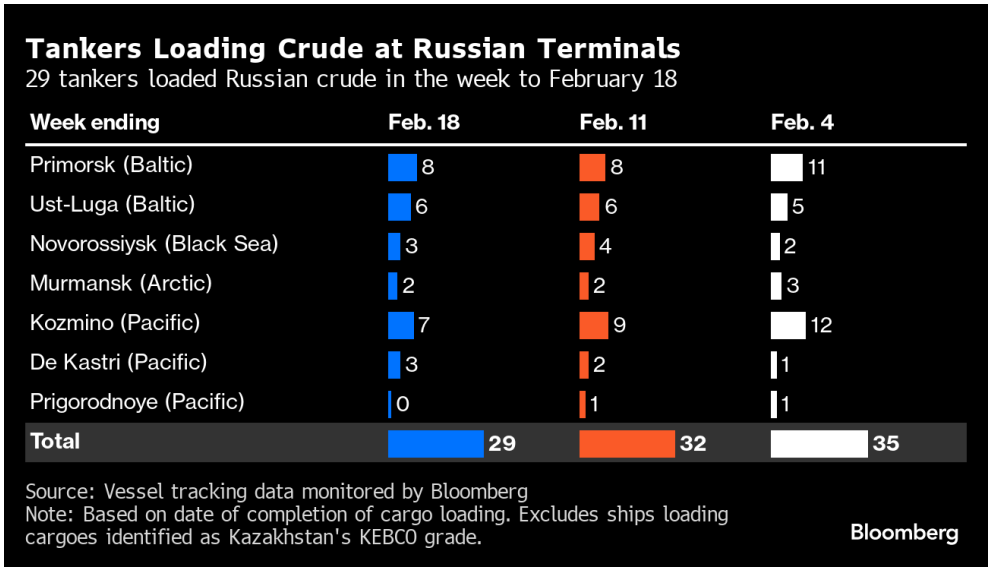
Ships Leaving Russian Ports

The following table shows the number of ships leaving each export terminal.

A total of 29 tankers loaded 21.9 million barrels of Russian crude in the week to Feb. 18, vessel-tracking data and port agent reports show. That was down by about 2.5 million barrels from the previous week.

Shipments from Russia's Pacific terminal at Kozmino slipped for a second week.

All seven of the specialized shuttle tankers that haul Sokol crude from the De Kastri export terminal now have cargoes on board, leaving none available to take on fresh cargoes. Three are now heading to ports in China after spending as much as two-and-a-half weeks anchored off the South Korean port of Yeosu, where cargoes are typically transferred onto other ships for onward delivery to India. A lack of available shuttle tankers is likely to hit exports of Sokol crude for at least the next week, if not longer.



All figures exclude cargoes identified as Kazakhstan's KEBCO grade. Two cargoes of KEBCO was loaded at Novorossiysk during the week.

NOTES

Note: This story forms part of a weekly series tracking shipments of crude from Russian export terminals and the gross value of those flows. Weeks run from Monday to Sunday. The next update will be on Tuesday, Feb. 27.

Note: All figures exclude cargoes owned by Kazakhstan's KazTransOil JSC, which transit Russia and are shipped from Novorossiysk and Ust-Luga as KEBCO grade crude.

If you are reading this story on the Bloomberg terminal, click here for a link to a PDF file of four-week average flows from Russia to key destinations.

--With assistance from Sherry Su.

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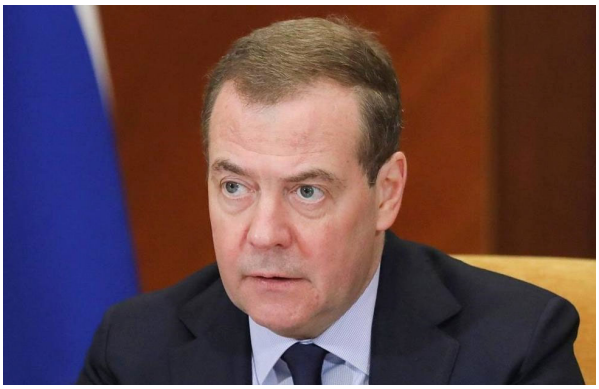
https://tass.ru/politika/20018595 18 February, 03:35, Updated February 18, 04:31

Medvedev: Russia will use its entire arsenal in case of attempts to return it to the borders of 1991



Deputy Chairman of the Security Council of the Russian Federation Dmitry Medvedev
© Ekaterina Shtukina/POOL/ TASS

The Deputy Chairman of the Security Council of the Russian Federation noted that "nuclear powers have never lost to anyone" wars, "in which the defense of their Fatherland, their land and their people, their values takes place

MOSCOW, February 18. /TASS/. Attempts to return the Russian Federation to the borders of 1991 will lead to a global war with the West and strikes on Berlin, London, Washington and other targets. Deputy Chairman of the Security Council of the Russian Federation Dmitry Medvedev wrote about this in the Telegram channel.

He noted that "nuclear powers have never lost to anyone" wars "in which the defense of their Fatherland, their land, people and values takes place.

"Attempts to bring Russia back to the 1991 borders will only lead to one thing. To a global war with Western countries with the use of the entire strategic arsenal of our state. In Kyiv, Berlin, London, Washington. For all other beautiful historical places that have long been included in the flight goals of our nuclear triad," Medvedev stressed. "So it's better to let them return everything before it's too late. Or we will return it ourselves with maximum losses for the enemy. Like Avdiivka. Our soldiers are heroes!" wrote the deputy chairman of the Security Council of the Russian Federation.

The politician noted that his recent assertion that a nuclear power cannot lose a war has been followed by comments that even the United States has lost wars. "This is a blatant lie. I wasn't talking about Vietnam, Afghanistan, or dozens of other places where the Americans waged colonial wars of conquest. I wrote about historical wars," he wrote, explaining that he meant those cases when the fate of the state itself is at stake. According to Medvedev, he was forced to return to this topic by the statements of such figures as German Defense Minister Boris Pistorius and British Defense Secretary Grant Shapps, who claim that "the world cannot afford a Russian victory in this war."

Medvedev suggested for a moment to imagine that the Russian Federation lost, and "Ukraine with its allies" won. "What would be such a victory for our enemies – the neo-Nazis with their Western sponsors? Well, as it has been said many times, a return to the borders of 1991. That is, the direct and irreversible collapse of today's Russia, which, according to the constitution, includes new territories. And then there was a fierce civil war with the final disappearance of our country from the map of the world. Tens of millions of victims. The death of our future. The collapse of everything in the world," the politician described the apocalyptic picture. He asked a rhetorical question whether the mentioned figures really believe that the people of the Russian Federation will swallow such a division of their country and will reason something like this: "Well, alas, it happened. They won. Today's Russia has disappeared. It's a pity, of course, but we have to go on living in a collapsing, dying country, because a nuclear war is much more terrible for us than the death of our loved ones, our children, our Russia..."? The deputy head of the Security Council of Russia also invited his opponents to seriously think about whether the hand of the leadership of the state, headed by the Supreme Commander-in-Chief of the Armed Forces of the Russian Federation, will tremble in such a situation.

Medvedev is convinced that "it will be completely different." He warned that the consequences of the collapse of the Russian Federation would be much more terrible than the results of "an ordinary, even the most protracted war." Medvedev noted that the answer to the question of whether the Russian leadership will have the courage to deliver such blows if the disappearance of the thousand-year-old country is at stake is obvious.

Iraq Promises Better OPEC+ Compliance After Output Assessment
2024-02-19 11:32:34.761 GMT

By Salma El Wardany
(Bloomberg) -- Iraq will improve its compliance with OPEC+ output cuts after it completes a review of external estimates of its production, Iraqi Oil Minister Hayyan Abdul Ghani said in an interview in Cairo.
* NOTE: Data compiled by OPEC from external estimates — known as secondary sources — indicate that Iraq pumped 4.19m b/d in January, or 190,000 above its limit. The minister said last week that the country is producing no more than its quota of 4m b/d. Iraq has in the past disputed OPEC+'s assessment of its crude output
* "There will be a commitment and a tweaking of the amounts after reviewing the secondary sources," the minister said
* The minister doesn't think there's a need for OPEC+ to extend cuts, which are in place until the end of the first quarter, but Iraq will comply with whatever the group decides
* Separately, he said he expects an agreement with Kurdistan on resuming oil production from the semi-autonomous region in one or two weeks, and eventually the restart of exports through a pipeline to Turkey

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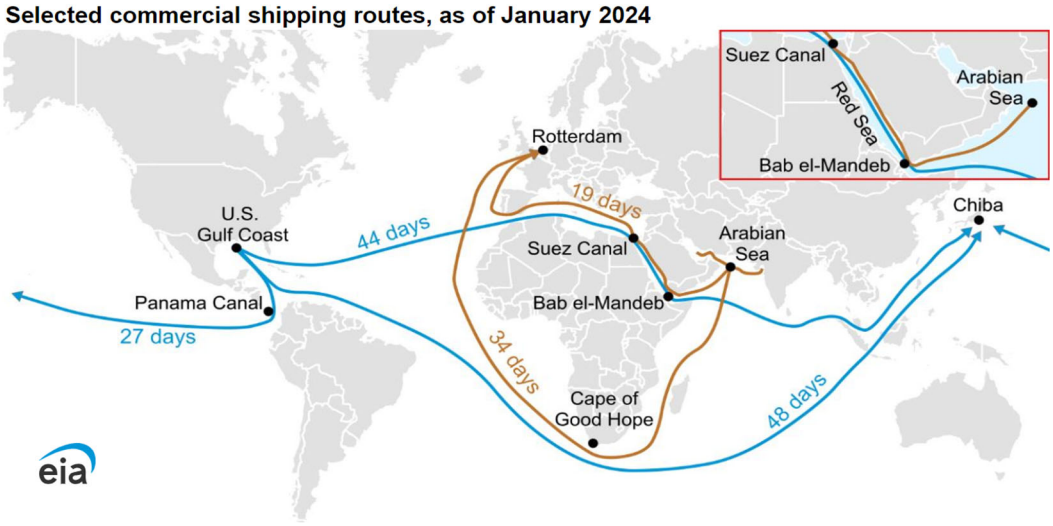
https://www.eia.gov/todayinenergy/detail.php?id=61363

FEBRUARY 1, 2024

Red Sea attacks increase shipping times and freight rates



Data source: U.S. Energy Information Administration using calculations from Vortexa
Note: Voyage time is calculated for laden Suezmax tankers traveling at 14 knots without extended chokepoint delays.

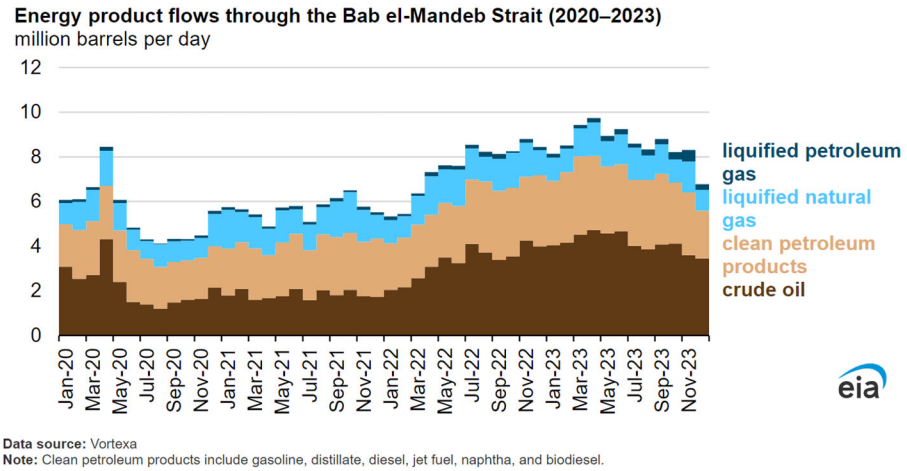
After Yemen-based Houthi militia attacks on commercial ships transiting the Red Sea started in November 2023, some vessels began opting to avoid the Bab el-Mandeb chokepoint—a narrow strait that borders the Yemeni coast and is the southern entrance to the Red Sea. Instead, they're choosing to take longer, more costly routes around the tip of Africa.

Ships transiting between Europe and Asia via the Suez Canal must pass through the Bab el-Mandeb Strait, which connects the Red Sea to the Gulf of Aden. The Bab el-Mandeb Strait is an important oil and natural gas chokepoint, accounting for 12% of seaborne oil trade and 8% of liquefied natural gas (LNG) trade in the first half of 2023. Major oil and natural gas companies that are avoiding the Red Sea include Equinor, which operates mostly natural gas carriers, and bp, which operates both oil and natural gas carriers. As of January 23, 2024, other major energy companies pausing Red Sea transits include Euronav, QatarEnergy, Torm, Shell, and Reliance.

Vessels that do not pass through the Suez Canal via the Bab el-Mandeb Strait and Red Sea can go around southern Africa via the Cape of Good Hope, but that route can add significant time to the voyage, depending on the ship's origin and its destination. A typical voyage from the Persian Gulf to the Amsterdam-Rotterdam-Antwerp petroleum trading hub (ARA) via the Suez Canal takes 19 days. If the ship takes the Cape of Good Hope route, it takes nearly 35 days to reach the ARA. For products leaving the U.S. Gulf Coast and heading toward Asia, vessels typically pass through the Panama Canal, which is nearly a month-long trip. Due to the ongoing drought and restrictions at the Panama Canal, more Very Large Gas Carriers (VLGCs), which primarily carry propane and butane, started going through the Suez Canal. Now some of these VLGCs are going around the Cape of Good Hope. A journey from the U.S. Gulf Coast to Chiba in Japan through the Suez Canal adds about 17 days and one through the Cape of Good Hope adds about 21 days, compared with going through the Panama Canal.

Longer routes put upward pressure on freight rates because of fuel costs and fewer available ships. A VLGC, for example, consumes about $30,000 to $35,000 worth of fuel per day if using high-sulfur bunker fuel at average 2023 prices. In addition to adding to fuel costs, a longer voyage requires more

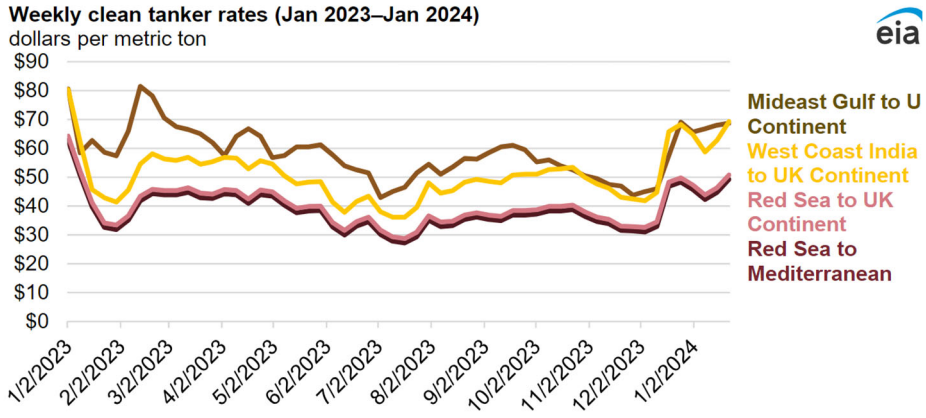
ships to maintain the same delivery schedule, and fewer available ships contribute to higher tanker rates and costs.



Data source: Vortexa
Note: Clean petroleum products include gasoline, distillate, diesel, jet fuel, naphtha, and biodiesel.

After the attacks began in November, flows of oil, refined products, and natural gas passing through the Bab el-Mandeb Strait slowed. About 18% less crude oil flowed through the Bab el-Mandeb in December than on average from January to November 2023. Most crude oil trade that goes through the Bab el-Mandeb Strait leaves Russia and Iraq en route to Asia and the Mediterranean, respectively. Clean petroleum product flows through the Bab el-Mandeb Strait were 30% lower in December than the rest of 2023. The majority of petroleum product trade leaves Saudi Arabia and India bound for Europe and leaves Russia bound for Asia.

In December, 24% less LNG and 1% more liquefied petroleum gas (LPG) were traded globally compared with the rest of 2023. Vessel restrictions at the Panama Canal due to a drought are causing more VLGCs leaving from the United States to head east toward either the Suez Canal or the Cape of Good Hope. LPG flows through the Bab el-Mandeb increased by 59% in 2023 compared with 2022 because water conservation efforts at the Panama Canal began in January 2023, causing delays and higher costs for VLGCs. The Combined Maritime Forces, a partnership representing 39 nations, warned ships to avoid the Bab el-Mandeb Strait on January 12, which will likely reduce passages through January 2024.



Data source: Argus Freight
Note: Rates are for long-range 1 tankers, except the Mideast Gulf to UK Continent rates, which are for medium-range tankers.

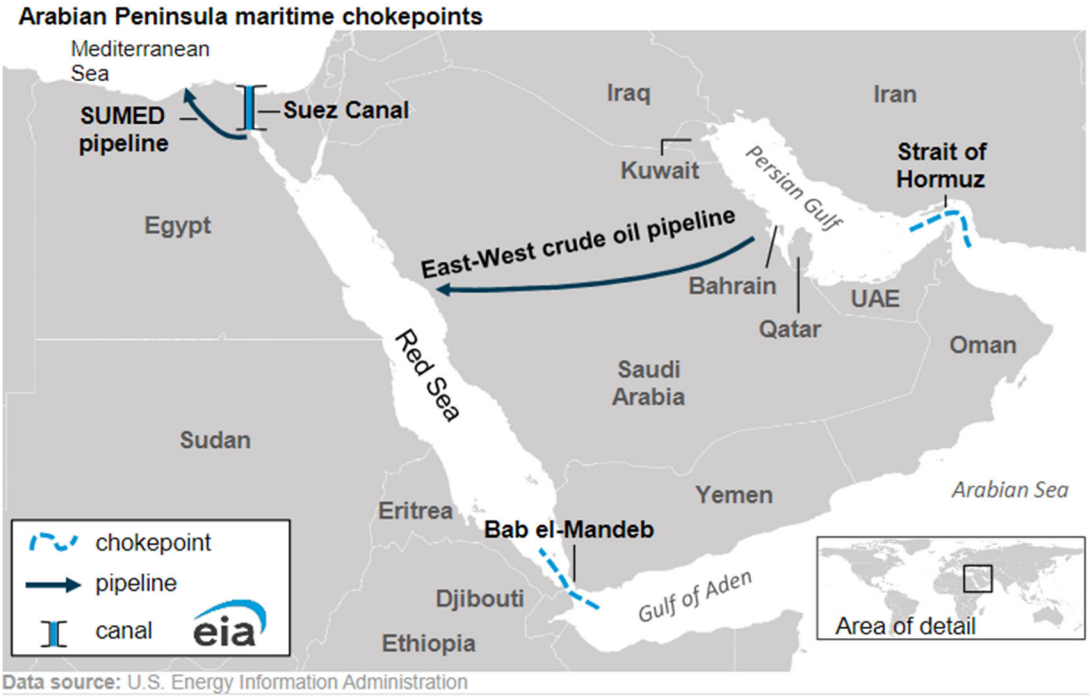
Clean petroleum product tanker rates for routes that cross the Bab el-Mandeb Strait and Suez Canal increased in December 2023 because of the ongoing conflict in the Red Sea. Because routes going through the Red Sea have elevated risk insurance premiums, these costs are passed on to tanker rates. For the four tanker rates that pass through the Red Sea, the average increase was 20% in December compared with November, according to Argus Freight. Long-range 1 tankers traveling from the western coast of India to the UK Continent increased the most (23%), and tankers traveling from the Mideast Gulf to the UK Continent increased the least (16%). Rates for dirty tankers, which mostly transport crude oil, have been relatively unchanged from the elevated prices in November.
Brent crude oil spot prices for the week ending November 17, 2023, the week before attacks on ships in the Red Sea began, were $82 per barrel (b). Since then, prices have traded in range, and they closed at $79/b as of January 18, 2024.

Principal contributor: Josh Eiermann

https://www.eia.gov/todayinenergy/detail.php?id=61025

DECEMBER 4, 2023

Red Sea chokepoints are critical for international oil and natural gas flows



Data source: U.S. Energy Information Administration

The Suez Canal, the SUMED pipeline, and the Bab el-Mandeb Strait are strategic routes for Persian Gulf oil and natural gas shipments to Europe and North America. Total oil shipments via these routes accounted for about 12% of total seaborne-traded oil in the first half of 2023, and liquefied natural gas (LNG) shipments accounted for about 8% of worldwide LNG trade.

The Suez Canal and SUMED pipeline are located in Egypt and connect the Red Sea with the Mediterranean Sea. The SUMED pipeline transports crude oil north through Egypt and has a capacity of 2.5 million barrels per day. The Bab el-Mandeb Strait is between the Horn of Africa and the Middle East, connecting the Red Sea to the Gulf of Aden and Arabian Sea. Most exports of petroleum and natural gas from the Persian Gulf to Europe and North America pass through multiple chokepoints, including the Suez Canal or the SUMED pipeline and both the Bab el-Mandeb and the Strait of Hormuz.

Volume of crude oil, condensate, and petroleum products transported through the Suez Canal, SUMED pipeline, and Bab el-Mandeb Strait (2018–1H23)
million barrels per day

	2018	2019	2020	2021	2022	1H23
Total oil flows through Suez Canal and SUMED pipeline	**6.4**	**6.2**	**5.3**	**5.1**	**7.2**	**9.2**
crude oil and condensate	3.4	3.1	2.6	2.2	3.6	4.9
petroleum products	3.0	3.1	2.6	2.9	3.6	4.3
LNG flows through Suez Canal (billion cubic feet per day)	**3.3**	**4.1**	**3.7**	**4.5**	**4.5**	**4.1**
Total oil flows through Bab el-Mandeb Strait	**6.1**	**5.9**	**5.0**	**4.9**	**7.1**	**8.8**
crude oil and condensate	**3.0**	**2.7**	**2.2**	**1.9**	**3.3**	**4.5**
petroleum products	**3.1**	**3.2**	**2.8**	**3.1**	**3.8**	**4.4**
LNG flows through Bab el-Mandeb Strait (billion cubic feet per day)	**3.1**	**3.9**	**3.7**	**4.5**	**4.5**	**4.1**

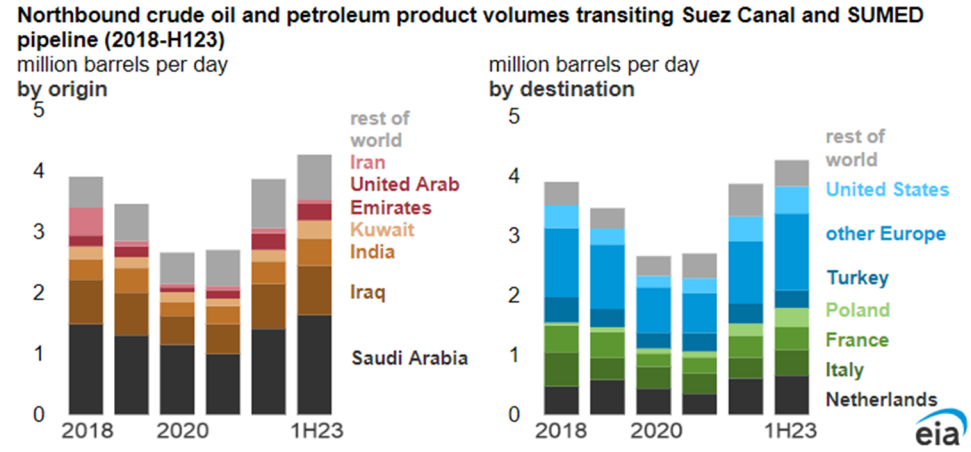
Data source: U.S. Energy Information Administration analysis based on Vortexa tanker tracking
Note: LNG=liquefied natural gas, 1H23=first half of 2023

Oil shipments

Northbound oil flows toward Europe via the Suez Canal and SUMED pipeline fell between 2018 and 2020. Renewed U.S. sanctions on

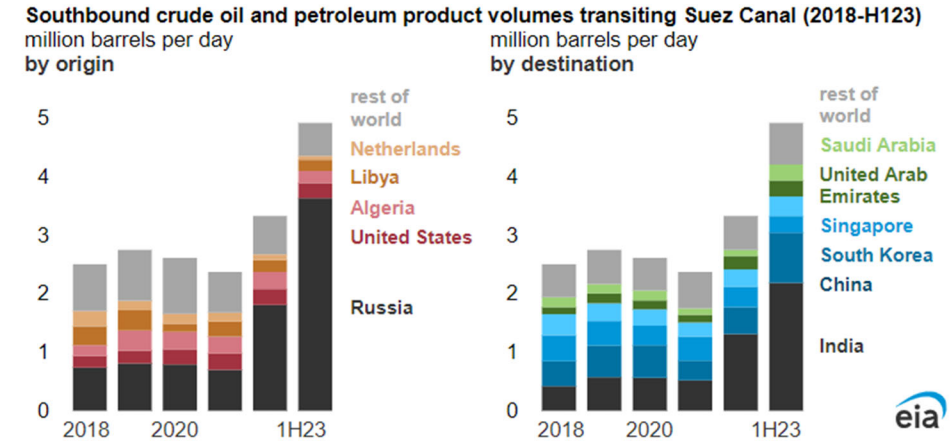
Iran reduced all exports from Iran, including those through the Suez Canal. In addition, less crude oil and oil products from Middle East producers moved through the Suez Canal because Europe imported less oil from the Middle East and more from the United States. The COVID-19 pandemic further reduced flows through the Suez Canal because of slowing global oil demand.

In the first half of 2023, northbound crude oil flowing through the Suez Canal and SUMED pipeline had increased by more than 60% from 2020, as demand in Europe and the United States rose from pandemic-induced lows. Also, Western sanctions on Russia's oil beginning in early 2022 shifted global trade patterns, leading Europe to import more oil from the Middle East via the Suez Canal and SUMED pipeline and less from Russia.



Data source: U.S. Energy Information Administration analysis based on Vortexa tanker tracking
Note: 1H23=first half of 2023.

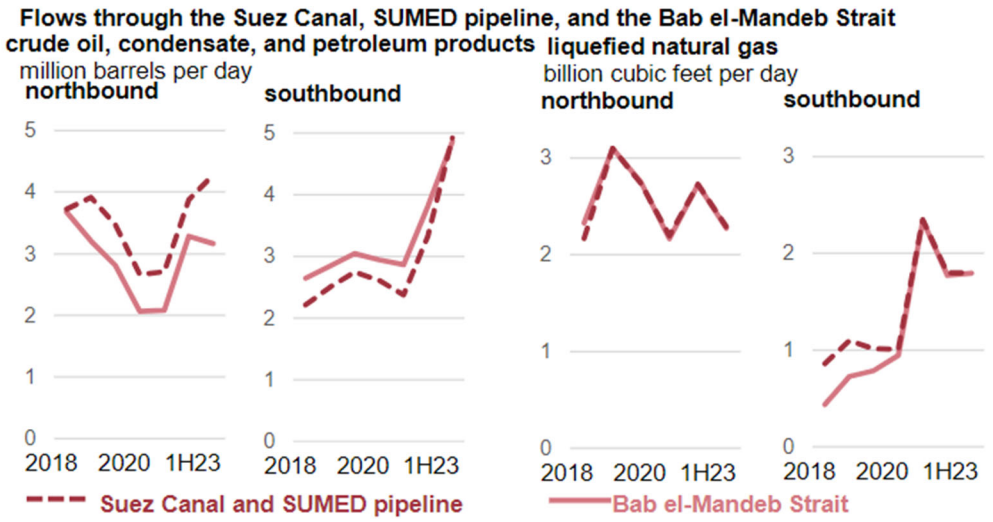
Southbound shipments through the Suez Canal rose significantly between 2021 and 2023, largely because of Western sanctions on Russia's oil exports. Oil exports from Russia accounted for 74% of Suez southbound oil traffic in the first half of 2023, up from 30% in 2021. Most of those export volumes were destined for India and China, which imported mostly crude oil from Russia. The Middle East, primarily Saudi Arabia and the United Arab Emirates, increased imports of refined oil products from Russia in 2022 and the first half of 2023 in order to generate electric power or to store or re-export.



Data source: U.S. Energy Information Administration analysis based on Vortexa tanker tracking

LNG shipments

LNG flows through the Suez Canal in both directions rose to a combined peak in 2021 and 2022 of 4.5 billion cubic feet per day (Bcf/d) before total flows declined in the first half of 2023 to 4.1 Bcf/d. Southbound LNG flows more than doubled from 2020 to 2021, mainly driven by growing exports from the United States and Egypt heading to Asia. In 2022 and the first half of 2023, southbound LNG volumes via the Suez Canal declined as U.S. and Egyptian LNG exports both favored European destinations over Asian markets, supplanting some of the natural gas exports that Russia historically sent to Europe. Most of the variation in northbound volumes reflects changes in Qatar's exports to Europe (via the Suez Canal) compared with Asia. Qatar also sent more LNG to Europe in 2022 to replace some volumes from Russia, increasing northbound flows.



Data source: U.S. Energy Information

Although oil flow trends through the Bab al-Mandeb Strait are similar to those of the Suez Canal, more oil exits the Red Sea (northbound via the Suez Canal and southbound via the Bab el-Mandeb Strait) than enters the Red Sea through these chokepoints. Saudi Arabia transports some crude oil from the Persian Gulf via pipeline to the Red Sea for export mostly to Europe. LNG flows through the Bab el-Mandeb Strait have matched those in the Suez Canal over the last few years because the few LNG import terminals in the Red Sea have been used less.

Principal contributors: Candace Dunn, Justine Barden

https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/energy-transition/120423-cop28-saudi-aramco-ceo-says-fossil-fuel-investment-more-viable-than-renewables-to-meet-demand

- 04 Dec 2023 | 17:18 UTC

COP28: Saudi Aramco CEO says fossil fuel investment more viable than renewables to meet demand

HIGHLIGHTS

Fossil fuel investment down 40% from 2014 levels: Nasser

Q4 2023 oil demand set to be higher than Q4 2019

Renewables, hydrogen not viable in the short term, he says

- Author Jennifer Gnana
-

Saudi Aramco's CEO Amin Nasser on Dec. 4 called for more investment in oil compared to renewables to meet energy demand growth.

"If you look at this quarter, there is 103 million b/d of demand, compared to 2019 where we were running around 100 million b/d," Nasser told the Saudi Green Initiative, a side event at COP28 UN climate summit in Dubai, where fossil fuel companies have called for a seat at the table to discuss their contributions to the future energy mix.

"We anticipate there is going to be further growth in demand going forward and as such you need that investment to meet the call on our production and at the same time manage the decline in existing fields," he added.

Nasser's call for greater investment in fossil fuels is at odds with climate activists and observers at the United Nations Framework Convention on Climate Change event, who have questioned the sensibility of fossil fuel producers such as the UAE hosting climate talks.

Saudi Aramco has exclusive rights to produce crude oil within Saudi Arabia, pumping some 9-11% of global supply, depending on the kingdom's production quota under the OPEC+ accord. At the moment, Saudi Arabia has agreed to hold output at 9 million b/d, as the OPEC+ alliance seeks to bolster flagging prices, leaving some 3 million b/d of capacity offline.

According to S&P Global Commodity Insights, global oil demand is set to reach pre-pandemic levels for the first time in 2023 and hit an all-time high of 105 million b/d in 2025.

S&P Global forecasts global oil demand to be "solid" in the fourth quarter of this year with a 2.4 million b/d increase on the year. Mild-to-average global recession is set to slow growth to 1.2 million b/d for 2024, according to estimates.

Expensive hydrogen

Saudi Aramco's chief called for more investment in fossil fuels while dismissing the short-term viability of renewables due to what he suggested were higher costs and low demand for clean energy.

"I think we need more investment," Nasser said citing a 40% decline in investment in fossil fuels from 2014 levels.

"If you look at existing fields today and the level of maturity that we're seeing in conventional and unconventional resources, you're looking at a 7% decline," he added.

Saudi Aramco is currently boosting domestic oil production capacity to 13 million b/d by 2027 from around 12 million b/d presently. The company is also committed to reaching net-zero emissions by 2050, with projects underway to capture and store carbon dioxide from upstream processes, as well as investments in renewables and hydrogen.

It has said its capital expenditures for 2023 will be between $48 billion to $52 billion, with Q3 spending at $11 billion, an increase over the $9 billion spent in the same quarter of 2022.

"We're investing in renewables, hydrogen, e-fuels and all of that, but still you need a lot more investment and it needs to pass a certain threshold to make it commercial," Nasser said.

"Hydrogen now is waiting for demand. Demand is still not there for obvious reasons: it is expensive. At the same time, we need to continue to invest in oil and gas because there is more demand," he added.

Exxon's Math Calls For Overall Global Oil Decline Rate of ~7%, A Very Bullish Argument For Post 2020 Oil Prices

Posted: Thursday June 20, 2019. 5:30pm Mountain

We believe Exxon presented a very bullish argument for oil prices beyond 2020 and that it has been overlooked because most readers only flip thru a slide deck and don't listen to or read transcripts of management's spoken words. Exxon's spoken words highlighted one of the forgotten (and perhaps most important) oil supply/demand concerns for post 2020 - the mid term challenge to replace increasing rate of overall global oil declines. And what is eye opening is Exxon's estimated overall global oil decline rate, which is way higher than any we can ever remember seeing. Its impossible to tell from the small oil supply/demand graph in the slide deck, but Exxon's spoken words says long term oil demand is 0.7% per year and then "*When you factor in depletion rates, the need for new oil grows at close to 8% per year and new gas at close to 6% per year*." Exxon may not specifically say what the global decline rate is, but their math is that the world needs new oil supply to grow annually at close to 8% to meet the 0.7% annual increase in oil demand and offset declines ie. an overall global decline rate of approx. 7%. This is an overall global oil decline rate for OPEC and non-OPEC. This compares to BP's estimate of overall global oil decline rate of 4.5% and we expect most are probably assuming something around 5%, certainly not above 6%. No one should be surprised by the increased decline rate given that high decline US shale and tight oil have increased by ~2.5 mmb/d in the last ~2 years. But an implied ~7% overall global oil decline rate is way higher than expectations. There is a big difference between needing to offset oil declines of ~7 mmb/d vs declines of ~4.5 mmb/d ie. an additional 2.5 mmb/d of new oil supply every year. Even if the implied difference was to 6%, it would still be an additional 1.5 mmb/d of new oil supply and that would also be very bullish for post 2020 oil. We recognize that the 2019/2020 oil supply demand story is the need for OPEC+ to keep cuts thru 2020, but Exxon's math implying ~7% overall global oil decline rate sets up a very bullish view for oil post 2020. We believe the reality to replace oil declines post 2020 is overlooked.

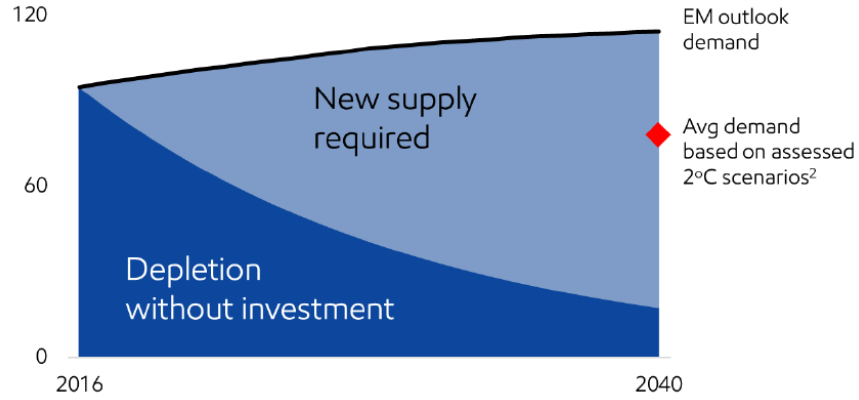
The 2019/2020 oil story - oil inventories still above the 5 yr ave and OPEC+ need to work together in 2020. There is increasing geopolitical risk to oil in a range of regions (Iran/Saudi Arabia, Libya, Venezuela, etc.) yet the prevailing tone to oil in the past month is negative with the concerns on trade wars/lower economic growth leading to weakness in oil demand. This was reinforced in the past week with the view that there is the need for OPEC+ to continue to work together in H2/19 and in 2020. Our SAF June 16, 2019 Energy Tidbits memo [LINK] reviewed the IEA's new monthly Oil Market Report [LINK], which included (i) "*OECD oil stocks remain at comfortable levels 16 mb above the five-year average"*, (ii) the EIA lowered its 2019 oil demand growth rate by 0.1 mmb/d to +1.2 mmb/d, and (iii) a negative first look at 2020 oil supply/demand. The EIA's first 2020 forecast puts more pressure on OPEC+ to continue with cuts through 2020. IEA says oil demand growth rate will grow from +1.2 mmb/d in 2019 to +1.4 mmb/d in 2020. This is a positive, however, it is more than offset as the IEA forecasts another year of big non-OPEC oil supply growth of +2.3 mmb/d in 2020. In theory a lesser call on OPEC of 0.9 mmb/d. The IEA writes "*A clear message from our first look at 2020 is that there is plenty of non-OPEC supply growth available to meet any likely level of demand, assuming no major geopolitical shock, and the OPEC countries are sitting on 3.2 mb/d of spare capacity".*

Exxon sees modest annual growth in oil demand, but peak oil demand sometime after 2040. Exxon presented at a US sellside energy conference on Tues. We expect a big reason why Exxon's oil outlook was ignored was that the presentation was almost all about providing a great detailed look at the Guyana oil play. Plus its headline annual growth rate for oil demand of 0.7% per year wouldn't have made anyone bullish, if anything maybe even more so so on oi. Exxon only provided some brief comments on their oil supply and demand outlook. Exxon said *"In this scenario, oil demand is expected to grow 0.7% per year, driven by commercial transportation and chemical"*. This compares to 2018 oi demand growth of 1.45% and even this year's lower oil demand growth rates of 1.15%. However, we recognize it is tough to get data from a small graph, but a positive tn the graph is that it seems to indicate that peak oil demand doesn't happen before 2040.

However, Exxon says new oil supply of 8% per year is needed to meet demand growth and offset decline rates. On one hand, we continue to be surprised that Exxon's view on new oil supply has received no attention. On the other, it makes sense because the vast majority of readers only flip thru a slide deck so will miss the spoken word that gives numbers and context to a slide. That was clearly the case with the Exxon presentation. If Exxon is anywhere near right, this is a hugely bullish view for mid/long term oil ie post 2020 oil. Exxon highlighted one of the forgotten oil supply/demand concerns is

the mid term challenge to replace global oil declines. And what is eye opening is Exxon's estimated decline rate, which is way higher than any we can ever remember seeing. Exxon says long term oil demand is 0.7% per year and then says "*When you factor in depletion rates, the need for new oil grows at close to 8% per year and new gas at close to 6% per year*." Exxon didn't specifically say that the overall global decline rate was ~7%, but the math looks straightforward. The world needs new oil supply to growth at close to 8% per year to meet 0.7% annual demand growth and to offset declines in global (OPEC and non-OPEC) oil production ie. the overall global oil decline rate is approx. 7%. This is an overall OPEC and non-OPEC global decline rate.

Oil Supply/Demand (moebd)

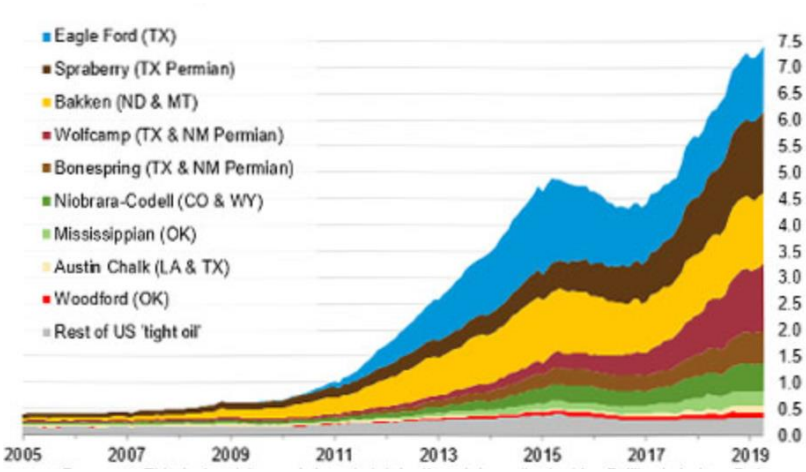


Source: Exxon US Sellside Conference Presentation June 18, 2019

Implies a huge overall global decline rate of ~7% - way higher than other estimates. It may well be the case that forecasters haven't updated their global oil decline models to reflect the impact of the US adding ~2.5 mmb/d of high decline shale and tight oil in the past two years. But we aren't aware of anyone who is using an overall global oil decline rate as high as 7%. We have seen estimates for 7% for decline rates for non-OPEC oil, but not for the decline rates overall for global oil. Rather, we expect that most have been assuming overall global oil decline rates of 4% to 5%. Later in the blog, we note our peak oil demand comment from Nov 6, 2017 (prior to the big ramp up in US shale and tight oil) that used Core Laboratories spring 2017 estimate for overall global oil decline of ~3.3%.

Exxon's global leadership position, especially in shale, is why we should pay attention to this view of significantly higher global oil decline rates. Everyone knows Exxon is the largest public international oil company and is in all major oil regions and all types of plays from conventional, oil sands, middle east, deepwater oil and shale oil, We believe that Exxon is viewed as the global leader in the Permian, and this shale oil leadership is critical to understand as we believe that the growth of US shale is the key reason for the increasing overall global oil decline rates. Exxon's shale oil leadership is why we should be paying attention to this estimate. The game changer to global oil decline rates has been the increasing oil production from high decline US shale and tight oil. The EIA estimates [LINK] that US shale and tight oil plays are up over 6 mmb/d this decade and ~2.5 mmb/d n the past two years alone.

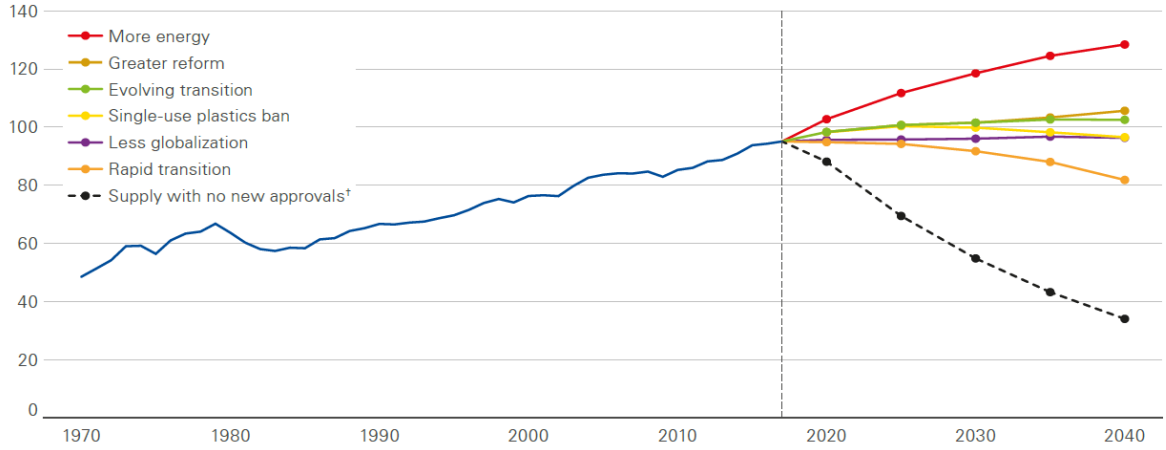
US Tight Oil Production – Selected Plays (Million barrels of oil per day)



Source: EIA

BPs recent forecast for overall global oil decline rate is 4.5% per year. BP's Energy Outlook 2019 Edition (Feb 14, 2019) [LINK] included their outlook for oil supply and demand and specifically on overall global oil decline rates. BP wrote "*Second, significant levels of investment are required for there to be sufficient supplies of oil to meet demand in 2040. If future investment was limited to developing existing fields and there was no investment in new production areas, global production would decline at an average rate of around 4.5% p.a. (based on IEA's estimates), implying global oil supply would be only around 35 Mb/d in 2040."* Below is the graph from their Energy Outlook 2019 Edition report.

Demand and Supply of Oil (Mbd)



Source: BP Energy Outlook 2019 Edition

If Exxon is anywhere close, this is a hugely bullish signal for mid/long term oil ie. post 2020 oil. We recognize that this significantly higher than expected overall global oil decline rate will take a year or two to work thru the current supply/demand fundamentals given where markets are today. However, over the mid term, the need to add ~7 mmb/d of new oil supply is a huge challenge for the world. The difference between an Exxon type view of ~7% declines vs BP's 4.5% declines is approx. 2.5 mmb/d of an additional new oil supply every year is needed to balance the markets. In reality, even if Exxon's implied overall global decline rate was ~6%, it would still be very bullish for mid/long term oil as this means an additional ~1.5 mmb/d of new global oil supply per year.

Its even more bullish for post 2020 oil than we thought in our Nov 6, 2017 peak oil demand blog. We have always been in the camp that believes peak oil demand is coming, but we have also been of the view that the post 2020 challenge to replace oil declines would be getting tougher. We believe Exxon's view of higher global oil decline rates is consistent with the ~2.5 mmb/d increase in US shale and tight oil in the past two years. And is way more bullish than we wrote in our Nov 6, 2017 blog "*Peak Oil Demand Is Coming, But >4 Mmb/d Of New Oil Supply Will Be Needed Every Year To Replace Declines To Get There*" [LINK], and "*We buy into the narrative of peak oil demand, believe it is inevitable, its visible and will happen before 2030. Peak oil demand will be from the cumulative impact of a number of factors including EVs, battery/storage, LNG for power, LNG for transportation, increased energy efficiency, etc. But the peak oil demand narrative forgets the most basic fundamentals of oil – industry has to add new oil supply every year to replace declines just to keep production flat. Even after today's big oil rally, long dated strips are still under $52 from 2020 thru 2025. We don't believe long dated 2020 thru 2025 strips are predictive of future prices or indicative of the marginal supply costs to add 4 to 5 million b/d every year in 2020 to 2025 or to add >3 million b/d every year once peak oil demand is reached and is in plateau. We believe these marginal supply costs are significantly higher and >$60. We believe oil can quickly move to a base of >$60 with this supply challenge and there will be longevity to this call as markets appreciate this challenge and that the marginal supply cost to add this much new oil production every year is well over $60. Peak oil demand won't take away from the challenge to add significant new oil production every year."* Note that our Nov 6, 2017 blog was based on the spring 2017 Core Laboratories estimate that the global world wide annual decline rate in oil was then 3.3%. But to Core Laboratories support, this estimate would have been before the ~2.5 mmb/d of added US shale and tight oil in the past two years.

https://www.rudaw.net/english/business/16022024

Oil producers ask US to discuss Kurdistan exports with PM Sudani

16-02-2024

ERBIL, Kurdistan Region - Oil producers in the Kurdistan Region on Friday called on US officials at the Munich Security Conference to encourage the Iraqi prime minister to reopen the pipeline with Turkey and allow for oil exports from the Kurdistan Region.

In a statement, the Association of the Petroleum Industry of Kurdistan (APIKUR) called for “urgent” action by the US Congress and the White House to facilitate the reopening of the Ceyhan pipeline between Turkey and Iraq.

APIKUR called on US officials present at the Munich Security Conference to use the “prime opportunity” presented by the event to discuss the issue directly with Iraqi Prime Minister Mohammed Shia’ al-Sudani, who is also present.

“Congressional action is imperative to influence Iraqi leaders to immediately resolve oil and budget issues that are harming Iraq’s economy and regional security interests,” APIKUR spokesperson Myles Caggins said.

The Kurdistan Region's oil exports through Turkey's Ceyhan port are yet to resume after being put on hold in late March following a ruling from a Paris-based arbitration court saying that Ankara had breached its 1973 pipeline agreement with Baghdad.

“We request your immediate assistance to pressure the Government of Iraq (GoI) to promptly take the steps required to reopen the Iraqi-Türkiye pipeline that serves as Kurdistan’s economic lifeline,” APIKUR said in a letter to the US House of Representatives on Monday.

Erbil and Baghdad have held numerous meetings since, but to no avail. In December, APIKUR said it had been excluded from the talks.

Before the halt, around 400,000 barrels a day were being exported by Erbil through Ankara, in addition to some 75,000 barrels of Kirkuk’s oil.

The loss in oil revenues, the KRG’s main source of income, has worsened the financial situation and left the government unable to pay its public sector without assistance from Baghdad.

02/23/2024 05:26:08 [BN] Bloomberg News

OIL DEMAND MONITOR: Strength Signals Offset Macroeconomic Doubts

- Bullish mood reflected in futures spreads and long positions
- Consumption, traffic data positive; economic worries remain

By John Deane and Julian Lee

(Bloomberg) -- A clutch of indicators suggest that the global oil market is strengthening, even as macroeconomic concerns continue to cloud the outlook for growth in demand for fuels.

Timespreads for the Brent and West Texas Intermediate benchmarks have surged since the start of the year, reflecting a perception that the market is tightening, while money managers have recently added to long positions.

There are signs of strength in physical markets too. In Italy, gasoline, diesel and jet fuel sales all jumped in January, contributing to an overall 8% gain year-on-year in oil product sales, according to energy ministry data. There were similar moves in Portugal. Data from toll-roads operator Mundys Group showed year-on-year gains in traffic in Italy, Spain, Brazil, Chile and Mexico, though a decline in France.

In the skies, the latest weekly figures from FlightRadar 24 showed a healthy year-on-year gain in commercial flights globally, with air traffic also comfortably higher than pre-Covid times. US Transportation Security Administration data on passenger numbers painted a similar picture. And while Eurocontrol suggested that the continent's air traffic still trails 2019 levels, passenger numbers in China jumped to a five-month high in January, even before the travel rush associated with this month's Lunar New Year holidays.

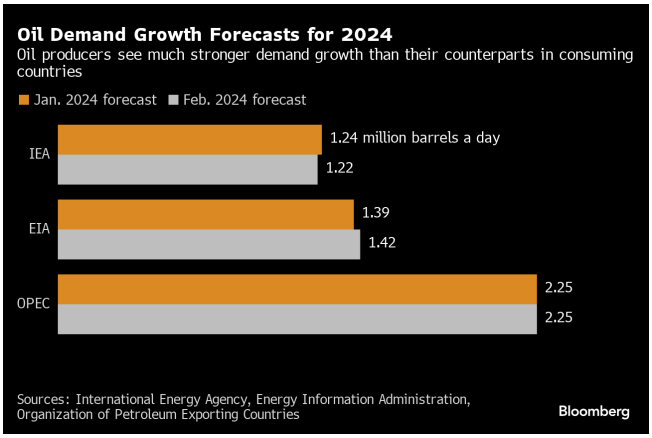
China's international air traffic is well on the road to returning to pre-pandemic levels, according to Willie Walsh, director general of the International Air Transport Association.

"I think it's only a matter of time," Walsh said in an interview with Bloomberg Television. While the numbers continue to trail 2019 levels for now, "I fully expect us to get back there during 2024; it may extend into 2025, but certainly the signs at the moment are that we should recover in 2024."

Read More: Oil Bulls Return as Markets Show Signs of Spring: Energy Daily

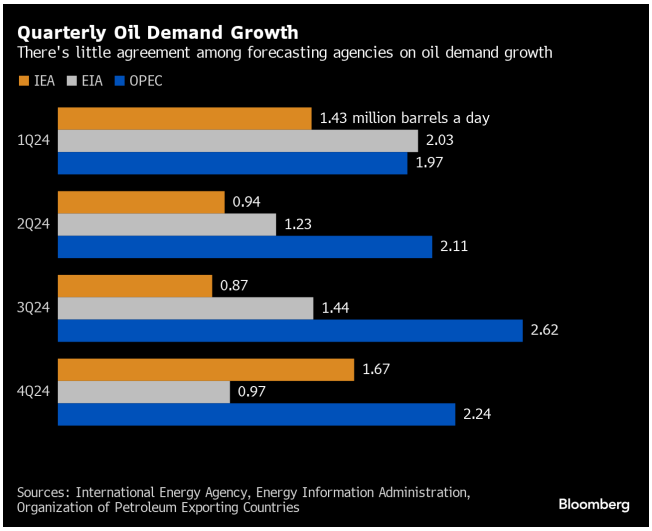
However, while they continued to see absolute demand at record levels, there's no consensus among the three major forecasting agencies – the International Energy Agency, the US Energy Information Administration and the Organization of Petroleum Exporting Countries – on the strength of demand growth this year.

The producers see another year of robust gains, forecasting an increase of about 2.25 million barrels a day. The consumer-focused groups are much more circumspect, with the IEA and the EIA both pegging growth at below 1.5 million barrels a day, a sharp slowdown from last year.

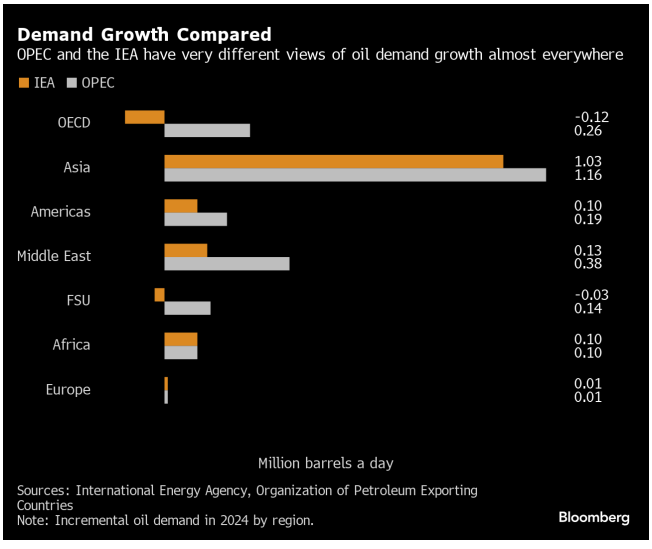


The differences are even more apparent in the quarterly figures. The IEA sees incremental demand slumping to less than 1 million barrels a day year-on-year over the two Northern Hemisphere summer quarters, before picking up to the strongest for the year in the final three months.

The EIA sees growth at its most robust in the current quarter, falling away as the year progresses. In sharp contract, OPEC has it going from strength to strength, peaking above 2.5 million barrels a day in the third quarter.



There's very little about demand growth on which the IEA and OPEC agree. A regional breakdown of forecasts shows big differences almost everywhere. But the largest in absolute terms is in their views of consumption among the developed economies of the Organization for Economic Cooperation and Development, where the IEA's forecast of demand falling year-on-year contrasts sharply with the growth seen by OPEC. The same is true for the countries of the former Soviet Union, where Russia is by far the biggest consumer. There's also a big difference in their views of demand growth in the Middle East, which OPEC sees three times as strong as the IEA.



The macroeconic picture also provides pause for thought. Europe's economy continues to stutter. In China – the biggest oil importer – it remains to be seen whether the strong travel data seen over the Lunar New Year heralds a sustained uptick in demand, or will turn out to be a blip as the Asian nation's government continues to struggle with economic ills including a housing sector slump and deflation.

Even in the US, where economic data has recently, largely come in hotter than most forecasters expected, doubts linger over how quickly the Federal Reserve will pivot to cutting interest rates. Minutes of the last meeting of the Federal Open Market Committee only reinforced expectations that borrowing costs will remain high for the foreseeable future, delaying that long-awaited boost to the world's biggest economy.

The Bloomberg oil demand monitor uses a range of high-frequency data to help identify emerging trends. Following are the latest indicators. The first table shows fuel demand, the second shows air travel globally and the third refinery activity.

Demand Measure	Location	%vs 2023	%vs 2022	% vs 2021	% vs 2020	% vs 2019	% m/m	Freq	Latest Date	Latest Value	Source

Gasoline product supplied	US	−8	−5.3	+14	−8.1	−6.8	+4.1	w	Feb. 16	8.2m b/d	EIA
Distillates product supplied	US	+4.5	−6.9	+0.2	+5.7	−6.5	+4.1	w	Feb. 16	3.94m b/d	EIA
Jet fuel product supplied	US	+7.7	−3.5	+46	+3	+1.1	−6	w	Feb. 16	1.43m b/d	EIA
Total oil products supplied	US	−6.4	−12	−8.5	−3.5	−8.9	−3.3	w	Feb. 16	18.92m b/d	EIA
Car use	UK	+1.1	+3.3	+52		−7	+2.2	m	Feb. 12	93	DfT
Heavy goods vehicle use	UK	−1	−1.9	+2		+2	unch.	m	Feb. 12	102	DfT
All motor vehicle use index	UK	+1	+4.3	+44		−2	+2.1	m	Feb. 12	98	DfT
Diesel sales	India	−3.4					+4.7	m	Feb. 1−15	3.22m tons	Bberg
Gasoline sales	India	+3.4					−2	m	Feb. 1−15	1.27m tons	Bberg
Jet fuel sales	India	+1.3					+3.9	m	Feb. 1−15	322k tons	Bberg
LPG sales	India	+3.3					+7.6	m	Feb. 1−15	1.44m tons	Bberg
Diesel sales	India	+3.5					−2.4	m	January	7.43m tons	PPAC
Gasoline sales	India	+9.7					+3.7	m	January	3.1m tons	PPAC
Jet fuel sales	India	+7.2					−0.6	m	January	716k tons	PPAC
LPG sales	India	+7.6					+2.7	m	January	2.7m tons	PPAC
Total oil products	India	+8.2					−0.1	m	January	20.04m tons	PPAC
Gasoline deliveries	Spain	+21					−7.1	m	January	512k m3	Exolum
Diesel (and heating oil) deliveries	Spain	+10					−1.5	m	January	2,288k m3	Exolum
Jet fuel deliveries	Spain	+15					−7.8	m	January	484k m3	Exolum
Total oil products deliveries	Spain	+13					−3.4	m	January	3,285k m3	Exolum
Road fuel sales	France	−1.5			−5.2		−3	m	January	3.804m m3	UFIP
Gasoline sales	France	+5.4						m	January	n/a	UFIP
Road diesel sales	France	−4						m	January	n/a	UFIP
Jet fuel sales	France	+3.5			−12		−9	m	January	586k m3	UFIP
All petroleum products sales	France	+1					−0.5	m	January	4.4m tons	UFIP
All vehicles traffic	Italy	+3					−2	m	January	n/a	Anas
Heavy vehicle traffic	Italy	+7					+7	m	January	n/a	Anas
Gasoline sales	Italy	+8.6				+12	−4	m	January	634k tons	Energy Ministry
Transport diesel sales	Italy	+11				−4.9	−0.5	m	January	1.87m tons	Energy Ministry
Diesel/gasoil sales	Italy	+11				−8	−6	m	January	2.01m tons	Energy Ministry
LPG sales	Italy	+9.5				−8.5	+9	m	January	333k tons	Energy Ministry

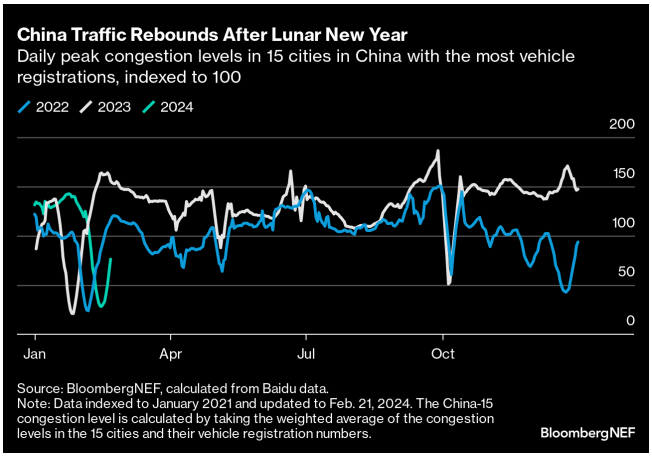
Jet fuel sales	Italy	+24				−4	−14	m		January	314k tons	Energy Ministry
Total oil product sales	Italy	+8.1				−7.5	−4	m		January	3.96m tons	Energy Ministry
Gasoline consumption	Portugal	+11	+28	+63	+9.2	+7.8	−3.6	m		January	93,376 tons	ENSE
Diesel consumption	Portugal	+1.1	+12	+26	+0.3	−5	−1.7	m		January	399,184 tons	ENSE
Jet fuel consumption	Portugal	+4.1	+48	+242	+9.5	+14	−7.1	m		January	121,631 tons	ENSE
% change in toll roads kms traveled	France	−5						m		January	n/a	Mundys
% change in toll roads kms traveled	Italy	+2.6						m		January	n/a	Mundys
% change in toll roads kms traveled	Spain	+5.4						m		January	n/a	Mundys
% change in toll roads kms traveled	Brazil	+3.2						m		January	n/a	Mundys
% change in toll roads kms traveled	Chile	+0.9						m		January	n/a	Mundys
% change in toll roads kms traveled	Mexico	+2						m		January	n/a	Mundys

Notes: Click here for a PDF with more information on sources, methods. The frequency column shows w for data updated weekly, 2/m for twice a month and m for monthly.

Note: Some month−on−month comparisons were likely affected by Christmas and New Year holidays.

Congestion:

- READ: Road Traffic Indicators: China Rebounds After Holidays



- NOTE: Due to ongoing issues with data feeds, this issue omits the table showing BNEF calculations of road congestion changes based on TomTom data. We are looking into potential alternative approaches.

Air Travel:

Measure	Location	vs 2023	vs 2022	vs 2021	vs 2020	vs 2019	m/m	w/w	Freq.	Latest Date	Latest Value	Source
		changes shown as %										
All flights	Worldwide	+6.4	+15	+69	+17	+19	+20	+7.3	d	Feb. 19	204,752	Flightradar24

Commercial flights	Worldwide	+13	+33	+105	+20	+14	+8.5	+3.1	d	Feb. 19	122,301	Flightradar24
Seat capacity per month	Worldwide	+10	+34	+104	+14	+1.1		+0.6	w	Feb. 19 week	107.3m	OAG
Air traffic (flights)	Europe					−7.7	+9.1	+3.2	d	Feb. 19	25,500	Eurocontrol
Airline passenger throughput (7−day avg)	US	+5	+23	+151	unch.	+9	+10	+9	w	Feb. 18	2.26m	TSA
Air passenger traffic per month	China	+44	+94	+90	+13	+7.3	+13		m	January	57.3m	CAAC
Heathrow airport passengers	UK	+9.4	+131	+785	−1.7	+1.2	−10		m	January	5.97m	Heathrow
Rome % change in passengers carried	Italy	+25				+0.7			m	January	n/a	Mundys

Note: Comparisons versus 2019 are a better measure of a return to normal for most nations, rather than y/y comparisons.

Note: FlightRadar24 data shown above, and comparisons thereof, all use 7−day moving averages, except for w/w which uses single day data.

Refineries:

Measure	Location	vs 2023	vs 2022	vs 2021	vs 2019	m/m chg	Latest as of Date	Latest Value	Source
				Changes are in ppt unless noted					
Crude intake	US	−2.9	−4.4	+19.2	−7.2	−4.6	Feb. 16	14.57m b/d	EIA
Utilization	US	−5.3	−6.8	+12	−5.3	−4.9	Feb. 16	80.6%	EIA
Utilization	US Gulf	−6.9	−6	+17	−8	−4	Feb. 16	79.8%	EIA
Utilization	US East	+0.1	−11.1	+9.1	+15.7	−10.4	Feb. 16	79.7%	EIA
Utilization	US Midwest	−4.8	−11	+9	unch.	−5.7	Feb. 16	85%	EIA
Utilization (indep. refs)	Shandong, China	−8.6	+0.1	−14.7	−9.1	−7	Feb. 16	55.88%	Oilchem

Note: US refinery data is weekly. Changes are shown in percentages for the row on crude intake, while refinery utilization changes are shown in percentage points.

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This story was produced with the assistance of Bloomberg Automation.

Press Release

ATA Truck Tonnage Index Decreased 3.5% in January

Feb 20, 2024

Washington — American Trucking Associations' advanced seasonally adjusted For-Hire Truck Tonnage Index decreased 3.5% in January after increasing 1.2% in December. In January, the index equaled 111.0 (2015=100) compared with 115.0 in December.

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

"January's data was a snap back to reality for anyone thinking the freight market was about to turn the corner," said **ATA Chief Economist Bob Costello.** "Bad winter weather in January likely hurt volumes, not to mention sharp drops in a number of drivers of tonnage including retail sales, housing starts and manufacturing output."

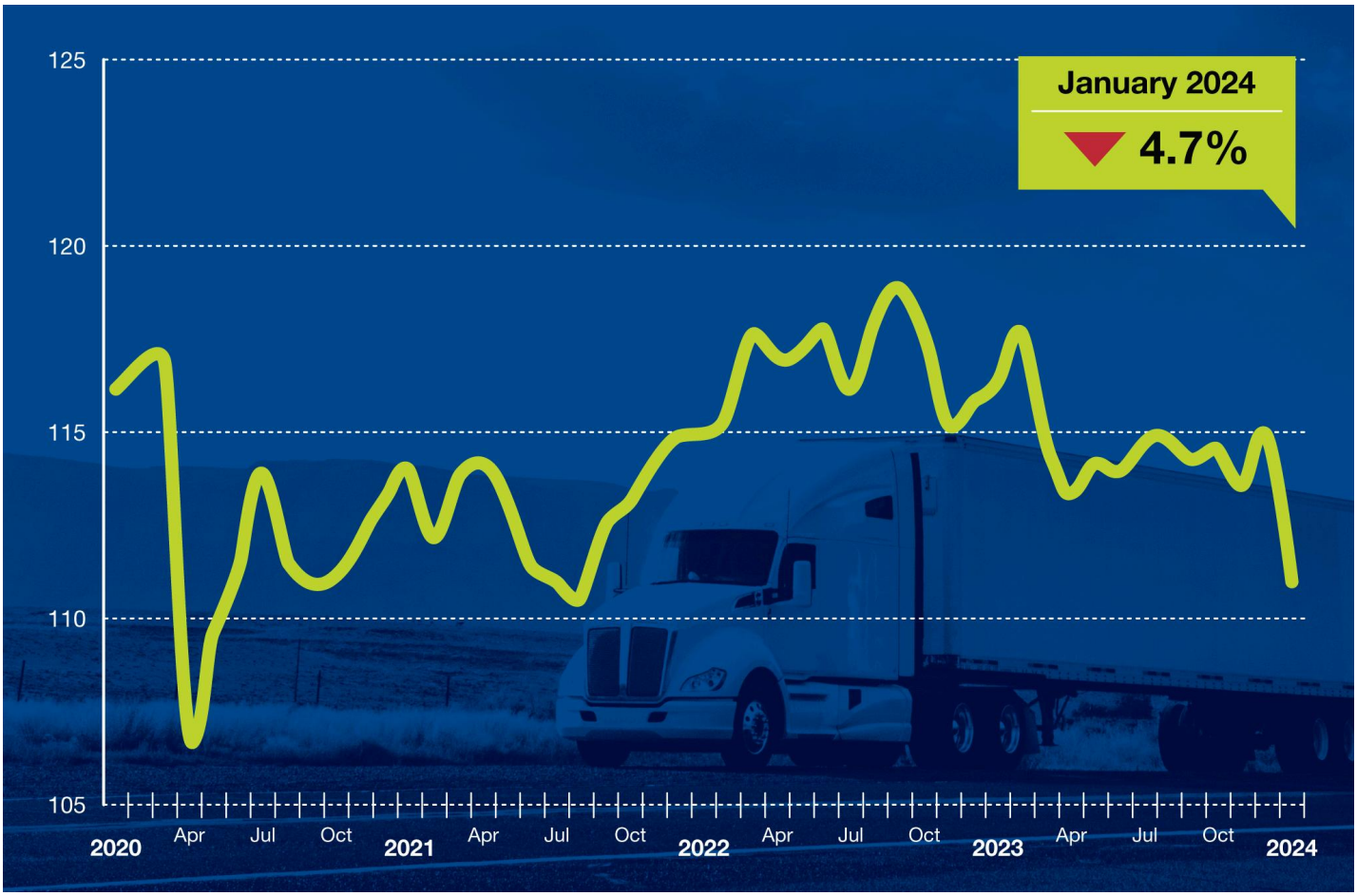
December's increase was revised down from our January 23 press release.

Compared with January 2023, the SA index fell 4.7%, which was the eleventh straight year-over-year decrease. In December, the index was down 0.8% from a year earlier.

The not seasonally adjusted index, which represents the change in tonnage actually hauled by the fleets before any seasonal adjustment, equaled 109.4 in January, 0.7% below December's level (110.2). In calculating the index, 100 represents 2015. ATA's For-Hire Truck Tonnage Index is dominated by contract freight as opposed to spot market freight.

Trucking serves as a barometer of the U.S. economy, representing 72.6% of tonnage carried by all modes of domestic freight transportation, including manufactured and retail goods. Trucks hauled 11.46 billion tons of freight in 2022. Motor carriers collected $940.8 billion, or 80.7% of total revenue earned by all transport modes.

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



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Country Analysis Brief: Iraq

Last Updated: February 14, 2024
Next Update: February 2025

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U.S. Energy Information Administration

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U.S. Department of Energy
Washington, DC 20585

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Overview

Table 1. Iraq's energy overview, 2021

	Crude oil and other petroleum liquids	Natural gas	Coal	Nuclear	Hydro	Other renewables	Total
Primary energy consumption (quads) 2021[a]	1.3	0.7	--	--		0.1	2.1
Primary energy consumption (percentage)	62.1%	32.6%	--	--		5.3%	100.0%
Primary energy production (quads) 2021[a]	8.8	0.4	--	--		<0.1	9.2
Primary energy production (percentage)	95.2%	4.3%	--	--		0.5%	100.0%
Electricity generation (terawatthours)[b] 2022		130.8	--	--	2.7	0.4	133.9
Electricity generation (percentage)		97.7%	--	--	2.0%	0.3%	100.0%

Data source: U.S. Energy Information Administration, *Energy Institute Statistical Review of World Energy Data*
Note: Quads=quadrillion British thermal units; -- signifies not applicable.
[a] Hydropower and solar are combined, and hydropower accounts for the majority.
[b] Includes only Federal Iraq. Estimates not yet published by U.S. Energy Information Administration, International Energy Statistics.

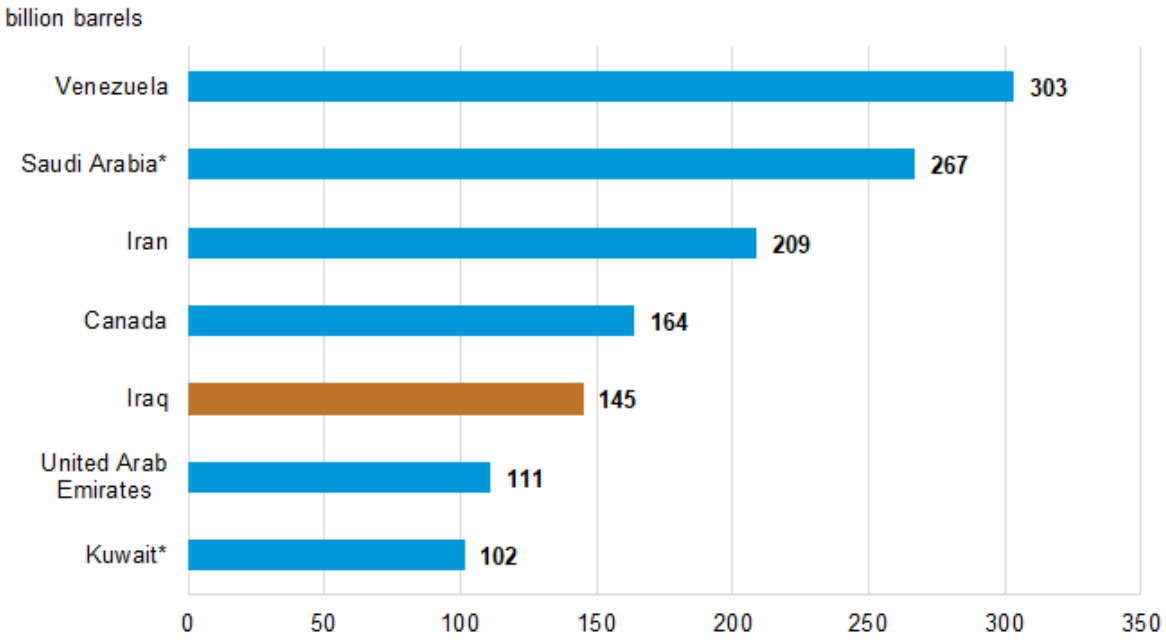
- Iraq (Federal Iraq and Kurdistan Regional Government) is the second-largest crude oil producer in OPEC after Saudi Arabia and the sixth-largest total petroleum liquids producer in the world.[1] It holds the world's fifth-largest proved crude oil reserves, at 145 billion barrels, representing 17% of proved reserves in the Middle East and 8% of global reserves (Figure 1).[2] Most of Iraq's major known fields—all of which are located onshore—are producing or are in development.[3] Most of Iraq's crude oil is located in the southern Basra region, the Diyala region east of Baghdad, and the northeastern Kirkuk region.[4]
- After holding parliamentary elections in October 2021, Federal Iraq took a year to form a consensus government under the leadership of Mohammed Shia al-Sudani. This government gridlock delayed key legislation, the passing of an annual budget, and financing for major energy projects by the government and foreign investors.[5] After not having a budget for 2022, Iraq approved annual budgets for 2023, 2024, and 2025 in June 2023 that included funding for infrastructure projects.[6]
- Crude oil export revenues account for a large part of Iraq's economy. In 2022, crude oil export revenue accounted for an estimated 95% of Iraq's total government revenues, according to the International Monetary Fund (IMF).[7] Iraq's net oil revenues rose to $131 billion in 2022 from $92 billion (2022 dollars) in 2021, driven by higher oil prices and increased production.[8] We expect that the decrease in global oil prices and lower crude oil production in Iraq in 2023 (following the OPEC+ cuts and supply disruptions in northern Iraq) will significantly decrease Iraq's oil export revenues.[9]
- Iraq consumed an estimated 2 quadrillion British thermal units of total primary energy in 2021, making it the fifth-largest energy consumer in the Middle East behind Iran, Saudi Arabia, the United Arab Emirates, and Qatar.[10] Natural gas and oil accounted for almost all of Iraq's total

primary energy consumption; hydropower and solar energy contributed marginally (Figure 2). Iraq will continue to mostly use oil to meet energy demand until it develops more natural gas processing capacity and pipeline infrastructure.

Kurdistan Regional Government and Federal Iraq

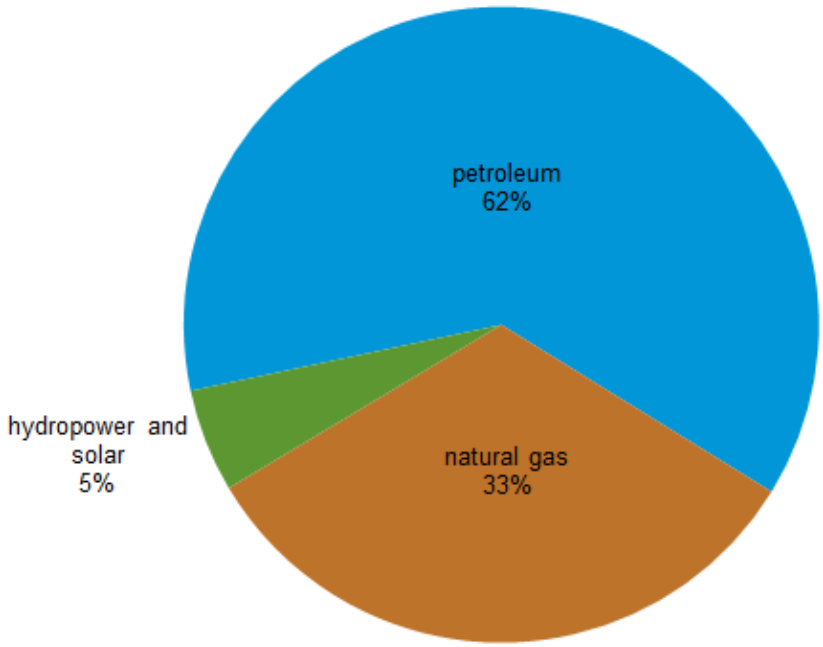
- Federal Iraq refers to the political entity that is governed by the central government of Iraq in Baghdad. The Kurdistan Regional Government (KRG), the official ruling body of the semi-autonomous region in northern Iraq that is predominantly Kurdish, has been involved in disputes with the central government related to sovereignty for about three decades.
- KRG oil production fell after reaching nearly 470,000 barrels per day (b/d) in 2019 to less than 440,000 b/d by 2022.[11] The KRG's payment delays to international oil companies (IOCs) over the past few years, along with the region's exploration fields that have not yielded expected results drove these declines. As a result, IOC investment over time in exploration and field development has declined.[12]
- We expect that 2023 crude oil production from the KRG will decline on an annual basis because of the Iraq-to-Turkey (ITP) pipeline closure at the end of March 2023 and the limited outlets to sell crude oil production locally to refiners (see the Energy Trade section for more details). Although most of the production in northern Iraq was shut in or placed into storage after the pipeline stopped operating, the KRG fields increased production from nearly 120,000 b/d in April 2023 to around 200,000 b/d in August 2023. This crude oil travels mostly to northern refineries, although these outlets have reached their capacity.
- Federal Iraq's 2023 budget stipulates that the KRG release 400,000 b/d of crude oil to Federal Iraq in return for a portion of the federal budget. However, the closure of the pipeline from the KRG to Turkey in March 2023 hampers the KRG's ability to produce 400,000 b/d because of the limited outlets to southern Iraq. The KRG sent around 85,000 b/d to Federal Iraq in August 2023, up from 35,000 b/d in July. Federal Iraq sends this volume to the refinery in Erbil for processing and local consumption.[13] Following the Iraq-to-Turkey pipeline closure, the KRG has had a hard time making a profit and has received loans from Federal Iraq over the past several months to pay civil servant salaries.[14]
- The IOCs that are producing crude oil in the KRG region have to sell their crude oil production for much lower revenues than before the ITP pipeline closed. Federal Iraq's new budget does not compensate these producers with the revenues they previously received from their contracts with the KRG. IOCs are requesting that they be compensated based on the agreement with the KRG, and the lack of resolution likely will affect future investment and the ability to raise production if and when the ITP reopens. [15]

Figure 1. Top proved world oil reserves, 2022



Data source: *Oil & Gas Journal*, December 2022
Note: *Reserve volumes include those from the Neutral Zone.

Figure 2. Iraq's total primary energy consumption, share by fuel, 2021



Data source: U.S. Energy Information Administration, *International Energy Statistics*

Petroleum and Other Liquids

- Iraq, one of the members of the OPEC+ agreement, raised its crude oil output (excluding condensates) in 2022 by nearly 400,000 barrels per day (b/d) from an average of less than 4.1 million in 2020 and 2021 to more than 4.4 million b/d, after the OPEC+ members reversed the significant production cuts made in 2020. The central government in Baghdad produced about 4 million b/d, and the KRG supplied less than 440,000 b/d from the northern fields that it currently operates.[16] Iraq (including the KRG) produced, on average, almost 4.6 million b/d of total petroleum liquids in 2022 (Figure 3).[17]
- Iraq's crude oil production fell to 4.3 million b/d in the first half of 2023, and we expect that Iraq's 2023 crude oil production will be lower than in 2022 because of the OPEC+ production cuts made in November 2022 and voluntary reductions made by Iraq in 2023.[18] In June 2023, OPEC+ agreed to extend crude oil production cuts through 2024, and Iraq's government announced that it will continue voluntary production cuts through 2024, which would leave Iraq's production target at about 4.2 million b/d.[19]
- We estimate that Iraq's effective crude oil production capacity was 4.4 million b/d as of mid-2023, down from 4.8 million b/d at the beginning of 2023. The addition of a new refinery and restoration of some equipment at the Basra export terminal boosted production capacity in 2023. However, the removal of around 400,000 b/d of export capacity in northern Iraq more than offset any additions. Export infrastructure at the southern oil terminals is constrained, and midstream projects are often delayed because of insufficient investment and bureaucratic hurdles.[20]
- Iraq's oil ministry plans to lift crude oil production capacity to 7 million b/d by 2027 and will target several upstream expansion projects from fields in southern Iraq to bolster the country's output (Table 2).[21] Some of these projects are likely to be delayed because of Iraq's political struggles, regulatory challenges, delays in restoring and expanding the southern export infrastructure, and the international oil companies' uncertainty about the investment climate.
- Iraq's oil production requires more water injection to maintain its reservoir pressures and to increase oil production. TotalEnergies intends to invest in a 7.5 million b/d seawater conversion project as part of its energy agreement with Iraq to bolster oil production from mature fields in southern Iraq.[22] Iraq finalized its agreement with TotalEnergies in July 2023, and the seawater conversion project is slated to come online in 2027, assuming no further project delays.[23]
- Iraq consumed about 900,000 b/d of petroleum and other liquids in 2022.[24] Domestic refineries meet most of Iraq's petroleum product needs; however, Iraq imports some petroleum products, primarily gasoline and diesel.[25] Iraq also uses crude oil and high sulfur fuel oil for electric power generation.[26]
- Iraq's total operating refining capacity is about 1.2 million b/d.[27] The Iraqi government plans to reduce petroleum product imports by rehabilitating the refining sector and building new refineries, but the government has struggled in its efforts to attract the foreign investment needed in the downstream sector. Iraq's refineries produce more heavy fuel oil than is needed domestically and not enough gasoline and diesel to meet domestic demand.
- Several new refineries are planned, along with capacity expansion and upgrades at a number of existing refineries, to alleviate domestic product shortages, reduce government import costs for oil products, and eventually increase exports of refined products.[28] Iraq brought online the 140,000 b/d-Karbala refinery in April 2023, although technical issues made the plant inoperable for part of the summer. The Karbala reached full capacity in September 2023.[29] Iraq plans to

commission two refinery projects in 2024. The South Refineries Company is expanding its Basra refinery by 70,000 b/d. However, an ongoing financial dispute between Iraq's refining company and the contractor is delaying the project.[30] Iraq also plans to repair a damaged 150,000 b/d-crude distillation unit at the Baiji refinery complex by the end of 2024.[31] Other refinery projects are still in the planning stages, although Iraq's regulatory challenges and economic issues are hurdles for potential investors.[32]

Table 2. Crude oil projects in Iraq, 2023

Field name	Operator or project investor	Additional capacity (thousands of barrels per day)	Announced start date	Notes
Missan Cluster (Bazergan, Fakka, and Abu Gharb fields)	China's CNOOC	100	November 2022	CNOOC expanded the Missan Cluster's capacity to 300,000 b/d in November 2022.[33]

Majnoon	Basra Oil Company	200	End-2023	Shell exited the field ownership in 2018.[34]
Zubair	ENI	50	End-2024	Any future expansions will require more water injection[35]
Faihaa crude oil processing facility	China's United Energy Group	100	Second half 2024	Located on the border with Iran. Plans include expanding the Faihaa field capacity from 50,000 barrels per day (b/d) to 130,000 b/d. The crude oil processing facility could also process oil from nearby fields.[36]
Ratawi	TotalEnergies	130	2025	Field expansion is part of TotalEnergies' $27 billion deal signed in September 2021 with Iraq. Agreement was finalized in July 2023. Planned expansion of field capacity to 210,000 b/d.[37]
West Qurna-1	ExxonMobil and Basra Oil Company	330	2028	Iraq awarded a drilling contract to services firm Schlumberger. Iraq's dispute with ExxonMobil over the company's exit from the field's partnership and the uncertainty of Basra Oil Company's ability to invest in the expansion are likely to delay this project.[38]
Fields in the Dhi Qar province (Nasariya, Gharaf, and Subba)	Dhi Qar Oil Company (DQOC)	310	2028	Iraq began negotiations with Chevron in 2020 to explore and develop more fields in the Dhi Qar province. These fields produced an aggregate of about 220,000 b/d at the end of 2021, and Iraq targets a total production of 600,000 b/d.[39] The negotiations have not progressed as of September 2023. DQOC raised capacity at Subba oil field from 10,000 b/d to 100,000 b/d in early 2023.[40]
Eridu	Lukoil	250	2028	The pilot phase will include 30,000 b/d starting in 2025 and lasting through 2028. The field's peak production target is set for 250,000 b/d.[41]
West Qurna-2	Lukoil	330	2030	Capacity expansion includes the Yamama reservoir. The Mishrif reservoir increased from 350,000 b/d in 2021 to 480,000 b/d in mid-2023. A pilot project for Yamama began in 2021 and as of October 2023 was producing 30,000 b/d.[42]

Data source: *Middle East Economic Survey*, FACTS Global Energy Services, Rystad Energy, Al Arabiya News, and company websites

Note: b/d=barrels per day

Figure 3. Maps of Iraq's Largest Oil and Natural Gas Fields in Northern and Southern Iraq

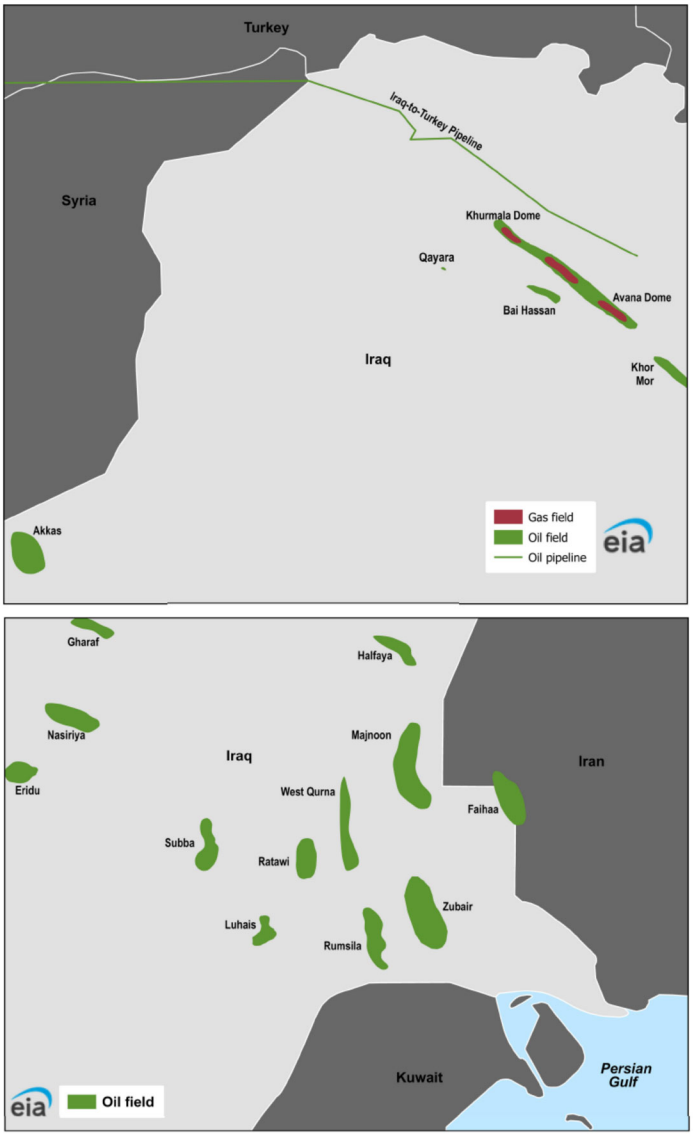


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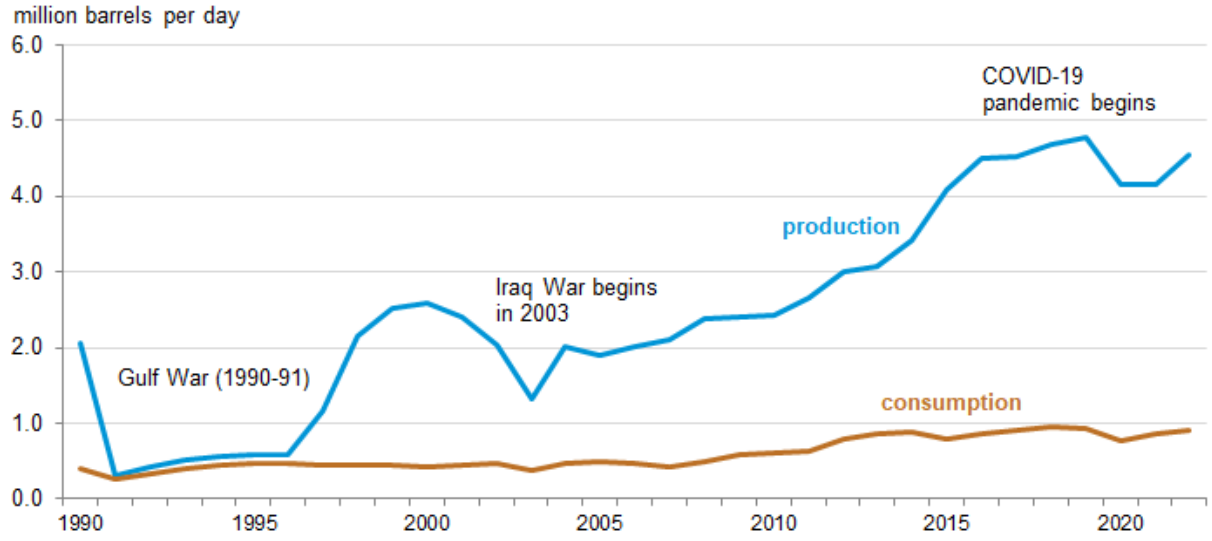
Figure 4. Iraq's total petroleum and other liquids production and consumption



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, September 2023

Natural Gas

- At nearly 131 trillion cubic feet (Tcf), Iraq's proved natural gas reserves at the end of 2022 were the 12th largest in the world.[43] Most of Iraq's natural gas reserves are associated with oil, and most of the associated natural gas is in large oil fields in southern Iraq.[44] Although Iraq has sizeable natural gas reserves, regulatory and investment hurdles and insufficient natural gas infrastructure have kept the amount of their natural gas production available for sale relatively flat since 2016 (Figure 5).
- About two-thirds of Iraq's natural gas output is associated natural gas, which is a byproduct of oil production.[45] Production cuts from Iraq's oil fields in early 2020, following the OPEC+ agreement, lowered associated natural gas output as well, and natural gas output was around 260 billion cubic feet per year (Bcf/y). In 2021, natural gas production returned to about 339 Bcf after production of both nonassociated natural gas from the Khor Mor field and associated natural gas rose (Figure 5). Iraq consumed 612 Bcf of dry natural gas in 2021, mainly for electric power generation. We expect that Iraq's natural gas consumption growth rose higher than production in 2022.[46] If Iraq commissions some of the natural gas processing plant projects scheduled to be online by 2024, natural gas production from associated natural gas fields will likely increase.
- According to the World Bank, Iraq flared more than 630 Bcf of natural gas in 2022, ranking as the second-largest source country of flared natural gas in the world, behind Russia.[47] Natural gas is flared because of insufficient pipeline capacity and other midstream infrastructure to move the natural gas from crude oil production areas. Iraq delayed its target to eliminate natural gas flaring to 2027.[48] If Iraq can mobilize the investment for capturing its associated natural gas, it

can use that natural gas to generate electricity, especially during the peak summer season. It could also reduce its natural gas imports from Iran.

- Iraq is pursuing several projects to capture associated natural gas production and is negotiating several agreements with various companies to raise the country's natural gas processing capacity from around 600 Bcf in mid-2023 to nearly 1.2 Tcf in 2027 (Table 3).[49]
- Federal Iraq aims to not only capture and sell more associated natural gas but also to develop natural gas fields not associated with oil production to meet the country's demand and reduce reliance on Iran for natural gas imports (Table 3). The government is prioritizing the Akkas field in western Iraq and the Mansuriya field north of Baghdad as key nonassociated natural gas projects. Although Iraq is keen to develop these fields and the required natural gas processing infrastructure for them, these projects have encountered several delays over the past decade because of issues related to security, investment, contract terms, and commitment by international partners. In March 2023, the Akkas field began partial production at a rate of 22 Bcf/y to serve a local power plant, and Iraq intends to further develop the field using foreign investment and technology.[50]
- The KRG has one nonassociated natural gas field, Khor Mor, with an operational capacity of 183 Bcf/y, which supplies power plants in Kurdistan (Table 3). UAE's Dana Gas, the operator of Khor Mor, began work on an expansion project that is slated to provide natural gas for domestic use in the electric power sector. Once domestic power demand is satisfied, additional capacity from the project could be exported to Turkey and the European Union or sent to power plants in northern Federal Iraq. However, new natural gas pipelines would be required to send the natural gas outside of the KRG. A series of rocket attacks in 2022 temporarily suspended work on the expansion project, but work resumed on the field expansion in early 2023.[51]

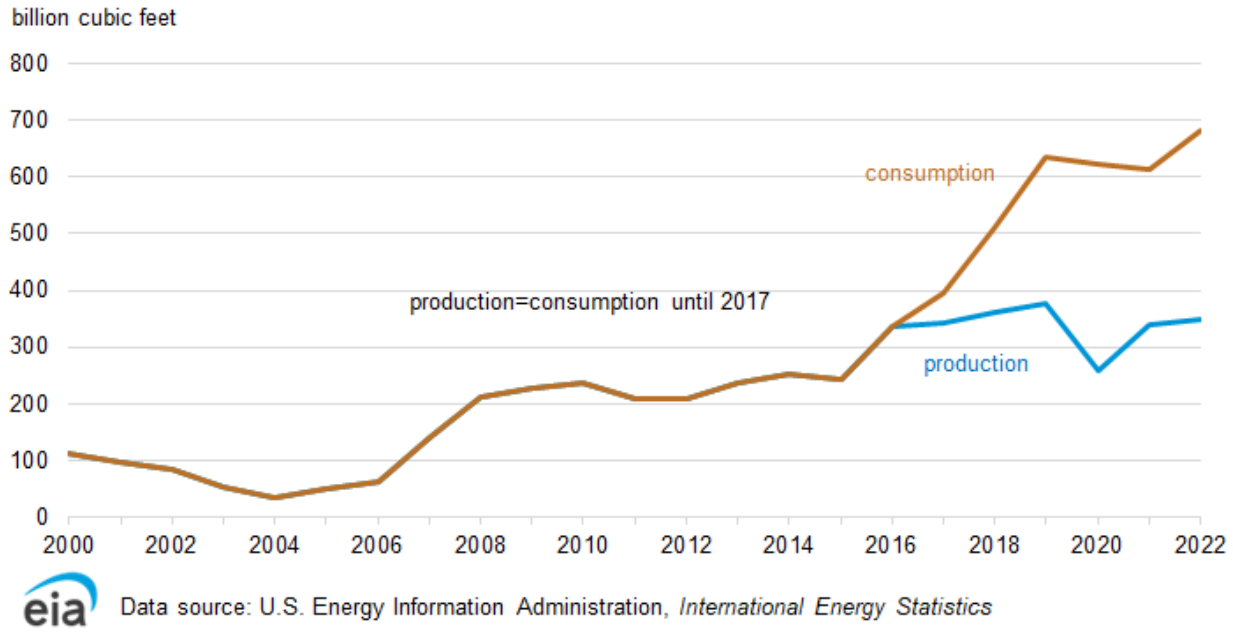
Table 3. Major natural gas projects in Iraq, 2023

Project	Operator or project investor	Additional capacity (billion cubic feet per year)	Announced start date	Notes
Associated natural gas projects				
Halfaya natural gas processing plant	China's CNPC	110	Early 2024	Designed to capture flared gas from the large Halfaya oil field in Missan province. Natural gas will replace oil use in the region's electric power sector.[52]
Basra Natural Gas Liquids (BNGL) project	Basra Gas Company	73 bcf/y in Phase 1 and 73 bcf/y in Phase 2	Second-half 2023 and first-quarter 2024	The Basra Gas Company intends to add 73 Bcf/y for each phase at its BNGL project to process natural gas from the Majnoon, West Qurna-2, and Ratawi oil fields.[53]
Nassariya Gas Plant[54]	South Gas Company and Baker Hughes	73	Second-half 2024	Located in the Dhi Qar province and will process natural gas from the Nassariya and Gharaf oil fields.

Gas Growth Integrated Project	TotalEnergies	110 in Phase 1 and 110 in Phase 2	2026 and 2028	As part of TotalEnergies' deal in Iraq, the company plans to build a natural gas facility in two phases to gather and treat natural gas from the West Qurna-2, Majnoon, Ratawi, Tuba, and Luhais oil fields.[55]
Total		**549**		
Nonassociated natural gas projects				
Khor Mor expansion project	UAE's Dana Gas and Crescent Petroleum	91 in Phase 1 and 91 in Phase 2	Second-quarter 2024 and TBA	The KRG's sole nonassociated natural gas field, Khor Mor, has a capacity of 183 Bcf/y, which supplies power plants in Kurdistan. Dana Gas intends to expand capacity by 91 Bcf/y by mid-2024 and plans a second expansion at a later date.[56]
Akkas natural gas field	Iraq's Midland Oil Company	146 (22 Bcf/y began in March 2023)	2027	Located in the remote western province of Anbar, Akkas is designed to supply a nearby power plant. Production of 22 Bcf/y began in March 2023, but Iraq is seeking a partner to further develop the field and began discussions with Saudi Aramco in May 2023.[57]
Mansuriya natural gas field	TBA	110	TBA	Sinopec and Iraq's interim government agreed on a contract for Mansuriya natural gas field in January 2022, but the parties later disagreed on the contract terms. Sinopec exited the agreement, and Iraq is seeking a firm to replace Sinopec.[58]
Total		**438**		

Data source: *Middle East Economic Survey*, Iraq Oil Report, Argus Media, Rystad Energy, Reuters, Shafaq News, Dana Gas
Note: TBA=to be announced, Bcf/y=billion cubic feet per year

Figure 5. Iraq's natural gas production and consumption, 2000–2022



Electricity

- Federal Iraq generated an estimated 134 terawatthours (TWh) in 2022, up from 120 TWh in 2021.[59] Electricity output in 2022 increased because of the economic recovery following the COVID-19 pandemic and higher demand from the oil industry because of the upturn in oil production after the OPEC+ production cuts expired.[60] The KRG generated at most 17 TWh in 2023.[61]
- Nearly all (about 98%) of Iraq's electricity generation is from oil and natural gas.[62] Natural gas use in the electric power sector increased after 2016 because Iraq began importing natural gas from Iran to increase its own supplies. Hydroelectricity accounts for most of the remaining share of electricity production.[63]
- Since 2021, Iraq has started operating three thermal power plants with a combined capacity of 2.6 GW, and Iraq has plans to add 6 GW of new generation capacity by 2025. Iraq also plans to increase the energy efficiency of existing plants and other electric power sector infrastructure.[64]
- Although solar generation accounted for an insignificant share of total power generation, Iraq plans to develop renewable energy projects to replace some of its oil and natural gas-fired capacity and to reduce natural gas and electricity imports from Iran (Table 4). Iraq plans to install 12 GW of renewable energy capacity by 2030 and signed agreements with several international companies to develop 4.5 gigawatts (GW) of utility-scale solar projects in 2021.[65]
- Federal Iraq's available peak electricity generation supply was nearly 23 GW for 2022. The available supply in 2022 was much lower than the 34 GW needed to meet peak summer demand.[66] Iraq's electricity use is very seasonal and reaches peak capacity in the summer months. Generation plants run at low utilization rates, and the available or effective production capacity is much lower than installed capacity because of poor transmission infrastructure, inefficient or damaged power plants, and insufficient natural gas supply and infrastructure. Peak

summer demand typically exceeds actual generation, resulting in frequent power shortages that have caused protests each year since 2020.[67]

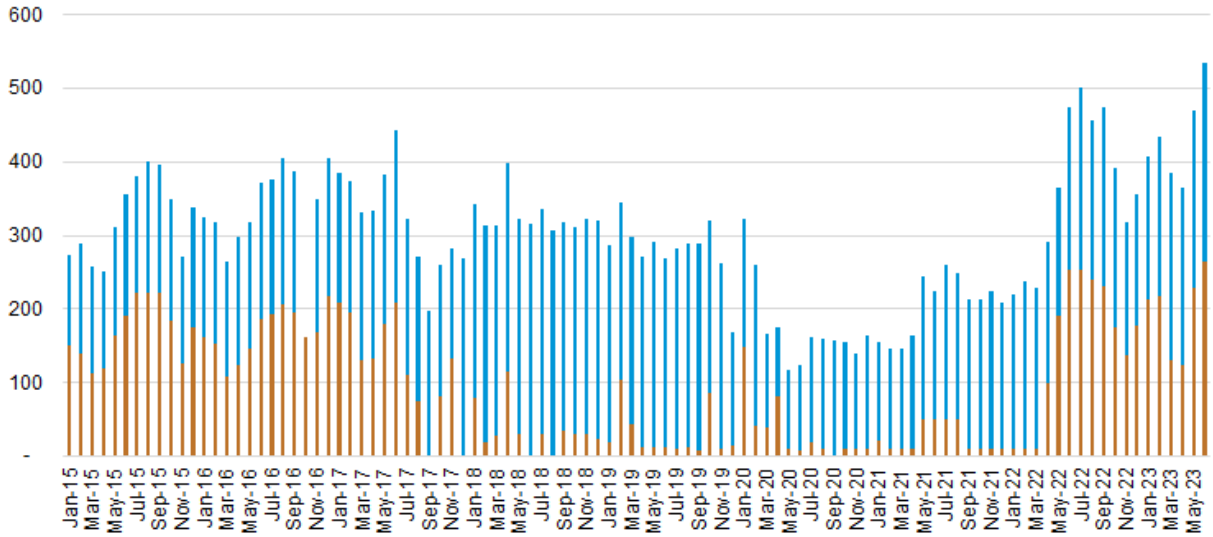
- Iraq burns crude oil and fuel oil directly at power plants to make up for its limited feedstock of other power generation fuels. Iraq's reported average crude oil used at power stations rose from an average of 24,000 barrels per day (b/d) in 2021 to 149,000 b/d in 2022 as a result of insufficient natural gas-fired electricity generation (Figure 6).[68] Although Iraq's official reports of crude oil burn were low during recent years, we estimate that they used at least 100,000 b/d of crude oil for power generation since 2015.[69] In addition to crude oil, Iraq burns high sulfur fuel oil for power generation. Reported total oil-fired power generation in Iraq rose substantially in 2022 to around 360,000 b/d and reached a record high in June 2023 at 535,000 b/d.[70]

Table 4. Iraq's solar power agreements

Operator or project investor	Capacity (megawatts)	Notes
Al-Bilal Group (UAE)	525	Iraq's cabinet approved the power purchase agreement (PPA) with Al-Bilal in July 2023. Located in central Iraq.[71]
TotalEnergies	1,000	Part of TotalEnergies' $27 billion energy deal with the Iraq government. Iraq's cabinet approved the PPA with TotalEnergies in May 2023. Three development phases supplying the Basra grid.[72]
PowerChina	750	Iraq's cabinet approved the PPA with PowerChina in May 2023. Two phases with 250 MW and 500 MW located in southern Iraq. Iraq initially signed an agreement with PowerChina for 2,000 MW of solar projects in October 2021.
UEG (China)	200	UEG is waiting for approval from the Basra Oil Company for the first phase of its solar project.[73]
Masdar (UAE)	1,000	Consists of five solar plants in Dhi Qar, Ramadi, Mosul, and Amarah. Masdar and Iraq signed an agreement in October 2021.[74]
ACWA Power (Saudi Arabia)	1,000	ACWA Power and Najaf province in central Iraq are part of a joint venture to develop this project.[75]
Total	**4,475**	

Data source: *Middle East Economic Survey,* Reuters, Zawya, Arab News
Note: MW=megawatts.

Figure 6. Crude oil and fuel oil used at power stations in Iraq
thousand barrels per day



Source: Joint Oil Data Initiative
Note: Assumes that all fuel oil consumption is from the electric power sector

Energy Trade

Petroleum and other liquids

- Iraq's total seaborne-traded crude oil exports averaged nearly 3.6 million b/d in 2022, which was more than 230,000 b/d above the previous year, based on tanker loadings data.[76] The rise in exports reflects Iraq's higher crude oil production as the OPEC+ cuts gradually reversed through 2022.
- During 2022, approximately 89% of Iraq's seaborne exports were shipped from the southern terminals in the Persian Gulf, which export Basra medium and heavy crude oil grades (Figure 7).[77] Before the pipeline closure in March 2023, crude oil from the KRG's fields and Federal Iraq's northern fields was sent by pipeline to Ceyhan, Turkey, where it shipped from the port of Ceyhan.
- Turkey stopped crude oil flows through the Iraq-to-Turkey crude oil pipeline in March 2023 when an international arbitration court ruled in favor of Federal Iraq against Turkey for accepting crude oil from the KRG.[78] Seaborne oil exports from northern Iraq through the Ceyhan terminal, which averaged 417,000 b/d in the first three months of 2023, dropped to zero after the pipeline closure at the end of March 2023.[79] As of November 2023, Turkey and Federal Iraq are negotiating an agreement, and the two countries have not resumed crude oil flows through the pipeline.[80]
- Asia (led by India, China, and South Korea) was the main regional destination for Iraq's crude oil, importing 63% of Iraq's crude oil exports in 2022 (Figure 8). China and India each imported nearly 1 million b/d of crude oil from Iraq (more than half of Iraq's total exports), making them the top buyers of Iraq's crude oil during the year. Outside of Asia, Italy, Greece, and Turkey imported the most crude oil from Iraq at around 200,000 b/d each.[81] However, some of these and other European imports at various Mediterranean ports travel further inland to countries

such as Germany, Austria, and Serbia.[82] Collectively, European countries imported 26% of Iraq's crude oil exports in 2022.

- Russia's full-scale invasion of Ukraine and the partial sanctions on Russia's oil supplies to Europe in 2022 diverted a significant portion of Russia's oil from Europe to Asia and created additional opportunities for Middle Eastern crude oil suppliers to send more volumes to Europe. Iraq significantly reduced the price of its crude oil loadings to Europe in 2022 to be able to compete with other Middle Eastern crude oil grades.[83] Although Iraq's crude oil exports to China and India remained high in 2022 and the first half of 2023, China and India replaced some of Iraq's potential crude oil exports with discounted volumes from Russia.[84]
- Infrastructure export capacity at its southern ports in Basra remains constrained and requires investment to rebuild and restore. Iraq's export capacity has declined over the past few years, which limits the country's capacity to produce crude oil. Operational export capacity fell from 3.7 million b/d before 2020 to more than 3.3 million b/d in early 2023. Iraq installed new loading hoses at the Basra Oil Terminal, which bolstered southern capacity to more than 3.4 million b/d by September 2023.[85] Oil exports in southern Iraq will likely be constrained until 2025, when Iraq can upgrade its infrastructure for the Sealine 3 pipeline.
- Iraq also intends to replace the aging and malfunctioning subsea pipelines critical to oil export infrastructure offshore of Basra. Iraq's cabinet approved Sealine 3, which has a capacity of at least 500,000 b/d and is expected to come online by 2025, barring no more project delays. It will connect to the new, fifth single mooring point to the Basra Oil Terminal and possibly to the Khor Al-Amaya Oil Terminal, which has been out of operations since 2017.[86] Iraq also approved $1 billion in 2023 to construct Sealines 4 and 5, which will replace old, inefficient pipelines and further raise southern crude oil export capacity.[87]
- In addition to its seaborne shipments, Iraq also exports relatively small volumes of crude oil by truck to Jordan[88] and by inland routes to Turkey via an onshore pipeline from the Ceyhan terminal to Turkey's Kirikkale refinery, near Ankara. The Ceyhan-Kirikkale pipeline has a capacity of 145,000 b/d.[89] Iraq extended its contract by one year with Jordan to sell an average of 10,000 b/d in May 2023.[90] However, Iraq's exports to the Kirikkale refinery have stopped until the Iraq-Turkey pipeline resumes operations.
- The Federal Iraq government and the KRG signed an agreement in November 2018 that allows Iraq to transport up to 100,000 b/d of Federal Iraq's crude oil from its side of the Kirkuk fields through the KRG's pipeline to Turkey's Ceyhan port for export.[91] Federal Iraq exported more than 80,000 b/d of crude oil from Kirkuk through the KRG pipeline in 2022.[92] However, this volume has dropped to zero after the pipeline to Turkey stopped operations in March 2023. Federal Iraq has continued output from its Kirkuk fields and sends the oil to local northern refineries.[93]
- In July 2023, Federal Iraq signed a barter deal with Iran that involves Iraq exporting crude oil and fuel oil to Iran in exchange for natural gas. Although the parties have not revealed the agreement terms, one report suggests that Iraq would send 250,000 b/d to Iran.[94] Other sources report that Iraq's shipments of crude oil and fuel oil will range from 100,000 b/d to 200,000 b/d.[95]

Natural gas

- Because Iraq's natural gas production and infrastructure growth has not kept pace with its demand, it began importing natural gas from Iran in 2017 to fuel electric power plants near Baghdad and Basra.[96] Iran has a contract to supply Iraq with up to around 900 Bcf/y in the summer and up to 580 Bcf/y during the winter.[97] However, Iran's exports are much lower than

contracted volumes. Annual natural gas imports averaged 273 Bcf in 2021, down from 364 Bcf in 2020. Although average annual imports from Iran rose again in 2022 to 333 Bcf,[98] Iran limited natural gas supplies to Iraq in the summers of 2021 and 2022 because of high domestic demand for natural gas in Iran, a regional drought that caused low hydroelectric power and so higher use of fossil fuels, and the challenge that Iraq faces in making direct payments to Iran.[99]

- In August 2023, Iraq signed a preliminary agreement with Turkmenistan to import natural gas and to diversify its supplies. However, as of December 2023, there are no details of the agreement. If Iraq makes the deal happen, it will need to transport the natural gas through a neighboring country such as Iran or Turkey.[100]

Electricity

- Iraq's electricity sector imports a significant amount of its supplies from Iran. In 2022, about 25% of Iraq's electricity was generated by a combination of natural gas produced in Iran and electricity imported from Iran.[101] Iran and Iraq signed a five-year agreement in 2022 that lowered the electricity import price for Iraq and set a base volume of 1 GW that Iran must export to Iraq during the summer.[102] Iran reduced its electricity exports to Iraq after 2020 from 7.4 TWh to 3.5 TWh in 2022 because of power shortages and insufficient power generation in Iran.[103]
- Iran also reduced electricity exports to Iraq in the summer of 2023 (and completely stopped flows in late May) because of Iraq's challenges in paying Iran for energy supplies from previous years. The barter deal that Iran and Iraq arranged in July 2023 is intended to resolve these issues, but the countries have not implemented the agreement as of September 2023.[104]
- Iraq is looking for ways to diversify its sources of imported electricity and has interconnection projects with the Gulf Cooperation Council (GCC), Saudi Arabia, Turkey, and Jordan (Table 5). Iraq completed a 500 MW power line from Turkey in early 2022, although Iraq has not finalized the contract details.[105] Jordan is set to begin exporting electricity to Iraq through a new transmission line with a capacity of 150 MW in the second half of 2023.[106]

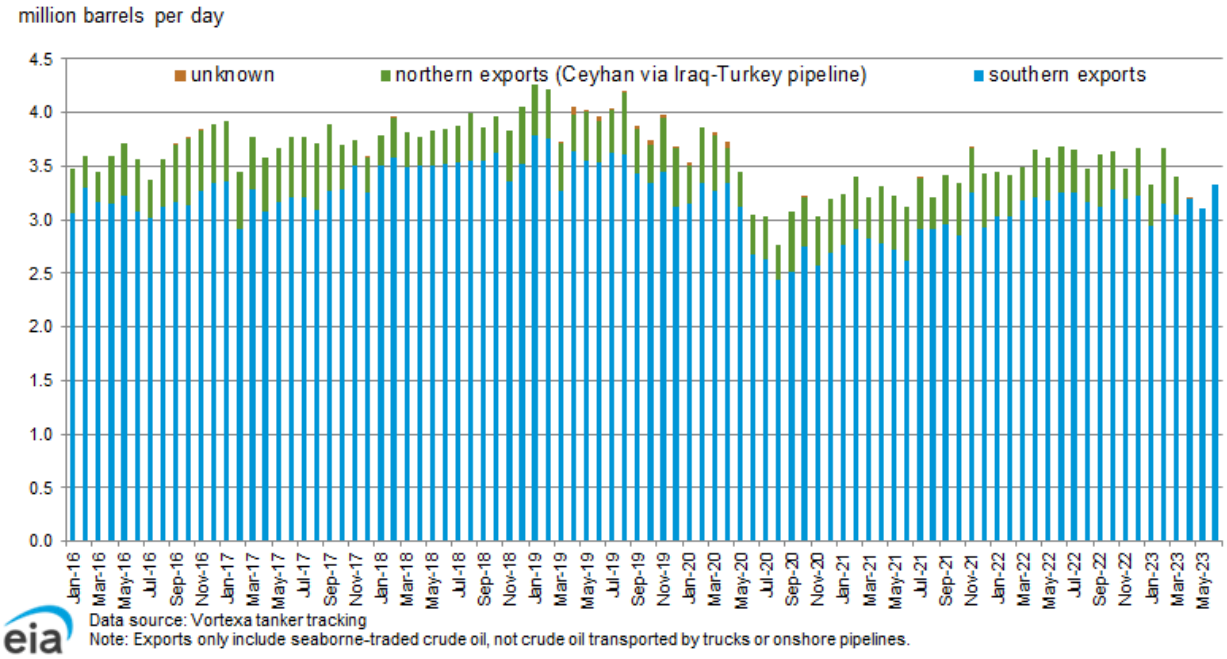
Table 5. Iraq's existing and planned electricity import sources

Import source	Capacity (megawatts)	Import status	Notes
Iran	1,500	Existing	Four major transmission lines that connect Iran to Iraq at various points and installed in 2004–2011.[107]
Jordan	150	Late 2023	Future phases of the transmission line would increase capacity to 900 MW.[108]
Turkey	500	Early 2022	A 500-MW power line from Turkey to Iraq was completed in early 2022, although the countries have not finalized contract details including the electricity price.[109]
Gulf Cooperation Council Interconnection Authority (GCCIA)	500	Late 2024	Finalized an agreement in 2022 with the GCCIA. Transmission line will connect Iraq to the line in Kuwait. The parties target a final capacity of 1.8 GW following future phases.[110]
Saudi Arabia	1,000	TBD	Saudi Arabia and Iraq signed an agreement in mid-2022 to construct a transmission line from northern Saudi Arabia to the

		Baghdad area and began work on the project in mid-2023.[111]
Total	**3,650**	

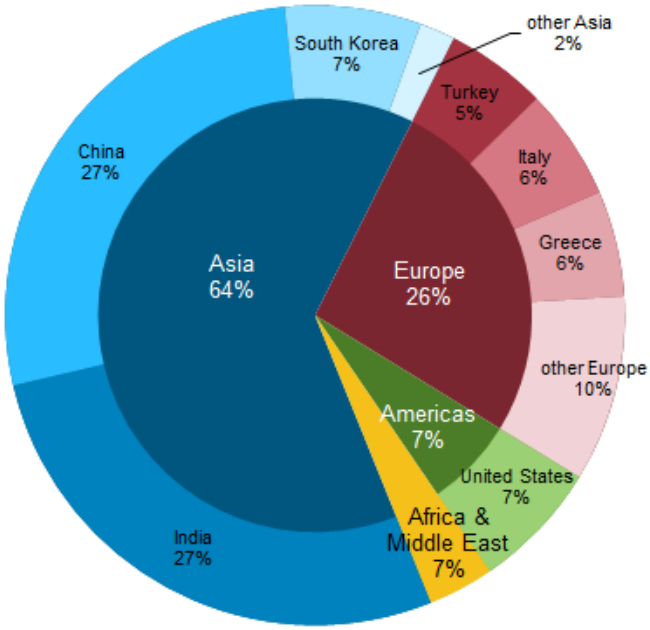
Data source: FACTS Global Energy, *Middle East Economic Survey,* Reuters, Jordan News, Iraqi News, Iraq Oil Report, Refinitiv/Zawya, Iran International
Note: TBD=to be determined, MW=megawatt, GW=gigawatt.

Figure 7. Iraq's monthly seaborne crude oil exports, by location, January 2016-June 2023



Data source: Vortexa tanker tracking
Note: Exports only include seaborne-traded crude oil, not crude oil transported by trucks or onshore pipelines.

Figure 8. Iraq's seaborne crude oil exports in 2022, by destination



Data source: U.S. Energy Information Administration and Vortexa tanker tracking (accessed August 2023)
Note: Total crude oil exports were 3.6 million b/d in 2022. Exports only include seaborne-traded crude oil, not crude oil exported by truck or crude oil exported onshore to Turkey via the Ceyhan-Kirikkale pipeline to a refinery near Ankara. Totals may not equal the sum of components because of independent rounding.

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Biden Administration Is Said to Slow Early Stage of Shift to Electric Cars

The change to planned rules was an election-year concession to labor unions and auto executives, according to people familiar with the plan.

A Ford F-150 Lightning in Dearborn, Mich., in 2022. Electric vehicles generally require fewer workers. Credit...Brittany Greeson for The New York Times

By Coral Davenport

Coral Davenport has been covering the government's effort to fight climate change by regulating tailpipe pollution since the first rules in 2009.

In a concession to automakers and labor unions, the Biden administration intends to relax elements of one of its most ambitious strategies to combat climate change, limits on tailpipe emissions that are designed to get Americans to switch from gas-powered cars to electric vehicles, according to three people familiar with the plan.

Instead of essentially requiring automakers to rapidly ramp up sales of electric vehicles over the next few years, the administration would give car manufacturers more time, with a sharp increase in sales not required until after 2030, these people said. They asked to remain anonymous because the regulation has not been finalized. The administration plans to publish the final rule by early spring.

The change comes as President Biden faces intense crosswinds as he runs for re-election while trying to confront climate change. He is aiming to cut carbon dioxide emissions from gasoline-powered vehicles, which make up the largest single source of greenhouse gases emitted by the United States.

At the same time, Mr. Biden needs cooperation from the auto industry and political support from the unionized auto workers who backed him in 2020 but now worry that an abrupt transition to electric vehicles would cost jobs. Meanwhile, consumer demand has not been what automakers hoped, with potential buyers put off by sticker prices and the relative scarcity of charging stations.

Sensing an opening, former President Donald J. Trump, the Republican front-runner, has seized on electric cars, falsely warning the public that they "don't work" and telling autoworkers that Mr. Biden's policies are "lunacy" that he would extinguish on "the first day" of his return to the White House.

Last spring, the Environmental Protection Agency proposed the toughest-ever limits on tailpipe emissions. The rules would be so strict, the only way car makers could comply would be to sell a tremendous number of zero-emissions vehicles in a relatively short time frame.

The E.P.A. designed the proposed regulations so that 67 percent of sales of new cars and light-duty trucks would be all-electric by 2032, up from 7.6 percent in 2023, a radical remaking of the American automobile market.

That remains the goal. But as they finalize the regulations, administration officials are tweaking the plan to slow the pace at which auto manufacturers would need to comply, so that electric vehicle sales would increase more gradually through 2030 but then would have to sharply rise.

The change in pacing is in response to automakers who say that more time is needed to build a national network of charging stations and to bring down the cost of electric vehicles, and to labor unions that want more time to try to unionize new electric car plants that are opening around the country, particularly in the South.

But delaying the most stringent requirements of the rule could come at a cost to the climate, after the hottest year in recorded history.

Image

Automakers say that more time is needed to build a national network of charging stations and to bring down the cost of electric vehicles.Credit...Philip Cheung for The New York Times

An Ambitious Initial Plan

Postponing the sharp increase in electric vehicle sales until after 2030 would still eliminate roughly the same amount of auto emissions as the original proposal by 2055, according to E.P.A. models. But it would mean the nation would continue to pump auto emissions into the atmosphere in the short run. Scientists say every year counts in the government's efforts to prevent the planet from tipping into more deadly and costly climate disasters.

"You'll have faster warming if U.S. transportation emissions don't decline before 2030," said James Glynn, a senior research scholar at the Center on Global Energy Policy at Columbia University.

Scientists have warned that if average global temperatures increase by more than 1.5 degrees Celsius compared with preindustrial levels, humans would struggle to adapt to increasingly violent storms, floods, fires, heat waves and other disruptions

The planet has already warmed by about 1.2 degrees Celsius.

Ali Zaidi, Mr. Biden's senior climate adviser, declined to discuss the details of the final regulation. But he said in an interview that Mr. Biden's climate policies, combined with record federal investment in renewable energy, would still help to reach the president's goal of cutting the country's greenhouse gas emissions in half by 2030.

"I feel very good about how our policies, including the regulatory actions, are fitting together to boost our ability to hit our 2030 targets and setting us up for the longer term trajectory," Mr. Zaidi said.

Still, experts say it's uncertain whether Mr. Biden can meet his twin goals of cutting the country's greenhouse gas emissions in half by 2030 and eliminating them by 2050, a target that scientists say all nations must achieve to avoid the most catastrophic impacts of climate change.

Image

A Ford plant in Wayne, Mich. The United Auto Workers has expressed concerns that a rapid transition to electric vehicles will cost jobs. Credit...Nic Antaya for The New York Times

Wary Unions

Labor support has been a key part of Mr. Biden's political coalition and his portrayal of himself as a fighter for the middle class.

That backing was threatened last spring, when the Environmental Protection Agency proposed the new limits on tailpipe emissions. Soon after, Shawn Fain, president of the United Auto Workers, wrote that the union was withholding its endorsement of Mr. Biden's re-election bid over "concerns with the electric vehicle transition."

The union has been wary of electric vehicles, since they require fewer workers to assemble and many electric vehicle plants are being built in states with few unions.

In public comments it filed regarding the proposed rule, the United Auto Workers pressed the Biden administration to relax the compliance timeline so that it "increases stringency more gradually, and occurs over a greater period of time." Union leaders repeated that request in discussions with senior White House officials, including Mr. Zaidi, over the past six months. Biden administration officials said the union's comments had "resonated."

Last fall, when the union went on strike against Ford, General Motors and Stellantis, in part over fears about the industry's transition to electric vehicles, Mr. Biden sought to assuage their concerns and became the first president to stand with workers on the picket line.

By early January, the E.P.A. sent a revised version of its auto emissions rule with the longer time frame to the White House. Weeks later, the United Auto Workers endorsed Mr. Biden.

A spokesman for the union declined multiple requests to interview Mr. Fain.
Image

Shawn Fain, president of the United Auto Workers, announced the union's endorsement of President Biden in Washington in January.Credit...Erin Schaff/The New York Times

After the endorsement, Mr. Trump called Mr. Fain a "dope" on Truth Social, his social media site. "He bought into Biden's 'vision' of all Electric Vehicles, which require far fewer workers to make each car but, more important, are not wanted in large numbers by the consumer, and will ALL be made in China," Mr. Trump wrote.

Barry Rabe, a professor of public policy at the University of Michigan, noted the way Mr. Trump has focused on the anxiety over electric vehicles that pervades that auto-making state, one of a handful of swing states where the election is likely to be decided.

"Trump has been very effective previously at using wedge issues," Mr. Rabe said. "Whenever he comes to the state, this comes up. And this is not abstract in Michigan, it's a real question. 'What plant am I going to be working in?'"

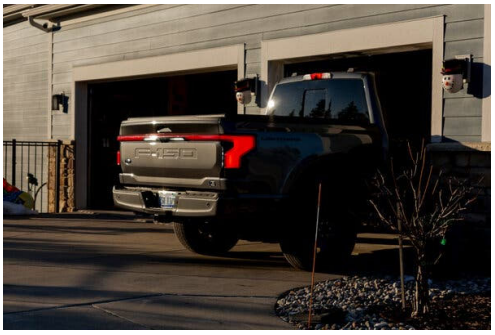
Worried Automakers

Although a record 1.2 million electric vehicles were sold in the United States last year, growth is slowing, even as the new regulations would require a nearly tenfold increase in such sales within just eight years.

While buyers of new electric vehicles are eligible for up to $7,500 in federal tax credits, only 18 models are currently eligible for that full credit, down from about two dozen last year. One of those eligible models, the Ford F-150 Lightning, an all-electric pickup truck that once had a waiting list of 200,000, last year saw sales of 24,000, far short of the 150,000 sales projected by Ford.

And while construction of E.V. chargers is expanding, nearly doubling from about 87,000 in 2019 to more than 172,000 last year, analysts project that the nation will need more than two million chargers by 2030 to support the growth in electric vehicles envisioned by the proposed rules.

All that worries auto companies, which have invested about $146 billion over the past three years in researching and developing electric vehicles, according to the Center for Automotive Research, a nonprofit organization in Ann Arbor, Mich. Auto companies would face billions of dollars per year in fines if the emissions associated with their auto sales exceed the limits set by the new regulations.
Image


Although a record 1.2 million electric vehicles were sold in the United States last year, growth is slowing.Credit...Sylvia Jarrus for The New York Times

The Alliance for Automotive Innovation, which represents 42 car companies that produce about 97 percent of the new vehicles sold in the United States, asked the administration for the same slowdown sought by the United Auto Workers.

“Pace matters,” said John Bozzella, president of the alliance, in an interview. “Give the market and supply chains a chance to catch up, maintain a customer’s ability to choose, let more public charging come online.”

Analysts say the current lag in electric vehicle sales is to be expected, as the market for early adopters — typically wealthier, coastal residents who have bought an E.V. as a second car — is saturated.

“It may be some time before the larger middle class, middle-of-the-country market is ready to embrace buying plug-in cars,” said K. Venkatesh Prasad, the senior vice president of research at the Center for Automotive Research.

It could be easier to sell many more electric vehicles after 2030, Mr. Prasad said.

“There is new technology coming in, prices changing, consumer behavior changing,” he said. “If you’re running one of these businesses and you get some extra time, you would use every second. You can do things that allow you to better source components, test out new technologies, battery technology will get cheaper and allow people to drive longer distances, there is more investment in charging infrastructure, and in the minds of consumers you could start to see more acceptance of this.”

Some analysts said the trade-off, relaxing the rules to give auto companies and workers what they want, could be worth it if it helps Mr. Biden win the election, since Mr. Trump has made clear that if he wins, he plans to roll back the rules entirely.

David Victor, co-director of the Deep Decarbonization Initiative at the University of California San Diego, said, “You have more emissions for a few years but you raise the odds that the rule will stick.”

Coral Davenport covers energy and environment policy, with a focus on climate change, for The Times. More about Coral Davenport

https://www.politico.com/news/2024/02/22/biden-electric-car-issues-00142457

Biden's big bet on EVs is poised to take a detour

Slowing electric car sales, anxious union workers and the president's campaign difficulties in Michigan are complicating one of his most ambitious climate policies.

Tesla cars line up at charging stations in Littleton, Colorado. | David Zalubowski/AP

By **ZACK COLMAN**
02/22/2024 05:00 AM EST

President Joe Biden's hopes for an electric-car takeover of America's highways are running into speed bumps — amid weaker-than-expected sales and uncertainty over how the green agenda is playing in the crucial swing state of Michigan.

And now his regulators are poised to ease back the throttle, three people familiar with the administration's internal deliberations told POLITICO.

The Environmental Protection Agency is leaning toward approving a compromise regulation on car and truck pollution that could slow the initial pace of the required cuts compared with a draft proposal the administration released last year, the three people said. The change could mean that for the rest of this decade, electric vehicle sales would climb more incrementally than EPA had originally projected.

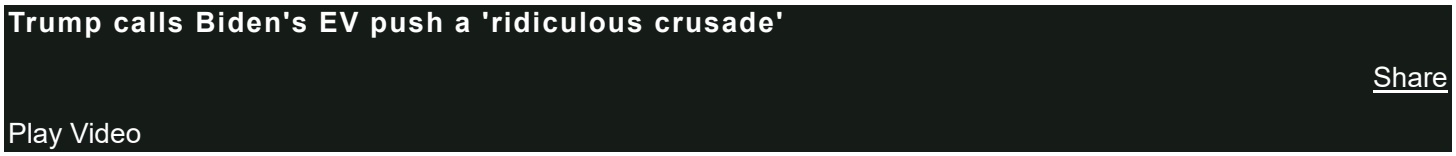
But the cuts — and expected EV sales — would accelerate after 2030. By 2032, more than two-thirds of new cars and light trucks sold in the U.S. would be electric, just as the agency had projected last year.

The revised approach could lessen the transition's economic angst for the industry, auto workers and consumers, though potentially at the cost of allowing hundreds of millions more tons of planet-warming carbon dioxide pollution to enter the atmosphere. The end result would still be a revolutionary change for a country where fully electric vehicles made up just 9 percent of new car and truck sales last year.

The expected pivot underscores the challenges Biden faces in navigating the sometimes clashing demands of key constituencies he'll need on his side in November, including green activists and organized labor — while trying to engineer a historic shift in one of the United States' most important industries. The outcome of the debate is especially urgent in Michigan, a state where the president's political difficulties have grown because of Arab Americans' anger over his policies on the war in Gaza.

Another person familiar with the administration's planning, who did not share details of the proposal's contents, said the final rule is expected next month. The people describing the potential revisions were granted anonymity to discuss an ongoing rule process and private conversations with the administration. The New York Times first reported on Saturday that the EPA intended to relax its proposed vehicle pollution rules.

Biden's EV policies have faced a fierce attack from former President Donald Trump, who has denounced them as "lunacy" and sought to use the issue to win votes from auto workers in Michigan, a state he narrowly won in 2016. Other Republicans have joined in, falsely accusing Biden of proposing a ban on gasoline-powered vehicles. At the same time, Biden has struggled to energize support from young climate activists, who have bristled at any move by the administration that smacks of political compromise.



Some environmental organizations defended the administration's anticipated move, seeing it as consistent with Biden's climate goals and efforts to boost clean manufacturing jobs.

Rather than backtracking, the reported adjustment to the proposal "honors the goal the Biden administration has always tried to deliver," said Jason Walsh, executive director of the BlueGreen Alliance, a coalition of environmental and labor organizations that includes the United Auto Workers. That's because it would meet climate commitments while boosting union jobs, he said.

"This entire issue is hyper-politicized right now in an enormously important and consequential presidential election in which Donald Trump in particular has decided he's just going to lie as much as he possibly can about" electric vehicles, Walsh said.

Ali Zaidi, the White House national climate adviser, said in a statement that the upcoming plan would adhere to Biden's aggressive climate and economic goals.

"President Biden's vision continues to catalyze the market and bring together stakeholders to take action in a way that meets the moment on climate and positions American workers to lead globally on this critical technology," Zaidi said.

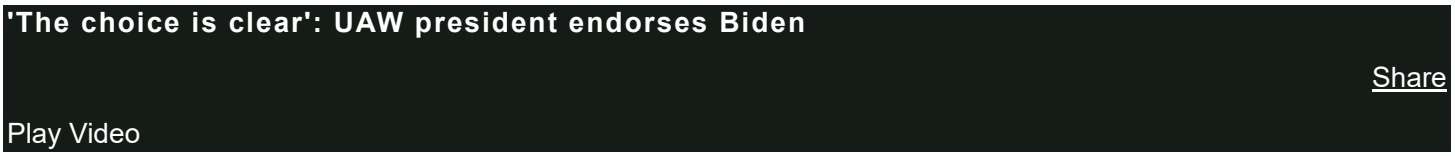
But other environmental groups criticized the initial news reports that the administration was veering from its ambitious acceleration of electric vehicles. Climate scientists have said nations must rapidly cut planet-heating emissions by 2030 to meet global climate goals that nearly 200 nations, including the United States, reaffirmed at U.N. climate talks in December.

"We urge the EPA to remain steadfast in finalizing a strong rule that will improve public health and protect our future," Sierra Club Executive Director Ben Jealous said in a statement.

Detroit's Big Three automakers — General Motors, Ford and Stellantis — were not alone in asking for more time to comply with the EPA proposal. The UAW, a key political ally for Democrats that has 134,000 active members in Michigan, also expressed reservations about the timeline.

Biden has "done an awful lot for the UAW," including visiting the picket line when the union went on strike last fall, said Ray LaHood, who served as Transportation secretary in the Obama administration.

There's little doubt that that constituency is part of what's on the administration's mind, LaHood said — especially in Michigan.



"They're facing some serious criticism from two separate groups on two separate issues," he said, referring to Arab Americans and the UAW. He stressed that Michigan — which the president won with a narrow 154,000-vote margin in 2020 — is a "very, very important state to President Biden."

Adding to the challenges for the green transformation: Electric vehicles sales — while up sharply from just a few years ago — have slowed in recent months, dismaying auto companies that had announced major investments and ambitious time lines for phasing out gasoline vehicles. GM and Ford have recently delayed some of those production projects.

The UAW, meanwhile, has raised concerns over the work standards and pay in parts of the emerging electric vehicle supply chain, where new companies such as battery makers have little history of organized labor. On Wednesday, it announced a $40 million commitment through 2026 to organize non-union auto and battery workers in a sector expected to add thousands of jobs.

For months, the union declined to endorse the outspokenly pro-labor Biden, saying it wanted the president to push harder for better wages and benefits at electric vehicle facilities.

It's against this backdrop that EPA is weighing whether to stick with the aggressive timeline it had laid out in April for requiring carmakers to cut their vehicles' tailpipe pollution.

The rule would not explicitly mandate a switch away from the internal combustion engine. But the required cuts would be so sharp that a wholesale shift to electric vehicles would be the clearest way to meet the limits.

A slowing of the initial timeline could match one alternative rule, known as Alternative 3, that EPA had offered in April. Compared with the agency's original draft, EPA has said, this alternative would allow a cumulative total of 200 million more tons of carbon dioxide pollution through 2055 — an amount equivalent to the annual emissions of more than 40 million cars.

However, the administration isn't limited to staying within those scenarios, and it is possible new modeling has changed its projections.

Some clean-power advocates emphasized that while the administration is discussing slowing its initial glidepath, it's not expected to change the final pollution limits it's proposing to have in place by 2032.

“The Biden administration is not pushing back their timeline,” said Jake Abbott, a policy adviser with advocacy campaign Climate Power, referencing conversations with the administration.

One of the people familiar with the administration’s thinking said the options under consideration would still allow Biden to achieve his goal of zero-emission vehicles making up at least half of new car sales by 2030, on track for even more progress two years later.

Biden and congressional Democrats have poured money and political capital into electric vehicles through the 2021 infrastructure law and the IRA. | Scott Olson/Getty Images

“Based on current conversations, the administration is confident the rule will meet its 2032 ambition for emissions reduction,” said the person, who was granted anonymity to discuss conversations about a process that is still in flux.

All told, the EPA says its initial proposal for passenger vehicles would avoid 7.3 billion tons of CO2 emissions through 2055. Alternative 3 would reduce CO2 emissions by 7.1 billion tons.

By a wide margin, both options would represent the biggest carbon savings of any Biden administration regulation. An upcoming EPA rule on power plants’ climate pollution, the administration’s second biggest proposed carbon-reducing regulation, would avoid 617 million tons over 20 years. A Department of Energy proposal for residential water heaters, a regulation that offers incentives for heat pumps, would reduce CO2 by roughly 500 million tons.

John Bozzella, executive director of the auto industry trade association Alliance for Automotive Innovation, implored the administration to slow the transition to “give the market and supply chains a chance to catch up.” That would provide more time to install vehicle chargers and allow incentives from Biden’s signature climate law, the Inflation Reduction Act, to flourish.

Biden and congressional Democrats have poured money and political capital into electric vehicles through the 2021 infrastructure law and the IRA, which included incentives for purchases and domestic manufacturing of electric vehicles. Biden’s environmental allies see those as a boon to the president in manufacturing-heavy states.

Trump is hoping to flip Michigan from Biden, as he did against Hillary Clinton eight years ago, and he has visited the state often during the past year, including last week. He consistently invokes electric vehicles as an economic loser in Michigan campaign stops, even angling for the UAW’s endorsement while promising to halt Biden’s “all Electric Car SCAM.” The UAW’s leadership eventually endorsed Biden, but that doesn’t prevent rank-and-file union members from voting for Trump.

At the same time, Climate Power’s Abbott said, Michigan has been “a huge beneficiary” of the IRA, and incentives have sprouted thousands of jobs there.

December polling by research firm Impact Research showed 57 percent of Michigan voters believed electric vehicles will make up the majority of sales in the next 20 years, with 55 percent supporting electric vehicle manufacturing investments in the state.

“Michiganders strongly support this spending in the clean manufacturing sector, from the federal and the state government, around everything electric vehicles,” Michigan League of Conservation Voters Executive Director Lisa Wozniak said. “They know that this is our future here in the state. And they want to be the place where we build the vehicles of the future and out -compete the rest of the world.”

Yet pushing for a more moderate shift to EVs is likely to play well with independent voters, according to the centrist political group Third Way, which polled voters in Michigan and five other swing states last month. Less than half of voters support EVs, although 77 percent back investing in clean energy, the poll showed.

Asked to list the most pressing issue in the election, 35 percent of respondents said economic concerns, ahead of border security and protecting democracy. Only 6 percent said climate change was their top issue, and those people overwhelmingly plan to vote for Biden, according to the poll.

“Based on what we’re seeing, relaxing the timeline for the EV transition is likely to go down a bit better with voters, without compromising support from Climate Hawks,” said Emily Becker, the group’s deputy director of communications for climate and energy, by email.

Robin Bravender, Jean Chemnick, Mike Lee and Brian Dabbs contributed to this report.

Electric vehicles not a panacea for climate change: Steven Guilbeault

Electrification is an important component of the battle; public and active transit are also key, environment minister says.

Author of the article: **Michelle Lalonde** • Montreal Gazette

Published Feb 12, 2024 • Last updated 23 hours ago • 4 minute read

"We must stop thinking that electric cars will solve all our problems," Environment Minister Steven Guilbeault said Monday. PHOTO BY FRANK GUNN /THE CANADIAN PRESS

Electric cars are among the many necessary solutions to Canada's environment problems, but they are far from a panacea, Environment and Climate Change Minister Steven Guilbeault told a conference on public transit in Montreal on Monday.

"We must stop thinking that electric cars will solve all our problems," said Guilbeault, who was the keynote speaker at a fundraising luncheon at the Westin Montreal via live video feed from Ottawa. The event was organized by the public transit advocacy group Trajectoire Québec, and brought together about 250 key players in the fields of public transportation, municipal politics, energy and environment.

Guilbeault said over-estimating the ability of electricity-powered transportation to solve climate change and other environmental crises would be "an error, a false utopia that will let us down over the long term."

Guilbeault noted that about one-quarter of Canada's greenhouse gas emissions come from transportation. While his government supports electrification of vehicles, it has also been investing heavily in other programs and plans to move Canadians out of private cars and onto public transit or active forms of transportation.

He said the Liberal government has committed $30 billion to develop public transit since 2016, and has announced the country's first recurrent financing program for public transit projects, which will provide $3 billion per year for projects starting in 2026. The Liberal government also introduced an Active Transportation Fund in 2021, investing $400 million into projects that encourage walking, cycling, and the use of wheelchairs, scooters, e-bikes, roller blades, snowshoes and cross-country skis. Projects funded include multi-use pathways, bike lanes, footbridges across roadways, new lighting, signage and communication that encourages active transportation.

Besides funding these types of projects, all levels of government must make the hard decision to stop expanding the road network, he said. Adding more roads and new lanes on existing roads has proven to encourage more car use, which means more congestion, and more calls for road expansion, he said.

“Our government has made the decision to stop investing in new road infrastructure. Of course we will continue to be there for cities, provinces and territories to maintain the existing network, but there will be no more envelopes from the federal government to enlarge the road network. The analysis we have done is that the network is perfectly adequate to respond to the needs we have. And thanks to a mix of investment in active and public transit, and in territorial planning and densification, we can very well achieve our goals of economic, social and human development without more enlargement of the road network.”

He said the money that in the past was regularly invested in asphalt and concrete for the ever-expanding road network is better invested into projects that will help fight climate change and adapt to its impacts.

Dr. Eve Riopel agrees with Guilbeault on the need to move beyond the idea that electric cars will solve all environmental issues. Riopel is a doctoral student at Johns Hopkins University and the lead author of a paper released last week by the Quebec Association of Physicians for the Environment, which calls on Quebec to update its air pollution norms to reflect current scientific knowledge.

For example, the paper notes that small particulate pollution, or PM 2.5, is one pollutant that harms human health much more than was previously thought. The small particles, which are emitted by industry, wood-burning and gas-fired vehicles among other sources, are cancer-causing, and increase the risk of premature death due to cardiovascular and respiratory events and strokes. A Health Canada study published last year estimated this type of pollution was associated with about 2,300 premature deaths in Quebec in 2015.

Riopel’s report was published last week with the support of the Collège des médecins du Québec and 13 other associations representing health professionals in Quebec. It noted that the tightening of anti-pollution standards for vehicles and new requirements for cleaner gas has reduced the amount of small particulate pollution emitted by newer vehicles. However, about 60 per cent of the small particulate pollution coming from gas-powered vehicles doesn’t actually come from their tailpipes, but rather from brake friction, tire friction, and road surface dust being churned up as the vehicles travel. And that source of emissions will be even worse with electric vehicles, she notes, because their batteries make them heavier than gas-powered vehicles.

“We think that if we switch to electric cars, everything will be good but it won’t be,” said Riopel, who is also a pediatrician. “That is something we have to be aware of as it could be a very important tool to justify decisions to promote active and public transportation.”

Guilbeault, meanwhile, said he is impressed with the passion of Quebec’s municipal sector for public transit projects. “Sometimes it is at the provincial government level where things go wrong a bit, but things are advancing pretty well in Quebec,” he said, mentioning his support for the REM, as well as the planned extension of the métro’s Blue Line and the tramway project in Quebec City.

He said it is crucial that city and regional planners keep the necessary shift to public and active transit in mind, rather than simply planning for electric car charging stations.

“The solution to mobility will not consist only of electrification. Electrification is a component but it’s not the only thing. There is the question of urban planning that is hyper important. … If you are a

decision maker and you decide to build a government institution far from public transit systems, then by default you are inciting people to use their cars to access that public service. All of our planning practices have to be coherent with these mobility objectives, for the reduction of the ecological footprint of transportation and of greenhouse emissions.”

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2030 ERP: TRANSPORTATION

Actions to reduce emissions will enable cleaner public transit, more active transportation, make ZEVs more affordable and accessible, and provide cleaner modes of air, marine, and rail travel. Efforts will also create new jobs in areas like ZEV manufacturing and public transit.

2005 emissions: **160 Mt** | 2019 emissions: **186 Mt** | Estimated change from 2005 to 2030: **-11%**

What We've Already Done

- ✓ Set a mandatory target for 100% of new light-duty cars and passenger truck sales are zero-emission by 2035.
- ✓ Established the $660 million Zero-Emission Vehicles (iZEV) Program which provides incentives and encourages the adoption of ZEVs.
- ✓ Provided $14.9 billion in funding to support public and active transportation infrastructure including zero-emissions busses, new subway lines, light-rail transit and streetcars and improved rural transit.
- ✓ Provided over $450 million since 2016 for infrastructure programs supporting deployment, demonstrations and codes and standards for EV charging and refueling stations across Canada.

Key New Actions

To meet Canada's 2030 emissions reduction target and reach net zero by 2050, the Government of Canada will focus on the following key areas to reduce emissions in the transportation sector:

Develop a light duty vehicle (LDV) ZEV sales mandate, which will set annually increasing requirements towards achieving 100% LDV ZEV sales by 2035, including mandatory interim targets of at least 20% of all new LDVs offered for sale by 2026 and at least 60% by 2030.

Launch an integrated strategy to reduce emissions from medium-and heavy-duty vehicles (MHDVs) with the aim of reaching 35% of total MHDV sales being ZEVs by 2030. In addition, the Government will develop a MHDV ZEV regulation to require 100% MHDV sales to be ZEVs by 2040 for a subset of vehicle types based on feasibility, with interim 2030 regulated sales requirements that would vary for different vehicle categories based on feasibility, and explore interim targets for the mid-2020s.

In support of these objectives, the following investments will be made:

- $1.7 billion to extend the Incentives for Zero-Emission Vehicles Program (iZEV) for light-duty vehicles for three years. Budget 2022 will provide additional detail on the program's design.
- $400 million in additional funding for ZEV charging stations, in support of the Government's objective of adding 50,000 ZEV chargers to Canada's network.
- In addition, the Canada Infrastructure Bank will invest $500 million in large-scale ZEV charging and refueling infrastructure that is revenue-generating and in the public interest.
- 547.5 million for a purchase incentive program for MHDVs. Purchase eligibility date will be announced in Budget 2022.
- $199.6 million to retrofit large trucks currently on the road.
- $33.8 million for hydrogen trucking demonstration projects that address barriers to long-haul zero-emission trucking commercialization – including technical, regulatory and standards challenges.
- $2.2 million to support Greening Government fleet electrification commitments.

Going Further

The Government of Canada also commits to explore additional opportunities, including:

Rail

- Building on successive voluntary agreements with industry, develop an action plan to decarbonize rail in line with Canada's net-zero by 2050 goal, which could include efforts to advance zero-emission locomotives and locomotive electrification.

Aviation

- Developing a whole-of-government approach on the long-term decarbonization of aviation, informed through ongoing engagement with industry and other stakeholders on a renewed action plan to reduce emissions from aviation, which could include initiatives to expand the production and use of low-carbon sustainable aviation fuel, and efforts to decarbonize and electrify airport operations in Canada.
- Working with international partners to increase ambition in International Civil Aviation Organization (ICAO) emission reduction goals and measures.

Marine

- Developing a national action plan to enable the marine sector to reduce its emissions, which could include engagement with stakeholders on energy efficiency/carbon intensity requirements for domestic vessels in-line with requirements for international vessels.
- Working with international partners to develop measures to reduce black carbon in the Arctic from international shipping.

Off-road

- Pursuing zero-emission standards for new off-road small spark-ignition engines (such as lawn and garden equipment). The Government of Canada could also investigate the potential to advance zero-emission technologies and clean fuels for other types and applications of off-road equipment (e.g., small marine engines and recreational vehicles, and larger equipment found in the agriculture, construction, mining and port sectors.

Other

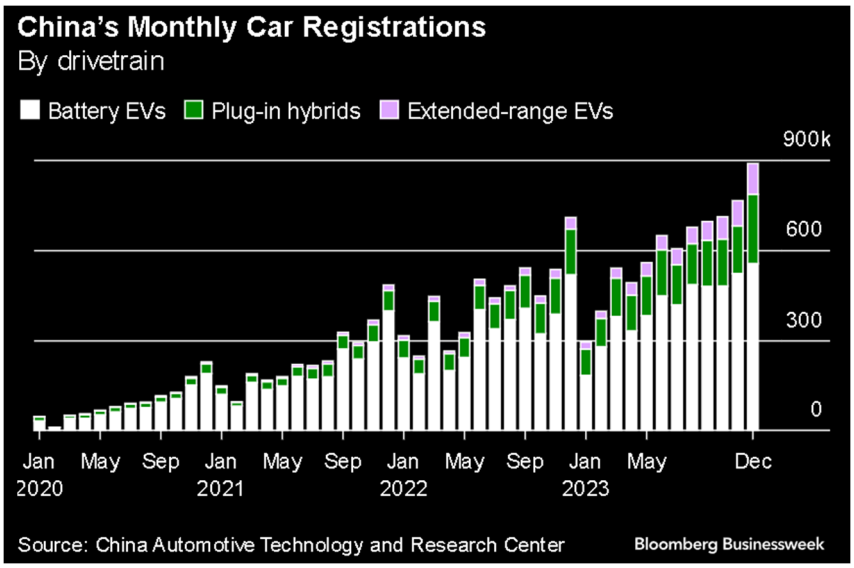
- Working with other levels of government, and in collaboration with key federal partners on additional emission reductions from transportation (e.g., urban mobility and local goods movement).
- Explore opportunities to link investments in infrastructure, particularly public transit, to urban form (e.g. urban mobility of people and goods, optimizing modal shift) and housing outcomes.

Chinese Buyers Embracing Plug-In Hybrids Stalls Gains for EVs
2024-02-21 21:00:13.113 GMT
By Bloomberg News
(Bloomberg Businessweek) -- When Sam Zhong was recently hunting for his first car, he test-drove a number of gasoline-powered vehicles and a handful of all-electric models before settling on a Qin Plus plug-in hybrid from BYD Co. At less than 100,000 yuan ($13,900), it fit his budget, and the ability to switch between the battery-powered motor and an old-school internal combustion engine means he can save money on his daily commute and still take long road trips without worrying about recharging.

"I like the strong power of gasoline cars, and this car gives me a great driving experience, even on pure-electric mode," says Zhong, a 29-year-old resident of Guangdong. "I'm very satisfied with the decision."

A growing preference for plug-in hybrids—which solve range anxiety and are more affordable than battery-only cars—has seen the segment become the growth engine for China's market for electrified vehicles, especially after national EV subsidies were phased out at the end of 2022.

Last year sales of plug-in hybrids increased 83%, compared with 21% growth for battery-only EVs. The trend has continued this year: In January, traditionally a slow month for car sales, battery EV deliveries slumped 39% from December, while plug-in hybrid shipments fell just 16%. Overall vehicle sales fell 14%, according to data from the China Passenger Car Association (PCA).



Battery EVs still outsell plug-in hybrids by more than 2 to 1, according to the China Automotive Technology and Research Center. But the fast sales growth for hybrids raises questions about the nation's ultimate goal of transitioning to entirely clean transport.

The growing popularity of plug-in hybrids is also bad news for the likes of Tesla, Xpeng and Nio, which make only fully electric cars. Their customers are mainly concentrated in large,

wealthy metropolises such as Beijing, Shanghai and Shenzhen, where drivers have embraced EVs. Residents of smaller cities and rural areas, where EV makers would like to make inroads, seem to prefer more affordable options and a longer driving range.

BYD sold 3 million vehicles in 2023, with plug-in hybrids accounting for just under half the total. BYD has been developing its plug-in hybrid platform, DM-i, for almost 20 years. The fourth generation of the technology, which launched in 2021, became a smash hit, helping BYD become the bestselling car brand in China last year. It also overtook Tesla Inc. to become the world's largest EV maker in the last quarter. "BYD is the dominant player—it has a weapon that Tesla doesn't have, and that's the plug-in hybrid," says Bill Russo, a former Chrysler executive who's now chief executive officer of Automobility Ltd., a Shanghai-based consultancy.

Japanese automakers are also losing out. Although they pioneered hybrid technology, companies including Toyota Motor Corp. and Nissan Motor Co. haven't focused much on plug-ins. The type of hybrids popular in Japan are powered by an internal combustion engine, plus an electric motor that helps improve fuel efficiency. They can't be recharged from the power grid and don't qualify for local subsidies or tax exemptions in China. Toyota offers more than 20 hybrid models and just two plug-in hybrid cars in China, according to its website.

Another automaker that's benefited by using new technologies to calm customers' range anxiety is Li Auto Inc., whose models are mostly extended-range EVs, battery-powered cars with a gasoline engine that kicks in to recharge the cell when it's out of juice. The Beijing-based manufacturer is expected on Feb. 26 to be the first of the three major Chinese EV upstarts, ahead of Xpeng Inc. and Nio Inc., to post an annual profit for 2023, when sales surged 182% to 376,000 vehicles.

While plug-in hybrids are more environmentally friendly than gasoline cars, their increasing popularity could delay China's planned transition to zero-emission transportation. A plug-in hybrid emits an average of about 4,800 pounds (2,177 kilograms) of carbon dioxide annually, compared with 6,900 pounds for a hybrid and 12,500 pounds for a gasoline car. While battery EVs have zero tailpipe emissions, around 2,700 pounds of carbon dioxide emissions per year may result from their use depending on the source of the electricity that recharges the cars, according to the US Department of Energy.

In guidelines for the EV industry issued in 2021, Beijing envisioned electrified cars—including plug-in hybrids—making up 25% of new vehicle sales by 2025, 90% of which should go to battery EVs. The 25% goal was met in 2022, but battery EVs today account for 66% of electrified vehicle sales, with the rest going to plug-in hybrids, according to the PCA.

Ilaria Mazzocco, a senior fellow at the Center for Strategic and International Studies, says EV adoption is a push-and-pull process among consumers, manufacturers and the government. "I think there's sort of a game where some cities can keep readjusting policies and give priority to battery-

electric vehicles over plug-in hybrids," she says. "But as companies provide reliable and affordable options, consumers tend to respond. There is a demand for plug-in hybrids."

Wang Xin, a car dealer in Jiangsu, says he's noticed increased interest in plug-in hybrids. The number of inquiries for plug-in hybrids and EVs are about the same, but the interest in plug-in hybrids is concentrated on some popular models, while people browse a more diverse range of pure-electric vehicles. "When they asked about hybrid cars, they cared most about the price and fuel consumption of individual models, but customers usually started with some generic question of battery-electric cars, such as safety and driving range, when they take the type of cars into consideration," he says.

The popularity of plug-in hybrids isn't a bad thing, because it's a stage on the way to adopting battery EVs, according to Automobility's Russo. "It may not be possible to get all the way to the other side of the river in one step. Plug-in hybrids sit on the EV side of the river. The conventional hybrid sits on the internal combustion engine side," he says. "The plug-in hybrid was designed to give the traditional auto industry, [which] a lot of investments and jobs revolve around, a way to feel their way across the river by stepping on this stone." —With Linda Lew, Jinshan Hong and Chunying Zhang

Read next: Why America's Car Buyers Are Rethinking EVs

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FORD ADDS THIRD CREW TO MEET DEMAND FOR BRONCO AND RANGER, REDUCES F-150 LIGHTNING PRODUCTION

JAN 19, 2024 | DEARBORN

- Ford will create nearly 900 new jobs and add a third crew at Michigan Assembly Plant to increase production of the popular Bronco and Bronco Raptor sport-utility vehicles and the all-new Ranger and Ranger Raptor pickups
- The company continues to balance production to meet customer demand for its broad portfolio of trucks, utility vehicles and cars with a mix of gas, hybrid and electric powertrains
- Ford is reducing production of F-150 Lightning, the top-selling electric pickup in the U.S., to achieve the optimal balance of production, sales growth and profitability. Ford expects continued growth in global EV sales in 2024, though less than anticipated, and is preparing to launch next-generation EVs

DEARBORN, Mich., Jan. 19, 2024 – Ford Motor Company announced plans to create nearly 900 new jobs as part of a new third crew at Michigan Assembly Plant in Wayne to meet demand for the popular Bronco and Bronco Raptor and the all-new Ranger and Ranger Raptor.

The company is moving nimbly across its global footprint to capitalize on its balanced lineup and serve customers with the right mix of gas-powered, hybrid and electric vehicles, while optimizing financial returns.

In addition to nearly 900 net new hires, the new 1,600-person third crew at Michigan Assembly Plant will also include approximately 700 employees from Ford's Rouge Complex in Dearborn who applied for job openings.

Ford is adding the manpower this summer to support planned future volume increases for vehicle lines assembled at the plant. The all-new Ranger and Ranger Raptor are on track to launch this year. Michigan Assembly Plant will transition to producing vehicles seven days a week versus five currently, with three crews working two shifts.

Matching F-150 Lightning production to customer demand

The company also has capacity available to scale production of gas-powered and hybrid F-150 trucks based on customer demand.

Ford was America's No. 2 best-selling electric vehicle brand in 2023, and F-150 Lightning is America's best-selling electric truck with sales up 55% in 2023 and further growth forecast for 2024.

"We are taking advantage of our manufacturing flexibility to offer customers choices while balancing our growth and profitability. Customers love the F-150 Lightning, America's best-selling EV pickup," said Ford President and CEO Jim Farley. "We see a bright future for electric vehicles for specific consumers, especially with our upcoming digitally advanced EVs and access to Tesla's charging network beginning this quarter."

Approximately 1,400 employees will be impacted as the Rouge Electric Vehicle Center transitions to one shift effective April 1. Roughly 700 will transfer to Michigan Assembly Plant and the others will be placed in roles at the Rouge Complex or other facilities in Southeast Michigan, or take advantage of the Special Retirement Incentive Program agreed to in the 2023 Ford-UAW contract.

A few dozen employees could be impacted at component plants supporting F-150 Lightning production, depending on the number of employees who apply for the Special Retirement Incentive Program. Ford would provide placements for impacted employees within Southeast Michigan.

"*Yes we have*" says Stellantis CEO Carlos Tavares in response to CNBC's Joe Kernen "*you have a lot to do"* to make EVs affordable.

SAF Group created transcript of comments by Stellantis CEO Carlos Tavares with CNBC's Andrew Ross Sorkin, Joe Kernen and Phil LeBeau on CNBC Squawk Box on Feb 20, 2024. https://www.cnbc.com/video/2024/02/20/stellantis-ceo-carlos-tavares-on-2024-ev-rollout-whats-at-stake-right-now-is-affordability.html

Items in "italics" are SAF Group created transcript

At 0:25 min mark, LeBeau *".. you know about the debate that is going on right now, EV market is slowing down in terms of the adoption rate here in the US. Does that continue at least thru the rest of this year, and several years? What do you see?*" Tavares *"What I see is to make the EV spark. You need to align a certain number of stars. You need, of course, clean energy. You need to have very dense charging network that people can see so they move range anxiety. You need a great product with a very high range, like the products we are bringing to the market. 500 miles of range. That should e enough. And you need affordability. And what is at stake right now is affordability. That is the major star that is right now totally aligned with the three other ones. Assuming that will be*". LeBeau "*is that the supply chain, is that the main issue, raw materials?"* Tavares "*It's the design to costs, the fact that we need to be using raw materials for the battery cells which are now scarce. But as long as they are scarce, there is a lot of potential inflation and volatility. Design to costs, raw materials which are now scarce. And we have to double the power density of the battery cells so that you can have a smaller battery with less weight and therefore less cost*." LeBeau "*He's [Kernen] is shaking his head over there*." Kernen "*You have a lot to do.*" Tavares "*Yes we have*".

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

"You need with your eyes to see where the charging units are. The charging units need to come to your customer journey, to your day journey without you having to look for them."
Stellantis CEO Carlos Tavares

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Items in "italics" are SAF Group created transcript

At 2:35 min mark, Kernen "*… the density of not having to worry about being able to find a charger …*" Tavares "*… the carmakers are now bringing range that should remove that anxiety. In addition to the fact that you need with your eyes to see where the charging units are. The charging units need to come to your customer journey, to your day journey without you having to look for them. So when you go to gym, when you go to the supermarket, when you go to the mall, when you go to restaurants*". LeBeau "*we're a long way away from that happening here in the US.*" Tavares "*That's an infrastructure that needs to be set up".*

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

***"To fix the affordability problem, we need to be finding a way to design to cost our products so that you sell BEVs at the price of ICEs. That is going to put extreme pressure on our companies." S*tellantis CEO Carlos Tavares**

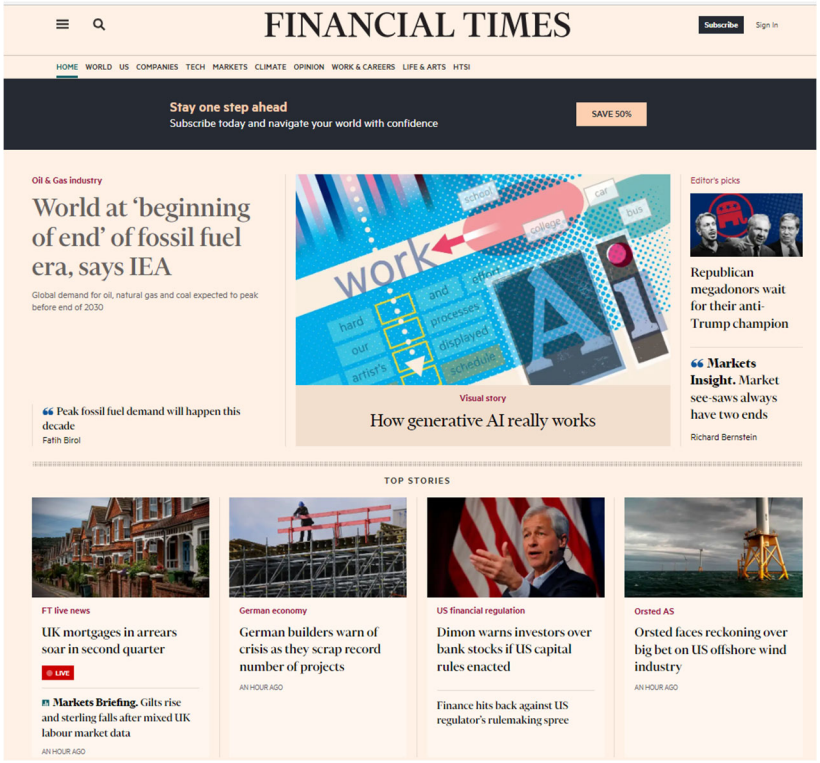
SAF Group created transcript of comments by Stellantis CEO Carlos Tavares with CNBC's Andrew Ross Sorkin, Joe Kernen and Phil LeBeau on CNBC Squawk Box on Feb 20, 2024. https://www.cnbc.com/video/2024/02/20/stellantis-ceo-carlos-tavares-on-2024-ev-rollout-whats-at-stake-right-now-is-affordability.html

Items in "italics" are SAF Group created transcript

At 3:50 min mark, LeBeau "*… when does that [M&A] happen?"* Tavares "*It is going to be triggered by a very simple statement that everybody will understand. We have to find a way to sell BEVs at the price of ICEs. That's quite simple. To fix the affordability problem, we need to be finding a way to design to cost our products so that you sell BEVs at the price of ICEs. That is going to put extreme pressure on our companies, not only on the supply chain*." LeBeau "*in other words if you can't do it, you're not going to survive.*" Tavares "*Somebody will. The guys who are now ready to offer that in the world, not in the US, but in the world are the Chinese. The Chinese are able*." Ross Sorkin "*do you think there is a merger to be done with the Chinese? Do you think that the US government would ever allow, the Europeans would ever allow*" Tavares "*That is not what I am saying. I am saying the guys now, the Chinese have a 30% competitive edge on exworks [?], on their BEVs. So they are able to sell their products with one segment gap, which means you sell a "C" segment car at the price of a "B" segment. Which solves the problem of affordability. Now what is gong to be their stance*" Ross Sorkin "*all these governments are putting tariffs on everything to prevent that"*. Tavares "*Exactly. But that will generate inflation inside of the bubble. If you do that, inflation inside of the bubble will make things worse rather than better. This country has seen the Japanese invasion in the 70s, then the Koreans, are you going to see a 3rd wave of Asian, which would be the Chinese? I don't know, I'm opening the question. But what I can tell you is they're able to sell the BEVs at the price of ICEs. So we need to hurry up. We need to do our job, to do our homeworks to make sure we do the same thing. Of course, the governments can protect their companies with a golden share. That's absolutely obvious and absolutely fair. This being said, if we don't fix this for the consumer, recognizing that our mission is to deliver clean, safe and affordable mobility, then we are vulnerable and the 70s will not fall in the trap [?]"*

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

Financial Times home page as of 5:30am MT Sept 12, 2023



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Opinion Oil & Gas industry

Peak fossil fuel demand will happen this decade

But the decline in oil, gas and coal will not be steep enough to limit global warming to 1.5C

Fatih Birol YESTERDAY

The writer is executive director of the International Energy Agency

There's a taboo in the traditional energy sector against suggesting that demand for the three fossil fuels — oil, gas and coal — could go into permanent decline. Despite recurring talk of peak oil and peak coal over the years, both fuels are hitting all-time highs, making it easier to push back against any assertions that they could soon be on the wane.

But according to new projections from the International Energy Agency, this age of seemingly relentless growth is set to come to an end this decade, bringing with it significant implications for the global energy sector and the fight against climate change.

Every year, the IEA's World Energy Outlook maps out potential pathways the global energy system could take in the coming decades to help inform decision-making. This year's report, to be released next month, shows the world is on the cusp of a historic turning point. Based only on today's policy settings by governments worldwide — even without any new climate policies — demand for each of the three fossil fuels is set to hit a peak in the coming years. This is the first time that a peak in demand is visible for each fuel this decade — earlier than many people anticipated.

These remarkable shifts will bring forward the peak in global greenhouse gas emissions. They are primarily driven by the spectacular growth of clean energy technologies such as solar panels and electric vehicles, the structural shifts in China's economy and the ramifications of the global energy crisis.

Global demand for coal has remained stubbornly high for the past decade. But it is now set to peak in the next few years, with big investments drying up outside China as solar and wind dominate the expansion of electricity systems. Even in China, the world's largest coal consumer, the impressive growth of renewables and nuclear power, alongside a slower economy, point to a decrease in coal use soon.

Some pundits suggested global oil demand might have peaked after it plunged during the pandemic. The IEA was wary of such premature calls, but our latest projections show that the growth of electric vehicles around the world, especially in China, means oil demand is on course to peak before 2030. Electric buses and two- and three-wheelers are also growing strongly, especially in emerging economies, further eating into demand.

The "Golden Age of Gas", which we called in 2011, is nearing an end, with demand in advanced economies set to fall away later this decade. This is the result of renewables increasingly outmatching gas for producing electricity, the rise of heat pumps and Europe's accelerated shift away from gas following Russia's invasion of Ukraine.

Peaks for the three fossil fuels are a welcome sight, showing that the shift to cleaner and more secure energy systems is speeding up and that efforts to avoid the worst effects of climate change are making headway. But there are some important issues to bear in mind.

For starters, the projected declines in demand we see based on today's policy settings are nowhere near steep enough to put the world on a path to limiting global warming to 1.5C. That will require significantly stronger and faster policy action by governments.

Demand for the different fuels is set to vary considerably among regions. The drop in advanced economies will be partially offset by continued growth in some emerging and developing economies, particularly for gas. But the global trends are clear: low-emissions electricity and fuels, as well as energy efficiency improvements, are increasingly taking care of the world's rising energy needs.

The declines in demand also won't be linear. Although fossil fuels are set to hit their peaks this decade in structural terms, there can still be spikes, dips and plateaus on the way down. For example, heatwaves and droughts can cause temporary jumps in coal demand by pushing up electricity use while choking hydropower output.

And even as demand for fossil fuels falls, energy security challenges will remain as suppliers adjust to the changes. The peaks in demand we see based on today's policy settings don't remove the need for investment in oil and gas supply, as the natural declines from existing fields can be very steep. At the same time, they undercut the calls from some quarters to increase spending and underline the economic and financial risks of major new oil and gas projects — on top of their glaring risks for the climate.

With today's policies already bringing the fossil fuel peaks into sight, decision makers need to be nimble. The clean energy transition may well accelerate even further through stronger climate policies. But the energy world is changing fast and for the better.

The energy world remains fragile but has effective ways to improve energy security and tackle emissions

Some of the immediate pressures from the global energy crisis have eased, but energy markets, geopolitics, and the global economy are unsettled and the risk of further disruption is ever present. Fossil fuel prices are down from their 2022 peaks, but markets are tense and volatile. Continued fighting in Ukraine, more than a year after Russia's invasion, is now accompanied by the risk of protracted conflict in the Middle East. The macro-economic mood is downbeat, with stubborn inflation, higher borrowing costs and elevated debt levels. Today, the global average surface temperature is already around 1.2 °C above pre-industrial levels, prompting heatwaves and other extreme weather events, and greenhouse gas emissions have not yet peaked. The energy sector is also the primary cause of the polluted air that more than 90% of the world's population is forced to breathe, linked to more than 6 million premature deaths a year. Positive trends on improving access to electricity and clean cooking have slowed or even reversed in some countries.

Against this complex backdrop, the emergence of a new clean energy economy, led by solar PV and electric vehicles (EVs), provides hope for the way forward. Investment in clean energy has risen by 40% since 2020. The push to bring down emissions is a key reason, but not the only one. The economic case for mature clean energy technologies is strong. Energy security is also an important factor, particularly in fuel-importing countries, as are industrial strategies and the desire to create clean energy jobs. Not all clean technologies are thriving and some supply chains, notably for wind, are under pressure, but there are striking examples of an accelerating pace of change. In 2020, one in 25 cars sold was electric; in 2023, this is now one in 5. More than 500 gigawatts (GW) of renewables generation capacity are set to be added in 2023 – a new record. More than USD 1 billion a day is being spent on solar deployment. Manufacturing capacity for key components of a clean energy system, including solar PV modules and EV batteries, is expanding fast. This momentum is why the IEA recently concluded, in its updated *Net Zero Roadmap*, that a pathway to limiting global warming to 1.5 °C is very difficult – but remains open.

This new *Outlook* provides a strong evidence base to guide the choices that face energy decision makers in pursuit of transitions that are rapid, secure, affordable and inclusive. The analysis does not present a single view of the future but instead explores different scenarios that reflect current real-world conditions and starting points. The Stated Policies Scenario (STEPS) provides an outlook based on the latest policy settings, including energy, climate and related industrial policies. The Announced Pledges Scenario (APS) assumes all national energy and climate targets made by governments are met in full and on time. Yet, much additional progress is still required to meet the objectives of the Net Zero Emissions by 2050 (NZE) Scenario which limits global warming to 1.5 °C. Alongside our main scenarios, we explore some key uncertainties that could affect future trends, including structural changes in China's economy and the pace of global deployment of solar PV.

We are on track to see all fossil fuels peak before 2030

A legacy of the global energy crisis may be to usher in the beginning of the end of the fossil fuel era: the momentum behind clean energy transitions is now sufficient for global demand for coal, oil and natural gas to all reach a high point before 2030 in the STEPS. The share of coal, oil and natural gas in global energy supply – stuck for decades around 80% – starts to edge downwards and reaches 73% in the STEPS by 2030. This is an important shift. However, if demand for these fossil fuels remains at a high level, as has been the case for coal in recent years, and as is the case in the STEPS projections for oil and gas, it is far from enough to reach global climate goals.

Policies supporting clean energy are delivering as the projected pace of change picks up in key markets around the world. Thanks largely to the Inflation Reduction Act in the United States, we now project that 50% of new US car registrations will be electric in 2030 in the STEPS. Two years ago, the corresponding figure in the *WEO-2021* was 12%. In the European Union in 2030, heat pump installations in the STEPS reach two-thirds of the level needed in the NZE Scenario, compared with the one-third projected two years ago. In China, projected additions of solar PV and offshore wind to 2030 are now three-times higher than they were in the *WEO-2021*. Prospects for nuclear power have also improved in leading markets, with support for lifetime extensions of existing nuclear reactors in countries including Japan, Korea and the United States, as well as for new builds in several more.

Although demand for fossil fuels has been strong in recent years, there are signs of a change in direction. Alongside the deployment of low-emissions alternatives, the rate at which new assets that use fossil fuels are being added to the energy system has slowed. Sales of cars and two/three-wheel vehicles with internal combustion engines are well below where they were before the Covid-19 pandemic. In the electricity sector, worldwide additions of coal- and natural gas-fired power plants have halved, at least, from earlier peaks. Sales of residential gas boilers have been trending downwards and are now outnumbered by sales of heat pumps in many countries in Europe and in the United States.

China has changed the energy world, but now China is changing

China has an outsized role in shaping global energy trends; this influence is evolving as its economy slows and its structure adjusts, and as clean energy use grows. Over the past ten years, China accounted for almost two-thirds of the rise in global oil use, nearly one-third of the increase in natural gas, and has been the dominant player in coal markets. But it is widely recognised, including by the country's leadership, that China's economy is reaching an inflection point. After a very rapid building out of the country's physical infrastructure, the scope for further additions is narrowing. The country already has a world-class high-speed rail network; and residential floorspace per capita is now equal to that of Japan, even though GDP per capita is much lower. This saturation points to lower future demand in many energy-intensive sectors like cement and steel. China is also a clean energy powerhouse, accounting for around half of wind and solar additions and well over half of global EV sales in 2022.

https://www.wsj.com/personal-finance/the-lifespan-of-large-appliances-is-shrinking-e5fb205b?mod=e2tw

The Lifespan of Large Appliances Is Shrinking

Appliance technicians blame a push toward computerization and an increase in the quantity of components inside a machine

ILLUSTRATION: RACHEL MENDELSON/THE WALL STREET JOURNAL, ISTOCK (5)

By Rachel Wolfe

Follow

Feb. 20, 2024 9:00 pm ET

Our refrigerators, washing machines and ovens can do more than ever, from producing symmetrical ice cubes to remotely preheating on your commute home. The downside to all these snazzy features is that the appliances are more prone to breaking.

Appliance technicians and others in the industry say there has been an increase in items in need of repair. Yelp users, for example, requested 58% more quotes from thousands of appliance repair businesses last month than they did in January 2022.

Those in the industry blame a push toward computerization, an increase in the quantity of individual components and flimsier materials for undercutting reliability. They say even higher-end items aren't as durable.

American households spent 43% more on home appliances in 2023 than they did in 2013, rising from an inflation-adjusted average of $390 to $558, according to Euromonitor International. Prices for the category declined 12% from the beginning of 2013 through the end of 2023, according to the Labor Department.

One reason for the discrepancy between spending and prices is a higher rate of replacement, say consumers, repair technicians and others. That's left some people wishing they had held on to their clunky '90s-era appliances and others bargaining with repair workers over intractable ice makers and dryers that run cold.

"We're making things more complicated, they're harder to fix and more expensive to fix," says Aaron Gianni, the founder of do-it-yourself home-repair app Plunjr.

Newer refrigerators, right, have different parts and more computerized systems than their older counterparts.ISTOCK (2)

Horror stories

Sharon J. Swan spent nearly $7,000 on a Bosch gas range and smart refrigerator. She thought the appliances would last at least through whenever she decided to sell her Alexandria, Va., home and impress would-be buyers.

That was before the oven caught fire the first time she tried the broiler, leading to a 911 call and hasty return. The ice-maker in the refrigerator, meanwhile, is now broken for the third time in under two years. Bosch covered the first two fridge fixes, but she says she's on her own for the latest repair, totaling $250, plus parts.

"I feel like I wasted my money," says the 65-year-old consultant for trade associations.

A Bosch spokeswoman said in an emailed statement that the company has been responsive to Swan's concerns and will continue to work with her to resolve ongoing issues. "Bosch appliances are designed and manufactured to meet the highest quality standards, and they are built to last," she said.

Kevin and Kellene Dinino wish they had held on to their white dishwasher from the '90s that was still working great.

The sleeker $800 GE stainless steel interior dishwasher they purchased sprang a hidden leak within three years, causing more than $35,000 worth of damage to their San Diego kitchen.

Home insurance covered the claim, which included replacing the hardwood down to the subfloor and all their bottom cabinetry, but kicked the Dininos off their policy. The family also went without access to their kitchen for months.

"This was a $60 pump that was broken. What the hell happened?" says Kevin, 45, who runs a financial public-relations firm.

A GE Appliances spokeswoman said the company takes appliance issues seriously and works quickly to resolve them with consumers.

Increased complexity

Peel back the plastic on a modern refrigerator or washing machine and you'll see a smattering of sensors and switches that its 10-year-old counterpart lacks. These extra components help ensure the appliance is using only the energy and water it needs for the job at hand, technicians say. With more parts, however, more tends to go wrong more quickly, they say.

Mansoor Soomro, a professor at Teesside University, a technical college in Middlesbrough, England, says home appliances are breaking down more often. He says that manufacturers used to rely mostly on straightforward mechanical parts (think an on/off switch that triggers a single lever). In the past decade or so, they've transitioned to relying more on sophisticated electrical and computerized parts (say, a touch screen that displays a dozen different sensor-controlled wash options).

Newer washing machines, right, give users more options for ways to wash their clothes—and more parts that can break.ISTOCK (2)

When a complicated machine fails, technicians say they have a much harder time figuring out what went wrong. Even if the technician does diagnose the problem, consumers are often left with repairs that exceed half the cost of replacement, rendering the machine totaled.

"In the majority of cases, I would say buying a new one makes more economic sense than repairing it," says Soomro, who spent seven years working at Siemens , including in the home-appliances division.

These machines are also now more likely to be made with plastic and aluminum rather than steel, Soomro says. High-efficiency motors and compressors, too, are likely to be lighter-duty, since they're tasked with drawing less energy.

A spokeswoman for the Association for Home Appliance Manufacturers says the industry has "enhanced the safety, energy efficiency, capacity and performance of appliances while adding features and maintaining affordability and durability for purchasers." She says data last updated in 2019 shows that the average life of an appliance has "not substantially shifted over the past two decades."

When simpler is better

Kathryn Ryan and Kevin Sullivan needed a new sensor to fix their recently purchased $1,566 GE Unitized Spacemaker washer-dryer. GE wasn't able to fix the sensor for months, so the couple paid a local technician $300 to get the machine working.

The repairman also offered them a suggestion: Avoid the sensor option and stick to timed dries.

"You should be able to use whatever function you please on a brand new appliance, ideally," says Sullivan, a 32-year-old musician in Burbank, Calif.

More features might seem glamorous, Frontdoor virtual appliance tech Jim Zaccone says, but fewer is usually better.

“Consumers are wising up to the failures that are happening and going, ‘Do I really need my oven to preheat while I’m at the grocery store?’” jokes Zaccone, who has been in the appliance-repair business for 21 years.

He just replaced his own dishwasher and says he bought one with “the least bells and whistles.” He also opted for a mass-market brand with cheap and readily available parts. Most surprisingly, he chose a bottom-of-the-line model.

“Spending a lot of money on something doesn’t guarantee you more reliability,” says Zaccone.

Write to Rachel Wolfe at rachel.wolfe@wsj.com

Corrections & Amplifications
Kevin Dinino filed a home-insurance claim after a dishwasher sprang a hidden leak. An earlier version of this article incorrectly said he filed a flood-insurance claim. (Corrected on Feb. 21)

https://www.theglobeandmail.com/report-on-business/industry-news/marketing/the-maytag-man-through-the-years/article16247650/

The Maytag Man through the years

SUSAN KRASHINSKY
MARKETING REPORTER
PUBLISHED JANUARY 8, 2014

After 46 years, Maytag is giving its familiar mascot a makeover for the first time. In a multimillion-dollar campaign that begins this week, the character will be dressed snappier; played by a more attractive, dimple-chinned, slimmer actor; and will no longer be portrayed as a repairman with nothing to do.

Instead, the rugged new Maytag Man will show up in commercials as a symbol of the machines themselves: sitting under the counter next to the sink as a woman hands him her dirtiest dishes, for example, or magically tumbling a load of laundry in midair.

1) Jesse White

Maytag introduced its spokesman as "the loneliest guy in town" in 1967, in a campaign created by its ad agency at the time, Leo Burnett Chicago. Jesse White played the role for more than two decades, filming 68 commercials as the character who cultivates habits such as solitaire, crossword puzzles and bead work because he is rarely called upon to repair a machine. He would also come to be known as "Ol' Lonely."

2) Gordon Jump

The actor who first became known as station manager Arthur Carlson on the sitcom "WKRP in Cincinatti" took over the Maytag repairman role from Jesse White in 1989 and starred in the company's commercials until 2003.

3) Hardy Rawls

Mr. Rawls held the role for four years, until 2007 when his contract expired and Maytag's parent company, Whirlpool Corp., announced a nationwide competition to replace him. At the time, Whirlpool's vice-president of brand marketing and communications, Jeff Davidoff, said they were seeking a "more relevant look and contemporary feel" for the character.

4) Clay Jackson

After a cross-country search, Mr. Jackson was named the new Maytag repairman in April, 2007. He made ads for the company (including in Canada) until now. This week, Maytag revealed a new actor and a whole new take on its iconic spokesman. In 2007, Whirlpool's Mr. Davidoff was already hinting that the company was trying to change the repairman's image, saying that he would be portrayed more as "out and about because he wants to fix things."

5) The new guy

The new Man, played by Colin Ferguson, is slimmer, with a darker blue and more tailored uniform. The company says it wants to take the focus off the repairman as a character all his own – making public appearances, for example, as his predecessor did – to seeing him more as a symbol of the machines themselves. "Ol' Lonely" is now younger, fitter, and at least for now, anonymous.

The apprentice

The new Maytag Man is not the only younger model to wear the blue uniform. In 2001, the company introduced a handsome young apprentice, played by Mark Devine, to star in ads alongside Gordon Jump (and then Hardy Rawls.) His character was discontinued in 2005.

The dog

For years, the repairman's only company was his dog, a bassett hound. The dog was named Newton after the town in Iowa where Fred Maytag built his first washing machines and where the company's headquarters were located before it was acquired by Whirlpool Corp.

Dan Tsubouchi @Energy_Tidbits · 5h

Increased risk to US #LNG projects caught in Biden "pause"

👇02/16 @amoshochstein to @_HadleyGamble, pause study let them avoid threat of overbuilding US capacity.

@qatarenergy new +2.1 bcfd by end of 2030 wouldn't have been in US supply forecast before today.

#OOTT

***"One is what's the demand looking at the world, do we need to, are we going to be in a threat of overbuilding our capacity in the US and global demand won't be there."* Amos Hochstein on why US has a pause on LNG export approvals**

SAF Group created transcript of comments by Amos Hochstein (US energy envoy) to Al Arabiya English's Hadley Gamble on Feb16, 2024. https://twitter.com/AlArabiya_Eng/status/1758571515786711136

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

At 0:25 min mark, Hochstein *"... The only thing we have paused is beyond the doubling of our capacity is to look at a number of factors. Say wait a minute, we have a massive amount of LNG capacity coming on, let's look at three things. One is what's the demand looking at the world, do we need to, are we going to be in a threat of overbuilding our capacity in the US and global demand won't be there. So we have to take a pause to think about that."*

At 3:04 min mark, Hochstein *"I think this step is there to take, is a prudent step in order for us to take a look at what is happening in the market. Take a pause of a few months. Look at the study and see where it takes us. And what we don't want is a massive overbuilding, an overcapacity when demand is not going to be there."* Gamble *"A few months, six months, timeline?"* Hochstein "The timeline is going to be somewhere in that 10, 12, 14 months, I don't know what it is"

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

Dan Tsubouchi @Energy_Tidbits · 6h

Brownfield advantage.

Drilling confirms more reserves so Qatar to add a further +2.1 bcfd #LNG supply capacity.

...

3 1.4K

Dan Tsubouchi @Energy_Tidbits · 6h

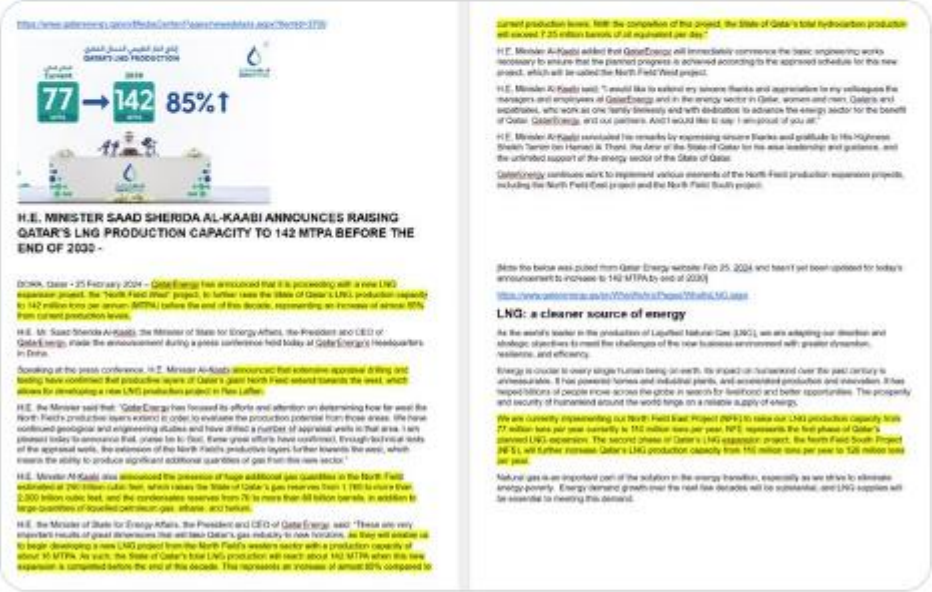
Brownfield advantage.

Drilling confirms more reserves so Qatar to add a further +2.1 bcfd #LNG supply capacity.

Current 10.1 bcfd.

Going to 16.6 bcfd in 2027 with NFE & NFS projects.

Today @qatarenergy now have reserves to grow to 18.7 bcfd by end of ... Show more



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Dan Tsubouchi @Energy_Tidbits · 23h

Be interesting to see what the market thinks on Monday?

Feb 9: Ford reported halted shipments of F-150 Lightning .

Feb 23, 2 weeks later. Reports that Ford issued statement advising of the Feb 9 halt. per 👇 @KeithNaughton report last night.

#OOTT #EVs

> **Dan Tsubouchi** @Energy_Tidbits · Feb 23
>
> 
>
> Friday night news is never good.
>
> @KeithNaughton: Ford "*has halted shipments of its F-150 Lightning plug-in pickup for an undisclosed quality issue .....statement late Friday it stopped...*

1 · 5 · 5 · 3.1K

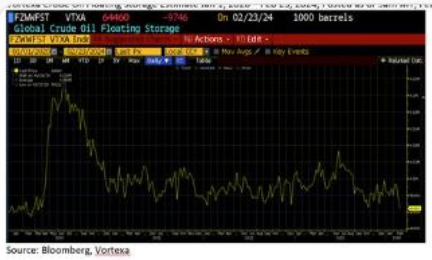
Dan Tsubouchi @Energy_Tidbits · Feb 24

#Oil floating storage 64.46 mmb Feb 23 (post Covid low) 74.21 mmb Feb 16 incl upward revision.

will floating normalize at lower (<80 mmb) levels now that upward revisions are getting smaller?

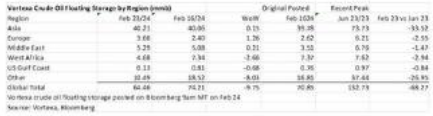
ie. longer tanker trips = lower floating storage?

Thx @vortexa @business #OOTT



Source: Bloomberg, Vortexa

Source: Bloomberg, Vortexa



1 · 9 · 36 · 3.3K

Dan Tsubouchi @Energy_Tidbits · Feb 24

US record high temps expected to continue next week.

@CNN just now for Mon-Thurs, forecasts 345+ warm temperature records to be set.

Negative for HH #NatGas.

#OOTT

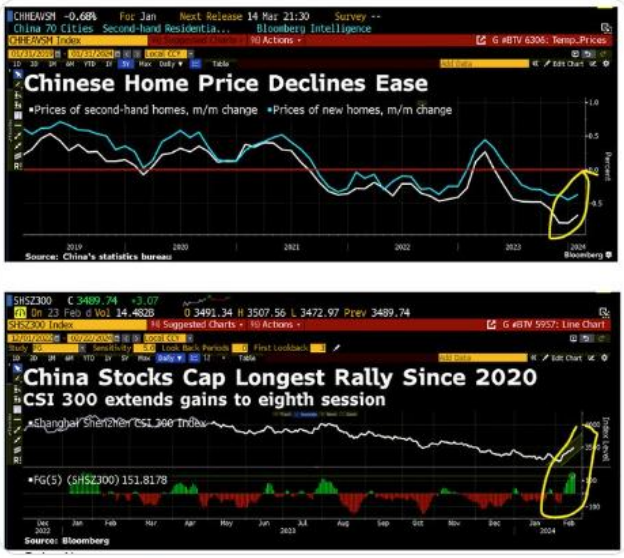
3 4 1.8K

Dan Tsubouchi @Energy_Tidbits · Feb 24

Too early to celebrate but both China stocks and home prices are seeing a move off bottom.

Does China need to, or will they, keep adding new measures/policies to try to make these turns lasting?

Thx @business.
#OOTT



1 6 1.2K

Dan Tsubouchi @Energy_Tidbits · Feb 23

321 crack spreads closed at $30.61 today.

Spreads over $30 provides big incentives for refineries to keep up runs and first response is to drag up #Oil prices a bit.

Thx @business
#OOTT

1 9 48 3.6K

Dan Tsubouchi @Energy_Tidbits · Feb 23

Friday night news is never good.

@KeithNaughton: Ford "*has halted shipments of its F-150 Lightning plug-in pickup for an undisclosed quality issue .....statement late Friday it stopped shipping the Lightning on Feb. 9 "to ensure quality." It did not say when it expects to resume...*
Show more

By Keith Naughton
(Bloomberg) -- Ford Motor Co. has halted shipments of its F-150 Lightning plug-in pickup for an undisclosed quality issue just weeks after cutting production of the battery-powered model due to slowing sales.
The automaker said in a statement late Friday it stopped shipping the Lightning on Feb. 9 "to ensure quality." It did not say when it expects to resume delivering the Lightning to dealers, but noted it has started shipping traditional gas-powered versions of the truck, which was redesigned for the 2024 model year.
"We expect to ramp up shipments in the coming weeks as we complete thorough launch quality checks to ensure these new F-150s meet our high standards," the company said.
Ford is recalibrating its electric vehicle strategy with EV sales slowing sharply as mainstream consumers balk at high prices and spotty charging infrastructure. The automaker has also cut production and prices of its battery-powered Mustang Mach-E, while it pivots to boost output of gas-electric hybrid models.
Automotive News earlier reported the stop-shipment order on the F-150 Lightning.

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Richard Clough

8 16 5.6K

Dan Tsubouchi @Energy_Tidbits · 4h

Lower China growth for longer?

"China's existing-home sales overtook new homes by area for the 1st time in history last yr, underscoring a fundamental shift in the nation's real-estate sector" ".. will lower demand for many commodities..."
Thx @business Charlie Zhu, Emma Dong....
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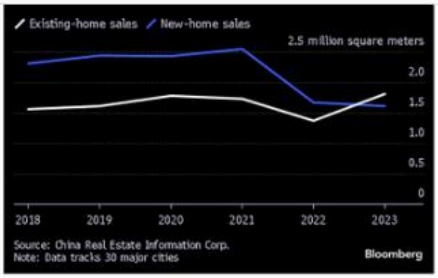

(Bloomberg) -- China's existing-home sales overtook new homes by area for the first time in history last year, underscoring a fundamental shift in the nation's real-estate sector.

Data on 30 major cities tracked by China Real Estate Information Corp. showed that annual sales of new homes have plunged 37% from a 2021 peak, while second-hand residences climbed to a record last year due to falling prices and doubt among buyers on the timeline for new-home delivery.

CRIC forecasts the trend to become more entrenched this year, which could have implications for China's economy. A smaller new-home sector might be considered positive for the economy in the long run, freeing up people and capital for more productive industries, although it will lower demand for many commodities such as iron ore and would also hit wages and demand for things such as household appliances.

--With assistance from James Mayger and Tom Hancock.

To contact Bloomberg News staff for this story:
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1 2 842

Dan Tsubouchi @Energy_Tidbits · 7h

More expecting #OPEC+ to extend voluntary cuts past March 31.

But we could/should see statement on compensation for any members overproduction.

ie. as 👇 @S_Elwardany reported for Iraq.

#OOTT

2024-02-19 11:32:34.761 GMT

By Salma El Wardany

(Bloomberg) -- Iraq will improve its compliance with OPEC+ output cuts after it completes a review of external estimates of its production, Iraqi Oil Minister Hayyan Abdul Ghani said in an interview in Cairo.

* NOTE: Data compiled by OPEC from external estimates — known as secondary sources — indicate that Iraq pumped 4.19m b/d in January, or 190,000 above its limit. The minister said last week that the country is producing no more than its quota of 4m b/d. Iraq has in the past disputed OPEC+'s assessment of its crude output

* "There will be a commitment and a tweaking of the amounts after reviewing the secondary sources," the minister said

* The minister doesn't think there's a need for OPEC+ to extend cuts, which are in place until the end of the first quarter, but Iraq will comply with whatever the group decides

* Separately, he said he expects an agreement with Kurdistan on resuming oil production from the semi-autonomous region in one or two weeks, and eventually the restart of exports through a pipeline to Turkey

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James Herron

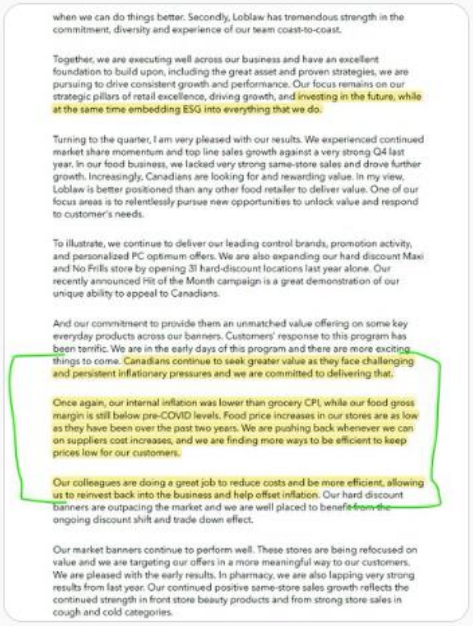
To view this story in Bloomberg click here:
https://blinks.bloomberg.com/news/stories/S93NRBDWRGG0

5 9 2K

Dan Tsubouchi @Energy_Tidbits · 18h

Who's responsible for >inflation grocery store prices? Loblaw says not the grocer, rather look at others in grocery supply chain.

"*once again, our internal inflation was lower than grocery CPI, while our food gross margin is still below pre-Covid levels*" Loblaw Q4 call.



when we can do things better. Secondly, Loblaw has tremendous strength in the commitment, diversity and experience of our team coast-to-coast.

Together, we are executing well across our business and have an excellent foundation to build upon, including the great asset and proven strategies, we are pursuing to drive consistent growth and performance. Our focus remains on our strategic pillars of retail excellence, driving growth, and investing in the future, while at the same time embedding ESG into everything that we do.

Turning to the quarter, I am very pleased with our results. We experienced continued market share momentum and top line sales growth against a very strong Q4 last year. In our food business, we lacked very strong same-store sales and drove further growth. Increasingly, Canadians are looking for and rewarding value. In my view, Loblaw is better positioned than any other food retailer to deliver value. One of our focus areas is to relentlessly pursue new opportunities to unlock value and respond to customer's needs.

To illustrate, we continue to deliver our leading control brands, promotion activity, and personalized PC optimum offers. We are also expanding our hard discount Maxi and No Frills store by opening 31 hard-discount locations last year alone. Our recently announced Hit of the Month campaign is a great demonstration of our unique ability to appeal to Canadians.

And our commitment to provide them an unmatched value offering on some key everyday products across our banners. Customers' response to this program has been terrific. We are in the early days of this program and there are more exciting things to come. Canadians continue to seek greater value as they face challenging and persistent inflationary pressures and we are committed to delivering that.

Once again, our internal inflation was lower than grocery CPI, while our food gross margin is still below pre-COVID levels. Food price increases in our stores are as low as they have been over the past two years. We are pushing back wherever we can on suppliers cost increases, and we are finding more ways to be efficient to keep prices low for our customers.

Our colleagues are doing a great job to reduce costs and be more efficient, allowing us to reinvest back into the business and help offset inflation. Our hard discount banners are outpacing the market and we are well placed to benefit from the ongoing discount shift and trade down effect.

Our market banners continue to perform well. These stores are being refocused on value and we are targeting our offers in a more meaningful way to our customers. We are pleased with the early results. In pharmacy, we are also lapping very strong results from last year. Our continued positive same-store sales growth reflects the continued strength in front store beauty products and from strong store sales in cough and cold categories.

1 · 2 · 3 · 1.8K

Dan Tsubouchi @Energy_Tidbits · Feb 22

China phased out EV incentives = Accelerated growth in Hybrids over EVs.

"growing preference for plug-in hybrids, which solve range anxiety and are more affordable than battery-only cars"

EV buyers "*mainly concentrated in large, wealthy metropolises....residents of smaller...*

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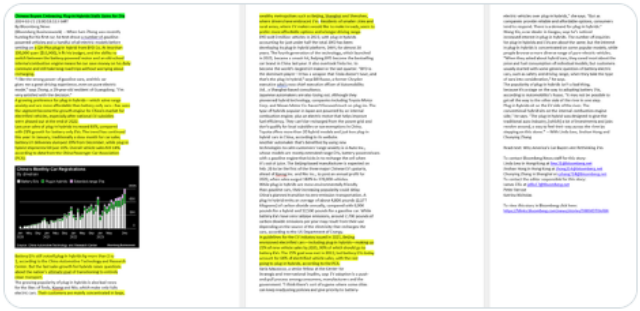


6 · 17 · 2.3K

Dan Tsubouchi @Energy_Tidbits · Feb 22

For those not near their laptops,@EIAgov just released at 9:00am MT its #Oil #Gasoline #Distillates inventory as of Feb 16. Table below compares EIA data vs @business expectations and vs @APIenergy yesterday. Prior to release, WTI was $78.00. #OOTT

📷

Oil/Products Inventory Feb 16: EIA, Bloomberg Survey Expectations, API

(million barrels)	EIA	Expectations	API
Oil	3.51	3.75	7.17
Gasoline	-0.29	-2.60	0.42
Distillates	-4.01	-2.10	-2.91
	-0.79	-0.95	4.68

Note: Oil is commercial so builds in +0.8 mmb in SPR for the Feb 16 week
Note: Included in the oil data, Cushing had a 0.74 mmb build for Feb 16 week
Source EIA, Bloomberg
Prepared by SAF Group https://safgroup.ca/news-insights/

1 2 1.2K

Dan Tsubouchi @Energy_Tidbits · 1h

Money talks!

EVs slowdown is longer term, not a pause?

"But the BEV investment profile for us is pretty clear, and we see definitely the potential for the investments to come down over time. So, confirmed, not for 2025, but for the 2nd half of the decade" Mercedes Q4.

#OOTT

Excerpts Mercedes Q4 call on Feb 22. Courtesy of Bloomberg transcripts

customers as well as volume. And coming out of this restricted era there with the semiconductors and everything, the macroeconomic and the market conditions are different now than perhaps some people had thought. So you also have to ride the macro market, and that is where we just try to adjust volume to what the market supports. So maybe in absolute numbers, we're a little bit behind, but in the composition, I think we are doing reasonably well.

A - Unidentified Speaker

And in particular, I think at the top end, it was the 16% we said we want to get, we said we want to get there over time and actually we are there 2022, 2023. Just bear in mind as well that I mean the top end obviously has a few of the best as well which are developing at a bit of a slower pace compared to the expectation maybe at the point back at the point in time in the spring 2022. On your question what does it mean for fixed cost and investments, Patrick? Well, the fixed cost of the fixed cost would stay almost no matter what happens around, so we don't see that as a percentage of revenue.

No, it's an absolute number we're driving year-on-year down with a 60% down by 2023. I mean you can see that so, we're not that far off I would say of the 20% which we ambition for 2025. So, on track to deliver that and we're not stopping there in stopping then 2025, definitely we have the ambition to keep going with each and every efficiency possible in each and every department. On the investment side, compared to what we said at the point in time, 20% down compared to 2019 by the end of the decade, we added definitely portfolio positions, AMGEA, MBEA and MBOS So I think that is running at a higher level.

And you see exactly at the same time the increase of the BEV share doesn't go maybe exactly in line with the previous predictions. We stick to the investments on this side. Very, very important. But we have a very precise view of the portfolio, what needs to be done, and that fits in the fits in the envelope, and I mentioned before in George's question, but with 20% of the investments down, sitting more in the second half of the decade.

As Ola said before, we need to use tactical flexibility, I mean, on the ice side. But the BEV investment profile for us is pretty clear, and we see definitely the potential for the investments to come down over time. So, confirmed, not for 2025, but for the

1 5 907

Dan Tsubouchi @Energy_Tidbits · 1h

"we have not made any plans for any artificial market shares lower or higher on ICE or BEV" Mercedes Q4

"i don't think our ICE customers long term would accept if that if that is like, then when the next gen comes, a BEV story only"

Not all higher income want to buy BEV

#OOTT

Excerpts Mercedes Q4 call on Feb 22. Courtesy of Bloomberg transcripts

That then becomes the entry point for Mercedes and followed up by, which is probably in premium luxury, the biggest segment, C-Class and GLC, and we will launch those products in 2026. So, we come into, in terms of meeting the market and the market structure as you can see it today, we come into a full swing then by the year 2027. So, we have not made any plans for any artificial market shares lower or higher on ICE or BEV We want to exploit in a value over volume approach, as Harold mentioned, the maximum potential for those products. When it comes then

"Harold mentioned, the maximum potential for those products. When it comes then to the ICE siblings, I think it's also key here, and I tried to portray that in my presentation presentation just before, that if you walk into a Mercedes showroom, you expect a Mercedes to be a Mercedes to be a Mercedes, and maybe don't think so much about if it's a BEV or an ICE So the technologies that we're developing now on MBOS, next generation driving assistance systems, next generation infotainment, I don't know if you have driven, if you have driven the new E-Class, and I know I'm ever so slightly biased, but I haven't found a car that has a more exciting infotainment offering in that car, I don't think our ICE customers long term would accept if that is like, then when the next gen comes, a BEV story only, and the E-Class is, of course, a combustion-based vehicle, so we're going to have to crossbreed between the two as we go along.

759

Dan Tsubouchi @Energy_Tidbits · 1h

"***for a big system like transport and mobility to turn and literally switch energy source, that is a Herculean task, that is a systemic, an industrial task***". Mercedes Q4 call.

EVs are growing , but now seeing it will be nowhere near speed of aspirations.
#OOTT

Excerpts Mercedes Q4 call on Feb 22. Courtesy of Bloomberg transcripts

A - Unidentified Speaker

So good morning, Tim. With regard to policymaking, supporting or not supporting the EV ramp, it's very, very difficult to make a prediction.

You can see that sometimes policymakers make abrupt decisions. Germany, case in point, on a Friday afternoon, the government decided to cut the incentivization for electric vehicles for the following Monday, pretty unprecedented. So to have a firm prediction of what's going to happen there is difficult. I would say this, though, as far as Europe is concerned, there is a review coming up in 2026 that is baked into the policy decision of going CO2-free in 2035.

For a big system like transport and mobility to turn and literally switch energy source, that is a Herculean task, that is a systemic task, an industrial task. And many things need to fall into play for that to happen, not just the product. That's the thing that I'm most confident about because we're putting our money where our mouth is and we're investing tens of billions into a very attractive very attractive electric vehicles coming up, not just us, the industry as a whole. We're also investing into infrastructure, but what the consumers are not going to accept is to limit or lessen their convenience in terms of mobility, and certainly not where it's used for business purposes.

So if the enabling factors cannot keep step with the ambition, I'm sure a rational discussion would need to be had to assess, are we progressing on the trajectory that we need to go on, or are we not? At least as far as Mercedes is concerned, we're doing everything we can to create attractive products, but also to tell our customers, we got your back in investing in infrastructure and other things, working with our supply base and so on, as I mentioned in my speech. But I want to be cautious with predictions here, because it's very difficult to know what the political landscape will look like in a couple of years from now.

2 2 880

Dan Tsubouchi @Energy_Tidbits · 2h

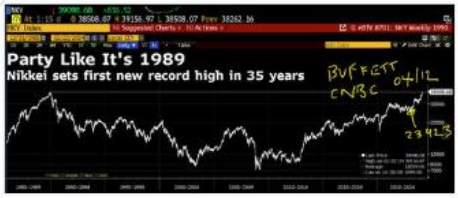
Perfect correlation!

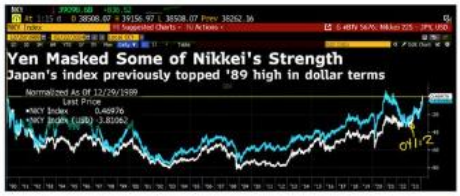
Inflow of foreign investors in Japanese stocks = record high for Nikkei.

Inflow started week of Apr 14/23

#WarrenBuffett say investors in Japanese stocks in his 04/12/23 @SquawkCNBC @BeckyQuick interview.

#OOTT





> **Dan Tsubouchi** @Energy_Tidbits · May 18, 2023
>
> 
> The #WarrenBuffett effect is still working.
>
> @business "foreigners loving Japanese stocks. positive flows into equities for 7th straight week"
> ...

2 1 1.4K

Dan Tsubouchi @Energy_Tidbits · 15h

Rivian -16% after mkt

"*Economic and geopolitical uncertainties and pressures, most notably the impact of historically high interest rates, have informed our expectations for 2024. "we have incurred cancellations due to macro and c****ustomer factors"***

is it price or what? #OOTT

4 5 14 7.1K

Dan Tsubouchi @Energy_Tidbits · Feb 21

US shale #Oil #NatGas has to keep fracing levels up or high shale decline rates hit.

$CHK cutting rigs (H 5→4, M 4→3) & frac crews (H 2→1, M 2→1), Activity maintained thru yr-end.

2024 guidance now 2.65-2.75 bcf/d, down ~22% YoY vs 3.47 bcf/d in 203.

#OOTT

4 19 3.5K

Dan Tsubouchi @Energy_Tidbits · Feb 21

Doctor Copper

"particularly the case for copper, where the closure of a major mine & various cuts to production guidance through the 2H23 have highlighted the persistent supply challenges facing the industry. These are likely to keep the market tight throughout 2024 against...

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OUTLOOK

Although the current macroeconomic environment remains challenging, global economic growth is forecast to bottom out in 2024. Expected interest rate cuts and corresponding restocking along the supply chain are likely to bring an improvement in demand conditions in Western markets later in the year.

Supply constraints and energy transition demand prevented large inventory increases in most commodities during this cyclical trough, leaving markets well positioned for a strong recovery as demand conditions improve. This is particularly the case for copper, where the closure of a major mine and various cuts to production guidance through the second half of 2023 have highlighted the persistent supply challenges facing the industry. These are likely to keep the market tight throughout 2024 against previous expectations of oversupply.

The strength of our diversified business model across industrial and marketing, focusing on metals and energy, has proved itself adept in a range of market conditions, giving us a solid foundation to successfully navigate the near-term macroeconomic uncertainty, as well as meet the resource needs of the future. I would like to thank all our employees for their efforts and significant contribution during the year. As always, we remain focused on operating safely, responsibly and ethically and creating sustainable long-term value for all our stakeholders.

Gary Nagle

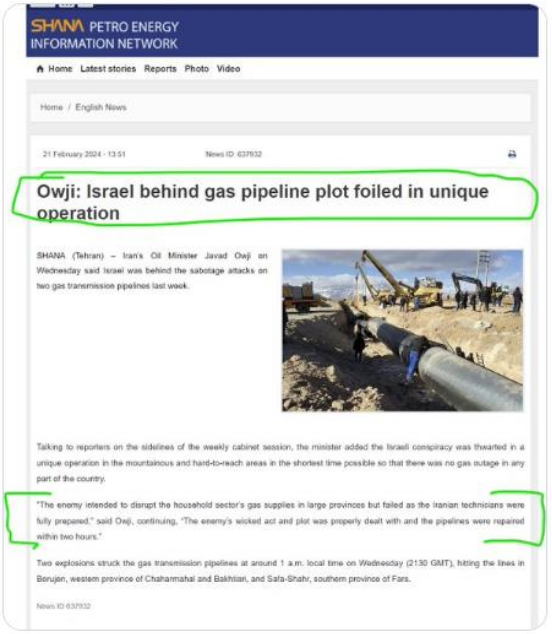
Chief Executive Officer

Dan Tsubouchi @Energy_Tidbits · Feb 21

How/when will Iran retaliate vs Israel?

"Iran's Oil Minister Javad Owji on Wednesday said Israel was behind the sabotage attacks on two gas transmission pipelines last week" reports Shana (News agency for Iran's Oil Ministry)

#OOTT



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21 February 2024 - 13:51 News ID: 637932

Owji: Israel behind gas pipeline plot foiled in unique operation

SHANA (Tehran) – Iran's Oil Minister Javad Owji on Wednesday said Israel was behind the sabotage attacks on two gas transmission pipelines last week.

Talking to reporters on the sidelines of the weekly cabinet session, the minister added the Israeli conspiracy was thwarted in a unique operation in the mountainous and hard-to-reach areas in the shortest time possible so that there was no gas outage in any part of the country.

"The enemy intended to disrupt the household sector's gas supplies in large provinces but failed as the Iranian technicians were fully prepared," said Owji, continuing, "The enemy's wicked act and plot was properly dealt with and the pipelines were repaired within two hours."

Two explosions struck the gas transmission pipelines at around 1 a.m. local time on Wednesday (2130 GMT), hitting the lines in Borujen, western province of Chaharmahal and Bakhtiari, and Safa-Shahr, southern province of Fars.

News ID 637932

2 1 1K

Dan Tsubouchi @Energy_Tidbits · Feb 20

OOPS. A few months can mean 14 months.

On Biden LNG review, @amoshochstein "*take a pause of a few months*".

But @_HadleyGamble asks timeline

"The timeline is going to be somewhere in that 10, 12, 14 months. I don't know what it is". @amoshochstein

ie. post election!...

Show more

"The timeline is going to be somewhere in that 10, 12, 14 months, I don't know what it is"
Amos Hochstein on timetable for Biden's LNG review pause.

SAF Group created transcript of comments by Amos Hochstein (US energy envoy) to Al Arabiya English's Hadley Gamble on Feb16, 2024. https://twitter.com/AlArabiya_Eng/status/1758571515786711136

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

At 3:03 min mark, Hochstein "*... I think this step is there to take, is a prudent step in order for us to take a look at what is happening in the market. Take a pause of a few months. Look at the study and see where it takes us. And what we don't want is a massive overbuilding, an overcapacity when demand is not going to be there.*" Gamble "A few months, six months, timeline?" Hochstein "*The timeline is going to be somewhere in that 10, 12, 14 months, I don't know what it is*"

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

1 4 7 4.6K

Dan Tsubouchi @Energy_Tidbits · Feb 20

Thanks @_HadleyGamble for being experienced interviewer to ask followup otherwise people would have used a few months to a small number, certainly less than several and way less than 2x several.

2 831

Dan Tsubouchi @Energy_Tidbits · Feb 20 ·

Bad timing for Macro to say out loud IEA is "***our armed wing of implementing the Paris Agreement***".

IEA's peak #Oil demand by 2030 depends on its annual Global EVs outlook 👇 says EVs will displace ~5.5 mmb/d of oil by 2030.

Will IEA double down or push peak demand back?

IEA's...

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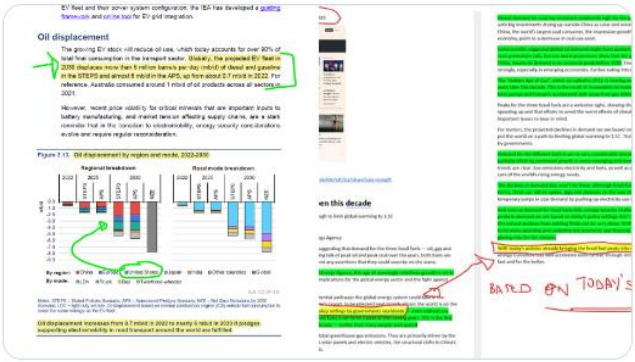

> **Dan Tsubouchi** @Energy_Tidbits · Feb 19
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> "***The IEA has become, so to speak, our armed wing of implementing the Paris agreement***" **Macron.**
>
> The IEA has no guns, is Macron saying analysis/fcasts are their weapons to implement Paris as opposed to ...

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Dan Tsubouchi @Energy_Tidbits · Feb 20

More EV reality challenges from Stellantis CEO Tavares.

"*We have to find a way to sell BEVs at the price of ICEs. That's quite simple.*"

Reminds US/EU tariffs on Chinese EVs add to inflation.

Thx for posting interview @andrewrsorkin @JoeSquawk @Lebeaucarnews @SquawkCNBC
#OOTT

***"To fix the affordability problem, we need to be finding a way to design to cost our products so that you sell BEVs at the price of ICEs. That is going to put extreme pressure on our companies."* Stellantis CEO Carlos Tavares**

SAF Group created transcript of comments by Stellantis CEO Carlos Tavares with CNBC's Andrew Ross Sorkin, Joe Kernen and Phil LeBeau on CNBC Squawk Box on Feb 20, 2024. https://www.cnbc.com/video/2024/02/20/stellantis-ceo-carlos-tavares-on-2024-ev-rollout-whats-at-stake-right-now-is-affordability.html

Items in "italics" are SAF Group created transcript

At 3:50 min mark, LeBeau "*... when does that [M&A] happen?*" Tavares "*it is going to be triggered by a very simple statement that everybody will understand. We have to find a way to sell BEVs at the price of ICEs. That's quite simple. To fix the affordability problem, we need to be finding a way to design to cost our products so that you sell BEVs at the price of ICEs. That is going to put extreme pressure on our companies, not only on the supply chain.*" LeBeau "*in other words if you can't do it, you're not going to survive.*" Tavares "*Somebody will. The guys who are now ready to offer that in the world, not in the US, but in the world are the Chinese. The Chinese are able.*" Ross Sorkin "*do you think there is a merger to be done with the Chinese? Do you think that the US government would ever allow, the Europeans would ever allow*" Tavares "*That is not what I am saying. I am saying the guys now, the Chinese have a 30% competitive edge on exworks [?], on their BEVs. So they are able to sell their products with one segment gap, which means you sell a "C" segment car at the price of a "B" segment. Which solves the problem of affordability. Now what is gong to be their stance*" Ross Sorkin "*all these governments are putting tariffs on everything to prevent that*". Tavares "*Exactly. But that will generate inflation inside of the bubble. If you do that, inflation inside of the bubble will make things worse rather than better. This country has seen the Japanese invasion in the 70s, then the Koreans, are you going to see a 3rd wave of Asian, which would be the Chinese? I don't know, I'm opening the question. But what I can tell you is they're able to sell the BEVs at the price of ICEs. So we need to hurry up. We need to do our job, to do our homeworks to make sure we do the same thing. Of course, the governments can protect their companies with a golden share. That's absolutely obvious and absolutely fair. This being said, if we don't fix this for the consumer, recognizing that our mission is to deliver clean, safe and affordable mobility, then we are vulnerable and the 70s will not fall in the trap [?]*"

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

Dan Tsubouchi @Energy_Tidbits · Feb 20

EV buyers want to know they can charge their EV if out & about says Stellantis CEO Tavares.

"Y*ou need with your eyes to see where the charging units are. The charging units need to come to your customer journey, to your day journey without you having to look for them*"
#OOTT

"You need with your eyes to see where the charging units are. The charging units need to come to your customer journey, to your day journey without you having to look for them."
Stellantis CEO Carlos Tavares

SAF Group created transcript of comments by Stellantis CEO Carlos Tavares with CNBC's Andrew Ross Sorkin, Joe Kernen and Phil LeBeau on CNBC Squawk Box on Feb 20, 2024. https://www.cnbc.com/video/2024/02/20/stellantis-ceo-carlos-tavares-on-2024-ev-rollout-whats-at-stake-right-now-is-affordability.html

Items in "italics" are SAF Group created transcript

At 2:35 min mark, Kernen "*... the density of not having to worry about being able to find a charger ...*" Tavares "*... the carmakers are now bringing range that should remove that anxiety. In addition to the fact that you need with your eyes to see where the charging units are. The charging units need to come to your customer journey, to your day journey without you having to look for them. So when you go to gym, when you go to the supermarket, when you go to the mall, when you go to restaurants*". LeBeau "*we're a long way away from that happening here in the US.*" Tavares "*That's an infrastructure that needs to be set up*".

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

4 · 4 · 1.8K

Dan Tsubouchi @Energy_Tidbits · Feb 20

Will take longer for EVs to displace ICE.

Stellantis CEO says have a lot a work to do to make EVs affordable.

ie. "*we have to double the power density of the batter cells so that you can have a smaller battery with less weight and therefore less cost*"

#OOTT

"Yes we have" **says Stellantis CEO Carlos Tavares in response to CNBC's Joe Kernen *"you have a lot to do"* to make EVs affordable.**

SAF Group created transcript of comments by Stellantis CEO Carlos Tavares with CNBC's Andrew Ross Sorkin, Joe Kernen and Phil LeBeau on CNBC Squawk Box on Feb 20, 2024. https://www.cnbc.com/video/2024/02/20/stellantis-ceo-carlos-tavares-on-2024-ev-rollout-whats-at-stake-right-now-is-affordability.html

Items in "italics" are SAF Group created transcript

At 0:25 min mark, LeBeau "*... you know about the debate that is going on right now, EV market is slowing down in terms of the adoption rate here in the US. Does that continue at least thru the rest of this year, and several years? What do you see?*" Tavares "*What I see is to make the EV spark. You need to align a certain number of stars. You need, of course, clean energy. You need to have very dense charging network that people can see so they move range anxiety. You need a great product with a very high range, like the products we are bringing to the market. 500 miles of range. That should e enough. And you need affordability. And what is at stake right now is affordability. That is the major star that is right now totally aligned with the three other ones. Assuming that will be*". LeBeau "*is that the supply chain, is that the main issue, raw materials?*" Tavares "*It's the design to costs, the fact that we need to be using raw materials for the battery cells which are now scarce. But as long as they are scarce, there is a lot of potential inflation and volatility. Design to costs, raw materials which are now scarce. And we have to double the power density of the battery cells so that you can have a smaller battery with less weight and therefore less cost.*" LeBeau "*He's [Kernen] is shaking his head over there.*" Kernen "*You have a lot to do.*" Tavares "*Yes we have*".

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

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Dan Tsubouchi @Energy_Tidbits · Feb 20

Look for @SquawkCNBC just concluded interview w/ @Stellantis CEO Tavares with @andrewrsorkin @JoeSquawk @Lebeaucarnews

Tavares goes thru various challenges for EVs in particular affordability.

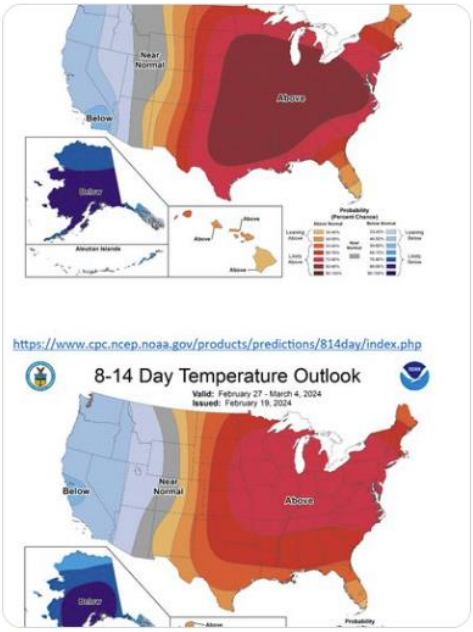
EVs are growing but not buying beyond high income early adopters.
#OOTT

1 3 1.2K

Dan Tsubouchi @Energy_Tidbits · Feb 19

Should see continued negative on HH #NatGas with @NOAA updated 6-10 & 8-14 day temperature forecast covering Feb 25-Mar 4 is for much warmer than normal temps for eastern 2/3 of US.

#OOTT



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Dan Tsubouchi @Energy_Tidbits · Feb 19

"***The IEA has become, so to speak, our armed wing of implementing the Paris agreement***" **Macron.**

The IEA has no guns, is Macron saying analysis/fcasts are their weapons to implement Paris as opposed to analyzing energy!

Saudi Energy Minister Abdulaziz will say I told you so!
#OOTT

"The IEA has become, so to speak, our armed wing of implementing the Paris agreement"
France President Macron

SAF Group created transcript of France President Macron at the IEA Ministerial meetings on Feb 13/14 in Paris.

Items in "italics" are SAF Group created from IEA's posted video https://twitter.com/IEA/status/1759625691795005474

At 0:52 min mark, Macron *"We are also very proud that since its creation, the Agency has been able to profoundly shift its mandate. From an agency dedicated to managing strategic oil reserves, it has now become a global hub for debate, collective action to meet the challenge of the energy transition. The IEA has become, so to speak, our armed wing of implementing the Paris agreement, given that energy accounts for more than 75% of global greenhouse gas emissions."*

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

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Dan Tsubouchi @Energy_Tidbits · Feb 19

For #Oil bulls.

"*What I am saying natural decline is call it 6% on 103 million barrels, that's over 6 million barrels per day of capacity that is lost every year, that has to be replaced. So that is a Saudi Arabia every 2 years*" Saudi Aramco CFO Al-Murshed to @VonnieQuinn
#OOTT

"What I am saying natural decline is call it 6% on 103 million barrels, that's over 6 million barrels per day of capacity that is lost every year, that has to be replaced. So that is a Saudi Arabia every two years" **Saudi Aramco CFO Al-Murshed.**

SAF Group created transcript from personal mobile recording of comments by Saudi Aramco CFO Ziad Al-Murshed with Bloomberg's Vonnie Quinn at a conference in Riyadh.

Items in "italics" are SAF Group created transcript

Al-Murshed *"...the world today is still depending on very little capacity. There is about 3, 3 ½ %, actually 3% of the world production that is spare. And that is extremely dangerous to continue this into the mid to long term. If you recall, the problems we were having with gas because gas didn't have any spare capacity. Oil is always a lot more stable from fluctuations because there is spare capacity. The world is now down to 3% spare capacity."* Quinn *"let me get this right, are we at dangerous levels of spare capacity?"* Al-Murshed "what I am saying natural decline is call it 6% on 103 million barrels, that's over 6 million barrels per day of capacity that is lost every year, that has to be replaced. So that is a Saudi Arabia every two years... So a Saudi Arabia every two years, you have to ask where is this coming from? It may not happen, probably not happen this year, next year but if there isn't a significant investment in supply, it will eventually, we will get there. "

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

10 62 198 51K

Dan Tsubouchi @Energy_Tidbits · Feb 18

Will IEA change its math for EVs to displace ~5.5 mmbd of oil by 2030 if Biden slows down how fast automakers must sell EVs. Thx @CoralMDavenport.

US is ~25% of IEA's ~5.5 mmbd!

If so, doesn't this force IEA to push back its peak oil demand by 2030? #OOTT...

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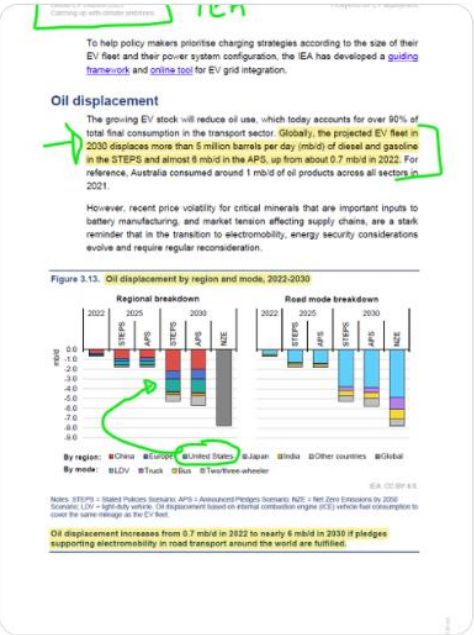


To help policy makers prioritise charging strategies according to the size of their EV fleet and their power system configuration, the IEA has developed a guiding framework and online tool for EV grid integration.

Oil displacement

The growing EV stock will reduce oil use, which today accounts for over 90% of total final consumption in the transport sector. Globally, the projected EV fleet in 2030 displaces more than 5 million barrels per day (mb/d) of diesel and gasoline in the STEPS and almost 6 mb/d in the APS, up from about 0.7 mb/d in 2022. For reference, Australia consumed around 1 mb/d of oil products across all sectors in 2021.

However, recent price volatility for critical minerals that are important inputs to battery manufacturing, and market tension affecting supply chains, are a stark reminder that in the transition to electromobility, energy security considerations evolve and require regular reconsideration.

Figure 3.13. Oil displacement by region and mode, 2022-2030

Notes: STEPS = Stated Policies Scenario; APS = Announced Pledges Scenario; NZE = Net Zero Emissions by 2050 Scenario; LDV = light-duty vehicle. Oil displacement based on internal combustion engine (ICE) vehicle fuel consumption to cover the same mileage as the EV fleet.

Oil displacement increases from 0.7 mb/d in 2022 to nearly 6 mb/d in 2030 if pledges supporting electromobility in road transport around the world are fulfilled.

5 13 27 5K

Dan Tsubouchi @Energy_Tidbits · Feb 18

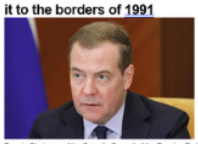
Scary stuff!

RUS says if try to force them back to old borders, *"can only lead to one thing. To a global war with Western countries with the use of the entire strategic arsenal of our state. In Kyiv, Berlin, London, Washington...,."* #OOTT

https://tass.ru/politika/20018585

18 February, 00:35, Updated February 18, 04:31

Medvedev: Russia will use its entire arsenal in case of attempts to return it to the borders of 1991



Deputy Chairman of the Security Council of the Russian Federation Dmitry Medvedev
© Ekaterina Shtukina/POOL/TASS

The Deputy Chairman of the Security Council of the Russian Federation noted that "nuclear powers have never lost to anyone" wars, "in which the defense of their Fatherland, their land and their people, their values takes place

MOSCOW, February 18. /TASS/. Attempts to return the Russian Federation to the borders of 1991 will lead to a global war with the West and strikes on Berlin, London, Washington and other targets. Deputy Chairman of the Security Council of the Russian Federation Dmitry Medvedev wrote about this in the Telegram channel.

He noted that "nuclear powers have never lost to anyone" wars "in which the defense of their Fatherland, their land, people and values takes place.

"Attempts to bring Russia back to the 1991 borders will only lead to one thing. To a global war with Western countries with the use of the entire strategic arsenal of our state. In Kyiv, Berlin, London, Washington. For all other beautiful historical places that have long been included in the flight goals of our nuclear triad," Medvedev stressed. "So it's better to let them return everything before it's too late. Or we will return it ourselves with maximum losses for the enemy. Like Avdiivka. Our soldiers are heroes!" wrote the deputy chairman of the Security Council of the Russian Federation.

The politician noted that his recent assertion that a nuclear power cannot lose a war has been followed by comments that even the United States has lost wars. "This is a blatant lie. I wasn't talking about Vietnam, Afghanistan, or dozens of other places where the Americans waged colonial wars of conquest. I wrote about historical wars," he wrote, explaining that he meant those cases when the fate of the state itself is at stake. According to Medvedev, he was forced to return to this topic by the statements of such figures as German Defense Minister Boris Pistorius and British Defense Secretary Grant Shapps, who claim that "the world cannot afford a Russian victory in this war."

Medvedev suggested for a moment to imagine that the Russian Federation lost, and "Ukraine with its allies" won. "What would be such a victory for our enemies – the neo-Nazis with their Western sponsors? Well, as it has been said many times, a return to the borders of 1991. That is, the direct and irreversible collapse of today's Russia, which, according to the constitution, includes new territories. And then there was a fierce civil war with the final disappearance of our country from the map of the world. Tens of millions of victims. The death of our future. The collapse of everything in the world," the politician described the apocalyptic picture. He asked a rhetorical question whether the mentioned figures really believe that the people of the Russian Federation will swallow such a division of their country and will reason something like this: "Well, alas, it happened. They won. Today's Russia has disappeared. It's a pity, of course, but we have to go on living in a collapsing, dying country, because a nuclear war is much more terrible for us than the death of our loved ones, our children, our Russia..."? The deputy head of the Security Council of Russia also invited his opponents to seriously think about whether the hand of the leadership of the state, headed by the Supreme Commander-in-Chief of the Armed Forces of the Russian Federation, will tremble in such a situation.

Medvedev is convinced that "it will be completely different." He warned that the consequences of the collapse of the Russian Federation would be much more terrible than the results of "an ordinary, even the most protracted war." Medvedev noted that the answer to the question of whether the Russian leadership will have the courage to deliver such blows if the disappearance of the thousand-year-old country is at stake is obvious.

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